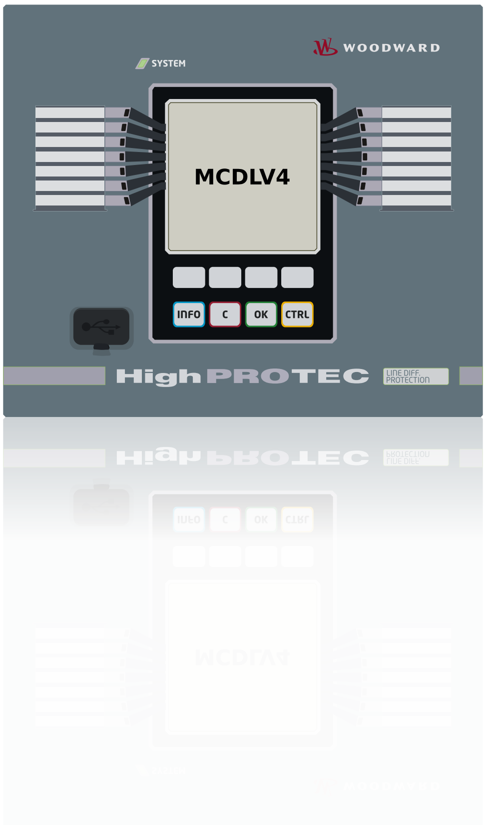
WOODWARD

HighPROTEC

Reference manual MCDLV4-3.6-EN-REF



MCDLV4

Line Differential Protection

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Table of Contents

1 About This Reference Manual

This document is a reference of all the Setting Values, Direct Commands and Signals of the MCDLV4. In other words, it lists all parameters that are available (or can be made available) with the (optionally) full featured versions of the MCDLV4 protection device.

CAUTION!

This document does not intend to give long and/or detailed description, nor does it intend to replace the full Technical Manual in any way. Only a quite short description is given for each parameter.

This document is a reference of all the Setting Values, Direct Commands and Signals of the MCDLV4.

Every HighPROTEC protection device operates using a lot of digital values of various types. Throughout our Technical Documentation, we are talking of “settings” (or “parameters”) or “signals” or “(measured) values”, depending on the type.

Please consult the Technical Manual, in particular Chapter “Modules, Settings, Signals and Values”, for details of the existing data types.

Modules

The firmware of every HighPROTEC protection device can be thought of being sub-divided in several independent function blocks, the so-called “modules”. Every protection function, for example, is a module of its own. But one of the fundamental concepts of a HighPROTEC protection device is to implement this with great consequence: The functionality of calculating statistical data is a module (named »Statistics«), every communication protocol is a module, the control of switchgear devices is a module (named »Ctrl«), but the properties of the switchgear itself is part of another module. There is even a general protection module (named »Prot«) that interacts all specific protection modules.

Every parameter, every value and every signal is therefore a member of some module.

But note that the settings dialogs (on the panel (HMI) or in the *Smart view* operating software) often omit the module name whenever it is clear from the menu branch. This means the parameters are often displayed only with their individual parameter names, i. e. simply *»Function«* instead of the full-blown *»I[1] . Function«*. This increases the overview and simplifies all configuration and operation work; however, it is good to know that the writing *»Function«* is just an abbreviation. In fact, **every** parameter **always** belongs to a module, and therefore – to make this concept absolutely clear – the reference tables have always the module name added in front of every parameter name

Especially for protection functions it is often required to have several instances active. For example, overcurrent protection usually has several “stages”, and all of these are running at the same time (using their individual setting values). Therefore it is an important feature of every HighPROTEC protection device that a lot of modules exist in several “instances”, which are numbered (in brackets): For the overcurrent protection, for example: »I[1]«, I[2]«, …

In the reference tables, usually every module has its own dedicated chapter, which lists the available number of instances at the beginning. Then, however, in the sub-chapters listing the various parameter types, only the first instance (e. g. »I[1]«) is mentioned, because all the other instances are identical anyway.

Structure of a Reference Table

Since (almost) every module can be activated or deactivated independently of the other modules and all parameters of an inactive module disappear from the menu branch it would not be helpful if this Reference Manual would list parameters sorted according to the menu structure. Instead, we list categories of modules (e. g. “Protection Functions”) and all the modules within a category.

For each parameter, there is a table with its properties, looking like this:

Module . Parameter	[Menu Path to This Parameter]	
Default Value For some parameters: • Availability restrictions	Value Range	Perm.
Type	*Short descriptive text explaining the functionality of this parameter.*	

“Type” is the data type of the parameter, which is denoted by a small icon. The following types are possible:

- Setting Parameter
- Direct Control
- Input State
- Signal (Output State)
- Statistical Value
- Counter
- (Measuring) Value
- Dialog — Such a dialog can feature several data objects using a special representation and/or functionality.

“Perm.” means “permission”, i. e. the access level and password that is required to modify the parameter. (Please refer to the “Security” chapter in the full Technical Manual for details.)

“ Adapt. Param.” means that this parameter supports Adaptive Parameter Sets. (See the “Adaptive Parameter Sets” section in the User Manual.)

For some parameter types (e. g. Input and Output States), the second row (default, value range, permission) is useless and therefore omitted.

Example of a parameter:

I[1] . **Mode**	[Device planning]	
non directional	Selection List Mode: -, non directional, forward, reverse	S.3
	general operation mode	

This means that one can find the parameter in the menu [Device planning], and its values are picked from a selection list named “Mode”. The “╚▷” arrow indicates a cross-reference (hyperlink) into the “Selection Lists” chapter, and a click takes you to a table that lists all available choices. The access level “S.3” means the access level “Supervisor-Lv3”, which is required to modify the parameter.

Audience of This Manual

The manual serves as working basis for:

- Engineers in the protection field,
- commissioning engineers,
- people dealing with setting, testing and maintenance of protection and control devices,
- as well as trained personnel for electrical installations and power stations.

All functions concerning the MCDLV4 are listed. Should there be a description of any functions, parameters or inputs/outputs which do not apply to the device in use, please ignore that information.

This manual describes the (optionally) full featured versions of the devices.

All technical information and data included in this manual reflect their state at the time this document was issued. We reserve the right to carry out technical modifications in line with further development without changing this manual and without previous notice. Hence no claim can be brought based on the information and descriptions this manual includes.

We do not accept any liability for damage and operational failures caused by operating errors or disregarding the directions of this manual.

No part of this manual is allowed to be reproduced or passed on to others in any form, unless *Woodward* have approved in writing.

This Reference Manual is part of the delivery scope when purchasing the device. In case the device is passed on (sold) to a third party, the manual has to be handed over as well.

Information Concerning Liability and Warranty

Woodward does not accept any liability for damage resulting from conversions or changes carried out on the device or planning (projecting) work, parameter setting or adjustment changes done by the customer.

The warranty expires after a device has been opened by others than *Woodward* specialists.

Warranty and liability conditions stated in *Woodward* General Terms and Conditions are not supplemented by the above mentioned explanations.

2 Hardware

2.1 Device Configuration

Line Differential Protection							
MCDLV4	**-2**	**#**	**#**	**#**	**#**	**#**	**#**
Hardware Variant 1							
8 digital inputs | 7 binary output relays Operating Range | Voltage measuring inputs: 0-800VAC		**A**					
16 digital inputs | 13 binary output relays Operating Range | Voltage measuring inputs: 0-800VAC		**D**					
24 digital inputs | 20 binary output relays Operating Range | Voltage measuring inputs: 0-300VAC		**E**					
Hardware Variant 2							
Phase Current 5A/1A, Ground Current 5A/1A			**0**				
Phase Current 5A/1A, Sensitive Ground Current 5A/1A			**1**				
Housing							
Flush mounting				**A**			
19 inch mounting (semi-flush)				**B**			
Customized Version 1				**H**			
Customized Version 2				**K**			
Protection communication interface							
LC Fiber Optics					**0**		
ST Fiber Optics					**1**		
Communication							
Without						**A**	
RS 485: Modbus RTU | IEC 60870-5-103 | DNP3 RTU						**B**	
Ethernet: Modbus TCP | DNP3 UDP/TCP | IEC 60870-5-104						**C**	
Fiber Optics: Profibus-DP						**D**	
D-SUB: Profibus-DP						**E**	
Fiber Optics: Modbus RTU | IEC 60870-5-103 | DNP3 RTU						**F**	
RS 485/D-SUB: Modbus RTU | IEC 60870-5-103 | DNP3 RTU						**G**	
Ethernet: IEC 61850 communication | Modbus TCP | DNP3 UDP/TCP | IEC 60870-5-104						**H**	

Line Differential Protection							
MCDLV4	**-2**	**#**	**#**	**#**	**#**	**#**	**#**
RS 485, Ethernet: Modbus TCP/RTU | IEC 60870-5-103 | IEC 60870-5-104 | DNP3 UDP/TCP/RTU						**I**	
Ethernet/Fiber Optics: IEC 61850 communication | Modbus TCP | DNP3 UDP/TCP | IEC 60870-5-104						**K**	
Ethernet/Fiber Optics: Modbus TCP | DNP3 UDP/TCP | IEC 60870-5-104						**L**	
RS 485, Ethernet: IEC 61850 | Modbus TCP/RTU | IEC 60870-5-103 | IEC 60870-5-104 | DNP3 UDP/TCP/RTU						**T**	
Printed Circuit Board							
Standard							**A**
printed circuit boards are conformal coated							**B**

2.2 Digital Inputs

2.2.1 DI Slot X1 (“DI8-X1”)

DI Slot X1 . **Nom voltage**	[Device Para / Digital Inputs / DI Slot X1 / Group 1] [Device Para / Digital Inputs / DI Slot X1 / Group 2] [Device Para / Digital Inputs / DI Slot X1 / Group 3]	
24 VDC	24 VDC, 48 VDC, 60 VDC, 110 VDC, 230 VDC, 110 VAC, 230 VAC ↳ Nom voltage.	S.3
	Nominal voltage of the digital inputs	

DI Slot X1 . **Inverting 1** **...** DI Slot X1 . **Inverting 8**	[Device Para / Digital Inputs / DI Slot X1 / Group 1] [Device Para / Digital Inputs / DI Slot X1 / Group 2] [Device Para / Digital Inputs / DI Slot X1 / Group 3]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting the input signals.	

DI Slot X1 . **Debouncing time 1** **...** DI Slot X1 . **Debouncing time 8**	[Device Para / Digital Inputs / DI Slot X1 / Group 1] [Device Para / Digital Inputs / DI Slot X1 / Group 2] [Device Para / Digital Inputs / DI Slot X1 / Group 3]	
no debouncing time	no debouncing time, 20 ms, 50 ms, 100 ms ↳ Debouncing time.	S.3
	A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.	

DI Slot X1 . **DI 1** **...** DI Slot X1 . **DI 8**	[Device Para / Digital Inputs / DI Slot X1 / Group 1] [Device Para / Digital Inputs / DI Slot X1 / Group 2] [Device Para / Digital Inputs / DI Slot X1 / Group 3]
	Signal: Digital Input

2.2.2 DI Slot X5

DI Slot X5 . **Nom voltage**	[Device Para / Digital Inputs / DI Slot X5 / Group 1]	
24 VDC	24 VDC, 48 VDC, 60 VDC, 110 VDC, 230 VDC, 110 VAC, 230 VAC ⮡ Nom voltage.	S.3
	Nominal voltage of the digital inputs	

DI Slot X5 . **Inverting 1** ... DI Slot X5 . **Inverting 8**	[Device Para / Digital Inputs / DI Slot X5 / Group 1]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting the input signals.	

DI Slot X5 . **Debouncing time 1** ... DI Slot X5 . **Debouncing time 8**	[Device Para / Digital Inputs / DI Slot X5 / Group 1]	
no debouncing time	no debouncing time, 20 ms, 50 ms, 100 ms ⮡ Debouncing time.	S.3
	A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.	

DI Slot X5 . **DI 1** ... DI Slot X5 . **DI 8**	[Device Para / Digital Inputs / DI Slot X5 / Group 1]
	Signal: Digital Input

2.2.3 DI Slot X6

DI Slot X6 . **Nom voltage**	[Device Para / Digital Inputs / DI Slot X6 / Group 1]	
24 VDC	24 VDC, 48 VDC, 60 VDC, 110 VDC, 230 VDC, 110 VAC, 230 VAC Nom voltage.	S.3
	Nominal voltage of the digital inputs	

DI Slot X6 . **Inverting 1** **...** DI Slot X6 . **Inverting 8**	[Device Para / Digital Inputs / DI Slot X6 / Group 1]	
inactive	inactive, active Mode.	S.3
	Inverting the input signals.	

DI Slot X6 . **Debouncing time 1** **...** DI Slot X6 . **Debouncing time 8**	[Device Para / Digital Inputs / DI Slot X6 / Group 1]	
no debouncing time	no debouncing time, 20 ms, 50 ms, 100 ms Debouncing time.	S.3
	A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.	

DI Slot X6 . **DI 1** **...** DI Slot X6 . **DI 8**	[Device Para / Digital Inputs / DI Slot X6 / Group 1]
	Signal: Digital Input

2.3 Binary Outputs

2.3.1 BO Slot X2 (6 Binary Outputs) (6 Binary Outputs)

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ╚▷ 1...n Operating Modes.	S.3
Operating Mode		

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.		

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
Switch Off Delay		

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
inactive	inactive, active ╚▷ Mode.	S.3
Defines whether the Relay Output will be latched when it picks up.		

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” . . . Sys . Internal test state ╚▷ 1..n, Assignment List.	S.3
Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.		

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
inactive	inactive, active ╚▷ Mode.	S.3
Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).		

BO Slot X2 . **Assignment 1**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
SG[1] . TripCmd	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Inverting 1** . . . BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X2 . **Assignment 2** . . . BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 1]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X2 . **Assignment 1**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
Prot . Alarm	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Inverting 1** **. . .** BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X2 . **Assignment 2** . . . BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 2]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
inactive	inactive, active └▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
inactive	inactive, active ⮑ Mode.	S.3
🔧	*Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).*	

BO Slot X2 . **Assignment 1**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
SG[1] . ON Cmd	“-” . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
🔧	*Assignment*	

BO Slot X2 . **Inverting 1** **. . .** BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
inactive	inactive, active ⮑ Mode.	S.3
🔧	*Inverting of the state of the assigned signal.*	

BO Slot X2 . **Assignment 2** **. . .** BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 3]	
“-”	“-” . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
🔧	*Assignment*	

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮑ 1...n Operating Modes.	S.3
🔧	*Operating Mode*	

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
0.00s	0.00s ... 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
0.00s	0.00s ... 300.00s	S.3
	Switch Off Delay	

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X2 . **Assignment 1**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
SG[1] . OFF Cmd	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Inverting 1** . . . BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X2 . **Assignment 2** . . . BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 4]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮡ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X2 . **Assignment 1** **. . .** BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Inverting 1** **. . .** BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 5]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X2 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X2 . **t-hold**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X2 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X2 . **Latched**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
inactive	inactive, active ╘▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X2 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
“-” *Only available if:* • BO Slot X2 . Latched = active	“-” . . . Sys . Internal test state ╘▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X2 . **Inverting**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
inactive	inactive, active ╘▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X2 . **Assignment 1** **. . .** BO Slot X2 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
“-”	“-” . . . Sys . Internal test state ╘▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X2 . **Inverting 1** . . . BO Slot X2 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X2 / BO 6]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.3.1.1 BO Slot X2: Service

BO Slot X2 . **DISARMED Ctrl**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X2]	
inactive	inactive, active ⮑ active/inactive.	S.3
	Enables and disables the disarming of the relay outputs. This is the first step of a two step process, to inhibit the operation or the relay outputs. Please refer to "DISARMED" for the second step.	

BO Slot X2 . **Disarm Mode**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X2]	
permanent	permanent, timeout ⮑ Mode.	S.3
	CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X2 . **t-Timeout DISARM**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X2]	
0.03s *Only available if:* • BO Slot X2 . Disarm Mode = timeout	0.00s ... 300.00s	S.3
	The relays will be armed again after expiring of this time.	

BO Slot X2 . **DISARMED**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X2]	
inactive	inactive, active ⮑ active/inactive.	S.3
	This is the second step, after the "DISARMED Ctrl" has been activated, that is required to DISARM the relay outputs. This will DISARM those output relays that are currently not latched and that are not on “hold” by a pending minimum hold time. CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: Zone Interlocking and Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X2 . **Force Mode**	[Service / Test (Prot inhibit) / Force OR / BO Slot X2]	
permanent	permanent, timeout └⇨ Mode.	S.3
	By means of this function the normal Output Relay States can be overwritten (forced) in case that the Relay is not in a disarmed state. The relays can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

BO Slot X2 . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force OR / BO Slot X2]	
0.03s *Only available if:* • BO Slot X2 . Force Mode = timeout	0.00s ... 300.00s	S.3
	The Output State will be set by force for the duration of this time. That means for the duration of this time the Output Relay does not show the state of the signals that are assigned on it.	

BO Slot X2 . **Force all Outs**	[Service / Test (Prot inhibit) / Force OR / BO Slot X2]	
Normal	Normal, De-Energized, Energized └⇨ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state. Forcing all outputs relays of an entire assembly group is superior to forcing a single output relay.	

BO Slot X2 . **Force OR1** ... BO Slot X2 . **Force OR6**	[Service / Test (Prot inhibit) / Force OR / BO Slot X2]	
Normal	Normal, De-Energized, Energized └⇨ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

2.3.2 BO Slot X4 (5 Binary Outputs)

BO Slot X4 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └─▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X4 . **t-hold**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X4 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X4 . **Latched**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
inactive	inactive, active └─▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X4 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
“-” *Only available if:* • BO Slot X4 . Latched = active	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X4 . **Inverting**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
inactive	inactive, active └─▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X4 . **Assignment 1** . . . BO Slot X4 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X4 . **Inverting 1** . . . BO Slot X4 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 1]	
inactive	inactive, active └─▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X4 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └─▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X4 . **t-hold**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X4 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X4 . **Latched**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
inactive	inactive, active └─▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X4 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
“-” *Only available if:* • BO Slot X4 . Latched = active	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X4 . **Inverting**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X4 . **Assignment 1** **. . .** BO Slot X4 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X4 . **Inverting 1** **. . .** BO Slot X4 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 2]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X4 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X4 . **t-hold**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X4 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	Switch Off Delay	

BO Slot X4 . **Latched**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
inactive	inactive, active ╘▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X4 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
“-” *Only available if:* • BO Slot X4 . Latched = active	“-” ... Sys . Internal test state ╘▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X4 . **Inverting**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
inactive	inactive, active ╘▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X4 . **Assignment 1** **...** BO Slot X4 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
“-”	“-” ... Sys . Internal test state ╘▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X4 . **Inverting 1** ... BO Slot X4 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 3]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X4 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮡ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X4 . **t-hold**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X4 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X4 . **Latched**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X4 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
“-” *Only available if:* • BO Slot X4 . Latched = active	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X4 . **Inverting**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X4 . **Assignment 1** **. . .** BO Slot X4 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X4 . **Inverting 1** **. . .** BO Slot X4 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 4]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X4 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X4 . **t-hold**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X4 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X4 . **Latched**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
inactive	inactive, active └▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X4 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
"-" *Only available if:* • BO Slot X4 . Latched = active	"-" . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X4 . **Inverting**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X4 . **Assignment 1** **. . .** BO Slot X4 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
"-"	"-" . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X4 . **Inverting 1** **. . .** BO Slot X4 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X4 / BO 5]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.3.2.1 BO Slot X4: Service

BO Slot X4 . **DISARMED Ctrl**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X4]	
inactive	inactive, active └⇒ active/inactive.	S.3
	Enables and disables the disarming of the relay outputs. This is the first step of a two step process, to inhibit the operation or the relay outputs. Please refer to "DISARMED" for the second step.	

BO Slot X4 . **Disarm Mode**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X4]	
permanent	permanent, timeout └⇒ Mode.	S.3
	CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X4 . **t-Timeout DISARM**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X4]	
0.03s *Only available if:* • BO Slot X4 . Disarm Mode = timeout	0.00s ... 300.00s	S.3
	The relays will be armed again after expiring of this time.	

BO Slot X4 . **DISARMED**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X4]	
inactive	inactive, active └⇒ active/inactive.	S.3
	This is the second step, after the "DISARMED Ctrl" has been activated, that is required to DISARM the relay outputs. This will DISARM those output relays that are currently not latched and that are not on “hold” by a pending minimum hold time. CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: Zone Interlocking and Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X4 . **Force Mode**	[Service / Test (Prot inhibit) / Force OR / BO Slot X4]	
permanent	permanent, timeout ↳ Mode.	S.3
	By means of this function the normal Output Relay States can be overwritten (forced) in case that the Relay is not in a disarmed state. The relays can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

BO Slot X4 . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force OR / BO Slot X4]	
0.03s *Only available if:* • BO Slot X4 . Force Mode = timeout	0.00s ... 300.00s	S.3
	The Output State will be set by force for the duration of this time. That means for the duration of this time the Output Relay does not show the state of the signals that are assigned on it.	

BO Slot X4 . **Force all Outs**	[Service / Test (Prot inhibit) / Force OR / BO Slot X4]	
Normal	Normal, De-Energized, Energized ↳ Relay operating modes.	S.3
◉	*By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state. Forcing all outputs relays of an entire assembly group is superior to forcing a single output relay.*	

BO Slot X4 . **Force OR1** ... BO Slot X4 . **Force OR5**	[Service / Test (Prot inhibit) / Force OR / BO Slot X4]	
Normal	Normal, De-Energized, Energized ↳ Relay operating modes.	S.3
◉	*By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.*	

2.3.3 BO Slot X5 (6 Binary Outputs) (6 Binary Outputs)

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** ... BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
Assignment		

BO Slot X5 . **Inverting 1** ... BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ⮡ Mode.	S.3
Inverting of the state of the assigned signal.		

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮡ 1...n Operating Modes.	S.3
Operating Mode		

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.		

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
Switch Off Delay		

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active ⮡ Mode.	S.3
Defines whether the Relay Output will be latched when it picks up.		

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** **. . .** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** **. . .** BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └⇒ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active ⮑ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
"-" *Only available if:* • BO Slot X5 . Latched = active	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active ⮑ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** **. . .** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** . . . BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** **. . .** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** **. . .** BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
inactive	inactive, active ⮑ Mode.	S.3
Defines whether the Relay Output will be latched when it picks up.		

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.		

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
inactive	inactive, active ⮑ Mode.	S.3
Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).		

BO Slot X5 . **Assignment 1** **. . .** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
“-”	“-” . . . Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
Assignment		

BO Slot X5 . **Inverting 1** **. . .** BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 5]	
inactive	inactive, active ⮑ Mode.	S.3
Inverting of the state of the assigned signal.		

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └⇒ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
inactive	inactive, active └⇒ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** **. . .** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
“-”	“-” . . . Sys . Internal test state └⊳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** **. . .** BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 6]	
inactive	inactive, active └⊳ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.3.3.1 BO Slot X5: Service

BO Slot X5 . **DISARMED Ctrl**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
inactive	inactive, active ↳ active/inactive.	S.3
	Enables and disables the disarming of the relay outputs. This is the first step of a two step process, to inhibit the operation or the relay outputs. Please refer to "DISARMED" for the second step.	

BO Slot X5 . **Disarm Mode**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
permanent	permanent, timeout ↳ Mode.	S.3
	CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X5 . **t-Timeout DISARM**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
0.03s *Only available if:* • BO Slot X5 . Disarm Mode = timeout	0.00s ... 300.00s	S.3
	The relays will be armed again after expiring of this time.	

BO Slot X5 . **DISARMED**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
inactive	inactive, active ↳ active/inactive.	S.3
	This is the second step, after the "DISARMED Ctrl" has been activated, that is required to DISARM the relay outputs. This will DISARM those output relays that are currently not latched and that are not on “hold” by a pending minimum hold time. CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: Zone Interlocking and Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X5 . **Force Mode**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
permanent	permanent, timeout ╚═▷ Mode.	S.3
	By means of this function the normal Output Relay States can be overwritten (forced) in case that the Relay is not in a disarmed state. The relays can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

BO Slot X5 . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
0.03s *Only available if:* • BO Slot X5 . Force Mode = timeout	0.00s ... 300.00s	S.3
	The Output State will be set by force for the duration of this time. That means for the duration of this time the Output Relay does not show the state of the signals that are assigned on it.	

BO Slot X5 . **Force all Outs**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
Normal	Normal, De-Energized, Energized ╚═▷ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state. Forcing all outputs relays of an entire assembly group is superior to forcing a single output relay.	

BO Slot X5 . **Force OR1** ... BO Slot X5 . **Force OR6**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
Normal	Normal, De-Energized, Energized ╚═▷ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

2.3.4 BO Slot X5 (4 Binary Outputs) (4 Binary Outputs)

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮡ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** ... BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** ... BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 1]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** . . . BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** . . . BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 2]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └⇒ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** **...** BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
“-”	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** **. . .** BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 3]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X5 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X5 . **t-hold**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X5 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X5 . **Latched**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active └▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X5 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
“-” *Only available if:* • BO Slot X5 . Latched = active	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X5 . **Inverting**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X5 . **Assignment 1** . . . BO Slot X5 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X5 . **Inverting 1** . . . BO Slot X5 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X5 / BO 4]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.3.4.1 BO Slot X5: Service

BO Slot X5 . **DISARMED Ctrl**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
inactive	inactive, active ⮡ active/inactive.	S.3
	Enables and disables the disarming of the relay outputs. This is the first step of a two step process, to inhibit the operation or the relay outputs. Please refer to "DISARMED" for the second step.	

BO Slot X5 . **Disarm Mode**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
permanent	permanent, timeout ⮡ Mode.	S.3
	CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X5 . **t-Timeout DISARM**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
0.03s *Only available if:* • BO Slot X5 . Disarm Mode = timeout	0.00s ... 300.00s	S.3
	The relays will be armed again after expiring of this time.	

BO Slot X5 . **DISARMED**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X5]	
inactive	inactive, active ⮡ active/inactive.	S.3
	This is the second step, after the "DISARMED Ctrl" has been activated, that is required to DISARM the relay outputs. This will DISARM those output relays that are currently not latched and that are not on “hold” by a pending minimum hold time. CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: Zone Interlocking and Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X5 . **Force Mode**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
permanent	permanent, timeout ↳ Mode.	S.3
	By means of this function the normal Output Relay States can be overwritten (forced) in case that the Relay is not in a disarmed state. The relays can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

BO Slot X5 . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
0.03s *Only available if:* • BO Slot X5 . Force Mode = timeout	0.00s ... 300.00s	S.3
	The Output State will be set by force for the duration of this time. That means for the duration of this time the Output Relay does not show the state of the signals that are assigned on it.	

BO Slot X5 . **Force all Outs**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
Normal	Normal, De-Energized, Energized ↳ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state. Forcing all outputs relays of an entire assembly group is superior to forcing a single output relay.	

BO Slot X5 . **Force OR1** ... BO Slot X5 . **Force OR4**	[Service / Test (Prot inhibit) / Force OR / BO Slot X5]	
Normal	Normal, De-Energized, Energized ↳ Relay operating modes.	S.3
	By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

2.3.5 BO Slot X6 (4 Binary Outputs) (4 Binary Outputs)

BO Slot X6 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ╚═▷ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X6 . **t-hold**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X6 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X6 . **Latched**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X6 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
“-” *Only available if:* • BO Slot X6 . Latched = active	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X6 . **Inverting**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X6 . **Assignment 1** . . . BO Slot X6 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X6 . **Inverting 1** . . . BO Slot X6 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 1]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X6 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ↳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X6 . **t-hold**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X6 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X6 . **Latched**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
inactive	inactive, active ↳ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X6 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
“-” *Only available if:* • BO Slot X6 . Latched = active	“-” . . . Sys . Internal test state └⊳ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X6 . **Inverting**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
inactive	inactive, active └⊳ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X6 . **Assignment 1** **. . .** BO Slot X6 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
“-”	“-” . . . Sys . Internal test state └⊳ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X6 . **Inverting 1** **. . .** BO Slot X6 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 2]	
inactive	inactive, active └⊳ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X6 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
Normally open (NO)	Normally open (NO), Normally closed (NC) └⊳ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X6 . **t-hold**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X6 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
0.00s	0.00s ... 300.00s	S.3
	Switch Off Delay	

BO Slot X6 . **Latched**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X6 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
“-” *Only available if:* • BO Slot X6 . Latched = active	“-” ... Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X6 . **Inverting**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X6 . **Assignment 1** **...** BO Slot X6 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
“-”	“-” ... Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X6 . **Inverting 1** **. . .** BO Slot X6 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 3]	
inactive	inactive, active ⮡ Mode.	S.3
	Inverting of the state of the assigned signal.	

BO Slot X6 . **Operating Mode**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
Normally open (NO)	Normally open (NO), Normally closed (NC) ⮡ 1...n Operating Modes.	S.3
	Operating Mode	

BO Slot X6 . **t-hold**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	To clearly identify the state transition of a binary output relay, the "new state" is being hold, at least for the duration of the hold time.	

BO Slot X6 . **t-Off Delay**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
0.00s	0.00s . . . 300.00s	S.3
	Switch Off Delay	

BO Slot X6 . **Latched**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
inactive	inactive, active ⮡ Mode.	S.3
	Defines whether the Relay Output will be latched when it picks up.	

BO Slot X6 . **Acknowledgement**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
“-” *Only available if:* • BO Slot X6 . Latched = active	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement Signal - An acknowledgement signal (that acknowledges the corresponding binary output relay) can be assigned to each output relay. The acknowledgement-signal is only effective if the parameter "Latched" is set to active.	

BO Slot X6 . **Inverting**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Inverting of the collective signal (OR-gate/disjunction). In combination with inverted input signals an AND-gate can be programmed (Conjunction).	

BO Slot X6 . **Assignment 1** **. . .** BO Slot X6 . **Assignment 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Assignment	

BO Slot X6 . **Inverting 1** **. . .** BO Slot X6 . **Inverting 7**	[Device Para / Binary Outputs / BO Slot X6 / BO 4]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.3.5.1 BO Slot X6: Service

BO Slot X6 . **DISARMED Ctrl**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X6]	
inactive	inactive, active ↳ active/inactive.	S.3
	Enables and disables the disarming of the relay outputs. This is the first step of a two step process, to inhibit the operation or the relay outputs. Please refer to "DISARMED" for the second step.	

BO Slot X6 . **Disarm Mode**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X6]	
permanent	permanent, timeout ↳ Mode.	S.3
	CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X6 . **t-Timeout DISARM**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X6]	
0.03s *Only available if:* • BO Slot X6 . Disarm Mode = timeout	0.00s ... 300.00s	S.3
	The relays will be armed again after expiring of this time.	

BO Slot X6 . **DISARMED**	[Service / Test (Prot inhibit) / DISARMED / BO Slot X6]	
inactive	inactive, active ↳ active/inactive.	S.3
	This is the second step, after the "DISARMED Ctrl" has been activated, that is required to DISARM the relay outputs. This will DISARM those output relays that are currently not latched and that are not on “hold” by a pending minimum hold time. CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: Zone Interlocking and Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance.	

BO Slot X6 . **Force Mode**	[Service / Test (Prot inhibit) / Force OR / BO Slot X6]	
permanent	permanent, timeout ╘═▷ Mode.	S.3
	By means of this function the normal Output Relay States can be overwritten (forced) in case that the Relay is not in a disarmed state. The relays can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.	

BO Slot X6 . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force OR / BO Slot X6]	
0.03s *Only available if:* • BO Slot X6 . Force Mode = timeout	0.00s ... 300.00s	S.3
	The Output State will be set by force for the duration of this time. That means for the duration of this time the Output Relay does not show the state of the signals that are assigned on it.	

BO Slot X6 . **Force all Outs**	[Service / Test (Prot inhibit) / Force OR / BO Slot X6]	
Normal	Normal, De-Energized, Energized ╘═▷ Relay operating modes.	S.3
◉	*By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state. Forcing all outputs relays of an entire assembly group is superior to forcing a single output relay.*	

BO Slot X6 . **Force OR1** ... BO Slot X6 . **Force OR4**	[Service / Test (Prot inhibit) / Force OR / BO Slot X6]	
Normal	Normal, De-Energized, Energized ╘═▷ Relay operating modes.	S.3
◉	*By means of this function the normal Output Relay State can be overwritten (forced). The relay can be set from normal operation (relay works according to the assigned signals) to "force energized" or "force de-energized" state.*	

2.4 LEDs

2.4.1 LEDs group A

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 1]	
inactive	inactive, active, active, ack. by alarm └▷ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 1]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 1]	
green	green, red, red flash, green flash, “-” └▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 1]	
“-”	green, red, red flash, green flash, “-” └▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1**	[Device Para / LEDs / LEDs group A / LED 1]	
Prot . active	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** **. . .** LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 1]	
inactive	inactive, active ⮱ Mode.	S.3
Inverting of the state of the assigned signal.		

LEDs group A . **Assignment 2** **. . .** LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 1]	
“-”	“-” . . . Sys . Internal test state ⮱ 1..n, Assignment List.	S.3
Assignment		

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 2]	
active	inactive, active, active, ack. by alarm ⮱ Mode.	S.3
Defines whether the LED will be latched when it picks up.		

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 2]	
“-”	“-” . . . Sys . Internal test state ⮱ 1..n, Assignment List.	S.3
Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.		

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 2]	
red	green, red, red flash, green flash, “-” ⮱ LED active color.	S.3
The LED lights up in this color if the state of the OR-assignment of the signals is true.		

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 2]	
“-”	green, red, red flash, green flash, “-” ╚═▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1**	[Device Para / LEDs / LEDs group A / LED 2]	
SG[1] . TripCmd	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** . . . LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 2]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group A . **Assignment 2** . . . LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 2]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 3]	
inactive	inactive, active, active, ack. by alarm ╚═▷ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 3]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 3]	
red flash	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 3]	
“-”	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1**	[Device Para / LEDs / LEDs group A / LED 3]	
Prot . Alarm	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** **. . .** LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 3]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group A . **Assignment 2** . . . LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 3]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 4]	
inactive	inactive, active, active, ack. by alarm └⇒ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 4]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 4]	
red	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 4]	
“-”	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1** **. . .** LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 4]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** **. . .** LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 4]	
inactive	inactive, active └▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 5]	
inactive	inactive, active, active, ack. by alarm └▷ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 5]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 5]	
red	green, red, red flash, green flash, “-” └▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 5]	
“-”	green, red, red flash, green flash, “-” ↳ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1** ... LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 5]	
“-”	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** ... LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 5]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 6]	
inactive	inactive, active, active, ack. by alarm ↳ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 6]	
“-”	“-” ... Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 6]	
red	green, red, red flash, green flash, “-” ⮑ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 6]	
“-”	green, red, red flash, green flash, “-” ⮑ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1** ... LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 6]	
“-”	“-” ... Sys . Internal test state ⮑ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** ... LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 6]	
inactive	inactive, active ⮑ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group A . **Latched**	[Device Para / LEDs / LEDs group A / LED 7]	
inactive	inactive, active, active, ack. by alarm ⮑ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group A . **Ack signal**	[Device Para / LEDs / LEDs group A / LED 7]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group A . **LED active color**	[Device Para / LEDs / LEDs group A / LED 7]	
red	green, red, red flash, green flash, “-” ↳ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group A . **LED inactive color**	[Device Para / LEDs / LEDs group A / LED 7]	
“-”	green, red, red flash, green flash, “-” ↳ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group A . **Assignment 1** **...** LEDs group A . **Assignment 5**	[Device Para / LEDs / LEDs group A / LED 7]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	Assignment	

LEDs group A . **Inverting 1** **...** LEDs group A . **Inverting 5**	[Device Para / LEDs / LEDs group A / LED 7]	
inactive	inactive, active ↳ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.4.2 LEDs group B

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 1]	
inactive	inactive, active, active, ack. by alarm ⮡ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 1]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 1]	
green	green, red, red flash, green flash, “-” ⮡ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 1]	
red flash	green, red, red flash, green flash, “-” ⮡ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1**	[Device Para / LEDs / LEDs group B / LED 1]	
ProtCom . active	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** ... LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 1]	
inactive	inactive, active Mode.	S.3
Inverting of the state of the assigned signal.		

LEDs group B . **Assignment 2** ... LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 1]	
“-”	“-” ... Sys . Internal test state 1..n, Assignment List.	S.3
Assignment		

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 2]	
inactive	inactive, active, active, ack. by alarm Mode.	S.3
Defines whether the LED will be latched when it picks up.		

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 2]	
“-”	“-” ... Sys . Internal test state 1..n, Assignment List.	S.3
Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.		

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 2]	
green flash	green, red, red flash, green flash, “-” LED active color.	S.3
The LED lights up in this color if the state of the OR-assignment of the signals is true.		

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 2]	
“-”	green, red, red flash, green flash, “-” └═▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1**	[Device Para / LEDs / LEDs group B / LED 2]	
I[6] . active	“-” . . . Sys . Internal test state └═▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** ... LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 2]	
inactive	inactive, active └═▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group B . **Assignment 2** ... LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 2]	
“-”	“-” . . . Sys . Internal test state └═▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 3]	
inactive	inactive, active, active, ack. by alarm └═▷ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 3]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 3]	
red	green, red, red flash, green flash, “-” ╚═▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 3]	
“-”	green, red, red flash, green flash, “-” ╚═▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1** . . . LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 3]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** . . . LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 3]	
inactive	inactive, active ╚═▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 4]	
inactive	inactive, active, active, ack. by alarm ⮡ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 4]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 4]	
red	green, red, red flash, green flash, “-” ⮡ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 4]	
“-”	green, red, red flash, green flash, “-” ⮡ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1** **. . .** LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 4]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** . . . LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 4]	
inactive	inactive, active ↳ Mode.	S.3
Inverting of the state of the assigned signal.		

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 5]	
inactive	inactive, active, active, ack. by alarm ↳ Mode.	S.3
Defines whether the LED will be latched when it picks up.		

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 5]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.		

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 5]	
red	green, red, red flash, green flash, “-” ↳ LED active color.	S.3
The LED lights up in this color if the state of the OR-assignment of the signals is true.		

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 5]	
“-”	green, red, red flash, green flash, “-” ↳ LED active color.	S.3
The LED lights up in this color if the state of the OR-assignment of the signals is untrue.		

LEDs group B . **Assignment 1** **...** LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 5]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** **...** LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 5]	
inactive	inactive, active Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 6]	
inactive	inactive, active, active, ack. by alarm Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 6]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 6]	
red	green, red, red flash, green flash, “-” LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 6]	
“-”	green, red, red flash, green flash, “-” └─▷ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1** . . . LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 6]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** . . . LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 6]	
inactive	inactive, active └─▷ Mode.	S.3
	Inverting of the state of the assigned signal.	

LEDs group B . **Latched**	[Device Para / LEDs / LEDs group B / LED 7]	
inactive	inactive, active, active, ack. by alarm └─▷ Mode.	S.3
	Defines whether the LED will be latched when it picks up.	

LEDs group B . **Ack signal**	[Device Para / LEDs / LEDs group B / LED 7]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	Acknowledgement signal for the LED. If latching is set to active the LED can only be acknowledged if those signals that initiated the setting are no longer present.	

LEDs group B . **LED active color**	[Device Para / LEDs / LEDs group B / LED 7]	
red	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is true.	

LEDs group B . **LED inactive color**	[Device Para / LEDs / LEDs group B / LED 7]	
“-”	green, red, red flash, green flash, “-” └⇒ LED active color.	S.3
	The LED lights up in this color if the state of the OR-assignment of the signals is untrue.	

LEDs group B . **Assignment 1** **. . .** LEDs group B . **Assignment 5**	[Device Para / LEDs / LEDs group B / LED 7]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Assignment	

LEDs group B . **Inverting 1** **. . .** LEDs group B . **Inverting 5**	[Device Para / LEDs / LEDs group B / LED 7]	
inactive	inactive, active └⇒ Mode.	S.3
	Inverting of the state of the assigned signal.	

2.5 HMI

front-panel

Password	[Device Para / Security / Password]
	This item represents a special dialog. (See the Technical Manual for details.) *Changing the password*

Access Level	[Device Para / Security / Access Level]
	This item represents a special dialog. (See the Technical Manual for details.) *Access Level*

2.5.1 HMI: Global Parameters

HMI . **Display Off**	[Device Para / HMI]	
180s	20s ... 3600s	S.3
	The display back light will be turned off when this timer has expired.	

HMI . **Menu language**	[Device Para / HMI]	
English	English ... Romanian ⮡ Selection.	S.3
	Selection of the language	

HMI . **Display ANSI Device No.**	[Device Para / HMI]	
active	inactive, active ⮡ Mode.	S.3
	Display ANSI Device Numbers	

HMI . **t-max Edit/Access**	[Device Para / Security / General Settings]	
180s	20s ... 3600s	S.3
	If no other key(s) is pressed at the panel, after expiration of this time, all cached (changed) parameters are canceled. The device access will be locked by falling back into Read-only level Lv0.	

2.5.2 HMI: Direct Controls

HMI . **Contrast**	[Device Para / HMI]	
50%	0% . . . 100%	S.3
◉	*Contrast*	

HMI . **Config. Device Reset**	[Device Para / Security / General Settings]	
"Fact.def.", "PW rst"	"Fact.def.", "PW rst", Only “Fact.defaults”, Reset deact. ⮡ Config. Device Reset.	S.3
◉	*If the »C« key is pressed while the device is performing a cold restart a general Reset Dialog appears on the screen. Select which options shall be available with this dialog.*	

2.5.3 HMI: Values

HMI . **Config. Device Reset**	[Operation / Security / Security States]	
"Fact.def.", "PW rst"	"Fact.def.", "PW rst", Only “Fact.defaults”, Reset deact. ⮡ Config. Device Reset.	
✎	*If the »C« key is pressed while the device is performing a cold restart a general Reset Dialog appears on the screen. Select which options shall be available with this dialog.*	

3 Security

- ProtCom . Sm. view via ProtCom: ⮡ Tab.
- Ctrl . Switching Authority: ⮡ Tab.
- HMI . Config. Device Reset: ⮡ Tab.
- HMI . t-max Edit/Access: ⮡ Tab.
- HMI . Config. Device Reset: ⮡ Tab.
- ProtCom . Sm. view via ProtCom: ⮡ Tab.
- Password: ⮡ Tab.
- Access Level: ⮡ Tab.

Sys . **Smart view via USB**	[Operation / Security / Security States]
active	inactive, active ⮡ Mode.
✎	*Information whether or not the Smart view access via the USB interface is activated (allowed).*

Sys . **Smart view via Eth**	[Operation / Security / Security States]
active *Avail. depends on HW*	inactive, active ⮡ Mode.
✎	*Information whether or not the Smart view access via the Ethernet interface is activated (allowed).*

Sys . **Passw. for USB conn.**	[Operation / Security / Security States]
disabled	disabled, default, def. by user ⮡ Type of passw. def..
✎	*Type / Security-level of the connection password that is used for a USB connection.*

Sys . **Passw.remote net.conn.**	[Operation / Security / Security States]
disabled	disabled, default, def. by user ⮡ Type of passw. def..
✎	*Type / Security-level of the connection password that is used for a Smart view connection via some network interface.*

Sys . **TLS Certificate**	[Operation / Security / Security States]	
Device-specific	Device-specific, Basic, Corrupt └⊳ TLS Certificate.	
✎	*Type of certificate that the device uses for the encrypted communication. This value is directly related to the security-level of the communication.*	

Security Logger	[Operation / Security / Security Logger]
🗎	This item represents a special dialog. (See the Technical Manual for details.) *Security-related messages*

Sys . **Smart view via USB**	[Device Para / Security / Communication]	
active	inactive, active └⊳ Mode.	S.3
◉	*Activate (allow) or inactivate (disallow) the Smart view access via the USB interface.*	

Sys . **Smart view via Eth**	[Device Para / Security / Communication]	
active *Avail. depends on HW*	inactive, active └⊳ Mode.	S.3
◉	*Activate (allow) or inactivate (disallow) the Smart view access via the Ethernet interface.*	

4 Field settings

Field settings

4.1 Field Para: Global Parameters

Field Para . **Phase Sequence**	[Field Para / General Settings]	
ABC	ABC, ACB └⇒ Phase Sequence.	S.3
	Phase Sequence direction	

Field Para . **f**	[Field Para / General Settings]	
50Hz	50Hz, 60Hz └⇒ fN.	S.3
	Nominal frequency	

4.2 VT

Voltage Transformer

4.2.1 VT: Global Parameters

VT . **V Cutoff Level**	[Device Para / Measurem Display / Voltage]	
0.005Vn	0.0Vn ... 0.100Vn	S.3
	The Phase Voltage shown in the Display or within the PC Software will be displayed as zero, if the Phase Voltage falls below this Cutoff Level. This parameter has no impact on recorders. This parameter is related to the voltage that is connected to the device (phase-to-phase or phase-to-earth).	

VT . **VG meas Cutoff Level**	[Device Para / Measurem Display / Voltage]	
0.005Vn	0.0Vn ... 0.100Vn	S.3
	The measured Residual Voltage shown in the Display or within the PC Software will be displayed as zero, if the measured Residual Voltage falls below this Cutoff Level. This parameter has no impact on recorders.	

VT . **VG calc Cutoff Level**	[Device Para / Measurem Display / Voltage]	
0.005Vn	0.0Vn ... 0.100Vn	S.3
	The calculated Residual Voltage shown in the Display or within the PC Software will be displayed as zero, if the calculated Residual Voltage falls below this Cutoff Level. This parameter has no impact on recorders.	

VT . **V012 Comp Cutoff Level**	[Device Para / Measurem Display / Voltage]	
0.005Vn	0.0Vn ... 0.100Vn	S.3
	The Symmetrical Component shown in the Display or within the PC Software will be displayed as zero, if the Symmetrical Component falls below this Cutoff Level. This parameter has no impact on recorders.	

VT . **VT pri**	[Field Para / VT]	
10000V	60V ... 500000V	S.3
	Nominal voltage of the Voltage Transformers at the primary side. Note that always the phase-to-phase voltage must be entered here.	

VT . **VT sec**	[Field Para / VT]	
100V	If: slot 4 = Voltage measuring inputs • 60.00V ... 520.00V If: slot 4 = Voltage measurement | 5 binary output relays • 60.00V ... 200.00V	S.3

Nominal voltage of the Voltage Transformers at the secondary side. Note that always the phase-to-phase voltage must be entered here.

VT . **VT con**	[Field Para / VT]	
Phase to Ground	Phase to Phase, Phase to Ground VT con.	S.3

This parameter has to be set in order to ensure the correct assignment of the voltage measurement channels in the device.

VT . **EVT pri**	[Field Para / VT]	
10000V	60V ... 500000V	S.3

Primary nominal voltage of the e-n winding of the voltage transformers, which is only taken into account in the direct measurement of the residual voltage (GVT con=measured/broken delta).

VT . **EVT sec**	[Field Para / VT]	
100V	If: slot 4 = Voltage measuring inputs • 35.00V ... 520.00V If: slot 4 = Voltage measurement | 5 binary output relays • 35.00V ... 200.00V	S.3

Secondary nominal voltage of the e-n winding of the voltage transformers, which is only taken into account in the direct measurement of the residual voltage.

VT . **V Sync**	[Field Para / VT]	
L12	L1, L2, L3, L12, L23, L31 Voltages to be synchronized.	S.3

The fourth measuring input of the voltage measuring card measures the voltage that is to be synchronized.

VT . **Phase MTA**	[Field Para / Direction / General]	
45°	0° ... 360°	S.3
	Maximum Torque Angle: Angle between phase current and reference voltage in case of a short circuit. This angle is needed to determine the fault direction in case of short circuits. *Note: If »Phase Sequence« = “ACB” then the device internally adapts the direction angle by adding 180°.*	

VT . **3V0 Source**	[Field Para / Direction / General]	
measured	measured, calculated ↳ 3V0 Source.	S.3
	Earth overcurrent protection elements take into account this parameter for direction decisions. You have to ensure, that this parameter is set to "Measured" only if the residual voltage is fed to the fourth measuring input of the voltage measuring card.	

VT . **Ground MTA**	[Field Para / Direction / General]	
110°	0° ... 360°	S.3
	Ground Maximum Torque Angle: Angle between chosen operating quantity and chosen reference quantity in case of a ground fault. This angle is needed to determine the ground fault direction in case of a short circuit. Depending on the selected ground direction option, different MTA values are used: IGcalc 3V0, IGmeas 3V0 : Ground MTA; IGcalc Neg, IGmeas Neg : 90° + Phase MTA; IGcalc IPol : 0°; IGcalc Dual : 0° (if I2 and V2 available) or Ground MTA; IGmeas Dual : 90° + Phase MTA (if I2 and V2 available) or Ground MTA.	

VT . **ECT Angle Cor**	[Field Para / Direction / General]	
0°	-45.0° ... 45.0°	S.3
	Fine adjustment of the measuring angle of the earth current transformers. By means of the Angle Correction, faults of the earth voltage transformers can be taken into account.	

VT . **IG meas dir control**	[Field Para / Direction / General]	
IG meas 3V0	IG meas 3V0, I2,V2, Dual, cos(ϕ) , sin(ϕ) ↳ IG meas dir control.	S.3
	Options for direction detection. IGmeas is used as operating quantity.	

VT . **IG calc dir control**	[Field Para / Direction / General]	
IG calc 3V0	IG calc 3V0, IG calc IPol (IG meas), Dual, I2,V2, cos(ϕ) , sin(ϕ) ↳ IG calc dir control.	S.3
	Options for direction detection. IGcalc is used as operating quantity.	

VT . **3V0 min**	[Field Para / Direction / Wattmetric]	
0.2Vn	0.01Vn . . . 2.00Vn	S.3
	Voltage threshold for the direction detection of ground (earth) faults	

VT . **t(3V0 min)**	[Field Para / Direction / Wattmetric]	
0.1s	0.00s . . . 60.00s	S.3
	Release timer for the direction detection of ground (earth) faults: When 3V0 rises above the setting »3V0 min« this timer is started. Direction results are released after this timer has elapsed.	

VT . **IG meas min**	[Field Para / Direction / Wattmetric]	
0.1In *Only available if:* • VT . IG meas dir control = cos(ϕ) • VT . IG meas dir control = sin(ϕ)	If: Sensitive Ground Current = 0 • 0.02In . . . 2.00In If: Sensitive Ground Current ≠ 0 • 0.002In . . . 2.000In	S.3
	Current threshold for the direction detection methods cos(ϕ), sin(ϕ) with measured ground (earth) current	

VT . **IG meas limit angle λ1**	[Field Para / Direction / Wattmetric]	
3° *Only available if:* • VT . IG meas dir control = cos(ϕ) • VT . IG meas dir control = sin(ϕ)	1° . . . 20°	S.3
	Limit angle 1 for cos or sin method with measured earth current	

VT . **IG meas limit angle λ2**	[Field Para / Direction / Wattmetric]	
3° *Only available if:* • VT . IG meas dir control = cos(ϕ) • VT . IG meas dir control = sin(ϕ)	1° . . . 20°	S.3
	Limit angle 2 for cos or sin method with measured earth current	

VT . **IG calc min**	[Field Para / Direction / Wattmetric]	
0.1In *Only available if:* • VT . IG calc dir control = cos(ϕ) • VT . IG calc dir control = sin(ϕ)	0.02In ... 2.00In	S.3
	Current threshold for the direction detection methods cos(ϕ), sin(ϕ) with measured ground (earth) current	

VT . **IG calc limit angle λ1**	[Field Para / Direction / Wattmetric]	
3° *Only available if:* • VT . IG calc dir control = cos(ϕ) • VT . IG calc dir control = sin(ϕ)	1° ... 20°	S.3
	Limit angle 1 for ground fault direction determination with method “cos(ϕ)” or “sin(ϕ)”	

VT . **IG calc limit angle λ2**	[Field Para / Direction / Wattmetric]	
3° *Only available if:* • VT . IG calc dir control = cos(ϕ) • VT . IG calc dir control = sin(ϕ)	1° ... 20°	S.3
	Limit angle 2 for ground fault direction determination with method “cos(ϕ)” or “sin(ϕ)”	

VT . **V Block f**	[Field Para / Frequency]	
0.5Vn	0.15Vn ... 0.90Vn	S.3
	Threshold for the release of the frequency stages	

VT . **delta phi - Mode**	[Field Para / Frequency]	
two phases	one phase, two phases, three phases ⮡ delta phi - Mode.	S.3
	The delta phi element (vector surge) trips, if the permissable voltage angle shift (delta phi) of the three measured voltages (phase-ground or phase-phase) in: one phase, two phases or within all phases is exceeded.	

VT . **Stab. window f**	[Field Para / Frequency]	
0	0 ... 10	S.3
	Stabilizing window, for stabilizing the frequency values against momentary fluctuations. The setting value is in cycles at the rated frequency.	

VT . **Window df/dt**	[Field Para / Frequency]	
4	2 ... 10	S.3
	Window for the determination of df/dt (ROCOF). The setting value is in cycles at the rated frequency.	

VT . **Stab. window df/dt**	[Field Para / Frequency]	
5	2 ... 10	S.3
	Stabilizing window, for stabilizing the df/dt (ROCOF) values against momentary fluctuations. The setting value is in cycles at the rated frequency.	

4.2.2 VT: Signals (Output States)

VT . **Phase seq. wrong**	[Operation / Status Display / Supervision / Phase Sequence]
	Signal that the device has detected a phase sequence (L1-L2-L3 / L1-L3-L2) that is different from the one that had been set at [Field settings / General Settings] »Phase Sequence«.

4.2.3 VT: Values

VT . **f**	[Operation / Measured Values / Voltage]
	Measured value: Frequency

VT . **VL12**	[Operation / Measured Values / Voltage]
	Measured value: Phase-to-phase voltage (fundamental)

VT . **VL23**	[Operation / Measured Values / Voltage]
	Measured value: Phase-to-phase voltage (fundamental)

VT . **VL31**	[Operation / Measured Values / Voltage]
	Measured value: Phase-to-phase voltage (fundamental)

VT . **VL1**	[Operation / Measured Values / Voltage]
	Measured value: Phase-to-neutral voltage (fundamental)

VT . **VL2**	[Operation / Measured Values / Voltage]
✎	*Measured value: Phase-to-neutral voltage (fundamental)*

VT . **VL3**	[Operation / Measured Values / Voltage]
✎	*Measured value: Phase-to-neutral voltage (fundamental)*

VT . **VX meas**	[Operation / Measured Values / Voltage]
✎	*Measured value (measured): VX measured (fundamental)*

VT . **VG calc**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): VG (fundamental)*

VT . **V0**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Symmetrical components Zero voltage(fundamental)*

VT . **V1**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Symmetrical components positive phase sequence voltage(fundamental)*

VT . **V2**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Symmetrical components negative phase sequence voltage(fundamental)*

VT . **%(V2/V1)**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): V2/V1, phase sequence will be taken into account automatically.*

VT . **phi VL12**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Angle of Phasor VL12* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VL23**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Angle of Phasor VL23* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VL31**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle of Phasor VL31 *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VL1**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle of Phasor VL1 *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VL2**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle of Phasor VL2 *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VL3**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle of Phasor VL3 *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VX meas**	[Operation / Measured Values / Voltage]
	Measured value: Angle of Phasor VX meas *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi VG calc**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle of Phasor VG calc *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi V0**	[Operation / Measured Values / Voltage]
	Measured value (calculated): Angle Zero Sequence System *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi V1**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Angle of Positive Sequence System* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **phi V2**	[Operation / Measured Values / Voltage]
✎	*Measured Value (calculated): Angle of Negative Sequence System* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

VT . **df/dt**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Rate-of-frequency-change.*

VT . **delta phi**	[Operation / Measured Values / Voltage]
✎	*Measured value (calculated): Vector surge*

VT . **VL12 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-phase voltage (RMS)*

VT . **VL23 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-phase voltage (RMS)*

VT . **VL31 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-phase voltage (RMS)*

VT . **VL1 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-neutral voltage (RMS)*

VT . **VL2 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-neutral voltage (RMS)*

VT . **VL3 RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value: Phase-to-neutral voltage (RMS)*

VT . **VX meas RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (measured): VX measured (RMS)*

VT . **VG calc RMS**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VG (RMS)*

VT . **V/f**	[Operation / Measured Values / Voltage RMS]
✎	*Ratio Volts/Hertz in relation to nominal values.*

VT . **%VL12 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V12 Total Harmonic Distortion / Ground wave*

VT . **%VL23 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V23 Total Harmonic Distortion / Ground wave*

VT . **%VL31 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V31 Total Harmonic Distortion / Ground wave*

VT . **%VL1 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL1 Total Harmonic Distortion / Ground wave*

VT . **%VL2 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL2 Total Harmonic Distortion / Ground wave*

VT . **%VL3 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL3 Total Harmonic Distortion / Ground wave*

VT . **VL12 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V12 Total Harmonic Distortion*

VT . **VL23 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V23 Total Harmonic Distortion*

VT . **VL31 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): V31 Total Harmonic Distortion*

VT . **VL1 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL1 Total Harmonic Distortion*

VT . **VL2 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL2 Total Harmonic Distortion*

VT . **VL3 THD**	[Operation / Measured Values / Voltage RMS]
✎	*Measured value (calculated): VL3 Total Harmonic Distortion*

4.2.4 VT: Statistical Values

VT . **f max**	[Operation / Statistics / Max / Voltage]
☑	*Max. frequency value*

VT . **VL12 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL12 maximum value (RMS)*

VT . **VL23 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL23 maximum value (RMS)*

VT . **VL31 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL31 maximum value (RMS)*

VT . **VL1 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL1 maximum value (RMS)*

VT . **VL2 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL2 maximum value (RMS)*

VT . **VL3 max RMS**	[Operation / Statistics / Max / Voltage]
☑	*VL3 maximum value (RMS)*

VT . **VX meas max RMS**	[Operation / Statistics / Max / Voltage]
☑	*Measured value: VX maximum value (RMS)*

VT . **VG calc max RMS**	[Operation / Statistics / Max / Voltage]
☑	*Measured value (calculated):VX maximum value (RMS)*

VT . **V1 max**	[Operation / Statistics / Max / Voltage]
☑	*Maximum value: Symmetrical components positive phase sequence voltage(fundamental)*

VT . **V2 max**	[Operation / Statistics / Max / Voltage]
☑	*Maximum value: Symmetrical components negative phase sequence voltage(fundamental)*

VT . **%(V2/V1) max**	[Operation / Statistics / Max / Voltage]
☑	*Measured value (calculated):V2/V1 maximum value, phase sequence will be taken into account automatically*

VT . **V/f max**	[Operation / Statistics / Max / Voltage]
☑	*Maximum value: Ratio Volts/Hertz in relation to nominal values.*

VT . **f min**	[Operation / Statistics / Min / Voltage]
☑	*Min. frequency value*

VT . **VL12 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL12 minimum value (RMS)*

VT . **VL23 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL23 minimum value (RMS)*

VT . **VL31 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL31 minimum value (RMS)*

VT . **VL1 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL1 minimum value (RMS)*

VT . **VL2 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL2 minimum value (RMS)*

VT . **VL3 min RMS**	[Operation / Statistics / Min / Voltage]
☑	*VL3 minimum value (RMS)*

VT . **VX meas min RMS**	[Operation / Statistics / Min / Voltage]
☑	*Measured value: VX minimum value (RMS)*

VT . **VG calc min RMS**	[Operation / Statistics / Min / Voltage]
☑	*Measured value (calculated):VX minimum value (RMS)*

VT . **V1 min**	[Operation / Statistics / Min / Voltage]
☑	*Minimum value: Symmetrical components positive phase sequence voltage(fundamental)*

VT . **V2 min**	[Operation / Statistics / Min / Voltage]
☑	*Minimum value: Symmetrical components negative phase sequence voltage(fundamental)*

VT . **%(V2/V1) min**	[Operation / Statistics / Min / Voltage]
☑	*Measured value (calculated):V2/V1 minimum value , phase sequence will be taken into account automatically*

VT . **V/f min**	[Operation / Statistics / Min / Voltage]
☑	*Minimum value: Ratio Volts/Hertz in relation to nominal values.*

VT . **VL12 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL12 average value (RMS)*

VT . **VL23 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL23 average value (RMS)*

VT . **VL31 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL31 average value (RMS)*

VT . **VL1 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL1 average value (RMS)*

VT . **VL2 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL2 average value (RMS)*

VT . **VL3 avg RMS**	[Operation / Statistics / Vavg]
☑	*VL3 average value (RMS)*

4.3 CT Local

Current Transformer Local Device

4.3.1 CT Local: Global Parameters

CT Local . **IL1, IL2, IL3 Cutoff Level**	[Device Para / Measurem Display / CT Local]	
0.005In	0.0In ... 0.100In	S.3
	The Current shown in the Display or within the PC Software will be displayed as zero, if the Current falls below this Cutoff Level. This parameter has no impact on recorders.	

CT Local . **IG meas Cutoff Level**	[Device Para / Measurem Display / CT Local]	
0.005In	0.0In ... 0.100In	S.3
	The measured Earth Current shown in the Display or within the PC Software will be displayed as zero, if the measured Earth Current falls below this Cutoff Level. This parameter has no impact on recorders.	

CT Local . **IG calc Cutoff Level**	[Device Para / Measurem Display / CT Local]	
0.005In	0.0In ... 0.100In	S.3
	The calculated Earth Current shown in the Display or within the PC Software will be displayed as zero, if the calculated Earth Current falls below this Cutoff Level. This parameter has no impact on recorders.	

CT Local . **I012 Cutoff Level**	[Device Para / Measurem Display / CT Local]	
0.005In	0.0In ... 0.100In	S.3
	The Symmetrical Component shown in the Display or within the PC Software will be displayed as zero, if the Symmetrical Component falls below this Cutoff Level. This parameter has no impact on recorders.	

CT Local . **CT pri**	[Field Para / CT Local]	
1000A	1A ... 50000A	S.3
	Nominal current of the primary side of the current transformers.	

CT Local . **CT sec**	[Field Para / CT Local]	
1A	1A, 5A ↳ Ratio prim/sec.	S.3
	Nominal current of the secondary side of the current transformers.	

CT Local . **CT dir**	[Field Para / CT Local]	
0°	0°, 180° ↳ Polarity.	S.3
	Protection functions with directional feature can only work properly if the connection of the current transformers is free of wiring errors. If all current transformers are connected to the device with an incorrect polarity, the wiring error can be compensated by this parameter. This parameter turns the current vectors by 180 degrees.	

CT Local . **ECT pri**	[Field Para / CT Local]	
1000A	1A ... 50000A	S.3
	This parameter defines the primary nominal current of the connected earth current transformer. If the earth current is measured via the Holmgreen connection, the primary value of the phase current transformer must be entered here.	

CT Local . **ECT sec**	[Field Para / CT Local]	
1A	1A, 5A ↳ Ratio prim/sec.	S.3
	This parameter defines the secondary nominal current of the connected earth current transformer. If the earth current is done via the Holmgreen connection, the primary value of the phase current transformer must be entered here.	

CT Local . **ECT dir**	[Field Para / CT Local]	
0°	0°, 180° ↳ Polarity.	S.3
	Earth fault protection with directional feature depends also on the correct wiring of the earth current transformer. An incorrect polarity/wiring can be corrected by means of the settings "0°" or "180°". The operator has the possibility of turning the current vector by 180 degrees (change of sign) without modification of the wiring. This means, that - in terms of figures - the determined current indicator was turned by 180° by the device.	

4.3.2 CT Local: Signals (Output States)

CT Local . **Phase seq. wrong**	[Operation / Status Display / Supervision / Phase Sequence]
	Signal that the device has detected a phase sequence (L1-L2-L3 / L1-L3-L2) that is different from the one that had been set at [Field settings / General Settings] »Phase Sequence«.

4.3.3 CT Local: Values

CT Local . **IL1**	[Operation / Measured Values / CT Local / Current]
	Measured value: Phase current (fundamental)

CT Local . **IL2**	[Operation / Measured Values / CT Local / Current]
	Measured value: Phase current (fundamental)

CT Local . **IL3**	[Operation / Measured Values / CT Local / Current]
	Measured value: Phase current (fundamental)

CT Local . **IG meas**	[Operation / Measured Values / CT Local / Current]
	Measured value (measured): IG (fundamental)

CT Local . **IG calc**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): IG (fundamental)

CT Local . **I0**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): Zero current (fundamental)

CT Local . **I1**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): Positive phase sequence current (fundamental)

CT Local . **I2**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): Unbalanced load current (fundamental)

CT Local . **IL1 H2**	[Operation / Measured Values / CT Local / Current]
	Measured value: 2nd harmonic/1st harmonic of IL1

CT Local . **IL2 H2**	[Operation / Measured Values / CT Local / Current]
	Measured value: 2nd harmonic/1st harmonic of IL2

CT Local . **IL3 H2**	[Operation / Measured Values / CT Local / Current]
	Measured value: 2nd harmonic/1st harmonic of IL3

CT Local . **IG H2 meas**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value: 2nd harmonic/1st harmonic of IG (measured)*

CT Local . **IG H2 calc**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): 2nd harmonic/1st harmonic of IG (calculated)*

CT Local . **%(I2/I1)**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): I2/I1, phase sequence will be taken into account automatically.*

CT Local . **phi IL1**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): Angle of Phasor IL1* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi IL2**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): Angle of Phasor IL2* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi IL3**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): Angle of Phasor IL3* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi IG meas**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): Angle of Phasor IG meas* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi IG calc**	[Operation / Measured Values / CT Local / Current]
✎	*Measured value (calculated): Angle of Phasor IG calc* *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi I0**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): Angle Zero Sequence System *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi I1**	[Operation / Measured Values / CT Local / Current]
	Measured value (calculated): Angle of Positive Sequence System *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **phi I2**	[Operation / Measured Values / CT Local / Current]
	Measured Value (calculated): Angle of Negative Sequence System *Reference phasor is required to calculate the angle. This is the first measured voltage (or current) channel with sufficiently high amplitude.*

CT Local . **IL1 RMS**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value: Phase current (RMS)

CT Local . **IL2 RMS**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value: Phase current (RMS)

CT Local . **IL3 RMS**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value: Phase current (RMS)

CT Local . **IG meas RMS**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value (measured): IG (RMS)

CT Local . **IG calc RMS**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value (calculated): IG (RMS)

CT Local . **%IL1 THD**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value (calculated): IL1 Total Harmonic Distortion

CT Local . **%IL2 THD**	[Operation / Measured Values / CT Local / Current RMS]
	Measured value (calculated): IL2 Total Harmonic Distortion

CT Local . **%IL3 THD**	[Operation / Measured Values / CT Local / Current RMS]
✎	*Measured value (calculated): IL3 Total Harmonic Distortion*

CT Local . **IL1 THD**	[Operation / Measured Values / CT Local / Current RMS]
✎	*Measured value (calculated): IL1 Total Harmonic Current*

CT Local . **IL2 THD**	[Operation / Measured Values / CT Local / Current RMS]
✎	*Measured value (calculated): IL2 Total Harmonic Current*

CT Local . **IL3 THD**	[Operation / Measured Values / CT Local / Current RMS]
✎	*Measured value (calculated): IL3 Total Harmonic Current*

4.3.4 CT Local: Statistical Values

CT Local . **IL1 avg RMS**	[Operation / Statistics / Demand / CT Local]
☑	*IL1 average value (RMS)*

CT Local . **IL2 avg RMS**	[Operation / Statistics / Demand / CT Local]
☑	*IL2 average value (RMS)*

CT Local . **IL3 avg RMS**	[Operation / Statistics / Demand / CT Local]
☑	*IL3 average value (RMS)*

CT Local . **IL1 Peak demand**	[Operation / Statistics / Demand / CT Local]
☑	*IL1 Peak value, RMS value*

CT Local . **IL2 Peak demand**	[Operation / Statistics / Demand / CT Local]
☑	*IL2 Peak value, RMS value*

CT Local . **IL3 Peak demand**	[Operation / Statistics / Demand / CT Local]
☑	*IL3 Peak value, RMS value*

CT Local . **IL1 max RMS**	[Operation / Statistics / Max / CT Local]
☑	*IL1 maximum value (RMS)*

CT Local . **IL2 max RMS**	[Operation / Statistics / Max / CT Local]
☑	*IL2 maximum value (RMS)*

CT Local . **IL3 max RMS**	[Operation / Statistics / Max / CT Local]
☑	*IL3 maximum value (RMS)*

CT Local . **IG meas max RMS**	[Operation / Statistics / Max / CT Local]
☑	*Measured value: IG maximum value (RMS)*

CT Local . **IG calc max RMS**	[Operation / Statistics / Max / CT Local]
☑	*Measured value (calculated):IG maximum value (RMS)*

CT Local . **I1 max**	[Operation / Statistics / Max / CT Local]
☑	*Maximum value positive phase sequence current (fundamental)*

CT Local . **I2 max**	[Operation / Statistics / Max / CT Local]
☑	*Maximum value negative sequence current (fundamental)*

CT Local . **%(I2/I1) max**	[Operation / Statistics / Max / CT Local]
☑	*Measured value (calculated): I2/I1 maximum value, phase sequence will be taken into account automatically*

CT Local . **IL1 H2 max**	[Operation / Statistics / Max / CT Local]
☑	*Maximum ratio of 2nd harmonic over fundamental of IL1*

CT Local . **IL2 H2 max**	[Operation / Statistics / Max / CT Local]
☑	*Maximum ratio of 2nd harmonic over fundamental of IL2*

CT Local . **IL3 H2 max**	[Operation / Statistics / Max / CT Local]
☑	*Maximum ratio of 2nd harmonic over fundamental of IL3*

CT Local . **IG H2 meas max**	[Operation / Statistics / Max / CT Local]
☑	*Measured value: Maximum ratio of 2nd harmonic over fundamental of IG (measured)*

CT Local . **IG H2 calc max**	[Operation / Statistics / Max / CT Local]
☑	*Measured value (calculated): Maximum ratio of 2nd harmonic over fundamental of IG (calculated)*

CT Local . **IL1 min RMS**	[Operation / Statistics / Min / CT Local]
☑	*IL1 minimum value (RMS)*

CT Local . **IL2 min RMS**	[Operation / Statistics / Min / CT Local]
☑	*IL2 minimum value (RMS)*

CT Local . **IL3 min RMS**	[Operation / Statistics / Min / CT Local]
☑	*IL3 minimum value (RMS)*

CT Local . **IG meas min RMS**	[Operation / Statistics / Min / CT Local]
☑	*Measured value: IG minimum value (RMS)*

CT Local . **IG calc min RMS**	[Operation / Statistics / Min / CT Local]
☑	*Measured value (calculated):IG minimum value (RMS)*

CT Local . **I1 min**	[Operation / Statistics / Min / CT Local]
☑	*Minimum value positive phase sequence current (fundamental)*

CT Local . **I2 min**	[Operation / Statistics / Min / CT Local]
☑	*Minimum value unbalanced load current (fundamental)*

CT Local . **%(I2/I1) min**	[Operation / Statistics / Min / CT Local]
☑	*Measured value (calculated): I2/I1 minimum value, phase sequence will be taken into account automatically*

CT Local . **IL1 H2 min**	[Operation / Statistics / Min / CT Local]
☑	*Minimum ratio of 2nd harmonic over fundamental of IL1*

CT Local . **IL2 H2 min**	[Operation / Statistics / Min / CT Local]
☑	*Minimum ratio of 2nd harmonic over fundamental of IL2*

CT Local . **IL3 H2 min**	[Operation / Statistics / Min / CT Local]
☑	*Minimum ratio of 2nd harmonic/1st harmonic minimum value of IL3*

CT Local . **IG H2 meas min**	[Operation / Statistics / Min / CT Local]
☑	*Measured value: Minimum ratio of 2nd harmonic over fundamental of IG (measured)*

CT Local . **IG H2 calc min**	[Operation / Statistics / Min / CT Local]
☑	*IG H2 calc min*

4.4 CT Remote

Current Transformer Remote Device

4.4.1 CT Remote: Global Parameters

CT Remote . **CT pri**	[Field Para / CT Remote]	
1000A	1A . . . 50000A	S.3

Nominal current of the primary side of the current transformers.

This setting accords to the local CT setting of the Remote Device.

NOTE: This setting should be identical with "Local CT" setting of Remote Device.

CT Remote . **CT sec**	[Field Para / CT Remote]	
1A	1A, 5A ⮡ Ratio prim/sec.	S.3

Nominal current of the secondary side of the current transformers.

This setting accords to the local CT setting of the Remote Device.

NOTE: This setting should be identical with "Local CT" setting of Remote Device.

4.4.2 CT Remote: Values

CT Remote . **IL1**	[Operation / Measured Values / CT Remote / Current]

Measured value: Phase current (fundamental)

CT Remote . **IL2**	[Operation / Measured Values / CT Remote / Current]

Measured value: Phase current (fundamental)

CT Remote . **IL3**	[Operation / Measured Values / CT Remote / Current]

Measured value: Phase current (fundamental)

CT Remote . **I0**	[Operation / Measured Values / CT Remote / Current]

Measured value (calculated): Zero current (fundamental)

CT Remote . **I1**	[Operation / Measured Values / CT Remote / Current]

Measured value (calculated): Positive phase sequence current (fundamental)

CT Remote . **I2**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Unbalanced load current (fundamental)*

CT Remote . **phi IL1**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Angle of Phasor IL1* *Phasor at remote location (Reference phasor required).*

CT Remote . **phi IL2**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Angle of Phasor IL2* *Phasor at remote location (Reference phasor required).*

CT Remote . **phi IL3**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Angle of Phasor IL3* *Phasor at remote location (Reference phasor required).*

CT Remote . **phi I0**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Angle Zero Sequence System* *Phasor at remote location (Reference phasor required).*

CT Remote . **phi I1**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured value (calculated): Angle of Positive Sequence System* *Phasor at remote location (Reference phasor required).*

CT Remote . **phi I2**	[Operation / Measured Values / CT Remote / Current]
✎	*Measured Value (calculated): Angle of Negative Sequence System* *Phasor at remote location (Reference phasor required).*

4.5 Transformer

Transformer

4.5.1 Transformer: Device Planning Parameters

Transformer . **Mode**	[Device planning]	
“-”	“-”, use ╚═▷ Mode.	S.3
	Mode selects, if power transformer is used in protection-zone. Note! For linediff application, setting for local and remote device must be equal.	

4.5.2 Transformer: Global Parameters

Transformer . **SN**	[Field Para / Transformer]	
17.321MVA	0.001MVA . . . 2000.000MVA	P.2
	Rated Power of the Transformer in MVA	

Transformer . **Rated W1 (HV)**	[Field Para / Transformer]	
10000V	60V . . . 500000V	P.2
	Transformer rated voltage (phase to phase) of the HV side. At the protective device, this is connected to the current measuring input W1 (slot X3).	

Transformer . **Rated W2 (LV)**	[Field Para / Transformer]	
10000V	60V . . . 500000V	P.2
	Transformer rated voltage (phase to phase) of the LV side. At the protective device, this is connected to the current measuring input W2 (slot X4).	

Transformer . **W1 Connection/ Grounding**	[Field Para / Transformer]	
Y	Y, D, Z, YN, ZN ╚═▷ W1 Connection/Grounding.	P.2
	Note: The zero current will be removed in order to prevent faulty tripping of the differential protection. If a star point is connected to ground according to the winding connection, the zero current (symmetrical components) will be removed.	

Transformer . **W2 Connection/ Grounding**	[Field Para / Transformer]	
y	y, d, z, yn, zn └⇒ W2 Connection/Grounding.	P.2
	Note: The zero current will be removed in order to prevent faulty tripping of the differential protection. If a star point is connected to ground according to the winding connection, the zero current (symmetrical components) will be removed.	

Transformer . **Phase Shift**	[Field Para / Transformer]	
0	0 . . . 11	P.2
	Phase Shift between W1 side and W2 side. The phase shift angle is a factor (1, 2, 3,..., 11) multiplied with 30 degrees.	

Transformer . **Tap changer**	[Field Para / Transformer]	
0%	-15% . . . 15%	P.2
	Tap changer (referring to the W1 side)	

Transformer . **Measuring Side**	[Field Para / Transformer]	
W1	W1, W2 └⇒ LR_HVside.	P.2
	Defines, which winding of transformer is connected to this device. Devices uses Transformer nameplate data in the right way of ratio and vectorgroup adaption automatically.	

5 System

System

5.1 Sys: Global Parameters

Sys . **Scaling**	[Device Para / Measurem Display / General Settings]	
Per unit values	Per unit values, Primary values, Secondary values └─▷ Scaling.	S.3
	Display of the measured values as primary, secondary or per unit values	

Sys . **Ack via »C« key**	[Device Para / Acknowledge]	
Ack LEDs w/o passw.	Nothing, Ack LEDs w/o passw., Ack LEDs, Ack LEDs and relays, Ack Everything └─▷ Ack via »C« key.	P.2
	Select which acknowledgeable elements can be reset via pressing the »C« key.	

Sys . **Remote Reset**	[Device Para / Acknowledge]	
active	inactive, active └─▷ Mode.	P.2
	Enables or disables the option to acknowledge from external/remote via signals (assignments) and SCADA.	

Sys . **Ack LED**	[Device Para / Acknowledge]	
"-" *Only available if:* • Sys . Remote Reset = active	"-" . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	All acknowledgeable LEDs will be acknowledged if the state of the assigned signal becomes true.	

Sys . **Ack BO**	[Device Para / Acknowledge]	
"-" *Only available if:* • Sys . Remote Reset = active	"-" . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	All acknowledgeable binary output relays will be acknowledged if the state of the assigned signal becomes true.	

Sys . **Ack Scada**	[Device Para / Acknowledge]	
"-" *Only available if:* • Sys . Remote Reset = active	"-" . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	S.3
	Latched SCADA signals are acknowledged if the state of the assigned signal becomes true.	

Sys . **Setting Lock**	[Field Para / General Settings]	
"-"	"-" . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	P.2
	No parameters can be changed as long as this input is true. The parameter settings are locked.	

Sys . **PSet-Switch**	[Protection Para / PSet-Switch]	
PS1	PS1, PS2, PS3, PS4, PSS via Inp fct, PSS via Scada ╚═▷ PSet-Switch.	P.2
	Switching Parameter Set	

Sys . **PS1: activated by** ... Sys . **PS4: activated by**	[Protection Para / PSet-Switch]	
“-”	“-” . . . Logics . LE80.Out inverted └⊳ 1..n, PSS.	P.2
	This Setting Group will be the active one if: The Parameter Setting Group Switch is set to "Switch via Input" and the other three input functions are inactive at the same time. In case that there is more than one input function active, no Parameter Setting Group Switch will be executed. In case all input functions are inactive, the device will keep working with the Setting Group that was activated lastly.	

5.2 Sys: Direct Controls

Sys . **Ack BO LED Scd TCmd**	[Operation / Acknowledge]	
inactive	inactive, active └⊳ Mode.	P.1
	Reset the binary output relays, LEDs, SCADA and the Trip Command.	

Sys . **Ack LED**	[Operation / Acknowledge]	
inactive	inactive, active └⊳ Mode.	P.1
	All acknowledgeable LEDs will be acknowledged.	

Sys . **Ack BO**	[Operation / Acknowledge]	
inactive	inactive, active └⊳ Mode.	P.1
	All acknowledgeable binary output relays will be acknowledged.	

Sys . **Ack Scada**	[Operation / Acknowledge]	
inactive	inactive, active └⊳ Mode.	P.1
	Latched SCADA signals are acknowledged.	

Sys . **Setting Lock Bypass**	[Field Para / General Settings]	
inactive	inactive, active └▷ Mode.	P.1
◉	*Short-period unlock of the Setting Lock*	

Sys . **Reboot**	[Service / General]	
no	no, yes └▷ yes/no.	S.3
◉	*Rebooting the device.*	

5.3 Sys: Input States

Sys . **Ack LED-I**	[Operation / Status Display / Sys]
⇩	*Module input state: LEDs acknowledgement by digital input*

Sys . **Ack BO-I**	[Operation / Status Display / Sys]
⇩	*Module input state: Acknowledgement of the binary Output Relays*

Sys . **Ack Scada-I**	[Operation / Status Display / Sys]
⇩	*Module input state: Acknowledge latched SCADA signals.*

Sys . **PS1-I** **. . .** Sys . **PS4-I**	[Operation / Status Display / Sys]
⇩	*State of the module input respectively of the signal, that should activate this Parameter Setting Group.*

Sys . **Setting Lock-I**	[Operation / Status Display / Sys]
⇩	*State of the module input: No parameters can be changed as long as this input is true. The parameter settings are locked.*

5.4 Sys: Signals (Output States)

Sys . **Reboot**	[Operation / Status Display / Sys]
⇫	*Signal: Rebooting the device.* *Device Start-up Codes: 1=Normal Start-up; 2=Reboot by the Operator; 3=Reboot by means of Super Reset; 4=outdated; 5=outdated; 6=Unknown Error Source; 7=Forced Reboot (initiated by the main processor); 8=Exceeded Time Limit of the Protection Cycle; 9= Forced Reboot (initiated by the digital signal processor); 10=Exceeded Time Limit of the Measured Value Processing; 11=Sags of the Supply Voltage; 12=Illegal Memory Access.*

Sys . **Act Set**	[Operation / Status Display / Sys] [Protection Para / PSet-Switch]
⇫	*Signal: Active Parameter Set*

Sys . **PS 1**	[Operation / Status Display / Sys]
⇫	*Signal: The currently active Parameter Set is PS 1*

Sys . **PS 2**	[Operation / Status Display / Sys]
⇫	*Signal: The currently active Parameter Set is PS 2*

Sys . **PS 3**	[Operation / Status Display / Sys]
⇫	*Signal: The currently active Parameter Set is PS 3*

Sys . **PS 4**	[Operation / Status Display / Sys]
⇫	*Signal: The currently active Parameter Set is PS 4*

Sys . **PSS manual**	[Operation / Status Display / Sys]
⇫	*Signal: Manual Switch over of a Parameter Set*

Sys . **PSS via Scada**	[Operation / Status Display / Sys]
⇫	*Signal: Parameter Set Switch via Scada. Write into this output byte the integer of the parameter set that should become active (e.g. 4 => Switch onto parameter set 4).*

Sys . **PSS via Inp fct**	[Operation / Status Display / Sys]
⇫	*Signal: Parameter Set Switch via input function*

Sys . **min 1 param changed**	[Operation / Status Display / Sys]
⇧	*Signal: At least one parameter has been changed*

Sys . **Setting Lock Bypass**	[Operation / Status Display / Sys]
⇧	*Signal: Short-period unlock of the Setting Lock*

Sys . **Ack LED**	[Operation / Status Display / Sys]
⇧	*Signal: LEDs acknowledgement*

Sys . **Ack BO**	[Operation / Status Display / Sys]
⇧	*Signal: Acknowledgement of the Binary Outputs*

Sys . **Ack Scada**	[Operation / Status Display / Sys]
⇧	*Signal: Acknowledge latched SCADA signals*

Sys . **Ack TripCmd**	[Operation / Status Display / Sys]
⇧	*Signal: Reset Trip Command*

Sys . **Ack LED-HMI**	[Operation / Status Display / Sys]
⇧	*Signal: LEDs acknowledgement :HMI*

Sys . **Ack BO-HMI**	[Operation / Status Display / Sys]
⇧	*Signal: Acknowledgement of the Binary Outputs :HMI*

Sys . **Ack Scada-HMI**	[Operation / Status Display / Sys]
⇧	*Signal: Acknowledge latched SCADA signals :HMI*

Sys . **Ack TripCmd-HMI**	[Operation / Status Display / Sys]
⇧	*Signal: Reset Trip Command :HMI*

Sys . **Ack LED-Sca**	[Operation / Status Display / Sys]
⇧	*Signal: LEDs acknowledgement :SCADA*

Sys . **Ack BO-Sca**	[Operation / Status Display / Sys]
⇧	*Signal: Acknowledgement of the Binary Outputs :SCADA*

Sys . **Ack Counter-Sca**	[Operation / Status Display / Sys]
	Signal: Reset of all Counters :SCADA

Sys . **Ack Scada-Sca**	[Operation / Status Display / Sys]
	Signal: Acknowledge latched SCADA signals :SCADA

Sys . **Ack TripCmd-Sca**	[Operation / Status Display / Sys]
	Signal: Reset Trip Command :SCADA

Sys . **Res OperationsCr**	[Operation / Status Display / Sys]
	Signal:: Res OperationsCr

Sys . **Res AlarmCr**	[Operation / Status Display / Sys]
	Signal:: Res AlarmCr

Sys . **Res TripCmdCr**	[Operation / Status Display / Sys]
	Signal:: Res TripCmdCr

Sys . **Res TotalCr**	[Operation / Status Display / Sys]
	Signal:: Res TotalCr

5.5 Sys: Values

Sys . **Operating hours Cr**	[Operation / Count and RevData / Sys]
	Operating hours counter of the protective device

Sys . **DM version**	[Device Para / Version]
3.6.b	3.6.b .
	Version of the device model

Sys . **SW version**	[Device Para / Version]
	Version of the device firmware

Sys . **Build**	[Device Para / Version]
✎	*Build Number*

Sys . **CAT No**	[Device Para / Version]
✎	*»CAT No.«, Order Code as printed on the nameplate of the device.*

Sys . **REV.**	[Device Para / Version]
✎	*Revision (as printed on the nameplate of the device).*

Sys . **S/N**	[Device Para / Version]
✎	*The serial number of the device.*

Sys . **Bootloader Build**	[Device Para / Version]
✎	*Build number of the bootloader*

6 Measured Values

- HMI: ⮱ “HMI: Values”
- VT: ⮱ “VT: Values”
- CT Local: ⮱ “CT Local: Values”
- CT Remote: ⮱ “CT Remote: Values”
- System: ⮱ “Sys: Values”
- Id: ⮱ “Id: Values”
- IdG: ⮱ “IdG: Values”
- PQSCr: ⮱ “PQSCr: Values”
- Modbus: ⮱ “Modbus: Values”
- IEC 61850: ⮱ “IEC 61850: Values”
- IEC104: ⮱ “IEC104: Values”
- Profibus: ⮱ “Profibus: Values”
- ProtCom: ⮱ “ProtCom: Values”
- SNTP: ⮱ “SNTP: Values”
- Protection Parameter: ⮱ “Prot: Values”
- Id: ⮱ “Id: Values”
- ThR: ⮱ “ThR: Values”
- Sync: ⮱ “Sync: Values”
- Control: ⮱ “Ctrl: Values”
- Breaker Wear: ⮱ “SG[1]: Values”
- Disturb rec: ⮱ “Disturb rec: Values”
- Sgen: ⮱ “Sgen: Values”

6.1 Id

Motor Differential Protection Module

6.1.1 Id: Global Parameters

Id . **Id Cutoff Level**	[Device Para / Measurem Display / Diff]	
0.005In	0.0In ... 0.100In	S.3
	The Differential Current shown in the Display or within the PC Software will be displayed as zero, if the Differential Current falls below this Cutoff Level. This parameter has no impact on recorders.	

Id . **IS Cutoff Level**	[Device Para / Measurem Display / Diff]	
0.005In	0.0In ... 0.100In	S.3
	The Restraint Current shown in the Display or within the PC Software will be displayed as zero, if the Restraint Current falls below this Cutoff Level. This parameter has no impact on recorders.	

Id . **Ib reference**	[Field Para / General Settings]	
CT Local	CT Local, CT Remote ⮱▷ LR_CTref.	S.3
	Defines, which CT of device side (local/remote) is uesd as reference Ib for percentage-phase-differential-protection. This setting becomes important only, if different CT ratios at local and remote side are used.	

6.1.2 Id: Values

Id . **Is L1**	[Operation / Measured Values / Id]
	Measured value (calculated): Restraint Current Phase L1

Id . **Is L2**	[Operation / Measured Values / Id]
	Measured value (calculated): Restraint Current Phase L2

Id . **Is L3**	[Operation / Measured Values / Id]
	Measured value (calculated): Restraint Current Phase L3

Id . **Id L1**	[Operation / Measured Values / Id]
	Measured value (calculated): Differential Current Phase L1

Id . **Id L2**	[Operation / Measured Values / Id]
	Measured value (calculated): Differential Current Phase L2

Id . **Id L3**	[Operation / Measured Values / Id]
	Measured value (calculated): Differential Current Phase L3

6.1.3 Id: Statistical Values

Id . **Is L1 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Restraint Current Phase L1 Maximum Value

Id . **Is L2 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Restraint Current Phase L2 Maximum Value

Id . **Is L3 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Restraint Current Phase L3 Maximum Value

Id . **Id L1 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Differential Current Phase L1 Maximum Value

Id . **Id L2 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Differential Current Phase L2 Maximum Value

Id . **Id L3 max**	[Operation / Statistics / Max / Id]
	Measured value (calculated): Differential Current Phase L3 Maximum Value

6.2 IdG

Restricted Ground Fault Differential Protection Module

6.2.1 IdG: Global Parameters

IdG . **IdG Cutoff Level**	[Device Para / Measurem Display / Diff]	
0.005In	0.0In . . . 0.100In	S.3
	The Ground Differential Current shown in the Display or within the PC Software will be displayed as zero, if the Ground Differential Current falls below this Cutoff Level. This parameter has no impact on recorders.	

IdG . **ISG Cutoff Level**	[Device Para / Measurem Display / Diff]	
0.005In	0.0In . . . 0.100In	S.3
	The GroundRestraint Current shown in the Display or within the PC Software will be displayed as zero, if the Ground Restraint Current falls below this Cutoff Level. This parameter has no impact on recorders.	

6.2.2 IdG: Values

IdG . **IsG**	[Operation / Measured Values / IdG]
	Measured value (calculated): Ground Stabilizing Current

IdG . **IdG**	[Operation / Measured Values / IdG]
	Measured value (calculated): Ground Differential Current IdG

6.2.3 IdG: Statistical Values

IdG . **IsG max**	[Operation / Statistics / Max / IdG]
	Measured value (calculated): Ground Stabilizing Current Maximum Value

IdG . **IdG max**	[Operation / Statistics / Max / IdG]
	Measured value (calculated): Ground Differential Current IdG Maximum Value

6.3 PQSCr

Power and Energy

6.3.1 PQSCr: Global Parameters

PQSCr . **Power Units**	[Device Para / Measurem Display / General Settings]	
Power Auto Scaling	Power Auto Scaling, kW/kVAr/kVA, MW/MVAr/MVA, GW/GVAr/GVA ↳ 1..n Power Scaling.	S.3
	Power Units	

PQSCr . **Energy Units**	[Device Para / Measurem Display / General Settings]	
MWh/MVArh/MVAh	Energy Auto Scaling, kWh/kVArh/kVAh, MWh/MVArh/MVAh, GWh/GVArh/GVAh ↳ 1..n Energy Scaling.	S.3
	Energy Units	

PQSCr . **S, P, Q Cutoff Level**	[Device Para / Measurem Display / Power]	
0.005Sn	0.0Sn . . . 0.100Sn	S.3
	The Active/Reactive/Apparent Power shown in the Display or within the PC Software will be displayed as zero, if the absolute value of the corresponding Power falls below this Cutoff Level. This parameter has no impact on recorders.	

6.3.2 PQSCr: Direct Controls

PQSCr . **Res all Energy Cr**	[Operation / Reset]	
inactive	inactive, active ↳ Mode.	P.1
	Reset of all Energy Counters	

6.3.3 PQSCr: Signals (Output States)

PQSCr . **Cr OflwW Ws Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Ws Net will overflow soon

PQSCr . **Cr OflwW Wp Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Wp Net will overflow soon

PQSCr . **Cr OflwW Wp+**	[Operation / Status Display / PQSCr]
	Signal: Counter Wp+ will overflow soon

PQSCr . **Cr OflwW Wp-**	[Operation / Status Display / PQSCr]
	Signal: Counter Wp- will overflow soon

PQSCr . **Cr OflwW Wq Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Wq Net will overflow soon

PQSCr . **Cr OflwW Wq+**	[Operation / Status Display / PQSCr]
	Signal: Counter Wq+ will overflow soon

PQSCr . **Cr OflwW Wq-**	[Operation / Status Display / PQSCr]
	Signal: Counter Wq- will overflow soon

PQSCr . **Cr Oflw Ws Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Ws Net

PQSCr . **Cr Oflw Wp Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wp Net

PQSCr . **Cr Oflw Wp+**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wp+

PQSCr . **Cr Oflw Wp-**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wp-

PQSCr . **Cr Oflw Wq Net**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wq Net

PQSCr . **Cr Oflw Wq+**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wq+

PQSCr . **Cr Oflw Wq-**	[Operation / Status Display / PQSCr]
	Signal: Counter Overflow Wq-

PQSCr . **Res all Energy Cr**	[Operation / Status Display / PQSCr]
	Signal: Reset of all Energy Counters

6.3.4 PQSCr: Values

PQSCr . **S**	[Operation / Measured Values / Power]
	Measured Value (Calculated): Apparent power (fundamental)

PQSCr . **P**	[Operation / Measured Values / Power]
	Measured value (calculated): Active power (P- = Fed Active Power, P+ = Consumpted Active Power) (fundamental)

PQSCr . **Q**	[Operation / Measured Values / Power]
	Measured value (calculated): Reactive power (Q- = Fed Reactive Power, Q+ = Consumpted Reactive Power) (fundamental)

PQSCr . **cos phi**	[Operation / Measured Values / Power]
	Measured value (calculated): Power factor: Sign Convention: sign(PF) = sign(P)

PQSCr . **P 1**	[Operation / Measured Values / Power]
	Measured value (calculated): Active power in positive sequence system (P- = Fed Active Power, P+ = Consumpted Active Power)

PQSCr . **Q 1**	[Operation / Measured Values / Power]
	Measured value (calculated): Reactive power in positive sequence system (Q- = Fed Reactive Power, Q+ = Consumpted Reactive Power)

PQSCr . **S RMS**	[Operation / Measured Values / Power RMS]
	Measured Value (Calculated): Apparent power (RMS)

PQSCr . **P RMS**	[Operation / Measured Values / Power RMS]
	Measured value (calculated): Active power (P- = Fed Active Power, P+ = Consumpted Active Power) (RMS)

PQSCr . **cos phi RMS**	[Operation / Measured Values / Power RMS]
✎	*Measured value (calculated): Power factor: Sign Convention: sign(PF) = sign(P)*

PQSCr . **Wp+**	[Operation / Measured Values / Energy]
✎	*Positive Active Power is consumed active energy*

PQSCr . **Wp-**	[Operation / Measured Values / Energy]
✎	*Negative Active Power (Fed Energy)*

PQSCr . **Wq+**	[Operation / Measured Values / Energy]
✎	*Positive Reactive Power is consumed Reactive Energy*

PQSCr . **Wq-**	[Operation / Measured Values / Energy]
✎	*Negative Reactive Power (Fed Energy)*

PQSCr . **Ws Net**	[Operation / Measured Values / Energy]
✎	*Absolute Apparent Power Hours*

PQSCr . **Wp Net**	[Operation / Measured Values / Energy]
✎	*Absolute Active Power Hours*

PQSCr . **Wq Net**	[Operation / Measured Values / Energy]
✎	*Absolute Reactive Power Hours*

PQSCr . **Start Date/Time**	[Operation / Measured Values / Energy]
✎	*Energy counters run since... (Date and time of last reset)*

6.3.5 PQSCr: Statistical Values

PQSCr . **S avg**	[Operation / Statistics / Demand / Power Demand]
☑	*Average of the apparent power*

PQSCr . **P avg**	[Operation / Statistics / Demand / Power Demand]
☑	*Average of the active power*

PQSCr . **Q avg**	[Operation / Statistics / Demand / Power Demand]
☑	*Average of the reactive power*

PQSCr . **VA Peak demand**	[Operation / Statistics / Demand / Power Demand]
☑	*VA Peak value, RMS value*

PQSCr . **Watt Peak demand**	[Operation / Statistics / Demand / Power Demand]
☑	*WATTS Peak value, RMS value*

PQSCr . **VAr Peak demand**	[Operation / Statistics / Demand / Power Demand]
☑	*VARs Peak value, RMS value*

PQSCr . **S max**	[Operation / Statistics / Max / Power]
☑	*Maximum value of the apparent power*

PQSCr . **P max**	[Operation / Statistics / Max / Power]
☑	*Maximum value of the active power*

PQSCr . **Q max**	[Operation / Statistics / Max / Power]
☑	*Maximum value of the reactive power*

PQSCr . **cos phi max RMS**	[Operation / Statistics / Max / Power]
☑	*Maximum value of the power factor: Sign Convention: sign(PF) = sign(P)*

PQSCr . **cos phi max**	[Operation / Statistics / Max / Power]
☑	*Maximum value of the power factor: Sign Convention: sign(PF) = sign(P)*

PQSCr . **S min**	[Operation / Statistics / Min / Power]
☑	*Minimum value of the apparent power*

PQSCr . **P min**	[Operation / Statistics / Min / Power]
☑	*Minimum value of the active power*

PQSCr . **Q min**	[Operation / Statistics / Min / Power]
☑	*Minimum value of the reactive power*

PQSCr . **cos phi min RMS**	[Operation / Statistics / Min / Power]
☑	*Minimum value of the power factor: Sign Convention: sign(PF) = sign(P)*

PQSCr . **cos phi min**	[Operation / Statistics / Min / Power]
☑	*Minimum value of the power factor: Sign Convention: sign(PF) = sign(P)*

7 Statistics

- VT: ╚⇒ “VT: Statistical Values”
- CT Local: ╚⇒ “CT Local: Statistical Values”
- Id: ╚⇒ “Id: Statistical Values”
- IdG: ╚⇒ “IdG: Statistical Values”
- PQSCr: ╚⇒ “PQSCr: Statistical Values”
- Id: ╚⇒ “Id: Statistical Values”
- ThR: ╚⇒ “ThR: Statistical Values”

7.1 Statistics: Global Parameters

Statistics . **Start I Demand via:**	[Device Para / Statistics / Demand / Current Demand]	
Duration	Duration, StartFct ╚⇒ Duration.	S.3
	Start Current demand by:	

Statistics . **Start I Demand Fc**	[Device Para / Statistics / Demand / Current Demand]	
“-” *Only available if:* • Statistics . Start I Demand via: = StartFct	“-” . . . Sys . Internal test state ╚⇒ 1..n, Assignment List.	S.3
	Start of the calculation, if the assigned signal becomes true.	

Statistics . **ResFc I Demand**	[Device Para / Statistics / Demand / Current Demand]	
“-”	“-” . . . Sys . Internal test state ╚⇒ 1..n, Assignment List.	S.3
	Resetting of Statistics - Current Demand (avg, peak avg)	

Statistics . **Duration I Demand**	[Device Para / Statistics / Demand / Current Demand]	
15 s *Only available if:* • Statistics . Start I Demand via: = Duration	2 s ... 30 d ⮡ Duration.	S.3
Recording time		

Statistics . **Window I Demand**	[Device Para / Statistics / Demand / Current Demand]	
sliding	sliding, fixed ⮡ Window configuration.	S.3
Window configuration		

Statistics . **Start P Demand via:**	[Device Para / Statistics / Demand / Power Demand]	
Duration	Duration, StartFct ⮡ Duration.	S.3
Start Active Power demand by:		

Statistics . **Start P Demand Fc**	[Device Para / Statistics / Demand / Power Demand]	
“-” *Only available if:* • Statistics . Start P Demand via: = StartFct	“-” ... Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
Start of the calculation, if the assigned signal becomes true.		

Statistics . **ResFc P Demand**	[Device Para / Statistics / Demand / Power Demand]	
“-”	“-” ... Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
Resetting of Statistics - Power Demand (avg, peak avg)		

Statistics . **Duration P Demand**	[Device Para / Statistics / Demand / Power Demand]	
15 s *Only available if:* • Statistics . Start P Demand via: = Duration	2 s . . . 30 d ⮡ Duration.	S.3
	Recording time	

Statistics . **Window P Demand**	[Device Para / Statistics / Demand / Power Demand]	
sliding	sliding, fixed ⮡ Window configuration.	S.3
	Window configuration	

Statistics . **ResFc Max**	[Device Para / Statistics / Min / Max]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Resetting of all Maximum values	

Statistics . **ResFc Min**	[Device Para / Statistics / Min / Max]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Resetting of all Minimum values	

Statistics . **Start Vavg via:**	[Device Para / Statistics / Vavg]	
Duration	Duration, StartFct ⮡ Duration.	S.3
	Start sliding average supervision by:	

Statistics . **Start Vavg Fc**	[Device Para / Statistics / Vavg]	
“-” *Only available if:* • Statistics . Start Vavg via: = StartFct	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	Start of the calculation, if the assigned signal becomes true.	

Statistics . **ResFc Vavg**	[Device Para / Statistics / Vavg]	
“-”	“-” . . . Sys . Internal test state └═▷ 1..n, Assignment List.	S.3
	Resetting of the sliding average calculation.	

Statistics . **Duration Vavg**	[Device Para / Statistics / Vavg]	
10 min *Only available if:* • Statistics . Start Vavg via: = Duration	2 s . . . 30 d └═▷ Duration.	S.3
	Recording time	

Statistics . **Window Vavg**	[Device Para / Statistics / Vavg]	
sliding	sliding, fixed └═▷ Window configuration.	S.3
	Window configuration	

7.2 Statistics: Direct Controls

Statistics . **ResFc all**	[Operation / Reset]	
inactive	inactive, active └═▷ Mode.	P.1
	Resetting of all Statistic values (Current Demand, Power Demand, Min, Max)	

Statistics . **ResFc Max**	[Operation / Reset]	
inactive	inactive, active └═▷ Mode.	P.1
	Resetting of all Maximum values	

Statistics . **ResFc Min**	[Operation / Reset]	
inactive	inactive, active └⇒ Mode.	P.1
◉	*Resetting of all Minimum values*	

Statistics . **ResFc I Demand**	[Operation / Reset]	
inactive	inactive, active └⇒ Mode.	P.1
◉	*Resetting of Statistics - Current Demand (avg, peak avg)*	

Statistics . **ResFc P Demand**	[Operation / Reset]	
inactive	inactive, active └⇒ Mode.	P.1
◉	*Resetting of Statistics - Power Demand (avg, peak avg)*	

Statistics . **ResFc Vavg**	[Operation / Reset]	
inactive	inactive, active └⇒ Mode.	P.1
◉	*Resetting of the sliding average calculation.*	

7.3 Statistics: Input States

Statistics . **StartFc Vavg-I**	[Operation / Status Display / Statistics]
⇩	*State of the module input: Start of Statistics Average Voltage*

Statistics . **StartFc I Demand-I**	[Operation / Status Display / Statistics]
⇩	*State of the module input: Start of the Statistics of the Current Demand*

Statistics . **StartFc P Demand-I**	[Operation / Status Display / Statistics]
⇩	*State of the module input: Start of the Statistics of the Active Power Demand*

7.4 Statistics: Signals (Output States)

Statistics . **ResFc all**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of all Statistic values (Current Demand, Power Demand, Min, Max)*

Statistics . **ResFc Vavg**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of the sliding average calculation.*

Statistics . **ResFc I Demand**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of Statistics - Current Demand (avg, peak avg)*

Statistics . **ResFc P Demand**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of Statistics - Power Demand (avg, peak avg)*

Statistics . **ResFc Max**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of all Maximum values*

Statistics . **ResFc Min**	[Operation / Status Display / Statistics]
⇑	*Signal: Resetting of all Minimum values*

7.5 Statistics: Counters

Statistics . **Res Cr I Demand**	[Operation / Statistics / Demand / CT Local]
#	*Number of resets since last booting. The timestamp shows date and time of the last reset.*

Statistics . **Res Cr P Demand**	[Operation / Statistics / Demand / Power Demand]
#	*Number of resets since last booting. The timestamp shows date and time of the last reset.*

Statistics . **Res Cr Max values**	[Operation / Statistics / Max / Voltage] ... [Operation / Statistics / Max / Power]
#	*Number of resets since last booting. The timestamp shows date and time of the last reset.*

Statistics . **Res Cr Min values**		[Operation / Statistics / Min / Voltage] [Operation / Statistics / Min / CT Local] [Operation / Statistics / Min / Power]
#	*Number of resets since last booting. The timestamp shows date and time of the last reset.*	

Statistics . **Res Cr Vavg**		[Operation / Statistics / Vavg]
#	*Number of resets since last booting. The timestamp shows date and time of the last reset.*	

8 Communication

Scada

8.1 Scada: Device Planning Parameters

Scada . **Protocol**	[Device planning]	
“-”	“-” . . . Profibus Used Protocol.	S.3
	Select the SCADA protocol to be used.	

8.2 Scada: Signals (Output States)

Scada . **SCADA connected**	[Operation / Status Display / Scada]
	At least one SCADA System is connected to the device.

Scada . **SCADA not connected**	[Operation / Status Display / Scada]
	No SCADA System is connected to the device

8.3 TcpIp

TcpIp

TCP/IP config	[Device Para / TCP/IP / TCP/IP config]
	This item represents a special dialog. (See the Technical Manual for details.) *configuration of the TCP/IP protocol*

8.3.1 TcpIp: Global Parameters

TcpIp . **Keep Alive Time**	[Device Para / TCP/IP / Advanced Settings]	
720s	1s ... 7200s	S.3
	Keep Alive Time is the duration between two keep alive transmissions in idle condition	

TcpIp . **Keep Alive Interval**	[Device Para / TCP/IP / Advanced Settings]	
15s	1s ... 60s	S.3
	Keep Alive Interval is the duration between two successive keep alive retransmissions, if the acknowledgement to the previous keepalive transmission was not received.	

TcpIp . **Keep Alive Retry**	[Device Para / TCP/IP / Advanced Settings]	
3	3 ... 3	S.3
	Keep alive retry is the number of retransmissions to be carried out before declaring that the remote end is not available.	

8.4 DNP3

Distributed Network Protocol

8.4.1 DNP3: Global Parameters

DNP3 . **Function**	[Device Para / DNP3 / Communication]	
inactive	inactive, active ↳ Mode.	S.3
	Permanent activation or deactivation of module/stage.	

DNP3 . **IP Port Number**	[Device Para / DNP3 / Communication]	
20000	0 ... 65535	S.3
	IP Port Number. *In general it is recommended to keep the default value. If this is not possible then select a number out of the private range 49152-52151 or 52164-65535 that is not yet in use within your network.*	

DNP3 . **Baud rate**	[Device Para / DNP3 / Communication]	
19200	1200 ... 115200 ↳ Baud rate.	S.3
	Baud rate for communication	

DNP3 . **Frame Layout**	[Device Para / DNP3 / Communication]	
8E1	8E1, 8O1, 8N1, 8N2 ↳ Byte Frame.	S.3
	Frame Layout	

DNP3 . **Optical rest position**	[Device Para / DNP3 / Communication]	
Light on *Avail. depends on HW*	Light off, Light on ↳ Optical rest position.	S.3
	Optical rest position	

DNP3 . **SelfAddress**	[Device Para / DNP3 / Communication]	
inactive	inactive, active ↳ Mode.	S.3
	Support of self (automatic) addresses	

DNP3 . **DataLink confirm**	[Device Para / DNP3 / Communication]	
Never	Never, Always, On_Large ↳ Communication Start Variants.	S.3
	Enables or disables the data layer confirmation (ack).	

DNP3 . **t-DataLink confirm**	[Device Para / DNP3 / Communication]	
1s	0.1s ... 10.0s	S.3
	Data layer confirmation timeout	

DNP3 . **DataLink num retries**	[Device Para / DNP3 / Communication]	
3	0 ... 255	S.3
	Number of repetition of data link packet sending after failing	

DNP3 . **Direction Bit**	[Device Para / DNP3 / Communication]	
inactive	inactive, active ↳ Mode.	S.3
	Enables Direction Bit functionality. The Direction Bit is 0 for SlaveStation and 1 for MasterStation	

DNP3 . **Max Frame Size**	[Device Para / DNP3 / Communication]	
255	64 ... 255	S.3
	This value is used to limit the net Frame Size	

DNP3 . **Test Link Period**	[Device Para / DNP3 / Communication]	
0s	0.0s ... 120.0s	S.3
	This value specifies the time period when to send a Test Link-Frame	

DNP3 . **AppLink confirm**	[Device Para / DNP3 / Communication]	
Always	Never, Always, Event └▷ _AL_ResponseType_k.	S.3
	Determines if the device will request that the Application Layer response be confirmed or not	

DNP3 . **t-AppLink confirm**	[Device Para / DNP3 / Communication]	
5s	0.1s ... 10.0s	S.3
	Application layer response timeout	

DNP3 . **AppLink num retries**	[Device Para / DNP3 / Communication]	
0	0 ... 255	S.3
	The number of times the device will retransmit an Application Layer fragment	

DNP3 . **Unsol Reporting**	[Device Para / DNP3 / Communication]	
inactive	inactive, active └▷ Mode.	S.3
	Enables unsolicited reporting. This is available only for DNP3 TCP connections, and for DNP3 RTU in case of a peer-to-peer connection.	

DNP3 . **Unsol Reporting Timeout**	[Device Para / DNP3 / Communication]	
10s	1.0s ... 60.0s	S.3
	Set the amount of time that the outstation will wait for an Application Layer confirmation back from the master indicating that the master received the unsolicited response message.	

DNP3 . **Unsol Reporting Retry**	[Device Para / DNP3 / Communication]	
2	0 ... 255	S.3
	Set the number of retries that an outstation transmits in each unsolicited response series if it does not receive confirmation back from the master.	

DNP3 . **TestSeqNo**	[Device Para / DNP3 / Communication]	
inactive	inactive, active └▷ Mode.	S.3
	Test if sequence number of request is incremented. If it is not correctly incremented the request will be ignored. It is recommended to have it inactive but some older DNP implementations need it activated.	

DNP3 . **TestSBO**	[Device Para / DNP3 / Communication]	
active	inactive, active └⊳ Mode.	S.3
	It enables a stricter comparing of SBO and operate command. For older DNP versions it is recommanded to deactivated it.	

DNP3 . **Timeout SBO**	[Device Para / DNP3 / Communication]	
30s	1.0s ... 60.0s	S.3
	DNP Outputs can be controlled in a two stage procedure (SBO: Select Before Operate). These outputs are to be selected first by a Select command. After this the bit is reserved for this Operate request. This setting defines the timer for this reservation: After the timer has elapsed the bit is released.	

DNP3 . **ColdRestart**	[Device Para / DNP3 / Communication]	
inactive	inactive, active └⊳ Mode.	S.3
	Enables support for Cold Restart function.	

DNP3 . **Deadb integr time**	[Device Para / DNP3 / Communication]	
1	0 ... 300	S.3
	Deadband integration time.	

DNP3 . **BinaryInput 0** ... DNP3 . **BinaryInput 63**	[Device Para / DNP3 / Point map / Binary Inputs]	
“-”	“-” ... Sys . Internal test state └⊳ 1..n, Assignment List.	S.3
	Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.	

DNP3 . **DoubleBitInput 0** **...** DNP3 . **DoubleBitInput 5**	[Device Para / DNP3 / Point map / Double Bit Inputs]	
"-"	"-", SG[1] . Pos, SG[2] . Pos, SG[3] . Pos, SG[4] . Pos, SG[5] . Pos, SG[6] . Pos ↳ 1..n, Assignment List.	S.3
	Double Bit Digital Input (DNP). This corresponds to a double bit binary output of the protective device.	

DNP3 . **BinaryCounter 0** **...** DNP3 . **BinaryCounter 7**	[Device Para / DNP3 / Point map / BinaryCounter]	
"-"	"-" ... Sys . Operating hours Cr ↳ 1..n, Assignment List.	S.3
	Counter can be used to report counter values to the DNP master.	

DNP3 . **Analog value 0** **...** DNP3 . **Analog value 31**	[Device Para / DNP3 / Point map / Analog Input]	
"-"	"-" ... PQSCr . cos phi RMS ↳ 1..n, TrendRecList.	S.3
	Analog value can be used to report values to the master (DNP)	

DNP3 . **Scale Factor 0** **...** DNP3 . **Scale Factor 31**	[Device Para / DNP3 / Point map / Analog Input]	
1	0.001 ... 1000000 ↳ Scale Factor.	S.3
	The scale factor is used to convert the measured value in an integer format	

DNP3 . **Dead Band 0** . . . DNP3 . **Dead Band 31**	[Device Para / DNP3 / Point map / Analog Input]	
1%	0.01% . . . 100.00%	S.3
If a change of measured value is greater than the deadband value it will be reported to the master.		

8.4.2 DNP3: Direct Controls

DNP3 . **Res all Diag Cr**	[Operation / Count and RevData / DNP3] [Operation / Reset]	
inactive	inactive, active Mode.	S.3
Reset all diagnosis counters		

DNP3 . **Slave Id**	[Device Para / DNP3 / Communication]	
1	0 . . . 65519	S.3
SlaveId defines the DNP3 address of this device (Outstation)		

DNP3 . **Master Id**	[Device Para / DNP3 / Communication]	
65500	0 . . . 65519	S.3
MasterId defines the DNP3 address of master (SCADA)		

8.4.3 DNP3: Input States

DNP3 . **BinaryInput0-I** . . . DNP3 . **BinaryInput63-I**	[Operation / Status Display / DNP3 / Binary Inputs]
Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.	

DNP3 . **DoubleBitInput0-I** ... DNP3 . **DoubleBitInput5-I**	[Operation / Status Display / DNP3 / Double Bit Inputs]
	Double Bit Digital Input (DNP). This corresponds to a double bit binary output of the protective device.

8.4.4 DNP3: Signals (Output States)

DNP3 . **busy**	[Operation / Status Display / DNP3 / State]
	This message is set if the protocol is started. It will be reset if the protocol is shut down.

DNP3 . **ready**	[Operation / Status Display / DNP3 / State]
	The message will be set if the protocol is successfully started and ready for data exchange.

DNP3 . **active**	[Operation / Status Display / DNP3 / State]
	The communication with the Master (SCADA) is active. *Note that for TCP/UDP, this state is permanently “Low” unless »DataLink confirm« is set to “Always”.*

8.4.5 DNP3: Counters

DNP3 . **NReceived**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of received characters*

DNP3 . **NSent**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of sent characters*

DNP3 . **NBadFramings**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of bad framings. A large number indicates a disturbed serial connection.*

DNP3 . **NBadParities**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of parity errrors. A large number indicates a disturbed serial connection.*

DNP3 . **NBreakSignals**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of break signals. A large number indicates a disturbed serial connection.*

DNP3 . **NBadChecksum**	[Operation / Count and RevData / DNP3]
#	*Diagnostic counter: Number of frames received with bad checksum.*

8.5 Modbus

Modbus

8.5.1 Modbus: Global Parameters

Modbus . **t-call**	[Device Para / Modbus / Communication / General Settings]	
10s	1s ... 3600s	S.3
	If there is no request telegram sent from Scada to the device after expiry of this time - the device concludes a communication failure within the Scada system.	

Modbus . **Scada CmdBlo**	[Device Para / Modbus / Communication / General Settings]	
inactive	inactive, active Mode.	S.3
	Activating (allowing)/ Deactivating (disallowing) the blocking of the Scada Commands	

Modbus . **Disable Latching**	[Device Para / Modbus / Communication / General Settings]	
inactive	inactive, active Mode.	S.3
	Disable Latching: If this parameter is active (true), none of the Modbus states will be latched. That means that trip signals wont be latched by Modbus.	

Modbus . **AllowGap**	[Device Para / Modbus / Communication / General Settings]	
inactive	inactive, active Mode.	S.3
	If this parameter is active (True), the user can request a set of modbus register without getting an exception, because of invalid address in the requested array. The invalid addresses have a special value 0xFAFA, but the user is responsible for ignoring invalid addresses. Attention: This special value can be valid, if address is valid.	

Modbus . **Optical rest position**	[Device Para / Modbus / Communication / General Settings]	
Light on *Avail. depends on HW*	Light off, Light on Optical rest position.	S.3
	Optical rest position	

Modbus . **TCP Port Config**	[Device Para / Modbus / Communication / TCP]	
Default	Default, Private └⊳ Port selection.	S.3
	TCP Port Configuration. This parameter needs to be set to “Private” only if another TCP Port than the default one shall be used.	

Modbus . **Port**	[Device Para / Modbus / Communication / TCP]	
502	If: Modbus . TCP Port Config = Default • 502 ... 502 If: Modbus . TCP Port Config = Private • 49152 ... 65535	S.3
	IP Port Number. *In general it is recommended to keep the default value. if this is not possible then select a number out of the private range 49152-52151 or 52164-65535 that is not yet in use within your network.*	

Modbus . **t-timeout**	[Device Para / Modbus / Communication / RTU]	
1s	0.01s ... 10.00s	S.3
	Within this time the answer has to be received by the SCADA system, otherwise the request will be disregarded. In that case the Scada system detects a communication failure and the Scada System has to send a new request.	

Modbus . **Baud rate**	[Device Para / Modbus / Communication / RTU]	
19200	1200, 2400, 4800, 9600, 19200, 38400 └⊳ Baud rate.	S.3
	Baud rate	

Modbus . **Physical Settings**	[Device Para / Modbus / Communication / RTU]	
8E1	8E1, 8O1, 8N1, 8N2 └⊳ Byte Frame.	S.3
	Digit 1: Number of bits. Digit 2: E=even parity, O=odd parity, N=no parity. Digit 3: Number of stop bits. More information on the parity: It is possible that the last data bit is followed by a parity bit which is used for recognition of communication errors. The parity bit ensures that with even parity ("EVEN") always an even number of bits with valence "1" or with odd parity ("ODD") an odd number of "1" valence bits are transmitted. But it is also possible to transmit no parity bits (here the setting is "Parity = None"). More information on the stop-bits: The end of a data byte is terminated by the stop-bits.	

Modbus . **Config Bin Inp1** . . . Modbus . **Config Bin Inp32**	[Device Para / Modbus / Configb Registers / States]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Virtual Digital Input. This corresponds to a virtual binary output of the protective device.	

Modbus . **Latched Config Bin Inp1** . . . Modbus . **Latched Config Bin Inp32**	[Device Para / Modbus / Configb Registers / States]	
inactive	inactive, active Mode.	S.3
	Latched Configurable Binary Input	

Modbus . **Mapped Meas 1** . . . Modbus . **Mapped Meas 16**	[Device Para / Modbus / Configb Registers / Measured Values]	
“-”	“-” . . . PQSCr . Wq- 1..n, TrendRecList.	S.3
	Mapped Measured Values. They can be used to provide measured values to the Modbus Master.	

Modbus . **Type of SCADA mapping**	[Device Para / Modbus / Config. Data Obj.]	
Standard	Standard, User-defined Type of SCADA mapping.	S.3
	*This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.*	

8.5.2 Modbus: Direct Controls

Modbus . **Res Diagn Cr**	[Operation / Reset]	
inactive	inactive, active ↳ Mode.	P.1
◉	*All Modbus Diagnosis Counters will be reset.*	

Modbus . **Unit ID**	[Device Para / Modbus / Communication / TCP]	
255	1 ... 255	P.1
◉	*The Unit Identifier is used for routing. This parameter is to be set, if a Modbus RTU and a Modbus TCP network should be coupled.*	

Modbus . **Slave ID**	[Device Para / Modbus / Communication / RTU]	
1	1 ... 247	P.1
◉	*Device address (Slave ID) within the bus system. Each device address has to be unique within a bus system.*	

8.5.3 Modbus: Input States

Modbus . **Config Bin Inp1-I** ... Modbus . **Config Bin Inp32-I**	[Operation / Status Display / Modbus / Configb Registers]
⇩	*State of the module input: Config Bin Inp*

8.5.4 Modbus: Signals (Output States)

Modbus . **Transmission RTU**	[Operation / Status Display / Modbus / State]
⇧	*Signal: SCADA active*

Modbus . **Transmission TCP**	[Operation / Status Display / Modbus / State]
⇧	*Signal: SCADA active*

Modbus . **Device Type**	[Operation / Status Display / Modbus / State]
⇧	*Device Type: Device type code for relationship between device name and its Modbus code.* *Woodward:* *MRI4 - 1000* *MRU4 - 1001* *MRA4 - 1002* *MCA4 - 1003* *MRDT4 - 1005* *MCDTV4 - 1006* *MCDGV4 - 1007* *MRM4 - 1009* *MRMV4 - 1010* *MCDLV4 - 1011*

Modbus . **Comm Version**	[Operation / Status Display / Modbus / State]
⇧	*Modbus Communication version. This version number changes if something becomes incompatible between different Modbus releases.*

Modbus . **Scada Cmd 1** **. . .** Modbus . **Scada Cmd 16**	[Operation / Status Display / Modbus / Commands]
⇧	*Scada Command*

8.5.5 Modbus: Values

Modbus . **Mapped Meas 1** **. . .** Modbus . **Mapped Meas 16**	[Operation / Count and RevData / Modbus / Measured Values]
✎	*Mapped Measured Values. They can be used to provide measured values to the Modbus Master.*

Modbus . **Config info**	[Device Para / Modbus / Config. Data Obj.]
✎	*Configuration comment (entered by the user during SCADA configuration)*

Modbus . **Config version**	[Device Para / Modbus / Config. Data Obj.]
✎	*Version of the user-defined SCADA configuration*

Modbus . **Config status**	[Device Para / Modbus / Config. Data Obj.]
Changing	Changing, OK, Config. not avail., Error ⮱▷ Config status.
✎	*Status of the user-defined SCADA configuration.* *Possible values:* *- New SCADA configuration is being loaded, but not active yet.* *- The SCADA configuration is active.* *- The user-defined SCADA configuration is not available (e.g. has not been loaded into the device).* *- Unexpected error. Please contact our service-team.*

8.5.6 Modbus: Counters

Modbus . **NoOfRequestsTotal**	[Operation / Count and RevData / Modbus / TCP] [Operation / Count and RevData / Modbus / RTU]
#	*Total number of requests. Includes requests for other slaves.*

Modbus . **NoOfRequestsForMe**	[Operation / Count and RevData / Modbus / TCP] [Operation / Count and RevData / Modbus / RTU]
#	*Total Number of requests for this slave.*

Modbus . **NoOfResponse**	[Operation / Count and RevData / Modbus / TCP] [Operation / Count and RevData / Modbus / RTU]
#	*Total number of requests having been responded.*

Modbus . **NoOfQueryInvalid**	[Operation / Count and RevData / Modbus / TCP]
#	*Total number of Request errors. Request could not be interpreted*

Modbus . **NoOfInternalError**	[Operation / Count and RevData / Modbus / TCP]
#	*Total Number of Internal errors while interpreting the request.*

Modbus . **NoOfFrameErrors**	[Operation / Count and RevData / Modbus / RTU]
#	*Total Number of Frame Errors. Physically corrupted Frame.*

Modbus . **NoOfParityErrors**	[Operation / Count and RevData / Modbus / RTU]
#	*Total number of parity errors. Physically corrupted Frame.*

Modbus . **NoOfResponsTimeOverruns**	[Operation / Count and RevData / Modbus / RTU]
#	*Total number of requests with exceeded response time. Physically corrupted Frame.*

Modbus . **NoOfOverrunErros**	[Operation / Count and RevData / Modbus / RTU]
#	*Total Number of Overrun Failures. Physically corrupted Frame.*

Modbus . **NoOfBreaks**	[Operation / Count and RevData / Modbus / RTU]
#	*Number of detected communication aborts*

8.6 IEC 61850

IEC 61850 communication

8.6.1 IEC 61850: Global Parameters

IEC 61850 . **Function**	[Device Para / IEC 61850 / Communication]	
inactive	inactive, active 1..n, OnOffList.	S.3
	Permanent activation or deactivation of module/stage.	

IEC 61850 . **Deadb integr time**	[Device Para / IEC 61850 / Communication]	
0	0 . . . 300	S.3
	Deadband integration time.	

8.6.2 IEC 61850: Direct Controls

IEC 61850 . **ResetStatistic**	[Operation / Reset]	
inactive	inactive, active Mode.	P.1
	Reset of all IEC61850 diagnostic counters	

8.6.3 IEC 61850: Signals (Output States)

IEC 61850 . **MMS Client connected**	[Operation / Status Display / IEC 61850 / State]
	At least one MMS client is connected to the device

IEC 61850 . **All Goose Subscriber active**	[Operation / Status Display / IEC 61850 / State]
	All Goose subscriber in the device are working

IEC 61850 . **SPCSO1** **. . .** IEC 61850 . **SPCSO32**	[Operation / Status Display / IEC 61850 / ControlInputs]
	Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).

IEC 61850 . **GOSINGGIO1.Ind1.stVal** **. . .** IEC 61850 . **GOSINGGIO2.Ind32.stVal**	[Operation / Status Display / IEC 61850 / Virtual Inputs 1] [Operation / Status Display / IEC 61850 / Virtual Inputs 2]
	Signal: Virtual Input (IEC61850 GGIO Ind): State

IEC 61850 . **GOSINGGIO1.Ind1.q** **. . .** IEC 61850 . **GOSINGGIO2.Ind32.q**	[Operation / Status Display / IEC 61850 / Virtual Inputs 1] [Operation / Status Display / IEC 61850 / Virtual Inputs 2]
	Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input

8.6.4 IEC 61850: Values

IEC 61850 . **GoosePublisherState**	[Operation / Status Display / IEC 61850 / State]
Off	Off, On, Error State.
	State of the GOOSE Publisher (on or off)

IEC 61850 . **GooseSubscriberState**	[Operation / Status Display / IEC 61850 / State]
Off	Off, On, Error State.
	State of the GOOSE Subscriber (on or off)

IEC 61850 . **MmsServerState**	[Operation / Status Display / IEC 61850 / State]
Off	Off, On, Error State.
	State of MMS Server (on or off)

8.6.5 IEC 61850: Counters

IEC 61850 . **NoOfGooseRxAll**	[Operation / Count and RevData / IEC 61850]
#	*Total number of received GOOSE messages including messages for other devices (subscribed and not subscribed messages).*

IEC 61850 . **NoOfGooseRxSubscribed**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of subscribed GOOSE messages including messages with incorrect content.*

IEC 61850 . **NoOfGooseRxCorrect**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of subscribed and correctly received GOOSE messages.*

IEC 61850 . **NoOfGooseRxNew**	[Operation / Count and RevData / IEC 61850]
#	*Number of subscribed and correctly received GOOSE messages with new content.*

IEC 61850 . **NoOfGooseTxAll**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of GOOSE messages that have been published by this device.*

IEC 61850 . **NoOfGooseTxNew**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of new GOOSE messages (modified content) that have been published by this device.*

IEC 61850 . **NoOfServerRequestsAll**	[Operation / Count and RevData / IEC 61850]
#	*Total number of MMS Server requests including incorrect requests.*

IEC 61850 . **NoOfDataReadAll**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of values read from this device including incorrect requests.*

IEC 61850 . **NoOfDataReadCorrect**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of correctly read values from this device.*

IEC 61850 . **NoOfDataWrittenAll**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of values written by this device including incorrect ones.*

IEC 61850 . **NoOfDataWrittenCorrect**	[Operation / Count and RevData / IEC 61850]
#	*Total Number of correctly written values by this device.*

IEC 61850 . **NoOfDataChangeNotification**	[Operation / Count and RevData / IEC 61850]
#	*Number of detected changes within the datasets that are published with GOOSE messages.*

IEC 61850 . **No of Client Connections**	[Operation / Count and RevData / IEC 61850]
#	*Number of active MMS client connections*

8.6.6 IEC 61850 – Virt.Outp.

IEC 61850 communication

8.6.6.1 IEC 61850: Global Parameters

IEC 61850 . **COUTGGIO1.Ind1.stVal** **. . .** IEC 61850 . **COUTGGIO1.Ind32.stVal**	[Device Para / IEC 61850 / Virtual Outputs 1]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Virtual Output. This signal can be assigned or visualized via the SCD file to other devices within the IEC61850 substation.	

8.6.6.2 IEC 61850: Input States

IEC 61850 . **COUTGGIO1.Ind1.stVal-I** **. . .** IEC 61850 . **COUTGGIO1.Ind32.stVal-I**	[Operation / Status Display / IEC 61850 / Virtual Outputs 1]
	Module input state: Binary state of the Virtual Output (GGIO)

8.7 IEC103

IEC 60870-5-103 communication

8.7.1 IEC103: Global Parameters

IEC103 . **Function**	[Device Para / IEC103]	
inactive	inactive, active ⮡ Mode.	S.3
	Activation or deactivation of the IEC103 communication.	

IEC103 . **Slave ID**	[Device Para / IEC103]	
1	1 ... 247	S.3
	Device address (Slave ID) within the bus system. Each device address has to be unique within a bus system.	

IEC103 . **Baud rate**	[Device Para / IEC103]	
19200	1200, 2400, 4800, 9600, 19200, 38400, 57600 ⮡ Baud rate.	S.3
	Baud rate	

IEC103 . **Physical Settings**	[Device Para / IEC103]	
8E1	8E1, 8O1, 8N1, 8N2 ⮡ Byte Frame.	S.3
	Digit 1: Number of bits. Digit 2: E=even parity, O=odd parity, N=no parity. Digit 3: Number of stop bits. More information on the parity: It is possible that the last data bit is followed by a parity bit which is used for recognition of communication errors. The parity bit ensures that with even parity ("EVEN") always an even number of bits with valence "1" or with odd parity ("ODD") an odd number of "1" valence bits are transmitted. But it is also possible to transmit no parity bits (here the setting is "Parity = None"). More information on the stop-bits: The end of a data byte is terminated by the stop-bits.	

IEC103 . **t-call**	[Device Para / IEC103]	
60s	1s ... 3600s	S.3
	If there is no request telegram sent from Scada to the device after expiry of this time - the device concludes a communication failure within the Scada system.	

IEC103 . **Transm priv meas val**	[Device Para / IEC103]	
inactive	inactive, active └▷ Mode.	S.3
	Transmit additional (private) measuring values	

IEC103 . **Transfer Disturb Rec**	[Device Para / IEC103]	
inactive	inactive, active └▷ Mode.	S.3
	Activates the transmission of disturbance records	

IEC103 . **Timezone**	[Device Para / IEC103]	
UTC	UTC, Local Time └▷ Timezone.	S.3
	Selection whether the timestamps in IEC103 messages shall be given as UTC or local time. ("Local time" always includes the actual daylight saving settings.)	

IEC103 . **Energy Pulse Rate**	[Device Para / IEC103]	
0	0 . . . 100	S.3
	The energy values are always transmitted as counter values (i.e. as integer numbers). This setting defines the unit: If "1" is set then each counter increment is 1 kWh, if "2" is set then each counter increment is 2 kWh,etc. The setting "0" has the effect that no energy values are transmitted.	

IEC103 . **DFC-Compat.**	[Device Para / IEC103]	
inactive	inactive, active └▷ Mode.	S.3
	This setting is only required for certain substation implementations. If there should be communication problems related to the Command Response Queue this setting switches the device over to a different behavior.	

IEC103 . **Optical rest position**	[Device Para / IEC103]	
Light on *Avail. depends on HW*	Light off, Light on └▷ Optical rest position.	S.3
	Optical rest position	

IEC103 . **Ex activate test mode**	[Service / Test (Prot inhibit) / Scada / IEC103]	
Sgen . Running	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	The signal assigned to this parameter switches the IEC103 communication into Test Mode.	

IEC103 . **Ex activate Block MD**	[Service / Test (Prot inhibit) / Scada / IEC103]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	S.3
	The signal assigned to this parameter activates the blocking of IEC103 transmission in monitor direction.	

8.7.2 IEC103: Direct Controls

IEC103 . **Res all Diag Cr**	[Operation / Reset]	
inactive	inactive, active ⮡ Mode.	S.3
◉	*Reset all diagnosis counters*	

IEC103 . **Activate test mode**	[Service / Test (Prot inhibit) / Scada / IEC103]	
inactive	inactive, active ⮡ Mode.	S.3
◉	*This Direct Control parameter switches the IEC103 communication into Test Mode (or back to nomal mode).*	

IEC103 . **Activate Block MD**	[Service / Test (Prot inhibit) / Scada / IEC103]	
inactive	inactive, active ⮡ Mode.	S.3
◉	*This Direct Control parameter activates (or deactivates) the blocking of IEC103 transmission in monitor direction.*	

8.7.3 IEC103: Signals (Output States)

IEC103 . **Scada Cmd 1** **. . .** IEC103 . **Scada Cmd 10**	[Operation / Status Display / IEC103]
	Scada Command

IEC103 . **Transmission**	[Operation / Status Display / IEC103]
	Signal: SCADA active

IEC103 . **Failure Event lost**	[Operation / Status Display / IEC103]
	Failure event lost

IEC103 . **Test mode active**	[Operation / Status Display / IEC103]
	Signal: IEC103 communication has been switched over into Test Mode.

IEC103 . **Block MD active**	[Operation / Status Display / IEC103]
	Signal: The blocking of IEC103 transmission in monitor direction has been activated.

8.7.4 IEC103: Counters

IEC103 . **NReceived**	[Operation / Count and RevData / IEC103]
#	*Total Number of received Messages*

IEC103 . **NSent**	[Operation / Count and RevData / IEC103]
#	*Total Number of sent Messages*

IEC103 . **NBadFramings**	[Operation / Count and RevData / IEC103]
#	*Number of bad Messages*

IEC103 . **NBadParities**	[Operation / Count and RevData / IEC103]
#	*Number of Parity Errors*

IEC103 . **NBreakSignals**	[Operation / Count and RevData / IEC103]
#	*Number of Communication Interrupts*

IEC103 . **NInternalError**	[Operation / Count and RevData / IEC103]
#	*Number of Internal Errors*

IEC103 . **NBadCharChecksum**	[Operation / Count and RevData / IEC103]
#	*Number of Checksum Errors*

8.8 IEC104

IEC 60870-5-104 communication

8.8.1 IEC104: Global Parameters

IEC104 . **Function**	[Device Para / IEC104 / General Settings]	
inactive	inactive, active ↳ Mode.	S.3
	Activation or deactivation of the IEC104 communication.	

IEC104 . **TCP Port Config**	[Device Para / IEC104 / General Settings]	
Default	Default, Private ↳ Port selection.	S.3
	TCP Port Configuration. This parameter needs to be set to “Private” only if another TCP Port than the default one shall be used.	

IEC104 . **Port**	[Device Para / IEC104 / General Settings]	
2404	If: IEC104 . TCP Port Config = Default • 2404 ... 2404 If: IEC104 . TCP Port Config = Private • 49152 ... 65535	S.3
	IP Port Number. *In general it is recommended to keep the default value. if this is not possible then select a number out of the private range 49152-52151 or 52164-65535 that is not yet in use within your network.*	

IEC104 . **Timezone**	[Device Para / IEC104 / General Settings]	
UTC	UTC, Local Time ↳ Timezone.	S.3
	Selection whether the timestamps in the transmitted communication telegrams shall be given as UTC or local time. (“Local time” always includes the actual daylight saving settings.)	

IEC104 . **Deadb integr time**	[Device Para / IEC104 / General Settings]	
1s	0s ... 1000s	S.3
	Deadband integration time.	

IEC104 . **Timeout SBE**	[Device Para / IEC104 / General Settings]	
30s	1s ... 60s	S.3
	The communication outputs can be controlled in a two-stage procedure (SBE: Select Before Execute). These outputs have to be selected first by a Select command. After this the bit is reserved for this Execute request. This setting defines the timer for this reservation: After the timer has elapsed the bit is released.	

IEC104 . **Timeout t0**	[Device Para / IEC104 / Advanced]	
30s	30s ... 30s	S.3
	Timeout of connection establishment	

IEC104 . **Timeout t1**	[Device Para / IEC104 / Advanced]	
15s	15s ... 15s	S.3
	Timeout of send or test APDUs	

IEC104 . **Timeout t2**	[Device Para / IEC104 / Advanced]	
10s	10s ... 10s	S.3
	Timeout for acknowledges in case of no data messages	

IEC104 . **Timeout t3**	[Device Para / IEC104 / Advanced]	
20s	20s ... 20s	S.3
	Timeout for sending test frames in case of a long idle state	

IEC104 . **Param k**	[Device Para / IEC104 / Advanced]	
12	12 ... 12	S.3
	Protocol parameter k	

IEC104 . **Param w**	[Device Para / IEC104 / Advanced]	
8	8 ... 8	S.3
	Protocol parameter w	

IEC104 . **Length of address**	[Device Para / IEC104 / Advanced]	
2	2 ... 2	S.3
	Number of bytes of the Common Address of the ASDU	

IEC104 . **Length of CoT**	[Device Para / IEC104 / Advanced]	
2	2 ... 2	S.3
	Number of bytes of the Cause of Transmission	

IEC104 . **Length of Inf Obj addr**	[Device Para / IEC104 / Advanced]	
3	3 ... 3	S.3
	Number of bytes of the address of the Information Object	

IEC104 . **Update time**	[Device Para / IEC104 / Advanced]	
1s	1s ... 60s	S.3
	This setting specifies the time after which measurement values are refreshed. If cyclic transmission is selected new values are reported after this time has elapsed.	

IEC104 . **Transmit Int. State**	[Device Para / IEC104 / Advanced]	
active	inactive, active Mode.	S.3
	If this parameter is set to “active” (default) then the intermediate position of a switchgear, too, is transmitted. This needs to be changed to “inactive” only in the rare case that the substation communication does not support the reporting of intermediate positions.	

IEC104 . **Trans. Cmd. State**	[Device Para / IEC104 / Advanced]	
active	inactive, active Mode.	S.3
	_ If false it suppress change events for command states (Same address as cmd)	

IEC104 . **Type of SCADA mapping**	[Device Para / IEC104 / Config. Data Obj.]	
Standard	Standard, User-defined Type of SCADA mapping.	S.3
	*This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.*	

8.8.2 IEC104: Direct Controls

IEC104 . **Res all Diag Cr**	[Operation / Reset]	
inactive	inactive, active ↳ Mode.	S.3
	Reset all diagnosis counters	

IEC104 . **Common address**	[Device Para / IEC104 / General Settings]	
1	1 . . . 65535	S.3
	Common Address of the ASDU	

8.8.3 IEC104: Signals (Output States)

IEC104 . **Scada Cmd 1** . . . IEC104 . **Scada Cmd 16**	[Operation / Status Display / IEC104]
	Scada Command

IEC104 . **busy**	[Operation / Status Display / IEC104]
	This message is set if the protocol is started. It will be reset if the protocol is shut down.

IEC104 . **ready**	[Operation / Status Display / IEC104]
	The message will be set if the protocol is successfully started and ready for data exchange.

IEC104 . **Transmission**	[Operation / Status Display / IEC104]
	Signal: SCADA active

IEC104 . **Failure Event lost**	[Operation / Status Display / IEC104]
	Failure event lost

8.8.4 IEC104: Values

IEC104 . **Config info**	[Device Para / IEC104 / Config. Data Obj.]
	Configuration comment (entered by the user during SCADA configuration)

IEC104 . **Config version**	[Device Para / IEC104 / Config. Data Obj.]
✎	*Version of the user-defined SCADA configuration*

IEC104 . **Config status**	[Device Para / IEC104 / Config. Data Obj.]
Changing	Changing, OK, Config. not avail., Error ↳ Config status.
✎	*Status of the user-defined SCADA configuration.* *Possible values:* *- Changing: New SCADA configuration is being loaded, but not active yet.* *- OK: The SCADA configuration is active.* *- Config. not avail.: The user-defined SCADA configuration is not available (e.g. has not been loaded into the device).* *- Error: Unexpected error. Please contact our service-team.*

8.8.5 IEC104: Counters

IEC104 . **NReceived**	[Operation / Count and RevData / IEC104]
#	*Diagnostic counter: Number of received characters*

IEC104 . **NSent**	[Operation / Count and RevData / IEC104]
#	*Diagnostic counter: Number of sent characters*

IEC104 . **Num. of lost conn.**	[Operation / Count and RevData / IEC104]
#	*Diagnostic counter: Number of lost connections*

IEC104 . **NBadChecksum**	[Operation / Count and RevData / IEC104]
#	*Diagnostic counter: Number of frames received with bad checksum.*

8.9 Profibus

Profibus Module

8.9.1 Profibus: Global Parameters

Profibus . **Config Bin Inp 1** **. . .** Profibus . **Config Bin Inp 32**	[Device Para / Profibus / Config Bin Inp 1-16] [Device Para / Profibus / Config Bin Inp 17-32]	
“-”	“-” . . . Sys . Internal test state └═▷ 1..n, Assignment List.	S.3
	Virtual Digital Input. This corresponds to a virtual binary output of the protective device.	

Profibus . **Latched 1** **. . .** Profibus . **Latched 32**	[Device Para / Profibus / Config Bin Inp 1-16] [Device Para / Profibus / Config Bin Inp 17-32]	
inactive	inactive, active └═▷ Mode.	S.3
	Defines whether the Input is latched.	

Profibus . **Type of SCADA mapping**	[Device Para / Profibus / Config. Data Obj.]	
Standard	Standard, User-defined └═▷ Type of SCADA mapping.	S.3
	*This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.*	

8.9.2 Profibus: Direct Controls

Profibus . **Slave ID**	[Operation / Status Display / Profibus / State] [Device Para / Profibus / Bus parameters]	
2	2 . . . 125	P.1
	Device address (Slave ID) within the bus system. Each device address has to be unique within a bus system.	

Profibus . **Reset Comds**	[Operation / Reset]	
inactive	inactive, active └▷ Mode.	P.1
◉	*All Profibus Commands will be reset.*	

8.9.3 Profibus: Input States

Profibus . **Assignment 1-I** ... Profibus . **Assignment 32-I**	[Operation / Status Display / Profibus / Config Bin Inp 1-16] [Operation / Status Display / Profibus / Config Bin Inp 17-32]
⇩	*Module input state: Scada Assignment*

8.9.4 Profibus: Signals (Output States)

Profibus . **Data OK**	[Operation / Status Display / Profibus / State]
⇧	*Data within the Input field are OK (Yes=1)*

Profibus . **SubModul Err**	[Operation / Status Display / Profibus / State]
⇧	*Assignable Signal, Failure in Sub-Module, Communication Failure.*

Profibus . **Connection active**	[Operation / Status Display / Profibus / State]
⇧	*Connection active*

Profibus . **Scada Cmd 1** ... Profibus . **Scada Cmd 16**	[Operation / Status Display / Profibus / Commands]
⇧	*Scada Command*

8.9.5 Profibus: Values

Profibus . **Slave State**	[Operation / Status Display / Profibus / State]
Baud Search	Baud Search . . . Data exchange ⮡ State.
✎	*Communication State between Slave and Master.*

Profibus . **Baud rate**	[Operation / Status Display / Profibus / State]
-.-	12 Mb/s . . . -.- ⮡ Baud rate.
✎	*The baud rate that has been detected lastly, will still be shown after a connection issue.*

Profibus . **PNO Id**	[Operation / Status Display / Profibus / State]
0C50h	0C50h ⮡ PNO Id.
✎	*PNO Identification Number. GSD Identification Number.*

Profibus . **Config info**	[Operation / Status Display / Profibus / State] [Device Para / Profibus / Config. Data Obj.]
✎	*Configuration comment (entered by the user during SCADA configuration)*

Profibus . **Config version**	[Operation / Status Display / Profibus / State] [Device Para / Profibus / Config. Data Obj.]
✎	*Version of the user-defined SCADA configuration*

Profibus . **Config status**	[Operation / Status Display / Profibus / State] [Device Para / Profibus / Config. Data Obj.]
Changing	Changing, OK, Config. not avail., Error ⮡ Config status.
✎	*Status of the user-defined SCADA configuration.* *Possible values:*

8.9.6 Profibus: Counters

Profibus . **Master ID**	[Operation / Status Display / Profibus / State]
#	*Device address (Master ID) within the bus system. Each device address has to be unique within a bus system.*

Profibus . **HO Id PSub**	[Operation / Status Display / Profibus / State]
#	*Handoff Id of PbSub*

Profibus . **t-WatchDog**	[Operation / Status Display / Profibus / State]
#	*The Profibus Chip detects a communication issue if this timer is expired without any communication (Parameterising telegram).*

Profibus . **Fr Sync Err**	[Operation / Count and RevData / Profibus]
#	*Frames, that were sent from the Master to the Slave are faulty.*

Profibus . **Num. CRC err.**	[Operation / Count and RevData / Profibus]
#	*Number of CRC errors that the subsystem manager has recognized in the received response frames from the subsystem. (Each error caused a subsystem reset.)*

Profibus . **Num. frame loss err.**	[Operation / Count and RevData / Profibus]
#	*Number of frame loss errors that the subsystem manager has recognized in the received response frames from the subsystem. (Each error caused a subsystem reset.)*

Profibus . **Num. trig. CRC err.**	[Operation / Count and RevData / Profibus]
#	*Number of CRC errors that the subsystem has recognized in the received trigger frames from the host.*

Profibus . **Num. subsys. res.**	[Operation / Count and RevData / Profibus]
#	*Number of subsystem restarts or resets that the subsystem manager has caused.*

8.10 ProtCom

Protection-Communication

8.10.1 ProtCom: Global Parameters

ProtCom . **Function**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
active	inactive, active └─▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

ProtCom . **ExBlo Fc**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
inactive	inactive, active └─▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

ProtCom . **ExBlo1** ProtCom . **ExBlo2**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

ProtCom . **24h Err WarnLev**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
12	0 . . . 1000000	P.2
	Set a warning level for maximum errors per 24h. An Error Rate above this level will generate a warning of signal quality.	

ProtCom . **Use remote access**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
active	inactive, active └─▷ Mode.	P.2
	This defines whether or not Smart view may access data (values and settings) of the remote device.	

ProtCom . **Force Mode**	[Service / Test (Prot inhibit) / Force ProtCom / ProtCom]	
timeout	permanent, timeout ⮡ Mode.	S.3
	By means of this setting the forced state could be triggered permanently oder limited by timeout.	

ProtCom . **t-Timeout Force**	[Service / Test (Prot inhibit) / Force ProtCom / ProtCom]	
600s *Only available if:* • ProtCom . Force Mode = timeout	0s . . . 1200s	S.3
	The forced status is limited to this time.	

8.10.2 ProtCom: Direct Controls

ProtCom . **Res all Cr/Err**	[Operation / Reset]	
inactive	inactive, active ⮡ Mode.	P.1
	Reset of all Protection-communication Counter and Errors.	

ProtCom . **Sm. view via ProtCom**	[Device Para / Security / Communication]	
active	inactive, active ⮡ Mode.	P.2
	Activate (allow) or inactivate (disallow) the Smart view access to this device from the remote Line Differential device via the Protection Communication interface.	

ProtCom . **Pair ID**	[Protection Para / Global Prot Para / Prot-Transfer / ProtCom]	
1	1 . . . 16	P.2
	A pair of two Linedifferential protective-relays always have to use the same Pair ID to establish the protection-communication.	

ProtCom . **Force**	[Service / Test (Prot inhibit) / Force ProtCom / ProtCom]	
normal	normal, blocked, Ignore Rx-Currents └─▷ ProtCom operating modes.	S.3
◉	*Commissioning support: It is possible to deactivating Protection-communication, without disconnecting the fibre-connectors.* *NOTE: Protection-communication including percentage-differential functions, Trip-transfer and Signal-Transfer will not work after this trigger permanently or limited by timeout! A device restart will clear force status.*	

8.10.3 ProtCom: Signals (Output States)

ProtCom . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Signal: active*

ProtCom . **inactive**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Signal: inactive*

ProtCom . **ExBlo**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Signal: External Blocking*

ProtCom . **Blo forced**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Protection-communication is temporarily forced to be deactivated (blocked).*

ProtCom . **Comm.Ok**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Protection-communication Ok. Measuring systems is synchron with remote device.*

ProtCom . **Qual.Warn.**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
⇮	*Error Rate is above warning level.*

ProtCom . **FrameSync**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
⇮	*Frames are synchronized.*

ProtCom . **TimeSync**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
	Internal time bases are synchronized.

ProtCom . **Loopback**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
	Device is in Loopback-mode.

8.10.4 ProtCom: Values

ProtCom . **Communication**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
Err (no RX)	Err (no RX) . . . Ok (stable) └▷ ProtCom Error states.
	Communication status shows possible reasons for Protection-communication errors.

ProtCom . **Operating Mode**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
Disconnected	Disconnected, Client, Server, Loopback └▷ ProtCom operating mode.
	Shows the internal operating mode of Protection-communication for the local device.

ProtCom . **Sm. view via ProtCom**	[Operation / Security / Security States]
active	inactive, active └▷ Mode.
	Activate (allow) or inactivate (disallow) the Smart view access to this device from the remote Line Differential device via the Protection Communication interface.

8.10.5 ProtCom: Counters

ProtCom . **24h Err Cr**	[Operation / Status Display / Prot-Transfer / ProtCom / State]
	Service counter: Number of corrupt or missing frames in last 24 hours (Error Rate).

ProtCom . **NoOfRxFrames**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
	Service counter: Total Number of received frames.

ProtCom . **NoOfTxFrames**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Service counter: Total Number of sent frames.*

ProtCom . **NoOfErrors**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Service counter: Total Number of communication errors.*

ProtCom . **NoOfTimeouts**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Service counter: Total Number of communication timeouts.*

ProtCom . **NoOfDspRxErrors**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Service counter: Total Number of Rx-communication errors detected by DSP.*

ProtCom . **NoOfSyncLost**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Service counter: Total Number of synchronization interruptions.*

ProtCom . **NoOfEthRxOk**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Avail. depends on HW* *Service counter: Total Number of valid ethernet (Rx) frames.*

ProtCom . **NoOfEthRxErrors**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Avail. depends on HW* *Service counter: Total Number of ethernet (Rx) frame errors.*

ProtCom . **NoOfAlienFrames**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
[#]	*Avail. depends on HW* *Service counter: Total Number of non Protection-communication frames.*

ProtCom . **NoOfCmdTimeouts**	[Operation / Status Display / Prot-Transfer / ProtCom / Advanced States]
#	*Avail. depends on HW* *Service counter: Total Number of internal command timeouts.*

8.11 IRIG-B

IRIG-B-Module

8.11.1 IRIG-B: Device Planning Parameters

IRIG-B . **Mode**	[Device planning]	
“-”	“-”, use ↳ Mode.	S.3
	IRIG-B-Module, general operation mode	

8.11.2 IRIG-B: Global Parameters

IRIG-B . **Function**	[Device Para / Time / TimeSync / IRIG-B]	
inactive	inactive, active ↳ Mode.	S.3
	Permanent activation or deactivation of module/stage.	

IRIG-B . **IRIG-B00X**	[Device Para / Time / TimeSync / IRIG-B]	
IRIGB-000	IRIGB-000 . . . IRIGB-007 ↳ IRIG-B00X.	S.3
	Determination of the Type: IRIG-B00X. IRIG-B types differ in types of included “Coded Expressions” (year, control-functions, straight-binary-seconds).	

8.11.3 IRIG-B: Direct Controls

IRIG-B . **Res IRIG-B Cr**	[Operation / Reset]	
inactive	inactive, active ↳ Mode.	P.1
	Resetting of the Diagnosis Counters: IRIG-B	

8.11.4 IRIG-B: Signals (Output States)

IRIG-B . **IRIG-B active**	[Operation / Status Display / TimeSync / IRIG-B]
⇪	*Signal: If there is no valid IRIG-B signal for 60 sec, IRIG-B is regarded as inactive.*

IRIG-B . **High-Low Invert**	[Operation / Status Display / TimeSync / IRIG-B]
⇪	*Signal: The High and Low signals of the IRIG-B are inverted. This does NOT mean that the wiring is faulty. If the wiring is faulty no IRIG-B signal will be detected.*

IRIG-B . **Control Signal1** **...** IRIG-B . **Control Signal18**	[Operation / Status Display / TimeSync / IRIG-B]
⇪	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*

8.11.5 IRIG-B: Counters

IRIG-B . **NoOfFramesOK**	[Operation / Count and RevData / TimeSync / IRIG-B]
#	*Total Number valid Frames.*

IRIG-B . **NoOfFrameErrors**	[Operation / Count and RevData / TimeSync / IRIG-B]
#	*Total Number of Frame Errors. Physically corrupted Frame.*

IRIG-B . **Edges**	[Operation / Count and RevData / TimeSync / IRIG-B]
#	*Edges: Total number of rising and falling edges. This signal indicates if a signal is available at the IRIG-B input.*

8.12 SNTP

SNTP-Module

8.12.1 SNTP: Device Planning Parameters

SNTP . **Mode**	[Device planning]	
“-”	“-”, use ↳ Mode.	S.3
	SNTP-Module, general operation mode	

8.12.2 SNTP: Global Parameters

SNTP . **Server1**	[Device Para / Time / TimeSync / SNTP]	
inactive	inactive, active ↳ Mode.	S.3
	Server 1	

SNTP . **IP Byte1** **. . .** SNTP . **IP Byte4**	[Device Para / Time / TimeSync / SNTP]	
0	0 . . . 255	S.3
	IP1.IP2.IP3.IP4	

SNTP . **Server2**	[Device Para / Time / TimeSync / SNTP]	
inactive	inactive, active ↳ Mode.	S.3
	Server 2	

8.12.3 SNTP: Direct Controls

SNTP . **Res Counter**	[Operation / Reset]	
inactive	inactive, active └═▷ Mode.	P.1
	Reset all Counters.	

8.12.4 SNTP: Signals (Output States)

SNTP . **SNTP active**	[Operation / Status Display / TimeSync / SNTP]
	Signal: If there is no valid SNTP signal for 120 sec, SNTP is regarded as inactive.

8.12.5 SNTP: Values

SNTP . **Used Server**	[Operation / Status Display / TimeSync / SNTP]	
None	Server1, Server2, None └═▷ Server State.	
	Which Server is used for SNTP synchronization.	

SNTP . **PrecServer1**	[Operation / Status Display / TimeSync / SNTP]
	Precision of Server 1

SNTP . **PrecServer2**	[Operation / Status Display / TimeSync / SNTP]
	Precision of Server 2

SNTP . **ServerQlty**	[Operation / Status Display / TimeSync / SNTP]	
“-”	GOOD, SUFFICIENT, BAD, “-” └═▷ State.	
	Quality of Server used for Synchronization (GOOD, SUFFICIENT, BAD)	

SNTP . **NetConn**	[Operation / Status Display / TimeSync / SNTP]
“-”	GOOD, SUFFICIENT, BAD, “-” └▷ State.
✎	*Quality of Network Connection (GOOD, SUFFICIENT, BAD).*

8.12.6 SNTP: Counters

SNTP . **StratumServer1**	[Operation / Status Display / TimeSync / SNTP]
#	*Stratum of Server 1*

SNTP . **StratumServer2**	[Operation / Status Display / TimeSync / SNTP]
#	*Stratum of Server 2*

SNTP . **NoOfSyncs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Total Number of Synchronizations.*

SNTP . **NoOfConnectLost**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Total Number of lost SNTP Connections (no sync for 120 sec).*

SNTP . **NoOfSmallSyncs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of very small Time Corrections.*

SNTP . **NoOfNormSyncs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of normal Time Corrections*

SNTP . **NoOfBigSyncs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of big Time Corrections*

SNTP . **NoOfFiltSyncs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of filtered Time Corrections*

SNTP . **NoOfSlowTrans**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of slow Transfers.*

SNTP . **NoOfHighOffs**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of high Offsets.*

SNTP . **NoOfIntTimeouts**	[Operation / Count and RevData / TimeSync / SNTP]
#	*Service counter: Total Number of internal timeouts.*

8.13 TimeSync

Time synchronisation

Date and Time	[Device Para / Time / Date and Time]
This item represents a special dialog. (See the Technical Manual for details.) *(Re-)setting Date and Time*	

8.13.1 TimeSync: Global Parameters

TimeSync . **Time Zones**	[Device Para / Time / Timezone]	
UTC+0 London	UTC+14 Kiritimati . . . UTC-11 Midway Islands ⮡ Time Zones.	S.3
Time Zones		

TimeSync . **DST offset**	[Device Para / Time / Timezone]	
60min	-180min . . . 180min	S.3
Difference to wintertime		

TimeSync . **DST manual**	[Device Para / Time / Timezone]	
active	inactive, active ⮡ Mode.	S.3
Manual setting of the Daylight Saving Time		

TimeSync . **Summertime**	[Device Para / Time / Timezone]	
inactive	inactive, active ⮡ Mode.	S.3
Daylight Saving Time		

TimeSync . **Summertime m**	[Device Para / Time / Timezone]	
March	January . . . December ⮡ Month of clock change.	S.3
Month of clock change summertime		

TimeSync . **Summertime d**	[Device Para / Time / Timezone]	
Sunday	Sunday . . . General day ↳ Date.	S.3
	Day of clock change summertime	

TimeSync . **Summertime w**	[Device Para / Time / Timezone]	
Last	First, Second, Third, Fourth, Last ↳ Day of clock change.	S.3
	Place of selected day in month (for clock change summertime)	

TimeSync . **Summertime h**	[Device Para / Time / Timezone]	
2h	0h . . . 23h	S.3
	Hour of clock change summertime	

TimeSync . **Summertime min**	[Device Para / Time / Timezone]	
0min	0min . . . 59min	S.3
	Minute of clock change summertime	

TimeSync . **Wintertime m**	[Device Para / Time / Timezone]	
October	January . . . December ↳ Month of clock change.	S.3
	Month of clock change wintertime	

TimeSync . **Wintertime d**	[Device Para / Time / Timezone]	
Sunday	Sunday . . . General day ↳ Date.	S.3
	Day of clock change wintertime	

TimeSync . **Wintertime w**	[Device Para / Time / Timezone]	
Last	First, Second, Third, Fourth, Last ↳ Day of clock change.	S.3
	Place of selected day in month (for clock change wintertime)	

TimeSync . **Wintertime h**	[Device Para / Time / Timezone]	
3h	0h . . . 23h	S.3
	Hour of clock change wintertime	

TimeSync . **Wintertime min**	[Device Para / Time / Timezone]	
0min	0min . . . 59min	S.3
	Minute of clock change wintertime	

TimeSync . **TimeSync**	[Device Para / Time / TimeSync / TimeSync]	
“-”	“-” . . . ProtCom . ProtCom ⮡ Used Protocol.	S.3
	Time synchronisation	

8.13.2 TimeSync: Signals (Output States)

TimeSync . **synchronized**	[Operation / Status Display / TimeSync / TimeSync]
	Clock is synchronized.

9 Protection Parameter

Module General Protection

9.1 Prot: Global Parameters

Prot . **Function**	[Protection Para / Global Prot Para / Prot]	
active	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Prot . **ExBlo Fc**	[Protection Para / Global Prot Para / Prot]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) the external blocking of the global protection functionality of the device.	

Prot . **ExBlo1** Prot . **ExBlo2**	[Protection Para / Global Prot Para / Prot]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	If external blocking of this module is activated (allowed), the global protection functionality of the device will be blocked if the state of the assigned signal becomes true.	

Prot . **Blo TripCmd**	[Protection Para / Global Prot Para / Prot]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent blocking of the Trip Command of the entire Protection.	

Prot . **ExBlo TripCmd Fc**	[Protection Para / Global Prot Para / Prot]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) the external blocking of the trip command of the entire device.	

Prot . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Prot]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	P.2
	If external blocking of the tripping command is activated (allowed), the tripping command of the entire device will be blocked if the state of the assigned signal becomes true.	

9.2 Prot: Direct Controls

Prot . **Res FaultNo a GridFaultNo**	[Operation / Reset]	
inactive	inactive, active └▷ Mode.	P.1
◉	*Resetting of fault number and grid fault number.*	

9.3 Prot: Input States

Prot . **ExBlo1-I**	[Operation / Status Display / Prot]
	Module input state: External blocking1

Prot . **ExBlo2-I**	[Operation / Status Display / Prot]
	Module input state: External blocking2

Prot . **ExBlo TripCmd-I**	[Operation / Status Display / Prot]
	Module input state: External Blocking of the Trip Command

9.4 Prot: Signals (Output States)

Prot . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Prot]
	Signal: active

Prot . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Prot]
	Signal: General Alarm

Prot . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Prot]
⇧	*Signal: General Trip*

Prot . **available**	[Operation / Status Display / Prot]
⇧	*Signal: Protection is available*

Prot . **ExBlo**	[Operation / Status Display / Prot]
⇧	*Signal: External Blocking*

Prot . **Blo TripCmd**	[Operation / Status Display / Prot]
⇧	*Signal: Trip Command blocked*

Prot . **ExBlo TripCmd**	[Operation / Status Display / Prot]
⇧	*Signal: External Blocking of the Trip Command*

Prot . **Alarm L1**	[Operation / Status Display / Prot]
⇧	*Signal: General-Alarm L1*

Prot . **Alarm L2**	[Operation / Status Display / Prot]
⇧	*Signal: General-Alarm L2*

Prot . **Alarm L3**	[Operation / Status Display / Prot]
⇧	*Signal: General-Alarm L3*

Prot . **Alarm G**	[Operation / Status Display / Prot]
⇧	*Signal: General-Alarm - Earth fault*

Prot . **Trip L1**	[Operation / Status Display / Prot]
⇧	*Signal: General Trip L1*

Prot . **Trip L2**	[Operation / Status Display / Prot]
⇧	*Signal: General Trip L2*

Prot . **Trip L3**	[Operation / Status Display / Prot]
⇧	*Signal: General Trip L3*

Prot . **Trip G**	[Operation / Status Display / Prot]
⇧	*Signal: General Trip Ground fault*

Prot . **Res FaultNo a GridFaultNo**	[Operation / Status Display / Prot]
⇧	*Signal: Resetting of fault number and grid fault number.*

Prot . **I dir fwd**	[Operation / Status Display / Prot]
⇧	*Signal: Phase current failure forward direction*

Prot . **I dir rev**	[Operation / Status Display / Prot]
⇧	*Signal: Phase current failure reverse direction*

Prot . **I dir n poss**	[Operation / Status Display / Prot]
⇧	*Signal: Phase fault - missing reference voltage*

Prot . **IG calc dir fwd**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (calculated) forward*

Prot . **IG calc dir rev**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (calculated) reverse direction*

Prot . **IG calc dir n poss**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (calculated) direction detection not possible*

Prot . **IG meas dir fwd**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (measured) forward*

Prot . **IG meas dir rev**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (measured) reverse direction*

Prot . **IG meas dir n poss**	[Operation / Status Display / Prot]
⇧	*Signal: Ground fault (measured) direction detection not possible*

Prot . **Remote available**	[Operation / Status Display / Prot]
	Signal: Protection of Remote Device is available

Prot . **FaultNo**	[Operation / Count and RevData / Prot]
	Fault number

Prot . **No. of Grid Fault**	[Operation / Count and RevData / Prot]
	Number of grid fault: A grid fault, e.g. a short circuit, might cause several faults with trip and autoreclosing; in this case, the fault number counts each fault, but the grid fault number remains the same.

9.5 Prot: Values

Prot . **Dir. I**	[Operation / Measured Values / Direction]
not possible	reverse, forward, not possible Direction.
	The detected direction of the phase current flow.

Prot . **Dir. IG meas.**	[Operation / Measured Values / Direction]
not possible	reverse, forward, not possible Direction.
	The detected direction of the current flow of the measured residual current.

Prot . **Dir. IG calc.**	[Operation / Measured Values / Direction]
not possible	reverse, forward, not possible Direction.
	The detected direction of the current flow of the calculated residual current.

9.6 Id

Differential Protection Module

9.6.1 Id: Device Planning Parameters

Id . **Mode**	[Device planning]	
use	"-", use ↳ Mode.	S.3
	general operation mode	

9.6.2 Id: Global Parameters

Id . **ExBlo1** Id . **ExBlo2**	[Protection Para / Global Prot Para / Diff-Prot / Id]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Id . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Diff-Prot / Id]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.6.3 Id: Setting Group Parameters

Id . **Function**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
active	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Id . **ExBlo Fc**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Id . **Blo TripCmd**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Id . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

Id . **Id min**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
0.2Ib	0.05Ib . . . 1.00Ib	P.2
	Constant minimum pickup current (differential current). Pickup value of the differential current based on the rated current Ib of the protection object.	

Id . **Id(Is0)**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
0.0Ib	0.0Ib . . . 1.00Ib	P.2
	Starting point of the static tripping characteristic at Is0	

Id . **Id(Is1)**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
0.6Ib	0.2Ib . . . 2.00Ib	P.2
	Breaking point of the static tripping characteristic at Is1	

Id . **Id(Is2)**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
6.2Ib	1.0Ib . . . 8.0Ib	P.2
	Value of the static tripping characteristic at Is2	

Id . **Is1**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
2.0Ib	0.5Ib ... 4.0Ib	P.2
	Breaking point of the static tripping characteristic when Is1	

Id . **Is2**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
10.0Ib	5.0Ib ... 10.0Ib	P.2
	Value of the static tripping characteristic at Is2	

Id . **Char Reset%**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
95%	90% ... 98%	P.2
	Drop Out (in percent of the setting). Settable Drop Out works only on the gradients. Id min uses a fix Drop Out.	

Id . **d(H,m)**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
8Ib	0.0Ib ... 30.0Ib	P.2
	Restraining factor for rising the static tripping characteristic in case of stationary or transient harmonic components, which are ascertained by Fourier analysis (H) or transients monitor (m).	

Id . **t**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
0.00s	0.000s ... 300.000s	P.2
	Tripping delay	

Id . **Stab H2**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
inactive	inactive, active ⮡ Mode.	P.2
	Restraining of differential protection function against stationary or transient components of the 2nd harmonic at the phase current (e.g. rush-effect).	

Id . **H2 Sta**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
25%	10% ... 60%	P.2
	Threshold (2nd harmonic - basic wave ratio) for restraining the differential protection function against stationary 2nd harmonic.	

Id . **H2 Tra**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
10%	10% ... 60%	P.2
	Threshold (2nd harmonic - basic wave ratio) for temporary stabilisation of the differential protection function against transient 2nd harmonic.	

Id . **Stab H4**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active Mode.	P.2
	Restraining of differential protection function against stationary components of the 4th harmonic at the phase current.	

Id . **H4 Sta**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
20%	10% . . . 60%	P.2
	Threshold (4th harmonic - basic wave ratio) for restraining the differential protection function against stationary 4th harmonic.	

Id . **Stab H5**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active Mode.	P.2
	Stabilisation of differential protection function against stationary or transient components of the 5th harmonic at the phase current (e.g. transformer overexcitation).	

Id . **H5 Sta**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
30%	10% . . . 60%	P.2
	Threshold (5thd harmonic - basic wave ratio) for stabilising the differential protection function against stationary 5th harmonic.	

Id . **H5 Tra**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
15%	10% . . . 60%	P.2
	Threshold (5th harmonic - basic wave ratio) for temporary restraining of the differential protection function against transient 5th harmonic.	

Id . **t-Trans**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
2s	0.05s . . . 100.00s	P.2
	Time of temporary stabilisation of the differential protection function when thresholds for „H2 Tra“ and „H5 Tra“ (transient harmonic) are exceeded.	

Id . **Crossbl**	[Protection Para / Set 1…4 / Diff-Prot / Id]	
inactive	inactive, active Mode.	P.2
	Active = Phase overlapping stabilisation of the differential protection function. Inactive = Phase selective stabilisation of the differential protection function.	

Id . **CT Satur. Stab.**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
inactive	inactive, active └─▷ Mode.	P.2
	Enable (or disable) temporary restraining of the differential protection triggered by the detection of an external fault in case of CT saturation.	

Id . **CT Sat. Stab. tBlock**	[Protection Para / Set 1...4 / Diff-Prot / Id]	
0.30s	0.01s . . . 10.00s	P.2
	Maximum stabilization duration time for temporary restraining via CT saturation stabilization. The setting value should be (among other dependencies) coordinated with the maximum fault clearing time for an external fault.	

9.6.4 Id: Input States

Id . **ExBlo1-I**	[Operation / Status Display / Diff-Prot / Id]
	Module input state: External blocking1

Id . **ExBlo2-I**	[Operation / Status Display / Diff-Prot / Id]
	Module input state: External blocking2

Id . **ExBlo TripCmd-I**	[Operation / Status Display / Diff-Prot / Id]
	Module input state: External Blocking of the Trip Command

9.6.5 Id: Signals (Output States)

Id . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Diff-Prot / Id]
	Signal: active

Id . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Diff-Prot / Id]
	Signal: Alarm

Id . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip*

Id . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip Command*

Id . **ExBlo**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: External Blocking*

Id . **Blo TripCmd**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip Command blocked*

Id . **ExBlo TripCmd**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: External Blocking of the Trip Command*

Id . **Alarm L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Alarm System Phase L1*

Id . **Alarm L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Alarm System Phase L2*

Id . **Alarm L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Alarm System L3*

Id . **Trip L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip System Phase L1*

Id . **Trip L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip System Phase L2*

Id . **Trip L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Trip System Phase L3*

Id . **Blo H2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Blocked by Harmonic:2*

Id . **Blo H4**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Blocked by Harmonic:4*

Id . **Blo H5**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Blocked by Harmonic:5*

Id . **H2,H4,H5 Blo**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Blocked by Harmonics (Inhibit)*

Id . **CT Satur.Stab. triggered**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Temporary restraining of the Phase Differential Protection, triggered by the detection of an external fault in case of CT saturation.*

Id . **Transient**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Temporary stabilization of the differential protection afterwards the transformer is being engergized.*

Id . **Restraining**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Restraining of the differential protection by means of rising the tripping curve.*

Id . **CT Satur.Stab. L1 trig.**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Temporary restraining of the Phase Differential Protection in phase L1, triggered by the detection of an external phase L1 fault in case of CT saturation.*

Id . **CT Satur.Stab. L2 trig.**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Temporary restraining of the Phase Differential Protection in phase L2, triggered by the detection of an external phase L2 fault in case of CT saturation.*

Id . **CT Satur.Stab. L3 trig.**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal: Temporary restraining of the Phase Differential Protection in phase L3, triggered by the detection of an external phase L3 fault in case of CT saturation.*

Id . **Restraining: L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Restraining: L1*

Id . **Restraining: L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Restraining: L2*

Id . **Restraining: L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Restraining: L3*

Id . **IH2 Blo L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L1: Blocking of the Phase Differential Protection because of second Harmonic.*

Id . **IH2 Blo L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L2: Blocking of the Phase Differential Protection because of second Harmonic.*

Id . **IH2 Blo L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L3: Blocking of the Phase Differential Protection because of second Harmonic.*

Id . **IH4 Blo L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L1: Blocking of the Phase Differential Protection because of fourth Harmonic.*

Id . **IH4 Blo L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L2: Blocking of the Phase Differential Protection because of fourth Harmonic.*

Id . **IH4 Blo L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L3: Blocking of the Phase Differential Protection because of fourth Harmonic.*

Id . **IH5 Blo L1**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L1: Blocking of the Phase Differential Protection because of fifth Harmonic.*

Id . **IH5 Blo L2**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L2: Blocking of the Phase Differential Protection because of fifth Harmonic.*

Id . **IH5 Blo L3**	[Operation / Status Display / Diff-Prot / Id]
⇧	*Signal:Phase L3: Blocking of the Phase Differential Protection because of fifth Harmonic.*

9.6.6 Id: Values

Id . **Id L1 H2**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L1 Harmonic:2*

Id . **Id L2 H2**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L2 Harmonic:2*

Id . **Id L3 H2**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L3 Harmonic:2*

Id . **Id L1 H4**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L1 Harmonic:4*

Id . **Id L2 H4**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L2 Harmonic:4*

Id . **Id L3 H4**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L3 Harmonic:4*

Id . **Id L1 H5**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L1 Harmonic:5*

Id . **Id L2 H5**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L2 Harmonic:5*

Id . **Id L3 H5**	[Operation / Measured Values / Id]
✎	*Measured value (calculated): Differential Current Phase L3 Harmonic:5*

9.6.7 Id: Statistical Values

Id . **Id L1H2max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L1H2*

Id . **Id L2H2max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L2H2*

Id . **Id L3H2max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L3H2*

Id . **Id L1H4max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L1H4*

Id . **Id L2H4max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L2H4*

Id . **Id L3H4max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L3H4*

Id . **Id L1H5max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L1H5*

Id . **Id L2H5max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L2H5*

Id . **Id L3H5max**	[Operation / Statistics / Max / Id]
☑	*Maximum Value Id L3H5*

9.7 IdH

High-Set Differential Protection Module

9.7.1 IdH: Device Planning Parameters

IdH . **Mode**	[Device planning]	
use	“-”, use ⮡ Mode.	S.3
	general operation mode	

9.7.2 IdH: Global Parameters

IdH . **ExBlo1** IdH . **ExBlo2**	[Protection Para / Global Prot Para / Diff-Prot / IdH]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IdH . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Diff-Prot / IdH]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.7.3 IdH: Setting Group Parameters

IdH . **Function**	[Protection Para / Set 1...4 / Diff-Prot / IdH]	
active	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

IdH . **ExBlo Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdH]	
inactive	inactive, active └─▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

IdH . **Blo TripCmd**	[Protection Para / Set 1…4 / Diff-Prot / IdH]	
inactive	inactive, active └─▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

IdH . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdH]	
inactive	inactive, active └─▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

IdH . **Id>>**	[Protection Para / Set 1…4 / Diff-Prot / IdH]	
10.0Ib	0.5Ib . . . 30.0Ib	P.2
	Highset Differential Current Protection/Unstabilized high-phase fault: Pickup value of the differential current based on the rated current Ib of the protection object.	

9.7.4 IdH: Input States

IdH . **ExBlo1-I**	[Operation / Status Display / Diff-Prot / IdH]
	Module input state: External blocking1

IdH . **ExBlo2-I**	[Operation / Status Display / Diff-Prot / IdH]
	Module input state: External blocking2

IdH . **ExBlo TripCmd-I**	[Operation / Status Display / Diff-Prot / IdH]
	Module input state: External Blocking of the Trip Command

9.7.5 IdH: Signals (Output States)

IdH . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Diff-Prot / IdH]
	Signal: active

IdH . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Diff-Prot / IdH]
	Signal: Alarm

IdH . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Diff-Prot / IdH]
	Signal: Trip

IdH . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Diff-Prot / IdH]
	Signal: Trip Command

IdH . **ExBlo**	[Operation / Status Display / Diff-Prot / IdH]
	Signal: External Blocking

IdH . **Blo TripCmd**	[Operation / Status Display / Diff-Prot / IdH]
	Signal: Trip Command blocked

IdH . **ExBlo TripCmd**	[Operation / Status Display / Diff-Prot / IdH]
	Signal: External Blocking of the Trip Command

IdH . **Alarm L1**	[Operation / Status Display / Diff-Prot / IdH]
	Signal: Alarm System Phase L1

IdH . **Alarm L2**	[Operation / Status Display / Diff-Prot / IdH]
	Signal: Alarm System Phase L2

IdH . **Alarm L3**	[Operation / Status Display / Diff-Prot / IdH]
⇧	*Signal: Alarm System L3*

IdH . **Trip L1**	[Operation / Status Display / Diff-Prot / IdH]
⇧	*Signal: Trip System Phase L1*

IdH . **Trip L2**	[Operation / Status Display / Diff-Prot / IdH]
⇧	*Signal: Trip System Phase L2*

IdH . **Trip L3**	[Operation / Status Display / Diff-Prot / IdH]
⇧	*Signal: Trip System Phase L3*

9.8 IdG

Restricted Ground Fault Differential Protection Module Local Device

9.8.1 IdG: Device Planning Parameters

IdG . **Mode**	[Device planning]	
"-"	"-", use ⮑ Mode.	S.3
	general operation mode	

9.8.2 IdG: Global Parameters

IdG . **ExBlo1** IdG . **ExBlo2**	[Protection Para / Global Prot Para / Diff-Prot / IdG]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IdG . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Diff-Prot / IdG]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.8.3 IdG: Setting Group Parameters

IdG . **Function**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
inactive	inactive, active ⮑ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

IdG . **ExBlo Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

IdG . **Blo TripCmd**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

IdG . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

IdG . **IdG min**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
0.05Ib	0.05Ib ... 1.00Ib	P.2
	Constant minimum pickup current (earth differential current). Pickup value of the differential current based on the rated current Ib of the related protection object.	

IdG . **IdG(Is0)**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
0.1Ib	0.00Ib ... 1.00Ib	P.2
	Starting point of the static tripping characteristic at Is0	

IdG . **IdG(Is1)**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
0.2Ib	0.2Ib ... 2.00Ib	P.2
	Breaking point of the static tripping characteristic at Is1	

IdG . **IdG(Is2)**	[Protection Para / Set 1…4 / Diff-Prot / IdG]	
2.0Ib	1.0Ib ... 8.0Ib	P.2
	Value of the static tripping characteristic at Is2	

IdG . **Is1**	[Protection Para / Set 1...4 / Diff-Prot / IdG]	
2.0Ib	0.5Ib ... 5.0Ib	P.2
	Breaking point of the static tripping characteristic when Is1	

IdG . **Is2**	[Protection Para / Set 1...4 / Diff-Prot / IdG]	
10.0Ib	5.0Ib ... 10.0Ib	P.2
	Value of the static tripping characteristic at Is2	

9.8.4 IdG: Input States

IdG . **ExBlo1-I**	[Operation / Status Display / Diff-Prot / IdG]
	Module input state: External blocking1

IdG . **ExBlo2-I**	[Operation / Status Display / Diff-Prot / IdG]
	Module input state: External blocking2

IdG . **ExBlo TripCmd-I**	[Operation / Status Display / Diff-Prot / IdG]
	Module input state: External Blocking of the Trip Command

9.8.5 IdG: Signals (Output States)

IdG . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Diff-Prot / IdG]
	Signal: active

IdG . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Diff-Prot / IdG]
	Signal: Alarm

IdG . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Diff-Prot / IdG]
	Signal: Trip

IdG . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Diff-Prot / IdG]
⇫	*Signal: Trip Command*

IdG . **ExBlo**	[Operation / Status Display / Diff-Prot / IdG]
⇫	*Signal: External Blocking*

IdG . **Blo TripCmd**	[Operation / Status Display / Diff-Prot / IdG]
⇫	*Signal: Trip Command blocked*

IdG . **ExBlo TripCmd**	[Operation / Status Display / Diff-Prot / IdG]
⇫	*Signal: External Blocking of the Trip Command*

9.9 IdGH

Restricted Ground Fault Highset Protection Module

9.9.1 IdGH: Device Planning Parameters

IdGH . **Mode**	[Device planning]	
"-"	"-", use ↳ Mode.	S.3
	general operation mode	

9.9.2 IdGH: Global Parameters

IdGH . **ExBlo1** IdGH . **ExBlo2**	[Protection Para / Global Prot Para / Diff-Prot / IdGH]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IdGH . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Diff-Prot / IdGH]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.9.3 IdGH: Setting Group Parameters

IdGH . **Function**	[Protection Para / Set 1...4 / Diff-Prot / IdGH]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

IdGH . **ExBlo Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdGH]	
inactive	inactive, active └→ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

IdGH . **Blo TripCmd**	[Protection Para / Set 1…4 / Diff-Prot / IdGH]	
inactive	inactive, active └→ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

IdGH . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Diff-Prot / IdGH]	
inactive	inactive, active └→ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

IdGH . **IdG>>**	[Protection Para / Set 1…4 / Diff-Prot / IdGH]	
2.00Ib	0.50Ib . . . 20.00Ib	P.2
	Highset Ground Differential Current Protection/Unstabilized high-phase restricted earth fault: Pickup value of the earth differential current based on the rated current Ib of the related protection object.	

9.9.4 IdGH: Input States

IdGH . **ExBlo1-I**	[Operation / Status Display / Diff-Prot / IdGH]
	Module input state: External blocking1

IdGH . **ExBlo2-I**	[Operation / Status Display / Diff-Prot / IdGH]
	Module input state: External blocking2

IdGH . **ExBlo TripCmd-I**	[Operation / Status Display / Diff-Prot / IdGH]
⇩	*Module input state: External Blocking of the Trip Command*

9.9.5 IdGH: Signals (Output States)

IdGH . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: active*

IdGH . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: Alarm*

IdGH . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: Trip*

IdGH . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: Trip Command*

IdGH . **ExBlo**	[Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: External Blocking*

IdGH . **Blo TripCmd**	[Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: Trip Command blocked*

IdGH . **ExBlo TripCmd**	[Operation / Status Display / Diff-Prot / IdGH]
⇧	*Signal: External Blocking of the Trip Command*

9.10 IH2

Module Inrush

9.10.1 IH2: Device Planning Parameters

IH2 . **Mode**	[Device planning]	
“-”	“-”, use └═▷ Device planning.	S.3
	Module Inrush, general operation mode	

9.10.2 IH2: Global Parameters

IH2 . **ExBlo1** IH2 . **ExBlo2**	[Protection Para / Global Prot Para / I-Prot / IH2]	
“-”	“-” . . . Sys . Internal test state └═▷ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.10.3 IH2: Setting Group Parameters

IH2 . **Function**	[Protection Para / Set 1…4 / I-Prot / IH2]	
inactive	inactive, active └═▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

IH2 . **ExBlo Fc**	[Protection Para / Set 1…4 / I-Prot / IH2]	
inactive	inactive, active └═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

IH2 . **IH2 / IH1**	[Protection Para / Set 1…4 / I-Prot / IH2]	
15%	10% . . . 40%	P.2
	Maximum permissible percentage of the 2nd harmonic of the 1st harmonic.	

IH2 . **block mode**	[Protection Para / Set 1…4 / I-Prot / IH2]	
1-ph Blo	1-ph Blo, 3-ph Blo ╚═▷ block mode.	P.2
	1-ph Blo: If an inrush is detected in one phase, the corresponding phase of those modules will be blocked, where inrush blocking is set to active./3-ph Blo: If an inrush is detected in at least one phase, all three phases of those modules where inrush blocking is set to active will be blocked (cross blocking).	

9.10.4 IH2: Input States

IH2 . **ExBlo1-I**	[Operation / Status Display / I-Prot / IH2]
	Module input state: External blocking1

IH2 . **ExBlo2-I**	[Operation / Status Display / I-Prot / IH2]
	Module input state: External blocking2

9.10.5 IH2: Signals (Output States)

IH2 . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / I-Prot / IH2]
	Signal: active

IH2 . **ExBlo**	[Operation / Status Display / I-Prot / IH2]
	Signal: External Blocking

IH2 . **Blo L1**	[Operation / Status Display / I-Prot / IH2]
	Signal: Blocked L1

IH2 . **Blo L2**	[Operation / Status Display / I-Prot / IH2]
	Signal: Blocked L2

IH2 . **Blo L3**	[Operation / Status Display / I-Prot / IH2]
⇫	*Signal: Blocked L3*

IH2 . **Blo IG meas**	[Operation / Status Display / I-Prot / IH2]
⇫	*Signal: Blocking of the ground (earth) protection module (measured ground current)*

IH2 . **Blo IG calc**	[Operation / Status Display / I-Prot / IH2]
⇫	*Signal: Blocking of the ground (earth) protection module (calculated ground current)*

IH2 . **3-ph Blo**	[Operation / Status Display / I-Prot / IH2]
⇫	*Signal: Inrush was detected in at least one phase - trip command blocked.*

9.11 I[1] . . . I[6]

Phase Overcurrent Stage

9.11.1 I[1]: Device Planning Parameters

I[1] . **Mode**	[Device planning]	
non directional	"-", non directional, forward, reverse ⮡ I>.	S.3
	Phase Overcurrent Stage, general operation mode	

9.11.2 I[1]: Global Parameters

I[1] . **ExBlo1** I[1] . **ExBlo2**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

I[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

I[1] . **Ex rev Interl**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module by external reverse interlocking, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

I[1] . **AdaptSet 1**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Logics . LE80.Out inverted ⮡ AdaptSet.	P.2
	Assignment Adaptive Parameter 1	

I[1] . **AdaptSet 2**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Logics . LE80.Out inverted ⮡ AdaptSet.	P.2
	Assignment Adaptive Parameter 2	

I[1] . **AdaptSet 3**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Logics . LE80.Out inverted ⮡ AdaptSet.	P.2
	Assignment Adaptive Parameter 3	

I[1] . **AdaptSet 4**	[Protection Para / Global Prot Para / I-Prot / I[1]]	
"-"	"-" . . . Logics . LE80.Out inverted ⮡ AdaptSet.	P.2
	Assignment Adaptive Parameter 4	

9.11.3 I[1]: Setting Group Parameters

I[1] . **Function**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
active	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

I[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

I[1] . **Ex rev Interl Fc**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "Ex rev Interl Fc = active".	

I[1] . **Blo TripCmd**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

I[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

I[1] . **Measuring method**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
Fundamental	Fundamental, True RMS, I2 ╚═▷ Measuring method.	P.2
	Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)	

I[1] . **I>**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
1.00In Adapt. Param.	If: I[1] . VRestraint = active • 0.10In ... 40.00In If: I[1] . VRestraint = inactive • 0.02In ... 40.00In	P.2
	If the pickup value is exceeded, the module/element starts to time out to trip.	

I[1] . **Char**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
DEFT ⟴ Adapt. Param.	DEFT . . . I4T ⮡ Char.	P.2
Characteristic		

I[1] . **t**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
1.00s ⟴ Adapt. Param.	0.00s . . . 300.00s	P.2
Tripping delay		

I[1] . **tchar**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
1 ⟴ Adapt. Param.	0.02 . . . 20.00	P.2
Time multiplier/tripping characteristic factor. The setting range depends on the selected tripping curve.		

I[1] . **Reset Mode**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
instantaneous ⟴ Adapt. Param.	instantaneous, delayed, calculated ⮡ Reset Mode.	P.2
Reset Mode		

I[1] . **t-reset delay**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
0s *Only available if:* • I[1] . Reset Mode = delayed ⟴ Adapt. Param.	0.00s . . . 60.00s	P.2
Reset delay for intermittent phase failures (INV characteristics only)		

I[1] . **IH2 Blo**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
Sys . inactive ⟴ Adapt. Param.	Sys . inactive, IH2 . active ⮡ IH2 Blo.	P.2
Blocking the trip command, if an inrush is detected.		

I[1] . **nondir Trip at V=0**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
inactive Adapt. Param.	inactive, active └⊳ active/inactive.	P.2
	Only relevant for current protection modules/stages with directional feature! The device will trip non directional if this parameter is set to active and no direction could be determined because no reference voltage (V=0) could be measured any more (e.g. if there is a three-phase short circuit close to the device). If this parameter is set to inactive, the protection stage will be blocked in case of V=0.	

I[1] . **VRestraint**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
inactive Adapt. Param.	inactive, active └⊳ Mode.	P.2
	Voltage Restraint Protection	

I[1] . **Measuring Mode**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
Phase to Ground *Only available if:* • I[1] . VRestraint = active Adapt. Param.	Phase to Ground, Phase to Phase └⊳ Measuring Mode.	P.2
	Measuring Mode	

I[1] . **VRestraint max**	[Protection Para / Set 1…4 / I-Prot / I[1]]	
1.00Vn *Only available if:* • I[1] . VRestraint = active Adapt. Param.	0.04Vn . . . 2.00Vn	P.2
	Maximum voltage restraint level. Definition of Vn: Vn is dependent on the System Parameter setting of "VT con". When the System Parameters "VT con" is set to "phase-to-phase" , "Vn = VT sec ". When the System Parameters "VT con" is set to "phase-to-ground", "Vn = VT sec/ SQRT(3)".	

I[1] . **Meas Circuit Superv**	[Protection Para / Set 1...4 / I-Prot / I[1]]	
Sys . inactive *Only available if:* • I[1] . VRestraint = active Adapt. Param.	Sys . inactive, LOP . active VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

9.11.4 I[1]: Input States

I[1] . **ExBlo1-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: External blocking1

I[1] . **ExBlo2-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: External blocking2

I[1] . **ExBlo TripCmd-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: External Blocking of the Trip Command

I[1] . **Ex rev Interl-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: External reverse interlocking

I[1] . **AdaptSet1-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: Adaptive Parameter1

I[1] . **AdaptSet2-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: Adaptive Parameter2

I[1] . **AdaptSet3-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: Adaptive Parameter3

I[1] . **AdaptSet4-I**	[Operation / Status Display / I-Prot / I[1]]
	Module input state: Adaptive Parameter4

9.11.5 I[1]: Signals (Output States)

I[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / I-Prot / I[1]]
Signal: active	

I[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / I-Prot / I[1]]
Signal: Alarm	

I[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / I-Prot / I[1]]
Signal: Trip	

I[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / I-Prot / I[1]]
Signal: Trip Command	

I[1] . **ExBlo**	[Operation / Status Display / I-Prot / I[1]]
Signal: External Blocking	

I[1] . **Ex rev Interl**	[Operation / Status Display / I-Prot / I[1]]
Signal: External reverse Interlocking	

I[1] . **Blo TripCmd**	[Operation / Status Display / I-Prot / I[1]]
Signal: Trip Command blocked	

I[1] . **ExBlo TripCmd**	[Operation / Status Display / I-Prot / I[1]]
Signal: External Blocking of the Trip Command	

I[1] . **IH2 Blo**	[Operation / Status Display / I-Prot / I[1]]
Signal: Blocking the trip command by an inrush	

I[1] . **Alarm L1**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Alarm L1*

I[1] . **Alarm L2**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Alarm L2*

I[1] . **Alarm L3**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Alarm L3*

I[1] . **Trip L1**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: General Trip Phase L1*

I[1] . **Trip L2**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: General Trip Phase L2*

I[1] . **Trip L3**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: General Trip Phase L3*

I[1] . **DefaultSet**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Default Parameter Set*

I[1] . **AdaptSet 1**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Adaptive Parameter 1*

I[1] . **AdaptSet 2**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Adaptive Parameter 2*

I[1] . **AdaptSet 3**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Adaptive Parameter 3*

I[1] . **AdaptSet 4**	[Operation / Status Display / I-Prot / I[1]]
⇧	*Signal: Adaptive Parameter 4*

9.12 IG[1] . . . IG[4]

Earth current protection - Stage

9.12.1 IG[1]: Device Planning Parameters

IG[1] . **Mode**	[Device planning]	
“-”	“-”, non directional, forward, reverse ⮡ Earth overcurrent.	S.3
	Earth current protection - Stage, general operation mode	

IG[1] . **Superv. only**	[Device planning]	
no	no, yes ⮡ yes/no.	S.3
	Earth current protection - Stage, if set to “Yes”: Restriction of the function to a supervision functionality, i.e. there is no general alarm, no general trip and no trip command.	

9.12.2 IG[1]: Global Parameters

IG[1] . **ExBlo1** IG[1] . **ExBlo2**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IG[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
“-” *Only available if:* • IG[1] . Superv. only = no	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IG[1] . **Ex rev Interl**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
"-"	"-" ... Sys . Internal test state └▷ 1..n, Assignment List.	P.2
	External blocking of the module by external reverse interlocking, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

IG[1] . **AdaptSet 1**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
"-"	"-" ... Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 1	

IG[1] . **AdaptSet 2**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
"-"	"-" ... Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 2	

IG[1] . **AdaptSet 3**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
"-"	"-" ... Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 3	

IG[1] . **AdaptSet 4**	[Protection Para / Global Prot Para / I-Prot / IG[1]]	
"-"	"-" ... Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 4	

9.12.3 IG[1]: Setting Group Parameters

IG[1] . **Function**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

IG[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

IG[1] . **Ex rev Interl Fc**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "Ex rev Interl Fc = active".	

IG[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive *Only available if:* • IG[1] . Superv. only = no	inactive, active ↳ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

IG[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive *Only available if:* • IG[1] . Superv. only = no	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

IG[1] . **IG Source**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
CT Local . calculated	CT Local . sensitive measurement, CT Local . measured, CT Local . calculated ↳ Measuring Channel.	P.2
	Selection if measured or calculated ground current should be used.	

IG[1] . **Measuring method**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
Fundamental	Fundamental, True RMS ⮡ Measuring method.	P.2
	Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)	

IG[1] . **VX Source**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
measured	measured, calculated ⮡ VX Source.	P.2
	Selection if VG is measured or calculated (neutral voltage or residual voltage)	

IG[1] . **Meas Circuit Superv**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
Sys . inactive *Only available if:* • IG[1] . VX Source = calculated	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

IG[1] . **IG>**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
0.02In Adapt. Param.	0.02In ... 20.00In	P.2
	If the pickup value is exceeded, the module/stage will be started.	

IG[1] . **IGs>**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
0.02In Adapt. Param.	0.002In ... 2.000In	P.2
	If the pickup value is exceeded, the module/stage will be started.	

IG[1] . **Char**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
DEFT Adapt. Param.	DEFT ... RXIDG ⮡ Char.	P.2
	Characteristic	

IG[1] . **t**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
0.00s Adapt. Param.	0.00s ... 300.00s	P.2
Tripping delay		

IG[1] . **tchar**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
1 Adapt. Param.	0.02 ... 20.00	P.2
Time multiplier/tripping characteristic factor. The setting range depends on the selected tripping curve.		

IG[1] . **Reset Mode**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
instantaneous Adapt. Param.	instantaneous, delayed, calculated Reset Mode.	P.2
Reset Mode		

IG[1] . **t-reset delay**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
0.00s *Only available if:* • IG[1] . Reset Mode = delayed Adapt. Param.	0.00s ... 60.00s	P.2
Reset delay for intermittent phase failures (INV characteristics only)		

IG[1] . **IH2 Blo**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
Sys . inactive Adapt. Param.	Sys . inactive, IH2 . active IH2 Blo.	P.2
Blocking the trip command, if an inrush is detected.		

IG[1] . **Dir n poss->Nondir Trip**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive Adapt. Param.	inactive, active active/inactive.	P.2
	Only relevant for current protection elements with directional feature! The device will trip non directional if this parameter is set to active and no direction could be determined. Direction detection is impossible e.g. if the required quantities for the direction detection cannot be measured or validated. Direction detection is also impossible if the frequency deviates significantly from the nominal frequency. Caution: If this parameter is set to inactive, the protective element will trip only if the direction can be detected.	

IG[1] . **VX Blo**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
inactive Adapt. Param.	inactive, active active/inactive.	P.2
	VX Blo = active means that the IG-stage will only excite if a residual voltage higher than the pickup value is measured at the same time. VX Blo = inactive means that the excitation of the IG stage does not depend on any residual voltage stage.	

IG[1] . **VG>**	[Protection Para / Set 1...4 / I-Prot / IG[1]]	
1.00Vn Adapt. Param.	0.01Vn ... 2.00Vn	P.2
	If the pickup value is exceeded, the module/stage will be started.	

9.12.4 IG[1]: Input States

IG[1] . **ExBlo1-I**	[Operation / Status Display / I-Prot / IG[1]]
	Module input state: External blocking1

IG[1] . **ExBlo2-I**	[Operation / Status Display / I-Prot / IG[1]]
	Module input state: External blocking2

IG[1] . **ExBlo TripCmd-I**	[Operation / Status Display / I-Prot / IG[1]]
	Only available if: • IG[1] . Superv. only = no *Module input state: External Blocking of the Trip Command*

IG[1] . **Ex rev Interl-I**	[Operation / Status Display / I-Prot / IG[1]]
⇩	*Module input state: External reverse interlocking*

IG[1] . **AdaptSet1-I**	[Operation / Status Display / I-Prot / IG[1]]
⇩	*Module input state: Adaptive Parameter1*

IG[1] . **AdaptSet2-I**	[Operation / Status Display / I-Prot / IG[1]]
⇩	*Module input state: Adaptive Parameter2*

IG[1] . **AdaptSet3-I**	[Operation / Status Display / I-Prot / IG[1]]
⇩	*Module input state: Adaptive Parameter3*

IG[1] . **AdaptSet4-I**	[Operation / Status Display / I-Prot / IG[1]]
⇩	*Module input state: Adaptive Parameter4*

9.12.5 IG[1]: Signals (Output States)

IG[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / I-Prot / IG[1]]
⇧	*Signal: active*

IG[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / I-Prot / IG[1]]
⇧	*Signal: Alarm IG*

IG[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / I-Prot / IG[1]]
⇧	*Signal: Trip*

IG[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / I-Prot / IG[1]]
⇮	*Only available if:* • IG[1] . Superv. only = no *Signal: Trip Command*

IG[1] . **ExBlo**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: External Blocking*

IG[1] . **Ex rev Interl**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: External reverse Interlocking*

IG[1] . **Blo TripCmd**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Only available if:* • IG[1] . Superv. only = no *Signal: Trip Command blocked*

IG[1] . **ExBlo TripCmd**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Only available if:* • IG[1] . Superv. only = no *Signal: External Blocking of the Trip Command*

IG[1] . **IGH2 Blo**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: blocked by an inrush*

IG[1] . **DefaultSet**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: Default Parameter Set*

IG[1] . **AdaptSet 1**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: Adaptive Parameter 1*

IG[1] . **AdaptSet 2**	[Operation / Status Display / I-Prot / IG[1]]
⇮	*Signal: Adaptive Parameter 2*

IG[1] . **AdaptSet 3**	[Operation / Status Display / I-Prot / IG[1]]
⇪	*Signal: Adaptive Parameter 3*

IG[1] . **AdaptSet 4**	[Operation / Status Display / I-Prot / IG[1]]
⇪	*Signal: Adaptive Parameter 4*

9.13 ThR

Thermal replica module

9.13.1 ThR: Device Planning Parameters

ThR . **Mode**	[Device planning]	
"-"	"-", use ⮡ Device planning.	S.3
	Thermal replica module, general operation mode	

9.13.2 ThR: Global Parameters

ThR . **ExBlo1** ThR . **ExBlo2**	[Protection Para / Global Prot Para / I-Prot / ThR]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

ThR . **ExBlo TripCmd**	[Protection Para / Global Prot Para / I-Prot / ThR]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.13.3 ThR: Setting Group Parameters

ThR . **Function**	[Protection Para / Set 1…4 / I-Prot / ThR]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

ThR . **ExBlo Fc**	[Protection Para / Set 1...4 / I-Prot / ThR]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

ThR . **Blo TripCmd**	[Protection Para / Set 1...4 / I-Prot / ThR]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

ThR . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / I-Prot / ThR]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

ThR . **Ib**	[Protection Para / Set 1...4 / I-Prot / ThR]	
1.00In	0.01In . . . 4.00In	P.2
	Base current: Maximum permissible thermal continuous current.	

ThR . **K**	[Protection Para / Set 1...4 / I-Prot / ThR]	
1.00	0.80 . . . 1.50	P.2
	*Overload Factor: The maximum thermal limit is defined as k*IB, the product of the overload factor and the base current.*	

ThR . **Alarm Theta**	[Protection Para / Set 1...4 / I-Prot / ThR]	
80%	50% . . . 100%	P.2
	Pickup value	

ThR . **τ-warm**	[Protection Para / Set 1...4 / I-Prot / ThR]	
10s	1s . . . 60000s	P.2
	Warming-up time constant	

ThR . **τ-cool**	[Protection Para / Set 1…4 / I-Prot / ThR]	
10s	1s . . . 60000s	P.2
	Cooling time constant	

9.13.4 ThR: Direct Controls

ThR . **Reset**	[Operation / Reset]	
inactive	inactive, active └─▷ Mode.	P.1
	Reset the Thermal Replica	

9.13.5 ThR: Input States

ThR . **ExBlo1-I**	[Operation / Status Display / I-Prot / ThR]
	Module input state: External blocking1

ThR . **ExBlo2-I**	[Operation / Status Display / I-Prot / ThR]
	Module input state: External blocking2

ThR . **ExBlo TripCmd-I**	[Operation / Status Display / I-Prot / ThR]
	Module input state: External Blocking of the Trip Command

9.13.6 ThR: Signals (Output States)

ThR . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / I-Prot / ThR]
	Signal: active

ThR . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / I-Prot / ThR]
	Signal: Alarm Thermal Overload

ThR . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / I-Prot / ThR]
⇧	*Signal: Trip*

ThR . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / I-Prot / ThR]
⇧	*Signal: Trip Command*

ThR . **ExBlo**	[Operation / Status Display / I-Prot / ThR]
⇧	*Signal: External Blocking*

ThR . **Blo TripCmd**	[Operation / Status Display / I-Prot / ThR]
⇧	*Signal: Trip Command blocked*

ThR . **ExBlo TripCmd**	[Operation / Status Display / I-Prot / ThR]
⇧	*Signal: External Blocking of the Trip Command*

ThR . **Res Thermal Cap**	[Operation / Status Display / I-Prot / ThR]
⇧	*Signal: Resetting Thermal Replica*

9.13.7 ThR: Values

ThR . **Thermal Cap Used**	[Operation / Measured Values / ThR]
✎	*Measured value: Thermal Capacity Used*

ThR . **Time To Trip**	[Operation / Measured Values / ThR]
✎	*Measured value (calculated/measured): Remaining time until the thermal overload module will trip*

9.13.8 ThR: Statistical Values

ThR . **Thermal Cap max**	[Operation / Statistics / Max / ThR]
☑	*Thermal Capacity maximum value*

9.14 I2>[1] . . . I2>[2]

Unbalanced Load-Stage

9.14.1 I2>[1]: Device Planning Parameters

I2>[1] . **Mode**	[Device planning]	
"-"	"-", use ⮡ Device planning.	S.3
	Unbalanced Load-Stage, general operation mode	

9.14.2 I2>[1]: Global Parameters

I2>[1] . **ExBlo1** I2>[1] . **ExBlo2**	[Protection Para / Global Prot Para / I-Prot / I2>[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

I2>[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / I-Prot / I2>[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

I2>[1] . **CurrentBase**	[Protection Para / Global Prot Para / I-Prot / I2>[1]]	
Device Rating	Device Rating, Protected Object Rating ⮡ CurrentBase.	P.2
	Base Current Selection (based on Device Rating (1A/5A)/Protected Object Rating).	

9.14.3 I2>[1]: Setting Group Parameters

I2>[1] . **Function**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

I2>[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

I2>[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

I2>[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

I2>[1] . **I2>**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
0.01In *Only available if:* • I2>[1] . CurrentBase = Device Rating	0.01In ... 4.00In	P.2
	The Threshold setting defines a minimum operating current magnitude of I2 for the 46 function to operate, which ensures that the relay has a solid basis for initiating a current unbalance trip. This is a supervisory function and not a trip level.	

I2>[1] . **I2/FLA**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
0.08Ib *Only available if:* • I2>[1] . CurrentBase = Protected Object Rating	0.000Ib . . . 1.000Ib	P.2
	Generator/motor unbalance current pickup value based on the full load current(FLA) (Setting from Continuous Unbalance Current Capability)	

I2>[1] . **%(I2/I1)**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
inactive	inactive, active Mode.	P.2
	The %(I2/I1) setting is the unbalance trip pickup setting. It is defined by the ratio of negative sequence current to positive sequence current (% Unbalance=I2/I1). Phase sequence will be taken into account automatically.	

I2>[1] . **%(I2/I1)**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
20%	2% . . . 40%	P.2
	The %(I2/I1) setting is the unbalance trip pickup setting. It is defined by the ratio of negative sequence current to positive sequence current (% Unbalance=I2/I1). Phase sequence will be taken into account automatically.	

I2>[1] . **Char**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
DEFT	DEFT, INV Char.	P.2
	Characteristic	

I2>[1] . **t**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
0.00s	0.00s . . . 300.00s	P.2
	Tripping delay	

I2>[1] . **K**	[Protection Para / Set 1...4 / I-Prot / I2>[1]]	
10.0s	1.00s . . . 200.00s	P.2
	This setting is the negative sequence capability constant. This value is normally provided by the generator manufacturer.	

I2>[1] . **τ-cool**	[Protection Para / Set 1…4 / I-Prot / I2>[1]]	
0.0s	0.0s . . . 60000.0s	P.2
	If the unbalanced load current falls below the pickup value, the cooling-off time is taken into account. If the unbalanced load exceeds the pickup value again, than the saved heat within the electrical equipment will lead to an accelerated trip.	

9.14.4 I2>[1]: Input States

I2>[1] . **ExBlo1-I**	[Operation / Status Display / I-Prot / I2>[1]]
	Module input state: External blocking1

I2>[1] . **ExBlo2-I**	[Operation / Status Display / I-Prot / I2>[1]]
	Module input state: External blocking2

I2>[1] . **ExBlo TripCmd-I**	[Operation / Status Display / I-Prot / I2>[1]]
	Module input state: External Blocking of the Trip Command

9.14.5 I2>[1]: Signals (Output States)

I2>[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / I-Prot / I2>[1]]
	Signal: active

I2>[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / I-Prot / I2>[1]]
	Signal: Alarm Negative Sequence

I2>[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / I-Prot / I2>[1]]
	Signal: Trip

I2>[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / I-Prot / I2>[1]]
	Signal: Trip Command

I2>[1] . **ExBlo**	[Operation / Status Display / I-Prot / I2>[1]]
⇫	*Signal: External Blocking*

I2>[1] . **Blo TripCmd**	[Operation / Status Display / I-Prot / I2>[1]]
⇫	*Signal: Trip Command blocked*

I2>[1] . **ExBlo TripCmd**	[Operation / Status Display / I-Prot / I2>[1]]
⇫	*Signal: External Blocking of the Trip Command*

9.15 V[1] . . . V[6]

Voltage-stage

9.15.1 V[1]: Device Planning Parameters

V[1] . **Mode**	[Device planning]	
V>	“-”, V>, V< ↳ Device planning.	S.3
	Voltage-stage, general operation mode	

9.15.2 V[1]: Global Parameters

V[1] . **ExBlo1** V[1] . **ExBlo2**	[Protection Para / Global Prot Para / V-Prot / V[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

V[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / V-Prot / V[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.15.3 V[1]: Setting Group Parameters

V[1] . **Function**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
active	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

V[1] . **ExBlo Fc**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

V[1] . **Blo TripCmd**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

V[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

V[1] . **Measuring Mode**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
Phase to Ground	Phase to Ground, Phase to Phase ╚═▷ Measuring Mode.	P.2
	Measuring/Supervision Mode: Determines if the phase-to-phase or phase-to-earth voltages are to be supervised	

V[1] . **Measuring method**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
Fundamental	Fundamental, True RMS, Vavg ╚═▷ Measuring method.	P.2
	Measuring method: fundamental or rms or "sliding average supervision"	

V[1] . **Alarm Mode**	[Protection Para / Set 1…4 / V-Prot / V[1]]	
any one	any one, any two, all ╚═▷ Alarm Mode.	P.2
	Alarm criterion for the voltage protection stage.	

V[1] . **V>**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
1.1Vn	0.01Vn . . . 2.000Vn	P.2
	If the pickup value is exceeded, the module/element will be started. The definition of Vn is dependent on both the Field Parameter »VT con« and the Setting Group Parameter »Measuring Mode«: If the measuring inputs of the voltage measuring card are fed with phase-to-ground voltages (»VT con« = "Phase-to-Ground") then the setting »Measuring Mode« = "Phase-to-Ground" means that Vn=VTsec/SQRT(3), and »Measuring Mode« = "Phase-to-Phase" means that Vn=VTsec. However, if the measuring inputs of the voltage measuring card are fed with phase-to-phase voltages (»VT con« = "Phase-to-Phase") then the setting of "Measuring Mode" is ignored and internally set to "Phase-to-Phase" instead, so that Vn=VTsec.	

V[1] . **V> Reset%**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
98.5%	80% . . . 99.0%	P.2
	Drop Out (is in percent of setting)	

V[1] . **V<**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
0.80Vn	0.01Vn . . . 2.000Vn	P.2
	If the pickup value is exceeded, the module/element will be started. The definition of Vn is dependent on both the Field Parameter »VT con« and the Setting Group Parameter »Measuring Mode«: If the measuring inputs of the voltage measuring card are fed with phase-to-ground voltages (»VT con« = "Phase-to-Ground") then the setting »Measuring Mode« = "Phase-to-Ground" means that Vn=VTsec/SQRT(3), and »Measuring Mode« = "Phase-to-Phase" means that Vn=VTsec. However, if the measuring inputs of the voltage measuring card are fed with phase-to-phase voltages (»VT con« = "Phase-to-Phase") then the setting of "Measuring Mode" is ignored and internally set to "Phase-to-Phase" instead, so that Vn=VTsec.	

V[1] . **V< Reset%**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
101.5%	101% . . . 110.0%	P.2
	Drop Out (is in percent of setting)	

V[1] . **t**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
1s	0.00s . . . 3000.00s	P.2
	Tripping delay	

V[1] . **Meas Circuit Superv**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
Sys . inactive	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

V[1] . **Imin release check**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
inactive	inactive, active ↳ Mode.	P.2
	Enable a minimum current check. This monitors the current flow (in the CT on the VT side), to detect whether the circuit breaker is permanently in open state; in this case the undervoltage detection is blocked.	

V[1] . **Threshold Imin**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
0.05In *Only available if:* • V[1] . Imin release check = active	0.02In ... 10.00In	P.2
	Threshold value that is used for the Imin release (minimum current) check. If the current flow is below this value, it is assumed that the circuit breaker is permanently in open state.	

V[1] . **t-delay Imin**	[Protection Para / Set 1...4 / V-Prot / V[1]]	
0.03s *Only available if:* • V[1] . Imin release check = active	0.00s ... 3000.00s	P.2
	Release delay for the undervoltage detection. This delay is effective only after the minimum current check had blocked the undervoltage detection. When the circuit breaker has been closed and the current flow is re-establishing, this delay continues to block the undervoltage detection; during this time the voltage can rise above the pickup value »V<«.	

9.15.4 V[1]: Input States

V[1] . **ExBlo1-I**	[Operation / Status Display / V-Prot / V[1]]
	Module input state: External blocking1

V[1] . **ExBlo2-I**	[Operation / Status Display / V-Prot / V[1]]
	Module input state: External blocking2

V[1] . **ExBlo TripCmd-I**	[Operation / Status Display / V-Prot / V[1]]
	Module input state: External Blocking of the Trip Command

9.15.5 V[1]: Signals (Output States)

V[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: active*	

V[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Alarm voltage stage*	

V[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Trip*	

V[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Trip Command*	

V[1] . **ExBlo**	[Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: External Blocking*	

V[1] . **Blo TripCmd**	[Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Trip Command blocked*	

V[1] . **ExBlo TripCmd**	[Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: External Blocking of the Trip Command*	

V[1] . **Alarm L1**	[Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Alarm L1*	

V[1] . **Alarm L2**	[Operation / Status Display / V-Prot / V[1]]
⇧ *Signal: Alarm L2*	

V[1] . **Alarm L3**	[Operation / Status Display / V-Prot / V[1]]
⇮	*Signal: Alarm L3*

V[1] . **Trip L1**	[Operation / Status Display / V-Prot / V[1]]
⇮	*Signal: General Trip Phase L1*

V[1] . **Trip L2**	[Operation / Status Display / V-Prot / V[1]]
⇮	*Signal: General Trip Phase L2*

V[1] . **Trip L3**	[Operation / Status Display / V-Prot / V[1]]
⇮	*Signal: General Trip Phase L3*

V[1] . **Imin release active**	[Operation / Status Display / V-Prot / V[1]]
⇮	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*

9.16 df/dt

Rate-of-frequency-change.

9.16.1 df/dt: Device Planning Parameters

df/dt . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Device planning.	S.3
	Frequency Protection Module, general operation mode	

9.16.2 df/dt: Global Parameters

df/dt . **ExBlo1** df/dt . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / df/dt]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

df/dt . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / df/dt]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.16.3 df/dt: Setting Group Parameters

df/dt . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

df/dt . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

df/dt . **Blo TripCmd**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

df/dt . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

df/dt . **f>**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
51.00Hz	40.00Hz . . . 69.00Hz	P.2
	Pickup value for overfrequency.	

df/dt . **f<**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
49.00Hz	40.00Hz . . . 69.00Hz	P.2
	Pickup value for underfrequency.	

df/dt . **Freq. drop-off**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / df/dt]	
0.020Hz	0.010Hz . . . 0.100Hz	P.2
	Drop-off for the Frequency function. This setting modifies the shape of the hysteresis that is used for the frequency protection.	

df/dt . **t**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
1.00s	0.00s ... 3600.00s	P.2
	Tripping delay	

df/dt . **df/dt**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
1.000Hz/s	0.100Hz/s ... 10.000Hz/s	P.2
	Measured value (calculated): Rate-of-frequency-change.	

df/dt . **t-df/dt**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
1.00s	0.00s ... 300.00s	P.2
	Trip delay df/dt	

df/dt . **DF**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
1.00Hz	0.0Hz ... 10.0Hz	P.2
	Frequency difference for the maximum admissible variation of the mean of the rate of frequency-change. This function is inactive if DF=0.	

df/dt . **DT**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
1.00s	0.1s ... 10.0s	P.2
	Time interval of the maximum admissible rate-of-frequency-change.	

df/dt . **df/dt mode**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
absolute df/dt	absolute df/dt, positive df/dt, negative df/dt ⮡ Mode.	P.2
	df/dt mode	

df/dt . **delta phi**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / df/dt]	
10°	1° ... 30°	P.2
	Measured value (calculated): Vector surge	

9.16.4 df/dt: Input States

df/dt . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇩	*Module input state: External blocking1*

df/dt . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇩	*Module input state: External blocking2*

df/dt . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇩	*Module input state: External Blocking of the Trip Command*

9.16.5 df/dt: Signals (Output States)

df/dt . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇧	*Signal: active*

df/dt . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇧	*Signal: Alarm Frequency Protection (collective signal)*

df/dt . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇧	*Signal: Trip Frequency Protection (collective signal)*

df/dt . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
⇧	*Signal: Trip Command*

df/dt . **ExBlo**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
	Signal: External Blocking

df/dt . **Blo by V<**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
	Signal: Module is blocked by undervoltage.

df/dt . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
	Signal: Trip Command blocked

df/dt . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / df/dt]
	Signal: External Blocking of the Trip Command

9.17 delta phi

Vector surge

9.17.1 delta phi: Device Planning Parameters

delta phi . **Mode**	[Device planning]	
"-"	"-", use ↳ Device planning.	S.3
	Frequency Protection Module, general operation mode	

9.17.2 delta phi: Global Parameters

delta phi . **ExBlo1** delta phi . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / delta phi]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

delta phi . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / delta phi]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.17.3 delta phi: Setting Group Parameters

delta phi . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

delta phi . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

delta phi . **Blo TripCmd**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

delta phi . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

delta phi . **f>**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
51.00Hz	40.00Hz . . . 69.00Hz	P.2
	Pickup value for overfrequency.	

delta phi . **f<**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
49.00Hz	40.00Hz . . . 69.00Hz	P.2
	Pickup value for underfrequency.	

delta phi . **Freq. drop-off**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
0.020Hz	0.010Hz . . . 0.100Hz	P.2
	Drop-off for the Frequency function. This setting modifies the shape of the hysteresis that is used for the frequency protection.	

delta phi . **t**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
1.00s	0.00s ... 3600.00s	P.2
	Tripping delay	

delta phi . **df/dt**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
1.000Hz/s	0.100Hz/s ... 10.000Hz/s	P.2
	Measured value (calculated): Rate-of-frequency-change.	

delta phi . **t-df/dt**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
1.00s	0.00s ... 300.00s	P.2
	Trip delay df/dt	

delta phi . **DF**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
1.00Hz	0.0Hz ... 10.0Hz	P.2
	Frequency difference for the maximum admissible variation of the mean of the rate of frequency-change. This function is inactive if DF=0.	

delta phi . **DT**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
1.00s	0.1s ... 10.0s	P.2
	Time interval of the maximum admissible rate-of-frequency-change.	

delta phi . **df/dt mode**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
absolute df/dt	absolute df/dt, positive df/dt, negative df/dt └▷ Mode.	P.2
	df/dt mode	

delta phi . **delta phi**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / delta phi]	
10°	1° ... 30°	P.2
	Measured value (calculated): Vector surge	

9.17.4 delta phi: Input States

delta phi . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Module input state: External blocking1

delta phi . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Module input state: External blocking2

delta phi . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Module input state: External Blocking of the Trip Command

9.17.5 delta phi: Signals (Output States)

delta phi . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: active

delta phi . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: Alarm Frequency Protection (collective signal)

delta phi . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: Trip Frequency Protection (collective signal)

delta phi . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: Trip Command

delta phi . **ExBlo**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: External Blocking

delta phi . **Blo by V<**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: Module is blocked by undervoltage.

delta phi . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: Trip Command blocked

delta phi . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / delta phi]
	Signal: External Blocking of the Trip Command

9.18 Intertripping

Intertripping

9.18.1 Intertripping: Device Planning Parameters

Intertripping . **Mode**	[Device planning]	
"-"	"-", use ⮡ Device planning.	S.3
	External Protection - Module, general operation mode	

9.18.2 Intertripping: Global Parameters

Intertripping . **ExBlo1** Intertripping . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Intertripping]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Intertripping . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Intertripping]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Intertripping . **Alarm**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Intertripping]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	Assignment for External Alarm	

Intertripping . **Trip**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Intertripping]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External trip of the CB if the state of the assigned signal is true.	

9.18.3 Intertripping: Setting Group Parameters

Intertripping . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / Intertripping]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Intertripping . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / Intertripping]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Intertripping . **Blo TripCmd**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / Intertripping]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Intertripping . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / Intertripping]	
inactive	inactive, active ↳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.18.4 Intertripping: Input States

Intertripping . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Module input state: External blocking1

Intertripping . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Module input state: External blocking2

Intertripping . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Module input state: External Blocking of the Trip Command

Intertripping . **Alarm-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Module input state: Alarm

Intertripping . **Trip-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Module input state: Trip

9.18.5 Intertripping: Signals (Output States)

Intertripping . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
	Signal: active

Intertripping . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: Alarm*

Intertripping . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: Trip*

Intertripping . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: Trip Command*

Intertripping . **ExBlo**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: External Blocking*

Intertripping . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: Trip Command blocked*

Intertripping . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Intertripping]
⇧	*Signal: External Blocking of the Trip Command*

9.19 P

Reverse Active Power

9.19.1 P: Device Planning Parameters

P . **Mode**	[Device planning]	
"-"	"-", P>, Pr> ↳ Mode.	S.3
	Power Protection - Module, general operation mode	

9.19.2 P: Global Parameters

P . **ExBlo1** P . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / P]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

P . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / P]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.19.3 P: Setting Group Parameters

P . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

P . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
inactive	inactive, active └⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

P . **Blo TripCmd**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
inactive	inactive, active └⊳ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

P . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
inactive	inactive, active └⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

P . **MeasCircSv Volt**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
Sys . inactive	Sys . inactive, LOP . active └⊳ VTS Block.	P.2
	Measuring Circuit Supervision Voltage	

P . **MeasCircSv Curr**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / P]	
Sys . inactive	Sys . inactive, CTS . active └⊳ VTS Block.	P.2
	Measuring Circuit Supervision Curent	

P . **P>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
1.20Sn	0.003Sn ... 10.000Sn	P.2
	*Over(load) Active Power Pickup Value. Can be used for monitoring the maximum allowed forward power limits of transformers or overhead lines. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

P . **Pr>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
0.5Sn	0.003Sn ... 10.000Sn	P.2
	*Overload Reverse Active Power Pickup Value. Protection against reverse feeding into the power supply network. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

P . **S>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
1.20Sn	0.02Sn ... 10.00Sn	P.2
	*Over(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

P . **S<**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
0.80Sn	0.02Sn ... 10.00Sn	P.2
	*Under(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

P . **t**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
0.01s	0.00s ... 1100.00s	P.2
	Tripping delay	

P . **PowMeasMethod**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / P]	
True RMS	Fundamental, True RMS ⮡ PowMeasMethod.	P.2
	Determines if the active power, reactive power and apparent power are calculated on the basis of RMS or DFT.	

9.19.4 P: Input States

P . **ExBlo1-I** P . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇩	*Module input state: External blocking*

P . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇩	*Module input state: External Blocking of the Trip Command*

9.19.5 P: Signals (Output States)

P . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: active*

P . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: Alarm Power Protection*

P . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: Trip Power Protection*

P . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: Trip Command*

P . **ExBlo**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: External Blocking*

P . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: Trip Command blocked*

P . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / P]
⇧	*Signal: External Blocking of the Trip Command*

9.20 Q

Q

9.20.1 Q: Device Planning Parameters

Q . **Mode**	[Device planning]	
"-"	"-", Q>, Qr> ⮡ Mode.	S.3
	Power Protection - Module, general operation mode	

9.20.2 Q: Global Parameters

Q . **ExBlo1** Q . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Q]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Q . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / Mains Decouplg / Q]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.20.3 Q: Setting Group Parameters

Q . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Mains Decouplg / Q]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Q . **ExBlo Fc**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
inactive	inactive, active └⇨ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Q . **Blo TripCmd**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
inactive	inactive, active └⇨ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Q . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
inactive	inactive, active └⇨ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

Q . **MeasCircSv Volt**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
Sys . inactive	Sys . inactive, LOP . active └⇨ VTS Block.	P.2
	Measuring Circuit Supervision Voltage	

Q . **MeasCircSv Curr**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
Sys . inactive	Sys . inactive, CTS . active └⇨ VTS Block.	P.2
	Measuring Circuit Supervision Curent	

Q . **Q>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
1.20Sn	0.003Sn ... 10.000Sn	P.2
	*Over(load) Reactive Power Pickup Value. Monitoring the maximum allowed reactive power of the electrical equipment like transformers or overhead lines). If the maximum value is exceeded a condensator bank could be switched off. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

Q . **Qr>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
0.5Sn	0.003Sn ... 10.000Sn	P.2
	*Overload Reverse Reactive Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

Q . **S>**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
1.20Sn	0.02Sn ... 10.00Sn	P.2
	*Over(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

Q . **S<**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
0.80Sn	0.02Sn ... 10.00Sn	P.2
	*Under(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

Q . **t**	[Protection Para / Set 1...4 / Intercon-Prot / Mains Decouplg / Q]	
0.01s	0.00s ... 1100.00s	P.2
	Tripping delay	

9.20.4 Q: Input States

Q . **ExBlo1-I** Q . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
	Module input state: External blocking

Q . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇩	*Module input state: External Blocking of the Trip Command*

9.20.5 Q: Signals (Output States)

Q . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: active*

Q . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: Alarm Power Protection*

Q . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: Trip Power Protection*

Q . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: Trip Command*

Q . **ExBlo**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: External Blocking*

Q . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇧	*Signal: Trip Command blocked*

Q . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / Mains Decouplg / Q]
⇫	*Signal: External Blocking of the Trip Command*

9.21 LVRT[1] . . . LVRT[2]

Low Voltage Ride Through

9.21.1 LVRT[1]: Device Planning Parameters

LVRT[1] . **Mode**	[Device planning]	
"-"	"-", use ⮡ Device planning.	S.3
general operation mode		

9.21.2 LVRT[1]: Global Parameters

LVRT[1] . **ExBlo1** LVRT[1] . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / LVRT[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.		

LVRT[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Intercon-Prot / LVRT[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.		

9.21.3 LVRT[1]: Setting Group Parameters

LVRT[1] . **Function**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / General Settings]	
inactive	inactive, active ⮡ Mode.	P.2
Permanent activation or deactivation of module/stage.		

LVRT[1] . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

LVRT[1] . **Blo TripCmd**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

LVRT[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

LVRT[1] . **Measuring Mode**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
Phase to Ground	Phase to Ground, Phase to Phase ⮡ Measuring Mode.	P.2
	Measuring/Supervision Mode: Determines if the phase-to-phase or phase-to-earth voltages are to be supervised	

LVRT[1] . **Measuring method**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
Fundamental	Fundamental, True RMS ⮡ Measuring method.	P.2
	Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)	

LVRT[1] . **Alarm Mode**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
any one	any one, any two, all, only 2 ⮡ Alarm Mode.	P.2
	Alarm criterion for the voltage protection stage.	

LVRT[1] . **Meas Circuit Superv**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
Sys . inactive	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

LVRT[1] . **AR controlled LVRT**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activates the supervision of the number of voltage dips during a defined time (t-LVRT).	

LVRT[1] . **Number of V dips to trip**	[Protection Para / Set 1…4 / Intercon-Prot / LVRT[1] / General Settings]	
1 *Only available if:* • LVRT[1] . AR controlled LVRT = active	1 . . . 6	P.2
	Number of voltage dips until the disconnection signal (trip) will be issued.	

LVRT[1] . **t-LVRT**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / General Settings]	
30.00s *Only available if:* • LVRT[1] . AR controlled LVRT = active	0.00s . . . 3000.00s	P.2
	This timer defines the supervision interval (window/period) for counting the number of voltage dips to trip (“No of V dips to trip”). The first voltage dip will start the timer. The counted number of voltage dips will be reset if the timer is expired. The timer will also be reset if the maximum “No of V dips to trip” is reached.	

LVRT[1] . **Vstart<**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.90Vn	0.00Vn . . . 2.00Vn	P.2
	A voltage dip is detected if the measured voltage falls below this threshold.	

LVRT[1] . **Vrecover>**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.93Vn	0.10Vn . . . 2.00Vn	P.2
	The voltage is recovered if the measured voltage raises above this threshold.	

LVRT[1] . **V(t1)** LVRT[1] . **V(t2)**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.00Vn	0.00Vn . . . 2.00Vn	P.2
	Voltage value of a point V(t(n)). These points define the LVRT profile.	

LVRT[1] . **t1**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.00s	0.00s . . . 20.00s	P.2
	Point in time for the corresponding voltage value V(t(n)). These points define the LVRT profile.	

LVRT[1] . **t2** LVRT[1] . **t3**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.15s	0.00s . . . 20.00s	P.2
	Point in time for the corresponding voltage value V(t(n)). These points define the LVRT profile.	

LVRT[1] . **V(t3)** LVRT[1] . **V(t4)**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.70Vn	0.00Vn . . . 2.00Vn	P.2
	Voltage value of a point V(t(n)). These points define the LVRT profile.	

LVRT[1] . **t4**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.70s	0.00s . . . 20.00s	P.2
	Point in time for the corresponding voltage value V(t(n)). These points define the LVRT profile.	

LVRT[1] . **V(t5)** . . . LVRT[1] . **V(t10)**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
0.90Vn	0.00Vn . . . 2.00Vn	P.2
	Voltage value of a point V(t(n)). These points define the LVRT profile.	

LVRT[1] . **t5**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
1.50s	0.00s . . . 20.00s	P.2
	Point in time for the corresponding voltage value V(t(n)). These points define the LVRT profile.	

LVRT[1] . **t6** . . . LVRT[1] . **t10**	[Protection Para / Set 1...4 / Intercon-Prot / LVRT[1] / LVRT Profile]	
3.00s	0.00s . . . 20.00s	P.2
	Point in time for the corresponding voltage value V(t(n)). These points define the LVRT profile.	

9.21.4 LVRT[1]: Direct Controls

LVRT[1] . **Res LVRT Cr**	[Operation / Reset]	
inactive	inactive, active └═▷ Mode.	P.1
◉	*Reset of the counter for the total number of voltage dips and reset of the counter of the total number of voltage dips that caused a trip.*	

9.21.5 LVRT[1]: Input States

LVRT[1] . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
⇩	*Module input state: External blocking1*

LVRT[1] . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
⇩	*Module input state: External blocking2*

LVRT[1] . **ExBlo TripCmd-I**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
⇩	*Module input state: External Blocking of the Trip Command*

9.21.6 LVRT[1]: Signals (Output States)

LVRT[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / LVRT[1]]
⇧	*Signal: active*

LVRT[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / LVRT[1]]
⇧	*Signal: Alarm voltage stage*

LVRT[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / LVRT[1]]
⇧	*Signal: Trip*

LVRT[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: Trip Command	

LVRT[1] . **ExBlo**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: External Blocking	

LVRT[1] . **Blo TripCmd**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: Trip Command blocked	

LVRT[1] . **ExBlo TripCmd**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: External Blocking of the Trip Command	

LVRT[1] . **Alarm L1**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: Alarm L1	

LVRT[1] . **Alarm L2**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: Alarm L2	

LVRT[1] . **Alarm L3**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: Alarm L3	

LVRT[1] . **Trip L1**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: General Trip Phase L1	

LVRT[1] . **Trip L2**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: General Trip Phase L2	

LVRT[1] . **Trip L3**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: General Trip Phase L3	

LVRT[1] . **t-LVRT is running**	[Operation / Status Display / Intercon-Prot / LVRT[1]]
Signal: t-LVRT is running	

9.21.7 LVRT[1]: Counters

LVRT[1] . **NumOf Vdips in t-LVRT**	[Operation / Count and RevData / LVRT[1]]
#	*Number of Voltage dips during t-LVRT*

LVRT[1] . **Cr Tot Numb of Vdips**	[Operation / Count and RevData / LVRT[1]]
#	*Counter Total number of voltage dips.*

LVRT[1] . **Cr Tot Numb of Vdips to Trip**	[Operation / Count and RevData / LVRT[1]]
#	*Counter Total number of voltage dips that caused a Trip.*

9.22 VG[1] ... VG[2]

Residual voltage-Stage

9.22.1 VG[1]: Device Planning Parameters

VG[1] . **Mode**	[Device planning]	
"-"	"-", V>, V< ↳ Device planning.	S.3
	Residual voltage-Stage, general operation mode	

VG[1] . **Superv. only**	[Device planning]	
no	no, yes ↳ yes/no.	S.3
	Residual voltage-Stage, if set to "Yes": Restriction of the function to a supervision functionality, i.e. there is no general alarm, no general trip and no trip command.	

9.22.2 VG[1]: Global Parameters

VG[1] . **ExBlo1** VG[1] . **ExBlo2**	[Protection Para / Global Prot Para / V-Prot / VG[1]]	
"-"	"-" ... Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

VG[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / V-Prot / VG[1]]	
"-" *Only available if:* • VG[1] . Superv. only = no	"-" ... Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.22.3 VG[1]: Setting Group Parameters

VG[1] . **Function**	[Protection Para / Set 1…4 / V-Prot / VG[1]]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

VG[1] . **ExBlo Fc**	[Protection Para / Set 1…4 / V-Prot / VG[1]]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

VG[1] . **Blo TripCmd**	[Protection Para / Set 1…4 / V-Prot / VG[1]]	
inactive *Only available if:* • VG[1] . Superv. only = no	inactive, active └⇒ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

VG[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / V-Prot / VG[1]]	
inactive *Only available if:* • VG[1] . Superv. only = no	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

VG[1] . **VX Source**	[Protection Para / Set 1…4 / V-Prot / VG[1]]	
measured	measured, calculated └⇒ VX Source.	P.2
	Selection if VG is measured or calculated (neutral voltage or residual voltage)	

VG[1] . **Measuring method**	[Protection Para / Set 1...4 / V-Prot / VG[1]]	
Fundamental	Fundamental, True RMS Measuring method.	P.2
	Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)	

VG[1] . **VG>**	[Protection Para / Set 1...4 / V-Prot / VG[1]]	
1Vn	0.01Vn . . . 2.00Vn	P.2
	If the pickup value is exceeded, the module/stage will be started.	

VG[1] . **VG<**	[Protection Para / Set 1...4 / V-Prot / VG[1]]	
0.8Vn	0.01Vn . . . 2.00Vn	P.2
	Undervoltage Threshold	

VG[1] . **t**	[Protection Para / Set 1...4 / V-Prot / VG[1]]	
0.00s	0.00s . . . 300.00s	P.2
	Tripping delay	

VG[1] . **Meas Circuit Superv**	[Protection Para / Set 1...4 / V-Prot / VG[1]]	
Sys . inactive	Sys . inactive, LOP . active VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

9.22.4 VG[1]: Input States

VG[1] . **ExBlo1-I**	[Operation / Status Display / V-Prot / VG[1]]
	Module input state: External blocking1

VG[1] . **ExBlo2-I**	[Operation / Status Display / V-Prot / VG[1]]
	Module input state: External blocking2

VG[1] . **ExBlo TripCmd-I**	[Operation / Status Display / V-Prot / VG[1]]
⇩	*Only available if:* • VG[1] . Superv. only = no *Module input state: External Blocking of the Trip Command*

9.22.5 VG[1]: Signals (Output States)

VG[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / V-Prot / VG[1]]
⇧	*Signal: active*

VG[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / V-Prot / VG[1]]
⇧	*Signal: Alarm Residual Voltage Supervision-stage*

VG[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / V-Prot / VG[1]]
⇧	*Signal: Trip*

VG[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / V-Prot / VG[1]]
⇧	*Only available if:* • VG[1] . Superv. only = no *Signal: Trip Command*

VG[1] . **ExBlo**	[Operation / Status Display / V-Prot / VG[1]]
⇧	*Signal: External Blocking*

VG[1] . **Blo TripCmd**	[Operation / Status Display / V-Prot / VG[1]]
⇧	*Only available if:* • VG[1] . Superv. only = no *Signal: Trip Command blocked*

VG[1] . **ExBlo TripCmd**	[Operation / Status Display / V-Prot / VG[1]]
⇫	*Only available if:* • VG[1] . Superv. only = no *Signal: External Blocking of the Trip Command*

9.23 V012[1] . . . V012[6]

Symmetrical Components: Supervision of the Positive Phase Sequence or Negative Phase Sequence

9.23.1 V012[1]: Device Planning Parameters

V012[1] . **Mode**	[Device planning]	
"-"	"-", V1>, V1<, V2> ⮑ Device planning.	S.3
	Unbalance Protection: Supervision of the Voltage System	

9.23.2 V012[1]: Global Parameters

V012[1] . **ExBlo1**	[Protection Para / Global Prot Para / V-Prot / V012[1]]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.1	

V012[1] . **ExBlo2**	[Protection Para / Global Prot Para / V-Prot / V012[1]]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.2	

V012[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / V-Prot / V012[1]]	
"-"	"-" . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.23.3 V012[1]: Setting Group Parameters

V012[1] . **Function**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

V012[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

V012[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

V012[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

V012[1] . **V1>**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
1.00Vn	0.01Vn ... 2.00Vn	P.2
	Positive Phase Sequence Overvoltage	

V012[1] . **V1<**	[Protection Para / Set 1...4 / V-Prot / V012[1]]	
1.00Vn	0.01Vn ... 2.00Vn	P.2
	Positive Phase Sequence Undervoltage	

V012[1] . **V2>**	[Protection Para / Set 1…4 / V-Prot / V012[1]]	
1.00Vn	0.01Vn . . . 2.00Vn	P.2
	Negative Phase Sequence Overvoltage	

V012[1] . **%(V2/V1)**	[Protection Para / Set 1…4 / V-Prot / V012[1]]	
inactive	inactive, active ⮡ Mode.	P.2
	The %(V2/V1) setting is the unbalance trip pickup setting. It is defined by the ratio of negative sequence voltage to positive sequence voltage (% Unbalance=V2/V1). Phase sequence will be taken into account automatically.	

V012[1] . **%(V2/V1)**	[Protection Para / Set 1…4 / V-Prot / V012[1]]	
20%	2% . . . 40%	P.2
	The %(V2/V1) setting is the unbalance trip pickup setting. It is defined by the ratio of negative sequence voltage to positive sequence voltage (% Unbalance=V2/V1). Phase sequence will be taken into account automatically.	

V012[1] . **t**	[Protection Para / Set 1…4 / V-Prot / V012[1]]	
0.00s	0.00s . . . 300.00s	P.2
	Tripping delay	

V012[1] . **Meas Circuit Superv**	[Protection Para / Set 1…4 / V-Prot / V012[1]]	
Sys . inactive	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

9.23.4 V012[1]: Input States

V012[1] . **ExBlo1-I**	[Operation / Status Display / V-Prot / V012[1]]
	Module input state: External blocking1

V012[1] . **ExBlo2-I**	[Operation / Status Display / V-Prot / V012[1]]
	Module input state: External blocking2

V012[1] . **ExBlo TripCmd-I**	[Operation / Status Display / V-Prot / V012[1]]
⇩	*Module input state: External Blocking of the Trip Command*

9.23.5 V012[1]: Signals (Output States)

V012[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: active*

V012[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: Alarm voltage asymmetry*

V012[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: Trip*

V012[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: Trip Command*

V012[1] . **ExBlo**	[Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: External Blocking*

V012[1] . **Blo TripCmd**	[Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: Trip Command blocked*

V012[1] . **ExBlo TripCmd**	[Operation / Status Display / V-Prot / V012[1]]
⇧	*Signal: External Blocking of the Trip Command*

9.24 f[1] . . . f[6]

Frequency Protection Module

9.24.1 f[1]: Device Planning Parameters

f[1] . **Mode**	[Device planning]	
f<	“-” . . . delta phi ↳ Device planning.	S.3
	Frequency Protection Module, general operation mode	

9.24.2 f[1]: Global Parameters

f[1] . **ExBlo1** f[1] . **ExBlo2**	[Protection Para / Global Prot Para / f-Prot / f[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

f[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / f-Prot / f[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.24.3 f[1]: Setting Group Parameters

f[1] . **Function**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
active	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

f[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

f[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

f[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

f[1] . **f>**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
51.00Hz	40.00Hz ... 69.00Hz	P.2
	Pickup value for overfrequency.	

f[1] . **f<**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
49.00Hz	40.00Hz ... 69.00Hz	P.2
	Pickup value for underfrequency.	

f[1] . **Freq. drop-off**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
0.020Hz	0.010Hz ... 0.100Hz	P.2
	Drop-off for the Frequency function. This setting modifies the shape of the hysteresis that is used for the frequency protection.	

f[1] . **t**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
1.00s	0.00s ... 3600.00s	P.2
	Tripping delay	

f[1] . **df/dt**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
1.000Hz/s	0.100Hz/s ... 10.000Hz/s	P.2
Measured value (calculated): Rate-of-frequency-change.		

f[1] . **t-df/dt**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
1.00s	0.00s ... 300.00s	P.2
Trip delay df/dt		

f[1] . **DF**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
1.00Hz	0.0Hz ... 10.0Hz	P.2
Frequency difference for the maximum admissible variation of the mean of the rate of frequency-change. This function is inactive if DF=0.		

f[1] . **DT**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
1.00s	0.1s ... 10.0s	P.2
Time interval of the maximum admissible rate-of-frequency-change.		

f[1] . **df/dt mode**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
absolute df/dt	absolute df/dt, positive df/dt, negative df/dt ⮡ Mode.	P.2
df/dt mode		

f[1] . **delta phi**	[Protection Para / Set 1...4 / f-Prot / f[1]]	
10°	1° ... 30°	P.2
Measured value (calculated): Vector surge		

9.24.4 f[1]: Input States

f[1] . **ExBlo1-I**	[Operation / Status Display / f-Prot / f[1]]
Module input state: External blocking1	

f[1] . **ExBlo2-I**	[Operation / Status Display / f-Prot / f[1]]
Module input state: External blocking2	

f[1] . **ExBlo TripCmd-I**	[Operation / Status Display / f-Prot / f[1]]
⇩	*Module input state: External Blocking of the Trip Command*

9.24.5 f[1]: Signals (Output States)

f[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: active*

f[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: Alarm Frequency Protection (collective signal)*

f[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: Trip Frequency Protection (collective signal)*

f[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: Trip Command*

f[1] . **ExBlo**	[Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: External Blocking*

f[1] . **Blo by V<**	[Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: Module is blocked by undervoltage.*

f[1] . **Blo TripCmd**	[Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: Trip Command blocked*

f[1] . **ExBlo TripCmd**	[Operation / Status Display / f-Prot / f[1]]
⇧	*Signal: External Blocking of the Trip Command*

f[1] . **Alarm f**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Signal: Alarm Frequency Protection*

f[1] . **Alarm df/dt | DF/DT**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Alarm instantaneous or average value of the rate-of-frequency-change*

f[1] . **Alarm delta phi**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Signal: Alarm Vector Surge*

f[1] . **Trip f**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Signal: Frequency has exceeded the limit.*

f[1] . **Trip df/dt | DF/DT**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Signal: Trip df/dt or DF/DT*

f[1] . **Trip delta phi**	[Operation / Status Display / f-Prot / f[1]]
⇫	*Signal: Trip Vector Surge*

9.25 PQS[1] . . . PQS[6]

Power Protection - Module

9.25.1 PQS[1]: Device Planning Parameters

PQS[1] . **Mode**	[Device planning]	
P>	“-” . . . S< ↳ Mode.	S.3
	Power Protection - Module, general operation mode	

9.25.2 PQS[1]: Global Parameters

PQS[1] . **ExBlo1** PQS[1] . **ExBlo2**	[Protection Para / Global Prot Para / P-Prot / PQS[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

PQS[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / P-Prot / PQS[1]]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.25.3 PQS[1]: Setting Group Parameters

PQS[1] . **Function**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
active	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

PQS[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

PQS[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

PQS[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

PQS[1] . **MeasCircSv Volt**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
Sys . inactive	Sys . inactive, LOP . active ╚═▷ VTS Block.	P.2
	Measuring Circuit Supervision Voltage	

PQS[1] . **MeasCircSv Curr**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
Sys . inactive	Sys . inactive, CTS . active ╚═▷ VTS Block.	P.2
	Measuring Circuit Supervision Curent	

PQS[1] . **P>**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
1.0Sn	0.003Sn ... 10.000Sn	P.2
	*Over(load) Active Power Pickup Value. Can be used for monitoring the maximum allowed forward power limits of transformers or overhead lines. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **P<**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.80Sn	0.003Sn . . . 10.000Sn	P.2
	*Under(load) Active Power Pickup Value (e.g. caused by idling motors). Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Pr>**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.020Sn	0.003Sn . . . 10.000Sn	P.2
	*Overload Reverse Active Power Pickup Value. Protection against reverse feeding into the power supply network. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Pr<**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.80Sn	0.003Sn . . . 10.000Sn	P.2
	*Under Reverse Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Q>**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
1.20Sn	0.003Sn . . . 10.000Sn	P.2
	*Over(load) Reactive Power Pickup Value. Monitoring the maximum allowed reactive power of the electrical equipment like transformers or overhead lines). If the maximum value is exceeded a condensator bank could be switched off. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Q<**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.80Sn	0.003Sn . . . 10.000Sn	P.2
	*Under(load) Reactive Power Pickup Value. Monitoring the minimum value of the reactive power. If it falls below the set value a condensator bank could be switched on. Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Qr>**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.020Sn	0.003Sn . . . 10.000Sn	P.2
	*Overload Reverse Reactive Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **Qr<**	[Protection Para / Set 1…4 / P-Prot / PQS[1]]	
0.80Sn	0.003Sn . . . 10.000Sn	P.2
	*Under Reverse Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **S>**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
1.20Sn	0.02Sn . . . 10.00Sn	P.2
	*Over(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **S<**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
0.80Sn	0.02Sn . . . 10.00Sn	P.2
	*Under(load) Apparent Power Pickup Value Definition for Sn is as follows: Sn = 1.7321 * VT rating * CT rating. The voltage is the line-to-line voltage.*	

PQS[1] . **t**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
1.00s	0.00s . . . 1100.00s	P.2
	Tripping delay	

PQS[1] . **PowMeasMethod**	[Protection Para / Set 1...4 / P-Prot / PQS[1]]	
Fundamental	Fundamental, True RMS ↳ PowMeasMethod.	P.2
	Determines if the active power, reactive power and apparent power are calculated on the basis of RMS or DFT.	

9.25.4 PQS[1]: Input States

PQS[1] . **ExBlo1-I** PQS[1] . **ExBlo2-I**	[Operation / Status Display / P-Prot / PQS[1]]
	Module input state: External blocking

PQS[1] . **ExBlo TripCmd-I**	[Operation / Status Display / P-Prot / PQS[1]]
	Module input state: External Blocking of the Trip Command

9.25.5 PQS[1]: Signals (Output States)

PQS[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / P-Prot / PQS[1]]
	Signal: active

PQS[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: Alarm Power Protection*

PQS[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: Trip Power Protection*

PQS[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: Trip Command*

PQS[1] . **ExBlo**	[Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: External Blocking*

PQS[1] . **Blo TripCmd**	[Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: Trip Command blocked*

PQS[1] . **ExBlo TripCmd**	[Operation / Status Display / P-Prot / PQS[1]]
⇫	*Signal: External Blocking of the Trip Command*

9.26 PF[1] . . . PF[2]

Power Factor - Module

9.26.1 PF[1]: Device Planning Parameters

PF[1] . **Mode**	[Device planning]	
"-"	"-", use ↳ Mode.	S.3
	Power Factor - Module, general operation mode	

9.26.2 PF[1]: Global Parameters

PF[1] . **ExBlo1** PF[1] . **ExBlo2**	[Protection Para / Global Prot Para / PF-Prot / PF[1]]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

PF[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / PF-Prot / PF[1]]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.26.3 PF[1]: Setting Group Parameters

PF[1] . **Function**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

PF[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

PF[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

PF[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

PF[1] . **Measuring method**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
Fundamental	Fundamental, True RMS ╚═▷ Measuring method.	P.2
	Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)	

PF[1] . **Trig Mode**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
I lags V	I leads V, I lags V ╚═▷ Mode.	P.2
	Trigger Mode. Should the Module be triggered if the Current Phasor is leading to the Voltage Phasor = Lead? Or should the Module be triggered if the Current Phasor is lagging to the Voltage Phasor = Lag?	

PF[1] . **Trigger-PF**	[Protection Para / Set 1...4 / PF-Prot / PF[1]]	
0.8	0.5 ... 0.99	P.2
	This is the power factor where the relay will pick-up.	

PF[1] . **Res Mode**	[Protection Para / Set 1…4 / PF-Prot / PF[1]]	
I leads V	I leads V, I lags V ↳ Mode.	P.2
	Trigger Mode. Should the Module be triggered if the Current Phasor is leading to the Voltage Phasor = Lead? Or should the Module be triggered if the Current Phasor is lagging to the Voltage Phasor = Lag?	

PF[1] . **Reset-PF**	[Protection Para / Set 1…4 / PF-Prot / PF[1]]	
0.99	0.5 . . . 0.99	P.2
	This setting is the power factor, at which the relay will reset the power factor trip. It is like setting a hysteresis for the Trigger setting.	

PF[1] . **t**	[Protection Para / Set 1…4 / PF-Prot / PF[1]]	
0.00s	0.00s . . . 300.00s	P.2
	Tripping delay	

PF[1] . **Pre-trig Comp**	[Protection Para / Set 1…4 / PF-Prot / PF[1]]	
5.00s	0.00s . . . 300.00s	P.2
	Pickup (Pre-trigger) time for the Compensation Signal. When this timer is elapsed the compensation signal will be activated.	

PF[1] . **Post-trig Comp**	[Protection Para / Set 1…4 / PF-Prot / PF[1]]	
5.00s	0.00s . . . 300.00s	P.2
	Post-trigger time of the Compensation Signal. When this timer is elapsed the compensation signal will be deactivated.	

9.26.4 PF[1]: Input States

PF[1] . **ExBlo1-I** PF[1] . **ExBlo2-I**	[Operation / Status Display / PF-Prot / PF[1]]
	Module input state: External blocking

PF[1] . **ExBlo TripCmd-I**	[Operation / Status Display / PF-Prot / PF[1]]
	Module input state: External Blocking of the Trip Command

9.26.5 PF[1]: Signals (Output States)

PF[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: active*

PF[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Alarm Power Factor*

PF[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Trip Power Factor*

PF[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Trip Command*

PF[1] . **ExBlo**	[Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: External Blocking*

PF[1] . **Blo TripCmd**	[Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Trip Command blocked*

PF[1] . **ExBlo TripCmd**	[Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: External Blocking of the Trip Command*

PF[1] . **Compensator**	[Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Compensation Signal*

PF[1] . **Impossible**	[Operation / Status Display / PF-Prot / PF[1]]
⇧	*Signal: Alarm Power Factor Impossible*

9.27 Q->&V<

Q->&V<

9.27.1 Q->&V<: Device Planning Parameters

Q->&V< . **Mode**	[Device planning]	
“-”	“-”, use ↳ Mode.	S.3
	general operation mode	

9.27.2 Q->&V<: Global Parameters

Q->&V< . **ExBlo1** Q->&V< . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Q->&V<]	
“-”	“-” . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Q->&V< . **Power Trip dir**	[Protection Para / Global Prot Para / Intercon-Prot / Q->&V<]	
positive	positive, negative ↳ Power Trip dir.	P.2
	By means of this parameter the trip direction of active and reactive power can be inverted within the QV-Module (sign reversal).	

9.27.3 Q->&V<: Setting Group Parameters

Q->&V< . **Function**	[Protection Para / Set 1...4 / Intercon-Prot / Q->&V< / General Settings]	
inactive	inactive, active ↳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Q->&V< . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Q->&V< . **Meas Circuit Superv**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / General Settings]	
Sys . inactive	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

Q->&V< . **QV-Method**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
Power Angle Supervision	Power Angle Supervision, Pure Reactive Power Superv ⮡ Selection of the Q(V)-Method: Power Angle or Reactive Power Threshold.	P.2
	Selection of the Q(V)-Method: Power Angle or Reactive Power Threshold	

Q->&V< . **I1 Release**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
active	If: Q->&V< . QV-Method = Power Angle Supervision • active If: Q->&V< . QV-Method = Pure Reactive Power Superv • inactive, active ⮡ I1 Release.	P.2
	Activation of the "I1 Minimum Current"-Criterion.	

Q->&V< . **I1 min QV**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
0.10In *Only available if:* • Q->&V< . I1 Release = active	0.01In ... 0.20In	P.2
	Activation of an "I1 Minimum Current" of the rated current of the (distributed) energy resource can prevent faulty tripping.	

Q->&V< . **VLL< QV**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
0.85Vn	0.70Vn ... 1.00Vn	P.2
	Undervoltage threshold (line-to-line voltage!)	

Q->&V< . **Phi-Power**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
3° *Only available if:* • Q->&V< . QV-Method = Power Angle Supervision	0° ... 10°	P.2
	Trigger Phi-Power (Positive Phase Sequence System)	

Q->&V< . **Q min QV**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
0.05Sn *Only available if:* • Q->&V< . QV-Method = Pure Reactive Power Superv	0.01Sn ... 0.20Sn	P.2
	Trigger for the Reactive Power (Positive Phase Sequence System)	

Q->&V< . **t-Gen**	[Protection Para / Set 1…4 / Intercon-Prot / Q->&V< / Decoupling]	
0.5s	0.00s ... 2.00s	P.2
	First timer. If this timer has elapsed, a trip signal will be issued to the (local) energy resource.	

Q->&V< . **t-PCC**	[Protection Para / Set 1...4 / Intercon-Prot / Q->&V< / Decoupling]	
0.5s	0.00s ... 4.00s	P.2
	Second timer. If this timer is elapsed, the an trip signal will be issued to the PCC (Point of Common Coupling)	

9.27.4 Q->&V<: Input States

Q->&V< . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Module input state: External blocking1

Q->&V< . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Module input state: External blocking2

9.27.5 Q->&V<: Signals (Output States)

Q->&V< . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: active

Q->&V< . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Alarm Reactive Power Undervoltage Protection

Q->&V< . **Decoupling Distr. Generator**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Decoupling of the (local) Energy Generator/Resource

Q->&V< . **Decoupling PCC**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Decoupling at the Point of Common Coupling

Q->&V< . **ExBlo**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: External Blocking

Q->&V< . **Fuse Fail VT Blo**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Blocked by Fuse Failure (VT)

Q->&V< . **Power Angle**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Admissible power angle exceeded

Q->&V< . **Reactive Power Thres**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Admissible Reactive Power Threshold exceeded

Q->&V< . **VLL too low**	[Operation / Status Display / Intercon-Prot / Q->&V<]
	Signal: Line-to-Line voltage too low

9.28 ReCon[1] . . . ReCon[2]

Reconnection

9.28.1 ReCon[1]: Device Planning Parameters

ReCon[1] . **Mode**	[Device planning]	
"-"	"-", use ↳ Mode.	S.3
	general operation mode	

9.28.2 ReCon[1]: Global Parameters

ReCon[1] . **ExBlo1** ReCon[1] . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / ReCon[1] / General Settings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

ReCon[1] . **V Ext Release PCC**	[Protection Para / Global Prot Para / Intercon-Prot / ReCon[1] / General Settings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	Release Signal by the Point of Common Coupling. The line-to-line voltage is greater than 95% of VN.	

ReCon[1] . **PCC Fuse Fail VT**	[Protection Para / Global Prot Para / Intercon-Prot / ReCon[1] / General Settings]	
"-"	"-" . . . DI Slot X6 . DI 8 ↳ 1..n, Dig Inputs.	P.2
	Blocking if the fuse of a voltage transformer has tripped at the PCC.	

ReCon[1] . **reconnected**	[Protection Para / Global Prot Para / Intercon-Prot / ReCon[1] / General Settings]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	P.2
	This signal indicates the state "reconnected" (mains parallel).	

ReCon[1] . **Decoupling1** . . . ReCon[1] . **Decoupling6**	[Protection Para / Global Prot Para / Intercon-Prot / ReCon[1] / Decoupling]	
“-”	“-” . . . Logics . LE80.Out inverted └⇒ Decoupling Functions.	P.2
	Decoupling function, that blocks the reconnection.	

9.28.3 ReCon[1]: Setting Group Parameters

ReCon[1] . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / General Settings]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

ReCon[1] . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / General Settings]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

ReCon[1] . **Meas Circuit Superv**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / General Settings]	
Sys . inactive	Sys . inactive, LOP . active ↳ VTS Block.	P.2
Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).		

ReCon[1] . **V Ext Release PCC Fc**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / General Settings]	
inactive	inactive, active ↳ Mode.	P.2
Activate the release signal of the Point of Common Coupling. The line-to-line voltage is greater than 95% of VN.		

ReCon[1] . **Reconnect. Release Cond**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
Both	V Internal Release, V Ext Release PCC, Both ↳ Reconnect. Release Cond.	P.2
This parameter ensures that the mains voltage is recovered.		

ReCon[1] . **PCC Fuse Fail VT Fk**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
inactive *Only available if:* • ReCon[1] . Reconnect. Release Cond = V Ext Release PCC • ReCon[1] . Reconnect. Release Cond = Both	inactive, active ↳ Mode.	P.2
Blocking if the fuse of a voltage transformer has tripped at the PCC.		

ReCon[1] . **Measuring method**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
Fundamental	Fundamental, True RMS, Vavg ↳ Measuring method.	P.2
Measuring method: fundamental or rms or "sliding average supervision"		

ReCon[1] . **VLL< Release**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
1.10Vn *Only available if:* • ReCon[1] . Reconnect. Release Cond = V Internal Release • ReCon[1] . Reconnect. Release Cond = Both	1.00Vn . . . 1.50Vn	P.2
	Maximum voltage (line-to-line) for reclosure (Restoration Voltage)	

ReCon[1] . **VLL> Release**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
0.95Vn *Only available if:* • ReCon[1] . Reconnect. Release Cond = V Internal Release • ReCon[1] . Reconnect. Release Cond = Both	0.70Vn . . . 1.00Vn	P.2
	Minimum voltage (line-to-line) for reclosure (Restoration Voltage)	

ReCon[1] . **f>**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
50.05Hz	40.00Hz . . . 69.90Hz	P.2
	Upper frequency limit for the reclosure	

ReCon[1] . **f<**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
47.5Hz	40.00Hz . . . 69.90Hz	P.2
	Lower frequency limit for the reclosure (Restoration Voltage)	

ReCon[1] . **t-Release Blo**	[Protection Para / Set 1…4 / Intercon-Prot / ReCon[1] / Release Para]	
600s	0.00s . . . 3600.00s	P.2
	Time stage (delay) for the reclosure of the energy resources. The Mains seddle time takes based on exirience approx. 10 - 15 minutes.	

9.28.4 ReCon[1]: Input States

ReCon[1] . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Module input state: External blocking1

ReCon[1] . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Module input state: External blocking2

ReCon[1] . **V Ext Release PCC-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Module input state: Release signal is being generated by the PCC (External Release)

ReCon[1] . **PCC Fuse Fail VT-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	State of the module input: Blocking if the fuse of a voltage transformer has tripped at the PCC.

ReCon[1] . **reconnected-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	This signal indicates the state "reconnected" (mains parallel).

ReCon[1] . **Decoupling1-I** **...** ReCon[1] . **Decoupling6-I**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Decoupling function, that blocks the reconnection.

9.28.5 ReCon[1]: Signals (Output States)

ReCon[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / ReCon[1]]
	Signal: active

ReCon[1] . **ExBlo**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Signal: External Blocking

ReCon[1] . **Blo by Meas Ciruit Superv**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
	Signal: Module blocked by measuring cirucuit supervision

ReCon[1] . **Release Energy Resource**	[Operation / Status Display / Intercon-Prot / ReCon[1]]
⇫	*Signal: Release Energy Resource.*

9.29 UFLS

Under-Frequency Load Shedding based on Active Power Flow Direction

9.29.1 UFLS: Device Planning Parameters

UFLS . **Mode**	[Device planning]	
“-”	“-”, use └─▷ Mode.	S.3
	general operation mode	

9.29.2 UFLS: Global Parameters

UFLS . **ExBlo1** UFLS . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

UFLS . **Ex Pdir**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Sys . Internal test state └─▷ 1..n, Assignment List.	P.2
	Ignore (block) the evaluation of the power flow direction. This results in classical frequency based load shedding functionallity. When this feature is set and active, the functionallity of the module turns into conventional, only frequency based load shedding.	

UFLS . **P Block dir**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
negative	positive, negative └─▷ P Block dir.	P.2
	By means of this parameter the block direction of active power can be inverted within this (sign reversal).	

UFLS . **AdaptSet 1**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 1	

UFLS . **AdaptSet 2**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 2	

UFLS . **AdaptSet 3**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 3	

UFLS . **AdaptSet 4**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 4	

UFLS . **AdaptSet 5**	[Protection Para / Global Prot Para / Intercon-Prot / UFLS]	
“-”	“-” . . . Logics . LE80.Out inverted └▷ AdaptSet.	P.2
	Assignment Adaptive Parameter 5	

9.29.3 UFLS: Setting Group Parameters

UFLS . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / General Settings]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

UFLS . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

UFLS . **Meas Circuit Superv**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / General Settings]	
Sys . inactive	Sys . inactive, LOP . active ⮡ VTS Block.	P.2
	Activates the use of the measuring circuit supervision. In this case the module will be blocked if a measuring circuit supervision module (e.g. LOP, VTS) signals a disturbed measuring circuit (e.g. caused by a fuse failure).	

UFLS . **UFLS-Method**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
No Pdir / Ex Pdir	No Pdir / Ex Pdir, Power Angle Supervision, Pure Active Power Superv ⮡ UFLS-Method.	P.2
	How should the active power be taken into account.	

UFLS . **I1 Release**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
inactive	If: UFLS . UFLS-Method = No Pdir / Ex Pdir • inactive If: UFLS . UFLS-Method = Power Angle Supervision • active If: UFLS . UFLS-Method = Pure Active Power Superv • inactive, active ⮡ I1 Release.	P.2
	"I Minimum Current" in order to prevent faulty tripping. Module will be released if the current exceeds this value.	

UFLS . **I1 min**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
0.05In *Only available if:* • UFLS . I1 Release = active	0.02In . . . 0.20In	P.2
Minimum current		

UFLS . **VLL min**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
0.70Vn	0.50Vn . . . 1.00Vn	P.2
Minimum Voltage		

UFLS . **Power Angle**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
5° *Only available if:* • UFLS . UFLS-Method = Power Angle Supervision Adapt. Param.	0° . . . 10°	P.2
Trigger Phi-Power (Positive Phase Sequence System)		

UFLS . **P min**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
0.05Sn *Only available if:* • UFLS . UFLS-Method = Pure Active Power Superv Adapt. Param.	0.01Sn . . . 0.10Sn	P.2
Minimum Value (threshold) for the Active Power		

UFLS . **f<**	[Protection Para / Set 1…4 / Intercon-Prot / UFLS / LoadShedding]	
49.00Hz Adapt. Param.	45.00Hz . . . 65.00Hz	P.2
Underfrequency threshold		

UFLS . **t-UFLS**	[Protection Para / Set 1...4 / Intercon-Prot / UFLS / LoadShedding]	
0.1s Adapt. Param.	0.00s . . . 300.00s	P.2
Tripping delay time		

9.29.4 UFLS: Input States

UFLS . **AdaptSet1-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: Adaptive Parameter1	

UFLS . **AdaptSet2-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: Adaptive Parameter2	

UFLS . **AdaptSet3-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: Adaptive Parameter3	

UFLS . **AdaptSet4-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: Adaptive Parameter4	

UFLS . **AdaptSet5-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: Adaptive Parameter5	

UFLS . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: External blocking1	

UFLS . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Module input state: External blocking2	

UFLS . **Ex Pdir-I**	[Operation / Status Display / Intercon-Prot / UFLS]
Ignore (block) the evaluation of the power flow direction. This results in classical frequency based load shedding functionallity. When this feature is set and active, the functionallity of the module turns into conventional, only frequency based load shedding.	

9.29.5 UFLS: Signals (Output States)

UFLS . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / UFLS]
	Signal: active

UFLS . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Alarm P->&f<

UFLS . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Signal: Trip

UFLS . **ExBlo**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: External Blocking

UFLS . **Fuse Fail VT Blo**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Blocked by Fuse Failure (VT)

UFLS . **I1 Release**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: "I Minimum Current" in order to prevent faulty tripping. Module will be released if the current exceeds this value.

UFLS . **VLL min**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Minimum Voltage

UFLS . **Power Angle**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Trigger Phi-Power (Positive Phase Sequence System)

UFLS . **P min**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Minimum Value (threshold) for the Active Power

UFLS . **P Blo Loadshedding**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Load shedding blocked based on evaluation of active power

UFLS . **f<**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Underfrequency threshold

UFLS . **DefaultSet**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Default Parameter Set

UFLS . **AdaptSet 1**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Adaptive Parameter 1

UFLS . **AdaptSet 2**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Adaptive Parameter 2

UFLS . **AdaptSet 3**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Adaptive Parameter 3

UFLS . **AdaptSet 4**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Adaptive Parameter 4

UFLS . **AdaptSet 5**	[Operation / Status Display / Intercon-Prot / UFLS]
	Signal: Adaptive Parameter 5

9.30 AR

Automatic Reclosure

9.30.1 AR: Device Planning Parameters

AR . **Mode**	[Device planning]	
"-"	"-", use ↳ Device planning.	S.3
	general operation mode	

9.30.2 AR: Global Parameters

AR . **CB**	[Protection Para / Global Prot Para / AR / General Settings]	
SG[1] .	"-", SG[1] . , SG[2] . , SG[3] . , SG[4] . , SG[5] . , SG[6] . ↳ CB List.	P.2
	Circuit Breaker Module	

AR . **ExBlo1** AR . **ExBlo2**	[Protection Para / Global Prot Para / AR / General Settings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

AR . **Ex Shot Inc**	[Protection Para / Global Prot Para / AR / General Settings]	
"-"	"-" . . . Logics . LE80.Out inverted ↳ 1..n, DI-LogicList.	P.2
	The AR Shot counter will be incremented by this external Signal. This can be used for Zone Coordination (of upstream Auto Reclosure devices).	

AR . **Ex Lock**	[Protection Para / Global Prot Para / AR / General Settings]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	P.2
	The auto reclosure will locked out by this external Signal (set into the lockout state).	

AR . **DI Reset Ex Lock**	[Protection Para / Global Prot Para / AR / General Settings]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	P.2
	The Lockout State of the AR can be reset by a digital input.	

AR . **Scada Reset Ex Lock**	[Protection Para / Global Prot Para / AR / General Settings]	
“-”	“-” . . . Profibus . Scada Cmd 16 ⮡ Communication Commands.	P.2
	The Lockout State of the AR can be reset by Scada.	

9.30.3 AR: Setting Group Parameters

AR . **Function**	[Protection Para / Set 1…4 / AR / General Settings]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

AR . **ExBlo Fc**	[Protection Para / Set 1…4 / AR / General Settings]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

AR . **Zone coordination**	[Protection Para / Set 1...4 / AR / General Settings]	
inactive	inactive, active └⊳ active/inactive.	P.2
	Zone coordination: Sequence coordination is to keep upstream reclosers in step with the downstream ones for fast and delay curve operation, thus avoiding overtripping.	

AR . **Ex Shot Inc Fc**	[Protection Para / Set 1...4 / AR / General Settings]	
inactive	inactive, active └⊳ active/inactive.	P.2
	The AR Shot counter will be incremented by this external Signal. This can be used for Zone Coordination (of upstream Auto Reclosure devices). Note: This parameter enables the functionality only. The assignment has to be set within the global parameters.	

AR . **Ex Lock Fc**	[Protection Para / Set 1...4 / AR / General Settings]	
inactive	inactive, active └⊳ active/inactive.	P.2
	The auto reclosure will locked out by this external Signal. Note: This parameter enables the functionality only. The assignment has to be set within the global parameters.	

AR . **Reset Mode**	[Protection Para / Set 1...4 / AR / General Settings]	
auto	auto ... HMI And DI └⊳ Res Lock via:.	P.2
	Reset Mode	

AR . **Shots**	[Protection Para / Set 1...4 / AR / General Settings]	
1	1 ... 6	P.2
	Maximum number of permitted reclosure attempts.	

AR . **Initiate Mode**	[Protection Para / Set 1...4 / AR / General Settings]	
Alarm	Alarm, TripCmd └⊳ Initiate Mode.	P.2
	Initiate Mode	

AR . **t-start**	[Protection Para / Set 1…4 / AR / General Settings]	
1s *Only available if:* • AR . Initiate Mode = Alarm	0.01s . . . 9999.00s	P.2
	Start timer - While the start timer runs down, an AR attempt can be started. Only if the trip command is given within the start time/duration an AR attempt could be started. The location and the resistance of the fault have a big influence on the tripping time. The start time has an impact on whether an AR attempt should be started when the fault is far away or high resistance.	

AR . **t-Blo after CB man ON**	[Protection Para / Set 1…4 / AR / General Settings]	
10.0s	0.01s . . . 9999.00s	P.2
	This timer will be started if the circuit breaker was switched on manually. While this timer is running, AR cannot be started.	

AR . **t-Lock2Ready**	[Protection Para / Set 1…4 / AR / General Settings]	
10.0s	0.01s . . . 9999.00s	P.2
	This timer is started by the lockout reset signal, and before the timer expire the AR cannot go to any other state.	

AR . **t-Run2Ready**	[Protection Para / Set 1…4 / AR / General Settings]	
10.0s	0.01s . . . 9999.00s	P.2
	Examination Time: If the Circuit Breaker remains after an reclosure attempt for the duration of this timer in the Closed position, the AR has been successful and the AR module returns into the ready state.	

AR . **t-Blo2Ready**	[Protection Para / Set 1…4 / AR / General Settings]	
10.0s	0.01s . . . 9999.00s	P.2
	The release (de-blocking) of the AR will be delayed for this time, if there is no blocking signal anymore.	

AR . **t-AR Supervision**	[Protection Para / Set 1…4 / AR / General Settings]	
100.0s	1.00s . . . 9999.00s	P.2
	AR Overall supervision time (> sum of all the timers used by AR)	

AR . **Initiate AR: InitiateFc1** **. . .** AR . **Initiate AR: InitiateFc4**	[Protection Para / Set 1…4 / AR / Shot Manager / Pre Shot Ctrl]	
“-”	“-” . . . . Trip-Trans ⮡ Start fct.	P.2
	Initiate Auto Reclosure : Initiate Function	

AR . **t-DP1** **. . .** AR . **t-DP6**	[Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl1] **. . .** [Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl6]	
1s *Only available if:* • AR . Shots = 1 • AR . Shots = 2 • AR . Shots = 3 • AR . Shots = 4 • AR . Shots = 5 • AR . Shots = 6	0.01s . . . 9999.00s	P.2
	Dead time between trip and reclosure attempt for phase faults.	

AR . **t-DE1** **. . .** AR . **t-DE6**	[Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl1] **. . .** [Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl6]	
1s *Only available if:* • AR . Shots = 1 • AR . Shots = 2 • AR . Shots = 3 • AR . Shots = 4 • AR . Shots = 5 • AR . Shots = 6	0.01s . . . 9999.00s	P.2
	Dead time between trip and reclosure attempt for earth faults	

AR . **Shot 1: InitiateFc1** . . . AR . **Shot 6: InitiateFc4**	[Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl1] . . . [Protection Para / Set 1…4 / AR / Shot Manager / Shot Ctrl6]	
“-” *Only available if:* • AR . Shots = 1 • AR . Shots = 2 • AR . Shots = 3 • AR . Shots = 4 • AR . Shots = 5 • AR . Shots = 6	“-” . . . . Trip-Trans ⮡ Start fct.	P.2
	Automatic Reclosure Attempt : Initiate Function	

AR . **Service Alarm 1**	[Protection Para / Set 1…4 / AR / Wear Monitor]	
1000	1 . . . 65535	P.2
	As soon as the AR-Counter exceeds this number of reclosure attempts an alarm will be given out (overhauling of the CB)	

AR . **Service Alarm 2**	[Protection Para / Set 1…4 / AR / Wear Monitor]	
65535	1 . . . 65535	P.2
	Too many auto reclosure attempts. If the parameterized number of AR cycles is reached, an alarm will be given out.	

AR . **Max AR/h**	[Protection Para / Set 1…4 / AR / Wear Monitor]	
10	1 . . . 20	P.2
	Maximum Number of permitted Auto Reclosure Cycles per hour.	

9.30.4 AR: Direct Controls

AR . **Res TotNo suc unsuc**	[Operation / Reset]	
inactive	inactive, active ⮡ Mode.	P.1
	Reset all statistic AR counters: Total number of AR, successful and unsuccessful no of AR.	

AR . **Res Service Cr**	[Operation / Reset]	
inactive	inactive, active ⮑ Mode.	P.1
◉	*Reset the Service Counters*	

AR . **Reset Lock via HMI**	[Operation / Reset]	
inactive	inactive, active ⮑ Mode.	P.1
◉	*Reset the AR Lockout via the panel.*	

AR . **Res Max Shots / h Cr**	[Operation / Reset]	
inactive	inactive, active ⮑ Mode.	P.1
◉	*Resetting the Counter for the maximum allowed shots per hour.*	

9.30.5 AR: Input States

AR . **ExBlo1-I**	[Operation / Status Display / AR]
⇩	*Module input state: External blocking1*

AR . **ExBlo2-I**	[Operation / Status Display / AR]
⇩	*Module input state: External blocking2*

AR . **Ex Shot Inc-I**	[Operation / Status Display / AR]
⇩	*Module input state: The AR Shot counter will be incremented by this external Signal. This can be used for Zone Coordination (of upstream Auto Reclosure devices). Note: This parameter enables the functionality only. The assignment has to be set within the global parameters.*

AR . **Ex Lock-I**	[Operation / Status Display / AR]
⇩	*Module input state: External AR lockout.*

AR . **DI Reset Ex Lock-I**	[Operation / Status Display / AR]
⇩	*Module input state: Resetting the lockout state of the AR (if the resetting via digital inputs has been selected).*

AR . **Scada Reset Ex Lock-I**	[Operation / Status Display / AR]
	Module input state: Resetting the Lockout State of the AR by Communication.

9.30.6 AR: Signals (Output States)

AR . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / AR]
	Signal: active

AR . **ExBlo**	[Operation / Status Display / AR]
	Signal: External Blocking

AR . **Standby**	[Operation / Status Display / AR]
	Signal: Standby

AR . **t-Blo after CB man ON**	[Operation / Status Display / AR]
	Signal: AR blocked after circuit breaker was switched on manually. This timer will be started if the circuit breaker was switched on manually. While this timer is running, AR cannot be started.

AR . **Ready**	[Operation / Status Display / AR]
	Signal: Ready to shoot

AR . **running**	[Operation / Status Display / AR]
	Signal: Auto Reclosing running

AR . **t-dead**	[Operation / Status Display / AR]
	Signal: Dead time between trip and reclosure attempt

AR . **CB ON Cmd**	[Operation / Status Display / AR]
	Signal: CB switch ON Command

AR . **t-Run2Ready**	[Operation / Status Display / AR]
	Signal: Examination Time: If the Circuit Breaker remains after a reclosure attempt for the duration of this timer in the Closed position, the AR has been successful and the AR module returns into the ready state.

AR . **Lock**	[Operation / Status Display / AR]
	Signal: Auto Reclosure is locked out

AR . **t-Reset Lockout**	[Operation / Status Display / AR]
	Signal: Delay Timer for resetting the AR lockout. The reset of the AR lockout state will be delayed for this time, after the reset signal (e.g digital input or Scada) has been detected .

AR . **Blo**	[Operation / Status Display / AR]
	Signal: Auto Reclosure is blocked

AR . **t-Blo Reset**	[Operation / Status Display / AR]
	Signal: Delay Timer for resetting the AR blocking. The release (de-blocking) of the AR will be delayed for this time, if there is no blocking signal anymore.

AR . **successful**	[Operation / Status Display / AR]
	Signal: Auto Reclosing successful

AR . **failed**	[Operation / Status Display / AR]
	Signal: Auto Reclosing failure

AR . **t-AR Supervision**	[Operation / Status Display / AR]
	Signal: AR Supervision

AR . **Pre Shot**	[Operation / Status Display / AR]
	Pre Shot Control

AR . **Shot 1** **. . .** AR . **Shot 6**	[Operation / Status Display / AR]
	Shot Control

AR . **Service Alarm 1**	[Operation / Status Display / AR]
	Signal: AR - Service Alarm 1, too many switching operations

AR . **Service Alarm 2**	[Operation / Status Display / AR]
	Signal: AR - Service Alarm 2 - too many switching operations

AR . **Max Shots / h exceeded**	[Operation / Status Display / AR]
⇧	*Signal: The maximum allowed number of shots per hour has been exceeded.*

AR . **Res Statistics Cr**	[Operation / Status Display / AR]
⇧	*Signal: Reset all statistic AR counters: Total number of AR, successful and unsuccessful no of AR.*

AR . **Res Service Cr**	[Operation / Status Display / AR]
⇧	*Signal: Reset the Service Counters for Alarm and Blocking*

AR . **Reset Lockout**	[Operation / Status Display / AR]
⇧	*Signal: The AR Lockout has been reset via the panel.*

AR . **Res Max Shots / h**	[Operation / Status Display / AR]
⇧	*Signal: The Counter for the maximum allowed shots per hour has been reset.*

9.30.7 AR: Counters

AR . **AR Shot No.**	[Operation / Count and RevData / AR]
#	*Counter - Auto Reclosure Attempts*

AR . **Total number Cr**	[Operation / Count and RevData / AR]
#	*Total number of all executed Automatic Reclosures Attempts*

AR . **Cr successfl**	[Operation / Count and RevData / AR]
#	*Total number of successfully executed Automatic Reclosures*

AR . **Cr failed**	[Operation / Count and RevData / AR]
#	*Total number of unsuccessfully executed automatic reclosure attempts*

AR . **Cr Service Alarm1**	[Operation / Count and RevData / AR]
#	*Remaining numbers of ARs until Service Alarm 1*

AR . **Cr Service Alarm2**	[Operation / Count and RevData / AR]
#	*Remaining numbers of ARs until Service Alarm 2*

AR . **Max Shots / h Cr**	[Operation / Count and RevData / AR]
⌗	*Counter for the maximum allowed shots per hour.*

9.30.8 AWE abort

Automatic Reclosure

9.30.8.1 AR: Global Parameters

AR . **abort: 1** **. . .** AR . **abort: 6**	[Protection Para / Global Prot Para / AR / Block Fc]	
“-”	“-” . . . Sys . Internal test state ⮑ 1..n, Assignment List.	P.2
	Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.	

9.30.8.2 AR: Input States

AR . **abort: 1** **. . .** AR . **abort: 6**	[Operation / Status Display / AR]
	Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.

9.31 Sync

Synchrocheck

9.31.1 Sync: Device Planning Parameters

Sync . **Mode**	[Device planning]	
"-"	"-", use ⮡ Mode.	S.3
Synchrocheck, general operation mode		

9.31.2 Sync: Global Parameters

Sync . **ExBlo1** Sync . **ExBlo2**	[Protection Para / Global Prot Para / Intercon-Prot / Sync]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	C.2
External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.		

Sync . **Bypass**	[Protection Para / Global Prot Para / Intercon-Prot / Sync]	
"-"	"-" . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
The Synchrocheck will be bypassed if the state of the assigned signal (logic input) becomes true.		

Sync . **CB Pos Detect**	[Protection Para / Global Prot Para / Intercon-Prot / Sync]	
SG[1] . Pos	"-", SG[1] . Pos, SG[2] . Pos, SG[3] . Pos, SG[4] . Pos, SG[5] . Pos, SG[6] . Pos ⮡ CB Manager.	C.2
Criterion by which the Circuit Breaker Switch Position is to be detected.		

Sync . **CBCloseInitiate**	[Protection Para / Global Prot Para / Intercon-Prot / Sync]	
“-”	“-” . . . Logics . LE80.Out inverted └═▷ 1..n, SyncRequestList.	C.2
	Breaker Close Initiate with synchronism check from any control sources (e.g. HMI / SCADA). If the state of the assigned signal becomes true, a Breaker Close will be initiated (Trigger Source).	

9.31.3 Sync: Setting Group Parameters

Sync . **Function**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / General Settings]	
inactive	inactive, active └═▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Sync . **ExBlo Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / General Settings]	
inactive	inactive, active └═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Sync . **Bypass Fc**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / General Settings]	
inactive	inactive, active └═▷ active/inactive.	P.2
	Allowing to bypass the Synchrocheck, if the state signal that is assigned to the parameter with the same name within the Global Parameters (logic input) becomes true.	

Sync . **SyncMode**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / Mode / Times]	
System2System	System2System, Generator2System └═▷ SyncMode.	P.2
	Synchrocheck mode: GENERATOR2SYSTEM = Synchronizing generator to system (breaker close initiate needed). SYSTEM2SYSTEM = SynchronCheck between two systems (Stand-Alone, no breaker info needed)	

Sync . **t-MaxCBCloseDelay**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / Mode / Times]	
0.05s *Only available if:* • Sync . SyncMode = Generator2System	0.00s . . . 300.00s	P.2
	Maximum circuit breaker close time delay (Only used for GENERATOR-SYSTEM working mode and is critical for a correct synchronized switching)	

Sync . **t-MaxSyncSuperv**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / Mode / Times]	
30.00s *Only available if:* • Sync . SyncMode = Generator2System	0.00s . . . 3000.00s	P.2
	Synchron-Run timer: Max. time allowed for synchronizing process after a close initiate. Only used for GENERATOR2SYSTEM working mode.	

Sync . **MinLiveBusVoltage**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / DeadLiveVLevels]	
0.65Vn	0.10Vn . . . 2.00Vn	P.2
	Minimum Live Bus voltage (Live bus detected, when all three phase bus voltages are above this limit).	

Sync . **MaxDeadBusVoltage**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / DeadLiveVLevels]	
0.03Vn	0.01Vn . . . 1.00Vn	P.2
	Maximum Dead Bus voltage (Dead bus detected, when all three phase bus voltages are below this limit).	

Sync . **MinLiveLineVoltage**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / DeadLiveVLevels]	
0.65Vn	0.10Vn . . . 2.00Vn	P.2
	Minimum Live Line voltage (Live line detected, when line voltage above this limit).	

Sync . **MaxDeadLineVoltage**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / DeadLiveVLevels]	
0.03Vn	0.01Vn . . . 1.00Vn	P.2
	Maximum Dead Line voltage (Dead Line detected, when line voltage below this limit).	

Sync . **t-VoltDead**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / DeadLiveVLevels]	
0.167s	0.000s ... 300.000s	P.2
	Voltage dead time (A Dead Bus/Line condition will be accepted only if the voltage falls below the set dead voltage levels longer than this time setting).	

Sync . **MaxVoltageDiff**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / Conditions]	
0.24Vn	0.01Vn ... 1.00Vn	P.2
	Maximum voltage difference between bus and line voltage phasors (Delta V)for synchronism (Related to bus voltage secondary rating)	

Sync . **MaxSlipFrequency**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / Conditions]	
0.20Hz	0.01Hz ... 2.00Hz	P.2
	Maximum frequency difference (Slip: Delta f) between bus and line voltage allowed for synchronism	

Sync . **MaxAngleDiff**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / Conditions]	
20°	1° ... 60°	P.2
	Maximum phase angle difference (Delta-Phi in degree) between bus and line voltages allowed for synchronism	

Sync . **DBDL**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / Override]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Enable/disable Dead-Bus AND Dead-Line synchronism overriding	

Sync . **DBLL**	[Protection Para / Set 1...4 / Intercon-Prot / Sync / Override]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Enable/disable Dead-Bus AND Live-Line synchronism overriding	

Sync . **LBDL**	[Protection Para / Set 1…4 / Intercon-Prot / Sync / Override]	
inactive	inactive, active └▷ active/inactive.	P.2
	Enable/disable Live-Bus AND Dead-Line synchronism overriding	

9.31.4 Sync: Input States

Sync . **ExBlo1-I**	[Operation / Status Display / Intercon-Prot / Sync]
	Module input state: External blocking1

Sync . **ExBlo2-I**	[Operation / Status Display / Intercon-Prot / Sync]
	Module input state: External blocking2

Sync . **Bypass-I**	[Operation / Status Display / Intercon-Prot / Sync]
	State of the module input: The Synchrocheck will be bypassed if the state of the assigned signal (logic input) becomes true.

Sync . **CBCloseInitiate-I**	[Operation / Status Display / Intercon-Prot / Sync]
	State of the module input: Breaker Close Initiate with synchronism check from any control sources (e.g. HMI / SCADA). If the state of the assigned signal becomes true, a Breaker Close will be initiated (Trigger Source).

9.31.5 Sync: Signals (Output States)

Sync . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Intercon-Prot / Sync]
	Signal: active

Sync . **ExBlo**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: External Blocking

Sync . **LiveBus**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Live-Bus flag: 1=Live-Bus, 0=Voltage is below the LiveBus threshold

Sync . **LiveLine**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Live Line flag: 1=Live-Line, 0=Voltage is below the LiveLine threshold

Sync . **SynchronRunTiming**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Synchron-Run-timer is timing (This timer starts when Close-Initiate is coming and stops if breaker is closed. Timeout means synchronizing failed.)

Sync . **SynchronFailed**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: This signal indicates a failed synchronization. It is set for 5s when the circuit breaker is still open after the Synchron-Run-timer has timed out.

Sync . **SyncOverridden**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal:Synchronism Check is overridden because one of the Synchronism overriding conditions (DB/DL or ExtBypass) is met.

Sync . **VDiffTooHigh**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Voltage difference between bus and line too high.

Sync . **SlipTooHigh**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Frequency difference (slip frequency) between bus and line voltages too high.

Sync . **AngleDiffTooHigh**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Phase Angle difference between bus and line voltages too high.

Sync . **Sys-in-Sync**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Bus and line voltages are in synchronism according to the system synchronism criteria.

Sync . **Ready to Close**	[Operation / Status Display / Intercon-Prot / Sync]
	Signal: Ready to Close

9.31.6 Sync: Values

Sync . **Slip Freq**	[Operation / Measured Values / Synchronism]
	Slip frequency

Sync . **Volt Diff**	[Operation / Measured Values / Synchronism]
	Voltage difference between bus and line.

Sync . **Angle Diff**	[Operation / Measured Values / Synchronism]
	Angle difference between bus and line voltages.

Sync . **f Bus**	[Operation / Measured Values / Synchronism]
	Bus frequency

Sync . **f Line**	[Operation / Measured Values / Synchronism]
	Line frequency

Sync . **V Bus**	[Operation / Measured Values / Synchronism]
	Bus Voltage

Sync . **V Line**	[Operation / Measured Values / Synchronism]
	Line Voltage

Sync . **Angle Bus**	[Operation / Measured Values / Synchronism]
	Bus Angle (Reference)

Sync . **Angle Line**	[Operation / Measured Values / Synchronism]
	Line Angle

9.32 V/f>[1] . . . V/f>[2]

Overexcitation

9.32.1 V/f>[1]: Device Planning Parameters

V/f>[1] . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Mode.	S.3
	Overexcitation, general operation mode	

9.32.2 V/f>[1]: Global Parameters

V/f>[1] . **ExBlo1** V/f>[1] . **ExBlo2**	[Protection Para / Global Prot Para / V/f>-Prot / V/f>[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

V/f>[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / V/f>-Prot / V/f>[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.32.3 V/f>[1]: Setting Group Parameters

V/f>[1] . **Function**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

V/f>[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

V/f>[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

V/f>[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

V/f>[1] . **V/f>**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
100.0%	80.0% ... 400.0%	P.2
	If the value is exceeded, the element will be started.	

V/f>[1] . **Curve Shape**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
DEFT	DEFT, Inv A, Inv B, Inv C ╚═▷ Tripping characteristics of V/f Over-Excitation protection..	P.2
	Tripping characteristics of V/f Over-Excitation protection.	

V/f>[1] . **t**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
1.00s	0.00s ... 600.00s	P.2
	Tripping delay	

V/f>[1] . **t-multiplier**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
1.00	0.05 ... 600.00	P.2
	Time Multiplier for inverse characteristics.	

V/f>[1] . **t-reset**	[Protection Para / Set 1...4 / V/f>-Prot / V/f>[1]]	
1.0s	0.0s ... 1000.0s	P.2
	Reset time for inverse characteristics.	

9.32.4 V/f>[1]: Input States

V/f>[1] . **ExBlo1-I**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
	Module input state: External blocking1

V/f>[1] . **ExBlo2-I**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
	Module input state: External blocking2

V/f>[1] . **ExBlo TripCmd-I**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
	Module input state: External Blocking of the Trip Command

9.32.5 V/f>[1]: Signals (Output States)

V/f>[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / V/f>-Prot / V/f>[1]]
	Signal: active

V/f>[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / V/f>-Prot / V/f>[1]]
	Signal: Alarm Overexcitation

V/f>[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / V/f>-Prot / V/f>[1]]
	Signal: Trip

V/f>[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / V/f>-Prot / V/f>[1]]
⇧	*Signal: Trip Command*

V/f>[1] . **ExBlo**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
⇧	*Signal: External Blocking*

V/f>[1] . **Blo TripCmd**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
⇧	*Signal: Trip Command blocked*

V/f>[1] . **ExBlo TripCmd**	[Operation / Status Display / V/f>-Prot / V/f>[1]]
⇧	*Signal: External Blocking of the Trip Command*

9.33 SOTF

Switch Onto Fault - Module

9.33.1 SOTF: Device Planning Parameters

SOTF . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Mode.	S.3
	general operation mode	

9.33.2 SOTF: Global Parameters

SOTF . **Mode**	[Protection Para / Global Prot Para / SOTF]	
CB Pos	CB Pos, I<, CB Pos And I<, CB manual ON, Ext SOTF ⮡ Mode.	P.2
	general operation mode	

SOTF . **ExBlo1** SOTF . **ExBlo2**	[Protection Para / Global Prot Para / SOTF]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

SOTF . **Ex rev Interl**	[Protection Para / Global Prot Para / SOTF]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module by external reverse interlocking, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

SOTF . **Assigned SG**	[Protection Para / Global Prot Para / SOTF]	
. SG[1]	“-”, . SG[1], . SG[2], . SG[3], . SG[4], . SG[5], . SG[6] └⊳ CB List.	P.2
	Assigned Switchgear	

SOTF . **Ext SOTF**	[Protection Para / Global Prot Para / SOTF]	
“-”	“-” . . . Logics . LE80.Out inverted └⊳ 1..n, DI-LogicList.	P.2
	External Switch Onto Fault	

9.33.3 SOTF: Setting Group Parameters

SOTF . **Function**	[Protection Para / Set 1...4 / SOTF]	
inactive	inactive, active └⊳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

SOTF . **ExBlo Fc**	[Protection Para / Set 1...4 / SOTF]	
inactive	inactive, active └⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

SOTF . **Ex rev Interl Fc**	[Protection Para / Set 1...4 / SOTF]	
inactive	inactive, active └⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "Ex rev Interl Fc = active".	

SOTF . **I<**	[Protection Para / Set 1...4 / SOTF]	
0.01In	0.01In ... 1.00In	P.2
	The CB is in the OFF Position, if the measured current is less than this parameter.	

SOTF . **t-enable**	[Protection Para / Set 1...4 / SOTF]	
2s	0.10s ... 10.00s	P.2
	While this timer is running, and while the module is not blocked, the Switch Onto Fault Module is effective (SOTF is armed).	

9.33.4 SOTF: Input States

SOTF . **ExBlo1-I** SOTF . **ExBlo2-I**	[Operation / Status Display / SOTF]
	Module input state: External blocking

SOTF . **Ex rev Interl-I**	[Operation / Status Display / SOTF]
	Module input state: External reverse interlocking

SOTF . **Ext SOTF-I**	[Operation / Status Display / SOTF]
	Module input state: External Switch Onto Fault Alarm

9.33.5 SOTF: Signals (Output States)

SOTF . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / SOTF]
	Signal: active

SOTF . **ExBlo**	[Operation / Status Display / SOTF]
	Signal: External Blocking

SOTF . **Ex rev Interl**	[Operation / Status Display / SOTF]
	Signal: External reverse Interlocking

SOTF . **enabled**	[Operation / Status Display / SOTF]
⇧	*Signal: Switch Onto Fault enabled. This Signal can be used to modify Overcurrent Protection Settings.*

SOTF . **AR Blo**	[Operation / Status Display / SOTF]
⇧	*Signal: Blocked by AR*

SOTF . **I<**	[Operation / Status Display / SOTF]
⇧	*Signal: No Load Current.*

9.34 CLPU

Cold Load Pickup Module

9.34.1 CLPU: Device Planning Parameters

CLPU . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Mode.	S.3
	general operation mode	

9.34.2 CLPU: Global Parameters

CLPU . **Mode**	[Protection Para / Global Prot Para / CLPU]	
CB Pos	CB Pos, I<, CB Pos Or I<, CB Pos And I< ⮡ Mode.	P.2
	general operation mode	

CLPU . **ExBlo1** CLPU . **ExBlo2**	[Protection Para / Global Prot Para / CLPU]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

CLPU . **Ex rev Interl**	[Protection Para / Global Prot Para / CLPU]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module by external reverse interlocking, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

CLPU . **CB Pos Detect**	[Protection Para / Global Prot Para / CLPU]	
SG[1] . Pos	“-”, SG[1] . Pos, SG[2] . Pos, SG[3] . Pos, SG[4] . Pos, SG[5] . Pos, SG[6] . Pos ╚═▷ CB Manager.	P.2
	Criterion by which the Circuit Breaker Switch Position is to be detected.	

9.34.3 CLPU: Setting Group Parameters

CLPU . **Function**	[Protection Para / Set 1...4 / CLPU]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

CLPU . **ExBlo Fc**	[Protection Para / Set 1...4 / CLPU]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

CLPU . **Ex rev Interl Fc**	[Protection Para / Set 1...4 / CLPU]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "Ex rev Interl Fc = active".	

CLPU . **t-Load Off**	[Protection Para / Set 1...4 / CLPU]	
1.00s	0.00s . . . 7200.00s	P.2
	Select the outage time required for a load to be considered cold. If the Pickup Timer (Delay) has run out, a Cold Load Signal will be issued.	

CLPU . **t-Max Block**	[Protection Para / Set 1…4 / CLPU]	
1.00s	0.00s . . . 300.00s	P.2
Select the amount of time for the cold load inrush. If the Release Time (Delay) has run out, a Warm Load Signal will be issued.		

CLPU . **I<**	[Protection Para / Set 1…4 / CLPU]	
0.01In	0.01In . . . 1.00In	P.2
The CB is in the OFF Position, if the measured current is less than this parameter.		

CLPU . **Threshold**	[Protection Para / Set 1…4 / CLPU]	
1.2In	0.10In . . . 4.00In	P.2
Set the load current inrush threshold.		

CLPU . **Settle Time**	[Protection Para / Set 1…4 / CLPU]	
1.00s	0.00s . . . 300.00s	P.2
Select the time for the cold load inrush		

9.34.4 CLPU: Input States

CLPU . **ExBlo1-I** CLPU . **ExBlo2-I**	[Operation / Status Display / CLPU]
Module input state: External blocking	

CLPU . **Ex rev Interl-I**	[Operation / Status Display / CLPU]
Module input state: External reverse interlocking	

9.34.5 CLPU: Signals (Output States)

CLPU . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / CLPU]
Signal: active	

CLPU . **ExBlo**	[Operation / Status Display / CLPU]
Signal: External Blocking	

CLPU . **Ex rev Interl**	[Operation / Status Display / CLPU]
	Signal: External reverse Interlocking

CLPU . **enabled**	[Operation / Status Display / CLPU]
	Signal: Cold Load enabled

CLPU . **detected**	[Operation / Status Display / CLPU]
	Signal: Cold Load detected

CLPU . **AR Blo**	[Operation / Status Display / CLPU]
	Signal: Blocked by AR

CLPU . **I<**	[Operation / Status Display / CLPU]
	Signal: No Load Current.

CLPU . **Load Inrush**	[Operation / Status Display / CLPU]
	Signal: Load Inrush

CLPU . **Settle Time**	[Operation / Status Display / CLPU]
	Signal: Settle Time

9.35 ExP[1] . . . ExP[4]

External Protection - Module

9.35.1 ExP[1]: Device Planning Parameters

ExP[1] . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Device planning.	S.3
	External Protection - Module, general operation mode	

9.35.2 ExP[1]: Global Parameters

ExP[1] . **ExBlo1** ExP[1] . **ExBlo2**	[Protection Para / Global Prot Para / ExP / ExP[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

ExP[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / ExP / ExP[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

ExP[1] . **Alarm**	[Protection Para / Global Prot Para / ExP / ExP[1]]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	Assignment for External Alarm	

ExP[1] . **Trip**	[Protection Para / Global Prot Para / ExP / ExP[1]]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	P.2
	External trip of the CB if the state of the assigned signal is true.	

9.35.3 ExP[1]: Setting Group Parameters

ExP[1] . **Function**	[Protection Para / Set 1...4 / ExP / ExP[1]]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

ExP[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / ExP / ExP[1]]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

ExP[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / ExP / ExP[1]]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

ExP[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / ExP / ExP[1]]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.35.4 ExP[1]: Input States

ExP[1] . **ExBlo1-I**	[Operation / Status Display / ExP / ExP[1]]
⇩	*Module input state: External blocking1*

ExP[1] . **ExBlo2-I**	[Operation / Status Display / ExP / ExP[1]]
⇩	*Module input state: External blocking2*

ExP[1] . **ExBlo TripCmd-I**	[Operation / Status Display / ExP / ExP[1]]
⇩	*Module input state: External Blocking of the Trip Command*

ExP[1] . **Alarm-I**	[Operation / Status Display / ExP / ExP[1]]
⇩	*Module input state: Alarm*

ExP[1] . **Trip-I**	[Operation / Status Display / ExP / ExP[1]]
⇩	*Module input state: Trip*

9.35.5 ExP[1]: Signals (Output States)

ExP[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: active*

ExP[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: Alarm*

ExP[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: Trip*

ExP[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: Trip Command*

ExP[1] . **ExBlo**	[Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: External Blocking*

ExP[1] . **Blo TripCmd**	[Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: Trip Command blocked*

ExP[1] . **ExBlo TripCmd**	[Operation / Status Display / ExP / ExP[1]]
⇧	*Signal: External Blocking of the Trip Command*

9.36 Ext Sudd Press

Sudden Pressure

9.36.1 Ext Sudd Press: Device Planning Parameters

Ext Sudd Press . **Mode**	[Device planning]	
"-"	"-", use ↳ Device planning.	S.3
✎	*External Protection - Module, general operation mode*	

9.36.2 Ext Sudd Press: Global Parameters

Ext Sudd Press . **ExBlo1** Ext Sudd Press . **ExBlo2**	[Protection Para / Global Prot Para / Ext Sudd Press]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
✎	*External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.*	

Ext Sudd Press . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Ext Sudd Press]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
✎	*External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.*	

Ext Sudd Press . **Alarm**	[Protection Para / Global Prot Para / Ext Sudd Press]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
✎	*Assignment for External Alarm*	

Ext Sudd Press . **Trip**	[Protection Para / Global Prot Para / Ext Sudd Press]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	P.2
	External trip of the CB if the state of the assigned signal is true.	

9.36.3 Ext Sudd Press: Setting Group Parameters

Ext Sudd Press . **Function**	[Protection Para / Set 1…4 / Ext Sudd Press]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Ext Sudd Press . **ExBlo Fc**	[Protection Para / Set 1…4 / Ext Sudd Press]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Ext Sudd Press . **Blo TripCmd**	[Protection Para / Set 1…4 / Ext Sudd Press]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Ext Sudd Press . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Ext Sudd Press]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.36.4 Ext Sudd Press: Input States

Ext Sudd Press . **ExBlo1-I**	[Operation / Status Display / Ext Sudd Press]
Module input state: External blocking1	

Ext Sudd Press . **ExBlo2-I**	[Operation / Status Display / Ext Sudd Press]
Module input state: External blocking2	

Ext Sudd Press . **ExBlo TripCmd-I**	[Operation / Status Display / Ext Sudd Press]
Module input state: External Blocking of the Trip Command	

Ext Sudd Press . **Alarm-I**	[Operation / Status Display / Ext Sudd Press]
Module input state: Alarm	

Ext Sudd Press . **Trip-I**	[Operation / Status Display / Ext Sudd Press]
Module input state: Trip	

9.36.5 Ext Sudd Press: Signals (Output States)

Ext Sudd Press . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Ext Sudd Press]
Signal: active	

Ext Sudd Press . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Ext Sudd Press]
Signal: Alarm	

Ext Sudd Press . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Ext Sudd Press]
Signal: Trip	

Ext Sudd Press . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Ext Sudd Press]
Signal: Trip Command	

Ext Sudd Press . **ExBlo**	[Operation / Status Display / Ext Sudd Press]
⇧	*Signal: External Blocking*

Ext Sudd Press . **Blo TripCmd**	[Operation / Status Display / Ext Sudd Press]
⇧	*Signal: Trip Command blocked*

Ext Sudd Press . **ExBlo TripCmd**	[Operation / Status Display / Ext Sudd Press]
⇧	*Signal: External Blocking of the Trip Command*

9.37 Ext Oil Temp

External Oil Temperature

9.37.1 Ext Oil Temp: Device Planning Parameters

Ext Oil Temp . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Device planning.	S.3
External Protection - Module, general operation mode		

9.37.2 Ext Oil Temp: Global Parameters

Ext Oil Temp . **ExBlo1** Ext Oil Temp . **ExBlo2**	[Protection Para / Global Prot Para / Temp-Prot / Ext Oil Temp]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.		

Ext Oil Temp . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Temp-Prot / Ext Oil Temp]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.		

Ext Oil Temp . **Alarm**	[Protection Para / Global Prot Para / Temp-Prot / Ext Oil Temp]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
Assignment for External Alarm		

Ext Oil Temp . **Trip**	[Protection Para / Global Prot Para / Temp-Prot / Ext Oil Temp]	
“-”	“-” . . . Sys . Internal test state ╚▷ 1..n, Assignment List.	P.2
	External trip of the CB if the state of the assigned signal is true.	

9.37.3 Ext Oil Temp: Setting Group Parameters

Ext Oil Temp . **Function**	[Protection Para / Set 1…4 / Temp-Prot / Ext Oil Temp]	
inactive	inactive, active ╚▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Ext Oil Temp . **ExBlo Fc**	[Protection Para / Set 1…4 / Temp-Prot / Ext Oil Temp]	
inactive	inactive, active ╚▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Ext Oil Temp . **Blo TripCmd**	[Protection Para / Set 1…4 / Temp-Prot / Ext Oil Temp]	
inactive	inactive, active ╚▷ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Ext Oil Temp . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Temp-Prot / Ext Oil Temp]	
inactive	inactive, active ╚▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.37.4 Ext Oil Temp: Input States

Ext Oil Temp . **ExBlo1-I**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
Module input state: External blocking1	

Ext Oil Temp . **ExBlo2-I**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
Module input state: External blocking2	

Ext Oil Temp . **ExBlo TripCmd-I**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
Module input state: External Blocking of the Trip Command	

Ext Oil Temp . **Alarm-I**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
Module input state: Alarm	

Ext Oil Temp . **Trip-I**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
Module input state: Trip	

9.37.5 Ext Oil Temp: Signals (Output States)

Ext Oil Temp . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Temp-Prot / Ext Oil Temp]
Signal: active	

Ext Oil Temp . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Temp-Prot / Ext Oil Temp]
Signal: Alarm	

Ext Oil Temp . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Temp-Prot / Ext Oil Temp]
Signal: Trip	

Ext Oil Temp . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Temp-Prot / Ext Oil Temp]
Signal: Trip Command	

Ext Oil Temp . **ExBlo**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
⇧	*Signal: External Blocking*

Ext Oil Temp . **Blo TripCmd**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
⇧	*Signal: Trip Command blocked*

Ext Oil Temp . **ExBlo TripCmd**	[Operation / Status Display / Temp-Prot / Ext Oil Temp]
⇧	*Signal: External Blocking of the Trip Command*

9.38 Ext Temp Superv[1] . . . Ext Temp Superv[3]

External Temperature Supervision

9.38.1 Ext Temp Superv[1]: Device Planning Parameters

Ext Temp Superv[1] . **Mode**	[Device planning]	
"-"	"-", use ↳ Device planning.	S.3
	External Protection - Module, general operation mode	

9.38.2 Ext Temp Superv[1]: Global Parameters

Ext Temp Superv[1] . **ExBlo1** Ext Temp Superv[1] . **ExBlo2**	[Protection Para / Global Prot Para / Temp-Prot / Ext Temp Superv[1]]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Ext Temp Superv[1] . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Temp-Prot / Ext Temp Superv[1]]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Ext Temp Superv[1] . **Alarm**	[Protection Para / Global Prot Para / Temp-Prot / Ext Temp Superv[1]]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	Assignment for External Alarm	

Ext Temp Superv[1] . **Trip**	[Protection Para / Global Prot Para / Temp-Prot / Ext Temp Superv[1]]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External trip of the CB if the state of the assigned signal is true.	

9.38.3 Ext Temp Superv[1]: Setting Group Parameters

Ext Temp Superv[1] . **Function**	[Protection Para / Set 1...4 / Temp-Prot / Ext Temp Superv[1]]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Ext Temp Superv[1] . **ExBlo Fc**	[Protection Para / Set 1...4 / Temp-Prot / Ext Temp Superv[1]]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Ext Temp Superv[1] . **Blo TripCmd**	[Protection Para / Set 1...4 / Temp-Prot / Ext Temp Superv[1]]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Ext Temp Superv[1] . **ExBlo TripCmd Fc**	[Protection Para / Set 1...4 / Temp-Prot / Ext Temp Superv[1]]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.38.4 Ext Temp Superv[1]: Input States

Ext Temp Superv[1] . **ExBlo1-I**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇩	*Module input state: External blocking1*

Ext Temp Superv[1] . **ExBlo2-I**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇩	*Module input state: External blocking2*

Ext Temp Superv[1] . **ExBlo TripCmd-I**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇩	*Module input state: External Blocking of the Trip Command*

Ext Temp Superv[1] . **Alarm-I**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇩	*Module input state: Alarm*

Ext Temp Superv[1] . **Trip-I**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇩	*Module input state: Trip*

9.38.5 Ext Temp Superv[1]: Signals (Output States)

Ext Temp Superv[1] . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇧	*Signal: active*

Ext Temp Superv[1] . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇧	*Signal: Alarm*

Ext Temp Superv[1] . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇧	*Signal: Trip*

Ext Temp Superv[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇫ *Signal: Trip Command*	

Ext Temp Superv[1] . **ExBlo**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇫ *Signal: External Blocking*	

Ext Temp Superv[1] . **Blo TripCmd**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇫ *Signal: Trip Command blocked*	

Ext Temp Superv[1] . **ExBlo TripCmd**	[Operation / Status Display / Temp-Prot / Ext Temp Superv[1]]
⇫ *Signal: External Blocking of the Trip Command*	

9.39 Trip-Trans

Trip-Transfer over Protection-communication

9.39.1 Trip-Trans: Device Planning Parameters

Trip-Trans . **Mode**	[Device planning]	
use	"-", use ↳ Device planning.	S.3
	general operation mode	

9.39.2 Trip-Trans: Global Parameters

Trip-Trans . **ExBlo1** Trip-Trans . **ExBlo2**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / General Settings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Trip-Trans . **ExBlo TripCmd**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / General Settings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	External blocking of the Trip Command of the module/the stage, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Trip-Trans . **Rx.Trip1.Permissive** . . . Trip-Trans . **Rx.Trip4.Permissive**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / Receive]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	Optional local signal to release received Trip-signal of the remote device.	

9.39.3 Trip-Trans: Setting Group Parameters

Trip-Trans . **Function**	[Protection Para / Set 1…4 / Prot-Transfer / Trip-Trans]	
active	inactive, active └⇒ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Trip-Trans . **ExBlo Fc**	[Protection Para / Set 1…4 / Prot-Transfer / Trip-Trans]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

Trip-Trans . **Blo TripCmd**	[Protection Para / Set 1…4 / Prot-Transfer / Trip-Trans]	
inactive	inactive, active └⇒ Mode.	P.2
	Permanent blocking of the Trip Command of the module/stage.	

Trip-Trans . **ExBlo TripCmd Fc**	[Protection Para / Set 1…4 / Prot-Transfer / Trip-Trans]	
inactive	inactive, active └⇒ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo TripCmd Fc=active".	

9.39.4 Trip-Trans: Input States

Trip-Trans . **ExBlo1-I** Trip-Trans . **ExBlo2-I**	[Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Module input state: External blocking

Trip-Trans . **ExBlo TripCmd-I**	[Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Module input state: External Blocking of the Trip Command

Trip-Trans . **Rx.Trip1.Permissive** **...** Trip-Trans . **Rx.Trip4.Permissive**	[Operation / Status Display / Prot-Transfer / Trip-Trans / Receive]
	Status of local signal for releasing received Trip-signal of the remote device.

9.39.5 Trip-Trans: Signals (Output States)

Trip-Trans . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Signal: active

Trip-Trans . **Trip**	[Operation / Status Display / Trips] [Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Signal: Trip

Trip-Trans . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Signal: Trip Command

Trip-Trans . **ExBlo**	[Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Signal: External Blocking

Trip-Trans . **Blo TripCmd**	[Operation / Status Display / Prot-Transfer / Trip-Trans / General]
	Signal: Trip Command blocked

Trip-Trans . **ExBlo TripCmd**	[Operation / Status Display / Prot-Transfer / Trip-Trans / General]
⇮	*Signal: External Blocking of the Trip Command*

Trip-Trans . **Rx.Trip1.Input** **...** Trip-Trans . **Rx.Trip4.Input**	[Operation / Status Display / Prot-Transfer / Trip-Trans / Receive]
⇮	*Rx (Receive): Status of received Signal from remote device, without considering permissive signal.*

Trip-Trans . **Rx.Trip1** **...** Trip-Trans . **Rx.Trip4**	[Operation / Status Display / Prot-Transfer / Trip-Trans / Receive]
⇮	*Rx (Receive): Status of received Signal from remote device. Permissive signal is considered.*

9.39.6 Trip-Trans

Trip-Transfer over Protection-communication

9.39.6.1 Trip-Trans: Global Parameters

Trip-Trans . **Tx.Trip1**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / Transmit]	
Id . TripCmd	“-” . . . Sys . Internal test state 1..n, Assignment List.	P.2
Assignment of local signal which can be used as Trip-signal at remote device.		

Trip-Trans . **Tx.Trip2**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / Transmit]	
IdH . TripCmd	“-” . . . Sys . Internal test state 1..n, Assignment List.	P.2
Assignment of local signal which can be used as Trip-signal at remote device.		

Trip-Trans . **Tx.Trip3** Trip-Trans . **Tx.Trip4**	[Protection Para / Global Prot Para / Prot-Transfer / Trip-Trans / Transmit]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	P.2
Assignment of local signal which can be used as Trip-signal at remote device.		

9.39.6.2 Trip-Trans: Input States

Trip-Trans . **Tx.Trip1** . . . Trip-Trans . **Tx.Trip4**	[Operation / Status Display / Prot-Transfer / Trip-Trans / Transmit]
Tx (Transmit): Status of sent Trip-signal to remote device.	

9.40 Sig-Trans

Signal-Transfer over Protection-communication

9.40.1 Sig-Trans: Device Planning Parameters

Sig-Trans . **Mode**	[Device planning]	
use	“-”, use ⮡ Device planning.	S.3
	general operation mode	

9.40.2 Sig-Trans: Global Parameters

Sig-Trans . **Rx.Signal1.Fail-safe** **...** Sig-Trans . **Rx.Signal16.Fail-safe**	[Protection Para / Global Prot Para / Prot-Transfer / Sig-Trans / Receive]	
Fixed 0	Fixed 0, Fixed 1, Captured (Init. 0), Captured (Init. 1) ⮡ Fail-safe.	P.2
	Fallback mode for received signal, if Protection-communication is inactive.	

9.40.3 Sig-Trans: Signals (Output States)

Sig-Trans . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Prot-Transfer / Sig-Trans / General]
	Signal: active

Sig-Trans . **Rx.Signal1** **...** Sig-Trans . **Rx.Signal16**	[Operation / Status Display / Prot-Transfer / Sig-Trans / Receive]
	Rx (Receive): Status of received Signal from remote device.

9.40.4 Sig-Trans

Signal-Transfer over Protection-communication

9.40.4.1 Sig-Trans: Global Parameters

Sig-Trans . **ExBlo1** Sig-Trans . **ExBlo2**	[Protection Para / Global Prot Para / Prot-Transfer / Sig-Trans / General Settings]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

Sig-Trans . **Tx.Signal1** **. . .** Sig-Trans . **Tx.Signal16**	[Protection Para / Global Prot Para / Prot-Transfer / Sig-Trans / Transmit]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	Assignment of local signal to remote device.	

9.40.4.2 Sig-Trans: Setting Group Parameters

Sig-Trans . **Function**	[Protection Para / Set 1...4 / Prot-Transfer / Sig-Trans]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

Sig-Trans . **ExBlo Fc**	[Protection Para / Set 1...4 / Prot-Transfer / Sig-Trans]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

9.40.4.3 Sig-Trans: Input States

Sig-Trans . **ExBlo1-I**	[Operation / Status Display / Prot-Transfer / Sig-Trans / General]
⇩	*Module input state: External blocking1*

Sig-Trans . **ExBlo2-I**	[Operation / Status Display / Prot-Transfer / Sig-Trans / General]
⇩	*Module input state: External blocking2*

Sig-Trans . **Tx.Signal1** **. . .** Sig-Trans . **Tx.Signal16**	[Operation / Status Display / Prot-Transfer / Sig-Trans / Transmit]
⇩	*Tx (Transmit): Status of sent Signal to remote device.*

9.40.4.4 Sig-Trans: Signals (Output States)

Sig-Trans . **ExBlo**	[Operation / Status Display / Prot-Transfer / Sig-Trans / General]
⇧	*Signal: External Blocking*

9.41 Supervision

9.41.1 CBF

Circuit breaker failure protection module

9.41.1.1 CBF: Device Planning Parameters

CBF . **Mode**	[Device planning]	
"-"	"-", use ⮡ Device planning.	S.3
	Module Circuit Breaker Failure protection, general operation mode	

9.41.1.2 CBF: Global Parameters

CBF . **Scheme**	[Protection Para / Global Prot Para / Supervision / CBF]	
50BF	If: CBF . CB = "-" • 50BF If: CBF . CB ≠ "-" • 50BF, CB Pos, 50BF and CB Pos ⮡ Scheme.	P.2
	Scheme	

CBF . **CB**	[Protection Para / Global Prot Para / Supervision / CBF]	
SG[1] .	"-", SG[1] . , SG[2] . , SG[3] . , SG[4] . , SG[5] . , SG[6] . ⮡ CB List.	P.2
	Selection of the Circuit Breaker to be monitored.	

CBF . **ExBlo1** CBF . **ExBlo2**	[Protection Para / Global Prot Para / Supervision / CBF]	
"-"	"-" . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

CBF . **Trigger**	[Protection Para / Global Prot Para / Supervision / CBF]	
All Trips *Only available if:* • CBF . CB ≠ “-”	- . -, All Trips, External Trips, Current Trips ╚▷ Trigger.	P.2
Determining the trigger mode for the Breaker Failure.		

CBF . **Trigger1** CBF . **Trigger2** CBF . **Trigger3**	[Protection Para / Global Prot Para / Supervision / CBF]	
“-”	“-” ... Logics . LE80.Out inverted ╚▷ Trigger.	P.2
Trigger that will start the CBF		

9.41.1.3 CBF: Setting Group Parameters

CBF . **Function**	[Protection Para / Set 1...4 / Supervision / CBF]	
inactive	inactive, active ╚▷ Mode.	P.2
Permanent activation or deactivation of module/stage.		

CBF . **ExBlo Fc**	[Protection Para / Set 1...4 / Supervision / CBF]	
inactive	inactive, active ╚▷ active/inactive.	P.2
Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".		

CBF . **I-CBF >**	[Protection Para / Set 1...4 / Supervision / CBF]	
0.02In	0.02In ... 4.00In	P.2
Breaker Failure Alarm will be initiated if this threshold is still exceeded after the timer has expired (50 BF).		

CBF . **t-CBF**	[Protection Para / Set 1…4 / Supervision / CBF]	
0.20s	0.00s ... 10.00s	P.2
	If the delay time is expired, an CBF alarm is given out.	

9.41.1.4 CBF: Direct Controls

CBF . **Res Lockout**	[Operation / Reset]	
inactive	inactive, active Mode.	P.1
	Reset Lockout	

9.41.1.5 CBF: Input States

CBF . **ExBlo1-I**	[Operation / Status Display / Supervision / CBF]
	Module input state: External blocking1

CBF . **ExBlo2-I**	[Operation / Status Display / Supervision / CBF]
	Module input state: External blocking2

CBF . **Trigger1-I** CBF . **Trigger2-I** CBF . **Trigger3-I**	[Operation / Status Display / Supervision / CBF]
	Module Input: Trigger that will start the CBF

9.41.1.6 CBF: Signals (Output States)

CBF . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Supervision / CBF]
	Signal: active

CBF . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Supervision / CBF]
	Signal: Circuit Breaker Failure

CBF . **ExBlo**	[Operation / Status Display / Supervision / CBF]
⇪	*Signal: External Blocking*

CBF . **Waiting for Trigger**	[Operation / Status Display / Supervision / CBF]
⇪	*Waiting for Trigger*

CBF . **running**	[Operation / Status Display / Supervision / CBF]
⇪	*Signal: CBF-Module started*

CBF . **Lockout**	[Operation / Status Display / Supervision / CBF]
⇪	*Signal: Lockout*

CBF . **Res Lockout**	[Operation / Status Display / Supervision / CBF]
⇪	*Signal: Reset Lockout*

9.41.2 TCS

Trip circuit supervision

9.41.2.1 TCS: Device Planning Parameters

TCS . **Mode**	[Device planning]	
“-”	“-”, use ⮱ Device planning.	S.3
	Trip circuit supervision, general operation mode	

9.41.2.2 TCS: Global Parameters

TCS . **CB Pos Detect**	[Protection Para / Global Prot Para / Supervision / TCS]	
SG[1] . Pos	“-”, SG[1] . Pos, SG[2] . Pos, SG[3] . Pos, SG[4] . Pos, SG[5] . Pos, SG[6] . Pos ⮱ CB Manager.	P.2
	Criterion by which the Circuit Breaker Switch Position is to be detected.	

TCS . **Mode**	[Protection Para / Global Prot Para / Supervision / TCS]	
Closed *Only available if:* • TCS . CB Pos Detect ≠ “-”	Closed, Either ⮱ Mode.	P.2
	Select if trip circuit is going to be monitored when the breaker is closed or when the breaker is either open or close.	

TCS . **Input 1**	[Protection Para / Global Prot Para / Supervision / TCS]	
“-” *Only available if:* • TCS . CB Pos Detect ≠ “-”	“-” . . . DI Slot X6 . DI 8 ⮱ 1..n, Dig Inputs.	P.2
	Select the input configured to monitor the trip coil when the breaker is closed.	

TCS . **Input 2**	[Protection Para / Global Prot Para / Supervision / TCS]	
“-” *Only available if:* • TCS . CB Pos Detect ≠ “-” • TCS . Mode = Either	“-” . . . DI Slot X6 . DI 8 └▷ 1..n, Dig Inputs.	P.2
	Select the input configured to monitor the trip coil when the breaker is open. Only available if Mode set to “Either”.	

TCS . **ExBlo1** TCS . **ExBlo2**	[Protection Para / Global Prot Para / Supervision / TCS]	
“-”	“-” . . . Sys . Internal test state └▷ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.41.2.3 TCS: Setting Group Parameters

TCS . **Function**	[Protection Para / Set 1…4 / Supervision / TCS]	
inactive	inactive, active └▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

TCS . **ExBlo Fc**	[Protection Para / Set 1…4 / Supervision / TCS]	
inactive	inactive, active └▷ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

TCS . **t-TCS**	[Protection Para / Set 1…4 / Supervision / TCS]	
0.2s	0.10s . . . 10.00s	P.2
	Delay time of the Trip Circuit Supervision	

9.41.2.4 TCS: Input States

TCS . **Aux ON-I**	[Operation / Status Display / Supervision / TCS]
⇩	*Module Input State: Position indicator/check-back signal of the CB (52a)*

TCS . **Aux OFF-I**	[Operation / Status Display / Supervision / TCS]
⇩	*Module input state: Position indicator/check-back signal of the CB (52b)*

TCS . **ExBlo1-I**	[Operation / Status Display / Supervision / TCS]
⇩	*Module input state: External blocking1*

TCS . **ExBlo2-I**	[Operation / Status Display / Supervision / TCS]
⇩	*Module input state: External blocking2*

9.41.2.5 TCS: Signals (Output States)

TCS . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Supervision / TCS]
⇧	*Signal: active*

TCS . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Supervision / TCS]
⇧	*Signal: Alarm Trip Circuit Supervision*

TCS . **ExBlo**	[Operation / Status Display / Supervision / TCS]
⇧	*Signal: External Blocking*

TCS . **Not Possible**	[Operation / Status Display / Supervision / TCS]
⇧	*Not possible because no state indicator assigned to the breaker.*

9.41.3 CTS

CT Supervision

9.41.3.1 CTS: Device Planning Parameters

CTS . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Device planning.	S.3
	CT Supervision, general operation mode	

9.41.3.2 CTS: Global Parameters

CTS . **ExBlo1** CTS . **ExBlo2**	[Protection Para / Global Prot Para / Supervision / CTS]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

9.41.3.3 CTS: Setting Group Parameters

CTS . **Function**	[Protection Para / Set 1…4 / Supervision / CTS]	
inactive	inactive, active ⮡ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

CTS . **ExBlo Fc**	[Protection Para / Set 1…4 / Supervision / CTS]	
inactive	inactive, active ⮡ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

CTS . **ΔI**	[Protection Para / Set 1…4 / Supervision / CTS]	
0.50In	0.10In . . . 1.00In	P.2
	In order to prevent faulty tripping of phase selective protection functions that use the current as tripping criterion. If the difference of the measured earth current and the calculated value I0 is higher than the pick up value ΔI, an alarm event is generated after expiring of the excitation time. In such a case, a fuse failure, a broken wire or a faulty measuring circuit can be assumed.	

CTS . **Alarm delay**	[Protection Para / Set 1…4 / Supervision / CTS]	
1.0s	0.0s . . . 9999.0s	P.2
	Alarm delay	

CTS . **Kd**	[Protection Para / Set 1…4 / Supervision / CTS]	
0.00	0.00 . . . 0.99	P.2
	Dynamic correction factor for the evaluation of the difference between calculated and measured earth current. This correction factor allows transformer faults, caused by higher currents, to be compensated.	

9.41.3.4 CTS: Input States

CTS . **ExBlo1-I**	[Operation / Status Display / Supervision / CTS]
	Module input state: External blocking1

CTS . **ExBlo2-I**	[Operation / Status Display / Supervision / CTS]
	Module input state: External blocking2

9.41.3.5 CTS: Signals (Output States)

CTS . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Supervision / CTS]
	Signal: active

CTS . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Supervision / CTS]
	Signal: Alarm Current Transformer Measuring Circuit Supervision

CTS . **ExBlo**	[Operation / Status Display / Supervision / CTS]
⇫	*Signal: External Blocking*

9.41.4 LOP

Loss of Potential

9.41.4.1 LOP: Device Planning Parameters

LOP . **Mode**	[Device planning]	
“-”	“-”, use ⮡ Device planning.	S.3
	general operation mode	

9.41.4.2 LOP: Global Parameters

LOP . **CB Pos Detect**	[Protection Para / Global Prot Para / Supervision / LOP]	
“-”	“-”, SG[1] . Pos, SG[2] . Pos, SG[3] . Pos, SG[4] . Pos, SG[5] . Pos, SG[6] . Pos ⮡ CB Manager.	P.2
	If there is a circuit breaker assigned, LOP will be inhibited if the circuit breaker is open. The position of the breaker will not be taken into account by LOP if no breaker is assigned.	

LOP . **ExBlo1** LOP . **ExBlo2**	[Protection Para / Global Prot Para / Supervision / LOP]	
“-”	“-” . . . Sys . Internal test state ⮡ 1..n, Assignment List.	P.2
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.	

LOP . **Blo Trigger1** . . . LOP . **Blo Trigger5**	[Protection Para / Global Prot Para / Supervision / LOP]	
“-”	“-” . . . IG[4] . Alarm ⮡ Blo Trigger.	P.2
	An Alarm of this protective element will block the Loss of Potential Detection.	

LOP . **Ex FF VT**	[Protection Para / Global Prot Para / Supervision / LOP]	
“-”	“-” . . . Sys . Internal test state ╘⊳ 1..n, Assignment List.	P.2
	Alarm Fuse Failure Voltage Transformers	

LOP . **Ex FF EVT**	[Protection Para / Global Prot Para / Supervision / LOP]	
“-”	“-” . . . Sys . Internal test state ╘⊳ 1..n, Assignment List.	P.2
	Alarm Fuse Failure Earth Voltage Transformers	

9.41.4.3 LOP: Setting Group Parameters

LOP . **Function**	[Protection Para / Set 1…4 / Supervision / LOP]	
inactive	inactive, active ╘⊳ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

LOP . **ExBlo Fc**	[Protection Para / Set 1…4 / Supervision / LOP]	
inactive	inactive, active ╘⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

LOP . **LOPB Enable**	[Protection Para / Set 1…4 / Supervision / LOP]	
inactive	inactive, active ╘⊳ active/inactive.	P.2
	Activate (allow) or inactivate (disallow) blocking by the module LOP.	

LOP . **I<**	[Protection Para / Set 1...4 / Supervision / LOP]	
2.0In	0.5In ... 4.0In	P.2
	To prevent unintended operation during faults, this threshold should be used to distinguish between load current and overcurrent. A current above this threshold will be seen as overcurrent and LOP will be inhibited. If the current detector identifies load current as overcurrent (threshold to low), a LOP situation will not be detected and if the threshold is too high, a fault situation will be identified as LOP which results in blocking of protection functions.	

LOP . **t-Alarm**	[Protection Para / Set 1...4 / Supervision / LOP]	
0.1s	0s ... 9999.0s	P.2
	Pickup Delay	

LOP . **Dead Bus Detection**	[Protection Para / Set 1...4 / Supervision / LOP]	
inactive	inactive, active ↳ Mode.	P.2
	If this detection is active, LOP will be inhibited if there is no current and voltage applied.	

9.41.4.4 LOP: Input States

LOP . **ExBlo1-I**	[Operation / Status Display / Supervision / LOP]
	Module input state: External blocking1

LOP . **ExBlo2-I**	[Operation / Status Display / Supervision / LOP]
	Module input state: External blocking2

LOP . **Ex FF VT-I**	[Operation / Status Display / Supervision / LOP]
	State of the module input: Alarm Fuse Failure Voltage Transformers

LOP . **Ex FF EVT-I**	[Operation / Status Display / Supervision / LOP]
	State of the module input: Alarm Fuse Failure Earth Voltage Transformers

LOP . **Blo Trigger1-I** **. . .** LOP . **Blo Trigger5-I**	[Operation / Status Display / Supervision / LOP]
⇩	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*

9.41.4.5 LOP: Signals (Output States)

LOP . **active**	[Operation / Status Display / All Actives] [Operation / Status Display / Supervision / LOP]
⇧	*Signal: active*

LOP . **Alarm**	[Operation / Status Display / Alarms] [Operation / Status Display / Supervision / LOP]
⇧	*Signal: Alarm Loss of Potential*

LOP . **ExBlo**	[Operation / Status Display / Supervision / LOP]
⇧	*Signal: External Blocking*

LOP . **LOP Blo**	[Operation / Status Display / Supervision / LOP]
⇧	*Signal: Loss of Potential blocks other elements.*

LOP . **Ex FF VT**	[Operation / Status Display / Supervision / LOP]
⇧	*Signal: Ex FF VT*

LOP . **Ex FF EVT**	[Operation / Status Display / Supervision / LOP]
⇧	*Signal: Alarm Fuse Failure Earth Voltage Transformers*

10 Control

Control

Control Page	[Control / Control Page]
🗎	This item represents a special dialog. (See the Technical Manual for details.) *Control Page*

10.1 Ctrl: Device Planning Parameters

10.2 Ctrl: Global Parameters

Ctrl . **Res NonIL**	[Control / General Settings]	
single Operation	single Operation, timeout, permanent ╚═▷ NonIL ResetMode.	C.2
	Resetmode Non-Interlocking	

Ctrl . **Timeout NonIL**	[Control / General Settings]	
60s	2s . . . 3600s	C.2
	Timeout Non-Interlocking	

Ctrl . **NonIL Assign**	[Control / General Settings]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	C.2
	Assignment Non-Interlocking	

10.3 Ctrl: Direct Controls

Ctrl . **Switching Authority**	[Control / General Settings]	
Local	None, Local, Remote, Local and Remote ╚═▷ Switching Authority.	C.2
◉	*Switching Authority*	

Ctrl . **NonInterl**	[Control / General Settings]	
inactive	inactive, active └▷ Mode.	C.2
◉	*DC for Non-Interlocking*	

10.4 Ctrl: Input States

Ctrl . **NonInterl-I**	[Operation / Status Display / Control / General Control]
⇩	*Non-Interlocking*

10.5 Ctrl: Signals (Output States)

Ctrl . **Local**	[Operation / Status Display / Control / General Control]
⇧	*Switching Authority: Local*

Ctrl . **Remote**	[Operation / Status Display / Control / General Control]
⇧	*Switching Authority: Remote*

Ctrl . **NonInterl**	[Operation / Status Display / Control / General Control]
⇧	*Non-Interlocking is active*

Ctrl . **SG Indeterm**	[Operation / Status Display / Control / General Control]
⇧	*(At least one) Switchgear is moving (Position cannot be determined).*

Ctrl . **SG Disturb**	[Operation / Status Display / Control / General Control]
⇧	*(At least one) Switchgear is disturbed.*

Ctrl . **CES SAuthority**	[Operation / Status Display / Control / General Control]
⇧	*Command Execution Supervision: Number of rejected Commands because of missing switching authority.*

Ctrl . **CES DoubleOperating**	[Operation / Status Display / Control / General Control]
⇧	*Command Execution Supervision: Number of rejected Commands because a second switch command is in conflict with a pending one.*

10.6 Ctrl: Values

Ctrl . **Switching Authority**	[Operation / Security / Security States]	
Local	None, Local, Remote, Local and Remote ╚═▷ Switching Authority.	
✎	*Switching Authority*	

10.7 SG[1] . . . SG[6]

Switchgear

10.7.1 SG[1]: Global Parameters

SG[1] . **ON incl Prot ON**	[Control / SG / SG[1] / General Settings]	
active	inactive, active ↳ Mode.	C.2
	The ON Command includes the ON Command issued by the Protection module.	

SG[1] . **OFF incl TripCmd**	[Control / SG / SG[1] / General Settings]	
active	inactive, active ↳ Mode.	C.2
	The OFF Command includes the OFF Command issued by the Protection module.	

SG[1] . **t-Move ON**	[Control / SG / SG[1] / General Settings]	
0.1s	0.01s . . . 100.00s	C.2
	Time to move to the ON Position	

SG[1] . **t-Move OFF**	[Control / SG / SG[1] / General Settings]	
0.1s	0.01s . . . 100.00s	C.2
	Time to move to the OFF Position	

SG[1] . **t-Dwell**	[Control / SG / SG[1] / General Settings]	
0s	0s . . . 100.00s	C.2
	Dwell time	

SG[1] . **t-TripCmd**	[Control / SG / SG[1] / Trip Manager]	
0.2s	0s . . . 300.00s	P.2
	Minimum hold time of the OFF-command (circuit breaker, load break switch)	

SG[1] . **Latched**	[Control / SG / SG[1] / Trip Manager]	
inactive	inactive, active ↳ Mode.	P.2
	Defines whether the Trip Command is latched.	

SG[1] . **Ack TripCmd**	[Control / SG / SG[1] / Trip Manager]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	P.2
	Ack TripCmd	

SG[1] . **Off Cmd1**	[Control / SG / SG[1] / Trip Manager]	
Id . TripCmd	"-" . . . Trip-Trans . TripCmd ↳ 1..n, Trip Cmds.	P.2
	Off Command to the Circuit Breaker if the state of the assigned signal becomes true.	

SG[1] . **Off Cmd2**	[Control / SG / SG[1] / Trip Manager]	
IdH . TripCmd	"-" . . . Trip-Trans . TripCmd ↳ 1..n, Trip Cmds.	P.2
	Off Command to the Circuit Breaker if the state of the assigned signal becomes true.	

SG[1] . **Off Cmd3**	[Control / SG / SG[1] / Trip Manager]	
I[1] . TripCmd	"-" . . . Trip-Trans . TripCmd ↳ 1..n, Trip Cmds.	P.2
	Off Command to the Circuit Breaker if the state of the assigned signal becomes true.	

SG[1] . **Off Cmd4**	[Control / SG / SG[1] / Trip Manager]	
V[1] . TripCmd	"-" . . . Trip-Trans . TripCmd ↳ 1..n, Trip Cmds.	P.2
	Off Command to the Circuit Breaker if the state of the assigned signal becomes true.	

SG[1] . **Off Cmd5**	[Control / SG / SG[1] / Trip Manager]	
V[2] . TripCmd	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Off Cmd6**	[Control / SG / SG[1] / Trip Manager]	
f[1] . TripCmd	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Off Cmd7**	[Control / SG / SG[1] / Trip Manager]	
f[2] . TripCmd	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Off Cmd8**	[Control / SG / SG[1] / Trip Manager]	
PQS[1] . TripCmd	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Off Cmd9** **. . .** SG[1] . **Off Cmd75**	[Control / SG / SG[1] / Trip Manager]	
"-"	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Off Cmd11**	[Control / SG / SG[1] / Trip Manager]	
Trip-Trans . TripCmd	"-" . . . Trip-Trans . TripCmd 1..n, Trip Cmds.	P.2
Off Command to the Circuit Breaker if the state of the assigned signal becomes true.		

SG[1] . **Aux ON**	[Control / SG / SG[1] / Pos Indicatrs Wirng]	
DI Slot X1 . DI 1	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	The CB is in ON-position if the state of the assigned signal is true (52a).	

SG[1] . **Aux OFF**	[Control / SG / SG[1] / Pos Indicatrs Wirng]	
DI Slot X1 . DI 2	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	The CB is in OFF-position if the state of the assigned signal is true (52b).	

SG[1] . **Ready**	[Control / SG / SG[1] / Pos Indicatrs Wirng]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	Circuit breaker is ready for operation if the state of the assigned signal is true. This digital input can be used by some protective elements (if they are available within the device) like Auto Reclosure (AR), e.g. as a trigger signal.	

SG[1] . **Removed**	[Control / SG / SG[1] / Pos Indicatrs Wirng]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	The withdrawable circuit breaker is Removed	

SG[1] . **SCmd ON**	[Control / SG / SG[1] / Ex ON/OFF Cmd]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	Switching ON Command, e.g. the state of the Logics or the state of the digital input	

SG[1] . **SCmd OFF**	[Control / SG / SG[1] / Ex ON/OFF Cmd]	
“-”	“-” . . . Logics . LE80.Out inverted ⮡ 1..n, DI-LogicList.	C.2
	Switching OFF Command, e.g. the state of the Logics or the state of the digital input	

SG[1] . **Interl ON1** SG[1] . **Interl ON2** SG[1] . **Interl ON3**	[Control / SG / SG[1] / Interlockings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	C.2
	Interlocking of the ON command	

SG[1] . **Interl OFF1** SG[1] . **Interl OFF2** SG[1] . **Interl OFF3**	[Control / SG / SG[1] / Interlockings]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	C.2
	Interlocking of the OFF command	

SG[1] . **Synchronism**	[Control / SG / SG[1] / Synchron Switchg]	
"-"	"-" . . . Logics . LE80.Out inverted ↳ 1..n, In-SyncList.	C.2
	Synchronism	

SG[1] . **t-MaxSyncSuperv**	[Control / SG / SG[1] / Synchron Switchg]	
0.2s	0s . . . 3000.00s	C.2
	Synchron-Run timer: Max. time allowed for synchronizing process after a close initiate. Only used for GENERATOR2SYSTEM working mode.	

10.7.2 SG[1]: Direct Controls

SG[1] . **Ack TripCmd**	[Operation / Acknowledge]	
inactive	inactive, active ↳ Mode.	P.1
	Acknowledge Trip Command	

SG[1] . **Res SGwear Sl SG**	[Operation / Reset]	
inactive	inactive, active └─▷ Mode.	P.1
◉	*Resetting the slow Switchgear Alarm*	

SG[1] . **Manipulate Position**	[Control / SG / SG[1] / General Settings]	
inactive	inactive, Pos OFF, Pos ON └─▷ Manipulate Position.	C.2
◉	*WARNING! Fake Position - Manual Position Manipulation*	

10.7.3 SG[1]: Input States

SG[1] . **Interl ON1-I** SG[1] . **Interl ON2-I** SG[1] . **Interl ON3-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: Interlocking of the ON command*

SG[1] . **Interl OFF1-I** SG[1] . **Interl OFF2-I** SG[1] . **Interl OFF3-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: Interlocking of the OFF command*

SG[1] . **SCmd ON-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*

SG[1] . **SCmd OFF-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*

SG[1] . **Aux ON-I**	[Operation / Status Display / Control / SG[1]]
⇩	*Module Input State: Position indicator/check-back signal of the CB (52a)*

SG[1] . **Aux OFF-I**	[Operation / Status Display / Control / SG[1]]
⇩	*Module input state: Position indicator/check-back signal of the CB (52b)*

SG[1] . **Ready-I**	[Operation / Status Display / Control / SG[1]]
⇩	*Module input state: CB ready*

SG[1] . **Sys-in-Sync-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*

SG[1] . **Removed-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: The withdrawable circuit breaker is Removed*

SG[1] . **Ack TripCmd-I**	[Operation / Status Display / Control / SG[1]]
⇩	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*

10.7.4 SG[1]: Signals (Output States)

SG[1] . **TripCmd**	[Operation / Status Display / TripCmds] [Operation / Status Display / Control / SG[1]]
⇧	*Signal: Trip Command*

SG[1] . **SI SingleContactInd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*

SG[1] . **Pos not ON**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Pos not ON*

SG[1] . **Pos ON**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit Breaker is in ON-Position*

SG[1] . **Pos OFF**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit Breaker is in OFF-Position*

SG[1] . **Pos Indeterm**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit Breaker is in Indeterminate Position*

SG[1] . **Pos Disturb**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*

SG[1] . **Pos**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*

SG[1] . **Ready**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Circuit breaker is ready for operation.*

SG[1] . **t-Dwell**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Dwell time*

SG[1] . **Removed**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: The withdrawable circuit breaker is Removed*

SG[1] . **Interl ON**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: One or more IL_On inputs are active.*

SG[1] . **Interl OFF**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: One or more IL_Off inputs are active.*

SG[1] . **CES succesf**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switching command executed successfully.*

SG[1] . **CES Disturbed**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*

SG[1] . **CES Fail TripCmd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*

SG[1] . **CES SwitchDir**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.*

SG[1] . **CES ON d OFF**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*

SG[1] . **CES SG not ready**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switchgear not ready*

SG[1] . **CES Fiel Interl**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*

SG[1] . **CES SyncTimeout**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*

SG[1] . **CES SG removed**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*

SG[1] . **Prot ON**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: ON Command issued by the Prot module*

SG[1] . **Ack TripCmd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Acknowledge Trip Command*

SG[1] . **ON incl Prot ON**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: The ON Command includes the ON Command issued by the Protection module.*

SG[1] . **OFF incl TripCmd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*

SG[1] . **Position Ind manipul**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Position Indicators faked*

SG[1] . **SGwear Slow SG**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*

SG[1] . **Res SGwear Sl SG**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Resetting the slow Switchgear Alarm*

SG[1] . **ON Cmd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*

SG[1] . **OFF Cmd**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*

SG[1] . **ON Cmd manual**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: ON Cmd manual*

SG[1] . **OFF Cmd manual**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: OFF Cmd manual*

SG[1] . **Sync ON request**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Synchronous ON request*

10.7.5 Breaker Wear

Switchgear

10.7.5.1 SG[1]: Global Parameters

SG[1] . **Operations Alarm**	[Control / SG / SG[1] / SG Wear]	
9999	1 . . . 100000	C.2
	Maximum number of operations. If the operations counter »TripCmd Cr« exceeds this limit then the signal »Operations Alarm« is set.	

SG[1] . **Isum Intr Alarm**	[Control / SG / SG[1] / SG Wear]	
100.00kA	0.00kA . . . 2000.00kA	C.2
	Alarm, the Sum (Limit) of interrupting currents has been exceeded.	

SG[1] . **Isum Intr ph Alm**	[Control / SG / SG[1] / SG Wear]	
100.00kA	0.00kA . . . 2000.00kA	C.2
	Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.	

SG[1] . **SGwear Curve Fc**	[Control / SG / SG[1] / SG Wear]	
inactive	inactive, active ⮡ active/inactive.	C.2
	The Circuit Breaker (load-break switch) Wear Curve defines the maximum allowed CLOSE/ OPEN cycles depending on the brake currents. If the circuit breaker maintenance curve is exceeded, an alarm will be issued. The breaker maintenance curve is to be taken from the technical data sheet of the breaker manufactor. By means of the available points this curve is to be replicated.	

SG[1] . **WearLevel Alarm**	[Control / SG / SG[1] / SG Wear]	
80.00%	0.00% . . . 100.00%	C.2
	Threshold for the Alarm	

SG[1] . **WearLevel Lockout**	[Control / SG / SG[1] / SG Wear]	
95.00%	0.00% . . . 100.00%	C.2
	Threshold for the Lockout Level	

SG[1] . **Current1**	[Control / SG / SG[1] / SG Wear]	
0.00kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #1	

SG[1] . **Count1**	[Control / SG / SG[1] / SG Wear]	
10000	1 ... 32000	C.2
	Open Counts Allowed #1	

SG[1] . **Current2**	[Control / SG / SG[1] / SG Wear]	
1.20kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #2	

SG[1] . **Count2**	[Control / SG / SG[1] / SG Wear]	
10000	1 ... 32000	C.2
	Open Counts Allowed #2	

SG[1] . **Current3**	[Control / SG / SG[1] / SG Wear]	
8.00kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #3	

SG[1] . **Count3**	[Control / SG / SG[1] / SG Wear]	
150	1 ... 32000	C.2
	Open Counts Allowed #3	

SG[1] . **Current4**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #4	

SG[1] . **Count4**	[Control / SG / SG[1] / SG Wear]	
12	1 ... 32000	C.2
	Open Counts Allowed #4	

SG[1] . **Current5**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #5	

SG[1] . **Count5**	[Control / SG / SG[1] / SG Wear]	
1	1 . . . 32000	C.2
	Open Counts Allowed #5	

SG[1] . **Current6**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA . . . 2000.00kA	C.2
	Interrupted Current Level #6	

SG[1] . **Count6**	[Control / SG / SG[1] / SG Wear]	
1	1 . . . 32000	C.2
	Open Counts Allowed #6	

SG[1] . **Current7**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA . . . 2000.00kA	C.2
	Interrupted Current Level #7	

SG[1] . **Count7**	[Control / SG / SG[1] / SG Wear]	
1	1 . . . 32000	C.2
	Open Counts Allowed #7	

SG[1] . **Current8**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA . . . 2000.00kA	C.2
	Interrupted Current Level #8	

SG[1] . **Count8**	[Control / SG / SG[1] / SG Wear]	
1	1 . . . 32000	C.2
	Open Counts Allowed #8	

SG[1] . **Current9**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA . . . 2000.00kA	C.2
	Interrupted Current Level #9	

SG[1] . **Count9**	[Control / SG / SG[1] / SG Wear]	
1	1 . . . 32000	C.2
	Open Counts Allowed #9	

SG[1] . **Current10**	[Control / SG / SG[1] / SG Wear]	
20.00kA	0.00kA ... 2000.00kA	C.2
	Interrupted Current Level #10	

SG[1] . **Count10**	[Control / SG / SG[1] / SG Wear]	
1	1 ... 32000	C.2
	Open Counts Allowed #10	

10.7.5.2 SG[1]: Direct Controls

SG[1] . **Res TripCmd Cr**	[Operation / Reset]	
inactive	inactive, active ╚▷ Mode.	P.1
◉	*Resetting of the Counter: Total number of trips of the switchgear*	

SG[1] . **Res Sum trip**	[Operation / Reset]	
inactive	inactive, active ╚▷ Mode.	P.1
◉	*Reset summation of the tripping currents*	

SG[1] . **Res CB OPEN capacity**	[Operation / Reset]	
inactive	inactive, active ╚▷ Mode.	P.1
◉	*Reset the CB OPEN capacity.* *(Remark: A »CB OPEN capacity« value of 100% means that the circuit breaker has to be maintained.)*	

SG[1] . **Res Isum Intr per hour**	[Operation / Reset]	
inactive	inactive, active ╚▷ Mode.	P.1
◉	*Reset of the Sum per hour of interrupting currents.*	

10.7.5.3 SG[1]: Signals (Output States)

SG[1] . **Operations Alarm**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*

SG[1] . **Isum Intr trip: IL1**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*

SG[1] . **Isum Intr trip: IL2**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*

SG[1] . **Isum Intr trip: IL3**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*

SG[1] . **Isum Intr trip**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*

SG[1] . **Res TripCmd Cr**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Resetting of the Counter: Total number of trips of the switchgear*

SG[1] . **Res Sum trip**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Reset summation of the tripping currents*

SG[1] . **WearLevel Alarm**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Threshold for the Alarm*

SG[1] . **WearLevel Lockout**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Threshold for the Lockout Level*

SG[1] . **Res CB OPEN capacity**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*

SG[1] . **Isum Intr ph Alm**	[Operation / Status Display / Control / SG[1]]
⇧	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*

SG[1] . **Res Isum Intr ph Alm**	[Operation / Status Display / Control / SG[1]]
	Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".

10.7.5.4 SG[1]: Values

SG[1] . **Sum trip IL1** SG[1] . **Sum trip IL2** SG[1] . **Sum trip IL3**	[Operation / Count and RevData / Control / SG[1]]
	Summation of the tripping currents phase

SG[1] . **Isum Intr per hour**	[Operation / Count and RevData / Control / SG[1]]
	Sum per hour of interrupting currents.

SG[1] . **CB OPEN capacity**	[Operation / Count and RevData / Control / SG[1]]
	Used capacity of the circuit breaker. (100% means that the circuit breaker has to be maintained.)

10.7.5.5 SG[1]: Counters

SG[1] . **TripCmd Cr**	[Operation / Count and RevData / Control / SG[1]]
#	*Counter: Total number of trips of the switchgear.*

11 System Alarms

System Alarms

11.1 SysA: Device Planning Parameters

SysA . **Mode**	[Device planning]	
“-”	“-”, use ╚═▷ Mode.	S.3
	general operation mode	

11.2 SysA: Global Parameters

SysA . **Function**	[SysA / General Settings]	
inactive	inactive, active ╚═▷ Mode.	P.2
	Permanent activation or deactivation of module/stage.	

SysA . **ExBlo Fc**	[SysA / General Settings]	
“-”	“-” . . . Sys . Internal test state ╚═▷ 1..n, Assignment List.	P.2
	Activate (allow) or inactivate (disallow) blocking of the module/stage. This parameter is only effective if a signal is assigned to the corresponding global protection parameter. If the signal becomes true, those modules/stages are blocked that are parameterized "ExBlo Fc=active".	

SysA . **Alarm**	[SysA / Power / Watt] **. . .** [SysA / THD / I THD]	
inactive	inactive, active ╚═▷ active/inactive.	P.2
	Alarm	

SysA . **Threshold**	[SysA / Power / Watt] ... [SysA / THD / V THD]	
10000kW	1kW ... 40000000kW	P.2
	Threshold (to be entered as primary value)	

SysA . **t-Delay**	[SysA / Power / Watt] ... [SysA / THD / I THD]	
0min	0min ... 60min	P.2
	Tripping Delay	

SysA . **Threshold**	[SysA / Demand / Current Demand] [SysA / THD / I THD]	
500A	10A ... 500000A	P.2
	Threshold (to be entered as primary value)	

SysA . **Threshold**	[SysA / Demand / Power Demand / VAr Demand] [SysA / Demand / Power Demand / VA Demand]	
20000kVAr	1kVAr ... 40000000kVAr	P.2
	Threshold (to be entered as primary value)	

11.3 SysA: Input States

SysA . **ExBlo-I**	[Operation / Status Display / SysA]
	Module input state: External blocking

11.4 SysA: Signals (Output States)

SysA . **active**	[Operation / Status Display / SysA]
	Signal: active

SysA . **ExBlo**	[Operation / Status Display / SysA]
	Signal: External Blocking

SysA . **Alarm Watt Power**	[Operation / Status Display / SysA]
	Signal: Alarm permitted Active Power exceeded

SysA . **Alarm VAr Power**	[Operation / Status Display / SysA]
	Signal: Alarm permitted Reactive Power exceeded

SysA . **Alarm VA Power**	[Operation / Status Display / SysA]
	Signal: Alarm permitted Apparent Power exceeded

SysA . **Alarm Watt Demand**	[Operation / Status Display / SysA]
	Signal: Alarm averaged Active Power exceeded

SysA . **Alarm VAr Demand**	[Operation / Status Display / SysA]
	Signal: Alarm averaged Reactive Power exceeded

SysA . **Alarm VA Demand**	[Operation / Status Display / SysA]
	Signal: Alarm averaged Apparent Power exceeded

SysA . **Alm Current Demd**	[Operation / Status Display / SysA]
	Signal: Alarm averaged demand current

SysA . **Alarm I THD**	[Operation / Status Display / SysA]
	Signal: Alarm Total Harmonic Distortion Current

SysA . **Alarm V THD**	[Operation / Status Display / SysA]
	Signal: Alarm Total Harmonic Distortion Voltage

SysA . **Trip Watt Power**	[Operation / Status Display / SysA]
	Signal: Trip permitted Active Power exceeded

SysA . **Trip VAr Power**	[Operation / Status Display / SysA]
	Signal: Trip permitted Reactive Power exceeded

SysA . **Trip VA Power**	[Operation / Status Display / SysA]
⇧	*Signal: Trip permitted Apparent Power exceeded*

SysA . **Trip Watt Demand**	[Operation / Status Display / SysA]
⇧	*Signal: Trip averaged Active Power exceeded*

SysA . **Trip VAr Demand**	[Operation / Status Display / SysA]
⇧	*Signal: Trip averaged Reactive Power exceeded*

SysA . **Trip VA Demand**	[Operation / Status Display / SysA]
⇧	*Signal: Trip averaged Apparent Power exceeded*

SysA . **Trip Current Demand**	[Operation / Status Display / SysA]
⇧	*Signal: Trip averaged demand current*

SysA . **Trip I THD**	[Operation / Status Display / SysA]
⇧	*Signal: Trip Total Harmonic Distortion Current*

SysA . **Trip V THD**	[Operation / Status Display / SysA]
⇧	*Signal: Trip Total Harmonic Distortion Voltage*

12 Records

12.1 Event rec

The event recorder logs all events like switching operations, change of parameters, alarms, trips, operating mode selections, blockings and state transitions of inputs and outputs.

Event rec	[Operation / Recorders / Event rec]
🖹	This item represents a special dialog. (See the Technical Manual for details.) *The event recorder logs all events like switching operations, change of parameters, alarms, trips, operating mode selections, blockings and state transitions of inputs and outputs.*

12.1.1 Event rec: Direct Controls

Event rec . **Res all rec**	[Operation / Reset]	
inactive	inactive, active ↳ Mode.	P.1
◉	*Reset all records*	

12.1.2 Event rec: Signals (Output States)

Event rec . **Res all records**	[Operation / Status Display / Recorders / Event rec]
⇫	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*

12.2 Disturb rec

After a trigger event has become true, the disturbance recorder writes analogue and digital tracks

Disturb rec	[Operation / Recorders / Disturb rec]
	This item represents a special dialog. (See the Technical Manual for details.) *After a trigger event has become true, the disturbance recorder writes analogue and digital tracks*

12.2.1 Disturb rec: Global Parameters

Disturb rec . **Start: 1**	[Device Para / Recorders / Disturb rec]	
Prot . Trip	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Start recording if the assigned signal is true.	

Disturb rec . **Start: 2** . . . Disturb rec . **Start: 8**	[Device Para / Recorders / Disturb rec]	
“-”	“-” . . . Sys . Internal test state 1..n, Assignment List.	S.3
	Start recording if the assigned signal is true.	

Disturb rec . **Auto overwriting**	[Device Para / Recorders / Disturb rec]	
active	inactive, active Mode.	S.3
	If there is no more free memory capacity left, the oldest file will be overwritten.	

Disturb rec . **Pre-trigger time**	[Device Para / Recorders / Disturb rec]	
20%	0% . . . 99%	S.3
	The pre trigger time is set in percent of the »Max file size« value. It corresponds to the part of recording before the onset of the trigger event.	

Disturb rec . **Post-trigger time**	[Device Para / Recorders / Disturb rec]	
20%	0% ... 99%	S.3
	The post trigger time is set in percent of the »Max file size« value. It is the remaining time of the »Max file size«, depending on the »Pre-trigger time« setting and the duration of the trigger event, but at maximum the »Post-trigger time« set here.	

Disturb rec . **Max file size**	[Device Para / Recorders / Disturb rec]	
2s	0.1s ... 15.0s	S.3
	The maximum storage capacity per record, including pre-trigger and post-trigger time. The amount of records depends on the size of each record, on the max. file size (set here), and on the total storage capacity.	

12.2.2 Disturb rec: Direct Controls

Disturb rec . **Man Trigger**	[Operation / Recorders / Man Trigger]	
False	False, True └▷ true or not true.	P.1
	Manual Trigger	

Disturb rec . **Res all rec**	[Operation / Reset]	
inactive	inactive, active └▷ Mode.	P.1
	Reset all records	

12.2.3 Disturb rec: Input States

Disturb rec . **Start1-I** ... Disturb rec . **Start8-I**	[Operation / Status Display / Recorders / Disturb rec]
	State of the module input:: Trigger event / start recording

12.2.4 Disturb rec: Signals (Output States)

Disturb rec . **recording**	[Operation / Status Display / Recorders / Disturb rec]
	Signal: Recording

Disturb rec . **memory full**	[Operation / Status Display / Recorders / Disturb rec]
⇧	*Signal: Memory full*

Disturb rec . **Clear fail**	[Operation / Status Display / Recorders / Disturb rec]
⇧	*Signal: Clear failure in memory*

Disturb rec . **Res all records**	[Operation / Status Display / Recorders / Disturb rec]
⇧	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*

Disturb rec . **Res all records**	[Operation / Status Display / Recorders / Disturb rec]
⇧	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*

Disturb rec . **Man Trigger**	[Operation / Status Display / Recorders / Disturb rec]
⇧	*Signal: Manual Trigger*

12.2.5 Disturb rec: Values

Disturb rec . **Rec state**	[Operation / Status Display / Recorders / Disturb rec]
Ready	Ready, Recording, Writing file, Trigger Blo ⮡ Rec state.
✎	*Recording state*

Disturb rec . **Error code**	[Operation / Status Display / Recorders / Disturb rec]
OK	OK, Write err, Clear fail, Calculation err, File not found, Auto overwriting off ⮡ Fault.
✎	*Error code*

12.3 Fault rec

The values measured at the time of tripping are saved by the Fault Recorder.

Fault rec	[Operation / Recorders / Fault rec]
🗎 This item represents a special dialog. (See the Technical Manual for details.) *The values measured at the time of tripping are saved by the Fault Recorder.*	

12.3.1 Fault rec: Global Parameters

Fault rec . **Record-Mode**	[Device Para / Recorders / Fault rec]	
Trips only	Alarms and Trips, Trips only └⇒ Record-Mode.	S.3
Recorder Mode (Set the behaviour of the recorder)		

Fault rec . **t-meas-delay**	[Device Para / Recorders / Fault rec]	
0ms	0ms . . . 60ms	S.3
After the Trip, the measurement will be delayed for this time.		

12.3.2 Fault rec: Direct Controls

Fault rec . **Res all rec**	[Operation / Reset]	
inactive	inactive, active └⇒ Mode.	P.1
Reset all records		

12.3.3 Fault rec: Signals (Output States)

Fault rec . **Res all records**	[Operation / Status Display / Recorders / Fault rec]
Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)	

12.4 Trend rec

Trend Recorder

Trend rec	[Operation / Recorders / Trend rec]
This item represents a special dialog. (See the Technical Manual for details.) *Trend Recorder*	

12.4.1 Trend rec: Global Parameters

Trend rec . **Resolution**	[Device Para / Recorders / Trend rec]	
15 min	60 min, 30 min, 15 min, 10 min, 5 min ⮡ Resolution.	S.3
Resolution (recording frequency)		

Trend rec . **Trend1**	[Device Para / Recorders / Trend rec]	
CT Local . IL1 RMS	“-” . . . PQSCr . cos phi RMS ⮡ 1..n, TrendRecList.	S.3
Observed Value1		

Trend rec . **Trend2**	[Device Para / Recorders / Trend rec]	
CT Local . IL2 RMS	“-” . . . PQSCr . cos phi RMS ⮡ 1..n, TrendRecList.	S.3
Observed Value2		

Trend rec . **Trend3**	[Device Para / Recorders / Trend rec]	
CT Local . IL3 RMS	“-” . . . PQSCr . cos phi RMS ⮡ 1..n, TrendRecList.	S.3
Observed Value3		

Trend rec . **Trend4**	[Device Para / Recorders / Trend rec]	
CT Local . IG meas RMS	“-” . . . PQSCr . cos phi RMS ⮡ 1..n, TrendRecList.	S.3
Observed Value4		

Trend rec . **Trend5**	[Device Para / Recorders / Trend rec]	
VT . VL1 RMS	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value5		

Trend rec . **Trend6**	[Device Para / Recorders / Trend rec]	
VT . VL2 RMS	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value6		

Trend rec . **Trend7**	[Device Para / Recorders / Trend rec]	
VT . VL3 RMS	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value7		

Trend rec . **Trend8**	[Device Para / Recorders / Trend rec]	
VT . VX meas RMS	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value8		

Trend rec . **Trend9**	[Device Para / Recorders / Trend rec]	
“-”	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value9		

Trend rec . **Trend10**	[Device Para / Recorders / Trend rec]	
“-”	“-” . . . PQSCr . cos phi RMS 1..n, TrendRecList.	S.3
Observed Value10		

12.4.2 Trend rec: Direct Controls

Trend rec . **Res all rec**	[Operation / Reset]	
inactive	inactive, active Mode.	P.1
◉	*Reset all records*	

12.4.3 Trend rec: Signals (Output States)

Trend rec . **Res all records**	[Operation / Status Display / Recorders / Trend rec]
⇫	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*

12.4.4 Trend rec: Counters

Trend rec . **Max avail Entries**	[Operation / Count and RevData / Trend rec]
[#]	*Maximum available entries in the current configuration*

13 Logic

13.1 Logics

Logic

13.1.1 Logics: Device Planning Parameters

Logics . **No of Equations:**	[Device planning]	
20	0, 5, 10, 20, 40, 80 ╚═▷ No of Equations:.	S.3
	Number of required Logic Equations:	

13.1.2 Logics . . . Logics

Logic

13.1.2.1 Logics: Global Parameters

Logics . **LE1.Gate**	[Logics / LE 1]	
AND	AND, OR, NAND, NOR ╘▷ LE1.Gate.	S.3
	Logic gate	

Logics . **LE1.Input1** . . . Logics . **LE1.Input4**	[Logics / LE 1]	
“-”	“-” . . . Sys . Internal test state ╘▷ 1..n, Assignment List.	S.3
	Assignment of the Input Signal	

Logics . **LE1.Inverting1** . . . Logics . **LE1.Inverting4**	[Logics / LE 1]	
inactive	inactive, active ╘▷ Mode.	S.3
	Inverting the input signals.	

Logics . **LE1.t-On Delay**	[Logics / LE 1]	
0.00s	0.00s . . . 36000.00s	S.3
	Switch On Delay	

Logics . **LE1.t-Off Delay**	[Logics / LE 1]	
0.00s	0.00s . . . 36000.00s	S.3
	Switch Off Delay	

Logics . **LE1.Reset Latched**	[Logics / LE 1]	
"-"	"-" . . . Sys . Internal test state └─▷ 1..n, Assignment List.	S.3
	Reset Signal for the Latching	

Logics . **LE1.Inverting Reset**	[Logics / LE 1]	
inactive	inactive, active └─▷ Mode.	S.3
	Inverting Reset Signal for the Latching	

Logics . **LE1.Inverting Set**	[Logics / LE 1]	
inactive	inactive, active └─▷ Mode.	S.3
	Inverting the Setting Signal for the Latching	

13.1.2.2 Logics: Input States

Logics . **LE1.Gate In1-I** **. . .** Logics . **LE1.Gate In4-I**	[Operation / Status Display / Logics]
	State of the module input: Assignment of the Input Signal

Logics . **LE1.Reset Latch-I**	[Operation / Status Display / Logics]
	State of the module input: Reset Signal for the Latching

13.1.2.3 Logics: Signals (Output States)

Logics . **LE1.Gate Out**	[Operation / Status Display / Logics]
	Signal: Output of the logic gate

Logics . **LE1.Timer Out**	[Operation / Status Display / Logics]
	Signal: Timer Output

Logics . **LE1.Out**	[Operation / Status Display / Logics]
⇫	*Signal: Latched Output (Q)*

Logics . **LE1.Out inverted**	[Operation / Status Display / Logics]
⇫	*Signal: Negated Latched Output (Q NOT)*

14 Self-Supervision

SelfSupervision

Messages	[Operation / Self-Supervision / Messages]
🗎	This item represents a special dialog. (See the Technical Manual for details.) *Internal messages*

14.1 SSV: Direct Controls

SSV . **Ack System LED**	[Operation / Acknowledge]	
False	False, True true or not true.	P.1
◉	*Acknowledge System LED (red/green flashing LED)*	

14.2 SSV: Signals (Output States)

SSV . **System Error**	[Operation / Self-Supervision / System State]
⇧	*Signal: Device Failure*

SSV . **SelfSuperVision Contact**	[Operation / Self-Supervision / System State]
⇧	*Signal: SelfSuperVision Contact*

SSV . **New error**	[Operation / Self-Supervision / System State]
⇧	*Signal: A new error message has been issued.*

SSV . **New warning**	[Operation / Self-Supervision / System State]
⇧	*Signal: A new warning message has been issued.*

14.3 SSV: Counters

SSV . **Cr No of free sockets**	[Operation / Self-Supervision / System State]
#	*Counter for network diagnosis. Number of free sockets.*

15 Service

- Sys . Reboot: ⮱ Tab.

15.1 Sgen

Sine wave generator

15.1.1 Sgen: Device Planning Parameters

Sgen . **Mode**	[Device planning]	
use	"-", use ↳ Mode.	S.3
	Sine wave generator, general operation mode	

15.1.2 Sgen: Global Parameters

Sgen . **TripCmd Mode**	[Service / Test (Prot inhibit) / Sgen / Process]	
No TripCmd	No TripCmd, With TripCmd ↳ TripCmd Mode.	S.3
	Trip Command Mode: Select between two operating modes for the Fault Simulator: "cold simulation" (without tripping the circuit breaker), or "hot simulation" (i.e. the simulation is authorized to trip the circuit breaker)	

Sgen . **Ex Start Simulation**	[Service / Test (Prot inhibit) / Sgen / Process]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	External Start of Fault Simulation (Using the test parameters)	

Sgen . **ExBlo1**	[Service / Test (Prot inhibit) / Sgen / Process]	
SG[1] . Pos ON	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.1	

Sgen . **ExBlo2**	[Service / Test (Prot inhibit) / Sgen / Process]	
"-"	"-" . . . Sys . Internal test state ↳ 1..n, Assignment List.	S.3
	External blocking of the module, if blocking is activated (allowed) within a parameter set and if the state of the assigned signal is true.2	

Sgen . **Ex ForcePost**	[Service / Test (Prot inhibit) / Sgen / Process]	
“-”	“-” . . . Sys . Internal test state └⇒ 1..n, Assignment List.	S.3
	Force Post state. Abort simulation.	

Sgen . **PreFault**	[Service / Test (Prot inhibit) / Sgen / Configuration / Times]	
0.0s	0.00s . . . 300.00s	S.3
	Pre Fault Duration	

Sgen . **FaultSimulation**	[Service / Test (Prot inhibit) / Sgen / Configuration / Times]	
0.0s	0.00s . . . 10800.00s	S.3
	Duration of Fault Simulation	

Sgen . **PostFault**	[Service / Test (Prot inhibit) / Sgen / Configuration / Times]	
0.0s	0.00s . . . 300.00s	S.3
	Post Fault Duration	

15.1.3 Sgen: Direct Controls

Sgen . **Start Simulation**	[Service / Test (Prot inhibit) / Sgen / Process]	
inactive	inactive, active └⇒ Mode.	S.3
◉	*Start Fault Simulation (Using the test parameters)*	

Sgen . **Stop Simulation**	[Service / Test (Prot inhibit) / Sgen / Process]	
inactive	inactive, active └⇒ Mode.	S.3
◉	*Stopp Fault Simulation (Using the test parameters)*	

15.1.4 Sgen: Input States

Sgen . **Ex Start Simulation-I**	[Operation / Status Display / Sgen]
	State of the module input:External Start of Fault Simulation (Using the test parameters)

Sgen . **ExBlo1-I**	[Operation / Status Display / Sgen] [Service / Test (Prot inhibit) / Sgen / State]
⇩	*Module input state: External blocking1*

Sgen . **ExBlo2-I**	[Operation / Status Display / Sgen] [Service / Test (Prot inhibit) / Sgen / State]
⇩	*Module input state: External blocking2*

Sgen . **Ex ForcePost-I**	[Operation / Status Display / Sgen] [Service / Test (Prot inhibit) / Sgen / State]
⇩	*State of the module input:Force Post state. Abort simulation.*

15.1.5 Sgen: Signals (Output States)

Sgen . **Manual Start**	[Operation / Status Display / Sgen]
⇧	*Fault Simulation has been started manually.*

Sgen . **Manual Stop**	[Operation / Status Display / Sgen]
⇧	*Fault Simulation has been stopped manually.*

Sgen . **Running**	[Operation / Status Display / Sgen] [Service / Test (Prot inhibit) / Sgen / State]
⇧	*Signal; Measuring value simulation is running*

Sgen . **Started**	[Operation / Status Display / Sgen]
⇧	*Fault Simulation has been started*

Sgen . **Stopped**	[Operation / Status Display / Sgen]
⇧	*Fault Simulation has been stopped*

Sgen . **State**	[Operation / Status Display / Sgen]
⇧	*Signal: Wave generation states: 0=Off, 1=PreFault, 2=Fault, 3=PostFault, 4=InitReset*

15.1.6 Sgen: Values

Sgen . **State**	[Service / Test (Prot inhibit) / Sgen / State]	
Off	Off, PreFault, FaultSimulation, PostFault, Init Res ╚═▷ State.	
	Wave generation states: 0=Off, 1=PreFault, 2=Fault, 3=PostFault, 4=InitReset	

15.1.7 Sgen

Sine wave generator

15.1.7.1 Sgen: Global Parameters

Sgen . **VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Pre State: phase L1	

Sgen . **VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Pre State: phase L2	

Sgen . **VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Pre State: phase L3	

Sgen . **VX**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0.0Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Pre State: VX	

Sgen . **phi VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Pre-Phase:phase L1	

Sgen . **phi VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
240°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Pre-Phase:phase L2	

Sgen . **phi VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
120°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Pre-Phase:phase L3	

Sgen . **phi VX meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / VT]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Pre-Phase: VX	

Sgen . **VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0.29Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Fault State: phase L1	

Sgen . **VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0.29Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Fault State: phase L2	

Sgen . **VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0.29Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Fault State: phase L3	

Sgen . **VX**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0.29Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude in Fault State: phase VX	

Sgen . **phi VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Fault-Phase:phase L1	

Sgen . **phi VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
240°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Fault-Phase:phase L2	

Sgen . **phi VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
120°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Fault-Phase:phase L3	

Sgen . **phi VX meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / VT]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Fault-Phase: VX	

Sgen . **VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude during Post phase: phase L1	

Sgen . **VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude during Post phase: phase L2	

Sgen . **VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0.57Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude during Post phase: phase L3	

Sgen . **VX**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0.0Vn	0.00Vn ... 2.00Vn	S.3
	Voltage Fundamental Magnitude during Post phase: phase VX	

Sgen . **phi VL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0°	-360° . . . 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Post phase: phase L1	

Sgen . **phi VL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
240°	-360° . . . 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Post phase: phase L2	

Sgen . **phi VL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
120°	-360° . . . 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Post phase: phase L3	

Sgen . **phi VX meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / VT]	
0°	-360° . . . 360°	S.3
	Start Position respectively Start Angle of the Voltage Phasor during Post phase: phase VX	

15.1.8 Sgen

Sine wave generator

15.1.8.1 Sgen: Global Parameters

Sgen . **IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Pre State: phase L1	

Sgen . **IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Pre State: phase L2	

Sgen . **IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Pre State: phase L3	

Sgen . **IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0.0In	If: slot 3 = Current measuring inputs2 • 0.00In ... 2.500In If: slot 3 ≠ Current measuring inputs2 • 0.00In ... 25.00In	S.3
	Current Fundamental Magnitude in Pre State: IG	

Sgen . **phi IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Pre-Phase:phase L1	

Sgen . **phi IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
240°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Pre-Phase:phase L2	

Sgen . **phi IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
120°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Pre-Phase:phase L3	

Sgen . **phi IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PreFault / CT Local]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Pre-Phase: IG	

Sgen . **IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Fault State: phase L1	

Sgen . **IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Fault State: phase L2	

Sgen . **IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude in Fault State: phase L3	

Sgen . **IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0.0In	If: slot 3 = Current measuring inputs2 • 0.00In ... 2.500In If: slot 3 ≠ Current measuring inputs2 • 0.00In ... 25.00In	S.3
	Current Fundamental Magnitude in Fault State: IG	

Sgen . **phi IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Fault-Phase:phase L1	

Sgen . **phi IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
240°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Fault-Phase:phase L2	

Sgen . **phi IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
120°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Fault-Phase:phase L3	

Sgen . **phi IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / FaultSimulation / CT Local]	
0°	-360° ... 360°	S.3
	Start Position respectively Start Angle of the Current Phasor during Fault-Phase: IG	

Sgen . **IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude during Post phase: phase L1	

Sgen . **IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude during Post phase: phase L2	

Sgen . **IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0.0In	0.00In ... 40.00In	S.3
	Current Fundamental Magnitude during Post phase: phase L3	

Sgen . **IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0.0In	If: slot 3 = Current measuring inputs2 • 0.00In ... 2.500In If: slot 3 ≠ Current measuring inputs2 • 0.00In ... 25.00In	S.3
	Current Fundamental Magnitude during Post phase: IG	

Sgen . **phi IL1**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0°	-360° . . . 360°	S.3
🔧	*Start Position respectively Start Angle of the Current Phasor during Post phase: phase L1*	

Sgen . **phi IL2**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
240°	-360° . . . 360°	S.3
🔧	*Start Position respectively Start Angle of the Current Phasor during Post phase: phase L2*	

Sgen . **phi IL3**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
120°	-360° . . . 360°	S.3
🔧	*Start Position respectively Start Angle of the Current Phasor during Post phase: phase L3*	

Sgen . **phi IG meas**	[Service / Test (Prot inhibit) / Sgen / Configuration / PostFault / CT Local]	
0°	-360° . . . 360°	S.3
🔧	*Start Position respectively Start Angle of the Current Phasor during Post phase: IG*	

16 Selection Lists

Direction

Direction detection

Selection list referenced by the following parameters:

- ⮡ Prot . Dir. I
- ⮡ Prot . Dir. IG meas.
- ⮡ Prot . Dir. IG calc.

Direction	Description
reverse	*reverse*
forward	*forward*
not possible	*not possible*

ProtCom Error states

Selection list referenced by the following parameters:

- ⮡ ProtCom . Communication

ProtCom Error states	Description
Err (no RX)	*Communication error: No RX connected, RX cable damaged or local RX connected to remote's RX.*
Err (corrupt data)	*Communication error: Invalid data from unknown device. SCADA connected to wrong plug (no LineDiff-signal)?*
Err (no TX)	*Communication error: No TX connected or TX cable damaged.*
Err (incomp. FW)	*Configuration error: Incompatible firmware in local and remote device (not equal).*
Err (incomp. IDs)	*Configuration error: Incompatible Pair-IDs in local and remote device.*
Err (incomp. Freq)	*Configuration error: Nominal frequencies in local and remote device not equal (50Hz/60Hz).*
Err (incomp. Sync 1)	*Communication error: Time base synchronization not possible._*
Err (incomp. Sync 2)	*Communication error: Synchronizing meassuring systems not possible.*
Eth.Switch det.	*Ethernet-Switch detected: Protection-communication via switches should be not used. Reliablility of Protection-communication may not be guaranteed.*
Ok (some errors)	*Communication established, but Error Rate is above warning level.*

ProtCom Error states	Description
Ok (stable)	*Communication stable. No errors.*

ProtCom operating mode

Selection list referenced by the following parameters:

- ╚═▷ ProtCom . Operating Mode

ProtCom operating mode	Description
Disconnected	*No connection to remote device.*
Client	*Local device acts as Client. Local measuring system is synchronized by remote device.*
Server	*Local device acts as Server. Remote measuring system is sychronized by this device.*
Loopback	*Device is in Loopback-mode.*

Rec state

Recording state

Selection list referenced by the following parameters:

- ╚═▷ Disturb rec . Rec state

Rec state	Description
Ready	*Ready*
Recording	*Recording*
Writing file	*Signal: Writing file*
Trigger Blo	*Trigger signal is still active - wait for fallback. A new record can only be started if and only the trigger signal that started the previous record has fallen back once. Therewith endless records are prevented.*

Fault

Selection list referenced by the following parameters:

- ⮡ Disturb rec . Error code

Fault	Description
OK	*OK*
Write err	*Signal: Writing error in memory*
Clear fail	*Signal: Clear failure in memory*
Calculation err	*Calculation error*
File not found	*File not found*
Auto overwriting off	*If there is no more memory available the record is being stopped.*

State

Selection list referenced by the following parameters:

- ⮡ IEC 61850 . GoosePublisherState
- ⮡ IEC 61850 . GooseSubscriberState
- ⮡ IEC 61850 . MmsServerState

State	Description
Off	*Off*
On	*On*
Error	*Error*

State

Selection list referenced by the following parameters:

- ⮡ Profibus . Slave State

State	Description
Baud Search	*No connection to the PROFIBUS-DP Master*
Baud Found	*The PROFIBUS DP Slave is connected to the bus. The Slave has not yet been addressed by the Master Device (and it was not yet addressed since the last break of the connection).*
PRM OK	*The slave was addressed by the master, the parameter setting message was received and is OK, a configuration message is expected from the master.*

State	Description
PRM REQ	*The slave is no longer addressed by the master (modified parameters within the master without having the connection stopped, master software is tuned off but lower PROFIBUS layer is still active)*
PRM Fault	*An Error in the parameter setting message (e.g. wrong PNO identification number)*
CFG Fault	*Configuration error the number of input/output bytes parameterised in the master does not match the number parametrised in the device (slave).*
Clear Data	*Master sends a General Control command to clear the data.*
Data exchange	*Master and slave exchange data.*

Baud rate

Selection list referenced by the following parameters:

- ⮡ Profibus . Baud rate

Baud rate	Description
12 Mb/s	*12 Mb/s*
6 Mb/s	*6 Mb/s*
3 Mb/s	*3 Mb/s*
1.5 Mb/s	*1.5 Mb/s*
0.5 Mb/s	*0.5 Mb/s*
187500 baud	*187500 baud*
93750 baud	*93750 baud*
45450 baud	*45450 baud*
19200 baud	*19200 baud*
9600 baud	*9600 baud*
-.-	*-.-*

PNO Id

PNO Identification Number. GSD Identification Number.

Selection list referenced by the following parameters:

- ⮡ Profibus . PNO Id

PNO Id	Description
0C50h	*PnodID for the Config file.*

Config status

Status of the user-defined SCADA configuration.\nPossible values:

Selection list referenced by the following parameters:

- ⮡ Profibus . Config status

Config status	Description
Changing	*New SCADA configuration is being loaded, but not active yet.*
OK	*The SCADA configuration is active.*
Config. not avail.	*The user-defined SCADA configuration is not available (e.g. has not been loaded into the device).*
Error	*Unexpected error. Please contact our service-team.*

Server State

Server State.

Selection list referenced by the following parameters:

- ⮡ SNTP . Used Server

Server State	Description
Server1	*Server1 used.*
Server2	*Server2 used.*
None	*No Server used.*

State

Selection list referenced by the following parameters:

- ⮡ SNTP . ServerQlty

- ⮱▷ SNTP . NetConn

State	Description
GOOD	*GOOD*
SUFFICIENT	*SUFFICIENT*
BAD	*BAD*
“-”	*NO CONNECTION*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮱▷ DI Slot X1 . Inverting 1
- ⮱▷ DI Slot X5 . Inverting 1
- ⮱▷ DI Slot X6 . Inverting 1
- ⮱▷ BO Slot X2 . Latched
- ⮱▷ BO Slot X2 . Inverting
- ⮱▷ BO Slot X2 . Inverting 1
- *[. . .]*

Mode	Description
inactive	*inactive*
active	*active*

true or not true

Selection list referenced by the following parameters:

- ⮱▷ Disturb rec . Man Trigger
- ⮱▷ SSV . Ack System LED

true or not true	Description
False	*False*
True	*True*

Type of passw. def.

Type of the password definition. This value is directly related to the security-level of the access to the device.

Selection list referenced by the following parameters:

- ⮡ Sys . Passw. for USB conn.
- ⮡ Sys . Passw.remote net.conn.

Type of passw. def.	Description
disabled	*The password disabled.*
default	*The password is the same as the factory default, i.e. it has not been altered by the user. (However, for devices with a disabled default password the password type is displayed as “disabled”, not as “default”.)*
def. by user	*The password has been defined by the user. This corresponds to the highest security-level of the access to the device.*

TLS Certificate

Type of certificate that the device uses for the encrypted communication. This value is directly related to the security-level of the communication.

Selection list referenced by the following parameters:

- ⮡ Sys . TLS Certificate

TLS Certificate	Description
Device-specific	*The device uses a device-specific certificate for the encrypted communication. This corresponds to the highest security-level of the communication.*
Basic	*The device uses a basic certificate for the encrypted communication. Compared with a device-specific certificate, this means a slightly reduced security level.*
Corrupt	*The certificate for the encrypted communication is corrupt and therefore unusable.*

Switching Authority

Selection list referenced by the following parameters:

- ╚═▷ Ctrl . Switching Authority
- ╚═▷ Ctrl . Switching Authority
- ╚═▷ Ctrl . Switching Authority

Switching Authority	Description
None	*None*
Local	*Local*
Remote	*Remote*
Local and Remote	*Local and Remote*

Config. Device Reset

If the »C« key is pressed while the device is performing a cold restart a general Reset Dialog appears on the screen. Select which options shall be available with this dialog.

Selection list referenced by the following parameters:

- ╚═▷ HMI . Config. Device Reset
- ╚═▷ HMI . Config. Device Reset
- ╚═▷ HMI . Config. Device Reset
- ╚═▷ HMI . Config. Device Reset

Config. Device Reset	Description
"Fact.def.", "PW rst"	*Two Reset Options shall be available:* *- "Reset to factory defaults",* *- "Reset passwords".*
Only “Fact.defaults”	*Only one Reset Option shall be available:* *- "Reset to factory defaults".* *CAUTION: If this option has been chosen and the password should ever get lost then the only chance to recover control is to reset the protection device to factory defaults.*
Reset deact.	*The Reset Options shall be deactivated.*

Config. Device Reset	Description
	CAUTION: If this option has been chosen and the password should ever get lost, then the protection device has to be sent to the manufacturer as a service request.

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ Transformer . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ Id . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ IdH . Mode

Mode	Description
“-”	*do not use*

Mode	Description
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ IdG . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ IdGH . Mode

Mode	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ IH2 . Mode

Device planning	Description
“-”	*do not use*
use	*use*

I>

If the pickup value is exceeded, the module/element starts to time out to trip.

Selection list referenced by the following parameters:

- ╚═▷ I[1] . Mode

I>	Description
“-”	*do not use*
non directional	*non directional*
forward	*forward*
reverse	*reverse*

Earth overcurrent

Selection list referenced by the following parameters:

- ╚═▷ IG[1] . Mode

Earth overcurrent	Description
“-”	*do not use*
non directional	*non directional*
forward	*forward*
reverse	*reverse*

yes/no

Selection list referenced by the following parameters:

- ╚═▷ Sys . Reboot
- ╚═▷ IG[1] . Superv. only
- ╚═▷ VG[1] . Superv. only
- ╚═▷ Sys . Reboot

yes/no	Description
no	*no*

yes/no	Description
yes	*yes*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ ThR . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ I2>[1] . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ V[1] . Mode

Device planning	Description
“-”	*do not use*
V>	*V>*
V<	*Pickup value*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ df/dt . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ delta phi . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ Intertripping . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ P . Mode

Mode	Description
“-”	*do not use*
P>	*Over Forward*
Pr>	*Over Reverse*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ Q . Mode

Mode	Description
“-”	*do not use*
Q>	*Over Forward*
Qr>	*Over Reverse*

Device planning

Selection list referenced by the following parameters:

- ╘═▷ LVRT[1] . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╘═▷ VG[1] . Mode

Device planning	Description
“-”	*do not use*

Device planning	Description
V>	*V>*
V<	*Pickup value*

Device planning

Selection list referenced by the following parameters:

- ⮡ V012[1] . Mode

Device planning	Description
“-”	*do not use*
V1>	*Positive Phase Sequence Overvoltage*
V1<	*Positive Phase Sequence Undervoltage*
V2>	*Negative Phase Sequence Overvoltage*

Device planning

Selection list referenced by the following parameters:

- ⮡ f[1] . Mode

Device planning	Description
“-”	*do not use*
f<	*Underfrequency*
f>	*Overfrequency*
f< and df/dt	*Underfrequency and (instantaneous) rate of frequency change*
f> and df/dt	*Overfrequency and (instantaneous) rate of frequency change*
f< and DF/DT	*Underfrequency and (averaged) rate of frequency change*
f> and DF/DT	*Overfrequency and (averaged) rate of frequency change*
df/dt	*Measured value (calculated): Rate-of-frequency-change.*
delta phi	*Measured value (calculated): Vector surge*

Mode

general operation mode

Selection list referenced by the following parameters:

- PQS[1] . Mode

Mode	Description
“-”	*do not use*
P>	*Over(load) Active Power Pickup Value. Can be used for monitoring the maximum allowed forward power limits of transformers or overhead lines.*
P<	*Under(load) Active Power Pickup Value (e.g. caused by idling motors).*
Pr<	*Under Reverse*
Pr>	*Overload Reverse Active Power Pickup Value. Protection against reverse feeding into the power supply network.*
Q>	*Over(load) Reactive Power Pickup Value. Monitoring the maximum allowed reactive power of the electrical equipment like transformers or overhead lines). If the maximum value is exceeded a condensator bank could be switched off.*
Q<	*Under(load) Reactive Power Pickup Value. Monitoring the minimum value of the reactive power. If it falls below the set value a condensator bank could be switched on.*
Qr<	*Under Reverse*
Qr>	*Overload Reverse Reactive Power Pickup Value*
S>	*Over(load) Apparent Power Pickup Value*
S<	*Under(load) Apparent Power Pickup Value*

Mode

general operation mode

Selection list referenced by the following parameters:

- PF[1] . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ↳ Q->&V< . Mode

Mode	Description
"-"	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ↳ ReCon[1] . Mode

Mode	Description
"-"	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ↳ UFLS . Mode

Mode	Description
"-"	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ⮡ AR . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ Sync . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ V/f>[1] . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ SOTF . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ CLPU . Mode

Mode	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ ExP[1] . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╚═▷ Ext Sudd Press . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- └⇒▷ Ext Oil Temp . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- └⇒▷ Ext Temp Superv[1] . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- └⇒▷ Trip-Trans . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- └⇒▷ Sig-Trans . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ⮡ CBF . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ⮡ TCS . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ⮡ CTS . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Device planning

Selection list referenced by the following parameters:

- ╘═▷ LOP . Mode

Device planning	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ SysA . Mode

Mode	Description
“-”	*do not use*
use	*use*

Used Protocol

Used SCADA Protocol

Selection list referenced by the following parameters:

- ╘═▷ Scada . Protocol

Used Protocol	Description
“-”	*do not use*
Modbus RTU	*Modbus Protocol RTU*
Modbus TCP	*Modbus Protocol TCP*
Modbus TCP/RTU	*Modbus Protocol TCP/RTU*
DNP3 RTU	*Distributed Network Protocol RTU*
DNP3 TCP	*Distributed Network Protocol TCP*
DNP3 UDP	*Distributed Network Protocol UDP*
IEC 60870-5-103	*IEC 60870-5-103 Protocol*

Used Protocol	Description
IEC 60870-5-104	*IEC 60870-5-104 Protocol*
IEC 61850	*IEC 61850 communication*
Profibus	*Profibus Module*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ IRIG-B . Mode

Mode	Description
“-”	*do not use*
use	*use*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ SNTP . Mode

Mode	Description
“-”	*do not use*
use	*use*

No of Equations:

Number of required Logic Equations:

Selection list referenced by the following parameters:

- ╚═▷ Logics . No of Equations:

No of Equations:	Description
0	*0*
5	*5*
10	*10*
20	*20*
40	*40*
80	*80*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ Sgen . Mode

Mode	Description
“-”	*do not use*
use	*use*

Scaling

Display of the measured values as primary, secondary or per unit values

Selection list referenced by the following parameters:

- ╘═▷ Sys . Scaling

Scaling	Description
Per unit values	*Per unit values*
Primary values	*Primary values*
Secondary values	*Secondary values*

1..n Power Scaling

Selection list referenced by the following parameters:

- ⮡ PQSCr . Power Units

1..n Power Scaling	Description
Power Auto Scaling	*Selects unit prefix (k, M, G) and decimal places for power values to best fit, depending on VT and CT primary settings.*
kW/kVAr/kVA	*Set unit prefix to k (kW, kVAr or kVA)*
MW/MVAr/MVA	*Set unit prefix to M (MW, MVAr or MVA)*
GW/GVAr/GVA	*Set unit prefix to G (GW, GVAr or GVA)*

1..n Energy Scaling

Selection list referenced by the following parameters:

- ⮡ PQSCr . Energy Units

1..n Energy Scaling	Description
Energy Auto Scaling	*Selects unit prefix (k, M, G) and decimal places for power values to best fit, depending on VT and CT primary settings.*
kWh/kVArh/kVAh	*Set unit prefix to k (kWh, kVArh or kVAh)*
MWh/MVArh/MVAh	*Set unit prefix to M (MWh, MVArh or MVAh)*
GWh/GVArh/GVAh	*Set unit prefix to G (GWh, GVArh or GVAh)*

Nom voltage

Nominal voltage of the digital inputs

Selection list referenced by the following parameters:

- ⮡ DI Slot X1 . Nom voltage

Nom voltage	Description
24 VDC	*24 VDC*
48 VDC	*48 VDC*
60 VDC	*60 VDC*
110 VDC	*110 VDC*
230 VDC	*230 VDC*
110 VAC	*110 VAC*

Nom voltage	Description
230 VAC	*230 VAC*

Debouncing time

A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.

Selection list referenced by the following parameters:

- ╚═▷ DI Slot X1 . Debouncing time 1

Debouncing time	Description
no debouncing time	*no debouncing time*
20 ms	*20 ms*
50 ms	*50 ms*
100 ms	*100 ms*

Nom voltage

Nominal voltage of the digital inputs

Selection list referenced by the following parameters:

- ╚═▷ DI Slot X5 . Nom voltage

Nom voltage	Description
24 VDC	*24 VDC*
48 VDC	*48 VDC*
60 VDC	*60 VDC*
110 VDC	*110 VDC*
230 VDC	*230 VDC*
110 VAC	*110 VAC*
230 VAC	*230 VAC*

Debouncing time

A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.

Selection list referenced by the following parameters:

- ⮡ DI Slot X5 . Debouncing time 1

Debouncing time	Description
no debouncing time	*no debouncing time*
20 ms	*20 ms*
50 ms	*50 ms*
100 ms	*100 ms*

Nom voltage

Nominal voltage of the digital inputs

Selection list referenced by the following parameters:

- ⮡ DI Slot X6 . Nom voltage

Nom voltage	Description
24 VDC	*24 VDC*
48 VDC	*48 VDC*
60 VDC	*60 VDC*
110 VDC	*110 VDC*
230 VDC	*230 VDC*
110 VAC	*110 VAC*
230 VAC	*230 VAC*

Debouncing time

A change of the state of a digital input will only be recognized after the debouncing time has expired (become effective). Thus, transient signals will not be misinterpreted.

Selection list referenced by the following parameters:

- ⮡ DI Slot X6 . Debouncing time 1

Debouncing time	Description
no debouncing time	*no debouncing time*
20 ms	*20 ms*
50 ms	*50 ms*
100 ms	*100 ms*

1...n Operating Modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X2 . Operating Mode
- ⮡ BO Slot X2 . Operating Mode
- ⮡ BO Slot X2 . Operating Mode
- ⮡ BO Slot X2 . Operating Mode
- ⮡ BO Slot X2 . Operating Mode
- ⮡ BO Slot X2 . Operating Mode

1...n Operating Modes	Description
Normally open (NO)	*The working principle of the relay corresponds to a normally open contact.*
Normally closed (NC)	*The working principle of the relay corresponds to a normally closed contact.*

1..n, Assignment List

Assignment List

Selection list referenced by the following parameters:

- ⮡ BO Slot X2 . Acknowledgement
- ⮡ BO Slot X2 . Assignment 1
- ⮡ BO Slot X2 . Assignment 2
- ⮡ BO Slot X2 . Acknowledgement
- ⮡ BO Slot X2 . Assignment 1
- ⮡ BO Slot X2 . Assignment 2

- *[. . .]*

1..n, Assignment List	Description
“-”	*No assignment*
Prot . **available**	*Signal: Protection is available*
Prot . **active**	*Signal: active*
Prot . **ExBlo**	*Signal: External Blocking*
Prot . **Blo TripCmd**	*Signal: Trip Command blocked*
Prot . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Prot . **Alarm L1**	*Signal: General-Alarm L1*
Prot . **Alarm L2**	*Signal: General-Alarm L2*
Prot . **Alarm L3**	*Signal: General-Alarm L3*
Prot . **Alarm G**	*Signal: General-Alarm - Earth fault*
Prot . **Alarm**	*Signal: General Alarm*
Prot . **Trip L1**	*Signal: General Trip L1*
Prot . **Trip L2**	*Signal: General Trip L2*
Prot . **Trip L3**	*Signal: General Trip L3*
Prot . **Trip G**	*Signal: General Trip Ground fault*
Prot . **Trip**	*Signal: General Trip*
Prot . **Res FaultNo a GridFaultNo**	*Signal: Resetting of fault number and grid fault number.*
Prot . **I dir fwd**	*Signal: Phase current failure forward direction*
Prot . **I dir rev**	*Signal: Phase current failure reverse direction*
Prot . **I dir n poss**	*Signal: Phase fault - missing reference voltage*
Prot . **IG calc dir fwd**	*Signal: Ground fault (calculated) forward*
Prot . **IG calc dir rev**	*Signal: Ground fault (calculated) reverse direction*
Prot . **IG calc dir n poss**	*Signal: Ground fault (calculated) direction detection not possible*
Prot . **IG meas dir fwd**	*Signal: Ground fault (measured) forward*
Prot . **IG meas dir rev**	*Signal: Ground fault (measured) reverse direction*
Prot . **IG meas dir n poss**	*Signal: Ground fault (measured) direction detection not possible*
Prot . **Remote available**	*Signal: Protection of Remote Device is available*
Prot . **ExBlo1-I**	*Module input state: External blocking1*
Prot . **ExBlo2-I**	*Module input state: External blocking2*

1..n, Assignment List	Description
Prot . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
VT . **Phase seq. wrong**	*Signal that the device has detected a phase sequence (L1-L2-L3 / L1-L3-L2) that is different from the one that had been set at [Field settings / General Settings] »Phase Sequence«.*
CT Local . **Phase seq. wrong**	*Signal that the device has detected a phase sequence (L1-L2-L3 / L1-L3-L2) that is different from the one that had been set at [Field settings / General Settings] »Phase Sequence«.*
Ctrl . **Local**	*Switching Authority: Local*
Ctrl . **Remote**	*Switching Authority: Remote*
Ctrl . **NonInterl**	*Non-Interlocking is active*
Ctrl . **SG Indeterm**	*(At least one) Switchgear is moving (Position cannot be determined).*
Ctrl . **SG Disturb**	*(At least one) Switchgear is disturbed.*
Ctrl . **NonInterl-I**	*Non-Interlocking*
SG[1] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*
SG[1] . **Pos not ON**	*Signal: Pos not ON*
SG[1] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[1] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[1] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[1] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[1] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[1] . **t-Dwell**	*Signal: Dwell time*
SG[1] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[1] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[1] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[1] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[1] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*
SG[1] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[1] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position.*

1..n, Assignment List	Description
	Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.
SG[1] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[1] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[1] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[1] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[1] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[1] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[1] . **TripCmd**	*Signal: Trip Command*
SG[1] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*
SG[1] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*
SG[1] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*
SG[1] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[1] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[1] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[1] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[1] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[1] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[1] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[1] . **Sync ON request**	*Signal: Synchronous ON request*
SG[1] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[1] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
SG[1] . **Ready-I**	*Module input state: CB ready*
SG[1] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*
SG[1] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*

1..n, Assignment List	Description
SG[1] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[1] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[1] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[1] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[1] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[1] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[1] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[1] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[1] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[1] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*
SG[1] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*
SG[1] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*
SG[1] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[1] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[1] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[1] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[1] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[1] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[1] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[1] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[1] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*
SG[2] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*
SG[2] . **Pos not ON**	*Signal: Pos not ON*

1..n, Assignment List	Description
SG[2] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[2] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[2] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[2] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[2] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[2] . **t-Dwell**	*Signal: Dwell time*
SG[2] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[2] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[2] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[2] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[2] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*
SG[2] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[2] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.*
SG[2] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[2] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[2] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[2] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[2] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[2] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[2] . **TripCmd**	*Signal: Trip Command*
SG[2] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*
SG[2] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*
SG[2] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*

1..n, Assignment List	Description
SG[2] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[2] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[2] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[2] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[2] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[2] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[2] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[2] . **Sync ON request**	*Signal: Synchronous ON request*
SG[2] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[2] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
SG[2] . **Ready-I**	*Module input state: CB ready*
SG[2] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*
SG[2] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*
SG[2] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[2] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[2] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[2] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[2] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[2] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[2] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[2] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[2] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[2] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*
SG[2] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*
SG[2] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*

1..n, Assignment List	Description
SG[2] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[2] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[2] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[2] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[2] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[2] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[2] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[2] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[2] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*
SG[3] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*
SG[3] . **Pos not ON**	*Signal: Pos not ON*
SG[3] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[3] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[3] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[3] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[3] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[3] . **t-Dwell**	*Signal: Dwell time*
SG[3] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[3] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[3] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[3] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[3] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*
SG[3] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[3] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is*

1..n, Assignment List	Description
	issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.
SG[3] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[3] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[3] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[3] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[3] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[3] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[3] . **TripCmd**	*Signal: Trip Command*
SG[3] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*
SG[3] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*
SG[3] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*
SG[3] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[3] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[3] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[3] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[3] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[3] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[3] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[3] . **Sync ON request**	*Signal: Synchronous ON request*
SG[3] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[3] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
SG[3] . **Ready-I**	*Module input state: CB ready*
SG[3] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*

1..n, Assignment List	Description
SG[3] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*
SG[3] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[3] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[3] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[3] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[3] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[3] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[3] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[3] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[3] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[3] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*
SG[3] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*
SG[3] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*
SG[3] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[3] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[3] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[3] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[3] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[3] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[3] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[3] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[3] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*
SG[4] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*

1..n, Assignment List	Description
SG[4] . **Pos not ON**	*Signal: Pos not ON*
SG[4] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[4] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[4] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[4] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[4] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[4] . **t-Dwell**	*Signal: Dwell time*
SG[4] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[4] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[4] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[4] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[4] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*
SG[4] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[4] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.*
SG[4] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[4] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[4] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[4] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[4] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[4] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[4] . **TripCmd**	*Signal: Trip Command*
SG[4] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*
SG[4] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*

1..n, Assignment List	Description
SG[4] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*
SG[4] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[4] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[4] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[4] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[4] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[4] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[4] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[4] . **Sync ON request**	*Signal: Synchronous ON request*
SG[4] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[4] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
SG[4] . **Ready-I**	*Module input state: CB ready*
SG[4] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*
SG[4] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*
SG[4] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[4] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[4] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[4] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[4] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[4] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[4] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[4] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[4] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[4] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*
SG[4] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*

1..n, Assignment List	Description
SG[4] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*
SG[4] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[4] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[4] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[4] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[4] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[4] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[4] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[4] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[4] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*
SG[5] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*
SG[5] . **Pos not ON**	*Signal: Pos not ON*
SG[5] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[5] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[5] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[5] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[5] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[5] . **t-Dwell**	*Signal: Dwell time*
SG[5] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[5] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[5] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[5] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[5] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*

1..n, Assignment List	Description
SG[5] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[5] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.*
SG[5] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[5] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[5] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[5] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[5] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[5] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[5] . **TripCmd**	*Signal: Trip Command*
SG[5] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*
SG[5] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*
SG[5] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*
SG[5] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[5] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[5] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[5] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[5] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[5] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[5] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[5] . **Sync ON request**	*Signal: Synchronous ON request*
SG[5] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[5] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*

1..n, Assignment List	Description
SG[5] . **Ready-I**	*Module input state: CB ready*
SG[5] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*
SG[5] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*
SG[5] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[5] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[5] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[5] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[5] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[5] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[5] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[5] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[5] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[5] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*
SG[5] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*
SG[5] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*
SG[5] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[5] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[5] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[5] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[5] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[5] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[5] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[5] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[5] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*

1..n, Assignment List	Description
SG[6] . **SI SingleContactInd**	*Signal: The Position of the Switchgear is detected by one auxiliary contact (pole) only. Thus indeterminate and disturbed Positions cannot be detected.*
SG[6] . **Pos not ON**	*Signal: Pos not ON*
SG[6] . **Pos ON**	*Signal: Circuit Breaker is in ON-Position*
SG[6] . **Pos OFF**	*Signal: Circuit Breaker is in OFF-Position*
SG[6] . **Pos Indeterm**	*Signal: Circuit Breaker is in Indeterminate Position*
SG[6] . **Pos Disturb**	*Signal: Circuit Breaker Disturbed - Undefined Breaker Position. The Position Indicators contradict themselves. After expiring of a supervision timer this signal becomes true.*
SG[6] . **Ready**	*Signal: Circuit breaker is ready for operation.*
SG[6] . **t-Dwell**	*Signal: Dwell time*
SG[6] . **Removed**	*Signal: The withdrawable circuit breaker is Removed*
SG[6] . **Interl ON**	*Signal: One or more IL_On inputs are active.*
SG[6] . **Interl OFF**	*Signal: One or more IL_Off inputs are active.*
SG[6] . **CES succesf**	*Signal: Command Execution Supervision: Switching command executed successfully.*
SG[6] . **CES Disturbed**	*Signal: Command Execution Supervision: Switching Command unsuccessful. Switchgear in disturbed position.*
SG[6] . **CES Fail TripCmd**	*Signal: Command Execution Supervision: Command execution failed because trip command is pending.*
SG[6] . **CES SwitchDir**	*Signal: Command Execution Supervision respectively Switching Direction Control: This signal becomes true, if a switch command is issued even though the switchgear is already in the requested position. Example: A switchgear that is already OFF should be switched OFF again (doubly). The same applies to CLOSE commands.*
SG[6] . **CES ON d OFF**	*Signal: Command Execution Supervision: On Command during a pending OFF Command.*
SG[6] . **CES SG not ready**	*Signal: Command Execution Supervision: Switchgear not ready*
SG[6] . **CES Fiel Interl**	*Signal: Command Execution Supervision: Switching Command not executed because of field interlocking.*
SG[6] . **CES SyncTimeout**	*Signal: Command Execution Supervision: Switching Command not executed. No Synchronization signal while t-sync was running.*
SG[6] . **CES SG removed**	*Signal: Command Execution Supervision: Switching Command unsuccessful, Switchgear removed.*
SG[6] . **Prot ON**	*Signal: ON Command issued by the Prot module*
SG[6] . **TripCmd**	*Signal: Trip Command*
SG[6] . **Ack TripCmd**	*Signal: Acknowledge Trip Command*

1..n, Assignment List	Description
SG[6] . **ON incl Prot ON**	*Signal: The ON Command includes the ON Command issued by the Protection module.*
SG[6] . **OFF incl TripCmd**	*Signal: The OFF Command includes the OFF Command issued by the Protection module.*
SG[6] . **Position Ind manipul**	*Signal: Position Indicators faked*
SG[6] . **SGwear Slow SG**	*Signal: Alarm, the circuit breaker (load-break switch) becomes slower*
SG[6] . **Res SGwear Sl SG**	*Signal: Resetting the slow Switchgear Alarm*
SG[6] . **ON Cmd**	*Signal: ON Command issued to the switchgear. Depending on the setting the signal may include the ON command of the Prot module.*
SG[6] . **OFF Cmd**	*Signal: OFF Command issued to the switchgear. Depending on the setting the signal may include the OFF command of the Prot module.*
SG[6] . **ON Cmd manual**	*Signal: ON Cmd manual*
SG[6] . **OFF Cmd manual**	*Signal: OFF Cmd manual*
SG[6] . **Sync ON request**	*Signal: Synchronous ON request*
SG[6] . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
SG[6] . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
SG[6] . **Ready-I**	*Module input state: CB ready*
SG[6] . **Sys-in-Sync-I**	*State of the module input: This signals has to become true within the synchronization time. If not, switching is unsuccessful.*
SG[6] . **Removed-I**	*State of the module input: The withdrawable circuit breaker is Removed*
SG[6] . **Ack TripCmd-I**	*State of the module input: Acknowledgement Signal (for the Trip Command) Module input signal*
SG[6] . **Interl ON1-I**	*State of the module input: Interlocking of the ON command*
SG[6] . **Interl ON2-I**	*State of the module input: Interlocking of the ON command*
SG[6] . **Interl ON3-I**	*State of the module input: Interlocking of the ON command*
SG[6] . **Interl OFF1-I**	*State of the module input: Interlocking of the OFF command*
SG[6] . **Interl OFF2-I**	*State of the module input: Interlocking of the OFF command*
SG[6] . **Interl OFF3-I**	*State of the module input: Interlocking of the OFF command*
SG[6] . **SCmd ON-I**	*State of the module input: Switching ON Command, e.g. the state of the Logics or the state of the digital input*
SG[6] . **SCmd OFF-I**	*State of the module input: Switching OFF Command, e.g. the state of the Logics or the state of the digital input*
SG[6] . **Operations Alarm**	*Signal: Too many Operations. (The operations counter »TripCmd Cr« has exceeded the limit set at »Operations Alarm«.)*

1..n, Assignment List	Description
SG[6] . **Isum Intr trip: IL1**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL1*
SG[6] . **Isum Intr trip: IL2**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL2*
SG[6] . **Isum Intr trip: IL3**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded: IL3*
SG[6] . **Isum Intr trip**	*Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.*
SG[6] . **Res TripCmd Cr**	*Signal: Resetting of the Counter: Total number of trips of the switchgear*
SG[6] . **Res Sum trip**	*Signal: Reset summation of the tripping currents*
SG[6] . **WearLevel Alarm**	*Signal: Threshold for the Alarm*
SG[6] . **WearLevel Lockout**	*Signal: Threshold for the Lockout Level*
SG[6] . **Res CB OPEN capacity**	*Signal: Reset of the wear maintenance curve (i. e. of the counter for the Circuit Breaker OPEN capacity.*
SG[6] . **Isum Intr ph Alm**	*Signal: Alarm, the per hour Sum (Limit) of interrupting currents has been exceeded.*
SG[6] . **Res Isum Intr ph Alm**	*Signal: Reset of the Alarm, "the per hour Sum (Limit) of interrupting currents has been exceeded".*
Id . **active**	*Signal: active*
Id . **ExBlo**	*Signal: External Blocking*
Id . **Blo TripCmd**	*Signal: Trip Command blocked*
Id . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Id . **Alarm L1**	*Signal: Alarm System Phase L1*
Id . **Alarm L2**	*Signal: Alarm System Phase L2*
Id . **Alarm L3**	*Signal: Alarm System L3*
Id . **Alarm**	*Signal: Alarm*
Id . **Trip L1**	*Signal: Trip System Phase L1*
Id . **Trip L2**	*Signal: Trip System Phase L2*
Id . **Trip L3**	*Signal: Trip System Phase L3*
Id . **Trip**	*Signal: Trip*
Id . **TripCmd**	*Signal: Trip Command*
Id . **Blo H2**	*Signal: Blocked by Harmonic:2*
Id . **Blo H4**	*Signal: Blocked by Harmonic:4*
Id . **Blo H5**	*Signal: Blocked by Harmonic:5*

1..n, Assignment List	Description
Id . **H2,H4,H5 Blo**	*Signal: Blocked by Harmonics (Inhibit)*
Id . **CT Satur.Stab. triggered**	*Signal: Temporary restraining of the Phase Differential Protection, triggered by the detection of an external fault in case of CT saturation.*
Id . **Transient**	*Signal: Temporary stabilization of the differential protection afterwards the transformer is being engergized.*
Id . **Restraining**	*Signal: Restraining of the differential protection by means of rising the tripping curve.*
Id . **CT Satur.Stab. L1 trig.**	*Signal: Temporary restraining of the Phase Differential Protection in phase L1, triggered by the detection of an external phase L1 fault in case of CT saturation.*
Id . **CT Satur.Stab. L2 trig.**	*Signal: Temporary restraining of the Phase Differential Protection in phase L2, triggered by the detection of an external phase L2 fault in case of CT saturation.*
Id . **CT Satur.Stab. L3 trig.**	*Signal: Temporary restraining of the Phase Differential Protection in phase L3, triggered by the detection of an external phase L3 fault in case of CT saturation.*
Id . **Restraining: L1**	*Restraining: L1*
Id . **Restraining: L2**	*Restraining: L2*
Id . **Restraining: L3**	*Restraining: L3*
Id . **IH2 Blo L1**	*Signal:Phase L1: Blocking of the Phase Differential Protection because of second Harmonic.*
Id . **IH2 Blo L2**	*Signal:Phase L2: Blocking of the Phase Differential Protection because of second Harmonic.*
Id . **IH2 Blo L3**	*Signal:Phase L3: Blocking of the Phase Differential Protection because of second Harmonic.*
Id . **IH4 Blo L1**	*Signal:Phase L1: Blocking of the Phase Differential Protection because of fourth Harmonic.*
Id . **IH4 Blo L2**	*Signal:Phase L2: Blocking of the Phase Differential Protection because of fourth Harmonic.*
Id . **IH4 Blo L3**	*Signal:Phase L3: Blocking of the Phase Differential Protection because of fourth Harmonic.*
Id . **IH5 Blo L1**	*Signal:Phase L1: Blocking of the Phase Differential Protection because of fifth Harmonic.*
Id . **IH5 Blo L2**	*Signal:Phase L2: Blocking of the Phase Differential Protection because of fifth Harmonic.*
Id . **IH5 Blo L3**	*Signal:Phase L3: Blocking of the Phase Differential Protection because of fifth Harmonic.*
Id . **ExBlo1-I**	*Module input state: External blocking1*
Id . **ExBlo2-I**	*Module input state: External blocking2*
Id . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*

1..n, Assignment List	Description
IdH . **active**	*Signal: active*
IdH . **ExBlo**	*Signal: External Blocking*
IdH . **Blo TripCmd**	*Signal: Trip Command blocked*
IdH . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IdH . **Alarm L1**	*Signal: Alarm System Phase L1*
IdH . **Alarm L2**	*Signal: Alarm System Phase L2*
IdH . **Alarm L3**	*Signal: Alarm System L3*
IdH . **Alarm**	*Signal: Alarm*
IdH . **Trip L1**	*Signal: Trip System Phase L1*
IdH . **Trip L2**	*Signal: Trip System Phase L2*
IdH . **Trip L3**	*Signal: Trip System Phase L3*
IdH . **Trip**	*Signal: Trip*
IdH . **TripCmd**	*Signal: Trip Command*
IdH . **ExBlo1-I**	*Module input state: External blocking1*
IdH . **ExBlo2-I**	*Module input state: External blocking2*
IdH . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IdG . **active**	*Signal: active*
IdG . **ExBlo**	*Signal: External Blocking*
IdG . **Blo TripCmd**	*Signal: Trip Command blocked*
IdG . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IdG . **Alarm**	*Signal: Alarm*
IdG . **Trip**	*Signal: Trip*
IdG . **TripCmd**	*Signal: Trip Command*
IdG . **ExBlo1-I**	*Module input state: External blocking1*
IdG . **ExBlo2-I**	*Module input state: External blocking2*
IdG . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IdGH . **active**	*Signal: active*
IdGH . **ExBlo**	*Signal: External Blocking*
IdGH . **Blo TripCmd**	*Signal: Trip Command blocked*
IdGH . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IdGH . **Alarm**	*Signal: Alarm*
IdGH . **Trip**	*Signal: Trip*

1..n, Assignment List	Description
IdGH . **TripCmd**	*Signal: Trip Command*
IdGH . **ExBlo1-I**	*Module input state: External blocking1*
IdGH . **ExBlo2-I**	*Module input state: External blocking2*
IdGH . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IH2 . **active**	*Signal: active*
IH2 . **ExBlo**	*Signal: External Blocking*
IH2 . **Blo L1**	*Signal: Blocked L1*
IH2 . **Blo L2**	*Signal: Blocked L2*
IH2 . **Blo L3**	*Signal: Blocked L3*
IH2 . **Blo IG meas**	*Signal: Blocking of the ground (earth) protection module (measured ground current)*
IH2 . **Blo IG calc**	*Signal: Blocking of the ground (earth) protection module (calculated ground current)*
IH2 . **3-ph Blo**	*Signal: Inrush was detected in at least one phase - trip command blocked.*
IH2 . **ExBlo1-I**	*Module input state: External blocking1*
IH2 . **ExBlo2-I**	*Module input state: External blocking2*
I[1] . **active**	*Signal: active*
I[1] . **ExBlo**	*Signal: External Blocking*
I[1] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
I[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[1] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[1] . **Alarm L1**	*Signal: Alarm L1*
I[1] . **Alarm L2**	*Signal: Alarm L2*
I[1] . **Alarm L3**	*Signal: Alarm L3*
I[1] . **Alarm**	*Signal: Alarm*
I[1] . **Trip L1**	*Signal: General Trip Phase L1*
I[1] . **Trip L2**	*Signal: General Trip Phase L2*
I[1] . **Trip L3**	*Signal: General Trip Phase L3*
I[1] . **Trip**	*Signal: Trip*
I[1] . **TripCmd**	*Signal: Trip Command*
I[1] . **DefaultSet**	*Signal: Default Parameter Set*

1..n, Assignment List	Description
I[1] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[1] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[1] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[1] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
I[1] . **ExBlo1-I**	*Module input state: External blocking1*
I[1] . **ExBlo2-I**	*Module input state: External blocking2*
I[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[1] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
I[1] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[1] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[1] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[1] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
I[2] . **active**	*Signal: active*
I[2] . **ExBlo**	*Signal: External Blocking*
I[2] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
I[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[2] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[2] . **Alarm L1**	*Signal: Alarm L1*
I[2] . **Alarm L2**	*Signal: Alarm L2*
I[2] . **Alarm L3**	*Signal: Alarm L3*
I[2] . **Alarm**	*Signal: Alarm*
I[2] . **Trip L1**	*Signal: General Trip Phase L1*
I[2] . **Trip L2**	*Signal: General Trip Phase L2*
I[2] . **Trip L3**	*Signal: General Trip Phase L3*
I[2] . **Trip**	*Signal: Trip*
I[2] . **TripCmd**	*Signal: Trip Command*
I[2] . **DefaultSet**	*Signal: Default Parameter Set*
I[2] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[2] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[2] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[2] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*

1..n, Assignment List	Description
I[2] . **ExBlo1-I**	*Module input state: External blocking1*
I[2] . **ExBlo2-I**	*Module input state: External blocking2*
I[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[2] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
I[2] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[2] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[2] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[2] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
I[3] . **active**	*Signal: active*
I[3] . **ExBlo**	*Signal: External Blocking*
I[3] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
I[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[3] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[3] . **Alarm L1**	*Signal: Alarm L1*
I[3] . **Alarm L2**	*Signal: Alarm L2*
I[3] . **Alarm L3**	*Signal: Alarm L3*
I[3] . **Alarm**	*Signal: Alarm*
I[3] . **Trip L1**	*Signal: General Trip Phase L1*
I[3] . **Trip L2**	*Signal: General Trip Phase L2*
I[3] . **Trip L3**	*Signal: General Trip Phase L3*
I[3] . **Trip**	*Signal: Trip*
I[3] . **TripCmd**	*Signal: Trip Command*
I[3] . **DefaultSet**	*Signal: Default Parameter Set*
I[3] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[3] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[3] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[3] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
I[3] . **ExBlo1-I**	*Module input state: External blocking1*
I[3] . **ExBlo2-I**	*Module input state: External blocking2*
I[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[3] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*

1..n, Assignment List	Description
I[3] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[3] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[3] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[3] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
I[4] . **active**	*Signal: active*
I[4] . **ExBlo**	*Signal: External Blocking*
I[4] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
I[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[4] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[4] . **Alarm L1**	*Signal: Alarm L1*
I[4] . **Alarm L2**	*Signal: Alarm L2*
I[4] . **Alarm L3**	*Signal: Alarm L3*
I[4] . **Alarm**	*Signal: Alarm*
I[4] . **Trip L1**	*Signal: General Trip Phase L1*
I[4] . **Trip L2**	*Signal: General Trip Phase L2*
I[4] . **Trip L3**	*Signal: General Trip Phase L3*
I[4] . **Trip**	*Signal: Trip*
I[4] . **TripCmd**	*Signal: Trip Command*
I[4] . **DefaultSet**	*Signal: Default Parameter Set*
I[4] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[4] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[4] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[4] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
I[4] . **ExBlo1-I**	*Module input state: External blocking1*
I[4] . **ExBlo2-I**	*Module input state: External blocking2*
I[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[4] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
I[4] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[4] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[4] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[4] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*

1..n, Assignment List	Description
I[5] . **active**	*Signal: active*
I[5] . **ExBlo**	*Signal: External Blocking*
I[5] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[5] . **Blo TripCmd**	*Signal: Trip Command blocked*
I[5] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[5] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[5] . **Alarm L1**	*Signal: Alarm L1*
I[5] . **Alarm L2**	*Signal: Alarm L2*
I[5] . **Alarm L3**	*Signal: Alarm L3*
I[5] . **Alarm**	*Signal: Alarm*
I[5] . **Trip L1**	*Signal: General Trip Phase L1*
I[5] . **Trip L2**	*Signal: General Trip Phase L2*
I[5] . **Trip L3**	*Signal: General Trip Phase L3*
I[5] . **Trip**	*Signal: Trip*
I[5] . **TripCmd**	*Signal: Trip Command*
I[5] . **DefaultSet**	*Signal: Default Parameter Set*
I[5] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[5] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[5] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[5] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
I[5] . **ExBlo1-I**	*Module input state: External blocking1*
I[5] . **ExBlo2-I**	*Module input state: External blocking2*
I[5] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[5] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
I[5] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[5] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[5] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[5] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
I[6] . **active**	*Signal: active*
I[6] . **ExBlo**	*Signal: External Blocking*
I[6] . **Ex rev Interl**	*Signal: External reverse Interlocking*
I[6] . **Blo TripCmd**	*Signal: Trip Command blocked*

1..n, Assignment List	Description
I[6] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I[6] . **IH2 Blo**	*Signal: Blocking the trip command by an inrush*
I[6] . **Alarm L1**	*Signal: Alarm L1*
I[6] . **Alarm L2**	*Signal: Alarm L2*
I[6] . **Alarm L3**	*Signal: Alarm L3*
I[6] . **Alarm**	*Signal: Alarm*
I[6] . **Trip L1**	*Signal: General Trip Phase L1*
I[6] . **Trip L2**	*Signal: General Trip Phase L2*
I[6] . **Trip L3**	*Signal: General Trip Phase L3*
I[6] . **Trip**	*Signal: Trip*
I[6] . **TripCmd**	*Signal: Trip Command*
I[6] . **DefaultSet**	*Signal: Default Parameter Set*
I[6] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
I[6] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
I[6] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
I[6] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
I[6] . **ExBlo1-I**	*Module input state: External blocking1*
I[6] . **ExBlo2-I**	*Module input state: External blocking2*
I[6] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I[6] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
I[6] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
I[6] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
I[6] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
I[6] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
IG[1] . **active**	*Signal: active*
IG[1] . **ExBlo**	*Signal: External Blocking*
IG[1] . **Ex rev Interl**	*Signal: External reverse Interlocking*
IG[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
IG[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IG[1] . **Alarm**	*Signal: Alarm IG*
IG[1] . **Trip**	*Signal: Trip*
IG[1] . **TripCmd**	*Signal: Trip Command*

1..n, Assignment List	Description
IG[1] . **IGH2 Blo**	*Signal: blocked by an inrush*
IG[1] . **DefaultSet**	*Signal: Default Parameter Set*
IG[1] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
IG[1] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
IG[1] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
IG[1] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
IG[1] . **ExBlo1-I**	*Module input state: External blocking1*
IG[1] . **ExBlo2-I**	*Module input state: External blocking2*
IG[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IG[1] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
IG[1] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
IG[1] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
IG[1] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
IG[1] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
IG[2] . **active**	*Signal: active*
IG[2] . **ExBlo**	*Signal: External Blocking*
IG[2] . **Ex rev Interl**	*Signal: External reverse Interlocking*
IG[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
IG[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IG[2] . **Alarm**	*Signal: Alarm IG*
IG[2] . **Trip**	*Signal: Trip*
IG[2] . **TripCmd**	*Signal: Trip Command*
IG[2] . **IGH2 Blo**	*Signal: blocked by an inrush*
IG[2] . **DefaultSet**	*Signal: Default Parameter Set*
IG[2] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
IG[2] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
IG[2] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
IG[2] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
IG[2] . **ExBlo1-I**	*Module input state: External blocking1*
IG[2] . **ExBlo2-I**	*Module input state: External blocking2*
IG[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IG[2] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*

1..n, Assignment List	Description
IG[2] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
IG[2] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
IG[2] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
IG[2] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
IG[3] . **active**	*Signal: active*
IG[3] . **ExBlo**	*Signal: External Blocking*
IG[3] . **Ex rev Interl**	*Signal: External reverse Interlocking*
IG[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
IG[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IG[3] . **Alarm**	*Signal: Alarm IG*
IG[3] . **Trip**	*Signal: Trip*
IG[3] . **TripCmd**	*Signal: Trip Command*
IG[3] . **IGH2 Blo**	*Signal: blocked by an inrush*
IG[3] . **DefaultSet**	*Signal: Default Parameter Set*
IG[3] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
IG[3] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
IG[3] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
IG[3] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
IG[3] . **ExBlo1-I**	*Module input state: External blocking1*
IG[3] . **ExBlo2-I**	*Module input state: External blocking2*
IG[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IG[3] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
IG[3] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
IG[3] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
IG[3] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
IG[3] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
IG[4] . **active**	*Signal: active*
IG[4] . **ExBlo**	*Signal: External Blocking*
IG[4] . **Ex rev Interl**	*Signal: External reverse Interlocking*
IG[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
IG[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
IG[4] . **Alarm**	*Signal: Alarm IG*

1..n, Assignment List	Description
IG[4] . **Trip**	*Signal: Trip*
IG[4] . **TripCmd**	*Signal: Trip Command*
IG[4] . **IGH2 Blo**	*Signal: blocked by an inrush*
IG[4] . **DefaultSet**	*Signal: Default Parameter Set*
IG[4] . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
IG[4] . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
IG[4] . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
IG[4] . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
IG[4] . **ExBlo1-I**	*Module input state: External blocking1*
IG[4] . **ExBlo2-I**	*Module input state: External blocking2*
IG[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
IG[4] . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
IG[4] . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
IG[4] . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
IG[4] . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*
IG[4] . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
ThR . **active**	*Signal: active*
ThR . **ExBlo**	*Signal: External Blocking*
ThR . **Blo TripCmd**	*Signal: Trip Command blocked*
ThR . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
ThR . **Alarm**	*Signal: Alarm Thermal Overload*
ThR . **Trip**	*Signal: Trip*
ThR . **TripCmd**	*Signal: Trip Command*
ThR . **Res Thermal Cap**	*Signal: Resetting Thermal Replica*
ThR . **ExBlo1-I**	*Module input state: External blocking1*
ThR . **ExBlo2-I**	*Module input state: External blocking2*
ThR . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I2>[1] . **active**	*Signal: active*
I2>[1] . **ExBlo**	*Signal: External Blocking*
I2>[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
I2>[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I2>[1] . **Alarm**	*Signal: Alarm Negative Sequence*

1..n, Assignment List	Description
I2>[1] . **Trip**	*Signal: Trip*
I2>[1] . **TripCmd**	*Signal: Trip Command*
I2>[1] . **ExBlo1-I**	*Module input state: External blocking1*
I2>[1] . **ExBlo2-I**	*Module input state: External blocking2*
I2>[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
I2>[2] . **active**	*Signal: active*
I2>[2] . **ExBlo**	*Signal: External Blocking*
I2>[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
I2>[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
I2>[2] . **Alarm**	*Signal: Alarm Negative Sequence*
I2>[2] . **Trip**	*Signal: Trip*
I2>[2] . **TripCmd**	*Signal: Trip Command*
I2>[2] . **ExBlo1-I**	*Module input state: External blocking1*
I2>[2] . **ExBlo2-I**	*Module input state: External blocking2*
I2>[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[1] . **active**	*Signal: active*
V[1] . **ExBlo**	*Signal: External Blocking*
V[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[1] . **Alarm L1**	*Signal: Alarm L1*
V[1] . **Alarm L2**	*Signal: Alarm L2*
V[1] . **Alarm L3**	*Signal: Alarm L3*
V[1] . **Alarm**	*Signal: Alarm voltage stage*
V[1] . **Trip L1**	*Signal: General Trip Phase L1*
V[1] . **Trip L2**	*Signal: General Trip Phase L2*
V[1] . **Trip L3**	*Signal: General Trip Phase L3*
V[1] . **Trip**	*Signal: Trip*
V[1] . **TripCmd**	*Signal: Trip Command*
V[1] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[1] . **ExBlo1-I**	*Module input state: External blocking1*
V[1] . **ExBlo2-I**	*Module input state: External blocking2*

1..n, Assignment List	Description
V[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[2] . **active**	*Signal: active*
V[2] . **ExBlo**	*Signal: External Blocking*
V[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[2] . **Alarm L1**	*Signal: Alarm L1*
V[2] . **Alarm L2**	*Signal: Alarm L2*
V[2] . **Alarm L3**	*Signal: Alarm L3*
V[2] . **Alarm**	*Signal: Alarm voltage stage*
V[2] . **Trip L1**	*Signal: General Trip Phase L1*
V[2] . **Trip L2**	*Signal: General Trip Phase L2*
V[2] . **Trip L3**	*Signal: General Trip Phase L3*
V[2] . **Trip**	*Signal: Trip*
V[2] . **TripCmd**	*Signal: Trip Command*
V[2] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[2] . **ExBlo1-I**	*Module input state: External blocking1*
V[2] . **ExBlo2-I**	*Module input state: External blocking2*
V[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[3] . **active**	*Signal: active*
V[3] . **ExBlo**	*Signal: External Blocking*
V[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[3] . **Alarm L1**	*Signal: Alarm L1*
V[3] . **Alarm L2**	*Signal: Alarm L2*
V[3] . **Alarm L3**	*Signal: Alarm L3*
V[3] . **Alarm**	*Signal: Alarm voltage stage*
V[3] . **Trip L1**	*Signal: General Trip Phase L1*
V[3] . **Trip L2**	*Signal: General Trip Phase L2*
V[3] . **Trip L3**	*Signal: General Trip Phase L3*
V[3] . **Trip**	*Signal: Trip*
V[3] . **TripCmd**	*Signal: Trip Command*

1..n, Assignment List	Description
V[3] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[3] . **ExBlo1-I**	*Module input state: External blocking1*
V[3] . **ExBlo2-I**	*Module input state: External blocking2*
V[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[4] . **active**	*Signal: active*
V[4] . **ExBlo**	*Signal: External Blocking*
V[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[4] . **Alarm L1**	*Signal: Alarm L1*
V[4] . **Alarm L2**	*Signal: Alarm L2*
V[4] . **Alarm L3**	*Signal: Alarm L3*
V[4] . **Alarm**	*Signal: Alarm voltage stage*
V[4] . **Trip L1**	*Signal: General Trip Phase L1*
V[4] . **Trip L2**	*Signal: General Trip Phase L2*
V[4] . **Trip L3**	*Signal: General Trip Phase L3*
V[4] . **Trip**	*Signal: Trip*
V[4] . **TripCmd**	*Signal: Trip Command*
V[4] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[4] . **ExBlo1-I**	*Module input state: External blocking1*
V[4] . **ExBlo2-I**	*Module input state: External blocking2*
V[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[5] . **active**	*Signal: active*
V[5] . **ExBlo**	*Signal: External Blocking*
V[5] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[5] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[5] . **Alarm L1**	*Signal: Alarm L1*
V[5] . **Alarm L2**	*Signal: Alarm L2*
V[5] . **Alarm L3**	*Signal: Alarm L3*
V[5] . **Alarm**	*Signal: Alarm voltage stage*
V[5] . **Trip L1**	*Signal: General Trip Phase L1*
V[5] . **Trip L2**	*Signal: General Trip Phase L2*

1..n, Assignment List	Description
V[5] . **Trip L3**	*Signal: General Trip Phase L3*
V[5] . **Trip**	*Signal: Trip*
V[5] . **TripCmd**	*Signal: Trip Command*
V[5] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[5] . **ExBlo1-I**	*Module input state: External blocking1*
V[5] . **ExBlo2-I**	*Module input state: External blocking2*
V[5] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V[6] . **active**	*Signal: active*
V[6] . **ExBlo**	*Signal: External Blocking*
V[6] . **Blo TripCmd**	*Signal: Trip Command blocked*
V[6] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V[6] . **Alarm L1**	*Signal: Alarm L1*
V[6] . **Alarm L2**	*Signal: Alarm L2*
V[6] . **Alarm L3**	*Signal: Alarm L3*
V[6] . **Alarm**	*Signal: Alarm voltage stage*
V[6] . **Trip L1**	*Signal: General Trip Phase L1*
V[6] . **Trip L2**	*Signal: General Trip Phase L2*
V[6] . **Trip L3**	*Signal: General Trip Phase L3*
V[6] . **Trip**	*Signal: Trip*
V[6] . **TripCmd**	*Signal: Trip Command*
V[6] . **Imin release active**	*Signal that the Imin release (minimum current) check is enabled and does not block the undervoltage detection at the moment.*
V[6] . **ExBlo1-I**	*Module input state: External blocking1*
V[6] . **ExBlo2-I**	*Module input state: External blocking2*
V[6] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
df/dt . **active**	*Signal: active*
df/dt . **ExBlo**	*Signal: External Blocking*
df/dt . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
df/dt . **Blo TripCmd**	*Signal: Trip Command blocked*
df/dt . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
df/dt . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
df/dt . **Trip**	*Signal: Trip Frequency Protection (collective signal)*

1..n, Assignment List	Description
df/dt . **TripCmd**	*Signal: Trip Command*
df/dt . **ExBlo1-I**	*Module input state: External blocking1*
df/dt . **ExBlo2-I**	*Module input state: External blocking2*
df/dt . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
delta phi . **active**	*Signal: active*
delta phi . **ExBlo**	*Signal: External Blocking*
delta phi . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
delta phi . **Blo TripCmd**	*Signal: Trip Command blocked*
delta phi . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
delta phi . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
delta phi . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
delta phi . **TripCmd**	*Signal: Trip Command*
delta phi . **ExBlo1-I**	*Module input state: External blocking1*
delta phi . **ExBlo2-I**	*Module input state: External blocking2*
delta phi . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Intertripping . **active**	*Signal: active*
Intertripping . **ExBlo**	*Signal: External Blocking*
Intertripping . **Blo TripCmd**	*Signal: Trip Command blocked*
Intertripping . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Intertripping . **Alarm**	*Signal: Alarm*
Intertripping . **Trip**	*Signal: Trip*
Intertripping . **TripCmd**	*Signal: Trip Command*
Intertripping . **ExBlo1-I**	*Module input state: External blocking1*
Intertripping . **ExBlo2-I**	*Module input state: External blocking2*
Intertripping . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Intertripping . **Alarm-I**	*Module input state: Alarm*
Intertripping . **Trip-I**	*Module input state: Trip*
P . **active**	*Signal: active*
P . **ExBlo**	*Signal: External Blocking*

1..n, Assignment List	Description
P . **Blo TripCmd**	*Signal: Trip Command blocked*
P . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
P . **Alarm**	*Signal: Alarm Power Protection*
P . **Trip**	*Signal: Trip Power Protection*
P . **TripCmd**	*Signal: Trip Command*
P . **ExBlo1-I**	*Module input state: External blocking*
P . **ExBlo2-I**	*Module input state: External blocking*
P . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Q . **active**	*Signal: active*
Q . **ExBlo**	*Signal: External Blocking*
Q . **Blo TripCmd**	*Signal: Trip Command blocked*
Q . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Q . **Alarm**	*Signal: Alarm Power Protection*
Q . **Trip**	*Signal: Trip Power Protection*
Q . **TripCmd**	*Signal: Trip Command*
Q . **ExBlo1-I**	*Module input state: External blocking*
Q . **ExBlo2-I**	*Module input state: External blocking*
Q . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
LVRT[1] . **active**	*Signal: active*
LVRT[1] . **ExBlo**	*Signal: External Blocking*
LVRT[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
LVRT[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
LVRT[1] . **Alarm L1**	*Signal: Alarm L1*
LVRT[1] . **Alarm L2**	*Signal: Alarm L2*
LVRT[1] . **Alarm L3**	*Signal: Alarm L3*
LVRT[1] . **Alarm**	*Signal: Alarm voltage stage*
LVRT[1] . **Trip L1**	*Signal: General Trip Phase L1*
LVRT[1] . **Trip L2**	*Signal: General Trip Phase L2*
LVRT[1] . **Trip L3**	*Signal: General Trip Phase L3*
LVRT[1] . **Trip**	*Signal: Trip*
LVRT[1] . **TripCmd**	*Signal: Trip Command*

1..n, Assignment List	Description
LVRT[1] . **t-LVRT is running**	*Signal: t-LVRT is running*
LVRT[1] . **ExBlo1-I**	*Module input state: External blocking1*
LVRT[1] . **ExBlo2-I**	*Module input state: External blocking2*
LVRT[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
LVRT[2] . **active**	*Signal: active*
LVRT[2] . **ExBlo**	*Signal: External Blocking*
LVRT[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
LVRT[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
LVRT[2] . **Alarm L1**	*Signal: Alarm L1*
LVRT[2] . **Alarm L2**	*Signal: Alarm L2*
LVRT[2] . **Alarm L3**	*Signal: Alarm L3*
LVRT[2] . **Alarm**	*Signal: Alarm voltage stage*
LVRT[2] . **Trip L1**	*Signal: General Trip Phase L1*
LVRT[2] . **Trip L2**	*Signal: General Trip Phase L2*
LVRT[2] . **Trip L3**	*Signal: General Trip Phase L3*
LVRT[2] . **Trip**	*Signal: Trip*
LVRT[2] . **TripCmd**	*Signal: Trip Command*
LVRT[2] . **t-LVRT is running**	*Signal: t-LVRT is running*
LVRT[2] . **ExBlo1-I**	*Module input state: External blocking1*
LVRT[2] . **ExBlo2-I**	*Module input state: External blocking2*
LVRT[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
VG[1] . **active**	*Signal: active*
VG[1] . **ExBlo**	*Signal: External Blocking*
VG[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
VG[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
VG[1] . **Alarm**	*Signal: Alarm Residual Voltage Supervision-stage*
VG[1] . **Trip**	*Signal: Trip*
VG[1] . **TripCmd**	*Signal: Trip Command*
VG[1] . **ExBlo1-I**	*Module input state: External blocking1*

1..n, Assignment List	Description
VG[1] . **ExBlo2-I**	*Module input state: External blocking2*
VG[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
VG[2] . **active**	*Signal: active*
VG[2] . **ExBlo**	*Signal: External Blocking*
VG[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
VG[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
VG[2] . **Alarm**	*Signal: Alarm Residual Voltage Supervision-stage*
VG[2] . **Trip**	*Signal: Trip*
VG[2] . **TripCmd**	*Signal: Trip Command*
VG[2] . **ExBlo1-I**	*Module input state: External blocking1*
VG[2] . **ExBlo2-I**	*Module input state: External blocking2*
VG[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[1] . **active**	*Signal: active*
V012[1] . **ExBlo**	*Signal: External Blocking*
V012[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[1] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[1] . **Trip**	*Signal: Trip*
V012[1] . **TripCmd**	*Signal: Trip Command*
V012[1] . **ExBlo1-I**	*Module input state: External blocking1*
V012[1] . **ExBlo2-I**	*Module input state: External blocking2*
V012[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[2] . **active**	*Signal: active*
V012[2] . **ExBlo**	*Signal: External Blocking*
V012[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[2] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[2] . **Trip**	*Signal: Trip*
V012[2] . **TripCmd**	*Signal: Trip Command*
V012[2] . **ExBlo1-I**	*Module input state: External blocking1*
V012[2] . **ExBlo2-I**	*Module input state: External blocking2*

1..n, Assignment List	Description
V012[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[3] . **active**	*Signal: active*
V012[3] . **ExBlo**	*Signal: External Blocking*
V012[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[3] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[3] . **Trip**	*Signal: Trip*
V012[3] . **TripCmd**	*Signal: Trip Command*
V012[3] . **ExBlo1-I**	*Module input state: External blocking1*
V012[3] . **ExBlo2-I**	*Module input state: External blocking2*
V012[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[4] . **active**	*Signal: active*
V012[4] . **ExBlo**	*Signal: External Blocking*
V012[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[4] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[4] . **Trip**	*Signal: Trip*
V012[4] . **TripCmd**	*Signal: Trip Command*
V012[4] . **ExBlo1-I**	*Module input state: External blocking1*
V012[4] . **ExBlo2-I**	*Module input state: External blocking2*
V012[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[5] . **active**	*Signal: active*
V012[5] . **ExBlo**	*Signal: External Blocking*
V012[5] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[5] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[5] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[5] . **Trip**	*Signal: Trip*
V012[5] . **TripCmd**	*Signal: Trip Command*
V012[5] . **ExBlo1-I**	*Module input state: External blocking1*
V012[5] . **ExBlo2-I**	*Module input state: External blocking2*

1..n, Assignment List	Description
V012[5] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V012[6] . **active**	*Signal: active*
V012[6] . **ExBlo**	*Signal: External Blocking*
V012[6] . **Blo TripCmd**	*Signal: Trip Command blocked*
V012[6] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V012[6] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[6] . **Trip**	*Signal: Trip*
V012[6] . **TripCmd**	*Signal: Trip Command*
V012[6] . **ExBlo1-I**	*Module input state: External blocking1*
V012[6] . **ExBlo2-I**	*Module input state: External blocking2*
V012[6] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[1] . **active**	*Signal: active*
f[1] . **ExBlo**	*Signal: External Blocking*
f[1] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[1] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[1] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[1] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[1] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[1] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[1] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[1] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[1] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
f[1] . **TripCmd**	*Signal: Trip Command*
f[1] . **ExBlo1-I**	*Module input state: External blocking1*
f[1] . **ExBlo2-I**	*Module input state: External blocking2*
f[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[2] . **active**	*Signal: active*
f[2] . **ExBlo**	*Signal: External Blocking*

1..n, Assignment List	Description
f[2] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[2] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[2] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[2] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[2] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[2] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[2] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[2] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[2] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
f[2] . **TripCmd**	*Signal: Trip Command*
f[2] . **ExBlo1-I**	*Module input state: External blocking1*
f[2] . **ExBlo2-I**	*Module input state: External blocking2*
f[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[3] . **active**	*Signal: active*
f[3] . **ExBlo**	*Signal: External Blocking*
f[3] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[3] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[3] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[3] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[3] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[3] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[3] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[3] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[3] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
f[3] . **TripCmd**	*Signal: Trip Command*
f[3] . **ExBlo1-I**	*Module input state: External blocking1*
f[3] . **ExBlo2-I**	*Module input state: External blocking2*

1..n, Assignment List	Description
f[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[4] . **active**	*Signal: active*
f[4] . **ExBlo**	*Signal: External Blocking*
f[4] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[4] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[4] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[4] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[4] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[4] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[4] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[4] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[4] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
f[4] . **TripCmd**	*Signal: Trip Command*
f[4] . **ExBlo1-I**	*Module input state: External blocking1*
f[4] . **ExBlo2-I**	*Module input state: External blocking2*
f[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[5] . **active**	*Signal: active*
f[5] . **ExBlo**	*Signal: External Blocking*
f[5] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[5] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[5] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[5] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[5] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[5] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[5] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[5] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[5] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[5] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[5] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*

1..n, Assignment List	Description
f[5] . **TripCmd**	*Signal: Trip Command*
f[5] . **ExBlo1-I**	*Module input state: External blocking1*
f[5] . **ExBlo2-I**	*Module input state: External blocking2*
f[5] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
f[6] . **active**	*Signal: active*
f[6] . **ExBlo**	*Signal: External Blocking*
f[6] . **Blo by V<**	*Signal: Module is blocked by undervoltage.*
f[6] . **Blo TripCmd**	*Signal: Trip Command blocked*
f[6] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
f[6] . **Alarm f**	*Signal: Alarm Frequency Protection*
f[6] . **Alarm df/dt | DF/DT**	*Alarm instantaneous or average value of the rate-of-frequency-change*
f[6] . **Alarm delta phi**	*Signal: Alarm Vector Surge*
f[6] . **Alarm**	*Signal: Alarm Frequency Protection (collective signal)*
f[6] . **Trip f**	*Signal: Frequency has exceeded the limit.*
f[6] . **Trip df/dt | DF/DT**	*Signal: Trip df/dt or DF/DT*
f[6] . **Trip delta phi**	*Signal: Trip Vector Surge*
f[6] . **Trip**	*Signal: Trip Frequency Protection (collective signal)*
f[6] . **TripCmd**	*Signal: Trip Command*
f[6] . **ExBlo1-I**	*Module input state: External blocking1*
f[6] . **ExBlo2-I**	*Module input state: External blocking2*
f[6] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PQS[1] . **active**	*Signal: active*
PQS[1] . **ExBlo**	*Signal: External Blocking*
PQS[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[1] . **Alarm**	*Signal: Alarm Power Protection*
PQS[1] . **Trip**	*Signal: Trip Power Protection*
PQS[1] . **TripCmd**	*Signal: Trip Command*
PQS[1] . **ExBlo1-I**	*Module input state: External blocking*
PQS[1] . **ExBlo2-I**	*Module input state: External blocking*
PQS[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*

1..n, Assignment List	Description
PQS[2] . **active**	*Signal: active*
PQS[2] . **ExBlo**	*Signal: External Blocking*
PQS[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[2] . **Alarm**	*Signal: Alarm Power Protection*
PQS[2] . **Trip**	*Signal: Trip Power Protection*
PQS[2] . **TripCmd**	*Signal: Trip Command*
PQS[2] . **ExBlo1-I**	*Module input state: External blocking*
PQS[2] . **ExBlo2-I**	*Module input state: External blocking*
PQS[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PQS[3] . **active**	*Signal: active*
PQS[3] . **ExBlo**	*Signal: External Blocking*
PQS[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[3] . **Alarm**	*Signal: Alarm Power Protection*
PQS[3] . **Trip**	*Signal: Trip Power Protection*
PQS[3] . **TripCmd**	*Signal: Trip Command*
PQS[3] . **ExBlo1-I**	*Module input state: External blocking*
PQS[3] . **ExBlo2-I**	*Module input state: External blocking*
PQS[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PQS[4] . **active**	*Signal: active*
PQS[4] . **ExBlo**	*Signal: External Blocking*
PQS[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[4] . **Alarm**	*Signal: Alarm Power Protection*
PQS[4] . **Trip**	*Signal: Trip Power Protection*
PQS[4] . **TripCmd**	*Signal: Trip Command*
PQS[4] . **ExBlo1-I**	*Module input state: External blocking*
PQS[4] . **ExBlo2-I**	*Module input state: External blocking*
PQS[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*

1..n, Assignment List	Description
PQS[5] . **active**	*Signal: active*
PQS[5] . **ExBlo**	*Signal: External Blocking*
PQS[5] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[5] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[5] . **Alarm**	*Signal: Alarm Power Protection*
PQS[5] . **Trip**	*Signal: Trip Power Protection*
PQS[5] . **TripCmd**	*Signal: Trip Command*
PQS[5] . **ExBlo1-I**	*Module input state: External blocking*
PQS[5] . **ExBlo2-I**	*Module input state: External blocking*
PQS[5] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PQS[6] . **active**	*Signal: active*
PQS[6] . **ExBlo**	*Signal: External Blocking*
PQS[6] . **Blo TripCmd**	*Signal: Trip Command blocked*
PQS[6] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PQS[6] . **Alarm**	*Signal: Alarm Power Protection*
PQS[6] . **Trip**	*Signal: Trip Power Protection*
PQS[6] . **TripCmd**	*Signal: Trip Command*
PQS[6] . **ExBlo1-I**	*Module input state: External blocking*
PQS[6] . **ExBlo2-I**	*Module input state: External blocking*
PQS[6] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PF[1] . **active**	*Signal: active*
PF[1] . **ExBlo**	*Signal: External Blocking*
PF[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
PF[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PF[1] . **Alarm**	*Signal: Alarm Power Factor*
PF[1] . **Trip**	*Signal: Trip Power Factor*
PF[1] . **TripCmd**	*Signal: Trip Command*
PF[1] . **Compensator**	*Signal: Compensation Signal*
PF[1] . **Impossible**	*Signal: Alarm Power Factor Impossible*
PF[1] . **ExBlo1-I**	*Module input state: External blocking*
PF[1] . **ExBlo2-I**	*Module input state: External blocking*

1..n, Assignment List	Description
PF[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
PF[2] . **active**	*Signal: active*
PF[2] . **ExBlo**	*Signal: External Blocking*
PF[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
PF[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
PF[2] . **Alarm**	*Signal: Alarm Power Factor*
PF[2] . **Trip**	*Signal: Trip Power Factor*
PF[2] . **TripCmd**	*Signal: Trip Command*
PF[2] . **Compensator**	*Signal: Compensation Signal*
PF[2] . **Impossible**	*Signal: Alarm Power Factor Impossible*
PF[2] . **ExBlo1-I**	*Module input state: External blocking*
PF[2] . **ExBlo2-I**	*Module input state: External blocking*
PF[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Q->&V< . **active**	*Signal: active*
Q->&V< . **ExBlo**	*Signal: External Blocking*
Q->&V< . **Fuse Fail VT Blo**	*Signal: Blocked by Fuse Failure (VT)*
Q->&V< . **Alarm**	*Signal: Alarm Reactive Power Undervoltage Protection*
Q->&V< . **Decoupling Distr. Generator**	*Signal: Decoupling of the (local) Energy Generator/Resource*
Q->&V< . **Decoupling PCC**	*Signal: Decoupling at the Point of Common Coupling*
Q->&V< . **Power Angle**	*Signal: Admissible power angle exceeded*
Q->&V< . **Reactive Power Thres**	*Signal: Admissible Reactive Power Threshold exceeded*
Q->&V< . **VLL too low**	*Signal: Line-to-Line voltage too low*
Q->&V< . **ExBlo1-I**	*Module input state: External blocking1*
Q->&V< . **ExBlo2-I**	*Module input state: External blocking2*
ReCon[1] . **active**	*Signal: active*
ReCon[1] . **ExBlo**	*Signal: External Blocking*
ReCon[1] . **Blo by Meas Ciruit Superv**	*Signal: Module blocked by measuring cirucuit supervision*
ReCon[1] . **Release Energy Resource**	*Signal: Release Energy Resource.*

1..n, Assignment List	Description
ReCon[1] . **ExBlo1-I**	*Module input state: External blocking1*
ReCon[1] . **ExBlo2-I**	*Module input state: External blocking2*
ReCon[1] . **V Ext Release PCC-I**	*Module input state: Release signal is being generated by the PCC (External Release)*
ReCon[1] . **PCC Fuse Fail VT-I**	*State of the module input: Blocking if the fuse of a voltage transformer has tripped at the PCC.*
ReCon[1] . **reconnected-I**	*This signal indicates the state "reconnected" (mains parallel).*
ReCon[1] . **Decoupling1-I**	*Decoupling function, that blocks the reconnection.*
ReCon[1] . **Decoupling2-I**	*Decoupling function, that blocks the reconnection.*
ReCon[1] . **Decoupling3-I**	*Decoupling function, that blocks the reconnection.*
ReCon[1] . **Decoupling4-I**	*Decoupling function, that blocks the reconnection.*
ReCon[1] . **Decoupling5-I**	*Decoupling function, that blocks the reconnection.*
ReCon[1] . **Decoupling6-I**	*Decoupling function, that blocks the reconnection.*
ReCon[2] . **active**	*Signal: active*
ReCon[2] . **ExBlo**	*Signal: External Blocking*
ReCon[2] . **Blo by Meas Ciruit Superv**	*Signal: Module blocked by measuring cirucuit supervision*
ReCon[2] . **Release Energy Resource**	*Signal: Release Energy Resource.*
ReCon[2] . **ExBlo1-I**	*Module input state: External blocking1*
ReCon[2] . **ExBlo2-I**	*Module input state: External blocking2*
ReCon[2] . **V Ext Release PCC-I**	*Module input state: Release signal is being generated by the PCC (External Release)*
ReCon[2] . **PCC Fuse Fail VT-I**	*State of the module input: Blocking if the fuse of a voltage transformer has tripped at the PCC.*
ReCon[2] . **reconnected-I**	*This signal indicates the state "reconnected" (mains parallel).*
ReCon[2] . **Decoupling1-I**	*Decoupling function, that blocks the reconnection.*
ReCon[2] . **Decoupling2-I**	*Decoupling function, that blocks the reconnection.*

1..n, Assignment List	Description
ReCon[2] . **Decoupling3-I**	*Decoupling function, that blocks the reconnection.*
ReCon[2] . **Decoupling4-I**	*Decoupling function, that blocks the reconnection.*
ReCon[2] . **Decoupling5-I**	*Decoupling function, that blocks the reconnection.*
ReCon[2] . **Decoupling6-I**	*Decoupling function, that blocks the reconnection.*
UFLS . **active**	*Signal: active*
UFLS . **ExBlo**	*Signal: External Blocking*
UFLS . **Fuse Fail VT Blo**	*Signal: Blocked by Fuse Failure (VT)*
UFLS . **I1 Release**	*Signal: "I Minimum Current" in order to prevent faulty tripping. Module will be released if the current exceeds this value.*
UFLS . **VLL min**	*Signal: Minimum Voltage*
UFLS . **Power Angle**	*Signal: Trigger Phi-Power (Positive Phase Sequence System)*
UFLS . **P min**	*Signal: Minimum Value (threshold) for the Active Power*
UFLS . **P Blo Loadshedding**	*Signal: Load shedding blocked based on evaluation of active power*
UFLS . **f<**	*Signal: Underfrequency threshold*
UFLS . **Alarm**	*Signal: Alarm P->&f<*
UFLS . **Trip**	*Signal: Signal: Trip*
UFLS . **DefaultSet**	*Signal: Default Parameter Set*
UFLS . **AdaptSet 1**	*Signal: Adaptive Parameter 1*
UFLS . **AdaptSet 2**	*Signal: Adaptive Parameter 2*
UFLS . **AdaptSet 3**	*Signal: Adaptive Parameter 3*
UFLS . **AdaptSet 4**	*Signal: Adaptive Parameter 4*
UFLS . **AdaptSet 5**	*Signal: Adaptive Parameter 5*
UFLS . **ExBlo1-I**	*Module input state: External blocking1*
UFLS . **ExBlo2-I**	*Module input state: External blocking2*
UFLS . **Ex Pdir-I**	*Ignore (block) the evaluation of the power flow direction. This results in classical frequency based load shedding functionallity. When this feature is set and active, the functionallity of the module turns into conventional, only frequency based load shedding.*
UFLS . **AdaptSet1-I**	*Module input state: Adaptive Parameter1*
UFLS . **AdaptSet2-I**	*Module input state: Adaptive Parameter2*
UFLS . **AdaptSet3-I**	*Module input state: Adaptive Parameter3*

1..n, Assignment List	Description
UFLS . **AdaptSet4-I**	*Module input state: Adaptive Parameter4*
UFLS . **AdaptSet5-I**	*Module input state: Adaptive Parameter5*
AR . **active**	*Signal: active*
AR . **ExBlo**	*Signal: External Blocking*
AR . **Standby**	*Signal: Standby*
AR . **t-Blo after CB man ON**	*Signal: AR blocked after circuit breaker was switched on manually. This timer will be started if the circuit breaker was switched on manually. While this timer is running, AR cannot be started.*
AR . **Ready**	*Signal: Ready to shoot*
AR . **running**	*Signal: Auto Reclosing running*
AR . **t-dead**	*Signal: Dead time between trip and reclosure attempt*
AR . **CB ON Cmd**	*Signal: CB switch ON Command*
AR . **t-Run2Ready**	*Signal: Examination Time: If the Circuit Breaker remains after a reclosure attempt for the duration of this timer in the Closed position, the AR has been successful and the AR module returns into the ready state.*
AR . **Lock**	*Signal: Auto Reclosure is locked out*
AR . **t-Reset Lockout**	*Signal: Delay Timer for resetting the AR lockout. The reset of the AR lockout state will be delayed for this time, after the reset signal (e.g digital input or Scada) has been detected .*
AR . **Blo**	*Signal: Auto Reclosure is blocked*
AR . **t-Blo Reset**	*Signal: Delay Timer for resetting the AR blocking. The release (de-blocking) of the AR will be delayed for this time, if there is no blocking signal anymore.*
AR . **successful**	*Signal: Auto Reclosing successful*
AR . **failed**	*Signal: Auto Reclosing failure*
AR . **t-AR Supervision**	*Signal: AR Supervision*
AR . **Pre Shot**	*Pre Shot Control*
AR . **Shot 1**	*Shot Control*
AR . **Shot 2**	*Shot Control*
AR . **Shot 3**	*Shot Control*
AR . **Shot 4**	*Shot Control*
AR . **Shot 5**	*Shot Control*
AR . **Shot 6**	*Shot Control*
AR . **Service Alarm 1**	*Signal: AR - Service Alarm 1, too many switching operations*
AR . **Service Alarm 2**	*Signal: AR - Service Alarm 2 - too many switching operations*

1..n, Assignment List	Description
AR . **Max Shots / h exceeded**	*Signal: The maximum allowed number of shots per hour has been exceeded.*
AR . **Res Statistics Cr**	*Signal: Reset all statistic AR counters: Total number of AR, successful and unsuccessful no of AR.*
AR . **Res Service Cr**	*Signal: Reset the Service Counters for Alarm and Blocking*
AR . **Reset Lockout**	*Signal: The AR Lockout has been reset via the panel.*
AR . **Res Max Shots / h**	*Signal: The Counter for the maximum allowed shots per hour has been reset.*
AR . **ExBlo1-I**	*Module input state: External blocking1*
AR . **ExBlo2-I**	*Module input state: External blocking2*
AR . **Ex Shot Inc-I**	*Module input state: The AR Shot counter will be incremented by this external Signal. This can be used for Zone Coordination (of upstream Auto Reclosure devices). Note: This parameter enables the functionality only. The assignment has to be set within the global parameters.*
AR . **Ex Lock-I**	*Module input state: External AR lockout.*
AR . **DI Reset Ex Lock-I**	*Module input state: Resetting the lockout state of the AR (if the resetting via digital inputs has been selected).*
AR . **Scada Reset Ex Lock-I**	*Module input state: Resetting the Lockout State of the AR by Communication.*
AR . **abort: 1**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
AR . **abort: 2**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
AR . **abort: 3**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
AR . **abort: 4**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
AR . **abort: 5**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
AR . **abort: 6**	*Abort the AR-cycle, if the state of the assigned signal is true. If the state of this function is true the AR will be aborted.*
Sync . **active**	*Signal: active*
Sync . **ExBlo**	*Signal: External Blocking*
Sync . **LiveBus**	*Signal: Live-Bus flag: 1=Live-Bus, 0=Voltage is below the LiveBus threshold*
Sync . **LiveLine**	*Signal: Live Line flag: 1=Live-Line, 0=Voltage is below the LiveLine threshold*
Sync . **SynchronRunTiming**	*Signal: Synchron-Run-timer is timing (This timer starts when Close-Initiate is coming and stops if breaker is closed. Timeout means synchronizing failed.)*

1..n, Assignment List	Description
Sync . **SynchronFailed**	*Signal: This signal indicates a failed synchronization. It is set for 5s when the circuit breaker is still open after the Synchron-Run-timer has timed out.*
Sync . **SyncOverridden**	*Signal:Synchronism Check is overridden because one of the Synchronism overriding conditions (DB/DL or ExtBypass) is met.*
Sync . **VDiffTooHigh**	*Signal: Voltage difference between bus and line too high.*
Sync . **SlipTooHigh**	*Signal: Frequency difference (slip frequency) between bus and line voltages too high.*
Sync . **AngleDiffTooHigh**	*Signal: Phase Angle difference between bus and line voltages too high.*
Sync . **Sys-in-Sync**	*Signal: Bus and line voltages are in synchronism according to the system synchronism criteria.*
Sync . **Ready to Close**	*Signal: Ready to Close*
Sync . **ExBlo1-I**	*Module input state: External blocking1*
Sync . **ExBlo2-I**	*Module input state: External blocking2*
Sync . **Bypass-I**	*State of the module input: The Synchrocheck will be bypassed if the state of the assigned signal (logic input) becomes true.*
Sync . **CBCloseInitiate-I**	*State of the module input: Breaker Close Initiate with synchronism check from any control sources (e.g. HMI / SCADA). If the state of the assigned signal becomes true, a Breaker Close will be initiated (Trigger Source).*
V/f>[1] . **active**	*Signal: active*
V/f>[1] . **ExBlo**	*Signal: External Blocking*
V/f>[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
V/f>[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V/f>[1] . **Alarm**	*Signal: Alarm Overexcitation*
V/f>[1] . **Trip**	*Signal: Trip*
V/f>[1] . **TripCmd**	*Signal: Trip Command*
V/f>[1] . **ExBlo1-I**	*Module input state: External blocking1*
V/f>[1] . **ExBlo2-I**	*Module input state: External blocking2*
V/f>[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
V/f>[2] . **active**	*Signal: active*
V/f>[2] . **ExBlo**	*Signal: External Blocking*
V/f>[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
V/f>[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
V/f>[2] . **Alarm**	*Signal: Alarm Overexcitation*

1..n, Assignment List	Description
V/f>[2] . **Trip**	*Signal: Trip*
V/f>[2] . **TripCmd**	*Signal: Trip Command*
V/f>[2] . **ExBlo1-I**	*Module input state: External blocking1*
V/f>[2] . **ExBlo2-I**	*Module input state: External blocking2*
V/f>[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
SOTF . **active**	*Signal: active*
SOTF . **ExBlo**	*Signal: External Blocking*
SOTF . **Ex rev Interl**	*Signal: External reverse Interlocking*
SOTF . **enabled**	*Signal: Switch Onto Fault enabled. This Signal can be used to modify Overcurrent Protection Settings.*
SOTF . **AR Blo**	*Signal: Blocked by AR*
SOTF . **I<**	*Signal: No Load Current.*
SOTF . **ExBlo1-I**	*Module input state: External blocking*
SOTF . **ExBlo2-I**	*Module input state: External blocking*
SOTF . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
SOTF . **Ext SOTF-I**	*Module input state: External Switch Onto Fault Alarm*
CLPU . **active**	*Signal: active*
CLPU . **ExBlo**	*Signal: External Blocking*
CLPU . **Ex rev Interl**	*Signal: External reverse Interlocking*
CLPU . **enabled**	*Signal: Cold Load enabled*
CLPU . **detected**	*Signal: Cold Load detected*
CLPU . **AR Blo**	*Signal: Blocked by AR*
CLPU . **I<**	*Signal: No Load Current.*
CLPU . **Load Inrush**	*Signal: Load Inrush*
CLPU . **Settle Time**	*Signal: Settle Time*
CLPU . **ExBlo1-I**	*Module input state: External blocking*
CLPU . **ExBlo2-I**	*Module input state: External blocking*
CLPU . **Ex rev Interl-I**	*Module input state: External reverse interlocking*
ExP[1] . **active**	*Signal: active*
ExP[1] . **ExBlo**	*Signal: External Blocking*
ExP[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
ExP[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*

1..n, Assignment List	Description
ExP[1] . **Alarm**	*Signal: Alarm*
ExP[1] . **Trip**	*Signal: Trip*
ExP[1] . **TripCmd**	*Signal: Trip Command*
ExP[1] . **ExBlo1-I**	*Module input state: External blocking1*
ExP[1] . **ExBlo2-I**	*Module input state: External blocking2*
ExP[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
ExP[1] . **Alarm-I**	*Module input state: Alarm*
ExP[1] . **Trip-I**	*Module input state: Trip*
ExP[2] . **active**	*Signal: active*
ExP[2] . **ExBlo**	*Signal: External Blocking*
ExP[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
ExP[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
ExP[2] . **Alarm**	*Signal: Alarm*
ExP[2] . **Trip**	*Signal: Trip*
ExP[2] . **TripCmd**	*Signal: Trip Command*
ExP[2] . **ExBlo1-I**	*Module input state: External blocking1*
ExP[2] . **ExBlo2-I**	*Module input state: External blocking2*
ExP[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
ExP[2] . **Alarm-I**	*Module input state: Alarm*
ExP[2] . **Trip-I**	*Module input state: Trip*
ExP[3] . **active**	*Signal: active*
ExP[3] . **ExBlo**	*Signal: External Blocking*
ExP[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
ExP[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
ExP[3] . **Alarm**	*Signal: Alarm*
ExP[3] . **Trip**	*Signal: Trip*
ExP[3] . **TripCmd**	*Signal: Trip Command*
ExP[3] . **ExBlo1-I**	*Module input state: External blocking1*
ExP[3] . **ExBlo2-I**	*Module input state: External blocking2*
ExP[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
ExP[3] . **Alarm-I**	*Module input state: Alarm*
ExP[3] . **Trip-I**	*Module input state: Trip*

1..n, Assignment List	Description
ExP[4] . **active**	*Signal: active*
ExP[4] . **ExBlo**	*Signal: External Blocking*
ExP[4] . **Blo TripCmd**	*Signal: Trip Command blocked*
ExP[4] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
ExP[4] . **Alarm**	*Signal: Alarm*
ExP[4] . **Trip**	*Signal: Trip*
ExP[4] . **TripCmd**	*Signal: Trip Command*
ExP[4] . **ExBlo1-I**	*Module input state: External blocking1*
ExP[4] . **ExBlo2-I**	*Module input state: External blocking2*
ExP[4] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
ExP[4] . **Alarm-I**	*Module input state: Alarm*
ExP[4] . **Trip-I**	*Module input state: Trip*
Ext Sudd Press . **active**	*Signal: active*
Ext Sudd Press . **ExBlo**	*Signal: External Blocking*
Ext Sudd Press . **Blo TripCmd**	*Signal: Trip Command blocked*
Ext Sudd Press . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Ext Sudd Press . **Alarm**	*Signal: Alarm*
Ext Sudd Press . **Trip**	*Signal: Trip*
Ext Sudd Press . **TripCmd**	*Signal: Trip Command*
Ext Sudd Press . **ExBlo1-I**	*Module input state: External blocking1*
Ext Sudd Press . **ExBlo2-I**	*Module input state: External blocking2*
Ext Sudd Press . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Ext Sudd Press . **Alarm-I**	*Module input state: Alarm*
Ext Sudd Press . **Trip-I**	*Module input state: Trip*
Ext Oil Temp . **active**	*Signal: active*
Ext Oil Temp . **ExBlo**	*Signal: External Blocking*
Ext Oil Temp . **Blo TripCmd**	*Signal: Trip Command blocked*
Ext Oil Temp . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Ext Oil Temp . **Alarm**	*Signal: Alarm*

1..n, Assignment List	Description
Ext Oil Temp . **Trip**	*Signal: Trip*
Ext Oil Temp . **TripCmd**	*Signal: Trip Command*
Ext Oil Temp . **ExBlo1-I**	*Module input state: External blocking1*
Ext Oil Temp . **ExBlo2-I**	*Module input state: External blocking2*
Ext Oil Temp . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Ext Oil Temp . **Alarm-I**	*Module input state: Alarm*
Ext Oil Temp . **Trip-I**	*Module input state: Trip*
Ext Temp Superv[1] . **active**	*Signal: active*
Ext Temp Superv[1] . **ExBlo**	*Signal: External Blocking*
Ext Temp Superv[1] . **Blo TripCmd**	*Signal: Trip Command blocked*
Ext Temp Superv[1] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Ext Temp Superv[1] . **Alarm**	*Signal: Alarm*
Ext Temp Superv[1] . **Trip**	*Signal: Trip*
Ext Temp Superv[1] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[1] . **ExBlo1-I**	*Module input state: External blocking1*
Ext Temp Superv[1] . **ExBlo2-I**	*Module input state: External blocking2*
Ext Temp Superv[1] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Ext Temp Superv[1] . **Alarm-I**	*Module input state: Alarm*
Ext Temp Superv[1] . **Trip-I**	*Module input state: Trip*
Ext Temp Superv[2] . **active**	*Signal: active*
Ext Temp Superv[2] . **ExBlo**	*Signal: External Blocking*
Ext Temp Superv[2] . **Blo TripCmd**	*Signal: Trip Command blocked*
Ext Temp Superv[2] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*

1..n, Assignment List	Description
Ext Temp Superv[2] . **Alarm**	*Signal: Alarm*
Ext Temp Superv[2] . **Trip**	*Signal: Trip*
Ext Temp Superv[2] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[2] . **ExBlo1-I**	*Module input state: External blocking1*
Ext Temp Superv[2] . **ExBlo2-I**	*Module input state: External blocking2*
Ext Temp Superv[2] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Ext Temp Superv[2] . **Alarm-I**	*Module input state: Alarm*
Ext Temp Superv[2] . **Trip-I**	*Module input state: Trip*
Ext Temp Superv[3] . **active**	*Signal: active*
Ext Temp Superv[3] . **ExBlo**	*Signal: External Blocking*
Ext Temp Superv[3] . **Blo TripCmd**	*Signal: Trip Command blocked*
Ext Temp Superv[3] . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Ext Temp Superv[3] . **Alarm**	*Signal: Alarm*
Ext Temp Superv[3] . **Trip**	*Signal: Trip*
Ext Temp Superv[3] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[3] . **ExBlo1-I**	*Module input state: External blocking1*
Ext Temp Superv[3] . **ExBlo2-I**	*Module input state: External blocking2*
Ext Temp Superv[3] . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Ext Temp Superv[3] . **Alarm-I**	*Module input state: Alarm*
Ext Temp Superv[3] . **Trip-I**	*Module input state: Trip*
Trip-Trans . **Rx.Trip1**	*Rx (Receive): Status of received Signal from remote device. Permissive signal is considered.*

1..n, Assignment List	Description
Trip-Trans . **Rx.Trip2**	*Rx (Receive): Status of received Signal from remote device. Permissive signal is considered.*
Trip-Trans . **Rx.Trip3**	*Rx (Receive): Status of received Signal from remote device. Permissive signal is considered.*
Trip-Trans . **Rx.Trip4**	*Rx (Receive): Status of received Signal from remote device. Permissive signal is considered.*
Trip-Trans . **Rx.Trip1.Input**	*Rx (Receive): Status of received Signal from remote device, without considering permissive signal.*
Trip-Trans . **Rx.Trip2.Input**	*Rx (Receive): Status of received Signal from remote device, without considering permissive signal.*
Trip-Trans . **Rx.Trip3.Input**	*Rx (Receive): Status of received Signal from remote device, without considering permissive signal.*
Trip-Trans . **Rx.Trip4.Input**	*Rx (Receive): Status of received Signal from remote device, without considering permissive signal.*
Trip-Trans . **active**	*Signal: active*
Trip-Trans . **ExBlo**	*Signal: External Blocking*
Trip-Trans . **Blo TripCmd**	*Signal: Trip Command blocked*
Trip-Trans . **ExBlo TripCmd**	*Signal: External Blocking of the Trip Command*
Trip-Trans . **Trip**	*Signal: Trip*
Trip-Trans . **TripCmd**	*Signal: Trip Command*
Trip-Trans . **ExBlo1-I**	*Module input state: External blocking*
Trip-Trans . **ExBlo2-I**	*Module input state: External blocking*
Trip-Trans . **ExBlo TripCmd-I**	*Module input state: External Blocking of the Trip Command*
Trip-Trans . **Rx.Trip1.Permissive**	*Status of local signal for releasing received Trip-signal of the remote device.*
Trip-Trans . **Rx.Trip2.Permissive**	*Status of local signal for releasing received Trip-signal of the remote device.*
Trip-Trans . **Rx.Trip3.Permissive**	*Status of local signal for releasing received Trip-signal of the remote device.*
Trip-Trans . **Rx.Trip4.Permissive**	*Status of local signal for releasing received Trip-signal of the remote device.*
Trip-Trans . **Tx.Trip1**	*Tx (Transmit): Status of sent Trip-signal to remote device.*
Trip-Trans . **Tx.Trip2**	*Tx (Transmit): Status of sent Trip-signal to remote device.*
Trip-Trans . **Tx.Trip3**	*Tx (Transmit): Status of sent Trip-signal to remote device.*
Trip-Trans . **Tx.Trip4**	*Tx (Transmit): Status of sent Trip-signal to remote device.*
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*

1..n, Assignment List	Description
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **active**	*Signal: active*
Sig-Trans . **ExBlo**	*Signal: External Blocking*
Sig-Trans . **ExBlo1-I**	*Module input state: External blocking1*
Sig-Trans . **ExBlo2-I**	*Module input state: External blocking2*
Sig-Trans . **Tx.Signal1**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal2**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal3**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal4**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal5**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal6**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal7**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal8**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal9**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal10**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal11**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal12**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal13**	*Tx (Transmit): Status of sent Signal to remote device.*

1..n, Assignment List	Description
Sig-Trans . **Tx.Signal14**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal15**	*Tx (Transmit): Status of sent Signal to remote device.*
Sig-Trans . **Tx.Signal16**	*Tx (Transmit): Status of sent Signal to remote device.*
CBF . **active**	*Signal: active*
CBF . **ExBlo**	*Signal: External Blocking*
CBF . **Waiting for Trigger**	*Waiting for Trigger*
CBF . **running**	*Signal: CBF-Module started*
CBF . **Alarm**	*Signal: Circuit Breaker Failure*
CBF . **Lockout**	*Signal: Lockout*
CBF . **Res Lockout**	*Signal: Reset Lockout*
CBF . **ExBlo1-I**	*Module input state: External blocking1*
CBF . **ExBlo2-I**	*Module input state: External blocking2*
CBF . **Trigger1-I**	*Module Input: Trigger that will start the CBF*
CBF . **Trigger2-I**	*Module Input: Trigger that will start the CBF*
CBF . **Trigger3-I**	*Module Input: Trigger that will start the CBF*
TCS . **active**	*Signal: active*
TCS . **ExBlo**	*Signal: External Blocking*
TCS . **Alarm**	*Signal: Alarm Trip Circuit Supervision*
TCS . **Not Possible**	*Not possible because no state indicator assigned to the breaker.*
TCS . **Aux ON-I**	*Module Input State: Position indicator/check-back signal of the CB (52a)*
TCS . **Aux OFF-I**	*Module input state: Position indicator/check-back signal of the CB (52b)*
TCS . **ExBlo1-I**	*Module input state: External blocking1*
TCS . **ExBlo2-I**	*Module input state: External blocking2*
CTS . **active**	*Signal: active*
CTS . **ExBlo**	*Signal: External Blocking*
CTS . **Alarm**	*Signal: Alarm Current Transformer Measuring Circuit Supervision*
CTS . **ExBlo1-I**	*Module input state: External blocking1*
CTS . **ExBlo2-I**	*Module input state: External blocking2*
LOP . **active**	*Signal: active*
LOP . **ExBlo**	*Signal: External Blocking*
LOP . **Alarm**	*Signal: Alarm Loss of Potential*

1..n, Assignment List	Description
LOP . **LOP Blo**	*Signal: Loss of Potential blocks other elements.*
LOP . **Ex FF VT**	*Signal: Ex FF VT*
LOP . **Ex FF EVT**	*Signal: Alarm Fuse Failure Earth Voltage Transformers*
LOP . **ExBlo1-I**	*Module input state: External blocking1*
LOP . **ExBlo2-I**	*Module input state: External blocking2*
LOP . **Ex FF VT-I**	*State of the module input: Alarm Fuse Failure Voltage Transformers*
LOP . **Ex FF EVT-I**	*State of the module input: Alarm Fuse Failure Earth Voltage Transformers*
LOP . **Blo Trigger1-I**	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*
LOP . **Blo Trigger2-I**	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*
LOP . **Blo Trigger3-I**	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*
LOP . **Blo Trigger4-I**	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*
LOP . **Blo Trigger5-I**	*State of the module input: An Alarm of this protective element will block the Loss of Potential Detection.*
PQSCr . **Cr Oflw Ws Net**	*Signal: Counter Overflow Ws Net*
PQSCr . **Cr Oflw Wp Net**	*Signal: Counter Overflow Wp Net*
PQSCr . **Cr Oflw Wp+**	*Signal: Counter Overflow Wp+*
PQSCr . **Cr Oflw Wp-**	*Signal: Counter Overflow Wp-*
PQSCr . **Cr Oflw Wq Net**	*Signal: Counter Overflow Wq Net*
PQSCr . **Cr Oflw Wq+**	*Signal: Counter Overflow Wq+*
PQSCr . **Cr Oflw Wq-**	*Signal: Counter Overflow Wq-*
PQSCr . **Ws Net Res Cr**	*Signal: Ws Net Reset Counter*
PQSCr . **Wp Net Res Cr**	*Signal: Wp Net Reset Counter*
PQSCr . **Wp+ Res Cr**	*Signal: Wp+ Reset Counter*
PQSCr . **Wp- Res Cr**	*Signal: Wp- Reset Counter*
PQSCr . **Wq Net Res Cr**	*Signal: Wq Net Reset Counter*
PQSCr . **Wq+ Res Cr**	*Signal: Wq+ Reset Counter*
PQSCr . **Wq- Res Cr**	*Signal: Wq- Reset Counter*
PQSCr . **Res all Energy Cr**	*Signal: Reset of all Energy Counters*

1..n, Assignment List	Description
PQSCr . **Cr OflwW Ws Net**	*Signal: Counter Ws Net will overflow soon*
PQSCr . **Cr OflwW Wp Net**	*Signal: Counter Wp Net will overflow soon*
PQSCr . **Cr OflwW Wp+**	*Signal: Counter Wp+ will overflow soon*
PQSCr . **Cr OflwW Wp-**	*Signal: Counter Wp- will overflow soon*
PQSCr . **Cr OflwW Wq Net**	*Signal: Counter Wq Net will overflow soon*
PQSCr . **Cr OflwW Wq+**	*Signal: Counter Wq+ will overflow soon*
PQSCr . **Cr OflwW Wq-**	*Signal: Counter Wq- will overflow soon*
SysA . **active**	*Signal: active*
SysA . **ExBlo**	*Signal: External Blocking*
SysA . **Alarm Watt Power**	*Signal: Alarm permitted Active Power exceeded*
SysA . **Alarm VAr Power**	*Signal: Alarm permitted Reactive Power exceeded*
SysA . **Alarm VA Power**	*Signal: Alarm permitted Apparent Power exceeded*
SysA . **Alarm Watt Demand**	*Signal: Alarm averaged Active Power exceeded*
SysA . **Alarm VAr Demand**	*Signal: Alarm averaged Reactive Power exceeded*
SysA . **Alarm VA Demand**	*Signal: Alarm averaged Apparent Power exceeded*
SysA . **Alm Current Demd**	*Signal: Alarm averaged demand current*
SysA . **Alarm I THD**	*Signal: Alarm Total Harmonic Distortion Current*
SysA . **Alarm V THD**	*Signal: Alarm Total Harmonic Distortion Voltage*
SysA . **Trip Watt Power**	*Signal: Trip permitted Active Power exceeded*
SysA . **Trip VAr Power**	*Signal: Trip permitted Reactive Power exceeded*
SysA . **Trip VA Power**	*Signal: Trip permitted Apparent Power exceeded*
SysA . **Trip Watt Demand**	*Signal: Trip averaged Active Power exceeded*
SysA . **Trip VAr Demand**	*Signal: Trip averaged Reactive Power exceeded*
SysA . **Trip VA Demand**	*Signal: Trip averaged Apparent Power exceeded*
SysA . **Trip Current Demand**	*Signal: Trip averaged demand current*
SysA . **Trip I THD**	*Signal: Trip Total Harmonic Distortion Current*

1..n, Assignment List	Description
SysA . **Trip V THD**	*Signal: Trip Total Harmonic Distortion Voltage*
SysA . **ExBlo-I**	*Module input state: External blocking*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
BO Slot X2 . **BO 1**	*Signal: Binary Output Relay*
BO Slot X2 . **BO 2**	*Signal: Binary Output Relay*
BO Slot X2 . **BO 3**	*Signal: Binary Output Relay*
BO Slot X2 . **BO 4**	*Signal: Binary Output Relay*
BO Slot X2 . **BO 5**	*Signal: Binary Output Relay*
BO Slot X2 . **BO 6**	*Signal: Binary Output Relay*

1..n, Assignment List	Description
BO Slot X2 . **DISARMED!**	*Signal: CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Self Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance*
BO Slot X2 . **Outs forced**	*Signal: The State of at least one Relay Output has been set by force. That means that the state of at least one Relay is forced and hence does not show the state of the assigned signals.*
BO Slot X4 . **BO 1**	*Signal: Binary Output Relay*
BO Slot X4 . **BO 2**	*Signal: Binary Output Relay*
BO Slot X4 . **BO 3**	*Signal: Binary Output Relay*
BO Slot X4 . **BO 4**	*Signal: Binary Output Relay*
BO Slot X4 . **BO 5**	*Signal: Binary Output Relay*
BO Slot X4 . **DISARMED!**	*Signal: CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Self Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance*
BO Slot X4 . **Outs forced**	*Signal: The State of at least one Relay Output has been set by force. That means that the state of at least one Relay is forced and hence does not show the state of the assigned signals.*
BO Slot X5 . **BO 1**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 2**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 3**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 4**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 5**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 6**	*Signal: Binary Output Relay*
BO Slot X5 . **DISARMED!**	*Signal: CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Self Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance*
BO Slot X5 . **Outs forced**	*Signal: The State of at least one Relay Output has been set by force. That means that the state of at least one Relay is forced and hence does not show the state of the assigned signals.*
BO Slot X5 . **BO 1**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 2**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 3**	*Signal: Binary Output Relay*
BO Slot X5 . **BO 4**	*Signal: Binary Output Relay*
BO Slot X5 . **DISARMED!**	*Signal: CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Self Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance*

1..n, Assignment List	Description
BO Slot X5 . **Outs forced**	*Signal: The State of at least one Relay Output has been set by force. That means that the state of at least one Relay is forced and hence does not show the state of the assigned signals.*
BO Slot X6 . **BO 1**	*Signal: Binary Output Relay*
BO Slot X6 . **BO 2**	*Signal: Binary Output Relay*
BO Slot X6 . **BO 3**	*Signal: Binary Output Relay*
BO Slot X6 . **BO 4**	*Signal: Binary Output Relay*
BO Slot X6 . **DISARMED!**	*Signal: CAUTION! RELAYS DISARMED in order to safely perform maintenance while eliminating the risk of taking an entire process off-line. (Note: The Self Supervision Contact cannot be disarmed). YOU MUST ENSURE that the relays are ARMED AGAIN after maintenance*
BO Slot X6 . **Outs forced**	*Signal: The State of at least one Relay Output has been set by force. That means that the state of at least one Relay is forced and hence does not show the state of the assigned signals.*
Event rec . **Res all records**	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*
Disturb rec . **recording**	*Signal: Recording*
Disturb rec . **memory full**	*Signal: Memory full*
Disturb rec . **Clear fail**	*Signal: Clear failure in memory*
Disturb rec . **Res all records**	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*
Disturb rec . **Res all records**	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*
Disturb rec . **Man Trigger**	*Signal: Manual Trigger*
Disturb rec . **Start1-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start2-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start3-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start4-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start5-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start6-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start7-I**	*State of the module input:: Trigger event / start recording*
Disturb rec . **Start8-I**	*State of the module input:: Trigger event / start recording*
Fault rec . **Res all records**	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*
Trend rec . **Res all records**	*Signal: All records are being deleted. (Remark: Immediately afterwards, this signal becomes inactive again.)*

1..n, Assignment List	Description
SSV . **System Error**	*Signal: Device Failure*
SSV . **SelfSuperVision Contact**	*Signal: SelfSuperVision Contact*
SSV . **New error**	*Signal: A new error message has been issued.*
SSV . **New warning**	*Signal: A new warning message has been issued.*
Syslog . **active**	*Signal: active*
Sys . **Smart view via USB**	*Information whether or not the Smart view access via the USB interface is activated (allowed).*
Sys . **Smart view via Eth**	*Information whether or not the Smart view access via the Ethernet interface is activated (allowed).*
Scada . **SCADA connected**	*At least one SCADA System is connected to the device.*
Scada . **SCADA not connected**	*No SCADA System is connected to the device*
DNP3 . **busy**	*This message is set if the protocol is started. It will be reset if the protocol is shut down.*
DNP3 . **ready**	*The message will be set if the protocol is successfully started and ready for data exchange.*
DNP3 . **active**	*The communication with the Master (SCADA) is active.* *Note that for TCP/UDP, this state is permanently "Low" unless »DataLink confirm« is set to "Always".*
DNP3 . **BinaryOutput0**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput1**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput2**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput3**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput4**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput5**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput6**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput7**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput8**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

1..n, Assignment List	Description
DNP3 . **BinaryOutput9**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput10**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput11**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput12**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput13**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput14**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput15**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput16**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput17**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput18**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput19**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput20**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput21**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput22**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput23**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput24**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput25**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput26**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput27**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput28**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

1..n, Assignment List	Description
DNP3 . **BinaryOutput29**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput30**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput31**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryInput0-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput1-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput2-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput3-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput4-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput5-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput6-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput7-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput8-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput9-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput10-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput11-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput12-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput13-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput14-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput15-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput16-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*

1..n, Assignment List	Description
DNP3 . **BinaryInput17-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput18-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput19-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput20-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput21-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput22-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput23-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput24-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput25-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput26-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput27-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput28-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput29-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput30-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput31-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput32-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput33-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput34-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput35-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput36-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*

1..n, Assignment List	Description
DNP3 . **BinaryInput37-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput38-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput39-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput40-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput41-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput42-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput43-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput44-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput45-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput46-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput47-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput48-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput49-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput50-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput51-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput52-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput53-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput54-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput55-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput56-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*

1..n, Assignment List	Description
DNP3 . **BinaryInput57-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput58-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput59-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput60-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput61-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput62-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
DNP3 . **BinaryInput63-I**	*Virtual Digital Input (DNP). This corresponds to a virtual binary output of the protective device.*
Modbus . **Transmission RTU**	*Signal: SCADA active*
Modbus . **Transmission TCP**	*Signal: SCADA active*
Modbus . **Scada Cmd 1**	*Scada Command*
Modbus . **Scada Cmd 2**	*Scada Command*
Modbus . **Scada Cmd 3**	*Scada Command*
Modbus . **Scada Cmd 4**	*Scada Command*
Modbus . **Scada Cmd 5**	*Scada Command*
Modbus . **Scada Cmd 6**	*Scada Command*
Modbus . **Scada Cmd 7**	*Scada Command*
Modbus . **Scada Cmd 8**	*Scada Command*
Modbus . **Scada Cmd 9**	*Scada Command*
Modbus . **Scada Cmd 10**	*Scada Command*
Modbus . **Scada Cmd 11**	*Scada Command*
Modbus . **Scada Cmd 12**	*Scada Command*
Modbus . **Scada Cmd 13**	*Scada Command*
Modbus . **Scada Cmd 14**	*Scada Command*
Modbus . **Scada Cmd 15**	*Scada Command*
Modbus . **Scada Cmd 16**	*Scada Command*
Modbus . **Config Bin Inp1-I**	*State of the module input: Config Bin Inp*

1..n, Assignment List	Description
Modbus . **Config Bin Inp2-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp3-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp4-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp5-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp6-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp7-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp8-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp9-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp10-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp11-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp12-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp13-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp14-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp15-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp16-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp17-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp18-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp19-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp20-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp21-I**	*State of the module input: Config Bin Inp*

1..n, Assignment List	Description
Modbus . **Config Bin Inp22-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp23-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp24-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp25-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp26-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp27-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp28-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp29-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp30-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp31-I**	*State of the module input: Config Bin Inp*
Modbus . **Config Bin Inp32-I**	*State of the module input: Config Bin Inp*
IEC 61850 . **MMS Client connected**	*At least one MMS client is connected to the device*
IEC 61850 . **All Goose Subscriber active**	*All Goose subscriber in the device are working*
IEC 61850 . **GOSINGGIO1.Ind1.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind2.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind3.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind4.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind5.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind6.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind7.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO1.Ind8.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind9.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind10.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind11.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind12.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind13.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind14.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind15.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind16.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind17.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind18.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind19.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind20.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind21.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind22.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind23.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind24.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind25.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind26.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind27.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO1.Ind28.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind29.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind30.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind31.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind32.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind1.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind2.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind3.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind4.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind5.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind6.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind7.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind8.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind9.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind10.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind11.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind12.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind13.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind14.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind15.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO2.Ind16.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind17.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind18.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind19.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind20.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind21.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind22.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind23.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind24.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind25.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind26.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind27.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind28.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind29.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind30.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind31.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO2.Ind32.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind1.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind2.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind3.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO1.Ind4.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind5.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind6.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind7.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind8.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind9.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind10.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind11.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind12.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind13.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind14.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind15.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind16.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind17.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind18.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind19.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind20.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind21.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind22.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind23.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO1.Ind24.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind25.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind26.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind27.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind28.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind29.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind30.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind31.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO1.Ind32.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind1.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind2.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind3.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind4.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind5.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind6.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind7.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind8.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind9.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind10.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind11.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO2.Ind12.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind13.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind14.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind15.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind16.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind17.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind18.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind19.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind20.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind21.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind22.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind23.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind24.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind25.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind26.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind27.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind28.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind29.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind30.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **GOSINGGIO2.Ind31.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*

1..n, Assignment List	Description
IEC 61850 . **GOSINGGIO2.Ind32.q**	*Signal: Virtual Input (IEC61850 GGIO Ind): Self-Supervision of the GGIO Input*
IEC 61850 . **SPCSO1**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO2**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO3**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO4**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO5**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO6**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO7**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO8**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO9**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO10**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO11**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO12**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO13**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO14**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO15**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO16**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO17**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO18**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO19**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*

1..n, Assignment List	Description
IEC 61850 . **SPCSO20**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO21**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO22**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO23**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO24**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO25**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO26**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO27**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO28**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO29**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO30**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO31**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO32**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC103 . **Scada Cmd 1**	*Scada Command*
IEC103 . **Scada Cmd 2**	*Scada Command*
IEC103 . **Scada Cmd 3**	*Scada Command*
IEC103 . **Scada Cmd 4**	*Scada Command*
IEC103 . **Scada Cmd 5**	*Scada Command*
IEC103 . **Scada Cmd 6**	*Scada Command*
IEC103 . **Scada Cmd 7**	*Scada Command*
IEC103 . **Scada Cmd 8**	*Scada Command*
IEC103 . **Scada Cmd 9**	*Scada Command*
IEC103 . **Scada Cmd 10**	*Scada Command*
IEC103 . **Transmission**	*Signal: SCADA active*

1..n, Assignment List	Description
IEC103 . **Failure Event lost**	*Failure event lost*
IEC103 . **Test mode active**	*Signal: IEC103 communication has been switched over into Test Mode.*
IEC103 . **Block MD active**	*Signal: The blocking of IEC103 transmission in monitor direction has been activated.*
IEC103 . **Ex activate test mode-I**	*Module input state: Test Mode of the IEC103 communication.*
IEC103 . **Ex activate Block MD-I**	*Module input state: Activation of the blocking of IEC103 transmission in monitor direction.*
IEC104 . **busy**	*This message is set if the protocol is started. It will be reset if the protocol is shut down.*
IEC104 . **ready**	*The message will be set if the protocol is successfully started and ready for data exchange.*
IEC104 . **Transmission**	*Signal: SCADA active*
IEC104 . **Failure Event lost**	*Failure event lost*
IEC104 . **Scada Cmd 1**	*Scada Command*
IEC104 . **Scada Cmd 2**	*Scada Command*
IEC104 . **Scada Cmd 3**	*Scada Command*
IEC104 . **Scada Cmd 4**	*Scada Command*
IEC104 . **Scada Cmd 5**	*Scada Command*
IEC104 . **Scada Cmd 6**	*Scada Command*
IEC104 . **Scada Cmd 7**	*Scada Command*
IEC104 . **Scada Cmd 8**	*Scada Command*
IEC104 . **Scada Cmd 9**	*Scada Command*
IEC104 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 11**	*Scada Command*
IEC104 . **Scada Cmd 12**	*Scada Command*
IEC104 . **Scada Cmd 13**	*Scada Command*
IEC104 . **Scada Cmd 14**	*Scada Command*
IEC104 . **Scada Cmd 15**	*Scada Command*
IEC104 . **Scada Cmd 16**	*Scada Command*
Profibus . **Data OK**	*Data within the Input field are OK (Yes=1)*
Profibus . **SubModul Err**	*Assignable Signal, Failure in Sub-Module, Communication Failure.*

1..n, Assignment List	Description
Profibus . **Connection active**	*Connection active*
Profibus . **Scada Cmd 1**	*Scada Command*
Profibus . **Scada Cmd 2**	*Scada Command*
Profibus . **Scada Cmd 3**	*Scada Command*
Profibus . **Scada Cmd 4**	*Scada Command*
Profibus . **Scada Cmd 5**	*Scada Command*
Profibus . **Scada Cmd 6**	*Scada Command*
Profibus . **Scada Cmd 7**	*Scada Command*
Profibus . **Scada Cmd 8**	*Scada Command*
Profibus . **Scada Cmd 9**	*Scada Command*
Profibus . **Scada Cmd 10**	*Scada Command*
Profibus . **Scada Cmd 11**	*Scada Command*
Profibus . **Scada Cmd 12**	*Scada Command*
Profibus . **Scada Cmd 13**	*Scada Command*
Profibus . **Scada Cmd 14**	*Scada Command*
Profibus . **Scada Cmd 15**	*Scada Command*
Profibus . **Scada Cmd 16**	*Scada Command*
ProtCom . **active**	*Signal: active*
ProtCom . **inactive**	*Signal: inactive*
ProtCom . **ExBlo**	*Signal: External Blocking*
ProtCom . **Blo forced**	*Protection-communication is temporarily forced to be deactivated (blocked).*
ProtCom . **Qual.Warn.**	*Error Rate is above warning level.*
ProtCom . **Comm.Ok**	*Protection-communication Ok. Measuring systems is synchron with remote device.*
ProtCom . **FrameSync**	*Frames are synchronized.*
ProtCom . **TimeSync**	*Internal time bases are synchronized.*
ProtCom . **Loopback**	*Device is in Loopback-mode.*
ProtCom . **ExBlo1-I**	*Module input state: External blocking1*
ProtCom . **ExBlo2-I**	*Module input state: External blocking2*
IRIG-B . **IRIG-B active**	*Signal: If there is no valid IRIG-B signal for 60 sec, IRIG-B is regarded as inactive.*

1..n, Assignment List	Description
IRIG-B . **High-Low Invert**	*Signal: The High and Low signals of the IRIG-B are inverted. This does NOT mean that the wiring is faulty. If the wiring is faulty no IRIG-B signal will be detected.*
IRIG-B . **Control Signal1**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal2**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal3**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal4**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal5**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal6**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal7**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal8**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal9**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal10**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal11**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal12**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal13**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal14**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*

1..n, Assignment List	Description
IRIG-B . **Control Signal15**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal16**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal17**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
IRIG-B . **Control Signal18**	*Signal: IRIG-B Control Signal. The external IRIG-B generator can set these signals. They can be used for further control procedures inside the device (e.g. logic funtions).*
SNTP . **SNTP active**	*Signal: If there is no valid SNTP signal for 120 sec, SNTP is regarded as inactive.*
TimeSync . **synchronized**	*Clock is synchronized.*
Statistics . **ResFc all**	*Signal: Resetting of all Statistic values (Current Demand, Power Demand, Min, Max)*
Statistics . **ResFc Vavg**	*Signal: Resetting of the sliding average calculation.*
Statistics . **ResFc I Demand**	*Signal: Resetting of Statistics - Current Demand (avg, peak avg)*
Statistics . **ResFc P Demand**	*Signal: Resetting of Statistics - Power Demand (avg, peak avg)*
Statistics . **ResFc Max**	*Signal: Resetting of all Maximum values*
Statistics . **ResFc Min**	*Signal: Resetting of all Minimum values*
Statistics . **StartFc Vavg-I**	*State of the module input: Start of Statistics Average Voltage*
Statistics . **StartFc I Demand-I**	*State of the module input: Start of the Statistics of the Current Demand*
Statistics . **StartFc P Demand-I**	*State of the module input: Start of the Statistics of the Active Power Demand*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE1.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE1.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE1.Gate In3-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE1.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE1.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE2.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE2.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE2.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE2.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE3.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE3.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE3.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE3.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE4.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE4.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE4.Gate In4-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE4.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE5.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE5.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE5.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE5.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE6.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE6.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE6.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE6.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE7.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE7.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE7.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE7.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*

1..n, Assignment List	Description
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE8.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE8.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE8.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE8.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE9.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE9.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE9.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE9.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE10.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE10.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE10.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE10.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*

1..n, Assignment List	Description
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE11.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE11.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE11.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE11.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE12.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE12.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE12.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE12.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE13.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE13.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE13.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE13.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*

1..n, Assignment List	Description
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE14.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE14.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE14.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE14.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE15.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE15.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE15.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE15.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE16.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE16.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE16.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE16.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*

1..n, Assignment List	Description
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE17.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE17.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE17.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE17.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE18.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE18.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE18.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE18.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE19.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE19.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE19.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE19.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, Assignment List	Description
Logics . **LE20.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE20.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE20.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE20.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE20.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE21.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE21.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE21.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE21.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE22.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE22.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE22.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE22.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate In1-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE23.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE23.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE23.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE23.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE24.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE24.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE24.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE24.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE25.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE25.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE25.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE25.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE26.Gate In2-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE26.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE26.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE26.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE27.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE27.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE27.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE27.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE28.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE28.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE28.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE28.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE29.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE29.Gate In3-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE29.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE29.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE30.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE30.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE30.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE30.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE31.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE31.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE31.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE31.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE32.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE32.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE32.Gate In4-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE32.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE33.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE33.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE33.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE33.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE34.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE34.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE34.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE34.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE35.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE35.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE35.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE35.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*

1..n, Assignment List	Description
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE36.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE36.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE36.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE36.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE37.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE37.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE37.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE37.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE38.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE38.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE38.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE38.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*

1..n, Assignment List	Description
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE39.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE39.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE39.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE39.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE40.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE40.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE40.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE40.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE41.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE41.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE41.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE41.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*

1..n, Assignment List	Description
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE42.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE42.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE42.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE42.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE43.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE43.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE43.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE43.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE44.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE44.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE44.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE44.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*

1..n, Assignment List	Description
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE45.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE45.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE45.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE45.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE46.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE46.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE46.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE46.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE47.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE47.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE47.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE47.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, Assignment List	Description
Logics . **LE48.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE48.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE48.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE48.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE48.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE49.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE49.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE49.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE49.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE50.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE50.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE50.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE50.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate In1-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE51.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE51.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE51.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE51.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE52.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE52.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE52.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE52.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE53.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE53.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE53.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE53.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE54.Gate In2-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE54.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE54.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE54.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE55.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE55.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE55.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE55.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE56.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE56.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE56.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE56.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE57.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE57.Gate In3-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE57.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE57.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE58.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE58.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE58.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE58.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE59.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE59.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE59.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE59.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE60.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE60.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE60.Gate In4-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE60.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE61.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE61.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE61.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE61.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE62.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE62.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE62.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE62.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE63.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE63.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE63.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE63.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*

1..n, Assignment List	Description
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE64.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE64.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE64.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE64.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE65.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE65.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE65.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE65.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE66.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE66.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE66.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE66.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*

1..n, Assignment List	Description
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE67.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE67.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE67.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE67.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE68.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE68.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE68.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE68.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE69.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE69.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE69.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE69.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*

1..n, Assignment List	Description
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE70.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE70.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE70.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE70.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE71.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE71.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE71.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE71.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE72.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE72.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE72.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE72.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*

1..n, Assignment List	Description
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE73.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE73.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE73.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE73.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE74.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE74.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE74.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE74.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE75.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE75.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE75.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE75.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, Assignment List	Description
Logics . **LE76.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE76.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE76.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE76.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE76.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE77.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE77.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE77.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE77.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE78.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE78.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE78.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE78.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate In1-I**	*State of the module input: Assignment of the Input Signal*

1..n, Assignment List	Description
Logics . **LE79.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE79.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE79.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE79.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate In1-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE80.Gate In2-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE80.Gate In3-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE80.Gate In4-I**	*State of the module input: Assignment of the Input Signal*
Logics . **LE80.Reset Latch-I**	*State of the module input: Reset Signal for the Latching*
Sgen . **Manual Start**	*Fault Simulation has been started manually.*
Sgen . **Manual Stop**	*Fault Simulation has been stopped manually.*
Sgen . **Running**	*Signal; Measuring value simulation is running*
Sgen . **Started**	*Fault Simulation has been started*
Sgen . **Stopped**	*Fault Simulation has been stopped*
Sgen . **Ex Start Simulation-I**	*State of the module input:External Start of Fault Simulation (Using the test parameters)*
Sgen . **ExBlo1-I**	*Module input state: External blocking1*
Sgen . **ExBlo2-I**	*Module input state: External blocking2*
Sgen . **Ex ForcePost-I**	*State of the module input:Force Post state. Abort simulation.*
Sys . **PS 1**	*Signal: The currently active Parameter Set is PS 1*
Sys . **PS 2**	*Signal: The currently active Parameter Set is PS 2*
Sys . **PS 3**	*Signal: The currently active Parameter Set is PS 3*
Sys . **PS 4**	*Signal: The currently active Parameter Set is PS 4*
Sys . **PSS manual**	*Signal: Manual Switch over of a Parameter Set*
Sys . **PSS via Scada**	*Signal: Parameter Set Switch via Scada. Write into this output byte the integer of the parameter set that should become active (e.g. 4 => Switch onto parameter set 4).*

1..n, Assignment List	Description
Sys . **PSS via Inp fct**	*Signal: Parameter Set Switch via input function*
Sys . **min 1 param changed**	*Signal: At least one parameter has been changed*
Sys . **Setting Lock Bypass**	*Signal: Short-period unlock of the Setting Lock*
Sys . **Ack LED**	*Signal: LEDs acknowledgement*
Sys . **Ack BO**	*Signal: Acknowledgement of the Binary Outputs*
Sys . **Ack Scada**	*Signal: Acknowledge latched SCADA signals*
Sys . **Ack TripCmd**	*Signal: Reset Trip Command*
Sys . **Ack LED-HMI**	*Signal: LEDs acknowledgement :HMI*
Sys . **Ack BO-HMI**	*Signal: Acknowledgement of the Binary Outputs :HMI*
Sys . **Ack Scada-HMI**	*Signal: Acknowledge latched SCADA signals :HMI*
Sys . **Ack TripCmd-HMI**	*Signal: Reset Trip Command :HMI*
Sys . **Ack LED-Sca**	*Signal: LEDs acknowledgement :SCADA*
Sys . **Ack BO-Sca**	*Signal: Acknowledgement of the Binary Outputs :SCADA*
Sys . **Ack Counter-Sca**	*Signal: Reset of all Counters :SCADA*
Sys . **Ack Scada-Sca**	*Signal: Acknowledge latched SCADA signals :SCADA*
Sys . **Ack TripCmd-Sca**	*Signal: Reset Trip Command :SCADA*
Sys . **Res OperationsCr**	*Signal:: Res OperationsCr*
Sys . **Res AlarmCr**	*Signal:: Res AlarmCr*
Sys . **Res TripCmdCr**	*Signal:: Res TripCmdCr*
Sys . **Res TotalCr**	*Signal:: Res TotalCr*
Sys . **Ack LED-I**	*Module input state: LEDs acknowledgement by digital input*
Sys . **Ack BO-I**	*Module input state: Acknowledgement of the binary Output Relays*
Sys . **Ack Scada-I**	*Module input state: Acknowledge latched SCADA signals.*
Sys . **PS1-I**	*State of the module input respectively of the signal, that should activate this Parameter Setting Group.*
Sys . **PS2-I**	*State of the module input respectively of the signal, that should activate this Parameter Setting Group.*
Sys . **PS3-I**	*State of the module input respectively of the signal, that should activate this Parameter Setting Group.*
Sys . **PS4-I**	*State of the module input respectively of the signal, that should activate this Parameter Setting Group.*
Sys . **Setting Lock-I**	*State of the module input: No parameters can be changed as long as this input is true. The parameter settings are locked.*

1..n, Assignment List	Description
Sys . **Internal test state**	*Auxiliary state for testing purposes.*

1...n Operating Modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X4 . Operating Mode
- ⮡ BO Slot X4 . Operating Mode
- ⮡ BO Slot X4 . Operating Mode
- ⮡ BO Slot X4 . Operating Mode
- ⮡ BO Slot X4 . Operating Mode

1...n Operating Modes	Description
Normally open (NO)	*The working principle of the relay corresponds to a normally open contact.*
Normally closed (NC)	*The working principle of the relay corresponds to a normally closed contact.*

1...n Operating Modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X5 . Operating Mode
- ⮡ BO Slot X5 . Operating Mode
- ⮡ BO Slot X5 . Operating Mode
- ⮡ BO Slot X5 . Operating Mode
- ⮡ BO Slot X5 . Operating Mode
- ⮡ BO Slot X5 . Operating Mode

1...n Operating Modes	Description
Normally open (NO)	*The working principle of the relay corresponds to a normally open contact.*
Normally closed (NC)	*The working principle of the relay corresponds to a normally closed contact.*

1...n Operating Modes

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X5 . Operating Mode
- ╚═▷ BO Slot X5 . Operating Mode
- ╚═▷ BO Slot X5 . Operating Mode
- ╚═▷ BO Slot X5 . Operating Mode

1...n Operating Modes	Description
Normally open (NO)	*The working principle of the relay corresponds to a normally open contact.*
Normally closed (NC)	*The working principle of the relay corresponds to a normally closed contact.*

1...n Operating Modes

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X6 . Operating Mode
- ╚═▷ BO Slot X6 . Operating Mode
- ╚═▷ BO Slot X6 . Operating Mode
- ╚═▷ BO Slot X6 . Operating Mode

1...n Operating Modes	Description
Normally open (NO)	*The working principle of the relay corresponds to a normally open contact.*
Normally closed (NC)	*The working principle of the relay corresponds to a normally closed contact.*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ LEDs group A . Latched
- ╚═▷ LEDs group A . Latched

- ╚═▷ LEDs group A . Latched
- ╚═▷ LEDs group A . Latched
- ╚═▷ LEDs group A . Latched
- ╚═▷ LEDs group A . Latched
- *[. . .]*

Mode	Description
inactive	*inactive*
active	*active*
active, ack. by alarm	*Latching of LEDs is active, but will be acknowledged (reset) automatically (by a protection function) in case of a new alarm.*

LED active color

Selection list referenced by the following parameters:

- ╚═▷ LEDs group A . LED active color
- ╚═▷ LEDs group A . LED inactive color
- ╚═▷ LEDs group A . LED active color
- ╚═▷ LEDs group A . LED inactive color
- ╚═▷ LEDs group A . LED active color
- ╚═▷ LEDs group A . LED inactive color
- *[. . .]*

LED active color	Description
green	*green*
red	*red*
red flash	*red flashing*
green flash	*green blinking*
“-”	*No assignment*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ LEDs group B . Latched
- ╚═▷ LEDs group B . Latched
- ╚═▷ LEDs group B . Latched
- ╚═▷ LEDs group B . Latched
- ╚═▷ LEDs group B . Latched
- ╚═▷ LEDs group B . Latched
- *[. . .]*

Mode	Description
inactive	*inactive*
active	*active*
active, ack. by alarm	*Latching of LEDs is active, but will be acknowledged (reset) automatically (by a protection function) in case of a new alarm.*

LED active color

Selection list referenced by the following parameters:

- ╚═▷ LEDs group B . LED active color
- ╚═▷ LEDs group B . LED inactive color
- ╚═▷ LEDs group B . LED active color
- ╚═▷ LEDs group B . LED inactive color
- ╚═▷ LEDs group B . LED active color
- ╚═▷ LEDs group B . LED inactive color
- *[. . .]*

LED active color	Description
green	*green*
red	*red*
red flash	*red flashing*
green flash	*green blinking*
“-”	*No assignment*

Ack via »C« key

Select which acknowledgeable elements can be reset via pressing the »C« key.

Selection list referenced by the following parameters:

- ⮡ Sys . Ack via »C« key

Ack via »C« key	Description
Nothing	*No elements can be simply reset via pressing the »C« key for a long time (ca. 1 second). This has the consequence that pressing the »C« key is only a shortcut to the Acknowledge menu, from which the user has to select the elements to be reset.*
Ack LEDs w/o passw.	*All LEDs are acknowledged (reset) via pressing the »C« key for ca. 1 second. No password has to be entered for this. The reset activity can be recognized from the fact that it always includes an LED test, i.e. all LEDs flash in red color for a second, then flash in green color for a second.*
Ack LEDs	*All LEDs are reset via pressing the »C« key (for ca. 1 second). The reset activity can be recognized from the fact that it always includes an LED test, i.e. all LEDs flash in red color for a second, then flash in green color for a second.*
Ack LEDs and relays	*All LEDs and all acknowledgeable binary output relays are reset via pressing the »C« key (for ca. 1 second). The reset activity can be recognized from the fact that it always includes an LED test, i.e. all LEDs flash in red color for a second, then flash in green color for a second.*
Ack Everything	*All acknowledgeable elements are reset via pressing the »C« key (for ca. 1 second):* *- All LEDs, and* *- all binary output relays, and* *- all latched SCADA signals, and* *- the Trip command.* *The reset activity can be recognized from the fact that it always includes an LED test, i.e. all LEDs flash in red color for a second, then flash in green color for a second.*

Duration

Recording time

Selection list referenced by the following parameters:

- ╚═▷ Statistics . Start I Demand via:
- ╚═▷ Statistics . Start P Demand via:
- ╚═▷ Statistics . Start Vavg via:

Duration	Description
Duration	*Recording time*
StartFct	*Start function*

Duration

Recording time

Selection list referenced by the following parameters:

- ╚═▷ Statistics . Duration I Demand
- ╚═▷ Statistics . Duration P Demand
- ╚═▷ Statistics . Duration Vavg

Duration	Description
2 s	*s*
5 s	*s*
10 s	*s*
15 s	*seconds*
30 s	*seconds*
1 min	*minute*
5 min	*minute*
10 min	*minute*
15 min	*minute*
30 min	*minute*
1 h	*Hours*
2 h	*Hours*
6 h	*Hours*
12 h	*Hours*
1 d	*days*
2 d	*days*

Duration	Description
5 d	*days*
7 d	*days*
10 d	*days*
30 d	*days*

Window configuration

Selection list referenced by the following parameters:

- ╚═▷ Statistics . Window I Demand
- ╚═▷ Statistics . Window P Demand
- ╚═▷ Statistics . Window Vavg

Window configuration	Description
sliding	*Moving mean: Continuously the newest measuring value is added and the oldest measuring value is removed from the moving mean (average value).*
fixed	*The average value is calculated for a fixed window.*

Selection

Selection list referenced by the following parameters:

- ╚═▷ HMI . Menu language

Selection	Description
English	*English*
German	*German*
Russian	*Russian*
Polish	*Polish*
French	*French*
Portuguese	*Portuguese*
Spanish	*Spanish*
Romanian	*Romanian*

Record-Mode

Recorder Mode (Set the behaviour of the recorder)

Selection list referenced by the following parameters:

- ╚═▷ Fault rec . Record-Mode

Record-Mode	Description
Alarms and Trips	*A recording is started in case of an alarm or a trip.*
Trips only	*A recording is started only in case of a trip.*

Resolution

Resolution (recording frequency)

Selection list referenced by the following parameters:

- ╚═▷ Trend rec . Resolution

Resolution	Description
60 min	*Add next entry: 60 min*
30 min	*Add next entry: 30 min*
15 min	*Add next entry: 15 min*
10 min	*Add next entry: 10 min*
5 min	*Add next entry: 5 min*

1..n, TrendRecList

Selection list referenced by the following parameters:

- ╚═▷ DNP3 . Analog value 0
- ╚═▷ Modbus . Mapped Meas 1
- ╚═▷ Trend rec . Trend1
- ╚═▷ Trend rec . Trend2
- ╚═▷ Trend rec . Trend3

- ╚═▷ Trend rec . Trend4
- *[. . .]*

1..n, TrendRecList	Description
“-”	*No assignment*
VT . **VL1**	*Measured value: Phase-to-neutral voltage (fundamental)*
VT . **VL2**	*Measured value: Phase-to-neutral voltage (fundamental)*
VT . **VL3**	*Measured value: Phase-to-neutral voltage (fundamental)*
VT . **VX meas**	*Measured value (measured): VX measured (fundamental)*
VT . **VG calc**	*Measured value (calculated): VG (fundamental)*
VT . **VL12**	*Measured value: Phase-to-phase voltage (fundamental)*
VT . **VL23**	*Measured value: Phase-to-phase voltage (fundamental)*
VT . **VL31**	*Measured value: Phase-to-phase voltage (fundamental)*
VT . **VL1 RMS**	*Measured value: Phase-to-neutral voltage (RMS)*
VT . **VL2 RMS**	*Measured value: Phase-to-neutral voltage (RMS)*
VT . **VL3 RMS**	*Measured value: Phase-to-neutral voltage (RMS)*
VT . **VX meas RMS**	*Measured value (measured): VX measured (RMS)*
VT . **VG calc RMS**	*Measured value (calculated): VG (RMS)*
VT . **VL12 RMS**	*Measured value: Phase-to-phase voltage (RMS)*
VT . **VL23 RMS**	*Measured value: Phase-to-phase voltage (RMS)*
VT . **VL31 RMS**	*Measured value: Phase-to-phase voltage (RMS)*
VT . **V/f**	*Ratio Volts/Hertz in relation to nominal values.*
VT . **V0**	*Measured value (calculated): Symmetrical components Zero voltage(fundamental)*
VT . **V1**	*Measured value (calculated): Symmetrical components positive phase sequence voltage(fundamental)*
VT . **V2**	*Measured value (calculated): Symmetrical components negative phase sequence voltage(fundamental)*
VT . **%(V2/V1)**	*Measured value (calculated): V2/V1, phase sequence will be taken into account automatically.*
VT . **VL1 avg RMS**	*VL1 average value (RMS)*
VT . **VL2 avg RMS**	*VL2 average value (RMS)*
VT . **VL3 avg RMS**	*VL3 average value (RMS)*
VT . **VL12 avg RMS**	*VL12 average value (RMS)*
VT . **VL23 avg RMS**	*VL23 average value (RMS)*

1..n, TrendRecList	Description
VT . **VL31 avg RMS**	*VL31 average value (RMS)*
VT . **f**	*Measured value: Frequency*
VT . **VL1 THD**	*Measured value (calculated): VL1 Total Harmonic Distortion*
VT . **VL2 THD**	*Measured value (calculated): VL2 Total Harmonic Distortion*
VT . **VL3 THD**	*Measured value (calculated): VL3 Total Harmonic Distortion*
VT . **VL12 THD**	*Measured value (calculated): V12 Total Harmonic Distortion*
VT . **VL23 THD**	*Measured value (calculated): V23 Total Harmonic Distortion*
VT . **VL31 THD**	*Measured value (calculated): V31 Total Harmonic Distortion*
CT Local . **IL1**	*Measured value: Phase current (fundamental)*
CT Local . **IL2**	*Measured value: Phase current (fundamental)*
CT Local . **IL3**	*Measured value: Phase current (fundamental)*
CT Local . **IG meas**	*Measured value (measured): IG (fundamental)*
CT Local . **IG calc**	*Measured value (calculated): IG (fundamental)*
CT Local . **IL1 RMS**	*Measured value: Phase current (RMS)*
CT Local . **IL2 RMS**	*Measured value: Phase current (RMS)*
CT Local . **IL3 RMS**	*Measured value: Phase current (RMS)*
CT Local . **IG meas RMS**	*Measured value (measured): IG (RMS)*
CT Local . **IG calc RMS**	*Measured value (calculated): IG (RMS)*
CT Local . **I0**	*Measured value (calculated): Zero current (fundamental)*
CT Local . **I1**	*Measured value (calculated): Positive phase sequence current (fundamental)*
CT Local . **I2**	*Measured value (calculated): Unbalanced load current (fundamental)*
CT Local . **%(I2/I1)**	*Measured value (calculated): I2/I1, phase sequence will be taken into account automatically.*
CT Local . **IL1 avg RMS**	*IL1 average value (RMS)*
CT Local . **IL2 avg RMS**	*IL2 average value (RMS)*
CT Local . **IL3 avg RMS**	*IL3 average value (RMS)*
CT Local . **IL1 THD**	*Measured value (calculated): IL1 Total Harmonic Current*
CT Local . **IL2 THD**	*Measured value (calculated): IL2 Total Harmonic Current*
CT Local . **IL3 THD**	*Measured value (calculated): IL3 Total Harmonic Current*
CT Remote . **IL1**	*Measured value: Phase current (fundamental)*
CT Remote . **IL2**	*Measured value: Phase current (fundamental)*
CT Remote . **IL3**	*Measured value: Phase current (fundamental)*

1..n, TrendRecList	Description
CT Remote . **I0**	*Measured value (calculated): Zero current (fundamental)*
CT Remote . **I1**	*Measured value (calculated): Positive phase sequence current (fundamental)*
CT Remote . **I2**	*Measured value (calculated): Unbalanced load current (fundamental)*
ThR . **Thermal Cap Used**	*Measured value: Thermal Capacity Used*
PQSCr . **S**	*Measured Value (Calculated): Apparent power (fundamental)*
PQSCr . **P**	*Measured value (calculated): Active power (P- = Fed Active Power, P+ = Consumpted Active Power) (fundamental)*
PQSCr . **Q**	*Measured value (calculated): Reactive power (Q- = Fed Reactive Power, Q+ = Consumpted Reactive Power) (fundamental)*
PQSCr . **P 1**	*Measured value (calculated): Active power in positive sequence system (P- = Fed Active Power, P+ = Consumpted Active Power)*
PQSCr . **Q 1**	*Measured value (calculated): Reactive power in positive sequence system (Q- = Fed Reactive Power, Q+ = Consumpted Reactive Power)*
PQSCr . **S RMS**	*Measured Value (Calculated): Apparent power (RMS)*
PQSCr . **P RMS**	*Measured value (calculated): Active power (P- = Fed Active Power, P+ = Consumpted Active Power) (RMS)*
PQSCr . **cos phi**	*Measured value (calculated): Power factor: Sign Convention: sign(PF) = sign(P)*
PQSCr . **cos phi RMS**	*Measured value (calculated): Power factor: Sign Convention: sign(PF) = sign(P)*
PQSCr . **Ws Net**	*Absolute Apparent Power Hours*
PQSCr . **Wp Net**	*Absolute Active Power Hours*
PQSCr . **Wq Net**	*Absolute Reactive Power Hours*
PQSCr . **Wp+**	*Positive Active Power is consumed active energy*
PQSCr . **Wp-**	*Negative Active Power (Fed Energy)*
PQSCr . **Wq+**	*Positive Reactive Power is consumed Reactive Energy*
PQSCr . **Wq-**	*Negative Reactive Power (Fed Energy)*

1..n, OnOffList

Selection list referenced by the following parameters:

- ╚═▷ IEC 61850 . Function

1..n, OnOffList	Description
inactive	*inactive*
active	*active*

Baud rate

Selection list referenced by the following parameters:

- ╘═▷ DNP3 . Baud rate

Baud rate	Description
1200	*1200*
2400	*2400*
4800	*4800*
9600	*9600*
19200	*19200*
38400	*38400*
57600	*57600*
115200	*115200*

Byte Frame

Selection list referenced by the following parameters:

- ╘═▷ DNP3 . Frame Layout

Byte Frame	Description
8E1	*8 data bits, even parity, 1 stopbit.*
8O1	*8 data bits, odd, 1 stopbit.*
8N1	*8 data bits, no parity, 1 stopbit.*
8N2	*8 data bits, no parity, 2 stopbits.*

Optical rest position

Selection list referenced by the following parameters:

- ⮡ DNP3 . Optical rest position

Optical rest position	Description
Light off	*Light off*
Light on	*Light on*

Communication Start Variants

Selection list referenced by the following parameters:

- ⮡ DNP3 . DataLink confirm

Communication Start Variants	Description
Never	*Option Never is recommended*
Always	*If this variable is set to Always then LinkLayer needs to establish a connection before sending any Frame.*
On_Large	*If set to On_Large then a connection needs to be established before sending the first Frame of a multi Term Message*

_AL_ResponseType_k

_AL_ResponseType_h

Selection list referenced by the following parameters:

- ⮡ DNP3 . AppLink confirm

_AL_ResponseType_k	Description
Never	*Never*
Always	*Always*
Event	*Event*

1..n, Assignment List

Assignment List

Selection list referenced by the following parameters:

- ⮑▷ DNP3 . DoubleBitInput 0

1..n, Assignment List	Description
"-"	*No assignment*
SG[1] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[2] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[3] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[4] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[5] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[6] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*

1..n, Assignment List

Assignment List

Selection list referenced by the following parameters:

- ⮑▷ DNP3 . BinaryCounter 0

1..n, Assignment List	Description
"-"	*No assignment*
Prot . **FaultNo**	*Fault number*
Prot . **No. of Grid Fault**	*Number of grid fault: A grid fault, e.g. a short circuit, might cause several faults with trip and autoreclosing; in this case, the fault number counts each fault, but the grid fault number remains the same.*
SG[1] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*
SG[2] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*
SG[3] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*
SG[4] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*
SG[5] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*

1..n, Assignment List	Description
SG[6] . **TripCmd Cr**	*Counter: Total number of trips of the switchgear.*
LVRT[1] . **NumOf Vdips in t-LVRT**	*Number of Voltage dips during t-LVRT*
LVRT[1] . **Cr Tot Numb of Vdips**	*Counter Total number of voltage dips.*
LVRT[1] . **Cr Tot Numb of Vdips to Trip**	*Counter Total number of voltage dips that caused a Trip.*
LVRT[2] . **NumOf Vdips in t-LVRT**	*Number of Voltage dips during t-LVRT*
LVRT[2] . **Cr Tot Numb of Vdips**	*Counter Total number of voltage dips.*
LVRT[2] . **Cr Tot Numb of Vdips to Trip**	*Counter Total number of voltage dips that caused a Trip.*
AR . **AR Shot No.**	*Counter - Auto Reclosure Attempts*
AR . **Total number Cr**	*Total number of all executed Automatic Reclosures Attempts*
AR . **Cr successfl**	*Total number of successfully executed Automatic Reclosures*
AR . **Cr failed**	*Total number of unsuccessfully executed automatic reclosure attempts*
AR . **Cr Service Alarm1**	*Remaining numbers of ARs until Service Alarm 1*
AR . **Cr Service Alarm2**	*Remaining numbers of ARs until Service Alarm 2*
AR . **Max Shots / h Cr**	*Counter for the maximum allowed shots per hour.*
PQSCr . **Wp+**	*Positive Active Power is consumed active energy*
PQSCr . **Wp-**	*Negative Active Power (Fed Energy)*
PQSCr . **Wq+**	*Positive Reactive Power is consumed Reactive Energy*
PQSCr . **Wq-**	*Negative Reactive Power (Fed Energy)*
Sys . **Operating hours Cr**	*Operating hours counter of the protective device*

Scale Factor

Multiplier in order to convert float values into integer.

Selection list referenced by the following parameters:

- ⮡ DNP3 . Scale Factor 0

Scale Factor	Description
0.001	*0.001*

Scale Factor	Description
0.01	*0.01*
0.1	*0.1*
1	*1*
10	*10*
100	*100*
1000	*1000*
10000	*10000*
100000	*100000*
1000000	*1000000*

Optical rest position

Selection list referenced by the following parameters:

- ⮡ Modbus . Optical rest position

Optical rest position	Description
Light off	*Light off*
Light on	*Light on*

Port selection

Selection list referenced by the following parameters:

- ⮡ Modbus . TCP Port Config

Port selection	Description
Default	*Default Port*
Private	*Private Port*

Baud rate

Selection list referenced by the following parameters:

- ⮡ Modbus . Baud rate

Baud rate	Description
1200	*1200*
2400	*2400*
4800	*4800*
9600	*9600*
19200	*19200*
38400	*38400*

Byte Frame

Selection list referenced by the following parameters:

- ⮡ Modbus . Physical Settings

Byte Frame	Description
8E1	*8 data bits, even parity, 1 stopbit.*
8O1	*8 data bits, odd, 1 stopbit.*
8N1	*8 data bits, no parity, 1 stopbit.*
8N2	*8 data bits, no parity, 2 stopbits.*

Type of SCADA mapping

This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.

Selection list referenced by the following parameters:

- ⮡ Modbus . Type of SCADA mapping

Type of SCADA mapping	Description
Standard	*Default mapping of data objects*
User-defined	*User-defined mapping of data objects*

Config status

Status of the user-defined SCADA configuration.\nPossible values:

Selection list referenced by the following parameters:

- ⮡ Modbus . Config status

Config status	Description
Changing	*New SCADA configuration is being loaded, but not active yet.*
OK	*The SCADA configuration is active.*
Config. not avail.	*The user-defined SCADA configuration is not available (e.g. has not been loaded into the device).*
Error	*Unexpected error. Please contact our service-team.*

Baud rate

Selection list referenced by the following parameters:

- ⮡ IEC103 . Baud rate

Baud rate	Description
1200	*1200*
2400	*2400*
4800	*4800*
9600	*9600*
19200	*19200*
38400	*38400*
57600	*57600*

Byte Frame

Selection list referenced by the following parameters:

- ⮡ IEC103 . Physical Settings

Byte Frame	Description
8E1	*8 data bits, even parity, 1 stopbit.*
8O1	*8 data bits, odd, 1 stopbit.*
8N1	*8 data bits, no parity, 1 stopbit.*
8N2	*8 data bits, no parity, 2 stopbits.*

Timezone

Selection whether the timestamps in IEC103 messages shall be given as UTC or local time. (“Local time” always includes the actual daylight saving settings.)

Selection list referenced by the following parameters:

- ⮱▷ IEC103 . Timezone

Timezone	Description
UTC	*UTC*
Local Time	*Local time according to the »Time Zones« setting (in Device Parameters) (incl. daylight saving settings).*

Optical rest position

Selection list referenced by the following parameters:

- ⮱▷ IEC103 . Optical rest position

Optical rest position	Description
Light off	*Light off*
Light on	*Light on*

Port selection

Selection list referenced by the following parameters:

- ⮱▷ IEC104 . TCP Port Config

Port selection	Description
Default	*Default Port*
Private	*Private Port*

Timezone

Selection whether the timestamps in the transmitted communication telegrams shall be given as UTC or local time. (“Local time” always includes the actual daylight saving settings.)

Selection list referenced by the following parameters:

- ⮡ IEC104 . Timezone

Timezone	Description
UTC	*UTC*
Local Time	*Local time according to the »Time Zones« setting (in Device Parameters) (incl. daylight saving settings).*

Type of SCADA mapping

This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.

Selection list referenced by the following parameters:

- ⮡ IEC104 . Type of SCADA mapping

Type of SCADA mapping	Description
Standard	*Default mapping of data objects*
User-defined	*User-defined mapping of data objects*

Config status

Status of the user-defined SCADA configuration.\nPossible values:

Selection list referenced by the following parameters:

- ⮱▷ IEC104 . Config status

Config status	Description
Changing	*New SCADA configuration is being loaded, but not active yet.*
OK	*The SCADA configuration is active.*
Config. not avail.	*The user-defined SCADA configuration is not available (e.g. has not been loaded into the device).*
Error	*Unexpected error. Please contact our service-team.*

Type of SCADA mapping

This setting decides whether the communication protocol shall use the default mapping of data objects, or some user-defined mapping that has been loaded from a *.HptSMap file.

Selection list referenced by the following parameters:

- ⮱▷ Profibus . Type of SCADA mapping

Type of SCADA mapping	Description
Standard	*Default mapping of data objects*
User-defined	*User-defined mapping of data objects*

Time Zones

Selection list referenced by the following parameters:

- ⮱▷ TimeSync . Time Zones

Time Zones	Description
UTC+14 Kiritimati	*UTC+14 Kiritimati*
UTC+13 Rawaki	*UTC+13 Rawaki*
UTC+12.75 Chatham Island	*UTC+12.75 Chatham Island*
UTC+12 Wellington	*UTC+12 Wellington*
UTC+11.5 Kingston	*UTC+11.5 Kingston*
UTC+11 Port Vila	*UTC+11 Port Vila*

Time Zones	Description
UTC+10.5 Lord Howe Island	*UTC+10.5 Lord Howe Island*
UTC+10 Sydney	*UTC+10 Sydney*
UTC+9.5 Adelaide	*UTC+9.5 Adelaide*
UTC+9 Tokyo	*UTC+9 Tokyo*
UTC+8 Hong Kong	*UTC+8 Hong Kong*
UTC+7 Bangkok	*UTC+7 Bangkok*
UTC+6.5 Rangoon	*UTC+6.5 Rangoon*
UTC+6 Colombo	*UTC+6 Colombo*
UTC+5.75 Kathmandu	*UTC+5.75 Kathmandu*
UTC+5.5 New Delhi	*UTC+5.5 New Delhi*
UTC+5 Islamabad	*UTC+5 Islamabad*
UTC+4.5 Kabul	*UTC+4.5 Kabul*
UTC+4 Abu Dhabi	*UTC+4 Abu Dhabi*
UTC+3.5 Tehran	*UTC+3.5 Tehran*
UTC+3 Moscow	*UTC+3 Moscow*
UTC+2 Athens	*UTC+2 Athens*
UTC+1 Berlin	*UTC+1 Berlin*
UTC+0 London	*UTC+0 London*
UTC-1 Azores	*UTC-1 Azores*
UTC-2 Fern. d. Noronha	*UTC-2 Fern. d. Noronha*
UTC-3 Buenos Aires	*UTC-3 Buenos Aires*
UTC-3.5 St. John’s	*UTC-3.5 St. John’s*
UTC-4 Santiago	*UTC-4 Santiago*
UTC-5 New York	*UTC-5 New York*
UTC-6 Chicago	*UTC-6 Chicago*
UTC-7 Salt Lake City	*UTC-7 Salt Lake City*
UTC-8 Los Angeles	*UTC-8 Los Angeles*
UTC-9 Anchorage	*UTC-9 Anchorage*
UTC-9.5 Taiohae	*UTC-9.5 Taiohae*
UTC-10 Honolulu	*UTC-10 Honolulu*
UTC-11 Midway Islands	*UTC-11 Midway Islands*

Month of clock change

Selection list referenced by the following parameters:

- ╘▷ TimeSync . Summertime m
- ╘▷ TimeSync . Wintertime m

Month of clock change	Description
January	*January*
February	*February*
March	*March*
April	*April*
May	*May*
June	*June*
July	*July*
August	*August*
September	*September*
October	*October*
November	*November*
December	*December*

Date

Selection list referenced by the following parameters:

- ╘▷ TimeSync . Summertime d
- ╘▷ TimeSync . Wintertime d

Date	Description
Sunday	*Sunday*
Monday	*Monday*
Tuesday	*Tuesday*
Wednesday	*Wednesday*
Thursday	*Thursday*

Date	Description
Friday	*Friday*
Saturday	*Saturday*
General day	*General day: Examples: first day of month, last day of month*

Day of clock change

Day of Time Saving change

Selection list referenced by the following parameters:

- ╚═▷ TimeSync . Summertime w
- ╚═▷ TimeSync . Wintertime w

Day of clock change	Description
First	*First week of the month*
Second	*Second week of the month*
Third	*Third week of the month*
Fourth	*Fourth week of the month*
Last	*Last week of the month*

Used Protocol

Selection list referenced by the following parameters:

- ╚═▷ TimeSync . TimeSync

Used Protocol	Description
“-”	-
IRIG-B . **IRIG-B**	*IRIG-B-Module*
SNTP . **SNTP**	*SNTP-Module*
Modbus . **Modbus**	*Modbus Protocol*
IEC103 . **IEC 60870-5-103**	*IEC 60870-5-103 Protocol*
IEC104 . **IEC104**	*IEC 60870-5-104 communication*
DNP3 . **DNP3**	*Distributed Network Protocol*

Used Protocol	Description
ProtCom . **ProtCom**	*Protection-Communication*

IRIG-B00X

Determination of the Type: IRIG-B00X. IRIG-B types differ in types of included “Coded Expressions” (year, control-functions, straight-binary-seconds).

Selection list referenced by the following parameters:

- ⮡ IRIG-B . IRIG-B00X

IRIG-B00X	Description
IRIGB-000	*Please refer to: IRIG STANDARD 200-04*
IRIGB-001	*Please refer to: IRIG STANDARD 200-04*
IRIGB-002	*Please refer to: IRIG STANDARD 200-04*
IRIGB-003	*Please refer to: IRIG STANDARD 200-04*
IRIGB-004	*Please refer to: IRIG STANDARD 200-04*
IRIGB-005	*Please refer to: IRIG STANDARD 200-04*
IRIGB-006	*Please refer to: IRIG STANDARD 200-04*
IRIGB-007	*Please refer to: IRIG STANDARD 200-04*

Selection list referenced by the following parameters:

- ⮡ Sys . DM version

	Description
3.6.b	*Version*

Phase Sequence

Phase Sequence direction

Selection list referenced by the following parameters:

- ⮡ Field Para . Phase Sequence

Phase Sequence	Description
ABC	*rotating clockwise*
ACB	*Counter-clockwise phase sequence. Positive and negative phase sequence are exchanged and MTA is turned for 180°.*

fN

Selection list referenced by the following parameters:

- ╘═▷ Field Para . f

fN	Description
50	*Rated frequency*
60	*Rated frequency*

LR_CTref

SelectionList: Defining the reference Ib for two-point-linediff

Selection list referenced by the following parameters:

- ╘═▷ Id . Ib reference

LR_CTref	Description
CT Local	*Local CT pri is used as reference current Ib for percentage-phase-differential-protection.*
CT Remote	*Remote CT pri is used as reference current Ib for percentage-phase-differential-protection.*

W1 Connection/Grounding

Note: The zero current will be removed in order to prevent faulty tripping of the differential protection. If a star point is connected to ground according to the winding connection, the zero current (symmetrical components) will be removed.

Selection list referenced by the following parameters:

- ╘═▷ Transformer . W1 Connection/Grounding

W1 Connection/ Grounding	Description
Y	*Star (connection group winding on primary side)*
D	*Delta (connection group winding on primary side)*
Z	*Zig-Zag (connection group winding on primary side)*
YN	*Star grounded (connection group winding on primary side)*
ZN	*Zig-Zag with ground connection (connection group winding on primary side)*

W2 Connection/Grounding

Note: The zero current will be removed in order to prevent faulty tripping of the differential protection. If a star point is connected to ground according to the winding connection, the zero current (symmetrical components) will be removed.

Selection list referenced by the following parameters:

- ╘═▷ Transformer . W2 Connection/Grounding

W2 Connection/ Grounding	Description
y	*Star (connection group winding on secondary side)*
d	*Delta (connection group winding on secondary side)*
z	*Zig-Zag (connection group winding on secondary side)*
yn	*Star grounded (connection group winding on secondary side)*
zn	*Zig-Zag with ground connection (connection group winding on secondary side)*

LR_HVside

SelectionList: Define where HV side of transformer is located to device terminals

Selection list referenced by the following parameters:

- ╘═▷ Transformer . Measuring Side

LR_HVside	Description
W1	*Winding 1 (HighVoltage HV) of transformer is connected at local device.*
W2	*Winding 2 (LowVoltage LV) of transformer is connected at local device.*

VT con

This parameter has to be set in order to ensure the correct assignment of the voltage measurement channels in the device.

Selection list referenced by the following parameters:

- ╘═▷ VT . VT con

VT con	Description
Phase to Phase	*The phase voltage measuring inputs are feed with "Phase-to-Phase" voltages (Delta-Connection)*
Phase to Ground	*The phase voltage measuring inputs are feed with "Phase-to-Ground" voltages (Star-Connection)*

Voltages to be synchronized

Selection list referenced by the following parameters:

- ╘═▷ VT . V Sync

Voltages to be synchronized	Description
L1	*Phase L1*
L2	*Phase L2*
L3	*Phase L3*
L12	*L12*
L23	*L23*
L31	*L31*

Ratio prim/sec

w_prim/w_sec

Selection list referenced by the following parameters:

- ╘═▷ CT Local . CT sec
- ╘═▷ CT Local . ECT sec

Ratio prim/sec	Description
1	*Rated value of the secondary side of the current transformers.*
5	*Rated value of the secondary side of the current transformers.*

Polarity

Selection list referenced by the following parameters:

- ╘═▷ CT Local . CT dir
- ╘═▷ CT Local . ECT dir

Polarity	Description
0	*0*
180	*180 degree polarity correction (wiring faults)*

Ratio prim/sec

w_prim/w_sec

Selection list referenced by the following parameters:

- ╘═▷ CT Remote . CT sec

Ratio prim/sec	Description
1	*Rated value of the secondary side of the current transformers.*
5	*Rated value of the secondary side of the current transformers.*

3V0 Source

Earth overcurrent protection elements take into account this parameter for direction decisions. You have to ensure, that this parameter is set to "Measured" only if the residual voltage is fed to the fourth measuring input of the voltage measuring card.

Selection list referenced by the following parameters:

- ╘═▷ VT . 3V0 Source

3V0 Source	Description
measured	*measured*
calculated	*calculated*

IG meas dir control

Options for direction detection. IGmeas is used as operating quantity.

Selection list referenced by the following parameters:

- ╚═▷ VT . IG meas dir control

IG meas dir control	Description
IG meas 3V0	*Direction detection mode IG meas 3V0 (Angle between measured ground current and residual voltage (measured or calculated))*
I2,V2	*IG meas Direction Unit polarizing mode: Neg (Use IG meas as operating quantity but use V2/I2 to detect the direction)*
Dual	*IG meas Direction Unit polarizing mode: Dual (Use V2/I2 to detect the direction (preferred, if available), else use measured ground current and neutral voltage.*
cos(ϕ)	*Direction detection mode: This method is used for ground fault direction detection in compensated grids. 3V0 is the polarizing quantity and IG meas is the operating quantity.*
sin(ϕ)	*Direction detection mode: This method is used for ground fault direction detection in isolated grids. 3V0 is the polarizing quantity and IG meas is the operating quantity.*

IG calc dir control

Options for direction detection. IGcalc is used as operating quantity.

Selection list referenced by the following parameters:

- ╚═▷ VT . IG calc dir control

IG calc dir control	Description
IG calc 3V0	*Direction detection mode IG calc 3V0 (Angle between calculated ground current and residual voltage (measured or calculated))*
IG calc IPol (IG meas)	*Direction detection: Angle between calculated and measured ground current.*
Dual	*Direction detection mode: Dual (The angle between residual current and measured ground current (preferred, if possible) is evaluated.*

IG calc dir control	Description
	Alternatively the angle between residual current and neutral voltage is evaluated.
I2,V2	*Direction Unit polarizing mode: Use the angle between V2/I2 to detect the direction*
cos(ϕ)	*Direction detection mode: This method is used for ground fault direction detection in compensated grids. 3V0 is the polarizing quantity and IG calc is the operating quantity.*
sin(ϕ)	*Direction detection mode: This method is used for ground fault direction detection in isolated grids. 3V0 is the polarizing quantity and IG calc is the operating quantity.*

delta phi - Mode

The delta phi element (vector surge) trips, if the permissable voltage angle shift (delta phi) of the three measured voltages (phase-ground or phase-phase) in: one phase, two phases or within all phases is exceeded.

Selection list referenced by the following parameters:

- ╚═▷ VT . delta phi - Mode

delta phi - Mode	Description
one phase	*one phase*
two phases	*two phases*
three phases	*three phases*

active/inactive

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X2 . DISARMED Ctrl
- ╚═▷ BO Slot X4 . DISARMED Ctrl
- ╚═▷ BO Slot X5 . DISARMED Ctrl
- ╚═▷ BO Slot X5 . DISARMED Ctrl
- ╚═▷ BO Slot X6 . DISARMED Ctrl
- ╚═▷ ProtCom . ExBlo Fc
- *[. . .]*

active/inactive	Description
inactive	*inactive*
active	*active*

Fail-safe

Fallback mode for received signal, if Protection-communication is inactive.

Selection list referenced by the following parameters:

- ╚═▷ Sig-Trans . Rx.Signal1.Fail-safe

Fail-safe	Description
Fixed 0	*Fallback of received status to 0 (inactive), if Protection-communication is inactive.*
Fixed 1	*Fallback of received status to 1 (active), if Protection-communication is inactive.*
Captured (Init. 0)	*If Protection-communication becomes inactive, the last valid received status is captured. Until the first valid value is received, the status is initialized to 0 (inactive). NOTE: The captured value is Power-save.*
Captured (Init. 1)	*If Protection-communication becomes inactive, the last valid received status is captured. Until the first valid value is received, the status is initialized to 1 (active). NOTE: The captured value is Power-save.*

AdaptSet

Adaptive Parameters

Selection list referenced by the following parameters:

- ╚═▷ I[1] . AdaptSet 1
- ╚═▷ I[1] . AdaptSet 2
- ╚═▷ I[1] . AdaptSet 3
- ╚═▷ I[1] . AdaptSet 4
- ╚═▷ IG[1] . AdaptSet 1
- ╚═▷ IG[1] . AdaptSet 2
- *[. . .]*

AdaptSet	Description
“-”	*No assignment*
IH2 . **Blo L1**	*Signal: Blocked L1*
IH2 . **Blo L2**	*Signal: Blocked L2*
IH2 . **Blo L3**	*Signal: Blocked L3*
IH2 . **Blo IG meas**	*Signal: Blocking of the ground (earth) protection module (measured ground current)*
IH2 . **Blo IG calc**	*Signal: Blocking of the ground (earth) protection module (calculated ground current)*
IH2 . **3-ph Blo**	*Signal: Inrush was detected in at least one phase - trip command blocked.*
V[1] . **Alarm**	*Signal: Alarm voltage stage*
V[2] . **Alarm**	*Signal: Alarm voltage stage*
V[3] . **Alarm**	*Signal: Alarm voltage stage*
V[4] . **Alarm**	*Signal: Alarm voltage stage*
V[5] . **Alarm**	*Signal: Alarm voltage stage*
V[6] . **Alarm**	*Signal: Alarm voltage stage*
Intertripping . **Alarm**	*Signal: Alarm*
LVRT[1] . **Alarm**	*Signal: Alarm voltage stage*
LVRT[1] . **t-LVRT is running**	*Signal: t-LVRT is running*
LVRT[2] . **Alarm**	*Signal: Alarm voltage stage*
LVRT[2] . **t-LVRT is running**	*Signal: t-LVRT is running*
VG[1] . **Alarm**	*Signal: Alarm Residual Voltage Supervision-stage*
VG[2] . **Alarm**	*Signal: Alarm Residual Voltage Supervision-stage*
V012[1] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[2] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[3] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[4] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[5] . **Alarm**	*Signal: Alarm voltage asymmetry*
V012[6] . **Alarm**	*Signal: Alarm voltage asymmetry*
UFLS . **Alarm**	*Signal: Alarm P->&f<*
UFLS . **Trip**	*Signal: Signal: Trip*
AR . **running**	*Signal: Auto Reclosing running*

AdaptSet	Description
AR . **Pre Shot**	*Pre Shot Control*
AR . **Shot 1**	*Shot Control*
AR . **Shot 2**	*Shot Control*
AR . **Shot 3**	*Shot Control*
AR . **Shot 4**	*Shot Control*
AR . **Shot 5**	*Shot Control*
AR . **Shot 6**	*Shot Control*
SOTF . **enabled**	*Signal: Switch Onto Fault enabled. This Signal can be used to modify Overcurrent Protection Settings.*
CLPU . **enabled**	*Signal: Cold Load enabled*
ExP[1] . **Alarm**	*Signal: Alarm*
ExP[2] . **Alarm**	*Signal: Alarm*
ExP[3] . **Alarm**	*Signal: Alarm*
ExP[4] . **Alarm**	*Signal: Alarm*
Ext Sudd Press . **Alarm**	*Signal: Alarm*
Ext Oil Temp . **Alarm**	*Signal: Alarm*
Ext Temp Superv[1] . **Alarm**	*Signal: Alarm*
Ext Temp Superv[2] . **Alarm**	*Signal: Alarm*
Ext Temp Superv[3] . **Alarm**	*Signal: Alarm*
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*

AdaptSet	Description
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
CTS . **Alarm**	*Signal: Alarm Current Transformer Measuring Circuit Supervision*
LOP . **Alarm**	*Signal: Alarm Loss of Potential*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
Modbus . **Scada Cmd 1**	*Scada Command*

AdaptSet	Description
Modbus . **Scada Cmd 2**	*Scada Command*
Modbus . **Scada Cmd 3**	*Scada Command*
Modbus . **Scada Cmd 4**	*Scada Command*
Modbus . **Scada Cmd 5**	*Scada Command*
Modbus . **Scada Cmd 6**	*Scada Command*
Modbus . **Scada Cmd 7**	*Scada Command*
Modbus . **Scada Cmd 8**	*Scada Command*
Modbus . **Scada Cmd 9**	*Scada Command*
Modbus . **Scada Cmd 10**	*Scada Command*
Modbus . **Scada Cmd 11**	*Scada Command*
Modbus . **Scada Cmd 12**	*Scada Command*
Modbus . **Scada Cmd 13**	*Scada Command*
Modbus . **Scada Cmd 14**	*Scada Command*
Modbus . **Scada Cmd 15**	*Scada Command*
Modbus . **Scada Cmd 16**	*Scada Command*
IEC 61850 . **GOSINGGIO1.Ind1.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind2.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind3.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind4.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind5.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind6.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind7.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind8.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind9.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind10.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind11.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

AdaptSet	Description
IEC 61850 . **GOSINGGIO1.Ind12.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind13.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind14.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind15.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind16.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind17.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind18.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind19.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind20.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind21.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind22.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind23.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind24.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind25.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind26.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind27.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind28.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind29.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind30.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind31.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

AdaptSet	Description
IEC 61850 . **GOSINGGIO1.Ind32.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **SPCSO1**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO2**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO3**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO4**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO5**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO6**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO7**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO8**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO9**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO10**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO11**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO12**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO13**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO14**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO15**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO16**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC103 . **Scada Cmd 1**	*Scada Command*
IEC103 . **Scada Cmd 2**	*Scada Command*
IEC103 . **Scada Cmd 3**	*Scada Command*
IEC103 . **Scada Cmd 4**	*Scada Command*
IEC103 . **Scada Cmd 5**	*Scada Command*

AdaptSet	Description
IEC103 . **Scada Cmd 6**	*Scada Command*
IEC103 . **Scada Cmd 7**	*Scada Command*
IEC103 . **Scada Cmd 8**	*Scada Command*
IEC103 . **Scada Cmd 9**	*Scada Command*
IEC103 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 1**	*Scada Command*
IEC104 . **Scada Cmd 2**	*Scada Command*
IEC104 . **Scada Cmd 3**	*Scada Command*
IEC104 . **Scada Cmd 4**	*Scada Command*
IEC104 . **Scada Cmd 5**	*Scada Command*
IEC104 . **Scada Cmd 6**	*Scada Command*
IEC104 . **Scada Cmd 7**	*Scada Command*
IEC104 . **Scada Cmd 8**	*Scada Command*
IEC104 . **Scada Cmd 9**	*Scada Command*
IEC104 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 11**	*Scada Command*
IEC104 . **Scada Cmd 12**	*Scada Command*
IEC104 . **Scada Cmd 13**	*Scada Command*
IEC104 . **Scada Cmd 14**	*Scada Command*
IEC104 . **Scada Cmd 15**	*Scada Command*
IEC104 . **Scada Cmd 16**	*Scada Command*
Profibus . **Scada Cmd 1**	*Scada Command*
Profibus . **Scada Cmd 2**	*Scada Command*
Profibus . **Scada Cmd 3**	*Scada Command*
Profibus . **Scada Cmd 4**	*Scada Command*
Profibus . **Scada Cmd 5**	*Scada Command*
Profibus . **Scada Cmd 6**	*Scada Command*
Profibus . **Scada Cmd 7**	*Scada Command*
Profibus . **Scada Cmd 8**	*Scada Command*
Profibus . **Scada Cmd 9**	*Scada Command*
Profibus . **Scada Cmd 10**	*Scada Command*
Profibus . **Scada Cmd 11**	*Scada Command*

AdaptSet	Description
Profibus . **Scada Cmd 12**	*Scada Command*
Profibus . **Scada Cmd 13**	*Scada Command*
Profibus . **Scada Cmd 14**	*Scada Command*
Profibus . **Scada Cmd 15**	*Scada Command*
Profibus . **Scada Cmd 16**	*Scada Command*
ProtCom . **active**	*Signal: active*
ProtCom . **inactive**	*Signal: inactive*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*

AdaptSet	Description
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

CurrentBase

Base Current Selection (based on Device Rating (1A/5A)/Protected Object Rating).

Selection list referenced by the following parameters:

- ╘═▷ I2>[1] . CurrentBase

CurrentBase	Description
Device Rating	*Device Rating*
Protected Object Rating	*Protected Object Rating*

Power Trip dir

By means of this parameter the trip direction of active and reactive power can be inverted within the QV-Module (sign reversal).

Selection list referenced by the following parameters:

- ╚═▷ Q->&V< . Power Trip dir

Power Trip dir	Description
positive	*Positive P/Q (active/reactive power) Trip*
negative	*Negative P/Q (active/reactive power) Trip*

1..n, Dig Inputs

List of Digital Inputs that are available for the detection of the Circuit Breaker Position.

Selection list referenced by the following parameters:

- ╚═▷ ReCon[1] . PCC Fuse Fail VT
- ╚═▷ TCS . Input 1
- ╚═▷ TCS . Input 2

1..n, Dig Inputs	Description
“-”	*No assignment*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*

1..n, Dig Inputs	Description
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*

Decoupling Functions

Selection list referenced by the following parameters:

- ⮱▷ ReCon[1] . Decoupling1

Decoupling Functions	Description
“-”	*No assignment*
Id . **TripCmd**	*Signal: Trip Command*
IdH . **TripCmd**	*Signal: Trip Command*
IdG . **TripCmd**	*Signal: Trip Command*
IdGH . **TripCmd**	*Signal: Trip Command*
I[1] . **TripCmd**	*Signal: Trip Command*
I[2] . **TripCmd**	*Signal: Trip Command*
I[3] . **TripCmd**	*Signal: Trip Command*
I[4] . **TripCmd**	*Signal: Trip Command*
I[5] . **TripCmd**	*Signal: Trip Command*
I[6] . **TripCmd**	*Signal: Trip Command*
IG[1] . **TripCmd**	*Signal: Trip Command*

Decoupling Functions	Description
IG[2] . **TripCmd**	*Signal: Trip Command*
IG[3] . **TripCmd**	*Signal: Trip Command*
IG[4] . **TripCmd**	*Signal: Trip Command*
ThR . **TripCmd**	*Signal: Trip Command*
I2>[1] . **TripCmd**	*Signal: Trip Command*
I2>[2] . **TripCmd**	*Signal: Trip Command*
V[1] . **TripCmd**	*Signal: Trip Command*
V[2] . **TripCmd**	*Signal: Trip Command*
V[3] . **TripCmd**	*Signal: Trip Command*
V[4] . **TripCmd**	*Signal: Trip Command*
V[5] . **TripCmd**	*Signal: Trip Command*
V[6] . **TripCmd**	*Signal: Trip Command*
df/dt . **TripCmd**	*Signal: Trip Command*
delta phi . **TripCmd**	*Signal: Trip Command*
Intertripping . **TripCmd**	*Signal: Trip Command*
P . **TripCmd**	*Signal: Trip Command*
Q . **TripCmd**	*Signal: Trip Command*
LVRT[1] . **TripCmd**	*Signal: Trip Command*
LVRT[2] . **TripCmd**	*Signal: Trip Command*
VG[1] . **TripCmd**	*Signal: Trip Command*
VG[2] . **TripCmd**	*Signal: Trip Command*
V012[1] . **TripCmd**	*Signal: Trip Command*
V012[2] . **TripCmd**	*Signal: Trip Command*
V012[3] . **TripCmd**	*Signal: Trip Command*
V012[4] . **TripCmd**	*Signal: Trip Command*
V012[5] . **TripCmd**	*Signal: Trip Command*
V012[6] . **TripCmd**	*Signal: Trip Command*
f[1] . **TripCmd**	*Signal: Trip Command*
f[2] . **TripCmd**	*Signal: Trip Command*
f[3] . **TripCmd**	*Signal: Trip Command*
f[4] . **TripCmd**	*Signal: Trip Command*
f[5] . **TripCmd**	*Signal: Trip Command*

Decoupling Functions	Description
f[6] . **TripCmd**	*Signal: Trip Command*
PQS[1] . **TripCmd**	*Signal: Trip Command*
PQS[2] . **TripCmd**	*Signal: Trip Command*
PQS[3] . **TripCmd**	*Signal: Trip Command*
PQS[4] . **TripCmd**	*Signal: Trip Command*
PQS[5] . **TripCmd**	*Signal: Trip Command*
PQS[6] . **TripCmd**	*Signal: Trip Command*
PF[1] . **TripCmd**	*Signal: Trip Command*
PF[2] . **TripCmd**	*Signal: Trip Command*
Q->&V< . **Decoupling Distr. Generator**	*Signal: Decoupling of the (local) Energy Generator/Resource*
Q->&V< . **Decoupling PCC**	*Signal: Decoupling at the Point of Common Coupling*
UFLS . **Trip**	*Signal: Signal: Trip*
V/f>[1] . **TripCmd**	*Signal: Trip Command*
V/f>[2] . **TripCmd**	*Signal: Trip Command*
ExP[1] . **TripCmd**	*Signal: Trip Command*
ExP[2] . **TripCmd**	*Signal: Trip Command*
ExP[3] . **TripCmd**	*Signal: Trip Command*
ExP[4] . **TripCmd**	*Signal: Trip Command*
Ext Sudd Press . **TripCmd**	*Signal: Trip Command*
Ext Oil Temp . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[1] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[2] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[3] . **TripCmd**	*Signal: Trip Command*
Trip-Trans . **TripCmd**	*Signal: Trip Command*
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*

Decoupling Functions	Description
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*

Decoupling Functions	Description
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
DNP3 . **BinaryOutput0**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput1**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput2**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput3**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput4**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput5**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput6**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput7**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput8**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput9**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput10**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput11**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput12**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput13**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput14**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput15**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput16**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput17**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

Decoupling Functions	Description
DNP3 . **BinaryOutput18**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput19**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput20**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput21**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput22**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput23**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput24**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput25**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput26**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput27**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput28**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput29**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput30**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput31**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
Modbus . **Scada Cmd 1**	*Scada Command*
Modbus . **Scada Cmd 2**	*Scada Command*
Modbus . **Scada Cmd 3**	*Scada Command*
Modbus . **Scada Cmd 4**	*Scada Command*
Modbus . **Scada Cmd 5**	*Scada Command*
Modbus . **Scada Cmd 6**	*Scada Command*
Modbus . **Scada Cmd 7**	*Scada Command*
Modbus . **Scada Cmd 8**	*Scada Command*
Modbus . **Scada Cmd 9**	*Scada Command*
Modbus . **Scada Cmd 10**	*Scada Command*

Decoupling Functions	Description
Modbus . **Scada Cmd 11**	*Scada Command*
Modbus . **Scada Cmd 12**	*Scada Command*
Modbus . **Scada Cmd 13**	*Scada Command*
Modbus . **Scada Cmd 14**	*Scada Command*
Modbus . **Scada Cmd 15**	*Scada Command*
Modbus . **Scada Cmd 16**	*Scada Command*
IEC 61850 . **GOSINGGIO1.Ind1.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind2.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind3.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind4.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind5.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind6.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind7.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind8.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind9.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind10.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind11.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind12.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind13.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind14.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind15.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind16.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

Decoupling Functions	Description
IEC 61850 . **GOSINGGIO1.Ind17.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind18.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind19.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind20.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind21.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind22.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind23.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind24.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind25.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind26.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind27.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind28.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind29.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind30.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind31.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind32.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **SPCSO1**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO2**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO3**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO4**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*

Decoupling Functions	Description
IEC 61850 . **SPCSO5**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO6**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO7**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO8**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO9**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO10**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO11**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO12**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO13**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO14**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO15**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO16**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC103 . **Scada Cmd 1**	*Scada Command*
IEC103 . **Scada Cmd 2**	*Scada Command*
IEC103 . **Scada Cmd 3**	*Scada Command*
IEC103 . **Scada Cmd 4**	*Scada Command*
IEC103 . **Scada Cmd 5**	*Scada Command*
IEC103 . **Scada Cmd 6**	*Scada Command*
IEC103 . **Scada Cmd 7**	*Scada Command*
IEC103 . **Scada Cmd 8**	*Scada Command*
IEC103 . **Scada Cmd 9**	*Scada Command*
IEC103 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 1**	*Scada Command*
IEC104 . **Scada Cmd 2**	*Scada Command*
IEC104 . **Scada Cmd 3**	*Scada Command*

Decoupling Functions	Description
IEC104 . **Scada Cmd 4**	*Scada Command*
IEC104 . **Scada Cmd 5**	*Scada Command*
IEC104 . **Scada Cmd 6**	*Scada Command*
IEC104 . **Scada Cmd 7**	*Scada Command*
IEC104 . **Scada Cmd 8**	*Scada Command*
IEC104 . **Scada Cmd 9**	*Scada Command*
IEC104 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 11**	*Scada Command*
IEC104 . **Scada Cmd 12**	*Scada Command*
IEC104 . **Scada Cmd 13**	*Scada Command*
IEC104 . **Scada Cmd 14**	*Scada Command*
IEC104 . **Scada Cmd 15**	*Scada Command*
IEC104 . **Scada Cmd 16**	*Scada Command*
Profibus . **Scada Cmd 1**	*Scada Command*
Profibus . **Scada Cmd 2**	*Scada Command*
Profibus . **Scada Cmd 3**	*Scada Command*
Profibus . **Scada Cmd 4**	*Scada Command*
Profibus . **Scada Cmd 5**	*Scada Command*
Profibus . **Scada Cmd 6**	*Scada Command*
Profibus . **Scada Cmd 7**	*Scada Command*
Profibus . **Scada Cmd 8**	*Scada Command*
Profibus . **Scada Cmd 9**	*Scada Command*
Profibus . **Scada Cmd 10**	*Scada Command*
Profibus . **Scada Cmd 11**	*Scada Command*
Profibus . **Scada Cmd 12**	*Scada Command*
Profibus . **Scada Cmd 13**	*Scada Command*
Profibus . **Scada Cmd 14**	*Scada Command*
Profibus . **Scada Cmd 15**	*Scada Command*
Profibus . **Scada Cmd 16**	*Scada Command*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*

Decoupling Functions	Description
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

P Block dir

By means of this parameter the block direction of active power can be inverted within this (sign reversal).

Selection list referenced by the following parameters:

- ╚═▷ UFLS . P Block dir

P Block dir	Description
positive	*Blocking the load shedding if active power is positive*
negative	*Blocking the load shedding if active power is negative*

1..n, DI-LogicList

Selection list referenced by the following parameters:

- ╚═▷ AR . Ex Shot Inc
- ╚═▷ AR . Ex Lock
- ╚═▷ AR . DI Reset Ex Lock
- ╚═▷ Sync . Bypass
- ╚═▷ SOTF . Ext SOTF

- ╘⇒ SG[1] . Aux ON
- *[. . .]*

1..n, DI-LogicList	Description
“-”	*No assignment*
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*

1..n, DI-LogicList	Description
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
DNP3 . **BinaryOutput0**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput1**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput2**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput3**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput4**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput5**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput6**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput7**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput8**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput9**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput10**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput11**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput12**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

1..n, DI-LogicList	Description
DNP3 . **BinaryOutput13**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput14**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput15**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput16**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput17**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput18**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput19**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput20**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput21**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput22**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput23**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput24**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput25**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput26**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput27**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput28**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput29**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput30**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput31**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
IEC104 . **Scada Cmd 1**	*Scada Command*
IEC104 . **Scada Cmd 2**	*Scada Command*

1..n, DI-LogicList	Description
IEC104 . **Scada Cmd 3**	*Scada Command*
IEC104 . **Scada Cmd 4**	*Scada Command*
IEC104 . **Scada Cmd 5**	*Scada Command*
IEC104 . **Scada Cmd 6**	*Scada Command*
IEC104 . **Scada Cmd 7**	*Scada Command*
IEC104 . **Scada Cmd 8**	*Scada Command*
IEC104 . **Scada Cmd 9**	*Scada Command*
IEC104 . **Scada Cmd 10**	*Scada Command*
IEC104 . **Scada Cmd 11**	*Scada Command*
IEC104 . **Scada Cmd 12**	*Scada Command*
IEC104 . **Scada Cmd 13**	*Scada Command*
IEC104 . **Scada Cmd 14**	*Scada Command*
IEC104 . **Scada Cmd 15**	*Scada Command*
IEC104 . **Scada Cmd 16**	*Scada Command*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*

1..n, DI-LogicList	Description
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

CB Manager

Circuit Breaker States

Selection list referenced by the following parameters:

- ╚═▷ Sync . CB Pos Detect
- ╚═▷ CLPU . CB Pos Detect
- ╚═▷ TCS . CB Pos Detect
- ╚═▷ LOP . CB Pos Detect

CB Manager	Description
“-”	*No assignment*
SG[1] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[2] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[3] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[4] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[5] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*
SG[6] . **Pos**	*Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)*

1..n, SyncRequestList

Selection list referenced by the following parameters:

- ╚═▷ Sync . CBCloseInitiate

1..n, SyncRequestList	Description
“-”	*No assignment*
SG[1] . **Sync ON request**	*Signal: Synchronous ON request*
SG[2] . **Sync ON request**	*Signal: Synchronous ON request*
SG[3] . **Sync ON request**	*Signal: Synchronous ON request*
SG[4] . **Sync ON request**	*Signal: Synchronous ON request*

1..n, SyncRequestList	Description
SG[5] . **Sync ON request**	*Signal: Synchronous ON request*
SG[6] . **Sync ON request**	*Signal: Synchronous ON request*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, SyncRequestList	Description
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

CB List

Selection list referenced by the following parameters:

- ╚═▷ AR . CB

CB List	Description
“-”	*No assignment*
SG[1] .	
SG[2] .	
SG[3] .	
SG[4] .	
SG[5] .	
SG[6] .	

Communication Commands

Selection list referenced by the following parameters:

- ╚═▷ AR . Scada Reset Ex Lock

Communication Commands	Description
“-”	*No assignment*

Communication Commands	Description
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
DNP3 . **BinaryOutput0**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput1**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput2**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput3**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput4**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput5**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput6**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput7**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput8**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput9**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

Communication Commands	Description
DNP3 . **BinaryOutput10**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput11**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput12**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput13**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput14**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput15**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput16**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput17**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput18**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput19**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput20**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput21**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput22**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput23**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput24**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput25**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput26**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput27**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput28**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput29**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*

Communication Commands	Description
DNP3 . **BinaryOutput30**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
DNP3 . **BinaryOutput31**	*Virtual Digital Output (DNP). This corresponds to a virtual binary input of the protective device.*
Modbus . **Scada Cmd 1**	*Scada Command*
Modbus . **Scada Cmd 2**	*Scada Command*
Modbus . **Scada Cmd 3**	*Scada Command*
Modbus . **Scada Cmd 4**	*Scada Command*
Modbus . **Scada Cmd 5**	*Scada Command*
Modbus . **Scada Cmd 6**	*Scada Command*
Modbus . **Scada Cmd 7**	*Scada Command*
Modbus . **Scada Cmd 8**	*Scada Command*
Modbus . **Scada Cmd 9**	*Scada Command*
Modbus . **Scada Cmd 10**	*Scada Command*
Modbus . **Scada Cmd 11**	*Scada Command*
Modbus . **Scada Cmd 12**	*Scada Command*
Modbus . **Scada Cmd 13**	*Scada Command*
Modbus . **Scada Cmd 14**	*Scada Command*
Modbus . **Scada Cmd 15**	*Scada Command*
Modbus . **Scada Cmd 16**	*Scada Command*
IEC 61850 . **GOSINGGIO1.Ind1.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind2.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind3.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind4.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind5.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind6.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind7.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind8.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

Communication Commands	Description
IEC 61850 . **GOSINGGIO1.Ind9.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind10.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind11.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind12.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind13.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind14.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind15.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind16.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind17.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind18.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind19.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind20.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind21.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind22.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind23.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind24.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind25.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind26.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind27.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind28.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*

Communication Commands	Description
IEC 61850 . **GOSINGGIO1.Ind29.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind30.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind31.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **GOSINGGIO1.Ind32.stVal**	*Signal: Virtual Input (IEC61850 GGIO Ind): State*
IEC 61850 . **SPCSO1**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO2**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO3**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO4**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO5**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO6**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO7**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO8**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO9**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO10**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO11**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO12**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO13**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO14**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO15**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*
IEC 61850 . **SPCSO16**	*Status bit that can be set by clients like e.g. SCADA (Single Point Controllable Status Output).*

Communication Commands	**Description**
IEC103 . **Scada Cmd 1**	*Scada Command*
IEC103 . **Scada Cmd 2**	*Scada Command*
IEC103 . **Scada Cmd 3**	*Scada Command*
IEC103 . **Scada Cmd 4**	*Scada Command*
IEC103 . **Scada Cmd 5**	*Scada Command*
IEC103 . **Scada Cmd 6**	*Scada Command*
IEC103 . **Scada Cmd 7**	*Scada Command*
IEC103 . **Scada Cmd 8**	*Scada Command*
IEC103 . **Scada Cmd 9**	*Scada Command*
IEC103 . **Scada Cmd 10**	*Scada Command*
Profibus . **Scada Cmd 1**	*Scada Command*
Profibus . **Scada Cmd 2**	*Scada Command*
Profibus . **Scada Cmd 3**	*Scada Command*
Profibus . **Scada Cmd 4**	*Scada Command*
Profibus . **Scada Cmd 5**	*Scada Command*
Profibus . **Scada Cmd 6**	*Scada Command*
Profibus . **Scada Cmd 7**	*Scada Command*
Profibus . **Scada Cmd 8**	*Scada Command*
Profibus . **Scada Cmd 9**	*Scada Command*
Profibus . **Scada Cmd 10**	*Scada Command*
Profibus . **Scada Cmd 11**	*Scada Command*
Profibus . **Scada Cmd 12**	*Scada Command*
Profibus . **Scada Cmd 13**	*Scada Command*
Profibus . **Scada Cmd 14**	*Scada Command*
Profibus . **Scada Cmd 15**	*Scada Command*
Profibus . **Scada Cmd 16**	*Scada Command*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮱▷ SOTF . Mode

Mode	Description
CB Pos	*The CB Pos Indicator starts the Timer.*
I<	*The CB is in the OFF Position, if the measured current is less than this parameter.*
CB Pos And I<	*(The CB Pos Indicator starts the Timer.) And (The CB is in the OFF Position, if the measured current is less than this parameter.)*
CB manual ON	*Circuit breaker was switched on manually*
Ext SOTF	*External Switch Onto Fault*

CB List

Selection list referenced by the following parameters:

- ⮱▷ SOTF . Assigned SG

CB List	Description
“-”	*No assignment*
. **SG[1]**	*Switchgear*
. **SG[2]**	*Switchgear*
. **SG[3]**	*Switchgear*
. **SG[4]**	*Switchgear*
. **SG[5]**	*Switchgear*
. **SG[6]**	*Switchgear*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮱▷ CLPU . Mode

Mode	Description
CB Pos	*The CB Pos Indicator starts the Timer.*
I<	*The Pickup Timer will be started, if the measured current is less than parameter "I<".*

Mode	Description
CB Pos Or I<	*(The CB Pos Indicator starts the Timer.) Or (The Pickup Timer will be started, if the measured current is less than parameter "I<".)*
CB Pos And I<	*(The CB Pos Indicator starts the Timer.) And (The Pickup Timer will be started, if the measured current is less than parameter "I<".)*

Scheme

Via this selection menu, the BF supervision scheme is to be selected.

Selection list referenced by the following parameters:

- ╚═▷ CBF . Scheme

Scheme	Description
50BF	*A Breaker Failure is detected, if the measured currents do not fall below a settable threshold within a settable time interval.*
CB Pos	*A Circuit Breaker Failure is detected after a CB open command, if the Position Contacts of the Circuit Breaker do not allow the conclusion that the Breaker is now in the Open Position within a settable time interval.*
50BF and CB Pos	*A Circuit Breaker Failure is detected if the evaluation of the Position Indicators or the evaluation of the current measurement indicate that the CB Off-Command was not excecuted. This scheme is called "Minimal Current Scheme" according to IEEEC37.119.*

CB List

Selection list referenced by the following parameters:

- ╚═▷ CBF . CB

CB List	Description
“-”	*No assignment*
SG[1] .	
SG[2] .	
SG[3] .	
SG[4] .	
SG[5] .	
SG[6] .	

Trigger

Determining the trigger mode for the Breaker Failure. The selection will pickup the Breaker Failure as well as the assignments (Trigger 1, Trigger 2, Trigger 3). They are OR connected.

Selection list referenced by the following parameters:

- ╚═▷ CBF . Trigger

Trigger	Description
- . -	*no assignment*
All Trips	*All trip signals that are assigned to this breaker (within the trip manager) will start the BF module.*
External Trips	*All external trips that are assigned to this breaker (within the trip manager) will start the BF module.*
Current Trips	*All current trips that are assigned to this breaker (within the trip manager) will start the BF module.*

External Trips

All external trips that are assigned to this breaker (within the trip manager) will start the BF module.

External Trips	Description
“-”	*No assignment*
Intertripping . **TripCmd**	*Signal: Trip Command*
ExP[1] . **TripCmd**	*Signal: Trip Command*
ExP[2] . **TripCmd**	*Signal: Trip Command*
ExP[3] . **TripCmd**	*Signal: Trip Command*
ExP[4] . **TripCmd**	*Signal: Trip Command*
Ext Sudd Press . **TripCmd**	*Signal: Trip Command*
Ext Oil Temp . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[1] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[2] . **TripCmd**	*Signal: Trip Command*

External Trips	Description
Ext Temp Superv[3] . **TripCmd**	*Signal: Trip Command*
Trip-Trans . **TripCmd**	*Signal: Trip Command*

Current Trips

All current trips that are assigned to this breaker (within the trip manager) will start the BF module.

Current Trips	Description
“-”	*No assignment*
Id . **TripCmd**	*Signal: Trip Command*
IdH . **TripCmd**	*Signal: Trip Command*
IdG . **TripCmd**	*Signal: Trip Command*
IdGH . **TripCmd**	*Signal: Trip Command*
I[1] . **TripCmd**	*Signal: Trip Command*
I[2] . **TripCmd**	*Signal: Trip Command*
I[3] . **TripCmd**	*Signal: Trip Command*
I[4] . **TripCmd**	*Signal: Trip Command*
I[5] . **TripCmd**	*Signal: Trip Command*
I[6] . **TripCmd**	*Signal: Trip Command*
IG[1] . **TripCmd**	*Signal: Trip Command*
IG[2] . **TripCmd**	*Signal: Trip Command*
IG[3] . **TripCmd**	*Signal: Trip Command*
IG[4] . **TripCmd**	*Signal: Trip Command*
ThR . **TripCmd**	*Signal: Trip Command*
I2>[1] . **TripCmd**	*Signal: Trip Command*
I2>[2] . **TripCmd**	*Signal: Trip Command*

Trigger

Determining the trigger mode for the Breaker Failure. The selection will pickup the Breaker Failure as well as the assignments (Trigger 1, Trigger 2, Trigger 3). They are OR connected.

Selection list referenced by the following parameters:

- ╚═▷ CBF . Trigger1

Trigger	Description
“-”	*No assignment*
Id . **TripCmd**	*Signal: Trip Command*
IdH . **TripCmd**	*Signal: Trip Command*
IdG . **TripCmd**	*Signal: Trip Command*
IdGH . **TripCmd**	*Signal: Trip Command*
I[1] . **TripCmd**	*Signal: Trip Command*
I[2] . **TripCmd**	*Signal: Trip Command*
I[3] . **TripCmd**	*Signal: Trip Command*
I[4] . **TripCmd**	*Signal: Trip Command*
I[5] . **TripCmd**	*Signal: Trip Command*
I[6] . **TripCmd**	*Signal: Trip Command*
IG[1] . **TripCmd**	*Signal: Trip Command*
IG[2] . **TripCmd**	*Signal: Trip Command*
IG[3] . **TripCmd**	*Signal: Trip Command*
IG[4] . **TripCmd**	*Signal: Trip Command*
ThR . **TripCmd**	*Signal: Trip Command*
I2>[1] . **TripCmd**	*Signal: Trip Command*
I2>[2] . **TripCmd**	*Signal: Trip Command*
V[1] . **TripCmd**	*Signal: Trip Command*
V[2] . **TripCmd**	*Signal: Trip Command*
V[3] . **TripCmd**	*Signal: Trip Command*
V[4] . **TripCmd**	*Signal: Trip Command*
V[5] . **TripCmd**	*Signal: Trip Command*
V[6] . **TripCmd**	*Signal: Trip Command*
df/dt . **TripCmd**	*Signal: Trip Command*
delta phi . **TripCmd**	*Signal: Trip Command*

Trigger	Description
Intertripping . **TripCmd**	*Signal: Trip Command*
P . **TripCmd**	*Signal: Trip Command*
Q . **TripCmd**	*Signal: Trip Command*
LVRT[1] . **TripCmd**	*Signal: Trip Command*
LVRT[2] . **TripCmd**	*Signal: Trip Command*
VG[1] . **TripCmd**	*Signal: Trip Command*
VG[2] . **TripCmd**	*Signal: Trip Command*
V012[1] . **TripCmd**	*Signal: Trip Command*
V012[2] . **TripCmd**	*Signal: Trip Command*
V012[3] . **TripCmd**	*Signal: Trip Command*
V012[4] . **TripCmd**	*Signal: Trip Command*
V012[5] . **TripCmd**	*Signal: Trip Command*
V012[6] . **TripCmd**	*Signal: Trip Command*
f[1] . **TripCmd**	*Signal: Trip Command*
f[2] . **TripCmd**	*Signal: Trip Command*
f[3] . **TripCmd**	*Signal: Trip Command*
f[4] . **TripCmd**	*Signal: Trip Command*
f[5] . **TripCmd**	*Signal: Trip Command*
f[6] . **TripCmd**	*Signal: Trip Command*
PQS[1] . **TripCmd**	*Signal: Trip Command*
PQS[2] . **TripCmd**	*Signal: Trip Command*
PQS[3] . **TripCmd**	*Signal: Trip Command*
PQS[4] . **TripCmd**	*Signal: Trip Command*
PQS[5] . **TripCmd**	*Signal: Trip Command*
PQS[6] . **TripCmd**	*Signal: Trip Command*
PF[1] . **TripCmd**	*Signal: Trip Command*
PF[2] . **TripCmd**	*Signal: Trip Command*
Q->&V< . **Decoupling PCC**	*Signal: Decoupling at the Point of Common Coupling*
Q->&V< . **Decoupling Distr. Generator**	*Signal: Decoupling of the (local) Energy Generator/Resource*
UFLS . **Trip**	*Signal: Signal: Trip*
V/f>[1] . **TripCmd**	*Signal: Trip Command*

Trigger	Description
V/f>[2] . **TripCmd**	*Signal: Trip Command*
ExP[1] . **TripCmd**	*Signal: Trip Command*
ExP[2] . **TripCmd**	*Signal: Trip Command*
ExP[3] . **TripCmd**	*Signal: Trip Command*
ExP[4] . **TripCmd**	*Signal: Trip Command*
Ext Sudd Press . **TripCmd**	*Signal: Trip Command*
Ext Oil Temp . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[1] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[2] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[3] . **TripCmd**	*Signal: Trip Command*
Trip-Trans . **TripCmd**	*Signal: Trip Command*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*

Trigger	Description
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*

Trigger	Description
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ TCS . Mode

Mode	Description
Closed	*Selects that the breaker is going to be monitored when the breaker is closed.*
Either	*Selects that the breaker is going to be monitored when the breaker is either closed or open.*

Blo Trigger

Determining the blockings for Loss of Potential

Selection list referenced by the following parameters:

- ╘═▷ LOP . Blo Trigger1

Blo Trigger	Description
“-”	*No assignment*
I[1] . **Alarm**	*Signal: Alarm*
I[2] . **Alarm**	*Signal: Alarm*
I[3] . **Alarm**	*Signal: Alarm*
I[4] . **Alarm**	*Signal: Alarm*
I[5] . **Alarm**	*Signal: Alarm*
I[6] . **Alarm**	*Signal: Alarm*
IG[1] . **Alarm**	*Signal: Alarm IG*
IG[2] . **Alarm**	*Signal: Alarm IG*
IG[3] . **Alarm**	*Signal: Alarm IG*
IG[4] . **Alarm**	*Signal: Alarm IG*

PSet-Switch

Switching Parameter Set

Selection list referenced by the following parameters:

- ╘═▷ Sys . PSet-Switch

PSet-Switch	Description
PS1	*The currently active Parameter Set is PS1*
PS2	*The currently active Parameter Set is PS2*
PS3	*The currently active Parameter Set is PS3*
PS4	*The currently active Parameter Set is PS4*
PSS via Inp fct	*Parameter Set Switch via input function*

PSet-Switch	Description
PSS via Scada	*Parameter Set Switch via Scada. Write into this output byte the integer of the parameter set that should become active (e.g. 4 => Switch onto parameter set 4).*

1..n, PSS

List of the available Parameter Setting Group Switching Signals

Selection list referenced by the following parameters:

- └⇒ Sys . PS1: activated by

1..n, PSS	Description
"-"	*No assignment*
Sig-Trans . **Rx.Signal1**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal2**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal3**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal4**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal5**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal6**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal7**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal8**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal9**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal10**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal11**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal12**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal13**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal14**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal15**	*Rx (Receive): Status of received Signal from remote device.*
Sig-Trans . **Rx.Signal16**	*Rx (Receive): Status of received Signal from remote device.*
CTS . **Alarm**	*Signal: Alarm Current Transformer Measuring Circuit Supervision*
LOP . **Alarm**	*Signal: Alarm Loss of Potential*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*

1..n, PSS	Description
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
ProtCom . **active**	*Signal: active*
ProtCom . **inactive**	*Signal: inactive*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*

1..n, PSS	Description
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

Measuring method

Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)

Selection list referenced by the following parameters:

- ╚═▷ I[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*
I2	*Protection is based on negative phase sequence current*

Char

Characteristic

Selection list referenced by the following parameters:

- ╚═▷ I[1] . Char

Char	Description
DEFT	*DEFT*
IEC NINV	*IEC Normal Inverse*
IEC VINV	*IEC Very Inverse [VINV]*
IEC EINV	*IEC Extremely Inverse - Characteristic*
IEC LINV	*IEC Long Time Inverse - Characteristic [LINV]*
RINV	*R Inverse [RINV] - Characteristic*

Char	Description
ANSI MINV	*ANSI Moderately Inverse [MINV] - Characteristic*
ANSI VINV	*ANSI Very Inverse [VINV]*
ANSI EINV	*ANSI Extremely Inverse - Characteristic*
Therm Flat	*Therm Flat [TF] - Characteristic*
IT	*IT - Characteristic*
I2T	*I2T - Characteristic*
I4T	*I4T - Characteristic*

Reset Mode

Selection list referenced by the following parameters:

- ⮑ I[1] . Reset Mode

Reset Mode	Description
instantaneous	*Instantaneous reset: when the current drops below the pickup setting, the TOC time resets to zero within 2 cycles.*
delayed	*Reset after a fixed time.* *(Remark: This delay is then defined by the parameter »t-reset delay«.)*
calculated	*Calculated reset, which is defined by ANSI C37.112 and IEC.*

IH2 Blo

Blocking the trip command, if an inrush is detected.

Selection list referenced by the following parameters:

- ⮑ I[1] . IH2 Blo
- ⮑ IG[1] . IH2 Blo

IH2 Blo	Description
Sys . **inactive**	*inactive*
IH2 . **active**	*active*

Measuring Mode

Selection list referenced by the following parameters:

- ╚═▷ I[1] . Measuring Mode

Measuring Mode	Description
Phase to Ground	*Phase-to-Ground Voltage*
Phase to Phase	*The voltage transformers are connected to phase-to-phase voltages*

VTS Block

Blocking of the module if the voltage transformer supervision detects a fault.

Selection list referenced by the following parameters:

- ╚═▷ I[1] . Meas Circuit Superv
- ╚═▷ IG[1] . Meas Circuit Superv
- ╚═▷ V[1] . Meas Circuit Superv
- ╚═▷ P . MeasCircSv Volt
- ╚═▷ Q . MeasCircSv Volt
- ╚═▷ LVRT[1] . Meas Circuit Superv
- *[. . .]*

VTS Block	Description
Sys . **inactive**	*inactive*
LOP . **active**	*active*

Measuring Channel

Selection list referenced by the following parameters:

- ╚═▷ IG[1] . IG Source

Measuring Channel	Description
CT Local . **sensitive measurement**	*sensitive measurement*

Measuring Channel	Description
CT Local . **measured**	*measured*
CT Local . **calculated**	*calculated*

Measuring method

Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)

Selection list referenced by the following parameters:

- ╚═▷ IG[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*

VX Source

Selection if VG is measured or calculated (neutral voltage or residual voltage)

Selection list referenced by the following parameters:

- ╚═▷ IG[1] . VX Source

VX Source	Description
measured	*measured*
calculated	*calculated*

Char

Characteristic

Selection list referenced by the following parameters:

- ╚═▷ IG[1] . Char

Char	Description
DEFT	*DEFT*

Char	Description
IEC NINV	*IEC Normal Inverse*
IEC VINV	*IEC Very Inverse [VINV]*
IEC EINV	*IEC Extremely Inverse - Characteristic*
IEC LINV	*IEC Long Time Inverse - Characteristic [LINV]*
RINV	*R Inverse [RINV] - Characteristic*
ANSI MINV	*ANSI Moderately Inverse [MINV] - Characteristic*
ANSI VINV	*ANSI Very Inverse [VINV]*
ANSI EINV	*ANSI Extremely Inverse - Characteristic*
Therm Flat	*Therm Flat [TF] - Characteristic*
IT	*IT - Characteristic*
I2T	*I2T - Characteristic*
I4T	*I4T - Characteristic*
RXIDG	*Special Overcurrent Curve*

Reset Mode

Selection list referenced by the following parameters:

- ╘═▷ IG[1] . Reset Mode

Reset Mode	Description
instantaneous	*Instantaneous reset: when the current drops below the pickup setting, the TOC time resets to zero within 2 cycles.*
delayed	*Reset after a fixed time.* *(Remark: This delay is then defined by the parameter »t-reset delay«.)*
calculated	*Calculated reset, which is defined by ANSI C37.112 and IEC.*

Char

Characteristic

Selection list referenced by the following parameters:

- ╘═▷ I2>[1] . Char

Char	Description
DEFT	*DEFT*
INV	*INV*

block mode

Selection list referenced by the following parameters:

- ╚═▷ IH2 . block mode

block mode	Description
1-ph Blo	*1-ph Blo: If an inrush is detected in one phase, the corresponding phase of those modules will be blocked, where inrush blocking is set to active.*
3-ph Blo	*3-ph Blo: If an inrush is detected in at least one phase, all three phases of those modules where inrush blocking is set to active will be blocked (cross blocking).*

Measuring Mode

Measuring/Supervision Mode: Determines if the phase-to-phase or phase-to-earth voltages are to be supervised

Selection list referenced by the following parameters:

- ╚═▷ V[1] . Measuring Mode

Measuring Mode	Description
Phase to Ground	*The voltage transformers are connected to phase-to-ground voltages*
Phase to Phase	*The voltage transformers are connected to phase-to-phase voltages*

Measuring method

Measuring method: fundamental or rms or "sliding average supervision"

Selection list referenced by the following parameters:

- ╚═▷ V[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*
Vavg	*Sliding Voltage Average Supervision. Note: The settings for the average calculation have to be made within menu [Device Para/Statistics/Vavg].*

Alarm Mode

Alarm criterion for the voltage protection stage.

Selection list referenced by the following parameters:

- ╚═▷ V[1] . Alarm Mode

Alarm Mode	Description
any one	*any one: Trip Command, if the tripping criterion is fulfilled within at least one phase.*
any two	*any two*
all	*all: Trip Command for 3p-faults, i.e. if the tripping criterion is fulfilled in all three phases.*

VX Source

Selection if VG is measured or calculated (neutral voltage or residual voltage)

Selection list referenced by the following parameters:

- ╚═▷ VG[1] . VX Source

VX Source	Description
measured	*VX/VG is measured at the 4th measuring input*
calculated	*VX/VG is measured at the 4th measuring input*

Measuring method

Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)

Selection list referenced by the following parameters:

- ⮡ VG[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ f[1] . df/dt mode

Mode	Description
absolute df/dt	*positive and negative rise of frequency frequency*
positive df/dt	*positive rise of frequency*
negative df/dt	*negative rise of frequency frequency*

VTS Block

Blocking of the module if the voltage transformer supervision detects a fault.

Selection list referenced by the following parameters:

- ⮡ P . MeasCircSv Curr
- ⮡ Q . MeasCircSv Curr
- ⮡ PQS[1] . MeasCircSv Curr

VTS Block	Description
Sys . **inactive**	*inactive*
CTS . **active**	*active*

PowMeasMethod

Determines if the active power, reactive power and apparent power are calculated on the basis of RMS or DFT.

Selection list referenced by the following parameters:

- ╘═▷ PQS[1] . PowMeasMethod

PowMeasMethod	Description
Fundamental	*The active power, reactive power and apparent power are calculated on the basis of DFT.*
True RMS	*The active power, reactive power and apparent power are calculated on the basis of RMS.*

Measuring method

Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)

Selection list referenced by the following parameters:

- ╘═▷ PF[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╘═▷ PF[1] . Trig Mode
- ╘═▷ PF[1] . Res Mode

Mode	Description
I leads V	*At capacitive loads (capacitor bank) the current phasor is leading to the voltage phasor.*
I lags V	*At inductive loads (e.g. motors) the current phasor is lagging to the voltage phasor.*

Tripping characteristics of V/f Over-Excitation protection.

Selection list referenced by the following parameters:

- ╚═▷ V/f>[1] . Curve Shape

Tripping characteristics of V/f Over-Excitation protection.	Description
DEFT	*DEFT*
Inv A	*Inverse characteristic Type A*
Inv B	*Inverse characteristic Type B*
Inv C	*Inverse characteristic Type C*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ df/dt . df/dt mode

Mode	Description
absolute df/dt	*positive and negative rise of frequency frequency*
positive df/dt	*positive rise of frequency*
negative df/dt	*negative rise of frequency frequency*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ delta phi . df/dt mode

Mode	Description
absolute df/dt	*positive and negative rise of frequency frequency*
positive df/dt	*positive rise of frequency*
negative df/dt	*negative rise of frequency frequency*

PowMeasMethod

Determines if the active power, reactive power and apparent power are calculated on the basis of RMS or DFT.

Selection list referenced by the following parameters:

- ╚═▷ P . PowMeasMethod

PowMeasMethod	Description
Fundamental	*The active power, reactive power and apparent power are calculated on the basis of DFT.*
True RMS	*The active power, reactive power and apparent power are calculated on the basis of RMS.*

Measuring Mode

Measuring/Supervision Mode: Determines if the phase-to-phase or phase-to-earth voltages are to be supervised

Selection list referenced by the following parameters:

- ╚═▷ LVRT[1] . Measuring Mode

Measuring Mode	Description
Phase to Ground	*The voltage transformers are connected to phase-to-ground voltages*
Phase to Phase	*The voltage transformers are connected to phase-to-phase voltages*

Measuring method

Measuring method: fundamental or rms or 3rd harmonic (only generator protection relays)

Selection list referenced by the following parameters:

- ╚═▷ LVRT[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*

Alarm Mode

Alarm criterion for the voltage protection stage.

Selection list referenced by the following parameters:

- ↳ LVRT[1] . Alarm Mode

Alarm Mode	Description
any one	*any one: Trip Command, if the tripping criterion is fulfilled within at least one phase.*
any two	*any two: Trip Command only if the tripping criterion is fulfilled in minimum two phases.*
all	*all: Trip Command for 3p-faults, i.e. if the tripping criterion is fulfilled in all three phases.*
only 2	*only 2: Trip Command for 2p-faults, i.e. if the tripping criterion is fulfilled in exactly two phases.*

Selection of the Q(V)-Method: Power Angle or Reactive Power Threshold

Selection list referenced by the following parameters:

- ↳ Q->&V< . QV-Method

Selection of the Q(V)-Method: Power Angle or Reactive Power Threshold	Description
Power Angle Supervision	*Power Angle Supervision*
Pure Reactive Power Superv	*Pure Reactive Power Supervision*

I1 Release

Activation of the "I1 Minimum Current"-Criterion.

Selection list referenced by the following parameters:

- ↳ Q->&V< . I1 Release

I1 Release	Description
inactive	*inactive*
active	*active*

Reconnect. Release Cond

This parameter ensures that the mains voltage is recovered.

Selection list referenced by the following parameters:

- ╚⇒ ReCon[1] . Reconnect. Release Cond

Reconnect. Release Cond	Description
V Internal Release	*Release signal is being generated by internal voltage measuring values. The line-to-line voltage exceeds 95% Vn.*
V Ext Release PCC	*Release signal is being generated by the PCC (External Release). The line-to-line voltage exceeds 95% Vn.*
Both	*Both: Release signal is being generated by the PCC (External Release) and by internal voltage measuring values.*

Measuring method

Measuring method: fundamental or rms or "sliding average supervision"

Selection list referenced by the following parameters:

- ╚⇒ ReCon[1] . Measuring method

Measuring method	Description
Fundamental	*Protection is based on Fundamental (1st. Harmonic)*
True RMS	*Protection is based on root-mean-square value (True RMS)*
Vavg	*Sliding Voltage Average Supervision. Note: The settings for the average calculation have to be made within menu [Device Para/Statistics/Vavg].*

UFLS-Method

Selection of the UFLS-Method: Power Angle or Active Power Threshold of frequency based only

Selection list referenced by the following parameters:

- ⮡ UFLS . UFLS-Method

UFLS-Method	Description
No Pdir / Ex Pdir	*Classic frequency based load shedding. Ignores the direction of the power flow or external control of the blocking area.*
Power Angle Supervision	*Pure Active Power Supervision*
Pure Active Power Superv	*Pure Active Power Supervision*

I1 Release

"I Minimum Current" in order to prevent faulty tripping. Module will be released if the current exceeds this value.

Selection list referenced by the following parameters:

- ⮡ UFLS . I1 Release

I1 Release	Description
inactive	*inactive*
active	*active*

SyncMode

Synchrocheck mode: GENERATOR2SYSTEM = Synchronizing generator to system (breaker close initiate needed). SYSTEM2SYSTEM = SynchronCheck between two systems (Stand-Alone, no breaker info needed)

Selection list referenced by the following parameters:

- ⮡ Sync . SyncMode

SyncMode	Description
System2System	*SYSTEM2SYSTEM = SynchronCheck between two systems (Stand-Alone, no breaker info needed)*

SyncMode	Description
Generator2System	*GENERATOR2SYSTEM = Synchronizing generator to system (breaker close initiate needed).*

Res Lock via:

Reset Options for the AR Lockout

Selection list referenced by the following parameters:

- ╚═▷ AR . Reset Mode

Res Lock via:	Description
auto	*If the Circuit Breaker is switched on manually, the Lockout state of the AR Module will be reset automatically.*
HMI	*Panel*
DI	*Digital Input*
Scada	*Scada*
HMI And Scada	*Panel And Scada*
HMI And DI	*Panel And Digital Input*
Scada And DI	*Scada And Digital Input*
HMI And DI	*Panel And Digital Input*

Initiate Mode

Selection list referenced by the following parameters:

- ╚═▷ AR . Initiate Mode

Initiate Mode	Description
Alarm	*Using Alarm signals from the assigned initiate protective functions to initiate (start) autoreclosure (fault timer supervision used))*
TripCmd	*Using Trip command signals from the assigned initiate protective functions to initiate (start) autoreclosure (fault timer NOT used!)*

Start fct

AR starts, if the assigned protection function is activated/trips:

Selection list referenced by the following parameters:

- ╚▷ AR . Initiate AR: InitiateFc1
- ╚▷ AR . Shot 1: InitiateFc1

Start fct	Description
“-”	*No assignment*
. **Id**	*Differential Protection Module*
. **IdH**	*High-Set Differential Protection Module*
. **IdG**	*Restricted Ground Fault Differential Protection Module Local Device*
. **IdGH**	*Restricted Ground Fault Highset Protection Module*
. **I[1]**	*Phase Overcurrent Stage*
. **I[2]**	*Phase Overcurrent Stage*
. **I[3]**	*Phase Overcurrent Stage*
. **I[4]**	*Phase Overcurrent Stage*
. **I[5]**	*Phase Overcurrent Stage*
. **I[6]**	*Phase Overcurrent Stage*
. **IG[1]**	*Earth current protection - Stage*
. **IG[2]**	*Earth current protection - Stage*
. **IG[3]**	*Earth current protection - Stage*
. **IG[4]**	*Earth current protection - Stage*
. **I2>[1]**	*Unbalanced Load-Stage*
. **I2>[2]**	*Unbalanced Load-Stage*
. **ExP[1]**	*External Protection - Module*
. **ExP[2]**	*External Protection - Module*
. **ExP[3]**	*External Protection - Module*
. **ExP[4]**	*External Protection - Module*
. **Trip-Trans**	*Trip-Transfer over Protection-communication*

NonIL ResetMode

Non-Interlocking ResetMode

Selection list referenced by the following parameters:

- ╚═▷ Ctrl . Res NonIL

NonIL ResetMode	Description
single Operation	*single Operation*
timeout	*timeout*
permanent	*permanent*

Manipulate Position

WARNING! Fake Position - Manual Position Manipulation

Selection list referenced by the following parameters:

- ╚═▷ SG[1] . Manipulate Position

Manipulate Position	Description
inactive	*inactive*
Pos OFF	*Signal: Circuit Breaker is in OFF-Position*
Pos ON	*Signal: Circuit Breaker is in ON-Position*

1..n, Trip Cmds

List of available Trip Commands

Selection list referenced by the following parameters:

- ╚═▷ SG[1] . Off Cmd1
- ╚═▷ SG[1] . Off Cmd2
- ╚═▷ SG[1] . Off Cmd3
- ╚═▷ SG[1] . Off Cmd4
- ╚═▷ SG[1] . Off Cmd5
- ╚═▷ SG[1] . Off Cmd6
- *[. . .]*

1..n, Trip Cmds	**Description**
“-”	*No assignment*
Id . **TripCmd**	*Signal: Trip Command*
IdH . **TripCmd**	*Signal: Trip Command*
IdG . **TripCmd**	*Signal: Trip Command*
IdGH . **TripCmd**	*Signal: Trip Command*
I[1] . **TripCmd**	*Signal: Trip Command*
I[2] . **TripCmd**	*Signal: Trip Command*
I[3] . **TripCmd**	*Signal: Trip Command*
I[4] . **TripCmd**	*Signal: Trip Command*
I[5] . **TripCmd**	*Signal: Trip Command*
I[6] . **TripCmd**	*Signal: Trip Command*
IG[1] . **TripCmd**	*Signal: Trip Command*
IG[2] . **TripCmd**	*Signal: Trip Command*
IG[3] . **TripCmd**	*Signal: Trip Command*
IG[4] . **TripCmd**	*Signal: Trip Command*
ThR . **TripCmd**	*Signal: Trip Command*
I2>[1] . **TripCmd**	*Signal: Trip Command*
I2>[2] . **TripCmd**	*Signal: Trip Command*
V[1] . **TripCmd**	*Signal: Trip Command*
V[2] . **TripCmd**	*Signal: Trip Command*
V[3] . **TripCmd**	*Signal: Trip Command*
V[4] . **TripCmd**	*Signal: Trip Command*
V[5] . **TripCmd**	*Signal: Trip Command*
V[6] . **TripCmd**	*Signal: Trip Command*
df/dt . **TripCmd**	*Signal: Trip Command*
delta phi . **TripCmd**	*Signal: Trip Command*
Intertripping . **TripCmd**	*Signal: Trip Command*
P . **TripCmd**	*Signal: Trip Command*
Q . **TripCmd**	*Signal: Trip Command*
LVRT[1] . **TripCmd**	*Signal: Trip Command*
LVRT[2] . **TripCmd**	*Signal: Trip Command*
VG[1] . **TripCmd**	*Signal: Trip Command*

1..n, Trip Cmds	Description
VG[2] . **TripCmd**	*Signal: Trip Command*
V012[1] . **TripCmd**	*Signal: Trip Command*
V012[2] . **TripCmd**	*Signal: Trip Command*
V012[3] . **TripCmd**	*Signal: Trip Command*
V012[4] . **TripCmd**	*Signal: Trip Command*
V012[5] . **TripCmd**	*Signal: Trip Command*
V012[6] . **TripCmd**	*Signal: Trip Command*
f[1] . **TripCmd**	*Signal: Trip Command*
f[2] . **TripCmd**	*Signal: Trip Command*
f[3] . **TripCmd**	*Signal: Trip Command*
f[4] . **TripCmd**	*Signal: Trip Command*
f[5] . **TripCmd**	*Signal: Trip Command*
f[6] . **TripCmd**	*Signal: Trip Command*
PQS[1] . **TripCmd**	*Signal: Trip Command*
PQS[2] . **TripCmd**	*Signal: Trip Command*
PQS[3] . **TripCmd**	*Signal: Trip Command*
PQS[4] . **TripCmd**	*Signal: Trip Command*
PQS[5] . **TripCmd**	*Signal: Trip Command*
PQS[6] . **TripCmd**	*Signal: Trip Command*
PF[1] . **TripCmd**	*Signal: Trip Command*
PF[2] . **TripCmd**	*Signal: Trip Command*
V/f>[1] . **TripCmd**	*Signal: Trip Command*
V/f>[2] . **TripCmd**	*Signal: Trip Command*
ExP[1] . **TripCmd**	*Signal: Trip Command*
ExP[2] . **TripCmd**	*Signal: Trip Command*
ExP[3] . **TripCmd**	*Signal: Trip Command*
ExP[4] . **TripCmd**	*Signal: Trip Command*
Ext Sudd Press . **TripCmd**	*Signal: Trip Command*
Ext Oil Temp . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[1] . **TripCmd**	*Signal: Trip Command*
Ext Temp Superv[2] . **TripCmd**	*Signal: Trip Command*

1..n, Trip Cmds	Description
Ext Temp Superv[3] . **TripCmd**	*Signal: Trip Command*
Trip-Trans . **TripCmd**	*Signal: Trip Command*

1..n, In-SyncList

Selection list referenced by the following parameters:

- ╚═▷ SG[1] . Synchronism

1..n, In-SyncList	Description
“-”	*No assignment*
Sync . **Ready to Close**	*Signal: Ready to Close*
DI Slot X1 . **DI 1**	*Signal: Digital Input*
DI Slot X1 . **DI 2**	*Signal: Digital Input*
DI Slot X1 . **DI 3**	*Signal: Digital Input*
DI Slot X1 . **DI 4**	*Signal: Digital Input*
DI Slot X1 . **DI 5**	*Signal: Digital Input*
DI Slot X1 . **DI 6**	*Signal: Digital Input*
DI Slot X1 . **DI 7**	*Signal: Digital Input*
DI Slot X1 . **DI 8**	*Signal: Digital Input*
DI Slot X5 . **DI 1**	*Signal: Digital Input*
DI Slot X5 . **DI 2**	*Signal: Digital Input*
DI Slot X5 . **DI 3**	*Signal: Digital Input*
DI Slot X5 . **DI 4**	*Signal: Digital Input*
DI Slot X5 . **DI 5**	*Signal: Digital Input*
DI Slot X5 . **DI 6**	*Signal: Digital Input*
DI Slot X5 . **DI 7**	*Signal: Digital Input*
DI Slot X5 . **DI 8**	*Signal: Digital Input*
DI Slot X6 . **DI 1**	*Signal: Digital Input*
DI Slot X6 . **DI 2**	*Signal: Digital Input*
DI Slot X6 . **DI 3**	*Signal: Digital Input*
DI Slot X6 . **DI 4**	*Signal: Digital Input*

1..n, In-SyncList	Description
DI Slot X6 . **DI 5**	*Signal: Digital Input*
DI Slot X6 . **DI 6**	*Signal: Digital Input*
DI Slot X6 . **DI 7**	*Signal: Digital Input*
DI Slot X6 . **DI 8**	*Signal: Digital Input*
Logics . **LE1.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE1.Timer Out**	*Signal: Timer Output*
Logics . **LE1.Out**	*Signal: Latched Output (Q)*
Logics . **LE1.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE2.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE2.Timer Out**	*Signal: Timer Output*
Logics . **LE2.Out**	*Signal: Latched Output (Q)*
Logics . **LE2.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE3.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE3.Timer Out**	*Signal: Timer Output*
Logics . **LE3.Out**	*Signal: Latched Output (Q)*
Logics . **LE3.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE4.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE4.Timer Out**	*Signal: Timer Output*
Logics . **LE4.Out**	*Signal: Latched Output (Q)*
Logics . **LE4.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE5.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE5.Timer Out**	*Signal: Timer Output*
Logics . **LE5.Out**	*Signal: Latched Output (Q)*
Logics . **LE5.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE6.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE6.Timer Out**	*Signal: Timer Output*
Logics . **LE6.Out**	*Signal: Latched Output (Q)*
Logics . **LE6.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE7.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE7.Timer Out**	*Signal: Timer Output*
Logics . **LE7.Out**	*Signal: Latched Output (Q)*
Logics . **LE7.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE8.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE8.Timer Out**	*Signal: Timer Output*
Logics . **LE8.Out**	*Signal: Latched Output (Q)*
Logics . **LE8.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE9.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE9.Timer Out**	*Signal: Timer Output*
Logics . **LE9.Out**	*Signal: Latched Output (Q)*
Logics . **LE9.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE10.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE10.Timer Out**	*Signal: Timer Output*
Logics . **LE10.Out**	*Signal: Latched Output (Q)*
Logics . **LE10.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE11.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE11.Timer Out**	*Signal: Timer Output*
Logics . **LE11.Out**	*Signal: Latched Output (Q)*
Logics . **LE11.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE12.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE12.Timer Out**	*Signal: Timer Output*
Logics . **LE12.Out**	*Signal: Latched Output (Q)*
Logics . **LE12.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE13.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE13.Timer Out**	*Signal: Timer Output*
Logics . **LE13.Out**	*Signal: Latched Output (Q)*
Logics . **LE13.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE14.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE14.Timer Out**	*Signal: Timer Output*
Logics . **LE14.Out**	*Signal: Latched Output (Q)*
Logics . **LE14.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE15.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE15.Timer Out**	*Signal: Timer Output*
Logics . **LE15.Out**	*Signal: Latched Output (Q)*
Logics . **LE15.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE16.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE16.Timer Out**	*Signal: Timer Output*
Logics . **LE16.Out**	*Signal: Latched Output (Q)*
Logics . **LE16.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE17.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE17.Timer Out**	*Signal: Timer Output*
Logics . **LE17.Out**	*Signal: Latched Output (Q)*
Logics . **LE17.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE18.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE18.Timer Out**	*Signal: Timer Output*
Logics . **LE18.Out**	*Signal: Latched Output (Q)*
Logics . **LE18.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE19.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE19.Timer Out**	*Signal: Timer Output*
Logics . **LE19.Out**	*Signal: Latched Output (Q)*
Logics . **LE19.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE20.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE20.Timer Out**	*Signal: Timer Output*
Logics . **LE20.Out**	*Signal: Latched Output (Q)*
Logics . **LE20.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE21.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE21.Timer Out**	*Signal: Timer Output*
Logics . **LE21.Out**	*Signal: Latched Output (Q)*
Logics . **LE21.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE22.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE22.Timer Out**	*Signal: Timer Output*
Logics . **LE22.Out**	*Signal: Latched Output (Q)*
Logics . **LE22.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE23.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE23.Timer Out**	*Signal: Timer Output*
Logics . **LE23.Out**	*Signal: Latched Output (Q)*
Logics . **LE23.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE24.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE24.Timer Out**	*Signal: Timer Output*
Logics . **LE24.Out**	*Signal: Latched Output (Q)*
Logics . **LE24.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE25.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE25.Timer Out**	*Signal: Timer Output*
Logics . **LE25.Out**	*Signal: Latched Output (Q)*
Logics . **LE25.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE26.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE26.Timer Out**	*Signal: Timer Output*
Logics . **LE26.Out**	*Signal: Latched Output (Q)*
Logics . **LE26.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE27.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE27.Timer Out**	*Signal: Timer Output*
Logics . **LE27.Out**	*Signal: Latched Output (Q)*
Logics . **LE27.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE28.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE28.Timer Out**	*Signal: Timer Output*
Logics . **LE28.Out**	*Signal: Latched Output (Q)*
Logics . **LE28.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE29.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE29.Timer Out**	*Signal: Timer Output*
Logics . **LE29.Out**	*Signal: Latched Output (Q)*
Logics . **LE29.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE30.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE30.Timer Out**	*Signal: Timer Output*
Logics . **LE30.Out**	*Signal: Latched Output (Q)*
Logics . **LE30.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE31.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE31.Timer Out**	*Signal: Timer Output*
Logics . **LE31.Out**	*Signal: Latched Output (Q)*
Logics . **LE31.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE32.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE32.Timer Out**	*Signal: Timer Output*
Logics . **LE32.Out**	*Signal: Latched Output (Q)*
Logics . **LE32.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE33.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE33.Timer Out**	*Signal: Timer Output*
Logics . **LE33.Out**	*Signal: Latched Output (Q)*
Logics . **LE33.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE34.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE34.Timer Out**	*Signal: Timer Output*
Logics . **LE34.Out**	*Signal: Latched Output (Q)*
Logics . **LE34.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE35.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE35.Timer Out**	*Signal: Timer Output*
Logics . **LE35.Out**	*Signal: Latched Output (Q)*
Logics . **LE35.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE36.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE36.Timer Out**	*Signal: Timer Output*
Logics . **LE36.Out**	*Signal: Latched Output (Q)*
Logics . **LE36.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE37.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE37.Timer Out**	*Signal: Timer Output*
Logics . **LE37.Out**	*Signal: Latched Output (Q)*
Logics . **LE37.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE38.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE38.Timer Out**	*Signal: Timer Output*
Logics . **LE38.Out**	*Signal: Latched Output (Q)*
Logics . **LE38.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE39.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE39.Timer Out**	*Signal: Timer Output*
Logics . **LE39.Out**	*Signal: Latched Output (Q)*
Logics . **LE39.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE40.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE40.Timer Out**	*Signal: Timer Output*
Logics . **LE40.Out**	*Signal: Latched Output (Q)*
Logics . **LE40.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE41.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE41.Timer Out**	*Signal: Timer Output*
Logics . **LE41.Out**	*Signal: Latched Output (Q)*
Logics . **LE41.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE42.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE42.Timer Out**	*Signal: Timer Output*
Logics . **LE42.Out**	*Signal: Latched Output (Q)*
Logics . **LE42.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE43.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE43.Timer Out**	*Signal: Timer Output*
Logics . **LE43.Out**	*Signal: Latched Output (Q)*
Logics . **LE43.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE44.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE44.Timer Out**	*Signal: Timer Output*
Logics . **LE44.Out**	*Signal: Latched Output (Q)*
Logics . **LE44.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE45.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE45.Timer Out**	*Signal: Timer Output*
Logics . **LE45.Out**	*Signal: Latched Output (Q)*
Logics . **LE45.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE46.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE46.Timer Out**	*Signal: Timer Output*
Logics . **LE46.Out**	*Signal: Latched Output (Q)*
Logics . **LE46.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE47.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE47.Timer Out**	*Signal: Timer Output*
Logics . **LE47.Out**	*Signal: Latched Output (Q)*
Logics . **LE47.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE48.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE48.Timer Out**	*Signal: Timer Output*
Logics . **LE48.Out**	*Signal: Latched Output (Q)*
Logics . **LE48.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE49.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE49.Timer Out**	*Signal: Timer Output*
Logics . **LE49.Out**	*Signal: Latched Output (Q)*
Logics . **LE49.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE50.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE50.Timer Out**	*Signal: Timer Output*
Logics . **LE50.Out**	*Signal: Latched Output (Q)*
Logics . **LE50.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE51.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE51.Timer Out**	*Signal: Timer Output*
Logics . **LE51.Out**	*Signal: Latched Output (Q)*
Logics . **LE51.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE52.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE52.Timer Out**	*Signal: Timer Output*
Logics . **LE52.Out**	*Signal: Latched Output (Q)*
Logics . **LE52.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE53.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE53.Timer Out**	*Signal: Timer Output*
Logics . **LE53.Out**	*Signal: Latched Output (Q)*
Logics . **LE53.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE54.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE54.Timer Out**	*Signal: Timer Output*
Logics . **LE54.Out**	*Signal: Latched Output (Q)*
Logics . **LE54.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE55.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE55.Timer Out**	*Signal: Timer Output*
Logics . **LE55.Out**	*Signal: Latched Output (Q)*
Logics . **LE55.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE56.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE56.Timer Out**	*Signal: Timer Output*
Logics . **LE56.Out**	*Signal: Latched Output (Q)*
Logics . **LE56.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE57.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE57.Timer Out**	*Signal: Timer Output*
Logics . **LE57.Out**	*Signal: Latched Output (Q)*
Logics . **LE57.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE58.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE58.Timer Out**	*Signal: Timer Output*
Logics . **LE58.Out**	*Signal: Latched Output (Q)*
Logics . **LE58.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE59.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE59.Timer Out**	*Signal: Timer Output*
Logics . **LE59.Out**	*Signal: Latched Output (Q)*
Logics . **LE59.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE60.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE60.Timer Out**	*Signal: Timer Output*
Logics . **LE60.Out**	*Signal: Latched Output (Q)*
Logics . **LE60.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE61.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE61.Timer Out**	*Signal: Timer Output*
Logics . **LE61.Out**	*Signal: Latched Output (Q)*
Logics . **LE61.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE62.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE62.Timer Out**	*Signal: Timer Output*
Logics . **LE62.Out**	*Signal: Latched Output (Q)*
Logics . **LE62.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE63.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE63.Timer Out**	*Signal: Timer Output*
Logics . **LE63.Out**	*Signal: Latched Output (Q)*
Logics . **LE63.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE64.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE64.Timer Out**	*Signal: Timer Output*
Logics . **LE64.Out**	*Signal: Latched Output (Q)*
Logics . **LE64.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE65.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE65.Timer Out**	*Signal: Timer Output*
Logics . **LE65.Out**	*Signal: Latched Output (Q)*
Logics . **LE65.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE66.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE66.Timer Out**	*Signal: Timer Output*
Logics . **LE66.Out**	*Signal: Latched Output (Q)*
Logics . **LE66.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE67.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE67.Timer Out**	*Signal: Timer Output*
Logics . **LE67.Out**	*Signal: Latched Output (Q)*
Logics . **LE67.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE68.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE68.Timer Out**	*Signal: Timer Output*
Logics . **LE68.Out**	*Signal: Latched Output (Q)*
Logics . **LE68.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE69.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE69.Timer Out**	*Signal: Timer Output*
Logics . **LE69.Out**	*Signal: Latched Output (Q)*
Logics . **LE69.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE70.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE70.Timer Out**	*Signal: Timer Output*
Logics . **LE70.Out**	*Signal: Latched Output (Q)*
Logics . **LE70.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE71.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE71.Timer Out**	*Signal: Timer Output*
Logics . **LE71.Out**	*Signal: Latched Output (Q)*
Logics . **LE71.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE72.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE72.Timer Out**	*Signal: Timer Output*
Logics . **LE72.Out**	*Signal: Latched Output (Q)*
Logics . **LE72.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE73.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE73.Timer Out**	*Signal: Timer Output*
Logics . **LE73.Out**	*Signal: Latched Output (Q)*
Logics . **LE73.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE74.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE74.Timer Out**	*Signal: Timer Output*
Logics . **LE74.Out**	*Signal: Latched Output (Q)*
Logics . **LE74.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE75.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE75.Timer Out**	*Signal: Timer Output*
Logics . **LE75.Out**	*Signal: Latched Output (Q)*
Logics . **LE75.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE76.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE76.Timer Out**	*Signal: Timer Output*
Logics . **LE76.Out**	*Signal: Latched Output (Q)*
Logics . **LE76.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

1..n, In-SyncList	Description
Logics . **LE77.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE77.Timer Out**	*Signal: Timer Output*
Logics . **LE77.Out**	*Signal: Latched Output (Q)*
Logics . **LE77.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE78.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE78.Timer Out**	*Signal: Timer Output*
Logics . **LE78.Out**	*Signal: Latched Output (Q)*
Logics . **LE78.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE79.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE79.Timer Out**	*Signal: Timer Output*
Logics . **LE79.Out**	*Signal: Latched Output (Q)*
Logics . **LE79.Out inverted**	*Signal: Negated Latched Output (Q NOT)*
Logics . **LE80.Gate Out**	*Signal: Output of the logic gate*
Logics . **LE80.Timer Out**	*Signal: Timer Output*
Logics . **LE80.Out**	*Signal: Latched Output (Q)*
Logics . **LE80.Out inverted**	*Signal: Negated Latched Output (Q NOT)*

LE1.Gate

Logic gate

Selection list referenced by the following parameters:

- ↳▷ Logics . LE1.Gate

LE1.Gate	Description
AND	*AND Gate*
OR	*OR Gate*
NAND	*NAND Gate*
NOR	*NOR Gate*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X2 . Disarm Mode
- ╚═▷ BO Slot X2 . Force Mode

Mode	Description
permanent	*permanent*
timeout	*timeout*

active/inactive

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X2 . DISARMED

active/inactive	Description
inactive	*inactive*
active	*active*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X4 . Disarm Mode
- ╚═▷ BO Slot X4 . Force Mode

Mode	Description
permanent	*permanent*
timeout	*timeout*

active/inactive

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X4 . DISARMED

active/inactive	Description
inactive	*inactive*
active	*active*

Mode

general operation mode

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X5 . Disarm Mode
- ╚═▷ BO Slot X5 . Force Mode

Mode	Description
permanent	*permanent*
timeout	*timeout*

active/inactive

Selection list referenced by the following parameters:

- ╚═▷ BO Slot X5 . DISARMED

active/inactive	Description
inactive	*inactive*
active	*active*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ BO Slot X5 . Disarm Mode
- ⮡ BO Slot X5 . Force Mode

Mode	Description
permanent	*permanent*
timeout	*timeout*

active/inactive

Selection list referenced by the following parameters:

- ⮡ BO Slot X5 . DISARMED

active/inactive	Description
inactive	*inactive*
active	*active*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ BO Slot X6 . Disarm Mode
- ⮡ BO Slot X6 . Force Mode

Mode	Description
permanent	*permanent*
timeout	*timeout*

active/inactive

Selection list referenced by the following parameters:

- ⮡ BO Slot X6 . DISARMED

active/inactive	Description
inactive	*inactive*
active	*active*

Relay operating modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X2 . Force all Outs
- ⮡ BO Slot X2 . Force OR1

Relay operating modes	Description
Normal	*Normal*
De-Energized	*De-Energized*
Energized	*Energized*

Relay operating modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X4 . Force all Outs
- ⮡ BO Slot X4 . Force OR1

Relay operating modes	Description
Normal	*Normal*
De-Energized	*De-Energized*
Energized	*Energized*

Relay operating modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X5 . Force all Outs
- ⮡ BO Slot X5 . Force OR1

Relay operating modes	Description
Normal	*Normal*
De-Energized	*De-Energized*
Energized	*Energized*

Relay operating modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X5 . Force all Outs
- ⮡ BO Slot X5 . Force OR1

Relay operating modes	Description
Normal	*Normal*
De-Energized	*De-Energized*
Energized	*Energized*

Relay operating modes

Selection list referenced by the following parameters:

- ⮡ BO Slot X6 . Force all Outs
- ⮡ BO Slot X6 . Force OR1

Relay operating modes	Description
Normal	*Normal*
De-Energized	*De-Energized*
Energized	*Energized*

Mode

general operation mode

Selection list referenced by the following parameters:

- ⮡ ProtCom . Force Mode

Mode	Description
permanent	*The forced state persists until it is manually set to normal.*
timeout	*The forced status is limited to the set time.*

ProtCom operating modes

Selection list referenced by the following parameters:

- ⮡ ProtCom . Force

ProtCom operating modes	Description
normal	*normal*
blocked	*blocked*
Ignore Rx-Currents	*In this mode the received Currents will be overwritten with 0.*

State

Selection list referenced by the following parameters:

- ⮡ Sgen . State

State	Description
Off	*Off*
PreFault	*Pre Fault Duration*
FaultSimulation	*Duration of Fault Simulation*
PostFault	*Post Fault Duration*
Init Res	*Init Reset*

TripCmd Mode

Trip Command Mode: Select between two operating modes for the Fault Simulator: "cold simulation” (without tripping the circuit breaker), or "hot simulation” (i.e. the simulation is authorized to trip the circuit breaker)

Selection list referenced by the following parameters:

- ⮡ Sgen . TripCmd Mode

TripCmd Mode	Description
No TripCmd	*No Trip Command: The TripCmd of all protection functions is blocked. The protection function will possibly trip but not generate a TripCmd.*
With TripCmd	*With Trip Command: The trip of a protection function generates a TripCmd, that can open the circuit breaker.*

Index

I

L

M

N

O

P

Q

R

S

T

U

V

W

Y

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