The Drive & Control Company

Rexroth
Bosch Group

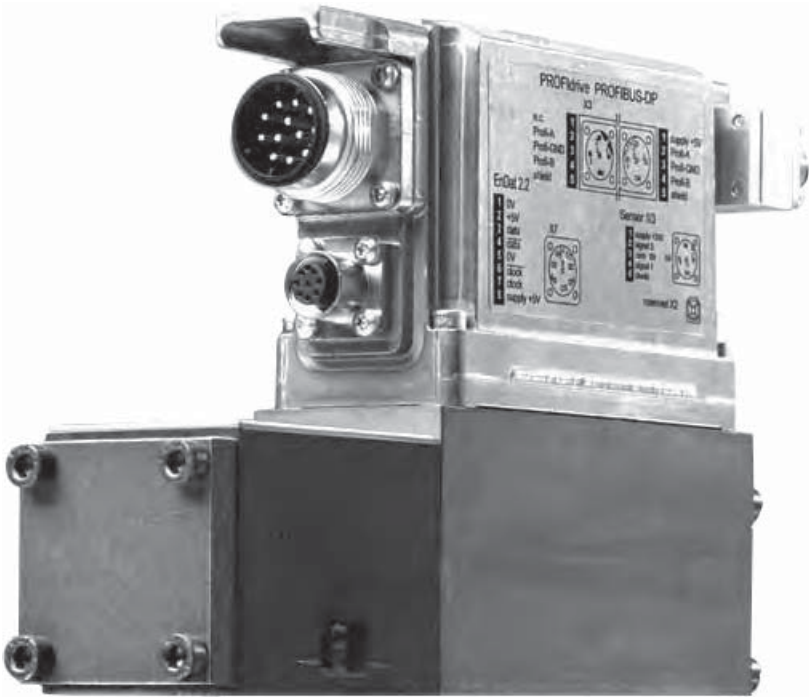
4WRPNH.../24F..

High-response valve with integrated digital axis controller (IAC-R) and clock-synchronized PROFIBUS DP/V2 (PROFIdrive profile)

Commissioning instructions for WinHPT® on Siemens SINUMERIK 840D(i) sl controls

Commissioning instructions
RE 29291-B1/04.2013

English



The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

An example configuration is shown on the title page. The delivered product may, therefore, differ from the product which is pictured.

The original operating instructions were created in the German language.

Contents

RE 29291-B1/04.2013, IAC-R, **Bosch Rexroth AG**

1 About this documentation

1.1 Validity of the documentation

This documentation is a supplement to operating instructions RE 29291-B, which contain the complete information on the high-response valve with integrated axis controller. Observe these operating instructions and the safety instructions contained therein.
The present document shows the possibilities of utilizing the WinHPT® functionalities that were developed specifically for use with Siemens SINUMERIK 840D sl controls. These instructions describe, how the individual components required have to be procured, installed, and configured. Examples show how the general work sequence may look like.

1.2 Required and supplementary documentation

- Only commission the product when you have the documents identified with the book symbol 🕮 at hand and have understood and observed them. It is imperative that you observe operating instructions RE 29291-B.

Table 1: Required and supplementary documentation

	Title	Document no.	Document type
🕮	High-response valve with integrated digital axis controller (IAC-R) and clock-synchronized PROFIBUS DP/V2 (PROFIdrive profile), type 4WRPNH.../24F..	RE 29291-B	Operating instructions
🕮	High-response valve with integrated digital axis controller (IAC-R) and clock-synchronized PROFIBUS DP/V2 (PROFIdrive profile), type 4WRPNH.../24F.	RE 29291	Data sheet

1.3 Terms

The following terms are used in this documentation:

Table 2: Terms

Term	Meaning
IAC-R	Integrated Axis Controller
WinHPT®	Windows Hydraulics Parameterization Tool
WinView	Program for visualization of recorded variables

2 Preconditions for commissioning WinHPT® on SINUMERIK 840D(i) sl controls from Siemens

Important note on compatibility:
The WinHPT® software installed on the PCU50 allows the communication between the IAC-R and the Siemens SINUMERIK 840D sl or Siemens SINUMERIK 840Di sl. However, at present, only communication with **PROFIdrive-IAC-Rs** is supported.
The archiving tools can only be utilized in conjunction with a Siemens SINUMERIK 840D sl. The Siemens SINUMERIK 840Di sl is **not** supported by the archiving tools.

Should problems occur with the use of this software or facts be unclear to you after having read the documentation, please do not hesitate to contact the support of Bosch Rexroth. You can reach our support with the following e-mail address:
support.nc-systems@boschrexroth.de

In the case of problems or queries, which refer directly to the Siemens SINUMERIK 840D(i) sl, its components or other Siemens devices, please contact the Siemens support directly.
You can reach it as follows:
SIEMENS AG
Industry Sector
Tel: +49 (0) 911 895 7222
Fax: +49 (0) 911 895 7223

Support request: `http://www.siemens.de/automation/support-request`
Internet: `http://www.siemens.de/automation/service&support`
`http://www.siemens.de/automation/csi/product`

2.1 General system requirements for WinHPT®

In addition to the system requirements valid for WinHPT® the following requirements are valid for the use of WinHPT® in conjunction with a SINUMERIK:

- SINUMERIK PCU50 with Windows XP
- SINUMERIK PCU50 with CP5611 PROFIBUS interface
- SINUMERIK PCU50 with HMI Advanced or HMI Operate
- Screen resolution:
  - Required: at least 640x480 pixels with 16-bit color depth
  - Recommended: at least 800x600 pixels with 32-bit color depth
- Memory capacity on user drive “F:“
  - Required: at least 150 MB free disk space
  - Recommended: at least 2 GB free disk space
- Recommended: PDF viewer installed, which is linked to file extension “.pdf“.

2.2 Where to get WinHPT®

For parameterizing an IAC-R you require the commissioning tool “WinHPT®“, which is offered as an adapted installation for the SINUMERIK 840D sl. In addition, an archiving package is available, which can be used to make a backup of the entire system. With this complete backup, the configurations of all hooked-up IAC-Rs are saved as well and can be restored at a later point in time.
The aforementioned software tools can be downloaded from the product website of the IAC-R. `http://www.boschrexroth.com/IAC`

You can find the download links in the page menu under ”IAC-R“ in the sub-menu “software“. Please make sure that you download and use the WinHPT® variant adapted specifically to the Siemens SINUMERIK.
You have to transmit the installation and program files by means of an USB stick to the Siemens SINUMERIK 840D sl, because the control is usually not provided with a direct Internet access.

3 Installation of WinHPT® on the Siemens SINUMERIK 840D(i) sl

WinHPT® can be installed and used directly on a Windows-based PCU50 of a Siemens SINUMERIK 840D sl or SINUMERIK 840Di sl control.

3.1 Loading the installation file and saving it to an USB stick

To start the installation of WinHPT® on a Siemens SINUMERIK 840D(i) sl proceed as follows:

1. Download the current WinHPT® installation program for installation on a Siemens SINUMERIK 840D(i) sl directly from the product page of the IAC-R.
2. Copy the installation file to an USB stick (file name e.g. “WinHPT_02.01.00_setup_sinumerik_840d_840di_full.exe“).
3. Connect the USB stick to the control.
4. Now, you can start the installation program of WinHPT® with the help of the service desktop directly from the USB stick.

3.2 Installation sequence of WinHPT®

This chapter describes the sequence of the WinHPT® installation step by step. For a successful installation of WinHPT® it is usually sufficient that the user confirms all installation dialogs when prompted to do so. Special settings need not be made by the user.

Please note that only one version of WinHPT® may be installed and activated on a Siemens SINUMERIK control at a time. If you wish to install another version, you should uninstall the WinHPT® version used so far.

3.2.1 Language selection

After you started the installation program of WinHPT®, a language selection dialog appears. In this dialog you can select the language for the installation program.

Fig. 1: Language selection dialog

You can select “Deutsch” or “English” for the installation. Continue the installation by clicking the “OK” button.

3.2.2 Start dialog for the installation

The start dialog for the installation of WinHPT® appears. Make sure that the dialog shows a reference indicating that the installation program is intended for the installation of WinHPT® on a Siemens SINUMERIK 840D(i) sl control. WinHPT® should only be installed with this installation program specifically adapted to this control. Do not use the normal PC installation of WinHPT®. Otherwise, the specific extensions for the Siemens SINUMERIK 840D(i) sl will not be available and cannot be installed later, except with a re-installation of WinHPT®!

Fig. 2: Start dialog

- To continue the installation, click the “Next >“ button.

3.2.3 License agreement

In a next step you have to accept the license terms and conditions in order that you can install WinHPT®.

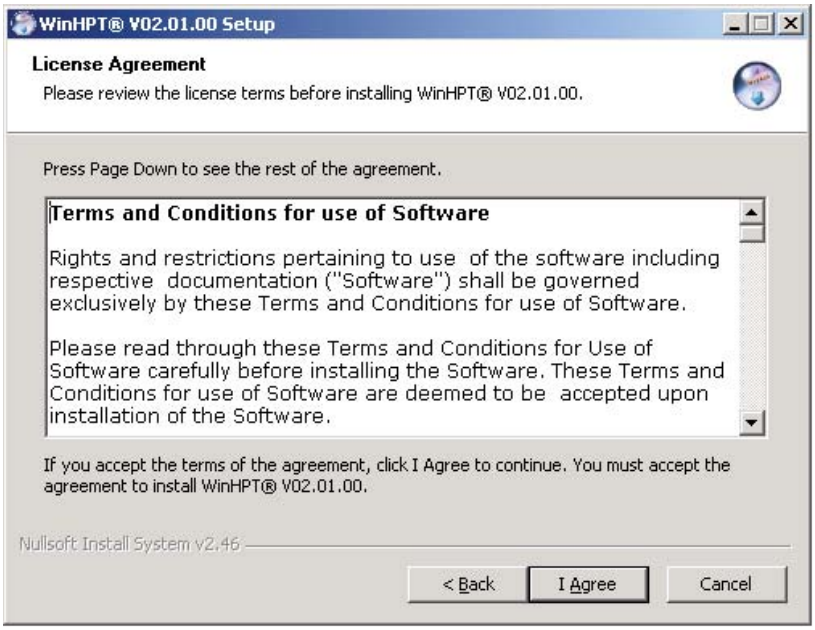


Fig. 3: Accepting the license terms

- Click on the “I Agree“button to accept the terms of use and continue with the next step of the installation.

3.2.4 Component selection

In this installation step, the components to be installed are shown. Usually, no changes must be made in the pre-set selection.
The component “WinView 3.3“ is only selected automatically, if no WinView installation was found on the system. If it was already installed, the component is automatically deselected.

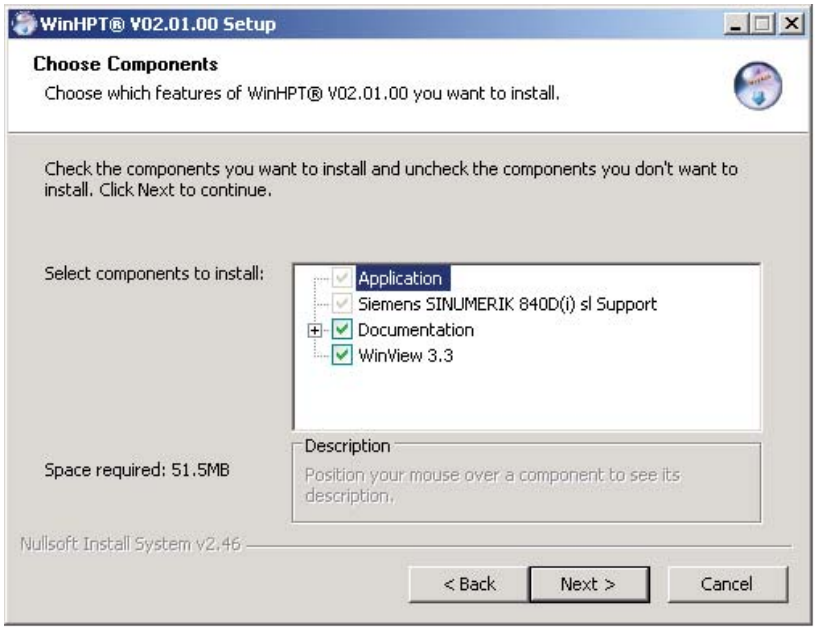


Fig. 4: Component selection

- To continue the installation, click on the “Next >“ button.

3.2.5 Shortcuts in the start menu

In this installation step you can determine, in which folder the program shortcuts for WinHPT® are to be created within the start menu. As a standard, the shortcuts appear in the start menu under “Rexroth\WinHPT® <Version> for SINUMERIK 840D(i) sl“. In addition, one shortcut for starting WinHPT® is created on the desktop.

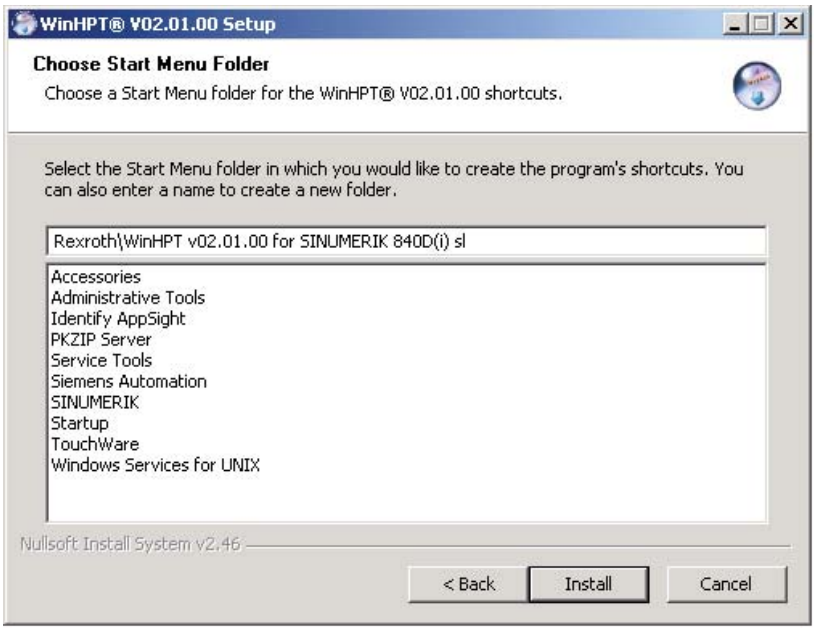


Fig. 5: Selection of the start menu folder

- To start the installation, click on the “Install“ button.

3.2.6 Installing

The installation is now executed. All the necessary files are installed. A target directory cannot be selected, because WinHPT® must be installed in a fixed path in order that it can be successfully integrated into the SINUMERIK-HMI.

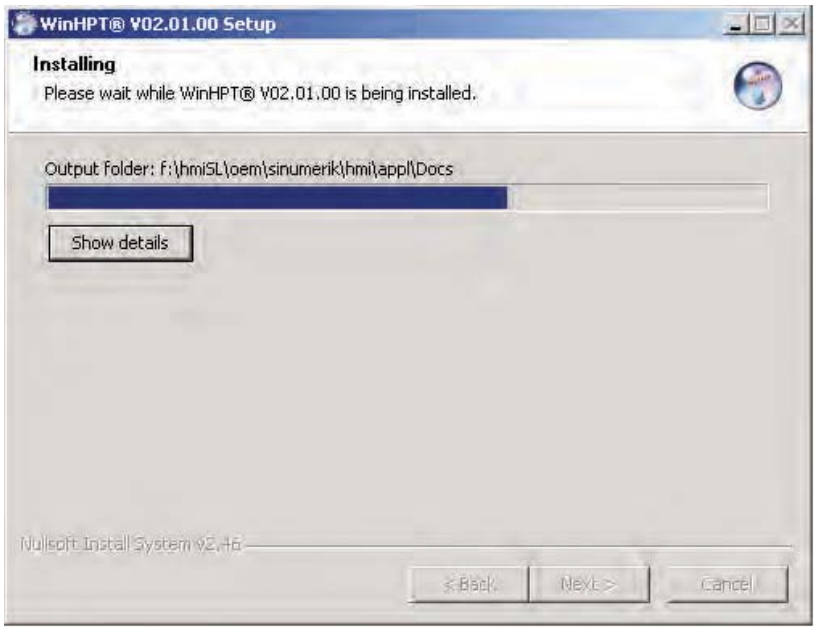


Fig. 6: Installation process

- To continue the installation, click the “Next >” button.

3.2.7 Optional: Installation of WinView

If you selected “WinView“ in the component selection, the installation program of WinView is also started within the framework of the WinHPT® installation.
WinView is utilized by WinHPT® for recording and visualizing measured data.
In this case, too, you can first determine the language for the installation program of WinView.
Click the OK“ button to start the installation of WinView.

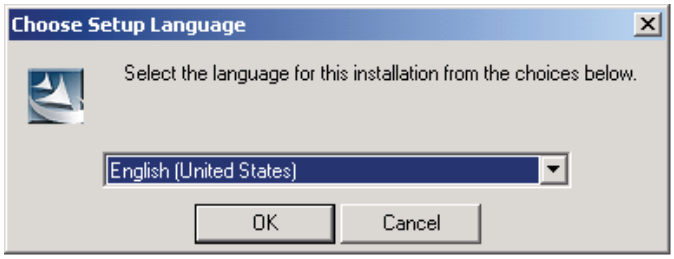


Fig. 7: WinView-language selection

Start dialog for WinView installation

Fig. 8: Start screen of WinView

- Confirm the start dialog of the WinView installation by clicking on the “Next >“ button.

License terms of WinView

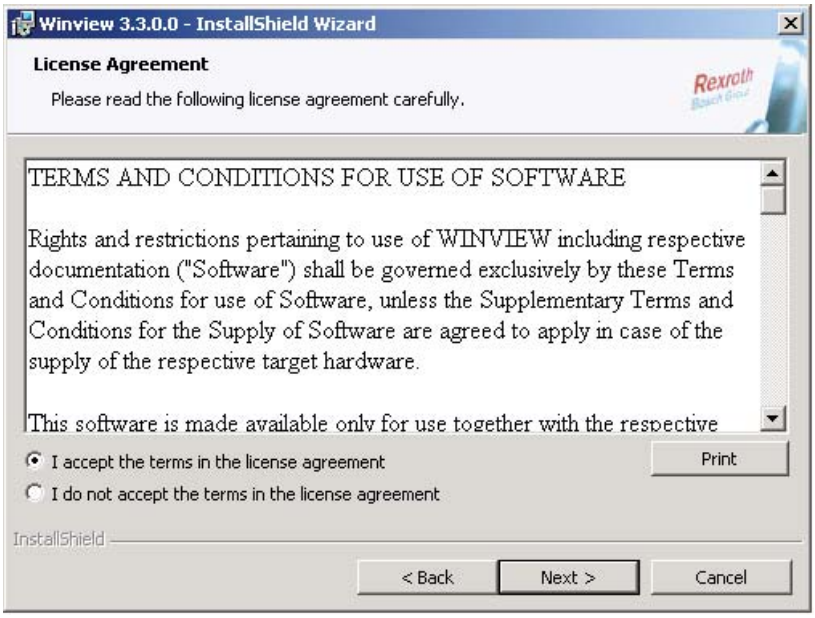


Fig. 9: License terms of WinView

The terms of use for WinView are shown here. You have to accept them (selection of “I accept the terms in the license agreement“) and confirm them by clicking the “Next >“ button in order that you can continue the installation.

User information

This dialog prompts the user to enter his/her user name and details of the organizational unit. The default values of Windows are used. It should be ensured that WinView is installed for all users.

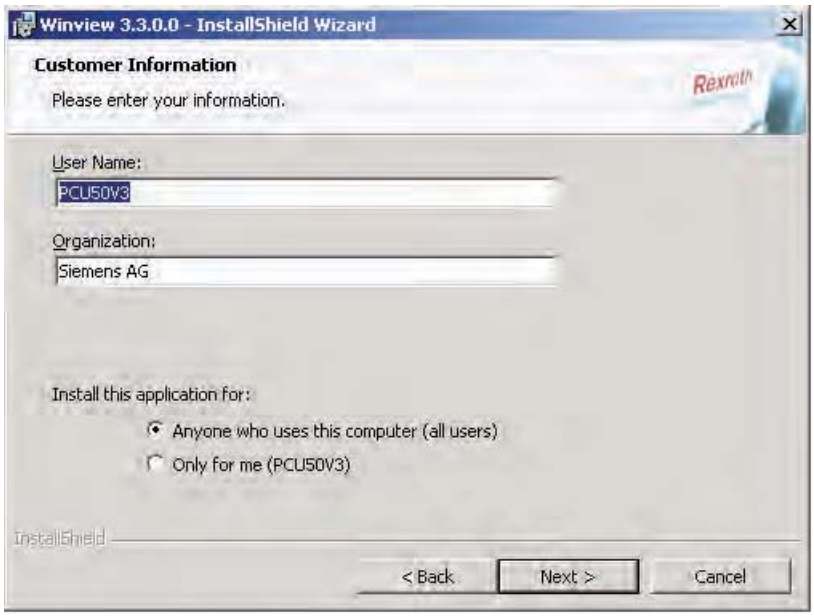


Fig. 10: User information

- Click on the “Next >“ button to continue.

Installation type

In this step you can determine the installation type of the WinView installation. You should select installation type “Complete”. To finalize this step, you have to click on the “Next >“ button.

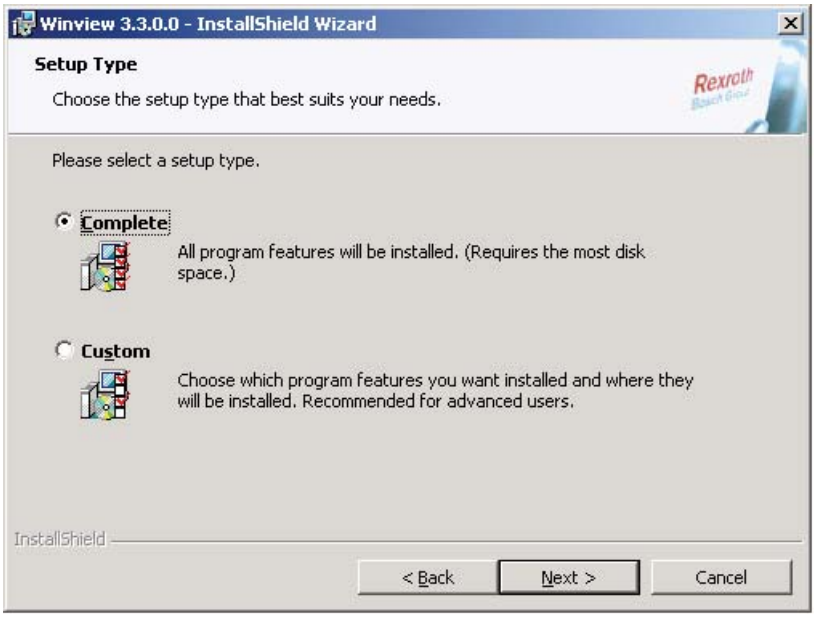


Fig. 11: Installation selection

Start of WinView-installation

Now you can start the installation of WinView.

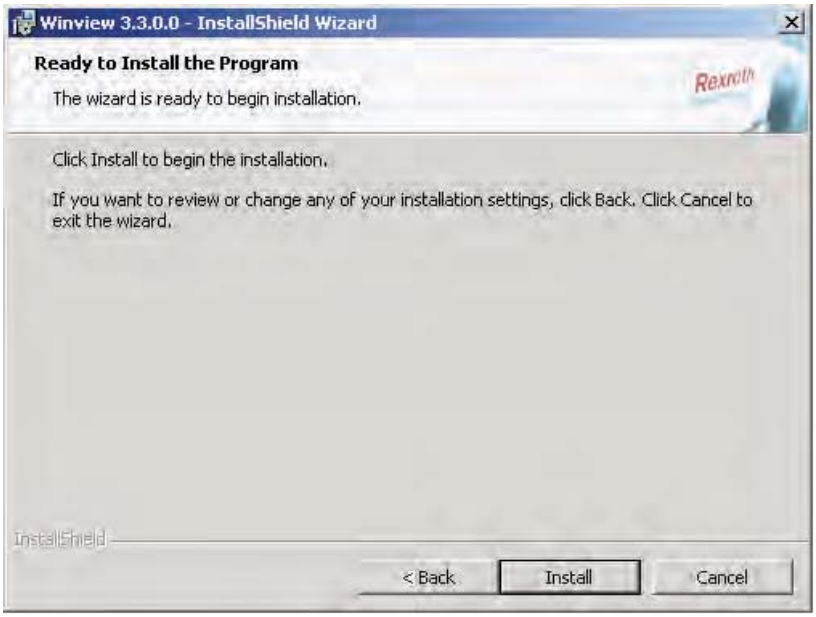


Fig. 12: Starting the WinView installation

- To start the installation, click on the “Install“ button.

Execution of the WinView installation

WinView is now being installed.

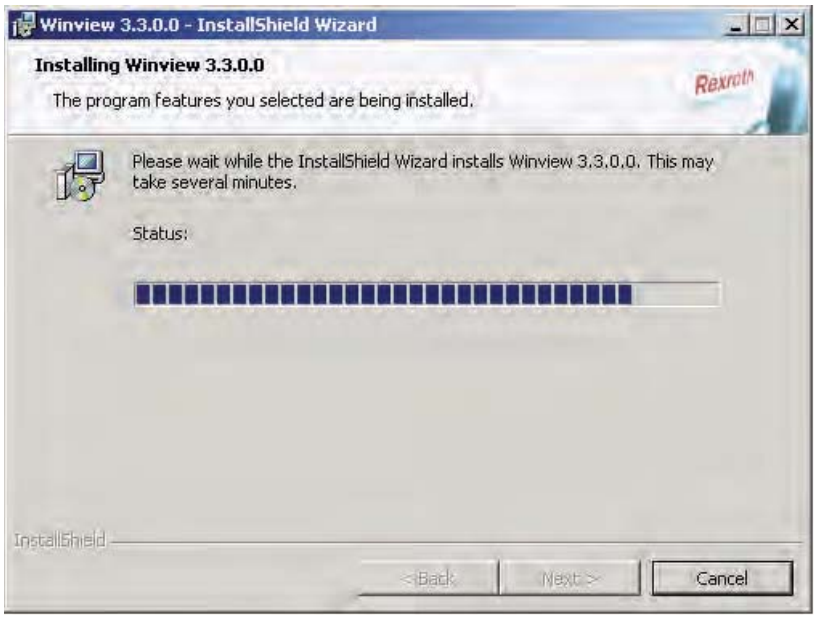


Fig. 13: Execution of the WInView installation

Finalization of the WinView installation

After successful completion of the WinView installation, the following dialog appears:

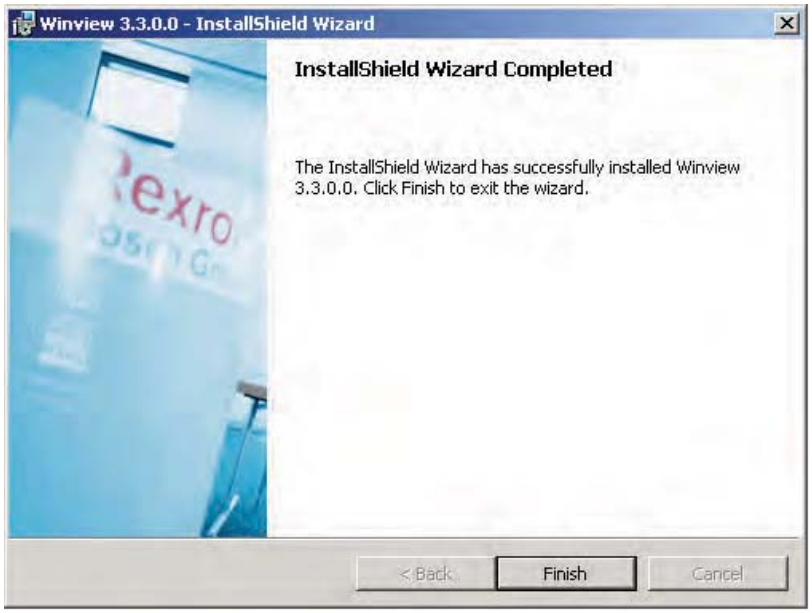


Fig. 14: Finalization of the installation

- To finalize the WinView installation, click on the “Finish“ button.

3.2.8 Finalizing the WinHPT® installation

At the end, the completion dialog for the WinHPT® installation appears:

Fig. 15: Completion dialog

▶ To finalize the WinView installation, click on the “Finish“ button.

If the “Run WinHPT®“ box is ticked, WinHPT® is started automatically after completion of the installation. This is recommended only, when the required settings for using WinHPT® were already made on the Siemens SINUMERIK 840D(i) sl. Otherwise, the basic configuration must be carried out, before WinHPT® can be utilized for parameterizing an IAC-R.

4 Setting up the PROFIBUS communication for WinHPT®

With the help of a communication DLL developed specifically for the SINUMERIK 840D(i) sl, WinHPT® can utilize the PROFIBUS interface integrated in the PCU50 for communication with the IAC-R. This offers the decisive advantage that no additional bus interface hardware is required. However, for the utilization of this option, some additional boundary conditions must be created and fulfilled. These are explained in more detail in the following.

4.1 PROFIBUS cabling

In order that the integrated PROFIBUS interface of the PCU50 can be utilized by WinHPT®, it is required that the interface is first hooked up to the rest of the PROFIBUS network with a separate PROFIBUS cable. This can be accomplished by establishing a connection between the PCU50 PROFIBUS interface and the PROFIBUS interface of the NCU by means of a cable. Make sure that the PROFIBUS wiring is correctly connected and terminated!

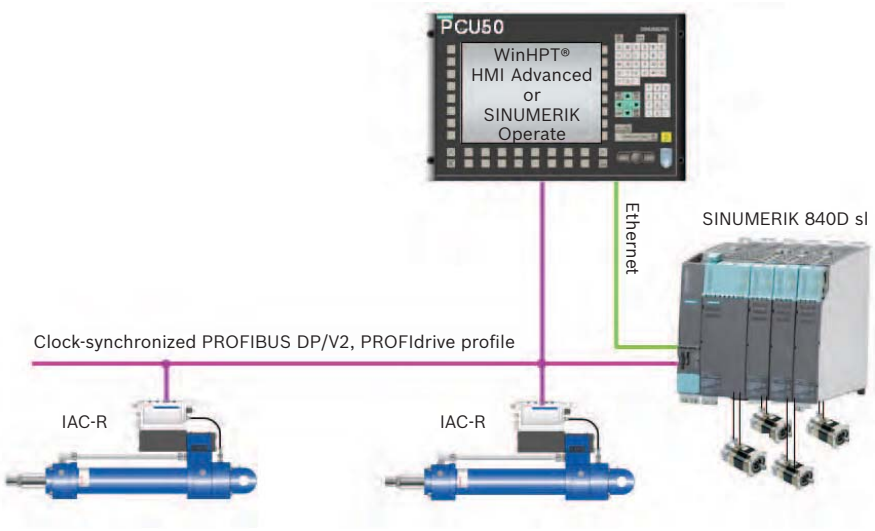


Fig. 16: Communication connection between SINUMERIK 840D sl, PCU50 and IAC-R

Bosch Rexroth AG, IAC-R, RE 29291-B1/04.2013

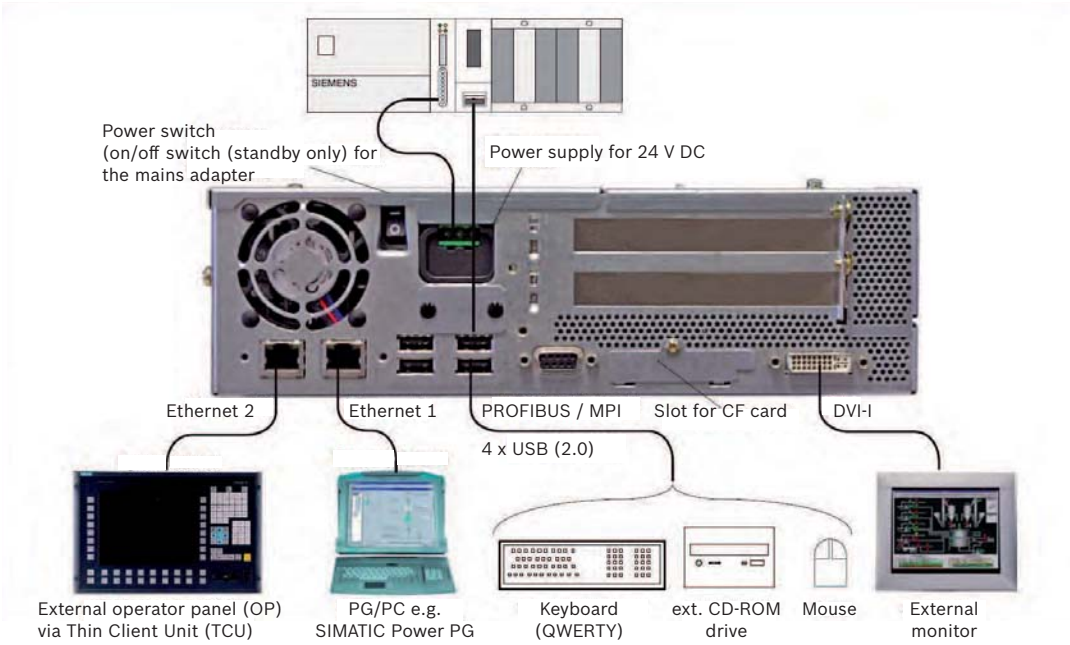


Fig. 17: Connection pattern PCU50

4.2 Configuration of the PROFIBUS interface

After having finalized PROFIBUS wiring, you must make some settings of the PCU50. For this, you have to open the service desktop. Here, you can call the configuration tool for the interfaces via the control panel; then select “Set PG/PC Interface“.

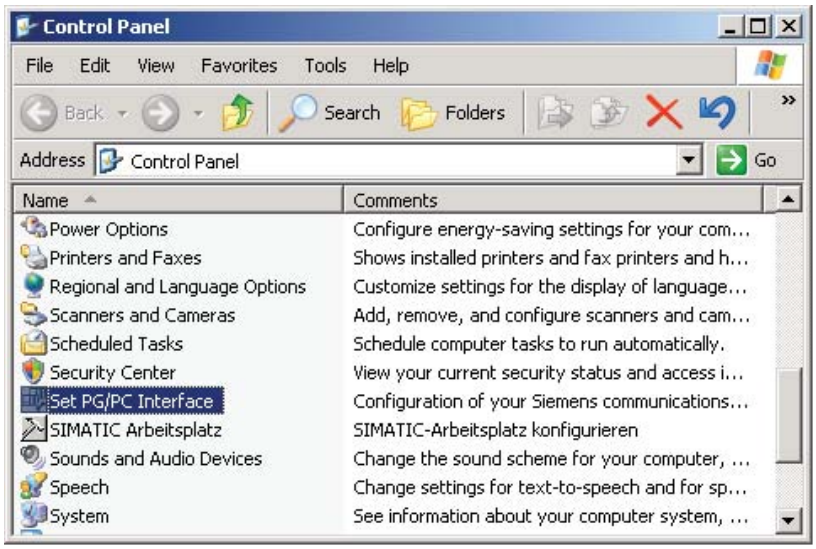


Fig. 18: Control Panel

Now select in the “Set PG/PC Interface” dialog the entry “S7ONLINE” from the selection list under”Access Point of the Application“.

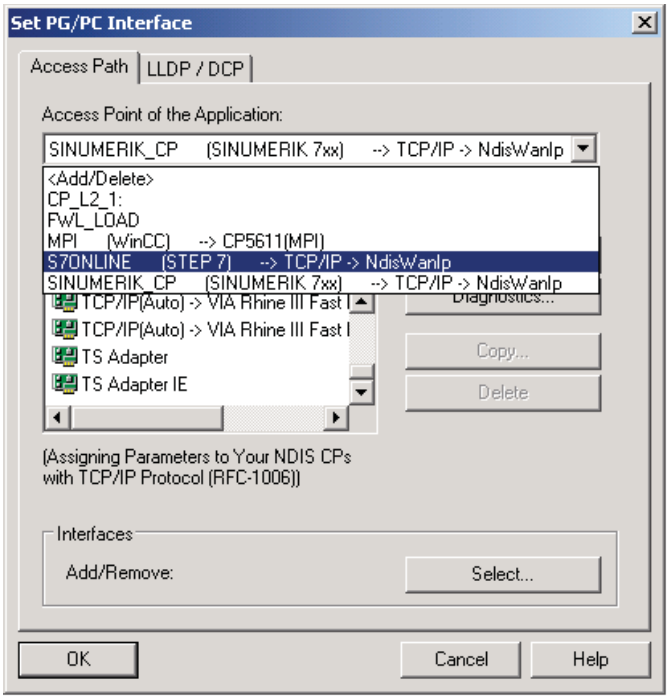


Fig. 19: Interface dialog

- Then select the entry “CP5611 (PROFIBUS)“in the interface list.

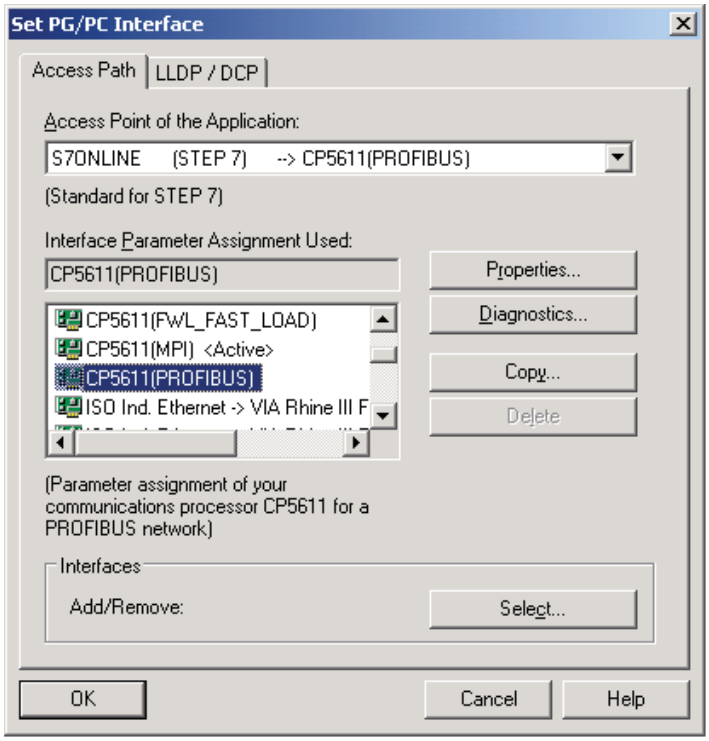


Fig. 20: Selection dialog for the PG/PC interface

After that you can edit the properties of the interface by clicking on the button “Properties“. Because the CP5611 PROFIBUS interface acts as further master on the PROFIBUS, it is important to coordinate the PROFIBUS settings with that of the planned project to prevent communication problems.

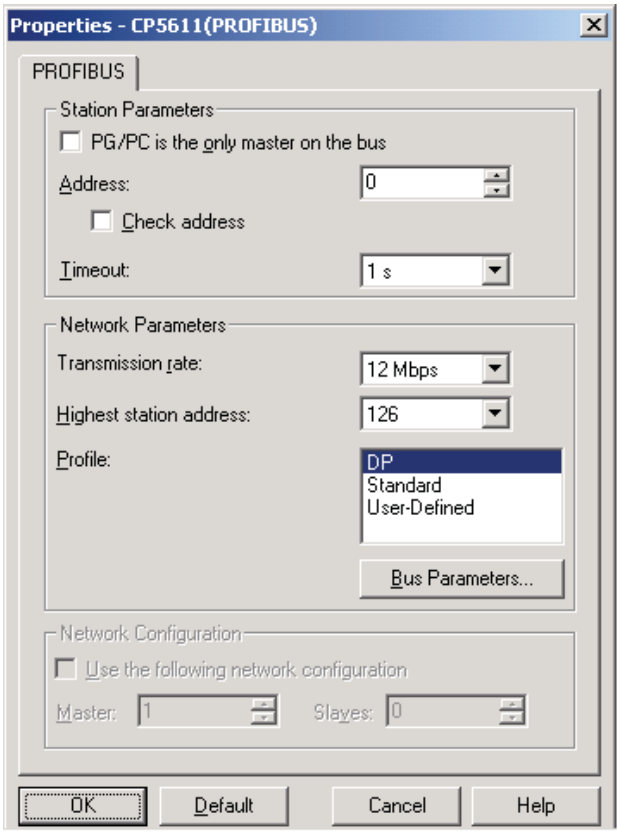


Fig. 21: “Properties“ dialog

The box of “PG/PC is the only master on the bus“ must only be checked, if no additional master is connected to the PROFIBUS. This is usually not the case, because the NCU is always available as master.
After you checked and, if required, corrected all settings, close the dialog by clicking the “OK” button. The “Set PG/PC Interface“ dialog is also closed by means of the “OK” button.
A warning dialog appears, which informs about the interface assignment for the access point “S7ONLINE“.

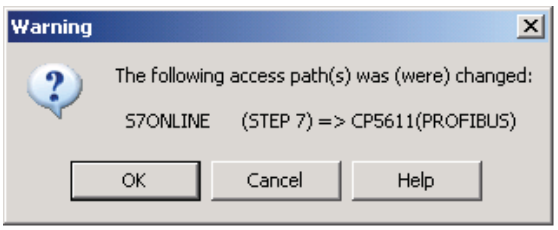


Fig. 22: Warning

▶ Also confirm this dialog by clicking the “OK” button.

If there is a conflict in the assignment of the interfaces, a further dialog may be displayed:

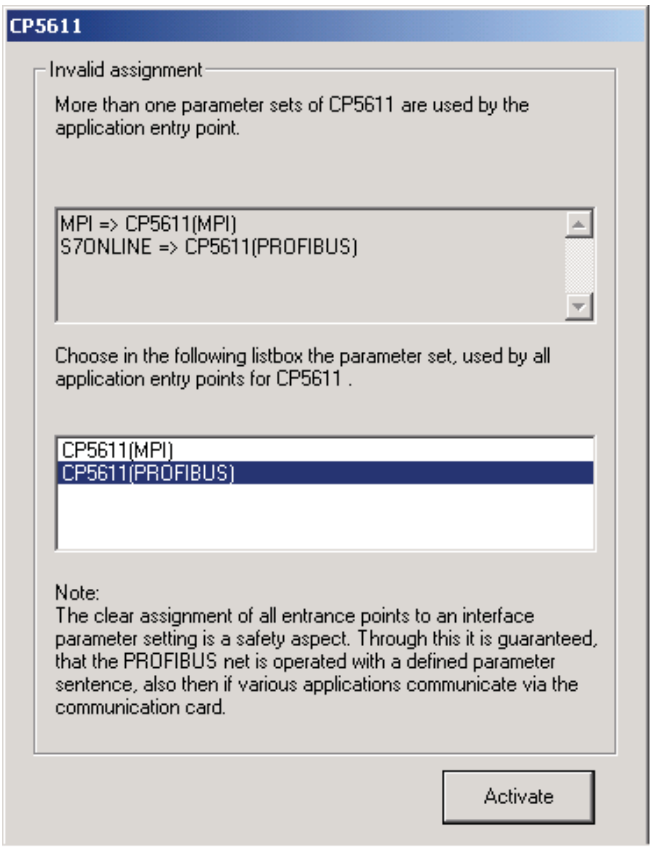


Fig. 23: Dialog in the case of invalid interface assignment

- To resolve the conflict, select the entry “CP5611(PROFIBUS)“ from the list and confirm this by clicking on the “Activate” button.

  The configuration of the interface is now completed.

To check, whether the configuration and the wiring are correct, you should now use the diagnosis dialog of the interface.
To call this dialog, first open the configuration tool again via the entry “Set PG/PC Interface“ in the control panel.

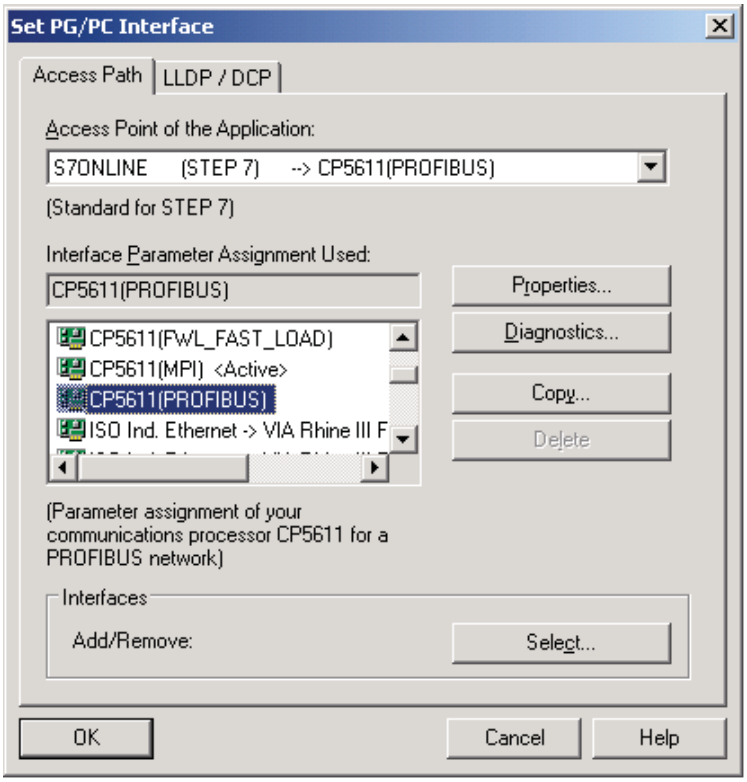


Fig. 24: Dialog "Set PG/PC Interface"

"S7ONLINE" must have been selected under the heading "Access Point of the Application". Then open the diagnostics dialog of the interface by clicking on the "Diagnostics..." button.

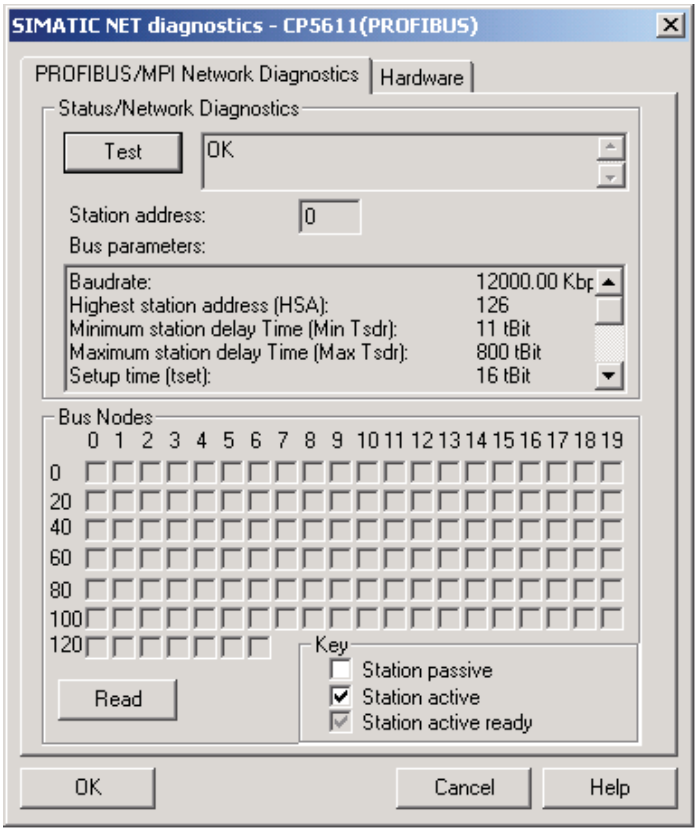


Fig. 25: Diagnostics dialog

Click on the “Test“ button to initialize and check the interface. If no error has occurred and the interface works properly, the text “OK” appears in the text box next to it. If an error is present, the associated error code and an error message are shown in the text box. Depending on the error, the relevant measures for eliminating the error must be taken (e.g. checking the wiring and interface configuration).
Click on the “Read“ button to have the stations connected to the PROFIBUS read in and displayed in the box “Bus Nodes“ under the individual PROFIBUS addresses. All stations connected to the PROFIBUS must be displayed.
When both tests were passed successfully, the interface is correctly configured and ready for operation.
Now you can start WinHPT®.

4.3 Configuration of WinHPT®

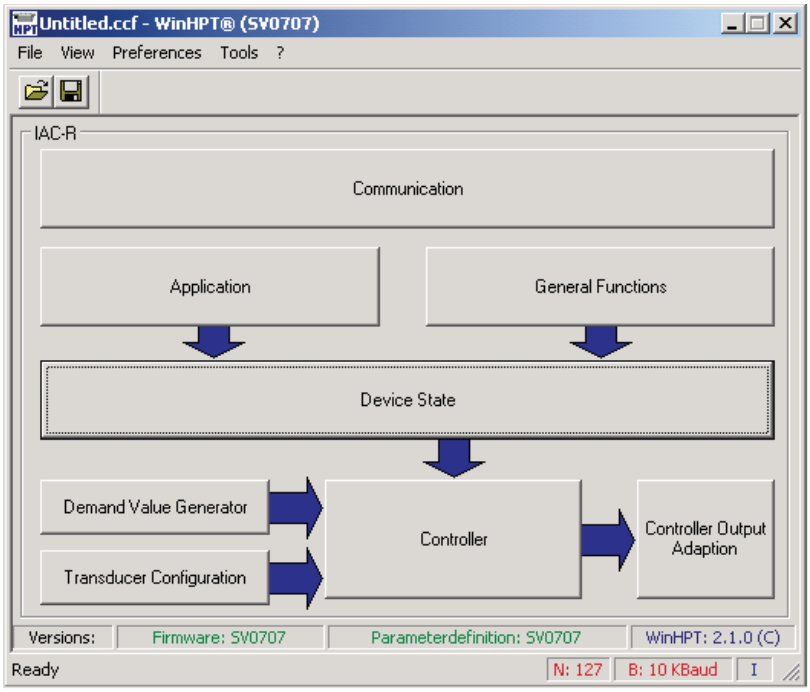


Fig. 26: Configuration of WinHPT®

- In the main window of WinHPT® select menu item “Preferences“ → “Bus interface“.

  The dialog “Interface configuration“ opens.

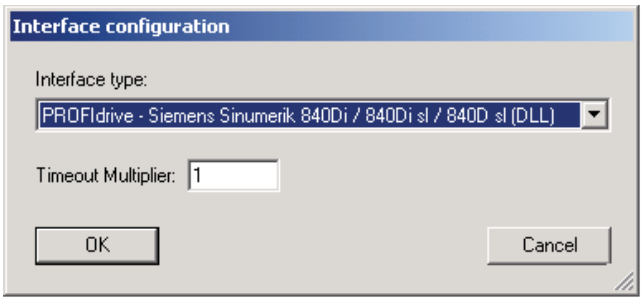


Fig. 27: Interface configuration

- Now select the entry “PROFIdrive – Siemens Sinumerik“ to establish communication with the IAC-R over the CP5611 interface of the PCU50.

At present, only the communication with a PROFIdrive IAC-R is supported over the bus interface of the Siemens SINUMERIK 840D(i) sl! (Status: WinHPT® V02.02.00).

Now you can establish a connection to an IAC-R. To this end, call the “Live List“ dialog. When all settings were made correctly, all stations connected to the bus should be shown in the ”Live List“ of WinHPT®.

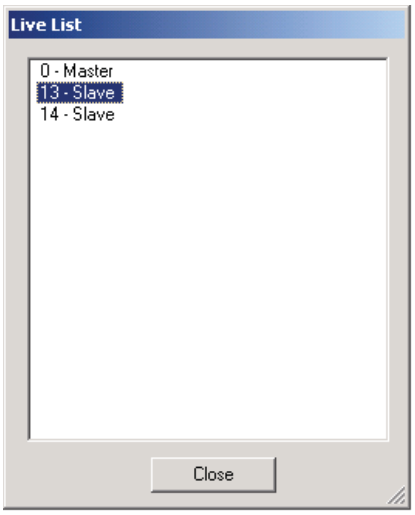


Fig. 28: Selection

Now you can work with WinHPT® as usual.

4.4 Calling WinHPT® from the HMI

When WinHPT® is installed on the SINUMERIK, a softkey is automatically configured in the HMI, which can be used to open WinHPT® directly from the HMI. It is therefore not necessary to switch over to the service desktop for calling WinHPT®.
To call WinHPT® from the HMI you must follow the steps below:

1. Press the key “Menu Select“

   The softkey menu appears.

2. Press the softkey with designation “WinHPT“ to start WinHPT®.
3. To close WinHPT® you can either quit the program or select another menu page and open it by means of the “Menu Select” softkey. WinHPT® can continue to run in the background.

5 Archiving

5.1 Archiving of the system, including IAC-R data

With the help of a separate software package you can make a full backup of the system and restore the system, if necessary. The archiving package offered is designed specifically for archiving the IAC-R configurations by means of WinHPT® in addition to NCU archiving. In this case, the archiving processes are carried out automatically. For this, WinHPT® is called in the background - invisible to the user. These comfort functions simplify handling of the IAC-R and reduce the maintenance effort.

5.1.1 General preconditions

System requirements PCU50	
PCU50.3-C with WinXP and Profibus interface	PCU_Base Software >= 08.06
PCU50.3-P with WinXP and Profibus interface	PCU_Base Software >= 08.06
PCU50.3B-C with WinXP and Profibus interface	PCU_Base Software >= 08.06.01.03
PCU50.3B-P with WinXP and Profibus interface	PCU_Base Software >= 08.06.01.03
PCU50.5-C with WinXP and Profibus interface	PCU_Base Software >= 01.02
System requirements NCU	
NCU 710.2	CNC software status >= 2.6 SP1 HF1
NCU 720.2	CNC software status >= 2.6 SP1 HF1
NCU 730.2	CNC software status >= 2.6 SP1 HF1
NCU 710.3	CNC software status >= 4.4 SP1

Before archiving can be used, ".NET Framework 4" must be manually installed on the PCU50. The required installation program is available in the Microsoft Download Center ("Microsoft .NET Framework 4 (Standalone Installer)" / "dotNetFx40_Full_x86_x64.exe", which you can find on the Internet website of Microsoft: `http://www.microsoft.com`

▶ Use the default password (password "SUNRISE") for the service user "auduser" on the PCU50.

WinHPT® must be able to establish a fault-free communication with an IAC-R connected to the system.
To this end, the following conditions must be fulfilled:
- WinHPT® must have been installed on the control.
- The PCU50 PROFIBUS connection must have been physically connected to the PROFIBUS network.
- The CP5611 PROFIBUS interface of the PCU50 must be correctly configured.
- In the project of the system, only PROFIdrive IAC-Rs, but no standard PROFIBUS IAC-Rs may be present.
- After the project was changed, the Siemens SINUMERIK 840D(i) sl must be restarted to make the changes also visible for the archiving tool.
- WinHPT® version V02.02.00 or higher must be installed.
- The backup medium must offer sufficient space for the archive file (recommendation: more than 1 GB free memory space).

- The archiving tools can be used exclusively in conjunction with a Siemens SINUMERIK 840D sl. The Siemens SINUMERIK 840Di sl is not supported by the archiving tools.
- No PROFIBUS station may be connected to PROFIBUS address 125 (default address of the IAC-R) (exception: see special case of replacement of an IAC-R).

5.2 Installation of the archiving software

Software required for archiving can be obtained from the product page of the IAC-R.
`http://www.boschrexroth.com/IAC`
The download links can be found in the page menu under “IAC-R“ in the sub-menu “Software“.
The two archiving tools are offered for download as ZIP file. After having downloaded the file, you have to unpack it. To transmit the program files of the archiving tool to the control, we recommend that you unpack the ZIP file to an USB stick.
After having been unpacked the two executable files of the archiving tools are in the target directory. The program file for the backup of system data, including configurations of IAC-Rs in the project, is named “Archivierung_IAC_R.exe“. The counterpart for restoring an archive file is named “Wiederherstellung_IAC_R.exe“.

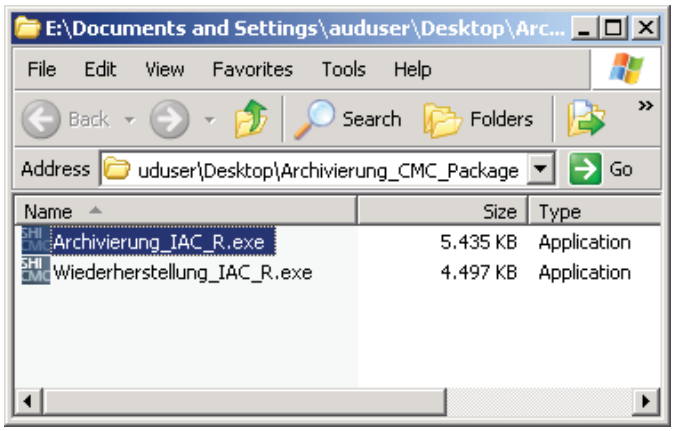


Fig. 29: Archiving

5.3 Archiving sequence

To carry out archiving, you merely have to execute the file “Archivierung_IAC_R.exe“ on the PCU50. A progress bar appears, which shows the current processing status. You can change the dialog language via the selection list. You can select the language versions “De“ (German) and “En“ (English).

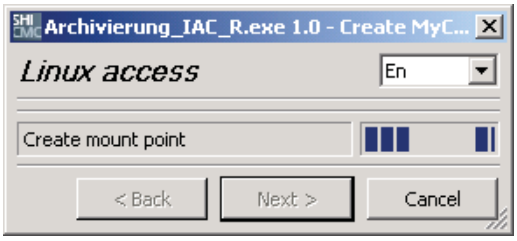


Fig. 30: Archiving

The archiving tool additionally starts an auxiliary service, which opens a console window with the name “PCU-Handler“.

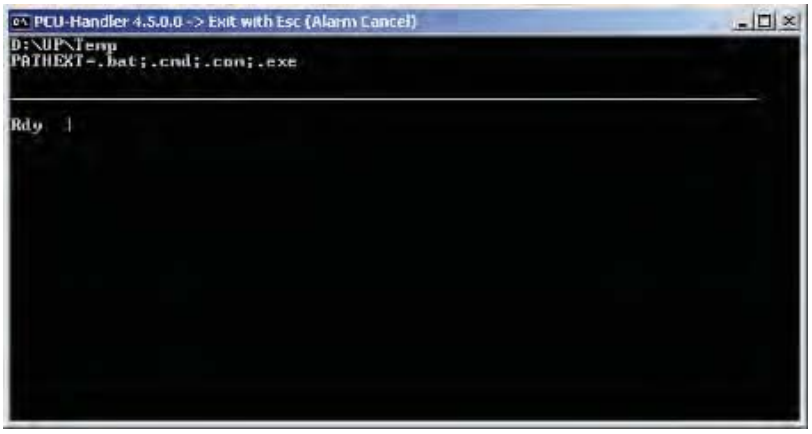


Fig. 31: PCU-Handler

This window must in no case be closed! However, because it may, under certain circumstances, obstruct the view to the archiving dialog, it can be minimized at any time or the input focus can be set to the archiving dialog at any time.

The archiving tool now automatically establishes the existing stations on the basis of the project and saves the configuration data of all IAC-Rs found with the help of WinHPT®.

Fig. 32: Archiving of IAC-Rs

Subsequently, a backup is made of the NCU system and the rest of the Siemens PROFIBUS devices. This process takes several minutes.
After successful completion of the archiving package, the following dialog appears:

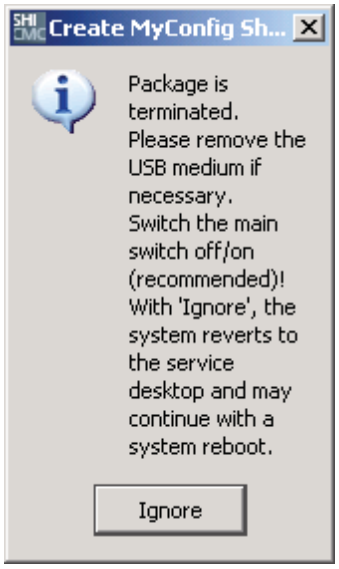


Fig. 33: Final dialog

You can close this dialog by clicking “Ignore”. Then, the PCU50 should be shut down and the entire system (NCU included) be disconnected from the power supply. After this you can switch the system on again and start it up as usual.
The archive file “NCU_IACR_Backup.tgz“ is saved to the directory where the archiving tool is located. This file contains the complete backup and should therefore be kept at a safe place - physically separated from the system.

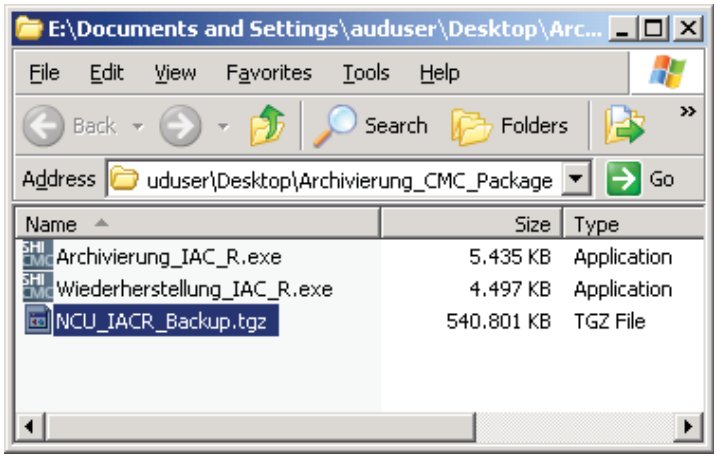


Fig. 34: Archiving

It must be noted here that the archive file is stored in the same directory that also contains the executable program file. The path of the program file therefore determines the target directory for the archive file. If archiving is started directly from the USB stick, the archive file is also saved to the USB stick. If the program file of the archiving tool is copied to the internal hard disk of the PCU50, this will be the place of storage of the archive file.
Moreover, it must be noted that the archiving tool overwrites an existing archive file having the name “NCU_IACR_Backup.tgz“. Should the archive file of a previous backup run is to be kept, it must be moved to another directory.

5.4 Special case: Station in the project, but not available on the bus

If a station is listed in the project, but not available on the bus during archiving, the backup for this station is skipped, that is, no security copy is generated for this station. At the end of archiving, the bus addresses of the stations, for which no backup was made, are listed in a note window.
Make sure that for all IAC-Rs, which you selected, a backup was made. Otherwise, you have to find the cause for the non-reachability of the station and eliminate the fault. Then, archiving must be repeated.

6 Restoring

6.1 Restoration

For the restoration it is required that the restoring tool and the archive file are located in the same directory.
At certain points in the sequence of the restoring tool, several selection options are offered to the user. Generally, the following options are available:

- Restoration of the NCU system without IAC-R configurations
- Restoration of the NCU system and the IAC-R configurations

The exclusive restoration of the IAC-R configurations from the archive file without restoration of the NC system is not possible with the restoring tool.
You can select from two restoration modes for restoring the IAC-R configurations:

1. Complete restoration: In this mode, all previously saved IAC-R configurations are automatically restored.
2. Manual restoration: In this mode, WinHPT® is started up in the visible mode and can then be operated as usual. The parameters saved before for each IAC-R are made available in individual parameter files. It is therefore possible to copy the individual parameter files to the individual IAC-Rs.

With the restoration function, merely customer parameters are restored. Data determined during automatic measurement (AVC) are not restored. It is therefore required to repeat the automatic measurement when a device is replaced, provided that this functionality is to be utilized.

6.2 Complete restoration

The sequence of restoring is illustrated exemplarily in the following.
Restoring is started by executing the program file of the restoring tool (“Wiederherstellung_IAC_R.exe“).

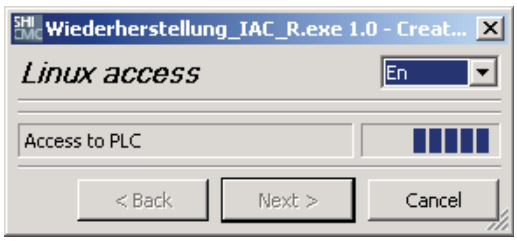


Fig. 35: Restoring

The restoring tool additionally starts an auxiliary service, which opens a console window with the name “PCU-Handler“.

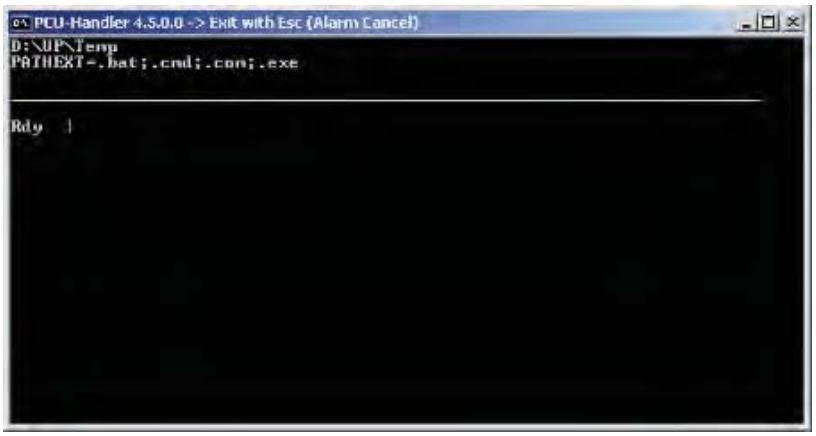


Fig. 36: PCU-Handler

This window may in no case be closed! However, because it may obstruct the view to the restoration dialog, it can be minimized at any time or the input focus can again be set on the archiving dialog.

After a short time, a selection dialog appears for the “installation mode of restoration:

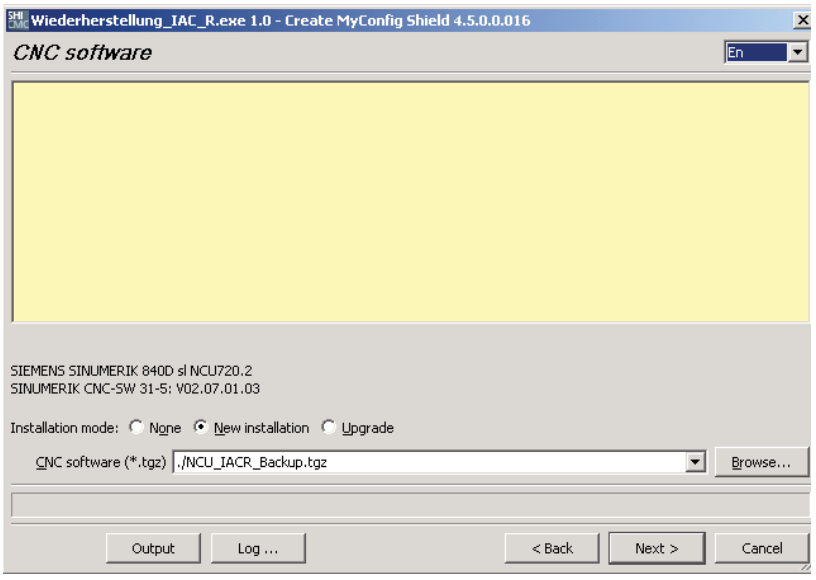


Fig. 37: Installation mode of restoration

The“Installation mode” provides the following options for selection:

- Installation mode “None“

  The NCU system is not restored. The IAC-R configurations are not restored on the basis of he archive file, but the status of the NCU saved last on the CF card is restored. This is, as far as available, the status of the last archiving run. This mode

should not be selected, because it cannot be ascertained without any difficulties, which backup status the saved IAC-R configurations have on the CF card.

- Installation mode: “New installation“ or “Upgrade“
  Within the framework of the restoring tool, the two modes are identical. A complete restoration of the NCU system will be carried out from the archive file. This is the preferred mode for the restoration.

After you selected the installation mode, continue the restoration by clicking on the “START” button. First, the restoration of the NCU is carried out. This process may take some minutes depending on the scope of data saved.

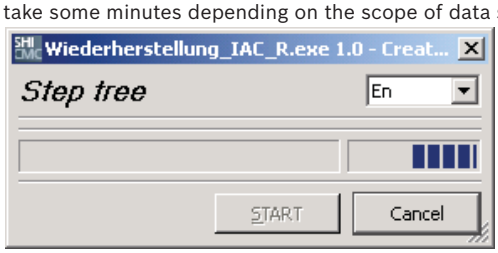


Fig. 38: Restoration of the NCU system

Shortly after completion of the restoration of the NCU system, the selection dialog for the restoration mode of the IAC-R configurations appears:

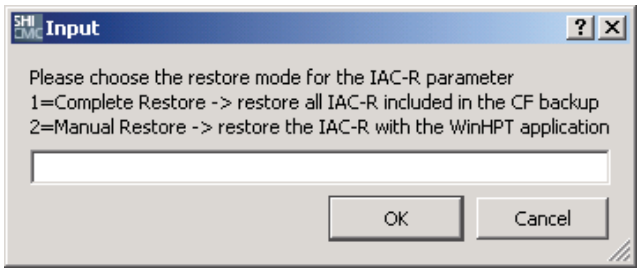


Fig. 39: Selection of the restoration mode

In this dialog you can now select the restoration mode for the IAC-R configuration data. Enter the number “1” in the entry box and confirm your entry by clicking the “OK” button to start the automatic “complete restoration”.

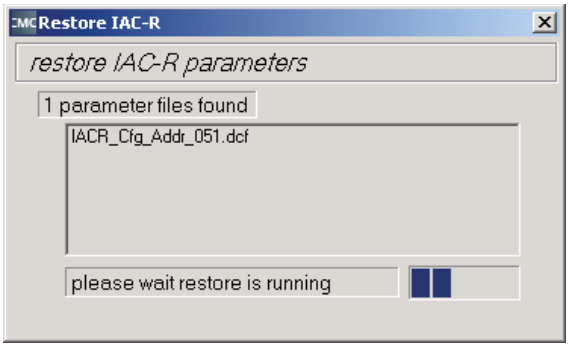


Fig. 40: Restoration

The “Restore IAC-R Backup“ dialog lists all parameter files, which are included in the archive file. Each parameter file contains the configuration data for a certain IAC-R. The number at the end of the file name reflects the PROFIBUS device address of the associated IAC-R. This allows you to verify, whether the expected IAC-R PROFIBUS addresses are contained in the archive file and were processed by the restoring tool. The configurations of the individual IAC-Rs are now consecutively restored. The time taken for this varies depending on the number of drives involved.
After the successful completion of restoration, the following dialog appears:

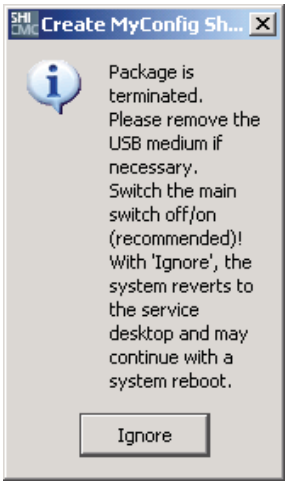


Fig. 41: Final dialog

You can close this dialog by clicking “Ignore”. Then you should shut down the PCU50 and disconnect the entire system (NCU included) from the power supply. Then you can switch the system on again and start it up as usual.
If errors occur during a restoration, an error message dialog is shown additionally. In the event of an error, it must be assumed that the system is in an undefined configuration state. In this case, the cause of error must be eliminated and the restoration repeated.

Special case: Replacement of an IAC-R

The case that an IAC-R must be replaced in a system is treated as special case by the restoring tool. A replaced IAC-R is recognized by the fact that during a restoration it cannot be reached under the previously saved node number. In this cause, an IAC-R is searched for at the IAC-R default address 125. This PROFIBUS address is preset as factory setting on all IAC-Rs. If an IAC-R is connected to the default address, the saved configuration of the no longer existing IAC-R is copied to the new IAC-R. After this configuration was completed, the IAC-R is automatically restarted. At this point in time, the spare device is hooked up to the bus with the PROFIBUS address of the original IAC-R and has the identical parameterization as the original IAC-R.

Caution: Should several IAC-Rs be replaced, they may only be changed one after the other, as otherwise conflicts may occur on the PROFIBUS, because several bus stations with the same bus address are connected to the PROFIBUS. In this case, the restoration of the IAC-R configurations must be repeated after each replacement of a further IAC-R.

If the bus address of the replacement unit was already changed, the manual restoring mode must be selected to copy the correct configuration from the archive data to the IAC-R. Alternatively, the bus address can be reset to default address “125” before restoring is started.

6.3 Manual restoring

The mode “manual restoring” is intended for experienced WinHPT® users. For this, the operating principle of the IAC-R must be known. The general operation of WinHPT® is therefore not dealt with in this chapter.
The restoring sequence is largely identical with the sequence of “complete restoration”. Differences occur only from the point, where the selection of the IAC-R restoration mode is made.
In the selection dialog for the IAC-R restoration mode you can select “manual restoration” by entering the number “2” and confirming your entry by pressing the “OK” button.

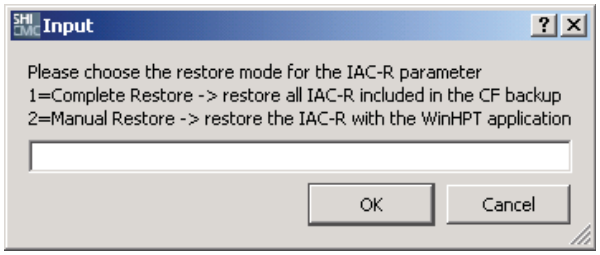


Fig. 42: Restoration selection

WinHPT® then starts in the visible mode.

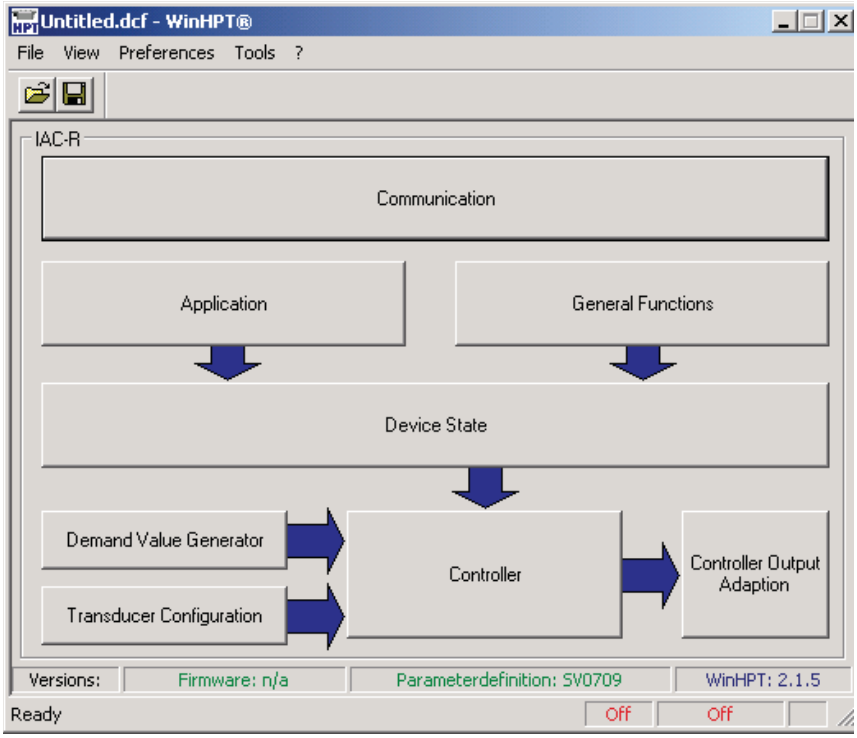


Fig. 43: Start WinHPT®

By clicking on the button “Communication“ in the WinHPT® main window you can call the “Communication“ dialog.

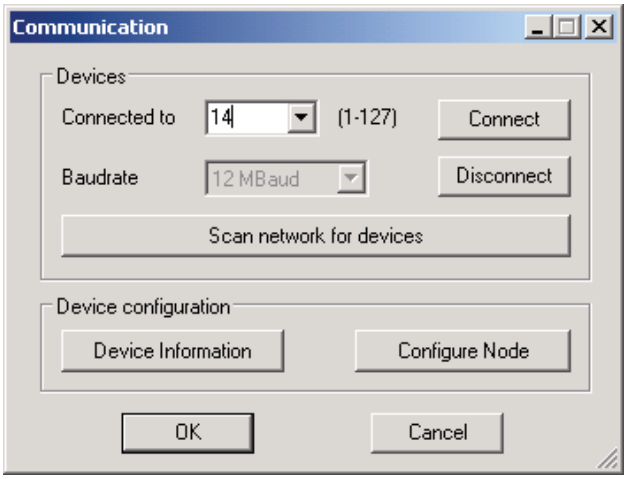


Fig. 44: Communication dialog

In this dialog you can now establish a connection to the desired iAC-R. The simplest way to do this is by entering the bus address of the IAC-R in the box “Connect to“ and subsequent confirmation by clicking the “Connect“ button.
As soon as a connection is established with the desired IAC-R, you can load the saved configuration to the IAC-R. To this end, open the dialog for opening a file via menu item “File“ → “Load parameters“.

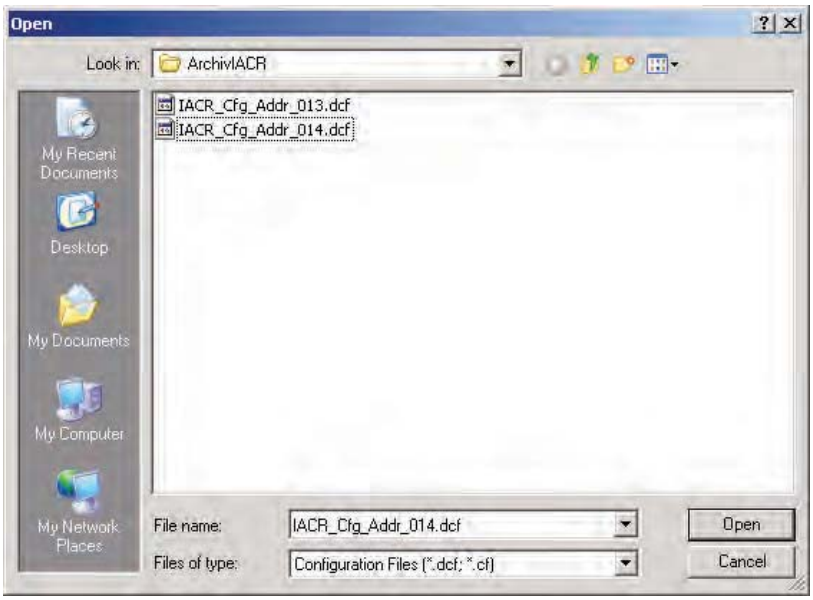


Fig. 45: Open file dialog

The dialog automatically shows the path, in which the saved IAC-R parameter files from the archive file were stored. After WinHPT® was exited, these files are automatically deleted by the restoring tool.
Select a parameter files and confirm the dialog by clicking the “Open” button; the parameter file is then loaded by WinHPT® and the configurations contained therein are transferred to the currently connected IAC-R.
Under certain circumstances, the following warning dialog may be displayed:

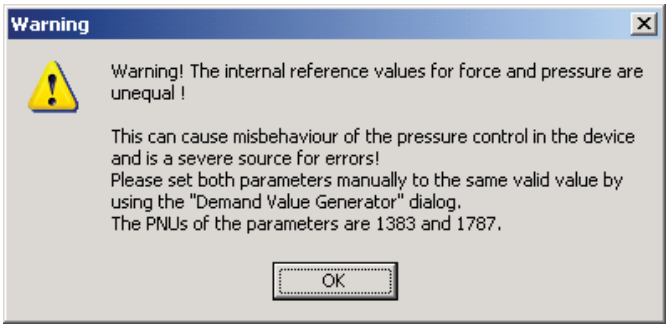


Fig. 46: Warning note

In this case, the two internal reference values of the IAC-R for force and pressure are different. This may, under certain circumstances, result in errors or inaccuracies in internal calculations. For this reason, the two parameters should be set to the same value (e.g. 100000). The parameters can be adjusted in the dialog “Demand Value Generator“, which can be called directly from the main window of WinHPT® by clicking on the button with the same designation.
Finally, the changed IAC-R configuration must be taken over to the non-volatile memory on the IAC-R. Otherwise, the configuration will be lost when the IAC-R is switched off. Save the configuration by selecting menu item “File“ → “Make data persistent“.
Now you can either quit WinHPT® or connect to another IAC-R and upload one of the saved configuration in the same way.

7 Notes on archiving and restoring

The user is responsible for the archiving and restoring processes carried out by him/her. In particular, he/she must make sure that:

1. the generated archive file actually contains the full extent of the desired configuration data,
2. the archive file is securely saved and kept,
3. all the expect device configurations were restored in the course of the restoration,
4. the archiving tools can still be run on the target system - also after an update of the system software and/or hardware.

After an archiving or restoration run, the system must be disconnected from the power supply so that a cold start is carried out when the system is switched on again. In addition, re-commission the system with the required caution and attention after an archiving or restoration cycle.
Bosch Rexroth AG is not liable for damage that may occur as a result of the use of the archiving functionality. Bosch Rexroth subjected the archiving tools to comprehensive testing and regards the tools suitable for the applications described in this document; nevertheless, the user of these tools is finally solely responsible for their use. If the user cannot assume this responsibility, it is still possible to carry out manual archiving of the system. The tools made available by us merely serve to simplify and automate the saving procedure.

8 Alphabetical index

Bosch Rexroth AG, IAC-R, RE 29291-B1/04.2013