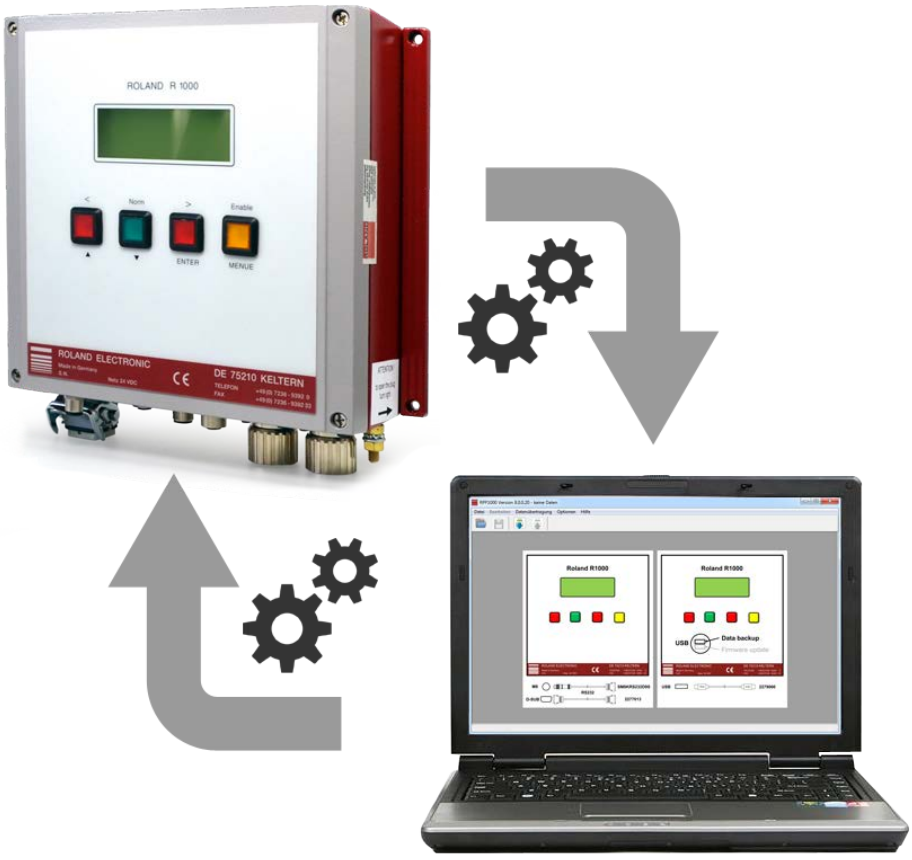
RPP1000 software

Create, backup, display, modify and restore system and program parameters of the R1000 series units from Roland Electronic

- Backup and restore parameters
- Display, modify and create parameters
- Convert backup files
- For Windows 7, Windows 8.1 and Windows 10



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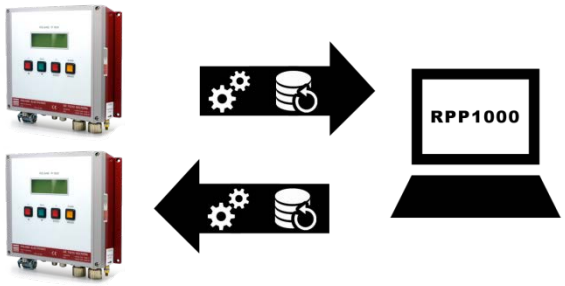
1 Function of the software

The RPP1000 software has been developed to create, backup, display, modify and restore system and program parameters of R1000 series units from Roland Electronic GmbH.

Depending on the used R1000 unit, the following functions are possible:

Type of unit	Backup and restore parameters	Display, modify and create parameters	Convert existing old data backups
E20[1)] and UDK20[1)]	Yes	Yes	Yes (*.RPP)
I20, L20	Yes	Yes	Yes (*.RPP7)
E10[1)], UDK10[1)], I10[1)], I10K[1)], I10KV[1)], I10KH[1)]	Yes	No	Yes (*.RPP) at data from RPP XP; No at RPP WIN and RPP DOS
[1)] excepting following versions of units: A-R, A-O, B-R and B-O			

	Creating a backup after setting up and adjusting an R1000 unit can be performed by using the RPP1000 software. Additionally it is possible to modify the parameters of E20, UDK20, I20 and L20 using the RPP1000 software.
	When the unit needs to be exchanged, all settings from the old unit can be easily transferred to the new unit by using the RPP1000 software. Additionally it is possible to modify the parameters of E20, UDK20, I20 and L20 using the RPP1000 software.
	For the E20, UDK20, I20 and L20 units it is possible to perform preliminarily settings and save them. When the unit later is installed in a plant, all settings can be transferred timesaving.
	Existing backups of data made previously with RPP XP and RPP7 software can be easily converted and transferred by using the RPP1000 software.

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2 Basic operating instructions

2.1 Program directory and operating system

The software has been developed and tested for Windows 7, Windows 8.1 and Windows 10.

This program can also be used on Windows XP. However, Roland Electronic cannot guarantee that the program works correctly. We strongly recommend not using Windows XP any more.

The RPP1000 program is “Portable Software”; that means no installation is required (except for necessary drivers).

When starting RPP1000.exe the first time, the driver for the USB device will be installed.

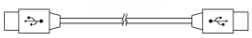
Note If only units with RS232 port needed to be connected, the installation of the USB-driver can be cancelled and the comment at the program start can be suppressed.

Following directories and data will be created:

- In %USERPROFILE%\Documents (My Documents) the directory “RPP1000Data“ will be created. All backups will be saved here. If desired, any other directory can be selected.
- In %USERPROFILE%\Documents\RPP1000Data (My Documents\RPP1000Data) a file “RPP1000.ini“ will be created. This file contains all program specific settings.

2.2 Connecting the unit to a PC

The connection for backup depends on the used unit and is via USB or RS232. When using RS232, two different cable types are used:

<table>
<tr><th>Unit</th><th>Plug at the unit</th><th>Cable, order number</th><th>Plug at the PC</th></tr>
<tr><td>E20-C-O;
E20-4P-C-O</td><td rowspan="2">D-SUB 9 plug</td><td rowspan="2"> 
Order. No.
2277013</td><td rowspan="2">D-SUB 9 plug, eventually connect via USB adapter.</td></tr>
<tr><td>UDK10, E10, I10, I10K, I10KV in version C-O</td></tr>
<tr><td>UDK20-C-O;
UDK20-2PW-C-O</td><td rowspan="4">Socket M8</td><td rowspan="4"> 
Order. No.
SM8KRS232D9S</td><td rowspan="4">D-SUB 9 plug, eventually connect via USB adapter.</td></tr>
<tr><td>E20 with fieldbus connection</td></tr>
<tr><td>UDK20 with fieldbus connection</td></tr>
<tr><td>UDK10, E10, I10, I10K with fieldbus connection</td></tr>
<tr><td>I20</td><td rowspan="2">USB socket type A</td><td rowspan="2"> 
Order. No.
2279066</td><td rowspan="2">USB socket type A</td></tr>
<tr><td>L20</td></tr>
</table>

Since at many current laptops no COM port with D-SUB connector is present, an RS232-USB adapter must be used for connection. The appropriate driver must be installed. Only the ports COM1-COM19 can be used. The used COM port can be changed in the device manager in Windows.

2.3 Driver installation

When connecting E20, UDK20, E10, UDK10, I10, I10K and I10KV units, no USB driver for RPP1000 software must be installed, except for a driver for a possible connected RS232-USB adapter. This driver is normally supplied with the adapter or must be downloaded from the manufacturer's website.

When connecting I20 and L20 devices, a USB driver must be installed once. The USB driver is supplied with the software RPP1000. At start up, all missing drivers will be reported.

If the driver has not been installed at the beginning, this can be performed later accessing the "*Options"* menu.

Note If only units with RS232 port needed to be connected, the installing of the USB-driver can be stopped and the comment at program start can be suppressed.

2.4 Program functions

Following actions can be selected directly from the symbol bar:

Fig. 1: Program functions

Symbol	Actions
	Opens an existing data backup
	Saves the currently loaded data backup
	Download (read) the parameters form the Roland R1000 unit
	Upload (write) the parameters to the Roland R1000 unit

Note These and other actions can also be selected from the menu bar.

2.5 Options – select language and install driver

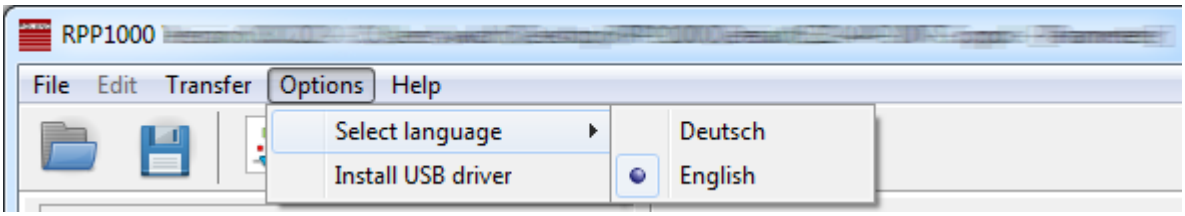


Fig. 2: Select the options language and driver

From the menu item *"Options"* it is possible to select the menu language German (Deutsch) and English.

It is possible to add additional languages; please contact Roland Electronic.

From the menu item "*Options*" it is also possible to install the USB driver for the units I20 and L20.

2.6 Download (read) from a device

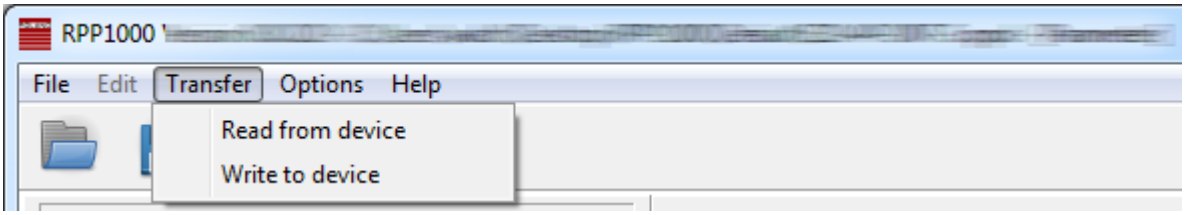


Fig. 3: Download (read) from the unit

For the download of system and program parameters, the interfaces COM 1-19 are scanned for connected devices.

The Roland device must be in backup mode and connected via the backup cable to the PC.

After successful reading the following message appears:

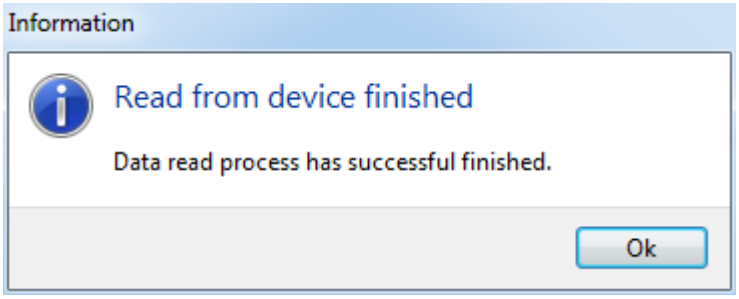


Fig. 4: Read from device

2.7 Upload (write) to a device

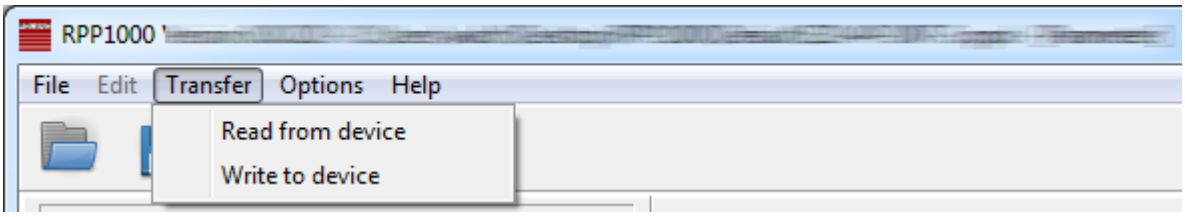


Fig. 5: Upload to a device

During the upload of system and program parameters, the interfaces COM 1-19 are scanned for connected devices.

The Roland device must be in backup mode and connected via the backup cable to the PC.

After successfully writing the following message appears:

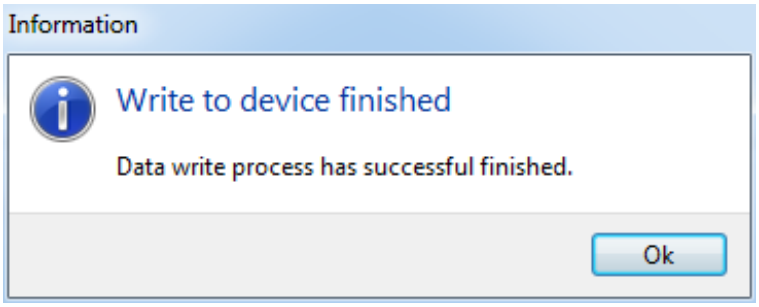


Fig. 6: Write to device finished

Attention The data on the unit will be overwritten without confirmation.

After successful writing data onto a unit, a zero adjust respectively a calibration has to be done.

2.8 Comments in data backup

A comment of up to 255 characters can be entered to describe the backup:

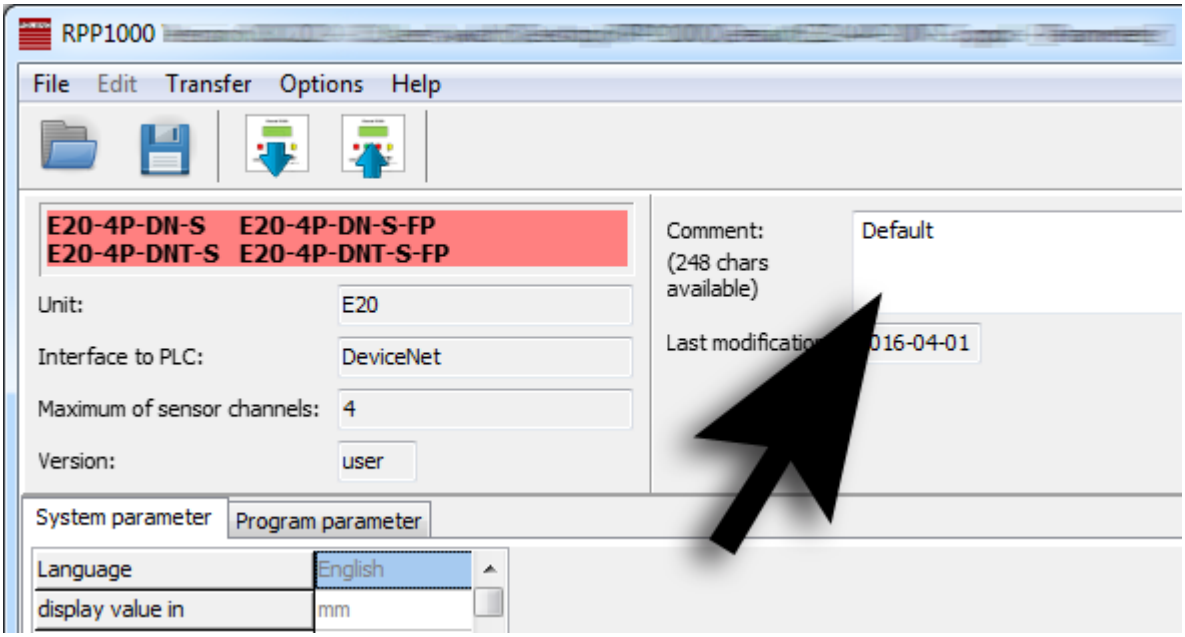


Fig. 7: Comments in data backup

2.9 Change unit type

Changing the unit type (*interface to the PLC and maximum number of measurement stations*) is only possible for the units E20, UDK20, I20 and L20.

The unit type can be changed in the menu item "File - Change interface to PLC" and

"File - Change maximum of sensor channels" In the yellow shaded box the effect of this change is displayed.

This change can have different effects, depending on the unit.

These effects are described as follows:

2.9.1 Unit type - change interface to PLC

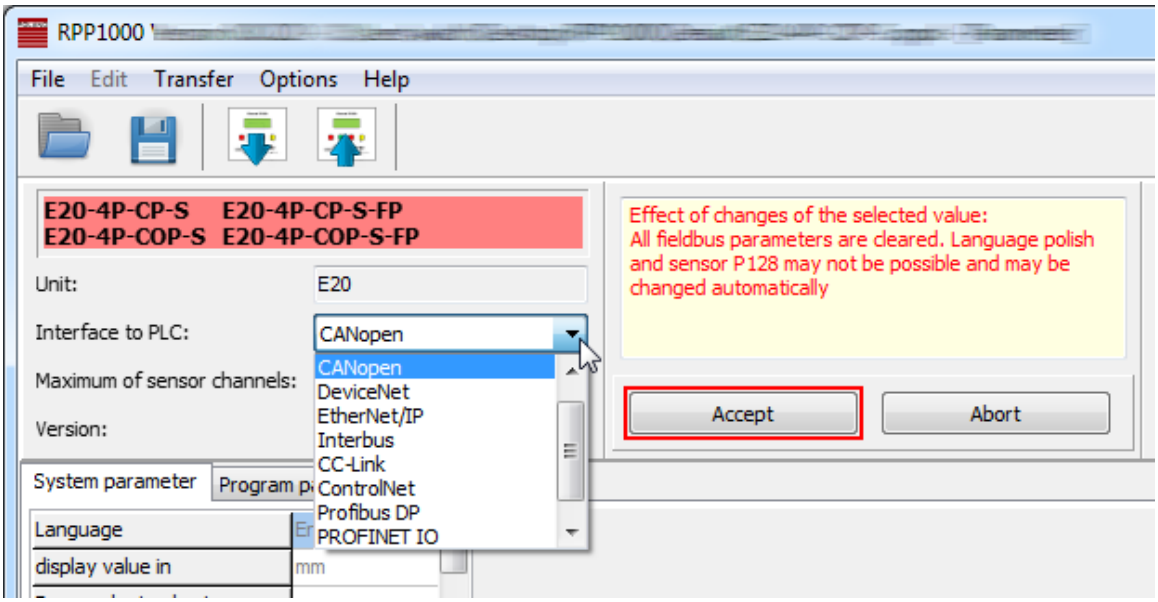


Fig. 8: Unit type - change interface to PLC

Device	Message	Effect
L20 **I20**	"All fieldbus parameters are cleared."	The corresponding fieldbus configuration options such as *bus address* and *baud rate* are set to a default value, if necessary, are deleted or added. When, for example, *DeviceNet* to *ProfiNet IO* is changed, the *baud rate* and the *bus address* will be deleted. When changing from *DeviceNet* to *CanOpen* the *baud rate* and the *bus address* is set to the default value. For conversion to *I / O via optocoupler* or from *I / O via optocoupler* the non-existent parameters will be deleted or added.
E20	"All fieldbus parameters are cleared. Language polish and sensor P128 may not be possible and may be changed automatically."	The corresponding fieldbus configuration options such as *bus address* and *baud rate* are set to a default value, if necessary, are deleted or added. When, for example, *DeviceNet* to *ProfiNet IO* is changed, the *baud rate* and the *bus address* will be deleted. When changing from *DeviceNet* to *CanOpen* the *baud rate* and the *bus address* is set to the default value. For conversion to *I / O via optocoupler* or from *I / O via optocoupler* the non-existent parameters will be deleted or added. At *I / O via optocoupler* this also relates to the non-existent *sensor type P128* and the unavailable *language Polish*.
UDK20	"All fieldbus parameters are cleared. Language polish may not be possible."	The corresponding fieldbus configuration options such as *bus address* and *baud rate* are set to a default value, if necessary, are deleted or added. When, for example, *DeviceNet* to *ProfiNet IO* is changed, the *baud rate* and the *bus address* will be deleted. When changing from *DeviceNet* to *ProfiNet* the *baud rate* and the *bus address* is set to the default value. For conversion to *I / O via optocoupler* or from *I / O via optocoupler* the non-existent parameters will be removed or added. At *I / O via optocoupler* this also relates to the unavailable *language Polish*.

2.9.2 Unit type - change maximum number of sensor channels

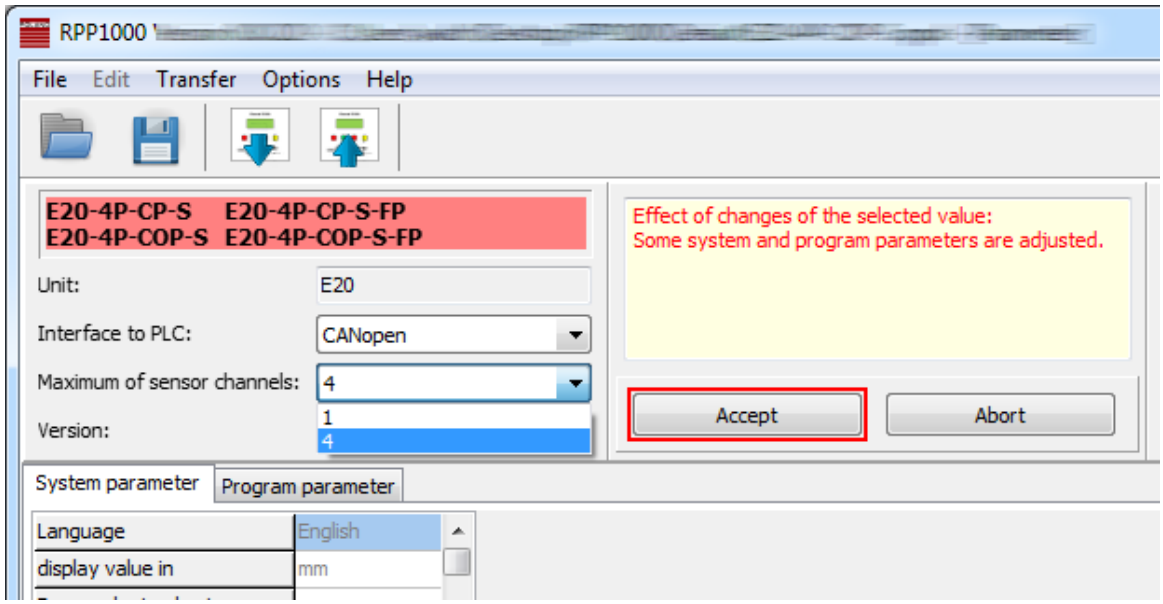


Abb. 9: Unit type change maximum number of sensor channels

Device	Message	Effect
E20	"Some system and program parameters are adjusted."	When the *maximum of sensor channels* is extended from 1 to 4, the system parameter *display value in %(mm) or %(inch)* cannot be used. Values will be converted to *mm* or *inch*. If the *maximum of sensor channels* is reduced from 4 to 1, the system parameter *number of sensors* is set to 1. In the program parameters the deselected sensors are removed at the *sensor number / sequence* and the associated *Teach-In* value is cleared.
I20		When the *maximum of sensor channels* is changed, the system parameter *number of sensors* is reduced to 1. In the program parameters the deselected sensors are removed at the sensor number and the associated *Teach-In* value is cleared.
L20		When the *maximum of sensor channels* is reduced from 3 to 1 the system parameters value *number of measuring channels* is reduced to 1. In the program parameters the deselected sensors are removed at the active measuring channel.
UDK20		When the *maximum of sensor channels* is changed, the system parameter *number of sensors* is reduced to 1. In the program parameters, the deselected sensors are removed at the *sensor number* and the associated *Teach-In* value is cleared. If the *maximum of sensor channels* is reduced from 2 to *1 / 4 (with SSB)*, the system parameter *number of sensors* is set to 1. In the program parameters the deselected sensors are removed at the *sensor number / sequence* and the associated *Teach-In* value is cleared.

2.10 Edit system parameter (change)

Changing values in system parameters is possible only for the units E20, UDK20, I20 und L20.

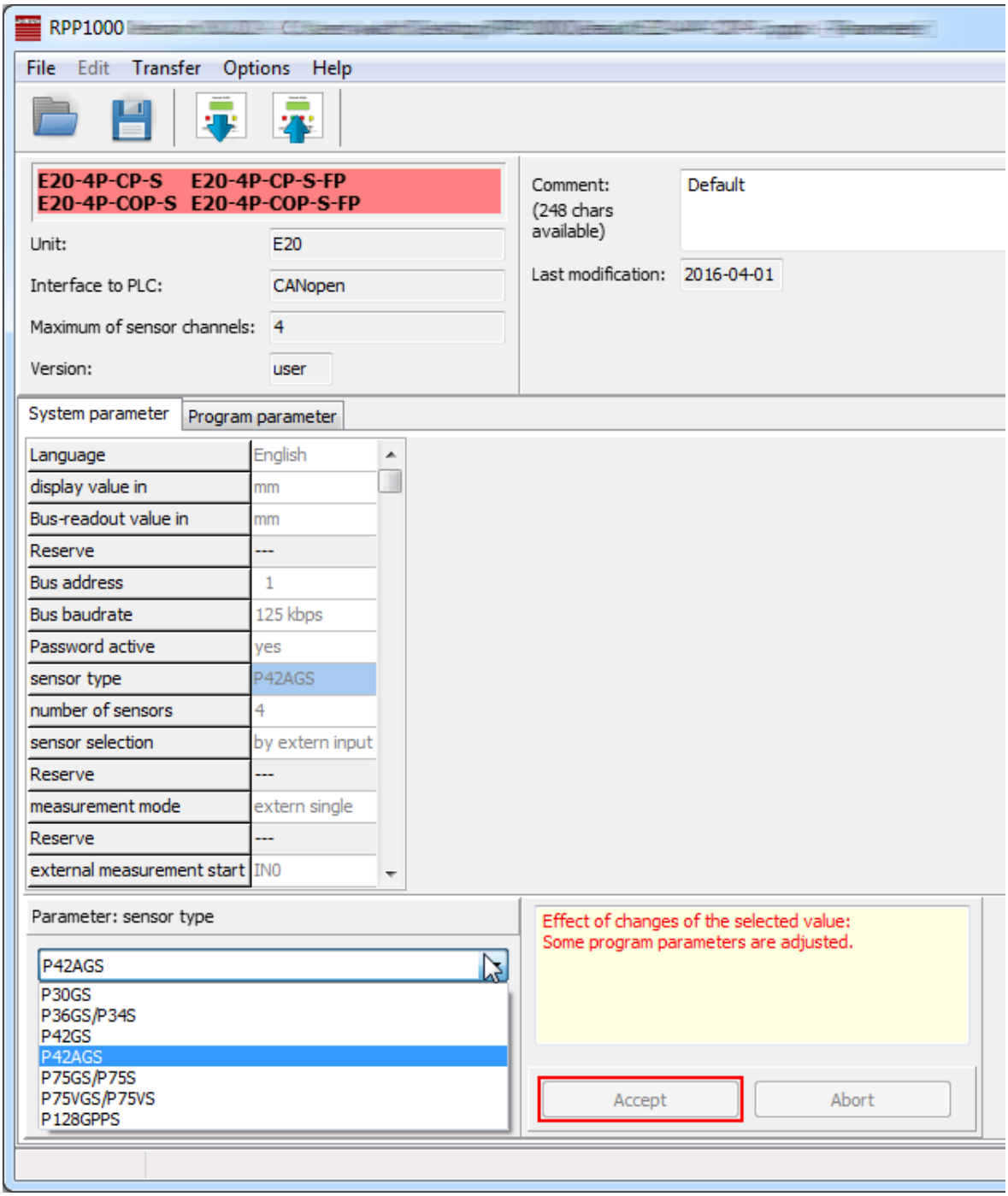


Fig. 10: Change values in system parameter

2.10.1 Effects of changing values of the system parameters

When changing values, the effect of this change is shown in the yellow shaded field. This change may vary depending on unit configuration and may have different effects. These effects are described here.

Message: **“Fixed value. Read only from unit.”**

Unit	Changing	Effect
All	Not possible	This value is determined by the device during the Teach-in process. A manual changing of the value is not possible. The value is displayed for diagnostic reasons only.

Message: **„Some program parameters are adjusted."**

Unit	Changing	Effect
E20	System parameter *Sensor type*	*Nominal thickness*, *lower* and *upper threshold* are set to standard values.
	System parameter *Number of sensors*	When the system parameter *number of sensors* is reduced, so the program parameters in the sensor number / sequence the deselected sensors are removed and the associated Teach-In value is cleared.
I20	System parameter *Unit type*	*Nominal thickness* and *Material* are set to standard values and the *Teach-In* Value is cleared.
	System parameter *Number of sensor pairs*	When the *number of sensor pairs* is reduced, then in the program parameters at the *sensor number / sequence* the deselected sensors are removed and the associated Teach-In value is cleared.
UDK20	System parameter *Number of sensors*	When the system parameter *number of sensors* is reduced, so at program parameters in the *sensor number*, the deselected sensors will be removed; the *material*, the *conductivity* are set to default value and the Teach-In value is cleared.

Message: **„At all program parameters the Teach-In is cleared."**

Unit	Changing	Effect
I20	System parameter *Sensor type*	The *Teach-In value* is cleared at the program parameters.

Message: **„At all program parameters the Nominal thickness is cleared."**

Unit	Changing	Effect
L20	System parameter *Sensor type*	The *Nominal thickness* is set to standard value.

Message: **„The nominal thickness of each program is converted. Rounding errors may occur."**

Unit	Changing	Effect
All	System parameter *Display of Measuring value in ...*	When switching the measured value from mm to inches or vice versa, the nominal thickness in all program parameters will be converted. This can lead to rounding errors.

2.11 Edit program parameters (change, copy, delete)

The editing of values is possible only at the units E20, UDK20, I20 und L20.

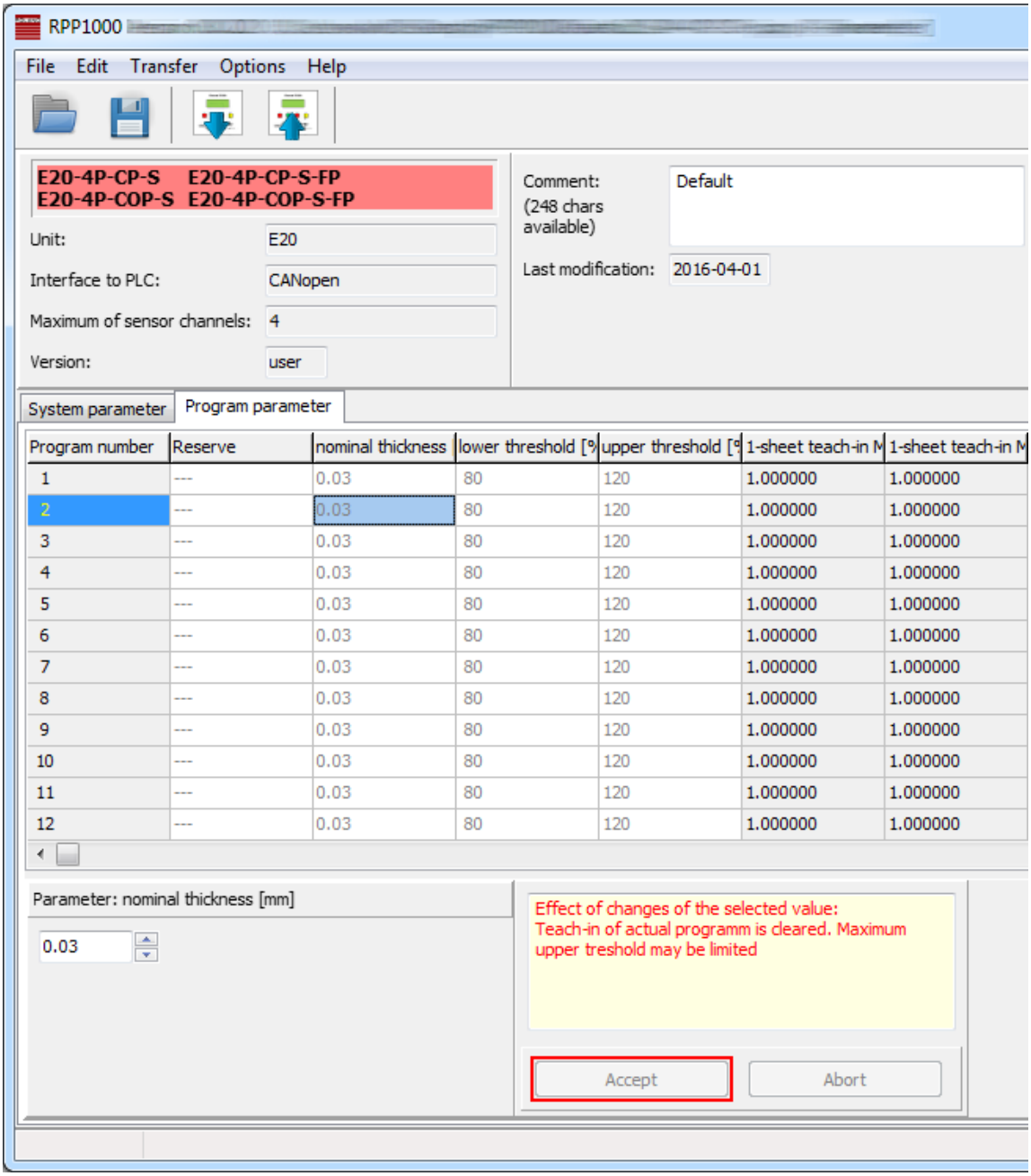


Fig. 11: Edit program parameter

It is possible to copy and delete more than one program.
The functions can be accessed via the edit menu or the context menu of the right mouse button.

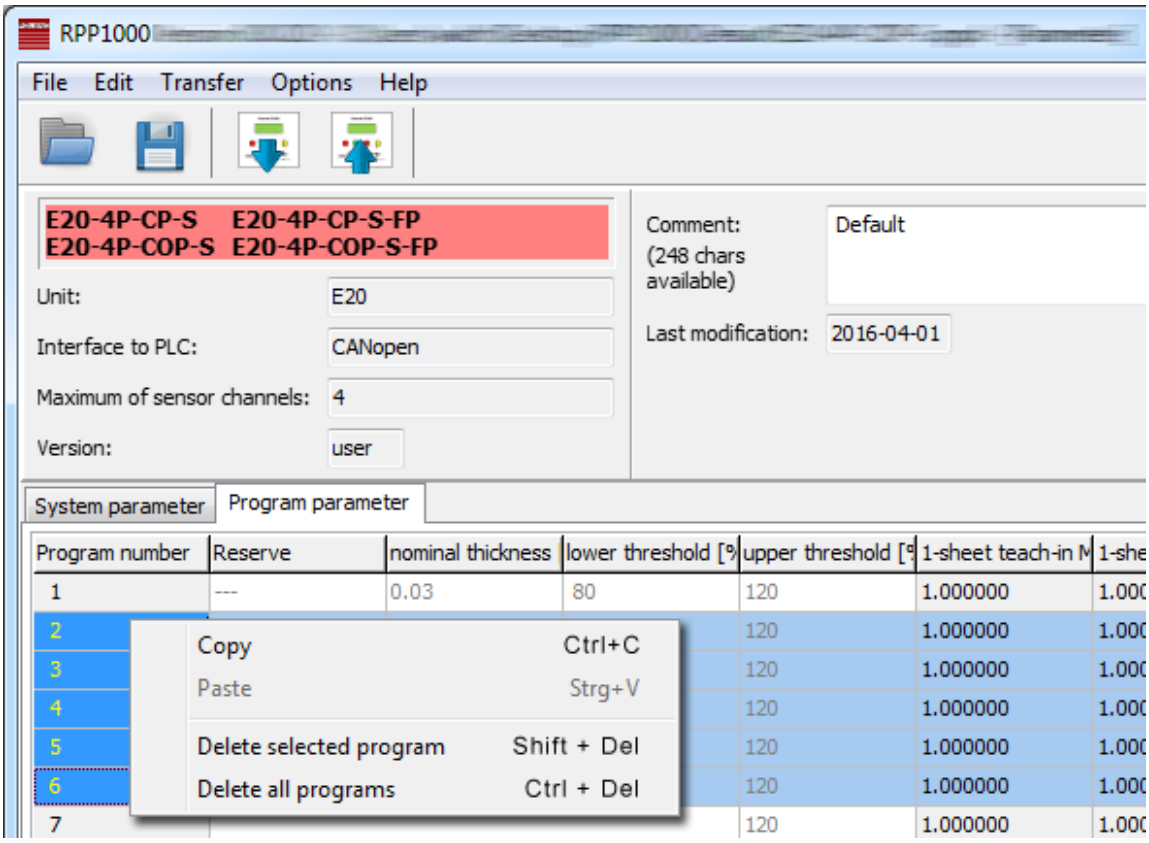


Fig 12: Copy or delete program parameters

2.11.1 Effects of changing values of program parameters

When changing values, the effect of the change is shown in the yellow shaded field. This change may vary depending on device configuration and have different effects. These effects are described here in detail.

Message: **“Fixed value. Read only by the unit.”**

Unit	Changing	Effect
All	Not possible	This value is determined by the device during the Teach-in process. A manual changing of the value is not possible. The value is displayed for diagnostic reasons.

Message: **"The Teach-In is deleted depending on selection."**

Unit	Changing	Effect
I20	Program parameter *Sensor number / Sequence*	When the program parameter *Sensor number / Sequence* is reduced, the corresponding Teach-In value will be cleared.

Message: **"The Teach-In is deleted in the actual program"**

Unit	Changing	Effect
E20	Program parameter *Sensor number* / *Sequence*	When the program parameter *Sensor number* / *Sequence* is changed, the corresponding Teach-In value will be cleared.
I20	Program parameter *Nominal thickness*	When the program parameter *Nominal thickness* is changed, the Teach-In value will be cleared.
UDK20	Program parameter *Sensor number*	When the program parameter *Sensor number* is changed, the Teach-In value will be cleared.
	Program parameter *Material*	When the program parameter *Material* is changed, the Teach-In value will be cleared.

Message: **"The Teach-In is deleted in the actual program. The maximum upper threshold can be limited"**

Unit	Changing	Effect
E20 **UDK20**	Program parameter *Nominal thickness*	When the program parameter *Nominal thickness* is changed, the Teach-In value will be cleared. The maximum measurable thickness of the used sensor is limited. For technical reasons, the *upper threshold* will be reduced at a big *Nominal thickness*.

Message: **"Maximum upper threshold may be limited"**

Unit	Changing	Effect
E20 **UDK20**	Program parameter *Upper threshold*	The maximum measurable thickness of the used sensor is limited. For technical reasons, the *upper threshold* will be reduced at a big *Nominal thickness*.

2.12 Create new

With the function "*File – New*" a new unit configuration with default settings can be created.

Choose the appropriate unit type from the list:

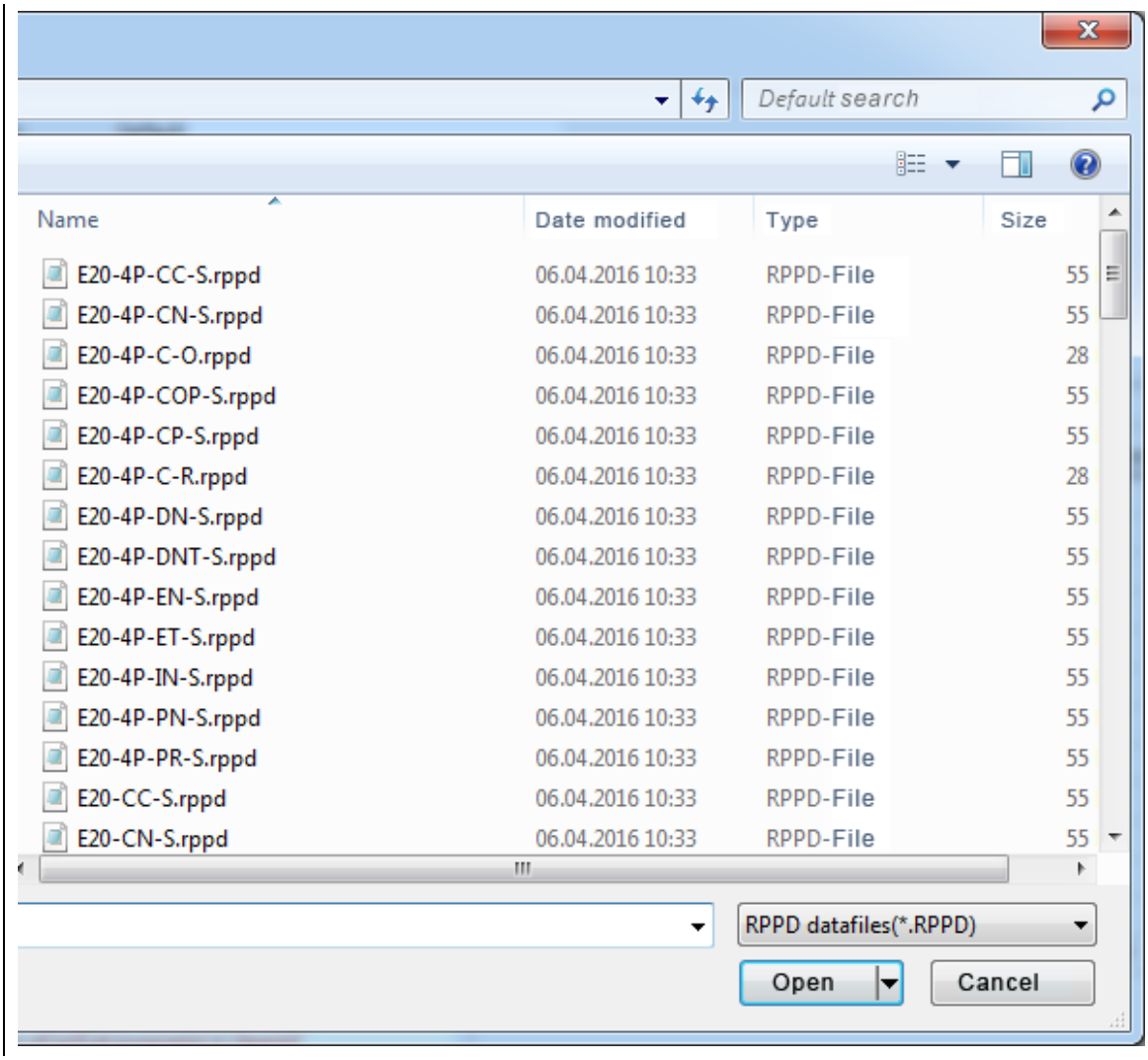


Fig. 13: Create new

Afterwards, the individual settings can be adjusted and saved.

2.13 Import old data backups

Existing data backups created with the software RPP XP (*.rpp) and RPP7 (*.rpp7) can be imported.

These files can be selected via "*File – Open*".

They are converted automatically after opening to the actual RPP1000 file format. Afterwards they can be saved in this format (*.rppd).

Existing backups of RPP WIN and RPP DOS software cannot be imported.

Data backups with version 8.xx of the RPP1000 software can no longer be used because problems can occur. Please secure your units with version 9 again. If the existing data backups are required, please send them for conversion to info@roland-electronic.com.

2.14 Save / Save as …

The current backup can be saved in "*File – Save" and "File – Save as…*"

The suggested location for saving is the last used directory.

The default location is recommended:
%USERPROFILE%\Documents\RPP1000Data (MyDocuments\RPP1000Data).

2.15 Export as PDF / Print

The currently open data can simply be exported via "*File - Export as PDF*". The data will be stored as plain text in a PDF file. A PDF printer is not necessary.

The currently open data can also be printed by selecting "*File - Print*."

Attention The printout can be up to 90 pages!

2.16 Help

Via the menu item *"Help"* you get to this file and to general information about the RPP1000 software.

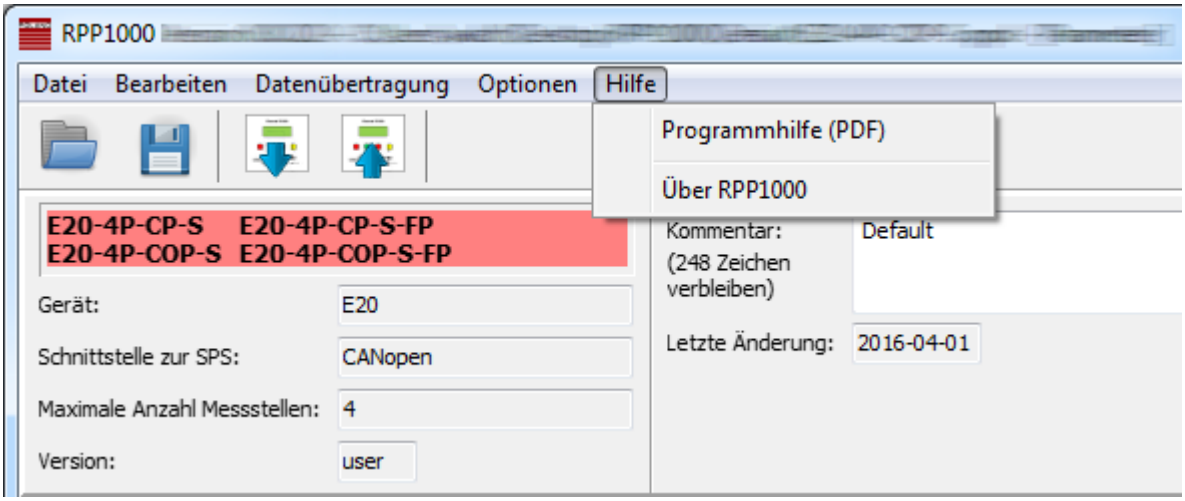


Fig. 14: Help

3 Troubleshooting, fault analysis

3.1 An error message is shown on the display of the R1000 unit

If an error is shown on the R1000 units display, please read the corresponding manual how to fix it.

3.2 Communication failed

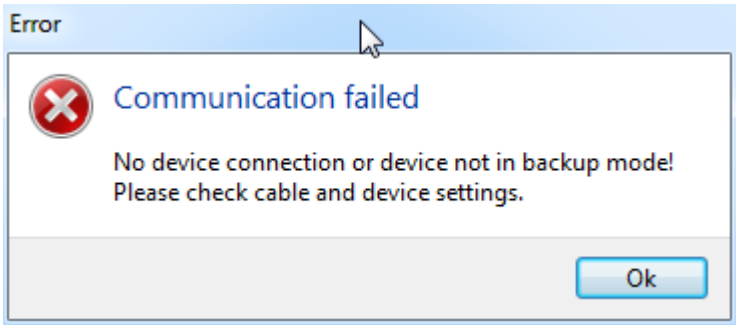


Fig. 15: Communication failed

Reason: The software could not detect any connected unit.

Please check:

- Is any unit connected via USB or RS232?
- Is the unit in data backup mode?
- Only units with COM1 to COM19 interface are read. Change if necessary. The interface can be selected in the device manager from Windows.

3.3 Wrong device type

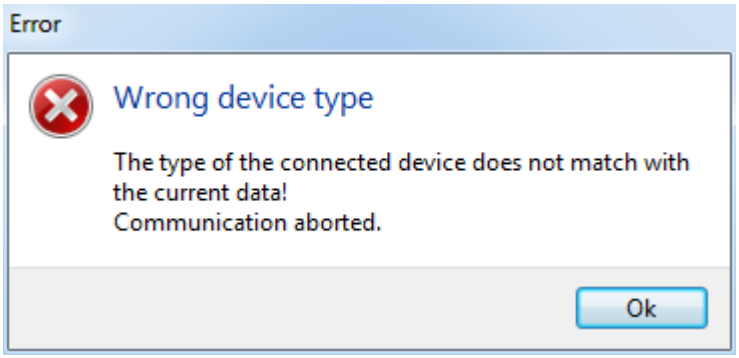


Fig. 16: Wrong device type

While restoring the device backup the data backup and the connected unit do not match. Connect the appropriate unit or adjust the backup to the device.

This error may also occur if no device is connected to the PC or if a problem with the cables or connectors has occurred.

Note Check that all connectors are plugged in correctly or the cables are not damaged.

3.4 Invalid value

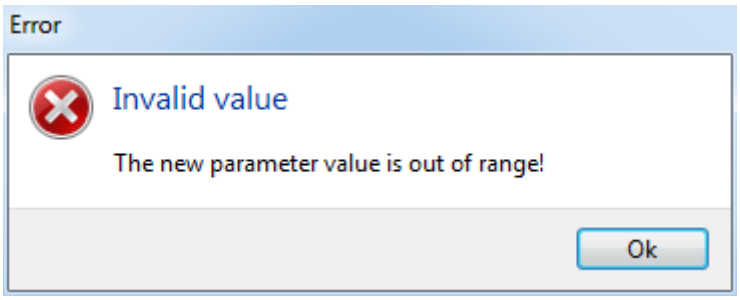


Fig. 17: Invalid value

The entered value of this input field is out of range. Please correct the value accordingly.

3.5 File open failure

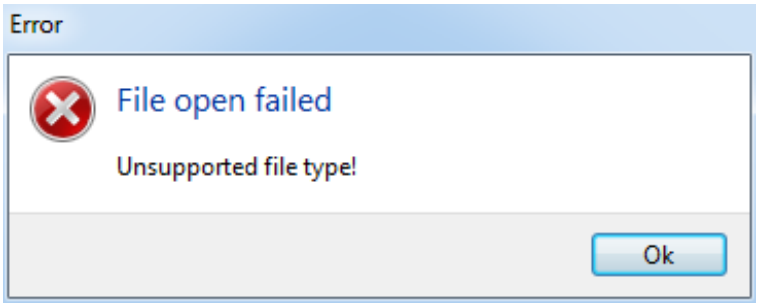


Fig. 18: File open failure

The file does not have the structure of a RPP1000 backup and cannot be read.

Attention Data backups with version 8.xx of the RPP1000 software can no longer be used because problems can occur. Please secure your units with version 9 again. If the existing data backups are required, please send them for conversion to info@roland-electronic.com.

3.6 Timeout during Communication

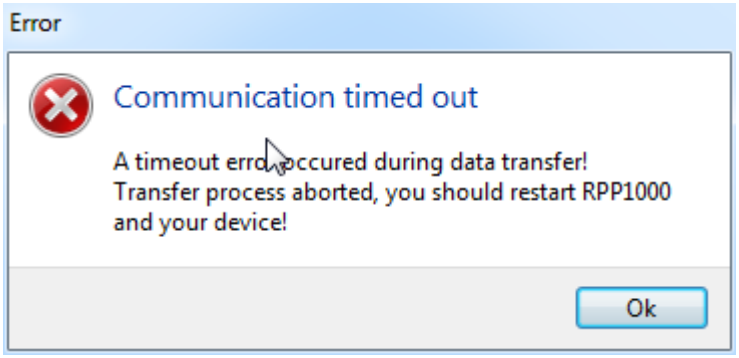


Fig. 19: Timeout during communication

During the transfer a timeout occurred. The data could not or only partially be transferred.

Please check the cable, if the unit is still in backup mode and try to upload again. Otherwise, please restart again the RPP1000 software and your device.

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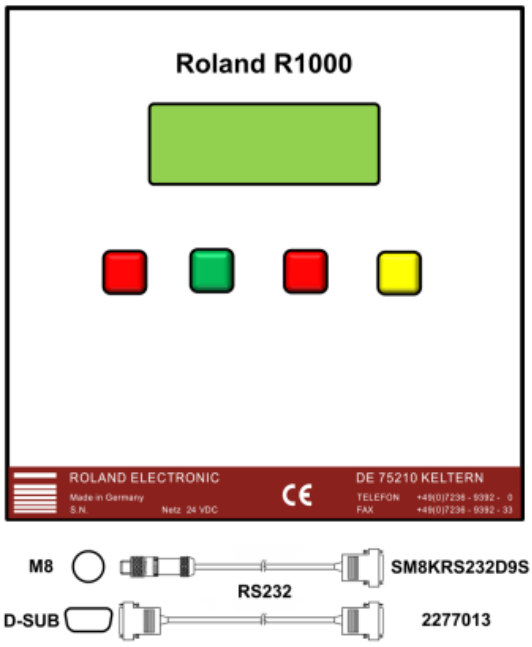
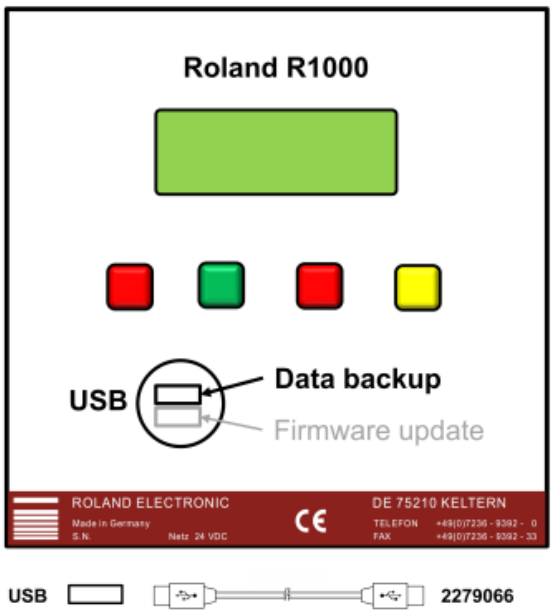
4 Frequently Asked Questions (FAQ)

4.1 Which cable is required for connecting the unit?

For a unit with RS232 connection: a cable with the order no. SM8KRS232D9S or 2277013 is required, depending on the connection at the device.



For a unit with a USB connection: a cable with the order no. 2279066 is required.



4.2 Which operating system is required for the RPP1000 software?

The software has been developed and tested for Windows 7, Windows 8.1 and Windows 10.

Although the software runs on Windows XP too, Roland Electronic does not guarantee that it works correctly. We strongly recommend not using Windows XP any more.

4.3 Can the software read old backup files and transfer them to units?

Files that were created with the RPP XP and RPP7 software can be read by the RPP1000 software. The files are automatically converted to the new RPP1000 format and can be uploaded to units. Old backups from RPP WIN and RPP DOS software cannot be read any more.

Attention Data backups with version 8.xx of the RPP1000 software can no longer be used because problems can occur. Please secure your units with version 9 again. If the existing data backups are required, please send them for conversion to info@roland-electronic.com.

4.4 Is RPP1000 software available in my language too?

The RPP1000 software is available by default in German and English. Other languages can be created and added. Please contact Roland Electronic.

5 Glossary - Terminology

R1000 units	Roland Electronic unit types: E20, I20, L20, UDK20, E10, UDK10, I10, I10K, I10KV.
***.rpp file**	File containing system and program parameters, used by RPP XP, RPP WIN and RPP DOS software.
***.rpp7 file**	File containing system and program parameters, used by RPP7 software.
***.rppd file**	File containing system and program parameters, used by RPP1000 software.
***.rppx file**	Descriptions file for each unit for parameter interpretation, used by RPP1000 software.
System parameter	General settings of the Roland Electronic unit.
Program parameter	Settings for the measuring program e.g. the *nominal thickness.*

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