



**MCDTV4 – Profibus DP  
HighPROTEC**

Data point list

**Manual DOK-TD-MCDTV4PDE**

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This manual applies to devices (version):

Version 2.3.b

Build: 21064

## Profibus

The Slave is a so-called “Modular Slave”. Within the GSD-File the optional available Configuration Modules are described only. The precise configuration for a device can be inquired by means of the Profibus-Command “GetConfig”. The configuration consists of so-called “Modules”. The description of the modules can be taken from the Profibus specification. Please contact the Technical Support in case of questions regarding the configuration. The meaning of the Input and Output fields can be taken from the following tables. The input fields are sent from the Slave to the Master. The output fields are sent from the Master to the Slave. The Output field contain the Commands and the Input field contain the States of the device.

### Configuration

The configuration telegram follows right after the parameter telegram and declares the number of input and output bytes. The Master sends to all Slaves how many bytes for each input and output message cycle are required. The following table defines the required size of a single input and output frame.

<b><i>Direction</i></b>	<b><i>Length</i></b>	<b><i>Configuration</i></b>
Input	116	0x1F 0x1F 0x1F 0x1F 0x1F 0x1F 0x1F 0x13
Output	8	0x27

## Data Point Lists

### Signals

These Data can be taken from the Input Field of the Profibus. The Input Field is sent from the Slave to the Master and it contains device states.

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
SG[1]	Pos	0/0		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
SG[2]	Pos	0/2		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
SG[3]	Pos	0/4		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
SG[4]	Pos	0/6		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
SG[5]	Pos	1/0		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
SG[6]	Pos	1/2		Signal: Circuit Breaker Position (0 = Indeterminate, 1 = OFF, 2 = ON, 3 = Disturbed)
Sys	PS 1	2/0		Signal: Parameter Set 1
Sys	PS 2	2/1		Signal: Parameter Set 2
Sys	PS 3	2/2		Signal: Parameter Set 3
Sys	PS 4	2/3		Signal: Parameter Set 4
Profibus	Data OK	2/4		Data within the Input field are OK (Yes=1)
Prot	active	2/5		Signal: active
Prot	Alarm L1	2/6		Signal: General-Alarm L1
Prot	Alarm L2	2/7		Signal: General-Alarm L2
Prot	Alarm L3	3/0		Signal: General-Alarm L3

## Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
Prot	Alarm G	3/1		Signal: General-Alarm - Earth fault
Prot	Alarm	3/2		Signal: General Alarm
Prot	Trip L1	3/3	*	Signal: General Trip L1
Prot	Trip L2	3/4	*	Signal: General Trip L2
Prot	Trip L3	3/5	*	Signal: General Trip L3
Prot	Trip G	3/6	*	Signal: General Trip Ground fault
Prot	Trip	3/7	*	Signal: General Trip
Prot	I dir fwd	4/0		Signal: Phase current failure forward direction
Prot	I dir rev	4/1		Signal: Phase current failure reverse direction
Prot	I dir n poss	4/2		Signal: Phase fault - missing reference voltage
Prot	IG meas dir fwd	4/3		Signal: Ground fault (measured) forward
Prot	IG meas rev dir	4/4		Signal: Ground fault (measured) reverse direction
Prot	IG meas dir n poss	4/5		Signal: Ground fault (measured) direction detection not possible
Profibus	Assignment 1-I	5/0		Module input state: Scada Assignment
Profibus	Assignment 2-I	5/1		Module input state: Scada Assignment
Profibus	Assignment 3-I	5/2		Module input state: Scada Assignment
Profibus	Assignment 4-I	5/3		Module input state: Scada Assignment
Profibus	Assignment 5-I	5/4		Module input state: Scada Assignment
Profibus	Assignment 6-I	5/5		Module input state: Scada Assignment
Profibus	Assignment 7-I	5/6		Module input state: Scada Assignment
Profibus	Assignment 8-I	5/7		Module input state: Scada Assignment
Profibus	Assignment 9-I	6/0		Module input state: Scada Assignment
Profibus	Assignment 10-I	6/1		Module input state: Scada Assignment
Profibus	Assignment 11-I	6/2		Module input state: Scada Assignment

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
Profibus	Assignment 12-l	6/3		Module input state: Scada Assignment
Profibus	Assignment 13-l	6/4		Module input state: Scada Assignment
Profibus	Assignment 14-l	6/5		Module input state: Scada Assignment
Profibus	Assignment 15-l	6/6		Module input state: Scada Assignment
Profibus	Assignment 16-l	6/7		Module input state: Scada Assignment
Profibus	Assignment 17-l	7/0		Module input state: Scada Assignment
Profibus	Assignment 18-l	7/1		Module input state: Scada Assignment
Profibus	Assignment 19-l	7/2		Module input state: Scada Assignment
Profibus	Assignment 20-l	7/3		Module input state: Scada Assignment
Profibus	Assignment 21-l	7/4		Module input state: Scada Assignment
Profibus	Assignment 22-l	7/5		Module input state: Scada Assignment
Profibus	Assignment 23-l	7/6		Module input state: Scada Assignment
Profibus	Assignment 24-l	7/7		Module input state: Scada Assignment
Profibus	Assignment 25-l	8/0		Module input state: Scada Assignment
Profibus	Assignment 26-l	8/1		Module input state: Scada Assignment
Profibus	Assignment 27-l	8/2		Module input state: Scada Assignment
Profibus	Assignment 28-l	8/3		Module input state: Scada Assignment
Profibus	Assignment 29-l	8/4		Module input state: Scada Assignment
Profibus	Assignment 30-l	8/5		Module input state: Scada Assignment
Profibus	Assignment 31-l	8/6		Module input state: Scada Assignment
Profibus	Assignment 32-l	8/7		Module input state: Scada Assignment
SG[1]	TripCmd	9/0	*	Signal: Trip Command
SG[2]	TripCmd	9/1	*	Signal: Trip Command
SG[3]	TripCmd	9/2	*	Signal: Trip Command

Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
SG[4]	TripCmd	9/3	*	Signal: Trip Command
SG[5]	TripCmd	9/4	*	Signal: Trip Command
SG[6]	TripCmd	9/5	*	Signal: Trip Command
I[1]	Alarm	10/0		Signal: Alarm
I[1]	TripCmd	10/1	*	Signal: Trip Command
I[2]	Alarm	10/2		Signal: Alarm
I[2]	TripCmd	10/3	*	Signal: Trip Command
I[3]	Alarm	10/4		Signal: Alarm
I[3]	TripCmd	10/5	*	Signal: Trip Command
I[4]	Alarm	10/6		Signal: Alarm
I[4]	TripCmd	10/7	*	Signal: Trip Command
IG[1]	Alarm	11/0		Signal: Alarm IG
IG[1]	TripCmd	11/1	*	Signal: Trip Command
IG[2]	Alarm	11/2		Signal: Alarm IG
IG[2]	TripCmd	11/3	*	Signal: Trip Command
ThR	Alarm	11/4		Signal: Alarm Thermal Overload
ThR	TripCmd	11/5	*	Signal: Trip Command
I2>[1]	Alarm	11/6		Signal: Alarm Negative Sequence
I2>[1]	TripCmd	11/7	*	Signal: Trip Command
I2>[2]	Alarm	12/0		Signal: Alarm Negative Sequence
I2>[2]	TripCmd	12/1	*	Signal: Trip Command
IH2[1]	Blo L1	12/2		Signal: Blocked L1
IH2[1]	Blo L2	12/3		Signal: Blocked L2
IH2[1]	Blo L3	12/4		Signal: Blocked L3

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
IH2[1]	Blo IG meas	12/5		Signal: Blocking of the ground (earth) protection module (measured ground current)
IH2[1]	3-ph Blo	12/6		Signal: Inrush was detected in at least one phase - trip command blocked.
V[1]	Alarm	12/7		Signal: Alarm voltage stage
V[1]	TripCmd	13/0	*	Signal: Trip Command
V[2]	Alarm	13/1		Signal: Alarm voltage stage
V[2]	TripCmd	13/2	*	Signal: Trip Command
V[3]	Alarm	13/3		Signal: Alarm voltage stage
V[3]	TripCmd	13/4	*	Signal: Trip Command
V[4]	Alarm	13/5		Signal: Alarm voltage stage
V[4]	TripCmd	13/6	*	Signal: Trip Command
VG[1]	Alarm	13/7		Signal: Alarm Residual Voltage Supervision-stage
VG[1]	TripCmd	14/0	*	Signal: Trip Command
VG[2]	Alarm	14/1		Signal: Alarm Residual Voltage Supervision-stage
VG[2]	TripCmd	14/2	*	Signal: Trip Command
f[1]	TripCmd	14/3	*	Signal: Trip Command
f[1]	Alarm	14/4		Signal: Alarm Frequency Protection (collective signal)
f[2]	TripCmd	14/5	*	Signal: Trip Command
f[2]	Alarm	14/6		Signal: Alarm Frequency Protection (collective signal)
f[3]	TripCmd	14/7	*	Signal: Trip Command
f[3]	Alarm	15/0		Signal: Alarm Frequency Protection (collective signal)
ExP[1]	Alarm	15/1		Signal: Alarm
ExP[1]	TripCmd	15/2	*	Signal: Trip Command
ExP[2]	Alarm	15/3		Signal: Alarm



Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
ExP[2]	TripCmd	15/4	*	Signal: Trip Command
ExP[3]	Alarm	15/5		Signal: Alarm
ExP[3]	TripCmd	15/6	*	Signal: Trip Command
ExP[4]	Alarm	15/7		Signal: Alarm
ExP[4]	TripCmd	16/0	*	Signal: Trip Command
CBF[1]	Alarm	16/1		Signal: Circuit Breaker Failure
CBF[2]	Alarm	16/2		Signal: Circuit Breaker Failure
TCS[1]	Alarm	16/3		Signal: Alarm Trip Circuit Supervision
TCS[2]	Alarm	16/4		Signal: Alarm Trip Circuit Supervision
CTS[1]	Alarm	16/5		Signal: Alarm Current Transformer Measuring Circuit Supervision
CTS[2]	Alarm	16/6		Signal: Alarm Current Transformer Measuring Circuit Supervision
V012[1]	Alarm	16/7		Signal: Alarm voltage asymmetry
V012[1]	TripCmd	17/0	*	Signal: Trip Command
V012[2]	Alarm	17/1		Signal: Alarm voltage asymmetry
V012[2]	TripCmd	17/2	*	Signal: Trip Command
V012[3]	Alarm	17/3		Signal: Alarm voltage asymmetry
V012[3]	TripCmd	17/4	*	Signal: Trip Command
V012[4]	Alarm	17/5		Signal: Alarm voltage asymmetry
V012[4]	TripCmd	17/6	*	Signal: Trip Command
SG[1]	Isum Intr trip	17/7	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
SG[2]	Isum Intr trip	18/0	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
SG[3]	Isum Intr trip	18/1	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.

Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
SG[4]	Isum Intr trip	18/2	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
SG[5]	Isum Intr trip	18/3	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
SG[6]	Isum Intr trip	18/4	*	Signal: Maximum permissible Summation of the interrupting (tripping) currents exceeded in at least one phase.
Ex Oil Temp	Alarm	18/5		Signal: Alarm
Ex Oil Temp	TripCmd	18/6	*	Signal: Trip Command
Ext Sudd Press	Alarm	18/7		Signal: Alarm
Ext Sudd Press	TripCmd	19/0	*	Signal: Trip Command
Ext Temp Superv[1]	Alarm	19/1		Signal: Alarm
Ext Temp Superv[1]	TripCmd	19/2	*	Signal: Trip Command
Ext Temp Superv[2]	Alarm	19/3		Signal: Alarm
Ext Temp Superv[2]	TripCmd	19/4	*	Signal: Trip Command
Ext Temp Superv[3]	Alarm	19/5		Signal: Alarm
Ext Temp Superv[3]	TripCmd	19/6	*	Signal: Trip Command
Id	TripCmd	19/7	*	Signal: Trip Command
IdG[1]	Alarm	20/0		Signal: Alarm
IdG[1]	TripCmd	20/1	*	Signal: Trip Command
IdG[2]	Alarm	20/2		Signal: Alarm
IdG[2]	TripCmd	20/3	*	Signal: Trip Command
IdGH[1]	Alarm	20/4		Signal: Alarm
IdGH[1]	TripCmd	20/5	*	Signal: Trip Command
IdGH[2]	Alarm	20/6		Signal: Alarm
IdGH[2]	TripCmd	20/7	*	Signal: Trip Command

Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
IdH	Alarm	21/0		Signal: Alarm
IdH	TripCmd	21/1	*	Signal: Trip Command
IH2[2]	Blo L1	21/2		Signal: Blocked L1
IH2[2]	Blo L2	21/3		Signal: Blocked L2
IH2[2]	Blo L3	21/4		Signal: Blocked L3
IH2[2]	Blo IG meas	21/5		Signal: Blocking of the ground (earth) protection module (measured ground current)
IH2[2]	3-ph Blo	21/6		Signal: Inrush was detected in at least one phase - trip command blocked.
DI Slot X 1	DI 1	21/7		Signal: Digital Input
DI Slot X 1	DI 2	22/0		Signal: Digital Input
DI Slot X 1	DI 3	22/1		Signal: Digital Input
DI Slot X 1	DI 4	22/2		Signal: Digital Input
DI Slot X 1	DI 5	22/3		Signal: Digital Input
DI Slot X 1	DI 6	22/4		Signal: Digital Input
DI Slot X 1	DI 7	22/5		Signal: Digital Input
DI Slot X 1	DI 8	22/6		Signal: Digital Input
DI Slot X 5	DI 1	22/7		Signal: Digital Input
DI Slot X 5	DI 2	23/0		Signal: Digital Input
DI Slot X 5	DI 3	23/1		Signal: Digital Input
DI Slot X 5	DI 4	23/2		Signal: Digital Input
DI Slot X 5	DI 5	23/3		Signal: Digital Input
DI Slot X 5	DI 6	23/4		Signal: Digital Input
DI Slot X 5	DI 7	23/5		Signal: Digital Input
DI Slot X 5	DI 8	23/6		Signal: Digital Input

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
BO Slot X2	BO 1	23/7		Signal: Binary Output Relay
BO Slot X2	BO 2	24/0		Signal: Binary Output Relay
BO Slot X2	BO 3	24/1		Signal: Binary Output Relay
BO Slot X2	BO 4	24/2		Signal: Binary Output Relay
BO Slot X2	BO 5	24/3		Signal: Binary Output Relay
BO Slot X2	BO 6	24/4		Signal: Binary Output Relay
RTD	active	24/5		Signal: active
RTD	TripCmd	24/6	*	Signal: Trip Command
RTD	Alarm	24/7		Alarm RTD Temperature Protection
PQS[1]	Alarm	25/0		Signal: Alarm Power Protection
PQS[1]	TripCmd	25/1	*	Signal: Trip Command
PQS[2]	Alarm	25/2		Signal: Alarm Power Protection
PQS[2]	TripCmd	25/3	*	Signal: Trip Command
PQS[3]	Alarm	25/4		Signal: Alarm Power Protection
PQS[3]	TripCmd	25/5	*	Signal: Trip Command
PQS[4]	Alarm	25/6		Signal: Alarm Power Protection
PQS[4]	TripCmd	25/7	*	Signal: Trip Command
PQS[5]	Alarm	26/0		Signal: Alarm Power Protection
PQS[5]	TripCmd	26/1	*	Signal: Trip Command
PQS[6]	Alarm	26/2		Signal: Alarm Power Protection
PQS[6]	TripCmd	26/3	*	Signal: Trip Command
PF[1]	Alarm	26/4		Signal: Alarm Power Factor
PF[1]	TripCmd	26/5	*	Signal: Trip Command
PF[2]	Alarm	26/6		Signal: Alarm Power Factor

Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition /BitPosition)</b>	<b>Self Latching</b>	<b>Description</b>
PF[2]	TripCmd	26/7	*	Signal: Trip Command
CLPU	detected	27/0		Signal: Cold Load detected
LOP	Alarm	27/1		Signal: Alarm Loss of Potential
Q->&V<	Alarm	27/2		Signal: Alarm Reactive Power Undervoltage Protection
SOTF	active	27/3		Signal: active
SOTF	I<	27/4		Signal: No Load Current.
SOTF	enabled	27/5		Signal: Switch Onto Fault enabled. This Signal can be used to modify Overcurrent Protection Settings.

## Measuring values

These Data can be taken from the Input Field of the Profibus. The Input Field is sent from the Slave to the Master and contains device states.

<b>Modul</b>	<b>Names Functions</b>	<b>Offset (BytePosition)</b>	<b>Format</b>	<b>Description</b>
CT W1	IL1	28/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W1	IL2	32/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W1	IL3	36/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W1	IG meas	40/0	Float IEEE754	Measured value (measured): IG (fundamental)
CT W2	IL1	44/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W2	IL2	48/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W2	IL3	52/0	Float IEEE754	Measured value: Phase current (fundamental)
CT W2	IG meas	56/0	Float IEEE754	Measured value (measured): IG (fundamental)
VT	VL12	60/0	Float IEEE754	Measured value: Phase-to-phase voltage (fundamental)
VT	VL23	64/0	Float IEEE754	Measured value: Phase-to-phase voltage (fundamental)
VT	VL31	68/0	Float IEEE754	Measured value: Phase-to-phase voltage (fundamental)

## Data Point Lists

<b>Modul</b>	<b>Names Functions</b>	<b>Offset (BytePosition)</b>	<b>Format</b>	<b>Description</b>
VT	VX meas	72/0	Float IEEE754	Measured value (measured): VX measured (fundamental)
PQSCr	P	76/0	Float IEEE754	Measured value (calculated): Active power (P- = Fed Active Power, P+ = Consumpted Active Power) (fundamental)
PQSCr	Q	80/0	Float IEEE754	Measured value (calculated): Reactive power (Q- = Fed Reactive Power, Q+ = Consumpted Reactive Power) (fundamental)
VT	f	84/0	Float IEEE754	Measured value: Frequency
PQSCr	cos phi	88/0	Float IEEE754	Measured value (calculated): Power factor
PQSCr	Wp+	92/0	Float IEEE754	Positive Active Power is consumed active energy
PQSCr	Wp-	96/0	Float IEEE754	Negative Active Power (Fed Energy)
PQSCr	Wq+	100/0	Float IEEE754	Positive Reactive Power is consumed Reactive Energy
PQSCr	Wq-	104/0	Float IEEE754	Negative Reactive Power (Fed Energy)
CT W1	%(I2/I1)	108/0	Float IEEE754	Measured value (calculated): I2/I1, phase sequence will be taken into account automatically.
Values	Operating hours Cr	112/0	Float IEEE754	Operating hours counter of the protective device

## Commands

The commands are set within the Output Field. These data fields are sent from the master to the slave. The slave will respond on data modifications only. For example if a 2 Bit state changes from Off (01) to On (2).

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition/BitPosition) in Output field</b>	<b>Description</b>
SG[1]	Control/Position of circuit breaker	0/0	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
SG[2]	Control/Position of circuit breaker	0/2	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
SG[3]	Control/Position of circuit breaker	0/4	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
SG[4]	Control/Position of circuit breaker	0/6	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
SG[5]	Control/Position of circuit breaker	1/0	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
SG[6]	Control/Position of circuit breaker	1/2	Control respectively Position of circuit breaker (1 = OFF, 2 = On).
Sys	Ack LED	2/0	All acknowledgeable LEDs will be acknowledged.
Sys	Ack BO	2/2	All acknowledgeable binary output relays will be acknowledged.
Sys	Ack Scada	2/4	SCADA will be acknowledged.
PSS via Scada	PSS via Scada	3/0	Signal: Parameter Set Switch via Scada
Commands	Scada Cmd 1	4/0	Scada Command
Commands	Scada Cmd 2	4/2	Scada Command
Commands	Scada Cmd 3	4/4	Scada Command
Commands	Scada Cmd 4	4/6	Scada Command
Commands	Scada Cmd 5	5/0	Scada Command
Commands	Scada Cmd 6	5/2	Scada Command



Data Point Lists

<b>Modul</b>	<b>Names Function</b>	<b>Offset (BytePosition/BitPosition) in Output field</b>	<b>Description</b>
Commands	Scada Cmd 7	5/4	Scada Command
Commands	Scada Cmd 8	5/6	Scada Command
Commands	Scada Cmd 9	6/0	Scada Command
Commands	Scada Cmd 10	6/2	Scada Command
Commands	Scada Cmd 11	6/4	Scada Command
Commands	Scada Cmd 12	6/6	Scada Command
Commands	Scada Cmd 13	7/0	Scada Command
Commands	Scada Cmd 14	7/2	Scada Command
Commands	Scada Cmd 15	7/4	Scada Command
Commands	Scada Cmd 16	7/6	Scada Command



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