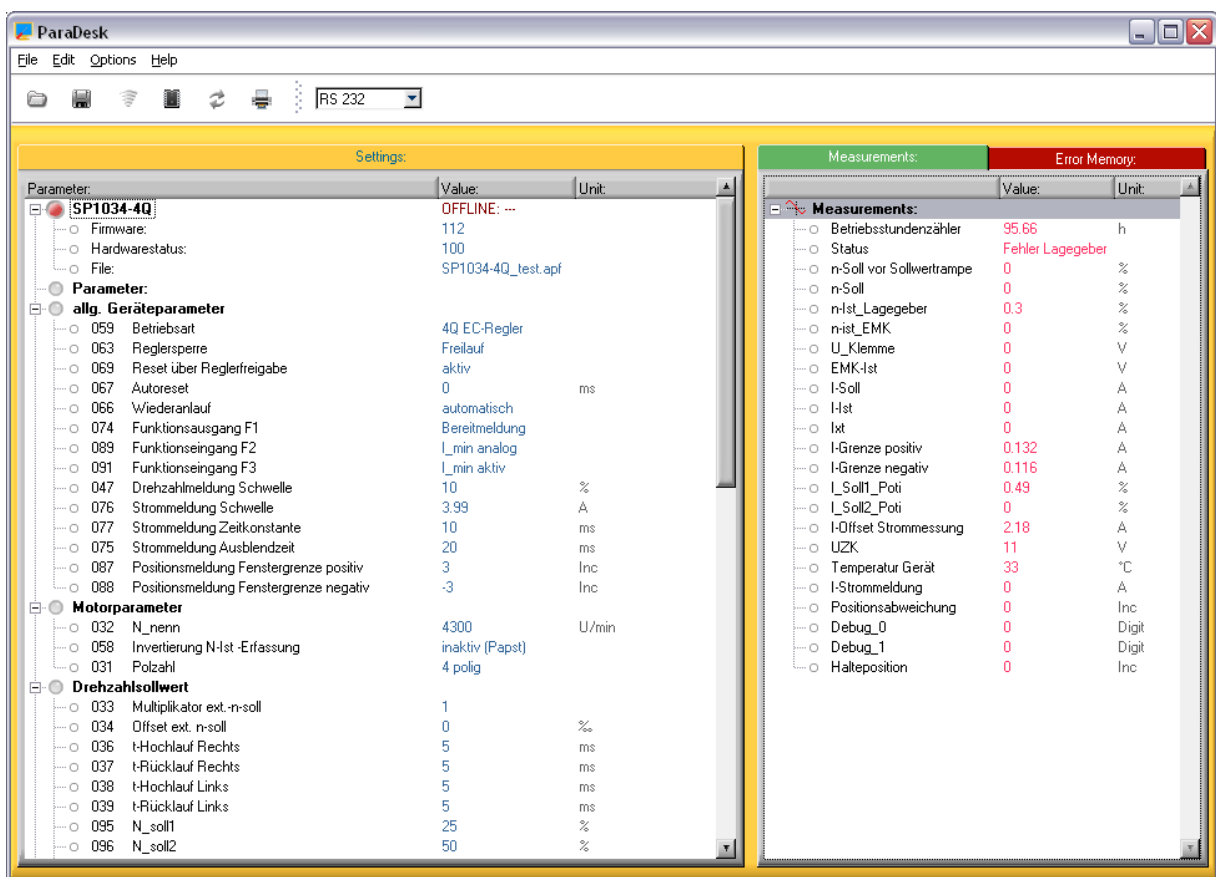


Description

Operation software

ParaDesk

V4.00



PC-monitor- and parameterizing-software

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1. Preface and General

The operating software ParaDesk permits parameterize and monitoring microcontroller controlled devices with ParaDesk interface.

Advantages:

- ◆ One operating software for all ParaDesk devices.
- ◆ A clearly structured main window with all important information elements discerned at a glance
- ◆ Multilingual (device dependent)
- ◆ Automatic interface selection
- ◆ Automatic device identification
- ◆ During the parameterize functions the monitor function continues to run in parallel
- ◆ Connection via each standard RS232 interface
- ◆ Monitoring of the parameter integrity, i.e. write operations are checked for technical plausibility.

2 Safety Instructions

2.1 Device reactions

During the parameter adjusting action the connected device changes its properties!



There may be written into the device only parameters of which the User has convinced himself and beforehand that the device reaction does not cause any dangerous operating status. Consequently all parameters must be checked beforehand prior to writing a complete parameter record.

The User must have an extensive knowledge of the total plant in which the device to be parameterized is integrated, in order to have the possibility of estimating the danger states which could result there from.

The universal structure of ParaDesk permits no statements of general value about possible reactions of the device and/or of the plant. The User must acquire the necessary knowledge contained in the documentation of the device and of the plant. If necessary, additional information is to required from the manufacturer of the device or from the manufacturer of the total plant.

In the following we give a non-exhaustive list of examples of danger points:

Parameterize on...	Possible Danger	Remedy
Autoreset	Injury of persons as well as material damage due to self-starting of the machine or of parts of the machine.	Parameterize autoreset only in case of drives where self-start does not present any danger.
Rated values, rated value offsets, rated value multipliers	Injury of persons as well as material damage due to sudden modification of rpm, torques, voltages, currents, or similar.	Parameterize the device in the inactive status only (e.g. device locking). Change by small step sizes only and then check the result.
Operating mode	Injury of persons as well as material damage due to sudden modification of the device.	Parameterize the device in the inactive status only (e.g. device locking). Parameterize only when all premises for new operating mode are fulfilled.
Limits e.g. for maximum currents, temperatures, voltages or similar.	Injury of persons as well as material damage due to the fact that the device does not keep any longer certain safety limits.	In cooperation with total plant determine the respective limits (eventually with the safety engineer or with the safety representative). Any overstepping of and any falling below these limits may not take place.

Parameterize on...	Possible Danger	Remedy
Balancing parameters	Injury of persons as well as material damage due to a faultily balanced device.	Carry out the device balance only when the device is separated from the total plant and if appropriate metering means are available for guaranteeing the success of the balancing.

Caution:

Generally the parameters written into a device react immediately, i.e. ramps, time delays and similar elements are ineffective in most of the cases.



Consequently parameters may only be written when the device is inactive (e.g. in case of device locking).

2.2 Nonliability

ParaDesk is a free-of-charge application software created with a maximum care. Nevertheless unforeseeable events cannot be excluded in all cases under certain system constellations. Therefore the use of ParaDesk takes place at one's own risk.

Especially any liability is excluded with regard to:

- ◆ data loss;
- ◆ use outage on EDP plants and other operating means;
- ◆ damage issued directly or indirectly in connection with the possible use of ParaDesk;
- ◆ false reactions, false interpretations with their consequences caused by false display values or false input values.

3. Installation

3.1 Premises

- ◆ PC with Pentium processor or higher
- ◆ free hard-disk storage = approx. 8 MB
- ◆ main memory = at least 32 MB
- ◆ screen resolution = at least 1024x768
- ◆ Microsoft Windows® XP, WIN7, WIN10
- ◆ CD-ROM drive or internet access
- ◆ eventually ZIP unpacker
- ◆ RS232 interface

3.2 Installation of CD

Place the CD into the drive. Generally the installation process starts automatically after a short time. If no autostart function is activated, carry out the file „setup.exe“. Follow the instructions of the installation program.

When the request appears, click onto „Extract“, and then the installation package adds the device configurations¹ to the installation.

3.3 Download and Installation from Internet

The current ParaDesk can be downloaded from the homepage www.paradesk.de. Unpack the file „ParaDesk.zip“ in a temporary folder, carry out the file „setup.exe“, and follow the instructions of the installation program. After successful installation the temporary folder can be erased.

When the request appears, click onto „Extract“, and then the installation package adds the device configurations² to the installation.

3.4 Deinstallation

When the setup program is started on a computer on which ParaDesk is already installed, the existing installation will be removed. This process does not take a long time; however it is the precondition for a problem-free installation of a new version.

Parameter record files created by the User remain intact during the deinstallation. Nevertheless, they can be the cause of a non-erasing of the program folder.

In the same way the device configurations¹ (*.AKF) remain in the program folder. Nevertheless they can be erased manually without any problems.

3.5 Installation of New Device Configurations¹

If the complete program package is not to be updated, but the device configurations¹ only, please proceed as follows:

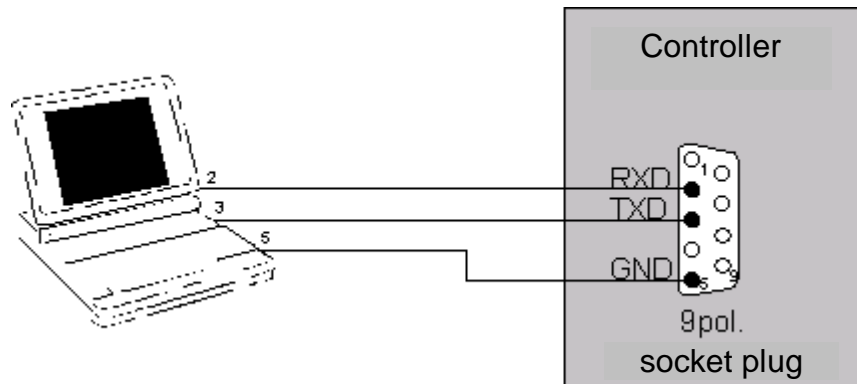
Copy the file „AKFs.exe“ into the ParaDesk program folder and start. When the request appears, click onto „Extract“.

¹ Device configuration: Information that makes accessible the different devices for ParaDesk. It is a matter of files with numeric file names and with ending "AKF".

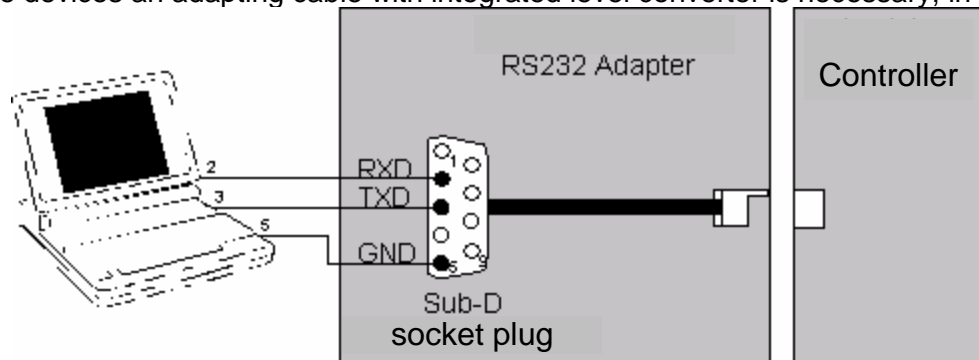
4. Device Connecting

For connecting a device, use a free RS232 interface of your computer. The cable to be used is indicated in the respective device description.

If the device is equipped with a 9-pole SUB-D socket, you need a standard commercial DTE-DCE cable (cable with modem connection, noncrossed).



On some devices an adapting cable with integrated level converter is necessary, in addition.



Special forms for the device connection also are possible. For this, see the respective device description.

Notice:

In case of computers without RS232 interface (e.g. some portable computers) a standard commercial USB-RS232 converter can be used. When installing the driver it is necessary that the interface numbering lies in the range COM1 ... COM9.

5. Operating

5.1 Main Window

The screenshot displays the ParaDesk software interface, which is divided into several sections:

- Top Bar:** Contains the menu (File, Edit, Options, Help) and a dropdown menu for RS 485.
- Toolbar:** A row of icons labeled 8a through 8h, used for navigation and tool functions.
- Parameter Settings Panel (Left):**
 - Parameter:** A tree view showing the device configuration. The selected parameter is **SP1034-4Q** (highlighted with a red circle 7).
 - Value:** A table listing parameter values. For example, **074 Fun.Bereit. Strommeldung, Drehzahlmeldung oder Positionsmeldung** is highlighted with a red circle 6.
 - Unit:** A column showing the units for each parameter.
- Measurements Panel (Right):**
 - Measurements:** A table showing real-time measurement data. For example, **Betriebsstundenzähler** is 95.66 h, and **n-Ist_Lagegeber** is 0.3 %.
 - Error Memory:** A section for recording and viewing error events.

- 1: Menu bar
- 2: Information range: device information, software information and hardware information, file information
- 3: Parameter range
- 4: Measurement window
- 5: Register tabs (for switching over between measurements window and error memory window)
- 6: Short description of the parameters
- 7: Online / Offline
- 8: Toolbox
- 8a: Open the parameter record file
- 8b: Store the parameter record file
- 8c: Read out the device
- 8d: Write to the device
- 8e: Re-load the previous parameter record file
- 8f: Print the parameter record file
- 8g: Button for switching over between the protocols RS232 ↔ RS485

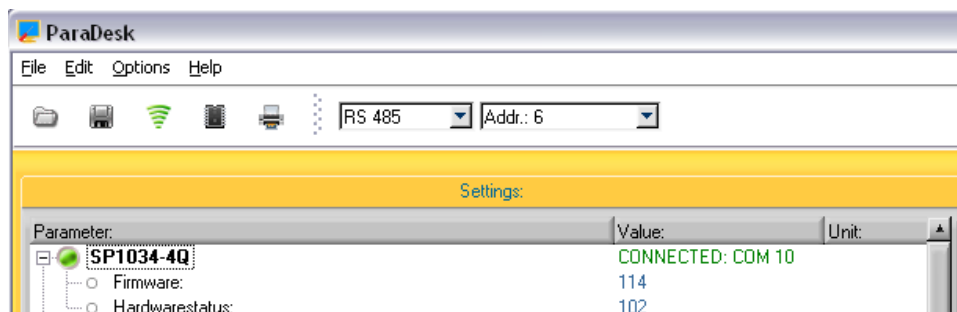
5.2 Program Start

After the program start ParaDesk automatically searches for a connected device. In case an PARADESK device is found on an interface, the parameters of the device are shown; in the other cases the window remains empty.

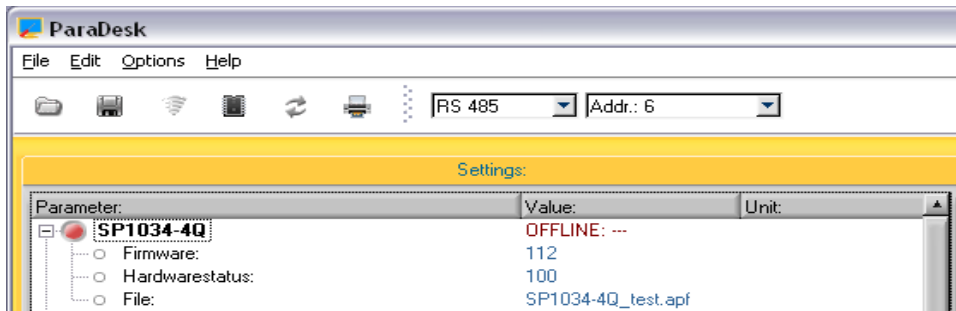
5.3 Elements and Functions

5.3.1 Device and File Information

The connected device is displayed in the range ②. In addition, in the range ② the firmware version of the microcontroller in the device, as well as the hardware version of the device are to be read. These fields cannot be edited.



When a parameter record file has been loaded (see chapter 0) the range ② contains the name of the file under the item „File“. Within the range ② the software identification and the hardware status can be read under the status in which the parameter record file has been created. ParaDesk is in the “OFFLINE“ status.



5.3.2 Measurement Window

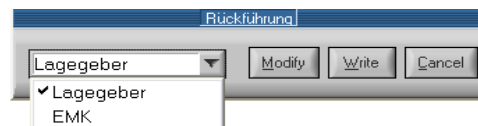
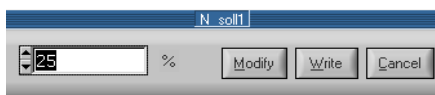
In the measurement window ④ the current measured-data of the device can be read. The updating rate depends on the number of the values which are to be monitored and on the capacity of the PC. On average it is approx. 1s. The content of this window is device-specific and noneditable.

5.3.3 Parameter Range

The range ③ shows the changeable parameters of the device. At the moment of program start or when a new device is connected, the parameters are read by the device and are displayed in this window.

5.3.3.1 Editing of Single Parameters

A doubleclick onto the wished parameter line opens the editing window. Alternatively it is possible to position the marking on the wished parameter line with the help of the keyboard and to open the editing window with the help of the key "Enter".



Hier kann der neue Wert in das Zahlenfeld eingetippt werden, oder mit den Up-/Down-Buttons modifiziert werden.

Falls der gewünschte Parameter nur diskrete Alternativen zur Auswahl zulässt, enthält das Editierfenster ein DropDown-Feld

The 3 buttons in the editing window have the following functions:



The entered value is taken over into the parameter window, but is not yet written into the device. The editing window will be closed. (Key function: Enter)



The entered value is written directly into the device; the update of parameter window takes place. The editing window remains open. (Key function: Alt-W)








The entered value is rejected; the closing of the editing window takes place. (Key function: Esc or Alt-C)

5.3.3.2 Working with Parameter Records

Complete parameter records are transferred by means of the keys ⑧a ... ⑧e:

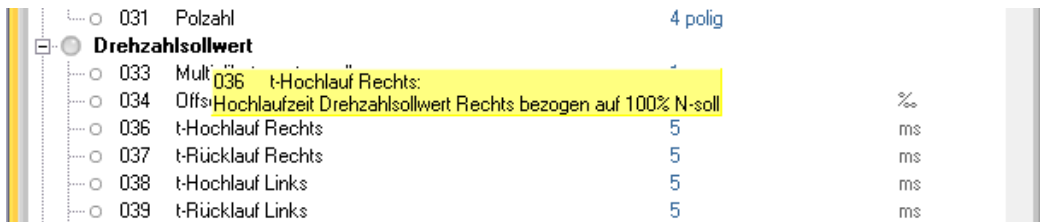


Reads the connected device into the parameter window ③. If the parameter window already included data elements, these data elements will be overwritten. When connecting a device this takes place automatically.

-  Trennt die Verbindung zwischen dem angeschlossenen Gerät und ParaDesk. Danach erfolgt die Anzeige im Infobereich das dass Gerät sich im „Offline“ Modus befindet.
-  Writes the total content of the parameter window into the connected device.
-  Reads data elements out of a parameter record file (*.apf) and enters the data elements into the parameter window. If the parameter window already included data elements, these data elements will be overwritten.
-  Writes the data elements from the parameter window into a parameter record file (*.apf). After indication of the file name a free comment text can be entered.
-  Loads the last-called parameter record file into the parameter window. This function is very useful when writing parameter file records in several PARADESK devices of a same type.

5.3.4 Short Description of the Parameters

A short description of the parameters appears in field ⑥. The display contains the respective description of the parameter on which the mouse pointer is placed. This means that for the obtention of the short description the mouse pointer must only be positioned onto the concerned line within the parameter window ③, within the measurement window ④ or within the error memory window.



031	Polzahl	4 polig	
033	Mult		
034	Offs		
036	t-Hochlauf Rechts	5	%
037	t-Rücklauf Rechts	5	ms
038	t-Hochlauf Links	5	ms
039	t-Rücklauf Links	5	ms

Notice:

The short descriptions are device-dependent. It can happen that short descriptions do not exist for all parameters.

This function can be deactivated in the „Program Options“. See chapter: 0

5.3.5 Switchover „Measurement Window – Error Memory Window“



The register tabs ⑤ permit switching over the window ④ to the error memory window „Fault memory“ or switching back the measurement window „Measurements“.

Measurements:	Error Memory:
	Value: Unit:
<ul style="list-style-type: none"> o Betriebsstundenzähler 95.66 h o Status Fehler Lageg... o n-Soll vor Sollwertrampe 0 % o n-Soll 0 % o n-Ist_Lagegeber 0.3 % o n-Ist_EMK 0 % o U_Klemme 0 V o EMK-Ist 0 V o I-Soll 0 A o I-Ist 0 A o I-Ist 0 A o I-Ist 0 A o I-Grenze positiv 0.132 A o I-Grenze negativ 0.116 A o I_Soll1_Poli 0.49 % o I_Soll2_Poli 0 % o I-Offset Strommessung 2.18 A o UZK 11 V o Temperatur Gerät 33 °C o I-Strommeldung 0 A o Positionsabweichung 0 Inc o Debug_0 0 Digit o Debug_1 0 Digit o Halteposition 0 Inc 	<ul style="list-style-type: none"> o Error Memory: o Memory 1: Fehler Lagegeber <ul style="list-style-type: none"> o F3_Status 0.408 V o F3_UZK 0 A o F3_I-Ist 0.4 % o F3_Betriebsstunden 93.75 h o F3_Temp. Gerät 19 °C o Memory 2: Fehler Lagegeber <ul style="list-style-type: none"> o F2_Status 0.408 V o F2_UZK 0 A o F2_I-Ist 0.4 % o F2_Betriebsstunden 84.21 h o F2_Temp. Gerät 18 °C o Memory 3: Fehler Lagegeber <ul style="list-style-type: none"> o F1_Status 0.426 V o F1_UZK 0 A o F1_I-Ist 0.4 % o F1_Betriebsstunden 74.78 h o F1_Temp. Gerät 21 °C o Memory 4:

Notice:

A error memory does not exist for each device. In this case the error memory window remains empty.

5.3.6 Online / Offline

The operating mode is displayed in the status field ⑦ :  / 

A green point within ⑦ means a junction exists between the device and the PC.

ParaDesk is in the "ONLINE" mode.

A red point within ⑦ means that the junction to the device is interrupted.

ParaDesk is in the "OFFLINE" mode.

5.3.6.1 Online Mode

- ◆ ParaDesk has a junction by data circuit to a connected device.
- ◆ The updating of the data in measurement window and in error memory takes place.
- ◆ The data in the parameter window can be written into the device.

5.3.6.2 Offline Mode

- ◆ No data junction to the device.
- ◆ The data in the measurement window and in the error memory window is frozen.

5.3.6.3 Switching Offline → Online

- ◆ Automatically when connecting a device.
- ◆ When actuating the button „Read Device“ ⑧c and when a device is found.

5.3.6.4 Switching Online → Offline

- ◆ Automatically when interrupting a junction to the device (or when switching off the device).
- ◆ When opening or re-loading a parameter record file.

5.3.7 Menu Bar

5.3.7.1 File

The menu items „Open File“, „Save File“, „Read Device“, „Write Device“ and „Reload File“ have the same meaning as the respective buttons ⑧a ... ⑧e.

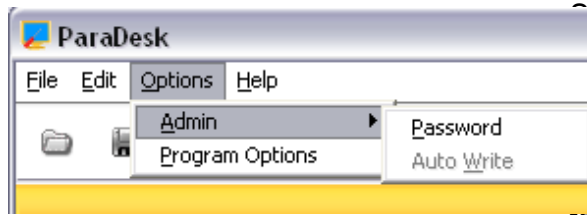
„Print“ calls the print routine. A tabular printout is produced and that contains the data from the parameter window. If ParaDesk is „ONLINE“, the error memory window will also be printed.

If a parameter record file has been loaded in ParaDesk, the free file comment will also be printed out. The printout takes place in the selected respective language.

„File Info“ shows the free comment text from the parameter record file. This menu item only is available when a parameter record file has been loaded.


„Quit Program“ ends ParaDesk.

5.3.8 Options



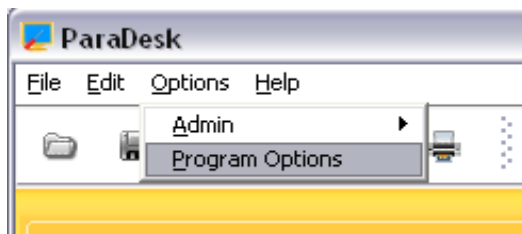
Some parameters can be protected by a password. Only after having entered the correct password via this menu item, the parameters become visible and can then be edited. When entering any false password (or by a dummy input) the protected parameters are hidden automatically.

If protected parameters are available in individual case, and which the respective password is, that must be agreed on with the manufacturer.

Password protected parameters are presented in parameter window ③ with a red symbol 

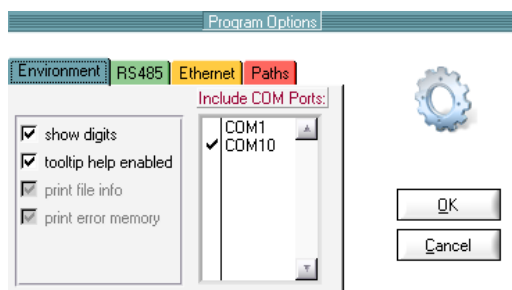


After having entered the correct password, the function „AutoWrite“ will also be enabled: within the editing window the values are sent immediately to the device without any key depression. This function must be used with care, since doing this some unintentional values can quickly be written into the device.



“Program Options“ permits entering into a further selection window, within which it will be possible to deactivate the short description of the parameters, and to vary the settings for the RS485 protocol.

5.3.9 Environment



After deactivating the checkbox “tool tip help enabled” it will not longer shown short descriptions of the parameters when hovering over them.

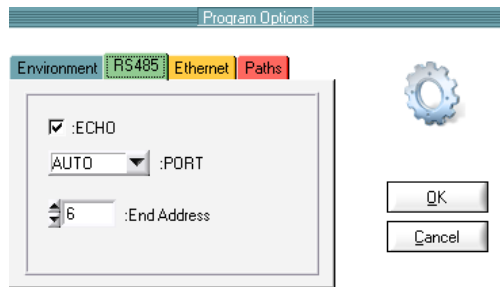
When the checkbox “show digits” is activated, the parameter values will also shown in digits.

The list box “Include COM Ports” is used to choose the COM port where ParaDesk is searching for connected devices.

Notice:

Deactivated COM ports are also invisible for the RS485 connection. To ensure a fast connection it is recommended to choose the respective COM port directly.

5.3.9.1 RS485



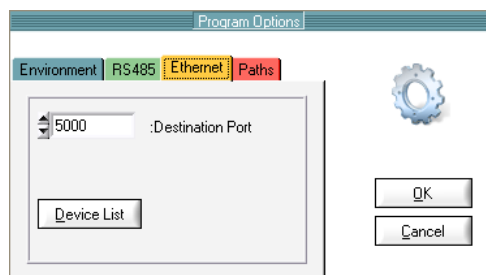
ParaDesk can also actuate devices connected via RS485 bus. For this, the bus must be connected via a RS485↔RS232 interface transducer to an interface RS232 of the computer.

The checkbox ECHO is to be activated when the transducer RS485 ↔ RS232 is not able to hide its sent data on the reception line.

PORT permits adjusting the port for the RS485 junction. If the setting AUTO has been chosen, all COM ports of the PC will be integrated into the junction searching. For a quicker junction setup it will be advantageous to determine the COM port directly.

In the field „End Address“ the maximum address searched for on the port is to be adjusted. A maximum of 128 devices can be connected to the port (addresses [0...127]). Here also it will be advantageous for a quicker junction setup to choose the highest address which has to be activated on the bus.

5.3.9.2 Ethernet

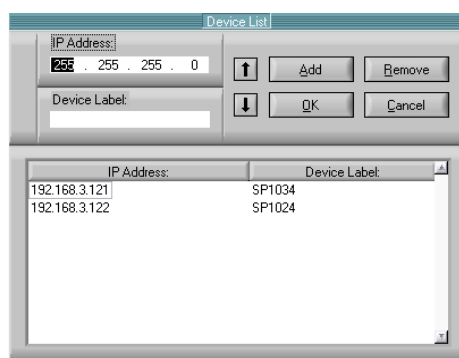


ParaDesk devices with Ethernet interface can be configured in the tab “Ethernet”.

The “Destination port” defines which port ParaDesk should take to communicate with the device over the network.

Notice:

The Port address in the device must be identical to the port address configured in ParaDesk. It is recommended to choose a free port address to avoid conflicts with other services.



After a click on the “Device list” button the configuration menu pop up. In this menu the IP address together with a device name can be declared.

The device name is used for the selection in the menu bar. The button “add” applies the IP address and the device name.

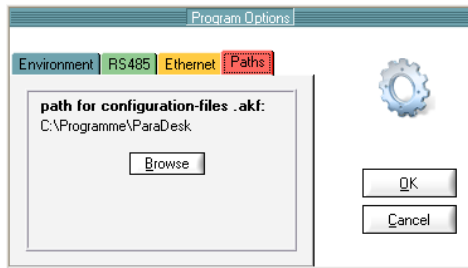
The host part in the IP address must accord with the host part of the local PC with ParaDesk.

Unused devices can be removed form the “Device

list” by click on the button “Remove”. With the “Up” and “Down” buttons the list can sorted individually.

A final click on the “OK” button saves the configurations in a file. The button “cancel” close the menu without applying the changes.

5.3.9.3 Paths



Here can be mentioned the file path, where the device configuration files are saved.

The device configuration files contain information's for ParaDesk to communicate with the various devices.

The device configuration is a file with numeric filename and the file ending *.akf.

Each device has its own device configuration. The default path for the device configurations is the installation path of ParaDesk.



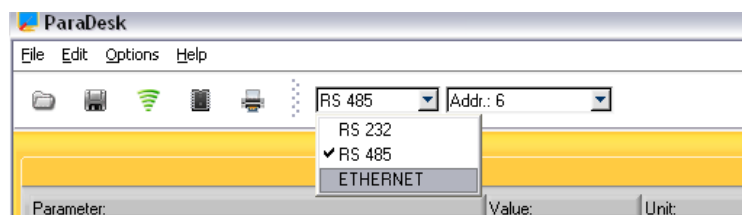
When for the actual connected device no configuration file is available, an error message will pop up.

The solutions ist to get an update for the device configurations on www.paradek.de

For more information have a look to chapter 3 "Installation of New Device Configurations"



5.3.9.4 Protocol

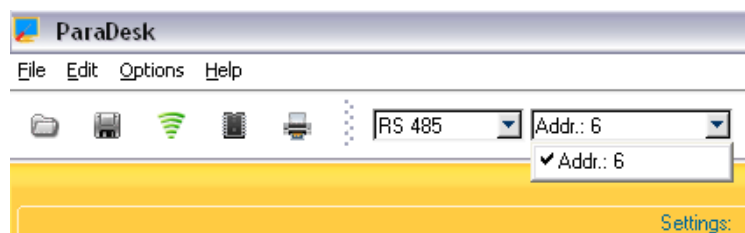
The used protocol can be chosen in the menu bar. Devices with RS232-Interface work with the RS232 protocol, devices with RS485 interface works with the RS485 protocol and devices with Ethernet interface works with the Ethernet protocol.



Is an RS485 connection active, every founded device in the link connection on the bus will be added to the drop down menu in the menu bar.

In the drop down menu every active device on the bus can be selected. If new devices should added additional, the connection must be reconnected.

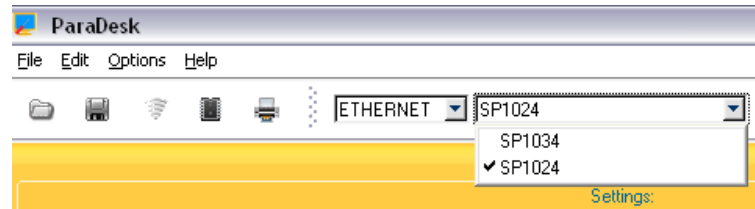
To do this, click the "disconnect" button  in the menu bar and after that click "connect" button .



Chapter 5: Operating

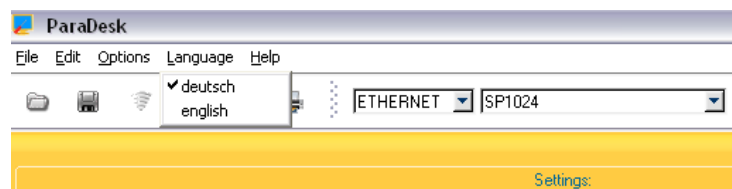
The connection to Ethernet devices will also started by choosing the Ethernet protocol in the drop down list.

Each device name has its own IP address. For more information have a look at chapter "5.3.9.2 Ethernet".



5.3.9.5 Language

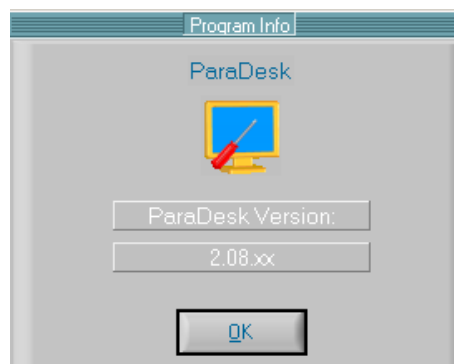
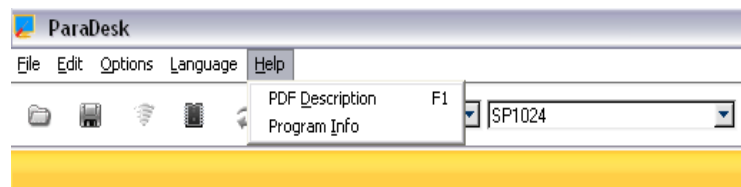
This menu permits selecting the language for the parameter texts and the short descriptions to be displayed. Which languages are available? This depends on the respective device. When only one language is available, this menu item is deactivated.



All letterings of the buttons and all menu inputs always are in English.

5.3.9.6 Help

Help contains the menu item „Program Info“, and „Program Info“ indicates the respective version of ParaDesk.



6. Troubleshooting

Error	Possible Cause	Recovery
ParaDesk goes not to online	<ul style="list-style-type: none"> ◆ No device is connected. ◆ Device is switched off. ◆ Wrong junction cable. ◆ Interface on PC seized by other software (or also by 2nd instance of ParaDesk). 	<ul style="list-style-type: none"> ◆ Check the connection. ◆ Supply the device with current. ◆ Use the correct cable (compare with chapter 0). ◆ Carry out ParaDesk once only. End any other software allocated to the interface.
	<i>If RS485 protocol is activated</i>	
	<ul style="list-style-type: none"> ◆ RS485 ⇔ RS232 transducer without any echo compensation. ◆ End address in ParaDesk adjusted to a level that is too low. ◆ False COM Port adjusted 	<ul style="list-style-type: none"> ◆ Activate „ECHO“ in the ParaDesk under „Options“ ⇒ „RS485“. ◆ In the ParaDesk under „Options“ ⇒ „RS485“ „End Address“ adjust the address to a larger value. ◆ Set the COM Port (see 0) onto „AUTO“. When the search is completed adjust the respective COM Port.
Error message „No configuration available“	ParaDesk does not know the connected device.	Download and install the newest device configuration (see chapter 0)
Error message „Device and configuration file not compatible“	The connected device and the loaded parameter configuration are not suited each other, and parameters cannot be written into the device.	Carry out „Read Device“ for taking over the configuration of the device.

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