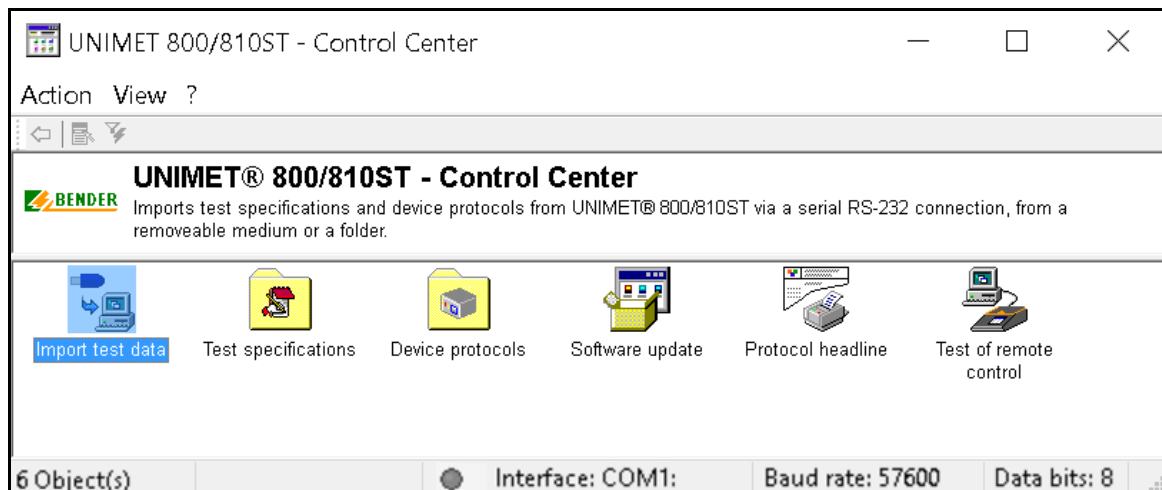**BENDER**
The Power in Electrical Safety©

UNIMET® 800/810ST-Control Center

… for the test systems UNIMET® 800ST and UNIMET® 810ST

Software version: from 3.1.9

Bender GmbH & Co. KG

P.O. Box 1161 • 35301 Grünberg • Germany
Londorfer Straße 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-mail: info@bender.de • www.bender.de

Photos: Bender archives

Table of Contents

1. Important information

1.1 How to use this manual

*This manual is intended for **qualified personnel** working in electrical engineering and electronics!*

For improved readability, the test systems UNIMET® 800ST and UNIMET® 810ST will also be referred to as "UNIMET® 8…".

Always keep this manual within easy reach for future reference.
To make it easier for you to understand and revisit certain sections in this manual, we have used symbols to identify important instructions and information. The meaning of these symbols is explained below:

DANGER
*The signal word indicates that there is a **high risk of danger**, that will result in **electrocution** or **serious injury** if not avoided.*

WARNING
*This signal word indicates a **medium risk of danger** that can lead to **death** or **serious injury** if not avoided.*

CAUTION
*This signal word indicates a **low-level risk** that can result in **minor** or **moderate injury** or **damage to property** if not avoided.*

*This symbol denotes information intended to assist the user in making **optimum use** of the product.*

This manual has been compiled with great care. It might nevertheless contain errors and mistakes. Bender cannot accept any liability for injury to persons or damage to property resulting from errors or mistakes in this manual.

1.2   Technical support: service and support

For commissioning and troubleshooting Bender offers you:

First level support
Technical support by phone or e-mail for all Bender products

- Questions concerning specific customer applications

- Commissioning

- Troubleshooting

Telephone:	+49 6401 807-760*
Fax:	+49 6401 807-259
In Germany only:	0700BenderHelp (Tel. and Fax)
E-mail:	support@bender-service.de

1.3   Training courses

Bender would be happy to provide training in respect of the use of test equipment. Training for one person is included in the purchase price of the test system. You can find the current dates on our homepage www.bender.de -> Know-how -> Seminars.

1.4   Delivery conditions

Bender sale and delivery conditions apply.

For software products, the "Softwareklausel zur Überlassung von Standard-Software als Teil von Lieferungen, Ergänzung und Änderung der Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie" (software clause in respect of the licensing of standard software as part of deliveries, modifications and changes to general delivery conditions for products and services in the electrical industry) set out by the ZVEI (Zentralverband Elektrotechnik- und Elektronikindustrie e.V.) (German Electrical and Electronic Manufacturers' Association) also applies.

Sale and delivery conditions can be obtained from Bender in printed or electronic format.

1.5   Inspection, transport and storage

Inspect the dispatch and equipment packaging for damage, and compare the contents of the package with the delivery documents. In the event of damage in transit, please contact Bender immediately. The devices must only be stored in areas where they are protected from dust, damp, and spray and dripping water, and in which the specified storage temperatures can be ensured.

1.6   Warranty and liability

Warranty and liability claims in the event of injury to persons or damage to property are excluded if they can be attributed to one or more of the following causes:

- Improper use of the device.

- Incorrect mounting, commissioning, operation and maintenance of the device.

- Failure to observe the instructions in this operating manual regarding transport, commissioning, operation and maintenance of the device.

- Unauthorised changes to the device made by parties other than the manufacturer.

- Non-observance of technical data.

- Repairs carried out incorrectly and the use of replacement parts or accessories not approved by the manufacturer.

- Catastrophes caused by external influences and force majeure.

- Mounting and installation with device combinations not recommended by the manufacturer.

This operating manual, especially the safety instructions, must be observed by all personnel working on the device. Furthermore, the rules and regulations that apply for accident prevention at the place of use must be observed.

1.7   Intended use

This is exclusively intended for the area of use stipulated in the chapter entitled "System description" on page 9.

2. System description and installation

2.1 System description

The PC software "UNIMET® 800/810ST Control Center" is used for data exchange between a PC and the test systems UNIMET® 800ST or UNIMET® 810ST via an RS-232 interface or via a USB drive (USB stick). It administrates the data, allows printing out test protocols and can simultaneously be used for data backup.

The software has the following features:

- Structured in test specifications and device protocols (like the UNIMET® 800ST or UNIMET® 810ST). The test dates are also managed.

- Storing, displaying and printing test data: Current test data, existing device protocols (history), reference values. An unlimited amount of test data can be stored (limited only by the size of the PC hard drive).

- Installing the test database locally on the PC or on a network drive.

- Importing test specifications and device protocols (storing test data):
  – Directly from the UNIMET® 800ST or UNIMET® 810ST via an RS-232 interface
  – Via a storage medium (USB stick)
  – From a folder (on the PC or on a network drive)

- Exporting test specifications and device protocols (extensive selection options, e.g. for recurrent testing):
  – Directly to the UNIMET® 800ST or UNIMET® 810ST via an RS-232 interface
  – To a storage medium (USB stick)
  – To a folder (on the PC or on a network drive)

- Exporting device protocols as an Excel file to a USB stick.

- Printing out test protocols. Displaying print preview. Extensive selection options for batch printing. Saving a company name and logo.

- Transferring a software update from the PC to the UNIMET® 800ST or UNIMET® 810ST.

- Testing the remote control function of the UNIMET® 800ST or UNIMET® 810ST.

- Automatic detection of the RS-232 interface settings.

- Operation possible in German, English or Italian.

2.2 System requirements

2.2.1 System requirements PC

> ⓘ *This program uses Microsoft® MDAC (MDAC = Microsoft Data Access Components). MDAC is necessary for programs that contain a database. MDAC is already included in operating systems from Windows® XP. If database functions of the UNIMET® 800/810ST Control Center do not work properly, it is recommended to install the current MDAC version.*

- Operating system Windows® 2000, Windows® XP, Windows® Vista 32 bits as well as Windows® 7, Windows® 8, Windows® 8.1, Windows® 10 (also in the 64-bit version respectively), administrator rights required for installation
- MDAC 2.7 or higher (Microsoft Data Access Components)
- Jet 4.0 (Microsoft Jet database module)
- IBM-compatible PC, Pentium II processor with 500 MHz at least, with an RS-232 interface or a USB/RS-232 adapter
- Min. 256 MByte RAM
- Graphic resolution min. 800 x 600 pixels
- Approx. 80 MB free hard drive space (without data)

2.2.2 System requirements UNIMET® 800ST/UNIMET® 810ST

- UNIMET® 800ST from software version 2.7
- UNIMET® 810ST from software version 3.1.9

2.3 Installing, updating, uninstalling

2.3.1 Installing the Control Center

1. Quit all active programs.
2. Start the installation file
   - for Windows® 2000, Windows® XP: UNIMET 800ST - Control CenterX.X.msi
   - for Windows® Vista 32 bits: vista32_setup_ge.exe
   - for Windows® 7, Windows® 8, Windows® 10:   setup.exe

> (i) *All Windows® versions require the "UNIMET 800ST - Control CenterX.X.msi" file for installation, which must not be deleted.*

3. Follow the instructions on the screen.

2.3.1.1 Directories

The executable part of the software is copied to the directory "C:\Programs\UNIMET 800ST - Control Center". The path can be changed during the installation process.

The test database can be installed locally on the PC or on a network drive. Click on "?" > "Information about UNIMET 800ST – Control Center" to view the current path of the test database.

2.3.1.2 Transferring the test database to a network drive

The test database as well as temporary files are located by default locally on the PC in the directory "C:\Documents and settings\All Users\Application data\UNIMET 800ST - Control Center\". These files can be transferred to a network drive.

> ⚠ **CAUTION**
>
> *Changes to the system registry of the PC must be carried out with great care. If the wrong parameters are changed, this may lead to severe malfunctions of individual programs or the entire operating system!*

1. Copy the files to the directory of the network drive. The PC user must have write access to this folder and for these files. The following files have to be copied to the new folder (do not use the drag and drop function):

user2.mdb	Test database
GP.xml	Temporary file for import, export
GPs.xml	Temporary file for import, export
PV.xml	Temporary file for import, export
PVs.xml	Temporary file for import, export
U800Control.ini	Configuration file

2. Adjust the registry to the new location of the files. By installing the UNIMET® 800/810ST Control Center, the respective keys are preallocated in the registry. Open the registry editor "Regedit":
   - Click on "Start" and search for the program "Regedit".
   - Start the program "Regedit".

– Select "HKEY_CURRENT_USER" < "Software" > "UNIMET 800ST – Control Center" to change the settings. The settings are explained below:

Comment	Key details, without function
ExternalDataPath	Enter the path to the drive here, also possible e.g. "g:\releasefolder"
ExternalPathEnable	0 = standard local path, 1 = path of ExternalDataPath in use
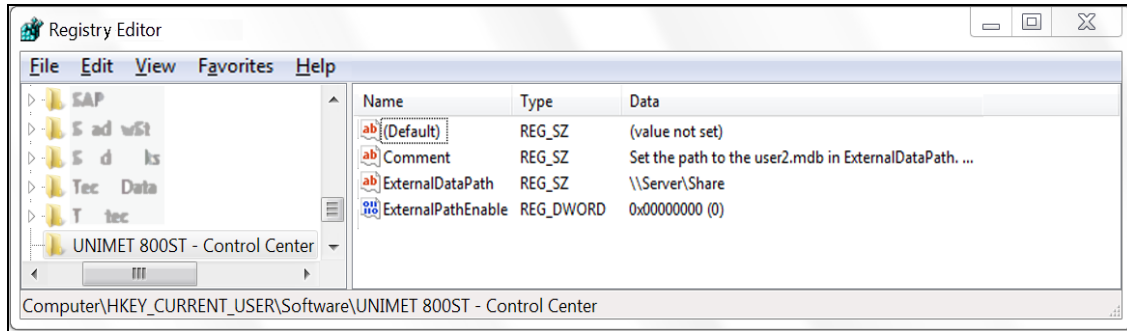
2.3.2 Updating the Control Center

> We highly recommend backing up the test database on a different storage medium before carrying out the update.

> From version 2.1 of the UNIMET® 800/810ST Control Center a new test database is used. If the installed version is below 2.1, you have to export all test data to the UNIMET® 8… before installing the Control Center in order to prevent data loss! This procedure also applies to the process of changing to the new database version 3.

1. Quit all active programs.
2. Start the installation (refer to "Installing the Control Center" on page 11).

2.3.3 Uninstalling the Control Center

1. Open "Control panel" folder, show dialogue by double-clicking on the "Software" symbol.
2. Select "UNIMET 800ST – Control Center" or "UNIMET 800ST software update package…" and press the "Delete" button.

3. Operation and setting

3.1 Connecting and starting up

1. Connect the UNIMET® 8… to the PC via an RS-232 null modem cable.

2. Switch the UNIMET® 8… on and leave it in the main folder.

3. Start the PC software "UNIMET® 800/810ST Control Center". The Control Center automatically determines the interface settings of the UNIMET® 8… and sets itself according to it.

3.2 Settings

3.2.1 Selecting the language

Select the operating language for the Control Center from the "View" menu.
Select the required language. All menus appear in the selected language.

> ℹ️ *Depending on the language selected for the user interface, the appropriate standard appears in the device protocol. Example:*
> *German: DIN EN 62353 (VDE 0751-1)*
> *English or other languages: IEC 62353.*

3.2.2 Setting up the printer

The print jobs are printed out by the printer set as default in Windows®. If you would like to print the test data on a different printer, select the new printer at "Action" -> "Printer setup". Any further setting options depend on the printer and the printer driver.
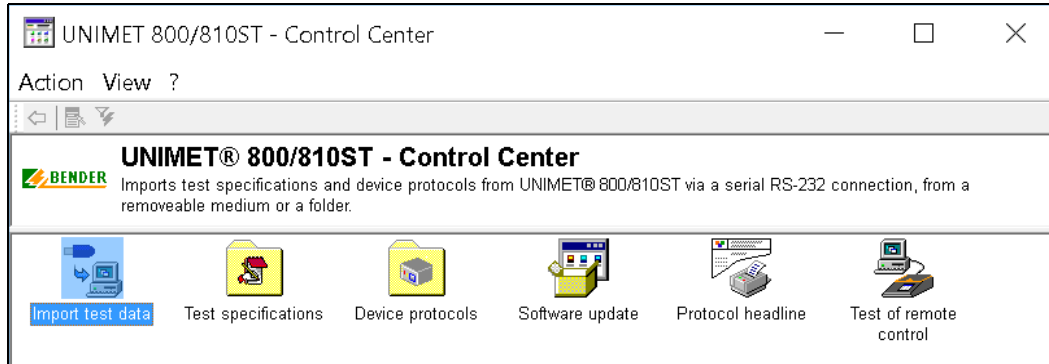The settings are only applied temporarily until the "Control Center" program is closed. Afterwards, the printer set as default in Windows® will be active again.

> ℹ️ *The "Protocol headline" menu allows entering a logo and a header for the printout of the test data (refer to page 27).*
> *The documents can also be converted to a PDF file instead of printing them out. The CD enclosed to the test system includes a utility software (PDF converter software).*

3.3 Main folder

The main folder represents the highest menu level. It provides access to the different Control Center folders and functions.

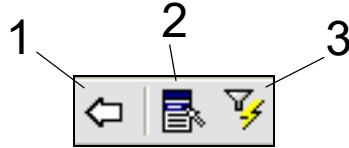| Function	Description	Page
Import test data	Imports test specifications and device protocols via an RS-232 interface from the test system. The query filter set in the UNIMET® 8… can be used for data selection. Imports test specifications and device protocols from a storage medium (USB stick) or a folder (on the PC or on a network drive).	15
Test specifications	Contains all imported test specifications. - Indicating and changing the properties of the test specifications - Exporting the selected test specifications to a storage medium (USB stick) or a folder (on the PC or on a network drive). Exporting the selected test specifications via an RS-232 interface in the UNIMET® 8… - Printing the selected test specifications Printing an overview of all selected test specifications - Displaying a print preview Deleting the selected test specifications	16
Device protocols	Contains all imported device protocols. - Indicating and changing the properties of the device protocol - Exporting the selected device protocols and the corresponding test specifications to a storage medium (USB stick) or a folder (on the PC or on a network drive). - Exporting the selected device protocols and the associated test specifications via an RS-232 interface in the UNIMET® 8… - Exporting the selected device protocols as an Excel file to a storage medium (USB stick). - Printing the selected device protocols Printing an overview of all selected device protocols - Displaying a print preview - Deleting the selected device protocols	19
Software update	Carries out an update of the UNIMET® 8… operating software via an RS-232 interface.	25
Protocol headline	Specifies the logo and the headline text for the protocol printouts. Logo and header can be saved and transferred to the UNIMET® 8… via an RS-232 interface.	27
Test of remote control	Tests the communication between the UNIMET® 8… and the PC. Information can be queried and single tests can be carried out.	28

3.4 Importing test data

You can choose to import test specifications or device protocols. A preview informs about which test data can be imported. The query filter of the UNIMET® 8… can be used to preselect the test data. Select the individual test data to be imported.
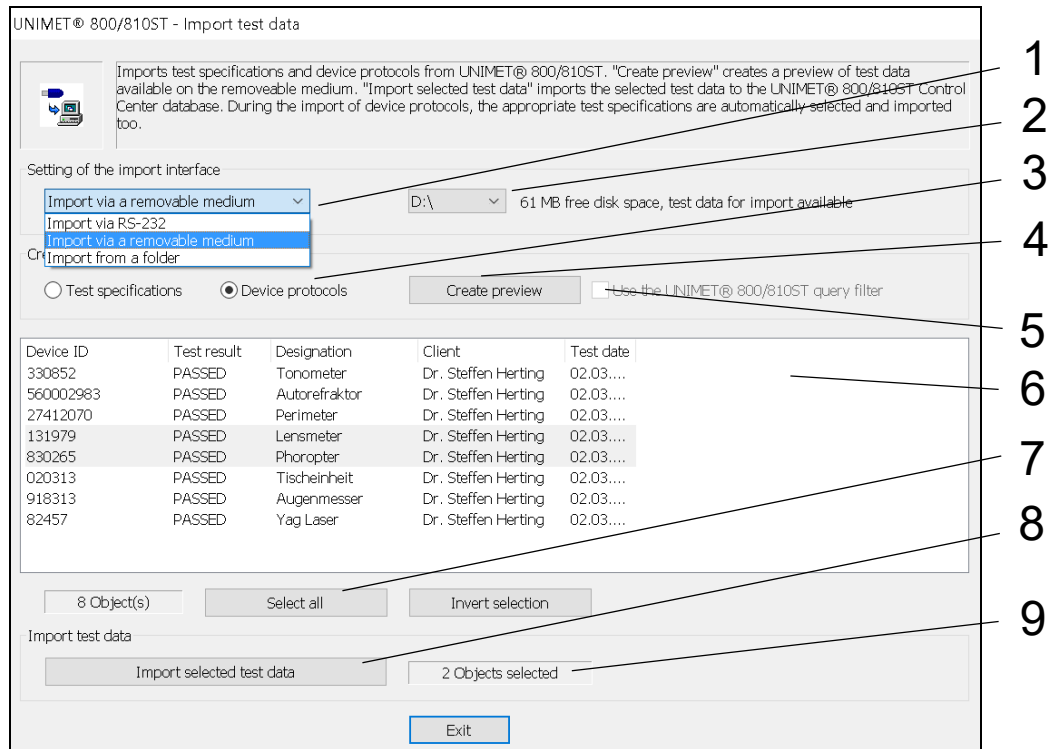
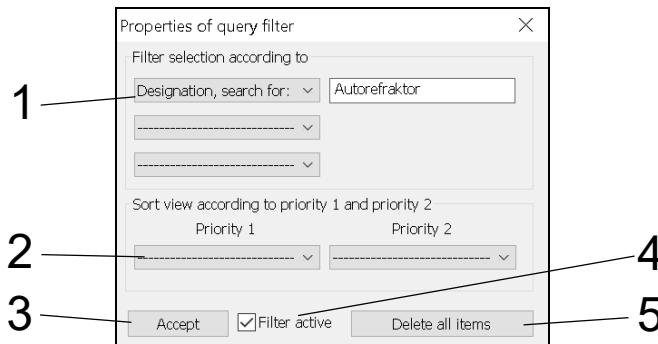| 1	Select an import interface: - Import via RS-232 - Import via a storage medium (USB stick) - Import from a folder
2	For "Import via a storage medium" only: Select the drive letter of the storage medium on which the test data is stored. For "Import from a folder" only: Select the folder in which the test data is stored (Search folder).
3	Select whether test specifications or device protocols should be imported.
4	Create a preview of the test data to be imported. Click to select individual entries or groups.
5	For "Import via RS-232" only: If activated: Use query filter set in the UNIMET® 8…
6	Preview: Select the test specifications or device protocols that should be imported.
7	Further selection options: "Select all" or "Invert selection".
8	Import selected test data. When device protocols are imported, the associated test specifications are always imported with them.
9	Exits the "Import test data" function

3.5   Test specifications

The "Test specifications" folder contains all previously imported test specifications. The device is operated in the same way as the UNIMET® 8… The toolbar provides rapid access to functions. The buttons can be active or inactive, depending on the available options. Inactive buttons are greyed out.

1	**Back**, closes the current folder.
2	The **context menu** will become active when at least one test specification has been selected and several operating options are available. Further possibilities to open the context menu: - Press the button on the keypad with the same symbol - Move the mouse pointer to a test specification and then press the right mouse button
3	If a large number of test specifications are available, the **query filter** can be used to refine your search. Activate the filter to sort and filter test data.

3.5.1   Test specifications: Functions of the query filter

Select the "Query filter" icon from the toolbar. The device is operated in the same way as the UNIMET® 8… Click "Filter active" to modify the settings. You can filter only, sort only or filter and sort at the same time.

1	Filter selection by	Three filter conditions can be selected. Only entries meeting all conditions (AND operation) are displayed. - Fields tagged with "Search for" can be used for a full text search. - With the test data circulation you can select test data received or sent by the UNIMET® 8… - The test specification date can be narrowed down using relational operators (e.g. <, >, =, …). - In other fields, one of the existing entries can be selected.
2	Sort view by	Two sorting criteria can be specified. Data is sorted first by priority 1, then by priority 2.
3	Accept	Accept settings and exit function.

4	Filter active	Activate/deactivate filter. Settings can only be made if the filter is active.
5	Delete all items	Delete all filter conditions and sorting criteria.

> ⓘ *Set filter conditions remain saved until they are deleted. The filter conditions remain saved even if the filter is deactivated or after the Control Center has been closed.*

3.5.2   Test specifications: Context menu functions

> ⓘ *The settings saved in a test specification are valid for all device protocols created with this test specification. Changes to the test specification are applied to all associated device protocols with immediate effect.*
> *When deleting a test specification, please remember that you are also deleting all device protocols created with it from the "Device protocols" folder.*
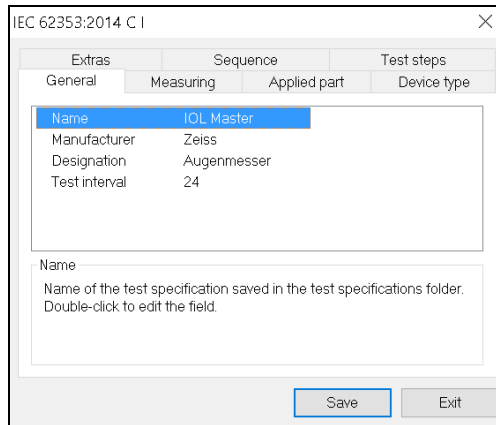
Proceed as follows:

1. Select one or several test specifications (by clicking)
2. Activate context menu
3. Select required action (by double-clicking)
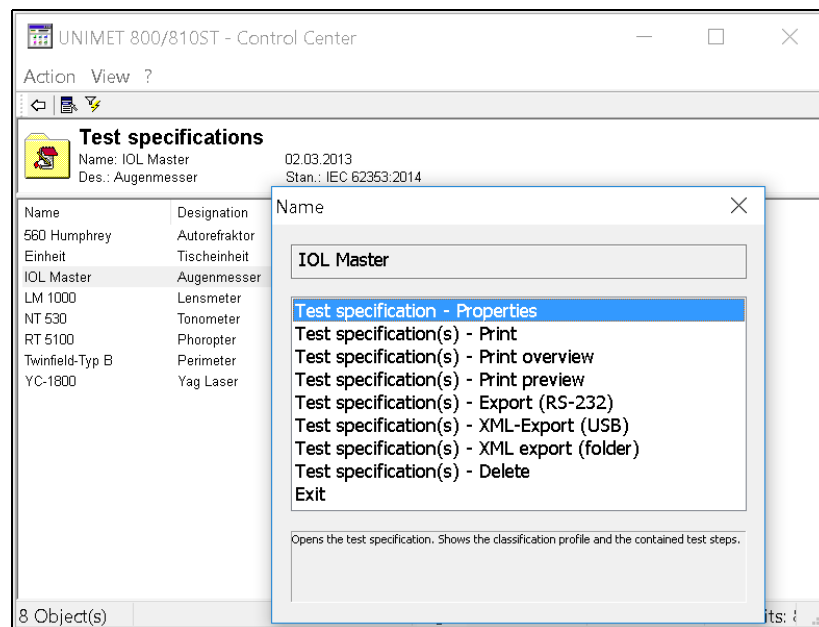
Test specification-Properties

Available only when a single entry has been selected:
Shows the settings for this test specification.

If you need to make fundamental changes affecting test steps, you will need to repeat the classification process. Here, you can only change the functions listed below:

Tab	Function
General	- Manufacturer
	- Designation
	- Test interval
Extras	- Show warning notice
	- Warm-up and cool-down period
Test sequence	- Automatic
	- Semi-automatic
	- Manual

You can also modify a test specification by double-clicking on the name.

Test specification(s)-Print

Prints the selected test specifications (list of test steps)

Test specification(s)-Print overview

Prints an overview of the selected test specifications.

Test specification(s)-Print preview

Displays:
- The print view of the test specification if a single entry has been selected
- The print view of the overview if more than one entry has been selected
The print job can be started directly from the "Print preview" window.

Test specification(s)-Export (RS-232)

Exports the selected test specifications via an RS-232 interface in the UNIMET® 8…

Test specification(s)-XML export (USB)

Exports the selected test specifications to a USB drive (USB stick). The UNIMET® 8… can import these test data from the USB stick.
Please note: If there are any test data on the USB stick, they will be completely overwritten.

Test specification(s)-XML export (folder)

Exports the selected test specifications to a folder (on the PC or on a network drive). The UNIMET® 8… can import these test data from there.
Please note: If there are any test data in the folder, they will be completely overwritten.
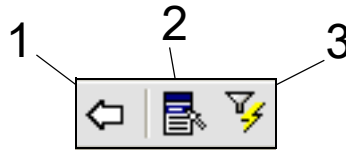
Test specification(s)-Delete

Deletes the selected test specifications along with the associated device protocols.

Exit

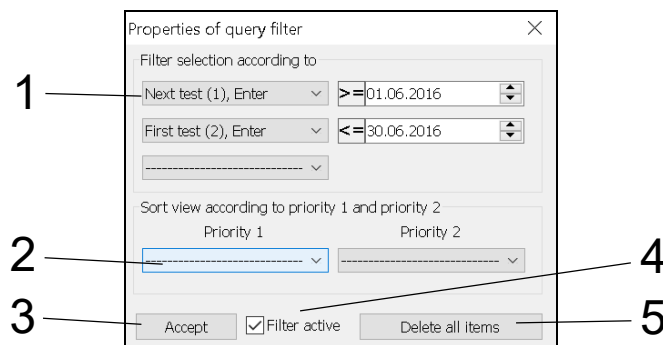The "context menu" function is exited.

3.6   Device protocols

The "Device protocols" folder contains all previously imported device protocols. The device is operated in the same way as the UNIMET® 8… The toolbar provides rapid access to functions. The buttons can be active or inactive, depending on the available options. Inactive buttons are greyed out.

1	**Back**, closes the current folder.
2	The **context menu** will become active when at least one device protocol has been clicked and several operating options are available. Further options to open the context menu: - Press the button on the keypad with the same symbol - Move the mouse pointer to a device protocol and then press the right mouse button
3	If a large number of device protocols are available, the **query filter** can be used to refine your search. Activate the filter to sort and filter test data.

3.6.1   Device protocols: Functions of the query filter

Select the "Query filter" icon from the toolbar. The device is operated in the same way as the UNIMET® 8… Click "Filter active" to modify the settings. You can filter only, sort only or filter and sort at the same time.

1	Filter selection by	Three filter conditions can be selected. Only entries meeting all conditions (AND operation) are displayed. - Fields tagged with "Search for" can be used for a full text search. - With the test data circulation you can select test data received or sent from the UNIMET® 8… - The test date can be narrowed down using relational operators (e.g. <, >, =, …). - In other fields, one of the existing entries can be selected.
2	Sort view by	Two sorting criteria can be specified. Data is sorted first by priority 1, then by priority 2.
3	Accept	Accept settings and exit function.

| 4	Filter active	Activate/deactivate filter. Settings can only be made if the filter is active. Changes made to settings are retained even if the filter is deactivated or the test system is shut down.
5	Delete all items	Delete all filter conditions and sorting criteria.

> ℹ️ *Set filter conditions remain saved until they are deleted. The filter conditions remain saved even if the filter is deactivated or after the Control Center has been closed.*

3.6.2 Device protocols: Context menu functions

Proceed as follows:

1. Select one or more device protocols (by clicking)

2. Activate context menu

3. Select required action (by double-clicking)
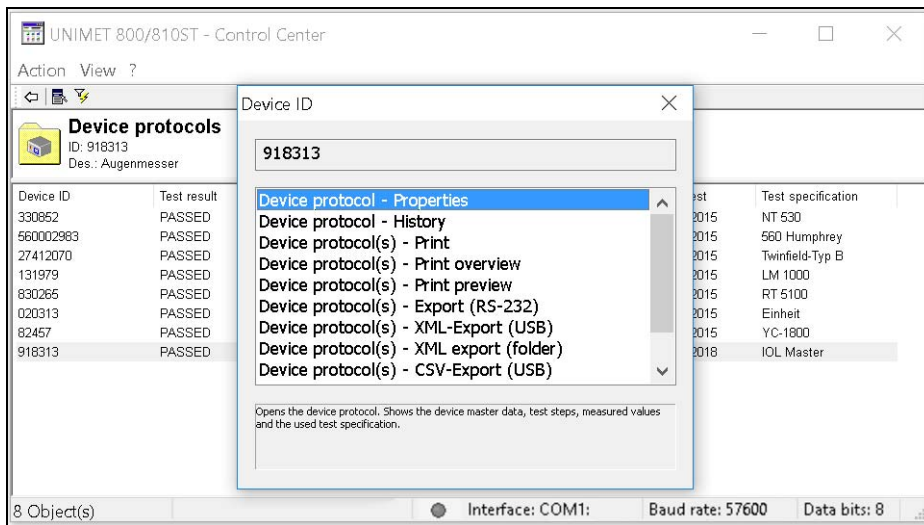
Device protocol- Properties	Available only if a single entry has been selected. Displays properties of this device. The "Properties" window can be displayed by double-clicking on a device ID. For more details, refer to "Device protocol properties" on page 22.

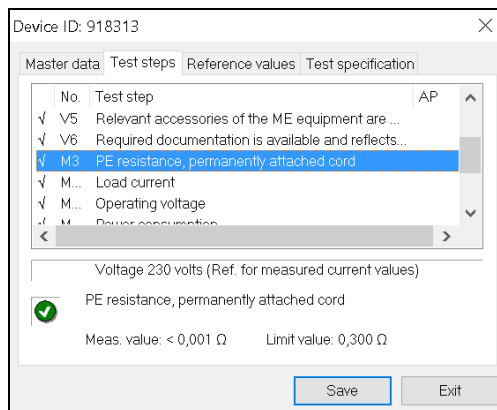|	
Device protocol(s)-History (device book)	Available only if a single entry has been selected. Displays all imported device protocols for this DUT. For more details, refer to "Device protocol(s) history (log book)" on page 23.
Device protocol(s)-Print	Prints selected device protocols (list of test results)
Device protocol(s)-Print overview	Prints an overview of the selected device protocols.
Device protocol(s)-Print preview	Displays: - The print view of the device protocol if a single entry is selected - The print view of the overview when more than one entry is selected The print job can be started directly in the "Print preview" window.
Device protocol(s)-Export (RS-232)	Exports the selected device protocols via an RS-232 interface to the UNIMET® 8…
Device protocol(s)-XML export (USB)	Exports the selected device protocols to a USB drive (USB stick). The UNIMET® 8… can import these test data from the USB stick. **Please note: If there are any test data on the USB stick, they will be completely overwritten.**
Device protocol(s)-XML export (folder)	Exports the selected device protocols to a folder (on the PC or on a network drive). The UNIMET® 8… can import these test data from there. **Please note: If there are any test data in the folder, they will be completely overwritten.**

Device protocol(s)-CSV export (USB)	- Exports the selected device protocols as Excel files to a storage medium (USB stick). The files in CSV format can be opened and edited with Microsoft® Excel.
	  - Each protocol is saved in a separate file
	  - The files are saved on the USB drive in the "CsvData" folder
	  - Device protocols of the same client (identical entry in the "Client" field) are saved in a separate folder with the designation of the client
	  - Device protocols without entries in the "Client" field are saved in a separate folder with the designation "NoClient"

Device protocol(s)-Delete	Deletes the selected device protocols. Deletes all device protocols available in the history memory for these devices.
Exit	The "context menu" function is exited.

3.6.2.1 Device protocol properties

Master data
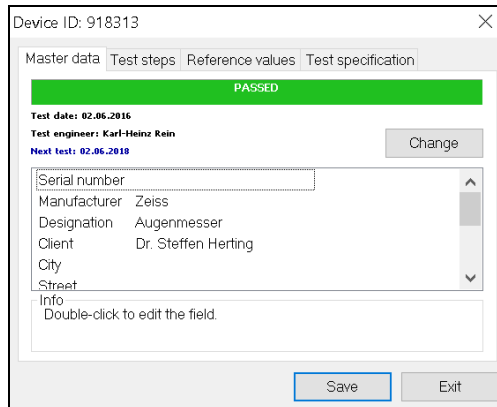
The following master data can be changed:
- Next test   - Building
- Serial No.   - Department
- Manufacturer   - Room
- Designation   - Test costs
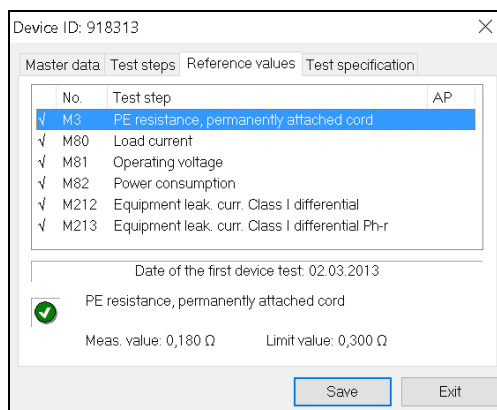- Client   - Comment

Test steps

Indicates test steps of the device.
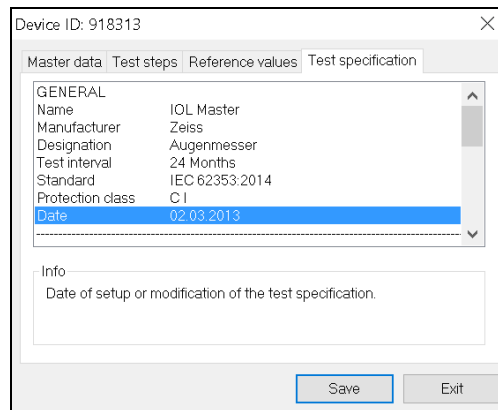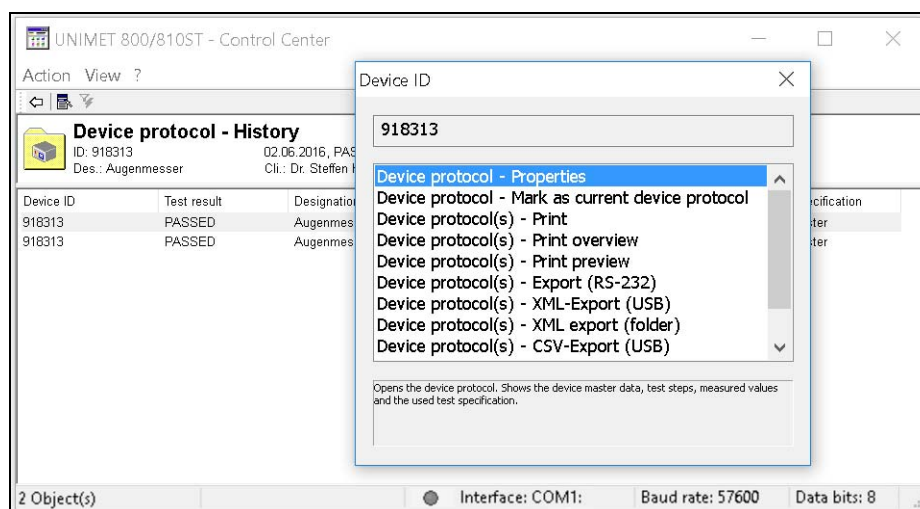AP = Applied part of a medical electrical device.

Reference values

Indicates reference values of the device. Click on a test step. The reference value and the threshold value are indicated.
Hint: Select "Device protocol(s) history" to print out the reference values.

Test specification

Indicates test specification of the device.

3.6.2.2 Device protocol(s) history (log book)

Available only if a single entry has been selected. Displays all imported device protocols for this DUT. The most recent (last imported) device protocol is displayed in blue. The indication is sorted by the test date.

History: Context menu functions

Proceed as follows:

1. Select one or several device protocols (by clicking)
2. Activate context menu
3. Select required action (by double-clicking)

|	
History: Device protocol-Properties	Available only if a single entry has been selected. Displays properties of this device protocol. The "Properties" window can be displayed by double-clicking on an entry. This way, you can see in the master data to which location the device is assigned at the time of the test.
History: Device protocol-Mark as current device protocol	Available only if a single entry has been selected. The selected device protocol becomes the current device protocol (displayed in blue). This device protocol is indicated in the superordinate folder "Device protocols". This function is useful when more recent tests have been detected as invalid and therefore, an older protocol must be defined as the current one.
History: Device protocol(s)-Print	Prints selected device protocols (list of test results)
History: Device protocol(s)-Print overview	Prints an overview of the selected device protocols.
History: Device protocol(s)-Print preview	Displays: - The print view of the device protocol if a single entry has been selected - The print view of the overview when more than one entry has been selected The print job can be started directly in the "Print preview" window.
History: Device protocol(s)-Export (RS-232)	Available only if a single entry has been selected. Exports the selected device protocol via an RS-232 interface in the UNIMET® 8…If there exists a device protocol with the same device ID in the UNIMET® 8…, it is overwritten by the exported file. All other device protocols stored in the UNIMET® 8… remain unchanged.
History: Device protocol(s)-XML export (USB)	Available only if a single entry is selected. Exports the selected device protocol to a USB drive (USB stick). The UNIMET® 8… can import these test data from the USB stick. **Please note: If there are any test data on the USB stick, they will be completely overwritten.**
History: Device protocol(s)-XML export (folder)	Available only if a single entry has been selected. Exports the selected device protocol to a folder (on the PC or on a network drive). The UNIMET® 8… can import these test data from there. **Please note: If there are any test data in the folder, they will be completely overwritten.**
History: Device protocol(s)-CSV export (USB)	Available only if a single entry has been selected. - Exporting the selected device protocols as Excel files to a storage medium (USB stick). The files in CSV format can be opened and edited with Microsoft® Excel.
History: Device protocol(s)-Delete	Deletes only the selected device protocols. All other device protocols of this device remain stored. If the "current" (displayed in blue) device protocol is deleted, the last existing device protocol is defined as the current device protocol.
Exit	The "context menu" function is exited.

3.7 Software update of the UNIMET® 8…

If an update of the UNIMET® 8… is required, proceed as follows:

1. Contact Bender for the software update package (depending on the version, it might be subject to a charge).

2. Back up the old operating software and your test data (e.g. on a USB stick)

3. Install the software update package on your PC.

4. Start the PC software "UNIMET® 800/810ST Control Center" and activate the "Software update" function. The update is carried out in two steps:

    – Step 1: Transferring the update files from the PC to the UNIMET® 8…

    – Step 2: Updating the operating software in the UNIMET® 8…

3.7.1 Step 1: Transferring the update files

1. Connect the test system to the PC via a null modem cable. The interface parameters are determined automatically (2).

2. Click "Start" (4).

3. Wait until all data have been transferred.

4. Click "Exit" (6) to close the "Software update" function.

5. Turn off the UNIMET® 8… by using the power switch.
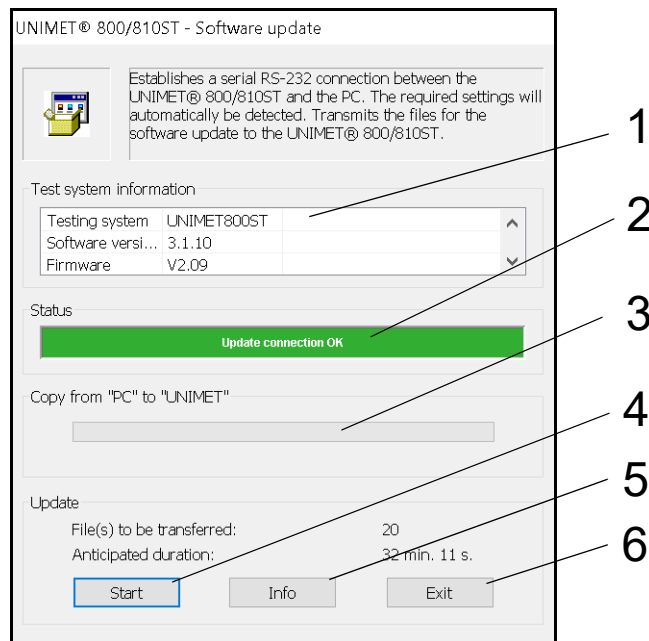
1	Information regarding the connected UNIMET® 8… (e.g. serial number, firmware).
2	Provides information regarding the state of the connection to the UNIMET® 8…
3	Provides information regarding the update progress.
4	Starts the update.
5	Provides information regarding the properties of the update files.
6	Cancels or exits the update.

During data transfer you can see the following on the UNIMET® 8… display:
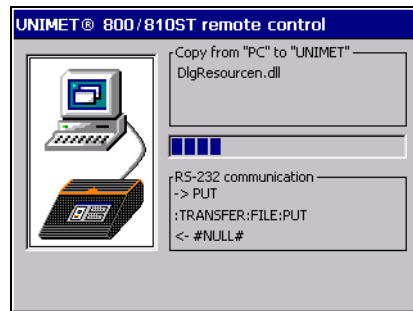
3.7.2   Step 2: Updating the operating software

> ⓘ *The update process must not be interrupted. **Do not** turn off the mains voltage of the UNIMET® 8… during the update process. Failure to observe this requirement may leave the test system without a functioning operating software.*

Every time the UNIMET® 8… is powered up, it tests whether there are update files available for a new software.

1. Turn on the UNIMET® 8… by using the power switch. The update process starts automatically. The progress will be displayed.
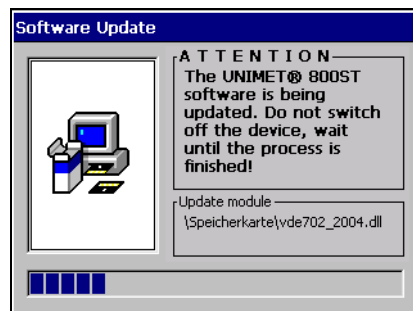
2. Wait until the UNIMET® 8… files are updated. When the process has been completed, you will see the main folder on the display.

3.8 Entering the logo and the header

The "Protocol headline" menu allows entering a logo and a header for the printout of the test data. In addition, the logo and the header can be saved and transferred to the UNIMET® 8…
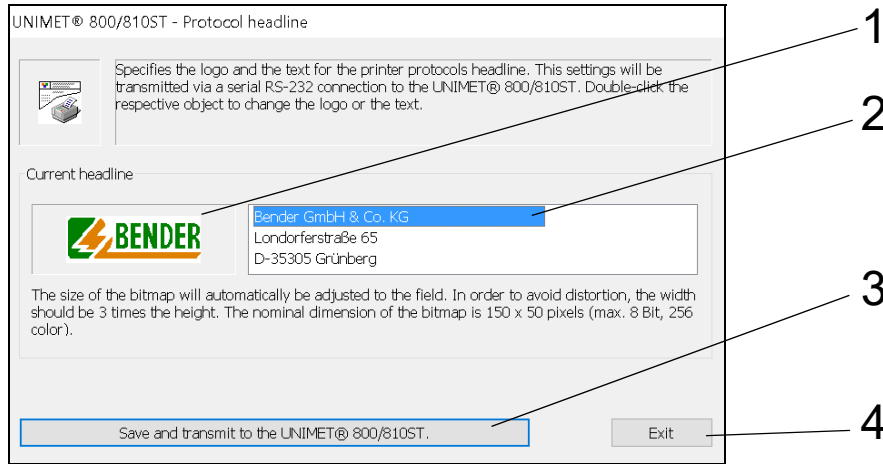
1	Logo for the printout of the test data. Double-clicking on the existing logo allows assigning a different logo. Only bitmap files (BMP files) can be entered. Hint: If no logo is required, assign a BMP file without content.
2	Header for the printout of the test data. Double-clicking on the header allows entering a new text.
3	Saves logo and header. Both are transferred to the UNIMET® 8… (if the test system is connected to the PC via a null modem cable). Documents from printers that are connected to the UNIMET® 8… will now be printed out with this logo and this header.
4	Exits the "Protocol headline" function

⚠️ **CAUTION**

If the logo does not fit, printing out is not possible
UNIMET® 8… cannot print if the logo has impermissible properties. PDF protocols loaded on a PC via a USB stick can also not be printed.
Only assign graphics with the following properties:
- File format: Bitmap (bmp) with max. 8 bits (256 colours),
- Aspect ratio: Width= 3 x height.

3.9   Remote control test

The UNIMET® 8… continuously checks its RS-232 interface. A prerequisite for remote control is that the UNIMET® 8… is not busy with a device test or a single test. If you still attempt to send a command in these situations, the UNIMET® 8… sends the answer #INUSE#. During the backup of test data and operating software as well as during a printout, remote control is turned off.

If the UNIMET® 8… receives a command while it is ready to process commands, it switches into the remote control state. Generally, the test system UNIMET® 8… receives these commands from a device management software.

If a connection is established, the UNIMET® 8… signals the following:
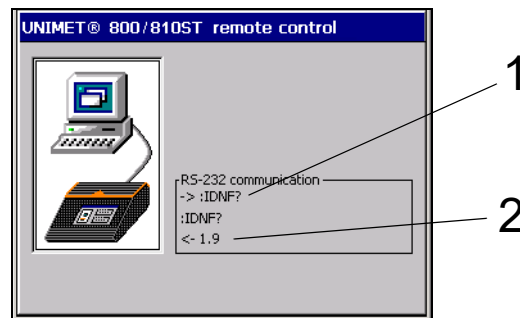
1	Command received by the UNIMET® 8…
2	Response sent by the UNIMET® 8…

Carrying out a remote control test
In the event of communication errors between a device management software and the UNIMET® 8…, the cause of fault can be narrowed down. If the communication attempt between the PC and the UNIMET® 8… has been successful, the hardware (PC, null modem cable, UNIMET® 8…) can be excluded as cause of fault.

1. Start the PC software "UNIMET800ST-Control Center".

2. Activate the "Remote control test" function.

3. Enter a valid command (3, refer to figure on the next page).

4. Click "Send" (4, refer to figure on the next page).

If the communication attempt was successful, the UNIMET® 8… sends an answer to the PC. This answer will be displayed on the PC screen (refer to screen representation on the next page).

The UNIMET® 8… also confirms successful communication on its display.
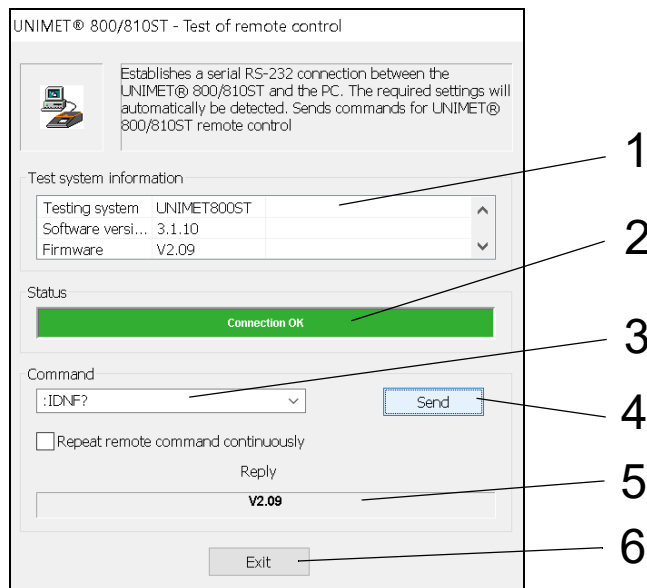
1	Information regarding the connected UNIMET® 8… (e.g. serial number, firmware).
2	Provides information regarding the condition of the connection to the UNIMET® 8…
3	Enters or selects a command from the list.
4	Sends a command to the UNIMET® 8…
5	Indicates the response of the UNIMET® 8…
6	Exits the "Remote control test" function.

3.9.1   Extract from the UNIMET® 8… command list

The CD enclosed to the test system includes the complete command list. The name of the PDF file is "Remote interface".

Command	Argument	Comment
:MEAS		Start of the tree :MEAS
:MEAS:STEP	MEASNO	Starting a test step. The required separator is a SPACE. e.g. :MEAS:STEP 3
:MEAS:STEP:VAL?		Querying the measured value of the test step started before
:MEAS:STEP:EXIT		Exiting the test step
:MEAS:STEP:UNIT?		Querying the unit of the previously started test step
:MEAS:STEP:NAME?		Querying the designation (complete) of the test step started before

Command	Argument	Comment
:MEAS:STEP:SHOR?		Querying the designation (short form) of the test step started before
:IDNR?		Querying manufacturer test system
:IDNM?		Querying device designation test system
:IDNF?		Querying firmware (software version of the measuring module)
:IDNH?		Querying the hardware version of the measuring module
:IDNS?		Querying the serial number of the test system

3.9.2 Example: Remote control of the protective earth resistance measurement

The protective earth resistance of a device with a power supply cable has to be measured.

1. Connect the DUT to the UNIMET® 8…

2. Start the PC software "UNIMET® 800/810ST Control Center" and activate the "Remote control" function.

3. Start the protective earth resistance measurement with the command ":MEAS:STEP 3".

4. Subsequently, query the measured value using the command ":MEAS:STEP:VAL?".
   The UNIMET® 8… indicates:
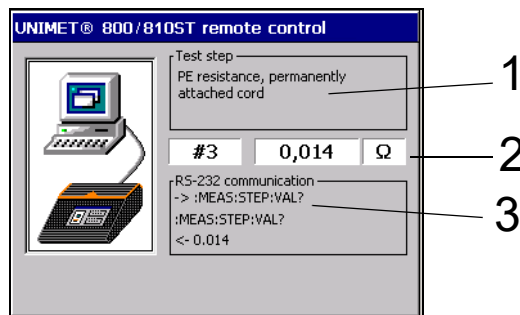
1	Current test step
2	Number, measured value, unit
3	Current command tree

5. Exit the measurement with the command ":MEAS:STEP:EXIT".

4. Maintenance

4.1   Saving a backup copy

The PC's hard drive is no location where your data is stored absolutely safe. With a backup copy of the test database, you will avoid loss of data.

Back up the device database on another storage medium at regular intervals. Click on "?" > "Information regarding UNIMET 800ST – Control Center" to display the current path of the test database.

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