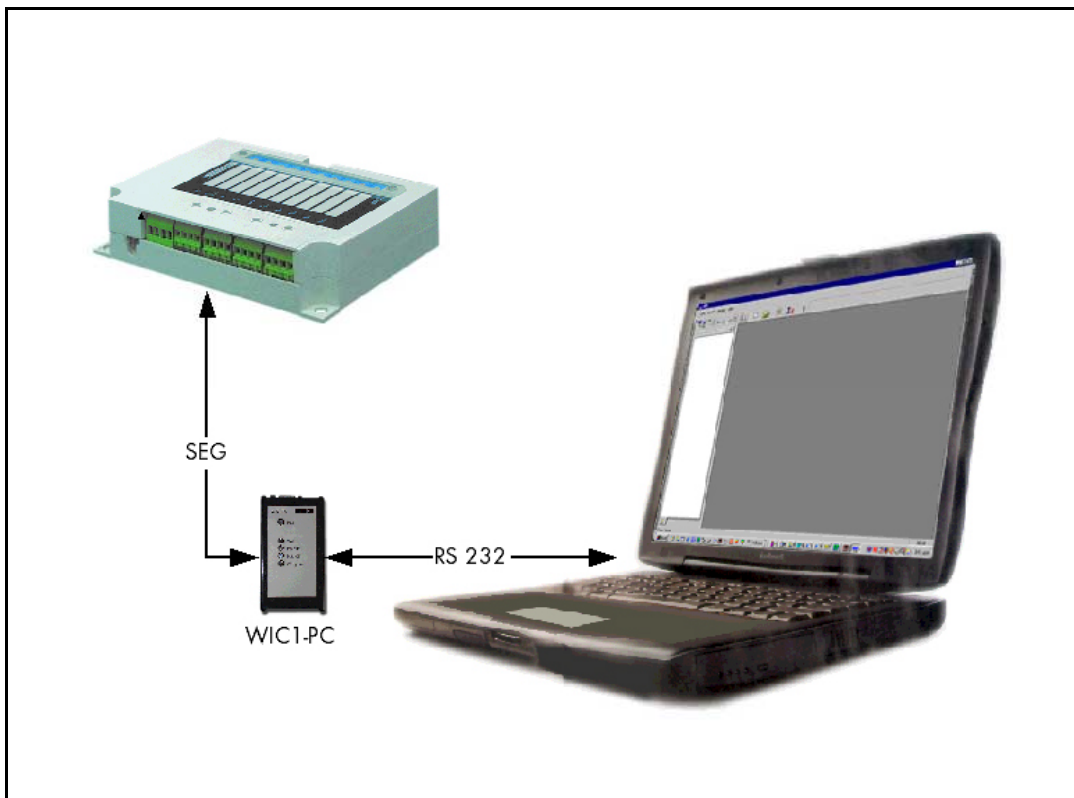


WIC1-Soft – Parameter and Diagnosis Software



Contents

1 Introduction.....	3
2 Field applications of the WIC1-Soft	4
3 Installation/De-installation	5
3.1 Requirements on Hard- and Software.....	5
3.2 Installation of the WIC1-Soft	5
3.3 De-Installation.....	6
3.3.1 Option – De-Installation via UNWISE.EXE	6
3.3.2 Option – De-Installation via System control	6
4 Required Configuration	7
4.1 Configuration of the Woodward Communication Dispatcher	7
4.2 Configuration of the Woodward Serial Server	8
5 Starting the Program/Communication Set-Up	9
5.1 Starting the Program – Communication via PC Adapter.....	9
5.2 Starting the Program – Palmtop Communication.....	9
6 Closing the Program.....	10
6.1 Closing the Program – Communication via PC-Adapter.....	10
6.2 Closing the Program – Palmtop Communication.....	10
7 Menu Structure.....	11
7.1 The Button Line	12
7.2 The Menu Line	13
7.2.1 Menu File	13
7.2.2 Menu "View".....	15
7.2.3 Menu „Window“.....	15
7.2.4 Menu "Help"	16
8 Setting of Parameters.....	17
8.1 Editing of a Parameter Set.....	17
8.2 Parameter Setting of a WIC1 (Online Mode).....	21
8.2.1 Opening/Loading of the Parameter Set from the WIC1	21
8.2.2 Saving of the Parameter Set on the Hard Disk	22
8.2.3 Saving of the Parameter on the WIC1	22
8.2.4 Loading of a Parameter Set and Saving on the WIC1 Relay.....	22
8.3 Setting of Parameters with a Parameter Set (Offline Mode).....	23
8.3.1 Preparing a Parameter Set for Offline Editing	23
8.3.2 Opening of a Parameter Set from the Hard Disk for Offline Editing	23
8.3.3 Saving of the Active Parameter Set on the Hard Disk.....	23
8.4 Palmtop Aided Working (Palm Mode)	24
8.4.1 Loading of a Parameter Set for Editing.....	24
8.4.2 Saving of a Parameter Set on the Palmtop.....	24
8.4.3 Copying of Parameter Sets from the Palmtop to the PC	24
8.4.4 Copying of Parameter Sets from the PC to the Palmtop	25
8.4.5 Renaming of Parameter Sets on the Palmtop.....	25
8.4.6 Erasing of Parameter Sets from the Palmtop	25
9 Fault Value Store.....	26

1 Introduction

The *WI LINE* groups sophisticated digital protection relays for MV applications. The *WI LINE* relays combine all the advantages offered by the present digital technology. In its capacity as primary protection the »*WI LINE*« meets the highest requirements made on modern, digital secondary technology.

By the »*WI LINE*« the user is not only be assisted through various, easy selectable protective functions, but cost minimising potentials in planning, for material and installation are realised due to an optimised design as well as the many functions combined in one relay. Besides the consequent use of the digital technology, more system attributes are the high availability, self-test facility, flexibility as well as an ergonomical designed user interface.

Owing to its robust design, the protection relays of the *WI LINE* can be directly installed in the switchboard, reducing wiring to a minimum.

2 Field applications of the WIC1-Soft

The »WIC1 SOFT« allows easy and menu controlled parameter setting and evaluation of the WIC1. The potential of the digital protection technology is consequently utilised by the »WIC1 SOFT«, as for instance, the possibilities of communication and data saving, to name only a few. By the Windows orientated **graphic user surface** (?), the operator is automatically familiar with all essential functions of the program; the plausibility check and password inquiry provide utmost security at any time. There are implemented supporting functions in preparation which are to assist the operator when dealing online with primary program functions. The »WIC1 SOFT« enables projecting(?) and parameter setting of the relay and when in offline mode it can be used for office work. (?)

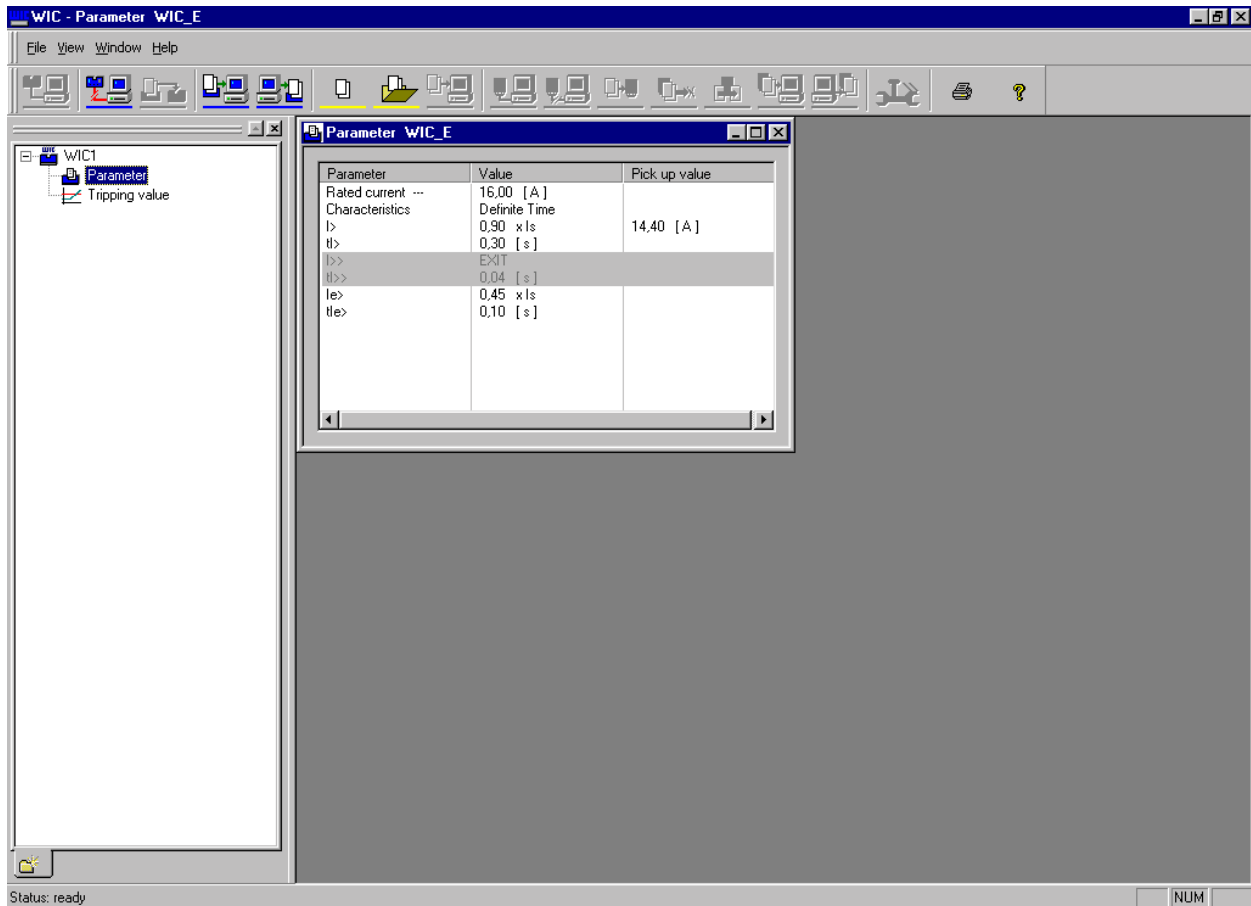


Figure 2.1: System WIC1-Soft Example Parameters

The »WIC1 SOFT« provides:

- easy and quick handling of the WIC1 protection relays,
- user-friendly aux. functions,
- easy operation owing to the familiar Windows surface/Windowing,
- comfortable saving of data on several storage media,
- printing functions,
- good documentation abilities by the print and
- the common use as analysis and parameter setting tool.
- data exchange with the hand programming unit (Palmtop)

3 Installation/De-installation

3.1 Requirements on Hard- and Software

The »*WIC1 SOFT*« can be used with any IBM compatible PC with operating systems Windows 95/98/ME/NT4.0/2000. Communication is realised via the RS232 interface. It is mouse operated (Windows- Standard/-Surface) and is provided with a user controlled windowing presentation. The »*WIC1 SOFT*« is easily to install and is available in many languages.

3.2 Installation of the WIC1-Soft

The installation of the *WIC1 SOFT* is started via the Windows Explorer by double click.

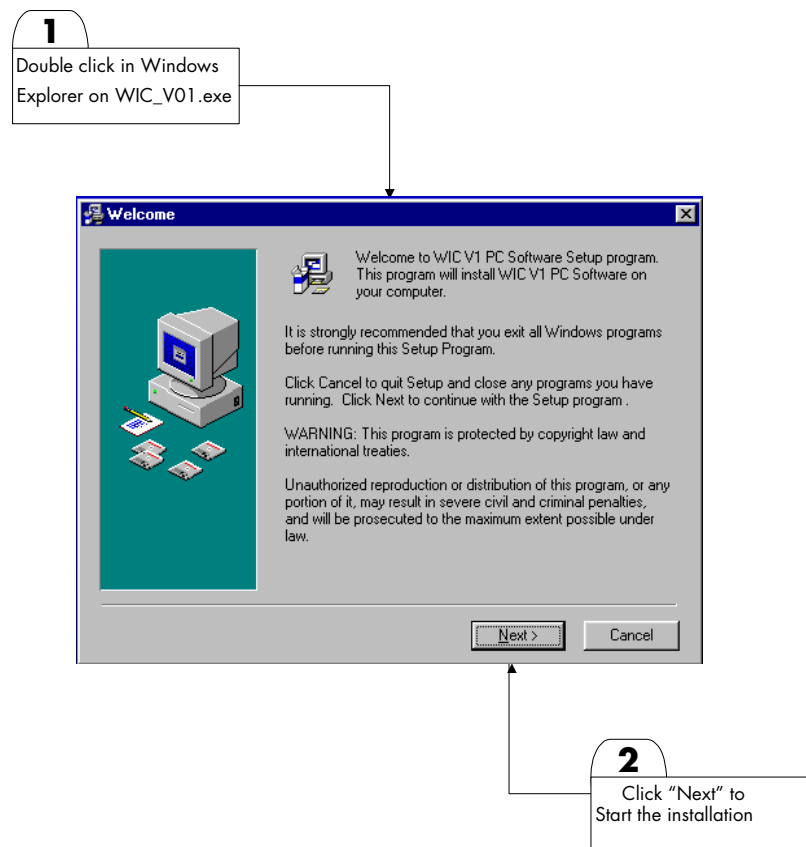


Figure 3.1: Installation of the WIC1-Soft

Simply follow the instructions and questions of the installation menu.

The actual installation is started by a further mouse click and then all necessary files are copied into their destination directories. (Now the *WIC1 SOFT* is operable).

3.3 De-Installation

3.3.1 Option – De-Installation via UNWISE.EXE

De-installation of the »WIC1 SOFT« is started by double click (left mouse button) on file »UNWISE.EXE« in Explorer. The »UNWISE.EXE« file is in the same directory the »WIC1 SOFT« was installed in. By the »Automatic De-Installation« the »WIC1 SOFT« is completely de-installed. The user defined de-installation allows partial de-installation of the »WIC1 SOFT«. De-installation is started by mouse click on the »Continue« button.

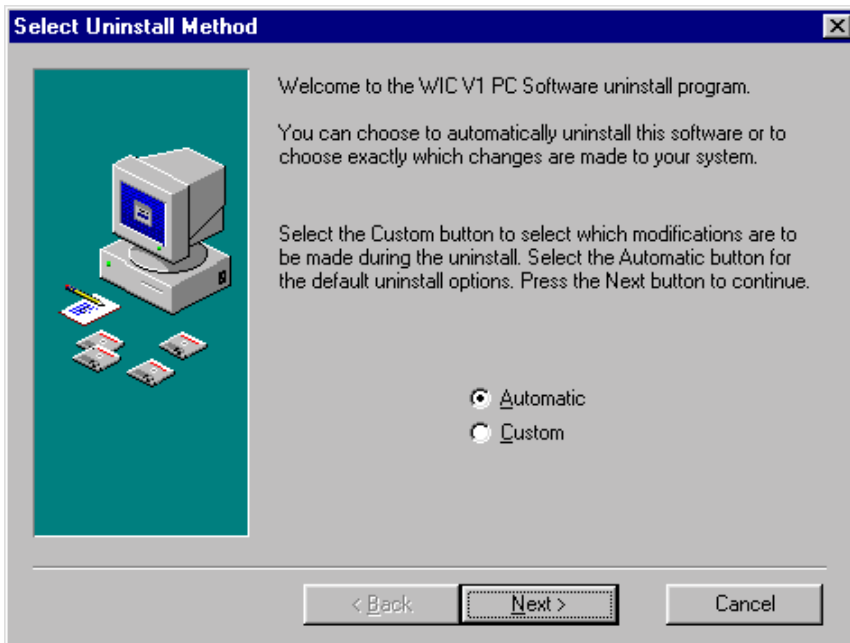


Figure 3.2: De-Installation of the WIC1-Soft

3.3.2 Option – De-Installation via System control

De-installation is started via »Start/Adjustment/System Control/Add/Delete«.

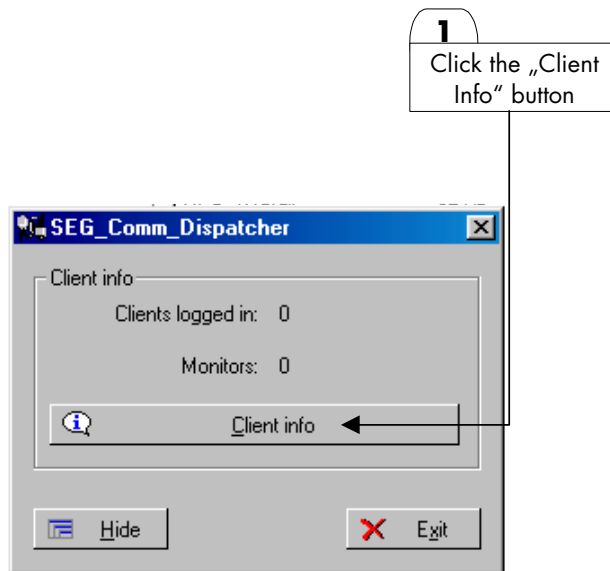
4 Required Configuration

Communication between PC/Laptop and the WIC1 is realised via serial cable and the PC-adapter.

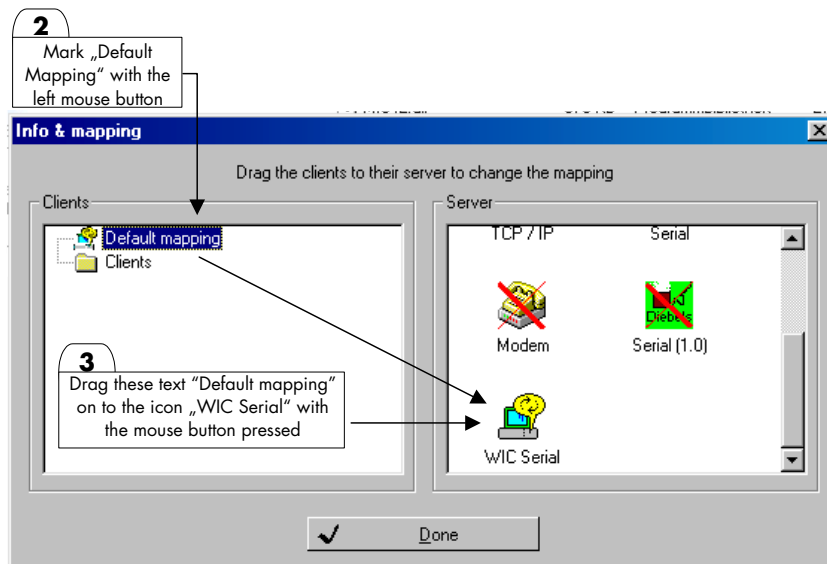
After the *WIC1-Soft* has been successfully installed it needs to be configured only once or you have to carry out some adjustments. Please proceed as outlined in the following chapters.

4.1 Configuration of the Woodward Communication Dispatcher

The Woodward Communication Dispatcher is called via „ Start/Program/WIC1-Soft“

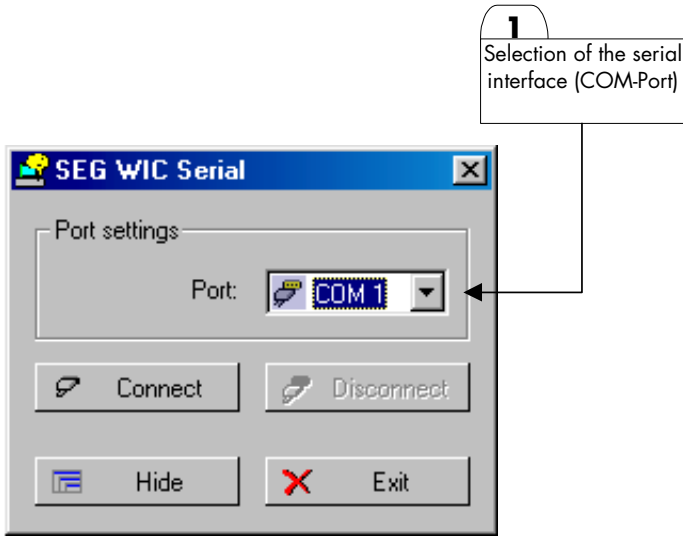


2 Mark „Default Mapping“ with the left mouse button



4.2 Configuration of the Woodward Serial Server

Call the Woodward Serial Server via „ Start / Program / WIC1-Soft“ and select the COM interface where the PC adapter is connected to.



5 Starting the Program/Communication Set-Up

5.1 Starting the Program – Communication via PC Adapter

For perfect functioning carry out the following steps in the order outlined below.

- 1 Connect the WIC1 to the PC / Laptop via the PC adapter by using the provided serial cable.
- 2 The WIC1-Soft is started via „ Start/Program/WIC1/WIC1-Soft“. The Woodward Communication Dispatcher and the Woodward Serial Server are loaded automatically by the WIC1-Soft.
- 3 An active connection to the protection relay is made via the following icon.



The active connection is indicated by the displayed menu tree and the inverted icon shown above. If no relay can be found on the configured COM Port a fault message is displayed.

5.2 Starting the Program – Palmtop Communication

For perfect functioning carry out the following steps in the order outlined below.

- 1 Connect the Palmtop to the PC / Laptop via the PC adapter by using the provided serial cable.
- 2 The WIC1-Soft is started via „ Start/Program/WIC1/WIC1-Soft“. The Woodward Communication Dispatcher and the Woodward Serial Server are loaded automatically by the WIC1-Soft.
- 3 An active connection to the Palmtop is made via the following icon.



The active connection is indicated by the displayed menu tree and the inverted icon shown above. If no Palmtop can be found on the configured COM Port a fault message is displayed.

6 Closing the Program

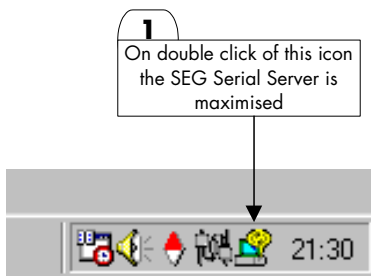
6.1 Closing the Program – Communication via PC-Adapter

For closing the program proceed in the order outlined below:

- 1 Close the active connection to the WIC1 with the icon shown here.

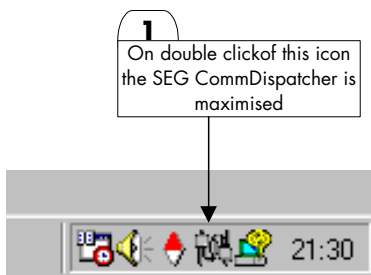


- 2 Close WIC1-Soft via „File – End“.
- 3 Then the Woodward Serial Server is to be called via the status line



Connection to the WIC1 is interrupted by button „Disconnect“. For closing the Woodward Serial Server press button „Exit“.

- 4 The Woodward Communication Dispatcher is maximised by the following icon in the status line.



By pressing the button „Exit“ the Woodward Communication Dispatcher is also closed.

6.2 Closing the Program – Palmtop Communication

For closing the program proceed in the order outlined below:

- 1 Close the active connection to the Palmtop with the icon shown here..



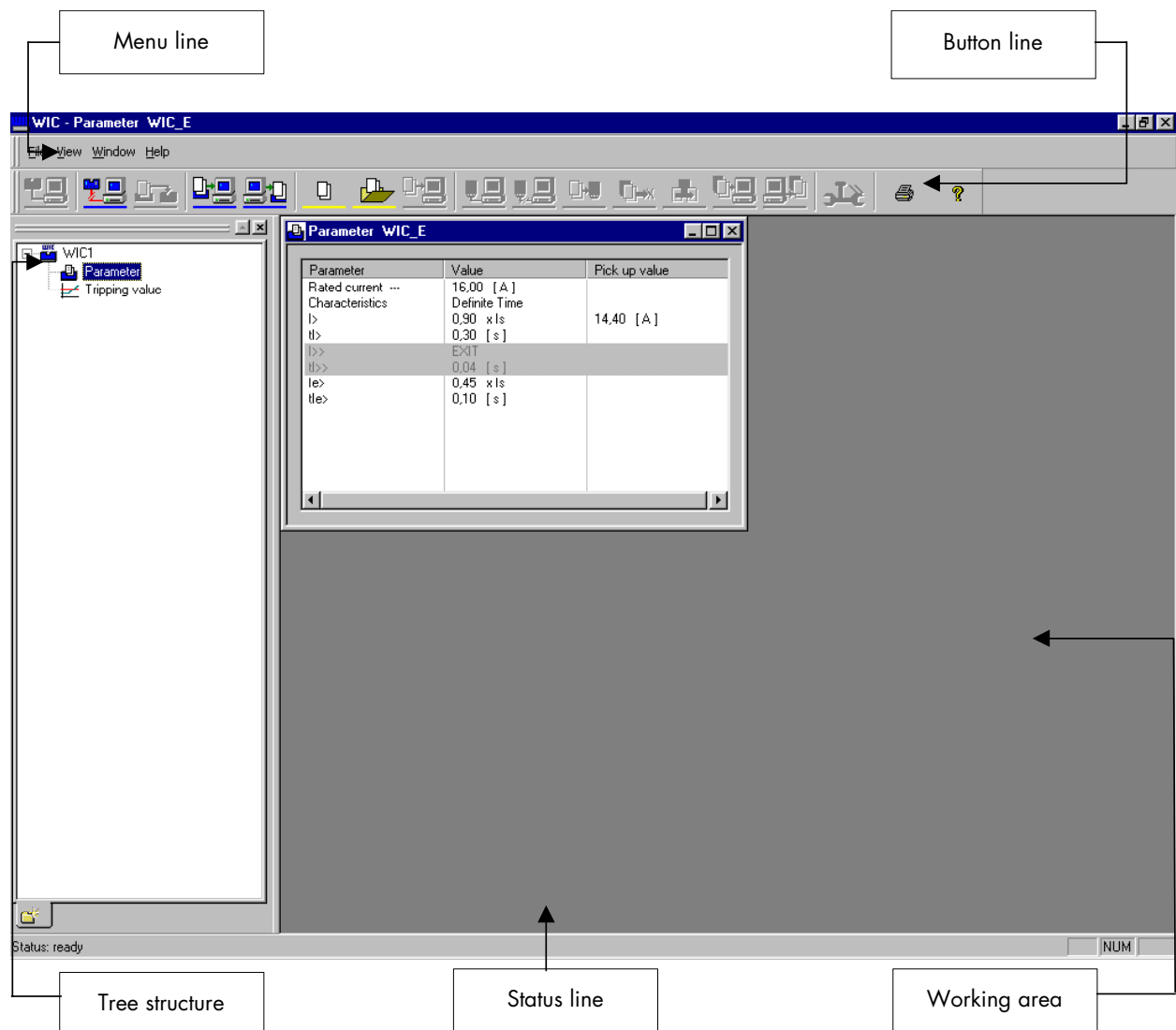
- 2 Close WIC1- Soft via „File – Close“
- 3 For points three and four the same procedure applies as stated under chapter 6.1.

7 Menu Structure

The surface comprises five sections.

- Menu line
- Button line
- Tree structure
- Working area
- Status line

On double click of the chosen branch of the tree structure the corresponding window is opened within the working area. It is possible to open several windows at the same time; these can then be arranged in any order via the menu "Window". Any of the opened windows can be chosen as "active working window" per mouse click of the relevant window.



7.1 The Button Line

The Button line enables an easy and quick access to the most essential functions of the WIC1-Soft per mouse click.

The button line functions in an interactive way. The icon of a function available in the current mode is shown in colour. The icon(s) of any function unavailable in the current mode is only shown on half-tone. This facilitates working with the WIC1 considerably.



On the button line all three mode variants are optically reflected. In detail these are:

Online mode blue Offline mode **yellow** Palm mode **green**



The individual buttons and their allocated functions are explained in the following. For detailed description of the individual functions please see chapter 8ff (?).



Activates the connection to the WIC1 (activate Online mode)



De-activates the connection to the WIC1 (de-activate Online mode)



Stores the active parameter set on the WIC1 (in Online mode only)



Stores the active parameter set on the hard disk (in Online mode only)



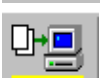
Loads down a parameter set from the hard disk and stores it on the WIC1 (Online mode)



Initiates a new parameter set (Offline mode)



Opens a parameter set from the hard disk (Offline mode)



Stores the active Offline parameter set on the hard disk (Offline mode)



Activates the connection to the Palmtop (Palm mode)



De-activates the connection to the Palmtop (Palm mode)



Stores the active Palm parameter set on the Palmtop (Palm mode)



Erases the marked parameter set from the Palmtop (Palm mode)



Re-names the marked Palm parameter set (Palm mode)



Copies the marked Palm parameter sets on the hard disk (Palm mode)



Stores parameter sets from the hard disk on the Palmtop (Palm mode)



Password inquiry for the I>> protection level of the WIC1, releases the I>> parameters



Prints the marked parameter set

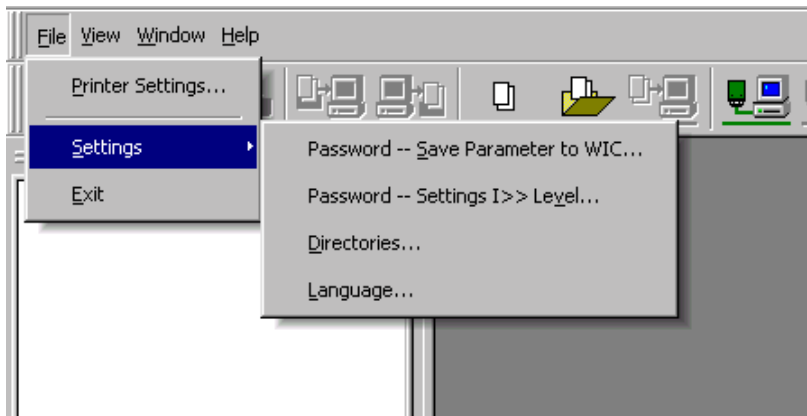


Help for the WIC1-Soft

7.2 The Menu Line

Via the menu line the user is able to do basic adjustments for the WIC1-Soft. Hereinafter the different menus and their functions are described.

7.2.1 Menu File



7.2.1.1 Printer Pre-settings

By the function „Printer Presettings“ the standard Windows menu for choice of the printer and printer adjustment is opened. The normal adjustments can be made here.

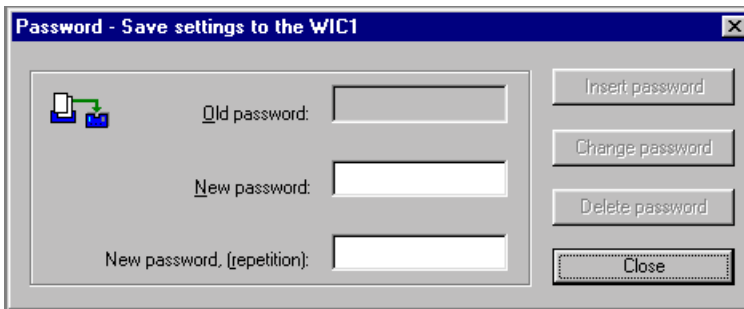
7.2.1.2 Parameter Sets Last Opened

The last opened parameter sets are displayed here. So it is easy for the user to call again the parameter set edited last.

7.2.1.3 Adjustments

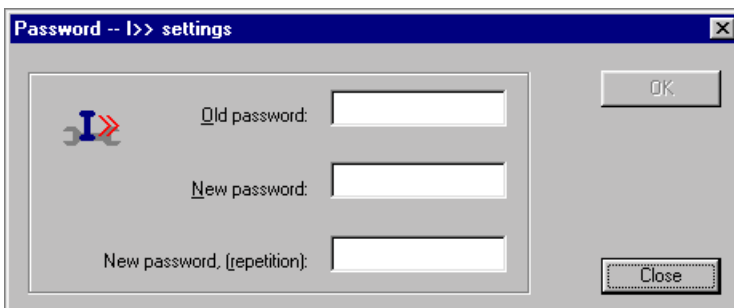
This is the menu point for carrying out the basic adjustments for the WIC1-Soft

- 1 Password for storage of WIC1 parameter



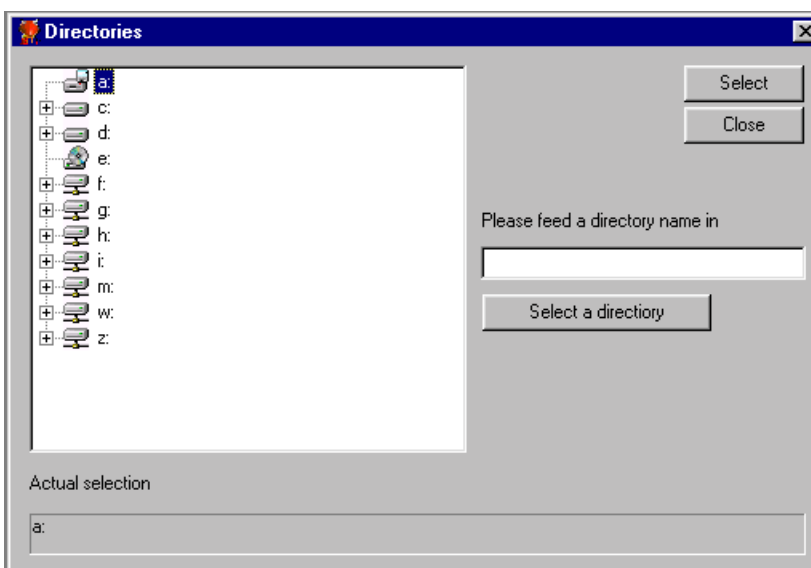
By this password the parameter set stored on a WIC1 relay is protected. The standard settings are not password protected by SEG. If the contents of the store is intended to be protected, a password has to be entered in the dialogue window. When changing the password the current one has to be entered first for acknowledgement.

- 2 Changing of the password for the I>> level.



The WIC1-Soft enables also to have the short-circuit level I>> protected separately. The initial setting values can only be changed after the separate password for the I>> level has been entered. The password chosen by SEG for this is "SEG".

- 3 Directories



Here the standard working directory is defined where the WIC1-Soft files the parameter sets on the hard disk or the parameter sets can be read from .

Language



Under this menu point the user language for the WIC1-Soft is defined. The languages available at the moment are:

- German
- English

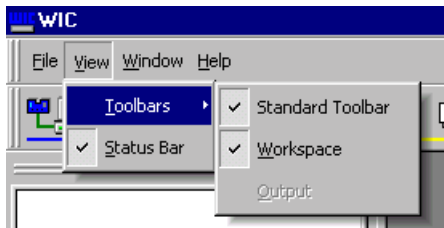
Other languages are in preparation. The Open Source Structure of the WIC1-Soft makes it possible to add further languages at any time. In case of need please contact your local sales partner.

Mark the desired language and then acknowledge by button „OK“. The user language is changed after the WIC1-Soft has been closed and then re-started.

7.2.1.4 Closing

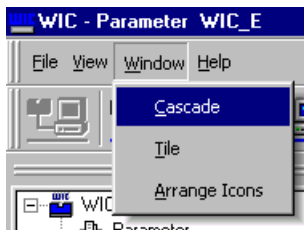
The function „Closing“ closes only the WIC1 – Soft. The aux. communication tools have to be closed separately as mentioned previously.

7.2.2 Menu „View“



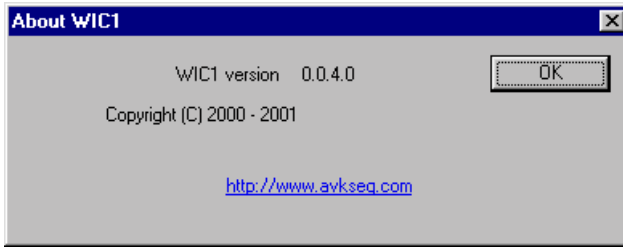
In this menu the different display sections can be faded in or out.

7.2.3 Menu „Window“



The functions provided in the „Window“ menu enable easy handling of the windows opened in the working area.

7.2.4 Menu "Help"



Under the „Help“ menu the information about the WIC1–Soft versions can be found.

The following functions are in preparation:

- Instruction for the WIC1–Soft
- Instruction for the relay WIC1
- Instruction for the Palm–Soft
- Link for the Woodward Homepage concerning software update
- Link for the Woodward Homepage concerning documentation update.

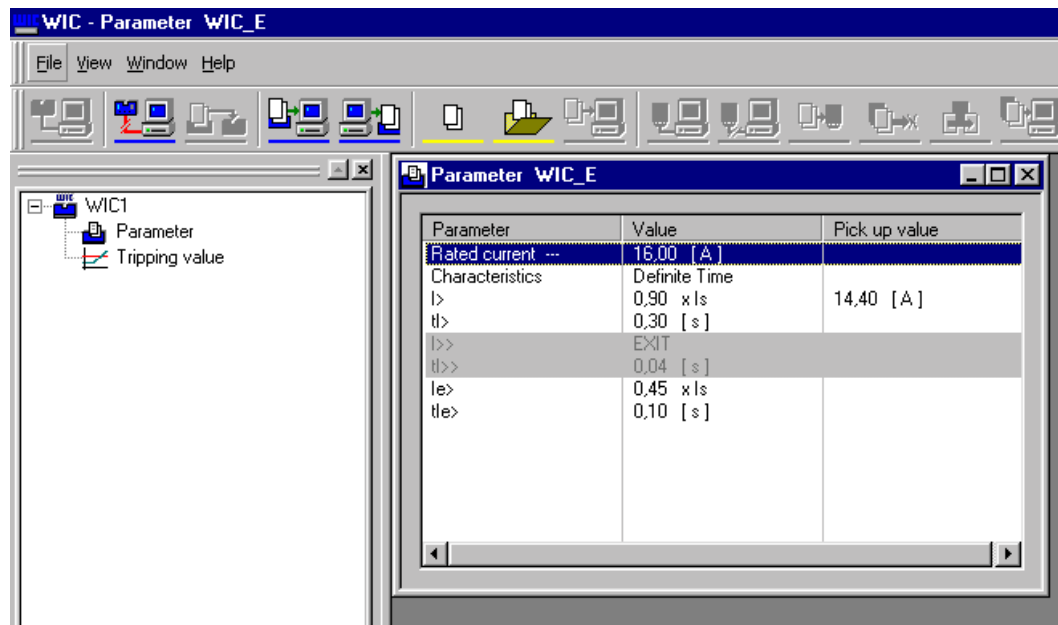
8 Setting of Parameters

8.1 Editing of a Parameter Set

When editing a parameter set the mode of the WIC1-Soft is irrelevant, it can be done online directly with the WIC1 relay as well as in offline mode or via the Palmtop in Palmtop mode.

The basic steps are explained in the following:

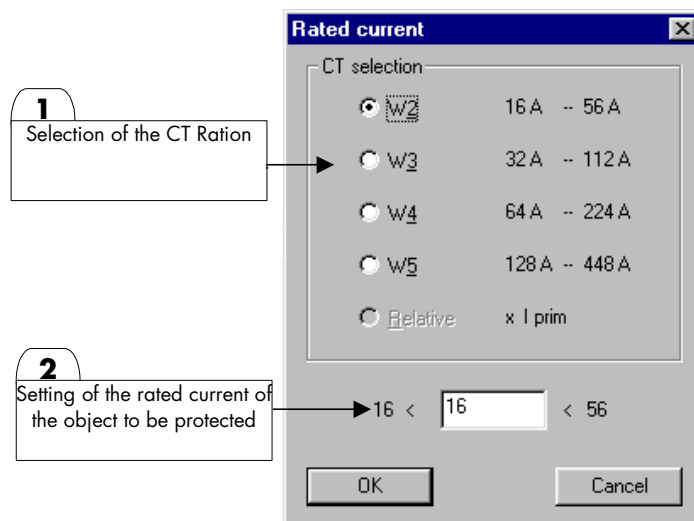
- 1 The parameter set is opened by double click in the directory tree.



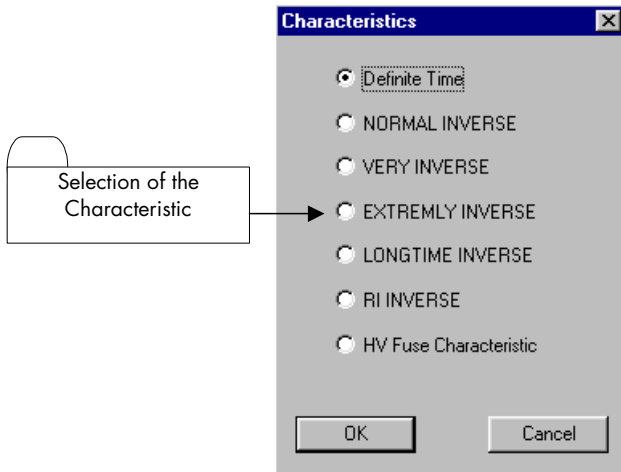
- 2 In the parameter window the parameters are opened by double click.

2.1 Setting of the rated current / Selection of the CT (?) ratio

The rated current of the object to be protected is the trigger point for all further relative protection parameters.

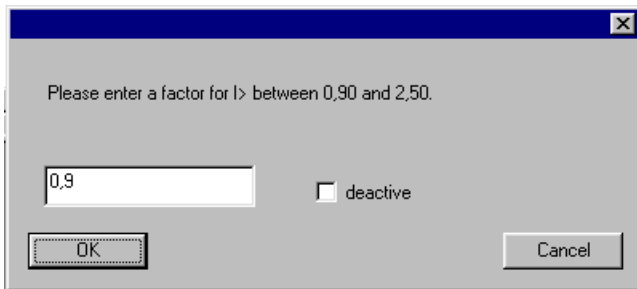


2.2 Selection of the Protection Characteristic



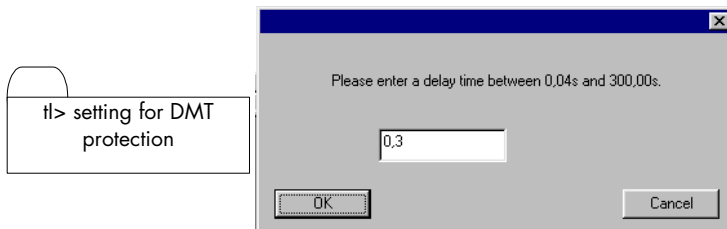
2.3 Setting of the over current activating value $I_{>}$

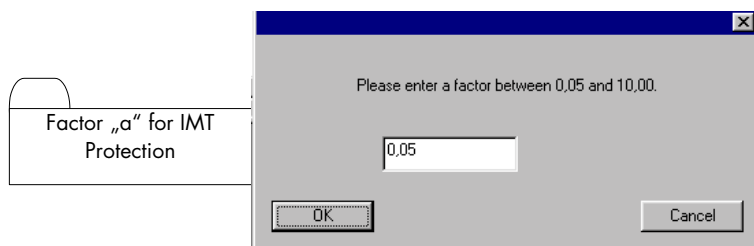
The activating value $I_{>}$ can be variably set within the setting range. The activating values of the protection relay are not arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value. De-activation of the over current step $I_{>}$ is possible by marking. So the WIC1 relay can be used as pure short-circuit protection.



2.4 Setting of the trip time delay $t_{l>}$ or time multiplier factor „a“ for the over current step.

Depending on the protection characteristic chosen, the trip time delay $t_{l>}$ is set with this parameter for a dependent characteristic (DMT). For an inverse time characteristic (IMT), the time multiplier factor „a“ is set. The parameter values in the protection relay are arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value.



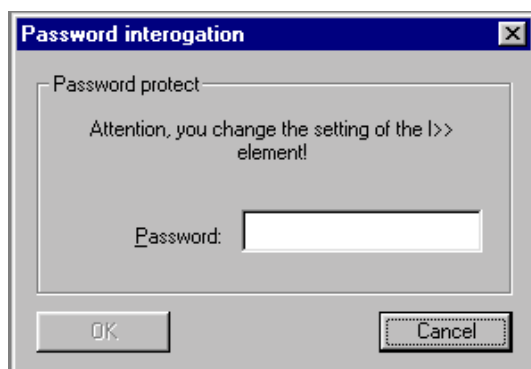


() Factor „a“ for IMT Protection

2.5 Setting of the short-circuit activating value I>>

The activating value I>> for the short-circuit step can only be changed if the correct password has been entered. If the values for I>> are displayed in half-tone then setting of the value I>> is not permitted. Please close

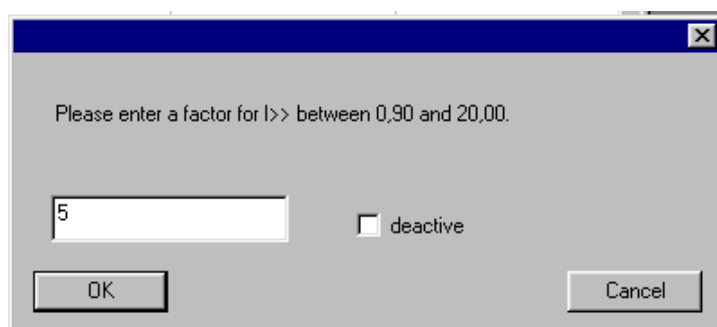
the parameter set window and click on the button  for opening the dialogue window and then enter the password.



After the password has been entered, open again the parameter window by double click on the parameter set in the directory tree. Now the parameters for the short-circuit step are not displayed in half-tone any longer and setting is permitted.

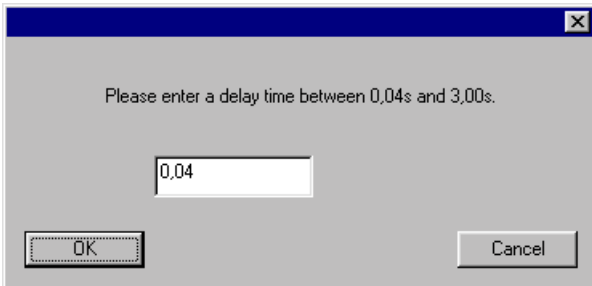
De-activation of the short-circuit step I>> is possible by marking. So that with the IMT protection characteristic the user is able to protect the entire current range by the inverse time characteristic.

The activating values of the protection relay are not arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value.



2.6 Setting of the trip time delay $t_{l>>}$ for the short-circuit step.

The parameter values in the protection relays are arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value.



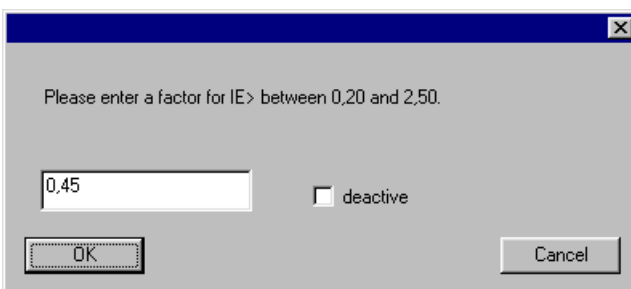
Please enter a delay time between 0,04s and 3,00s.

0,04

OK Cancel

2.7 Setting of the activating value $I_{E>}$ for earth current protection

The protective function "Earth Current Measuring" can be de-activated by marking. Then the WIC1 relay functions without earth current measuring and only with phase current protection. The earth current protection is designed as single-step DMT protection. The activating values of the protection relay are not arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value.



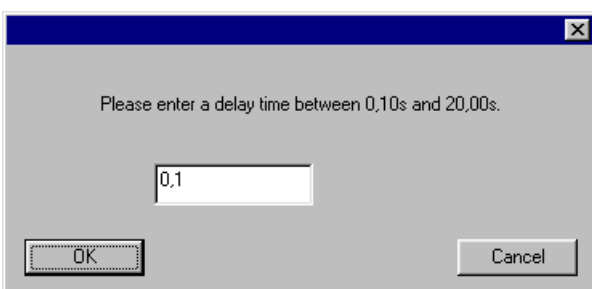
Please enter a factor for $I_{E>}$ between 0,20 and 2,50.

0,45 deactive

OK Cancel

1.8 Setting of the trip delay time $t_{IE>}$ for the earth current step.

The parameter values in the protection relay are arranged in steps. The step duration depends on the absolute setting value. After the value has been entered, the WIC1-Soft rounds automatically to the next admissible value.



Please enter a delay time between 0,10s and 20,00s.

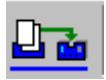
0,1

OK Cancel

3. Saving of the Parameter Set

Now the changed parameter set can be stored. For this task and dependent on the mode, the following storage options are available:

Online Mode



with this button the parameter set is stored on the WIC1 relay.

Offline Mode




with this button the parameter set is stored on the hard disk. The Windows dialogue window is displayed for entering the name and selection of the directory.

Palm Mode



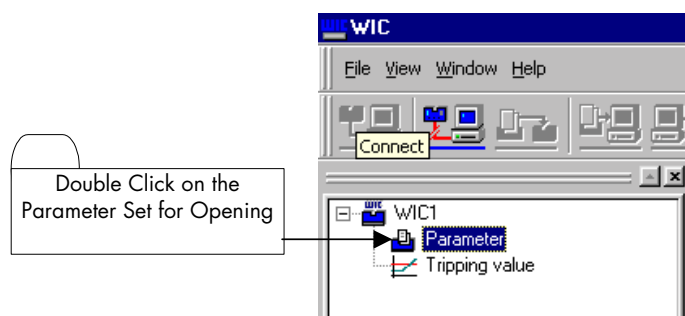
with this button the parameter set is stored on the connected Palmtop.

If the parameter set window is closed by using the „Closing“ icon  right at the top, it is inquired whether the parameter set shall be stored or whether the changes shall be ignored. If the changes are intended to be stored, then they are stored automatically on the source called up.

8.2 Parameter Setting of a WIC1 (Online Mode)

8.2.1 Opening/Loading of the Parameter Set from the WIC1

After successful interconnection of the PC / Laptop and WIC1 relay, the WIC1 with parameter set and fault value storage is displayed.

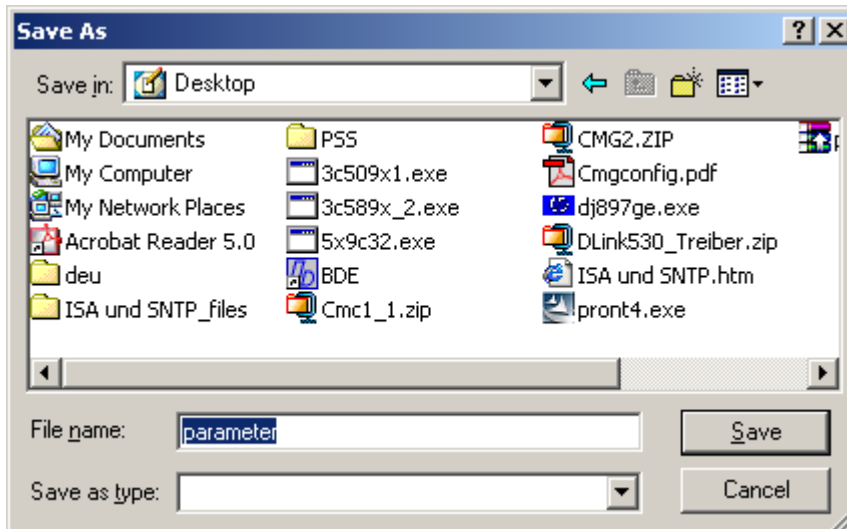


8.2.2 Saving of the Parameter Set on the Hard Disk

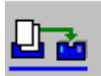
After the parameter set has been changed it can be stored on the hard disk for documentary purposes.

For this the dialogue window for storing the parameter set on the hard disk is activated by clicking on the storage

icon  and the following Windows dialogue window is displayed:




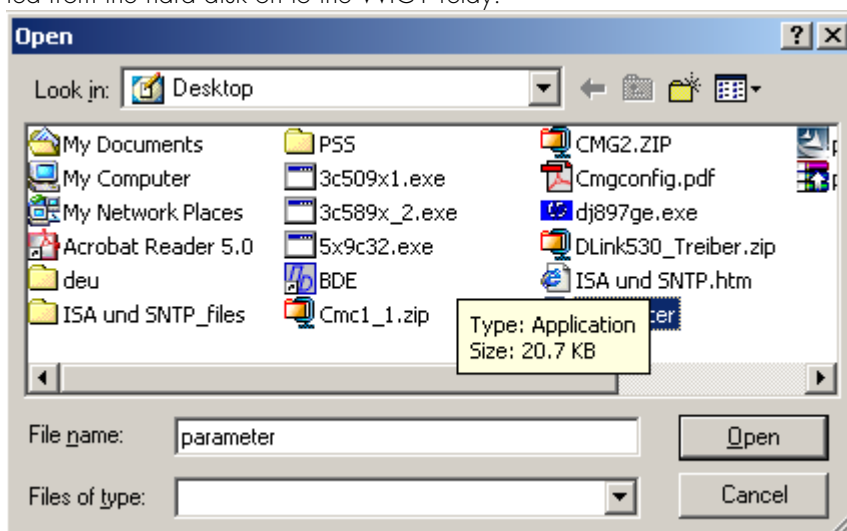
8.2.3 Saving of the Parameter on the WIC1

In order to re-store a WIC1 parameter set after it has been changed, only the Online storage icon  needs to be activated. The values are transmitted to the WIC1 relay and re-read by a **check summ (?)**.

8.2.4 Loading of a Parameter Set and Saving on the WIC1 Relay

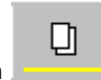
If a parameter set edited in Offline mode is intended to be transferred directly from the hard disk to the WIC1 re-

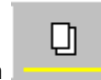
lay then the Online icon  needs to be activated only and the following dialogue window is opened for selecting a parameter file from the hard disk. By clicking the button „Opening“ the selected parameter set is copied from the hard disk on to the WIC1 relay.



8.3 Setting of Parameters with a Parameter Set (Offline Mode)

8.3.1 Preparing a Parameter Set for Offline Editing




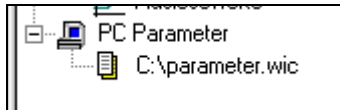
For preparing a parameter set without a connected WIC1 relay, the Offline icon  has to be activated and a new parameter set is opened in the directory tree. By double click on the directory „New Parameters“ the following dialogue window is opened for selection of the WIC1 relay type. Selectable are here relay types with and without earth current only. The new parameter set is displayed in the working area after the relay type has been chosen and was acknowledged with the “OK” button.



8.3.2 Opening of a Parameter Set from the Hard Disk for Offline Editing




For opening a parameter set from the hard disk, the Offline icon  has to be activated and the Windows dialogue window is opened for selection of a parameter file. After a file has been selected it is displayed in the directory tree under „PC Parameters“ with the relevant name and storage place.



8.3.3 Saving of the Active Parameter Set on the Hard Disk

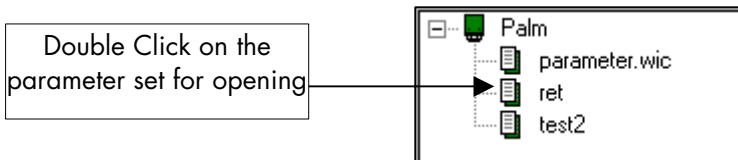


If a parameter set edited in Offline mode is intended to be saved, the Offline icon  has to be activated with the parameter set window open. A menu window is opened for selection of the destination directory and selection of a file name.

8.4 Palmtop Aided Working (Palm Mode)

8.4.1 Loading of a Parameter Set for Editing

After successful interconnection of the PC / Laptop and Palmtop, the Palmtop with its parameter sets is displayed in the directory tree. By double click on the desired parameter it is opened in the working area and can be edited.




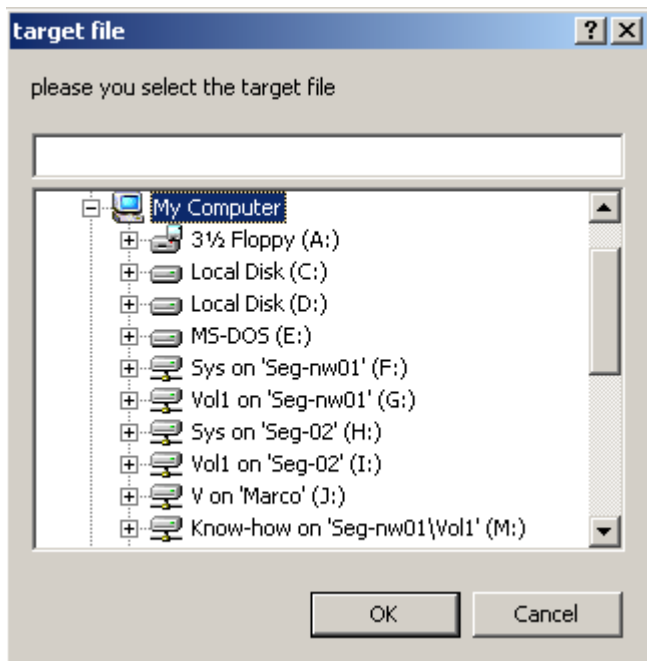
8.4.2 Saving of a Parameter Set on the Palmtop

In order to re-store a Palm parameter set after it has been changed, only the Online storage icon  has to be activated. The values are transmitted to the active Palm parameter set and re-read by a **check summ (?)**.


8.4.3 Copying of Parameter Sets from the Palmtop to the PC

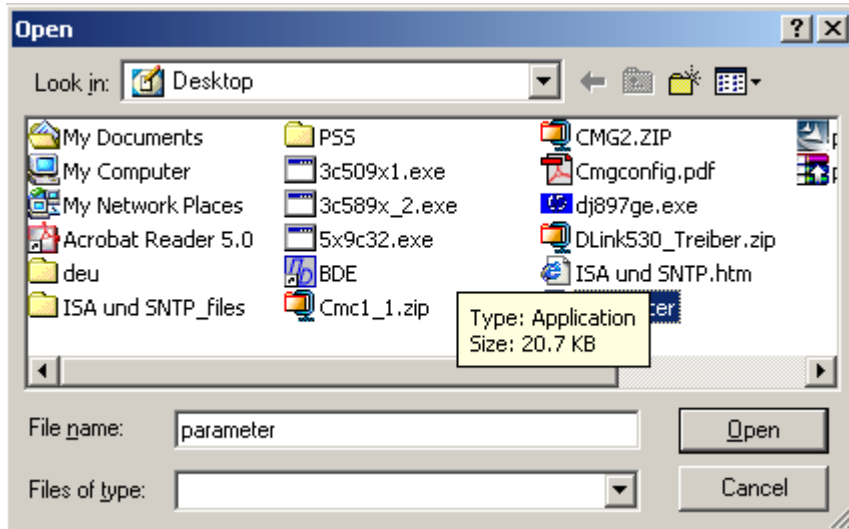
In order to copy one parameter set or more from the Palmtop on to the PC, the desired parameter sets have to be

marked in the directory tree and then the Palm icon  for copying from the Palmtop on to the PC to be activated. A dialogue window is opened for selecting the destination directory. The parameter set is copied on the hard disk after the destination directory has been selected and acknowledged with the „OK“ button.



8.4.4 Copying of Parameter Sets from the PC to the Palmtop

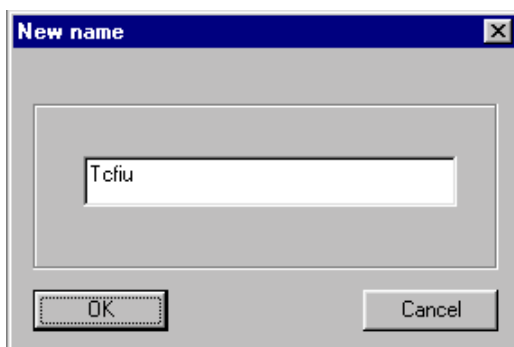
In order to copy one parameter set or more from the PC on to the Palm, the Palm Icon  has to be activated per mouse click. The window for selection of the desired parameter sets from the hard disk is opened. After marking the respective parameter sets and activating the "Open" button, the sets are copied from the hard disk on to the Palm. If a parameter set with an identical name exists already on the Palmtop, the process is interrupted and a fault message displayed.



8.4.5 Renaming of Parameter Sets on the Palmtop

Before renaming a parameter set on the Palm, the parameter set in question has firstly to be marked in the directory tree.


By activating the Palm icon  the entry window is opened and the new name can be entered.



Should the new name not comply with the Palm practice then it is automatically adapted and indicated accordingly.

8.4.6 Erasing of Parameter Sets from the Palmtop

In order to erase one parameter set or more from the Palm it has to be marked in the directory tree first and then

the Palm icon  to be activated.

9 Fault Value Store

All WIC1 protection relays are provided with a standard but effective fault value store which writes the values measured at the trip instant into a non-volatile store. Only the last of the trip events can be stored. The fault value store can only be read via the relay interface.

Read-out of the fault value store.

For the read-out function the following steps have to be carried out:

After double click on the directory „Trip Values“ in the directory tree a window is opened showing the trip values.



In the upper part of the window „Trip Values“ binary information with regard to the trip reason is given. The parameter identified with logic I was the reason for the last trip of the protection relay. In the example shown it was an external trip via the trip input.

In the lower part of the window the values measured at the trip instant are shown. The trip values are displayed as primary values; they dependent on the chosen CT ratio in the parameter set of the WIC1 relay.

The screenshot shows a window titled "Tripping value" with a table of parameters and their values. The table is divided into two sections by a horizontal line.

Parameter	Value
Trip I>	1
Trip I>>	0
Trip IE>	0
Characteristics	0
External Trip	0
<hr/>	
Trip value L1	82,37 A
Trip value L2	0,10 A
Trip value L3	0,10 A
Trip value earth current	57,74 A

This description is subject to constant updating without previous notice. For any inquiries please contact:



Woodward Kempen GmbH

Krefelder Weg 47 · D – 47906 Kempen (Germany)
Postfach 10 07 55 (P.O.Box) · D – 47884 Kempen (Germany)
Phone: +49 (0) 21 52 145 1

Internet

www.woodward.com

Sales

Phone: +49 (0) 21 52 145 216 or 342 · Telefax: +49 (0) 21 52 145 354
e-mail: salesEMEA_PG@woodward.com

Service

Phone: +49 (0) 21 52 145 614 · Telefax: +49 (0) 21 52 145 455
e-mail: SupportEMEA_PG@woodward.com