

PC-Win ST 750 - 760

Logging software

Operating manual

Translated version (English)



5070 en
Version 1.01
10211227
20th Aug. 2018

Imprint

Notes on documentation

Safe operation of the product requires knowledge and skills imparted by the original version of this document. The information is presented in a concise and clear way. Chapters and pages are numbered consecutively.

This operating manual is intended to document the product. The corresponding data can be taken from the technical data overview. During installation, commissioning, operation and when performing maintenance work, make sure to apply the documentation corresponding to the existing product.

The products are subject to constant further development. The manufacturer reserves the right to make changes with regard to form, features and technology. The information provided in this documentation corresponds to the state of the art at the time of printing. For this reason, no claims can be raised for certain properties of the product from the contents of this documentation.

Manufacturer / holder of rights

BENNING Elektrotechnik und Elektronik GmbH & Co. KG

Münsterstraße 135 - 137

46397 Bocholt

Germany

Phone: +49 2871 93-0

Commercial Register Coesfeld HRA no. 4661

General equal treatment

The manufacturer is aware of the significance of language with regard to the equality of women and men and always makes an effort to give due consideration to these requirements.

Nevertheless, for reasons of better readability, the consistent use of gender-equitable formulations has been avoided.

Copyright

© Copyright 2018, BENNING Elektrotechnik und Elektronik GmbH & Co. KG

All rights reserved.

This document including in particular all contents, texts, photographs and graphics, is protected by copyright.

No part of this documentation or its contents may be reproduced in any form (by printing, photocopying or any other method) or processed, copied or distributed by electronic means without express written permission.

Information contained in this documentation is subject to change without prior notice and does not represent a commitment on the part of the manufacturer. The manufacturer is not obliged to supplement the information in this documentation or to keep it up to date. The manufacturer reserves the right to make improvements to this documentation or the products described herein at any time without prior notice.

Support / helpdesk

BENNING helpdesk team

Phone: +49 2871 93-555

Fax: +49 2871 93-6555

E-mail: helpdesk@benning.de

Website: www.benning.de

Table of contents

1.	Application	1
2.	Safety instructions	1
2.1.	Symbols used	1
2.2.	General safety instructions	1
3.	Installation	1
3.1.	General information	1
3.2.	System requirements.....	1
3.3.	Installing the application	1
3.4.	Starting the program for the first time	1
4.	PC-Win ST 750 - 760 user interface	2
4.1.	Menu bar	3
4.2.	Toolbar	5
4.3.	Data explorer	6
4.3.1.	Database levels	6
4.3.2.	Data explorer functions.....	6
4.4.	Function field	7
4.5.	Status bar	7
4.6.	“Getting started” dialog	7
5.	Getting started	8
5.1.	Creating a new database.....	8
5.2.	Select database.....	8
5.3.	Creating a new customer.....	9
5.4.	Creating a new test sample	10
6.	Customer-specific tests and visual inspections	12
6.1.	Customer-specific tests	12
6.1.1.	Creating a customer-specific test	13
6.1.2.	Copying a customer-specific test.....	13
6.1.3.	Deleting a customer-specific test.....	14
6.2.	Customer-specific visual inspections.....	14
6.2.1.	Creating a customer-specific test question.....	14
6.2.2.	Editing a customer-specific test question	14
6.2.3.	Deleting a customer-specific test question	15
7.	Tabular views	15
7.1.	Filtering data.....	16
7.2.	Selecting columns to be displayed	17
7.3.	Sorting entries	18
7.3.1.	Alphabetical or numerical sorting	18
7.3.2.	Changing the order of columns	18

7.4.	Creating / editing / deleting entries	18
7.4.1.	Creating entries	18
7.4.2.	Editing entries	18
7.4.3.	Deleting entries	19
7.5.	Exporting tables	19
7.6.	Special functions of tabular views	19
7.6.1.	Tabular "Test samples" view.....	19
7.6.2.	Tabular "Test results" view	20
8.	Statistics	20
8.1.	Calling statistics.....	20
8.2.	Printing statistics.....	23
9.	Database options	23
9.1.	Saving a database.....	23
9.2.	Reading a database from the appliance tester.....	24
9.3.	Database backups.....	25
9.3.1.	Creating a database backup (appliance tester).....	25
9.3.2.	Creating a database backup (logging software).....	26
9.3.3.	Restoring a database backup.....	26
9.4.	Importing data.....	28
9.5.	Merging databases	31
9.5.1.	Questions / general information.....	31
9.5.2.	Using a database	32
9.5.3.	Steps to be taken in the software	32
9.6.	Repairing a database	33
9.7.	Compressing a database.....	34
10.	Options of the logging software	35
10.1.	Default options.....	35
10.1.1.	Automatic backup	35
10.1.2.	Data explorer	35
10.1.3.	Report printout	35
10.1.4.	Company logo.....	36
10.2.	Expert options.....	36
10.2.1.	Printing.....	36
10.2.2.	"Print preview" dialog box	42
10.3.	Statistics reports	43
11.	Report Designer	44
11.1.	Application	44
11.1.1.	Inserting a company logo.....	44
11.1.2.	Inserting a barcode / QR code.....	46
12.	Service contacts.....	49

1. Application

The **BENNING PC-Win ST 750 - 760** logging software enables you to conveniently manage your databases.

You can create and export new databases or import existing databases and edit them using your PC.

The integrated **Report Designer** enables you to control printing and to edit existing test reports subsequently.

The detailed **"Getting started"** dialog makes it easier for you to familiarize yourself with all the basic functions of the software.



2. Safety instructions

2.1. Symbols used

- Attention! Please observe documentation!
- Note. To be observed imperatively.
- Instructions
- Registered trademark

2.2. General safety instructions

Please read the operating manual of the logging software and the operating manual of the appliance tester carefully and thoroughly before using the product. Please observe all instructions of the relevant operating manuals.

The manufacturer generally recommends making **backup copies** before making changes to existing databases. This prevents unintentional loss of data in the event of an error.

If you remove the appliance tester's USB cable or SD memory card from your PC, use the integrated Windows® function **"Safely remove hardware and eject media"** prior to removal. This prevents unintentional loss of data in the event of an error.

Make sure to properly connect your appliance tester or its SD memory card to your PC. A bad connection might involve data loss during a file transfer.

In case of proper use according to the specifications, the safety of your data is ensured.

The manufacturer assumes no liability for any actions other than those described in this operating manual.

3. Installation

3.1. General information

The **BENNING PC-Win ST 750 - 760** logging software is designed as a 32-bit program. If you are using a 64-bit operating system on your PC, it will usually automatically recognize how the program works and install it in compatibility mode. If your system does not run the installed software correctly, you can start the compatibility mode manually. To do this, follow the instructions of your operating system according to the manufacturer's specifications. The necessary steps to be taken depend on the installed operating system and can be found on the Internet (keyword: *compatibility mode*).

3.2. System requirements

Operating system:

Windows® XP Home Edition, Service Pack 3 (or higher)

- Windows® Installer 3.1 (or higher)
- Internet Explorer 5.01 (or higher)
- .Net Framework 4.0 (or higher)

Recommended hardware performance:

- at least Pentium® 1 GHz (or faster)
- at least 512 MB RAM

Minimum hard disk space:

- 2 GB

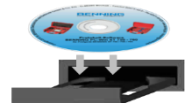
3.3. Installing the application

You need administrator rights to install the logging software.

The manufacturer recommends updating the printer drivers to avoid incorrect printing of test reports.

Depending on the PC configuration and operating system, installation might take several minutes.

Insert the supplied CD-ROM into your PC drive.



Wait until the AutoStart function of the setup starts with the installation.

(If installation does not start automatically, manually run the **"setup.exe"** file on the CD-ROM.)

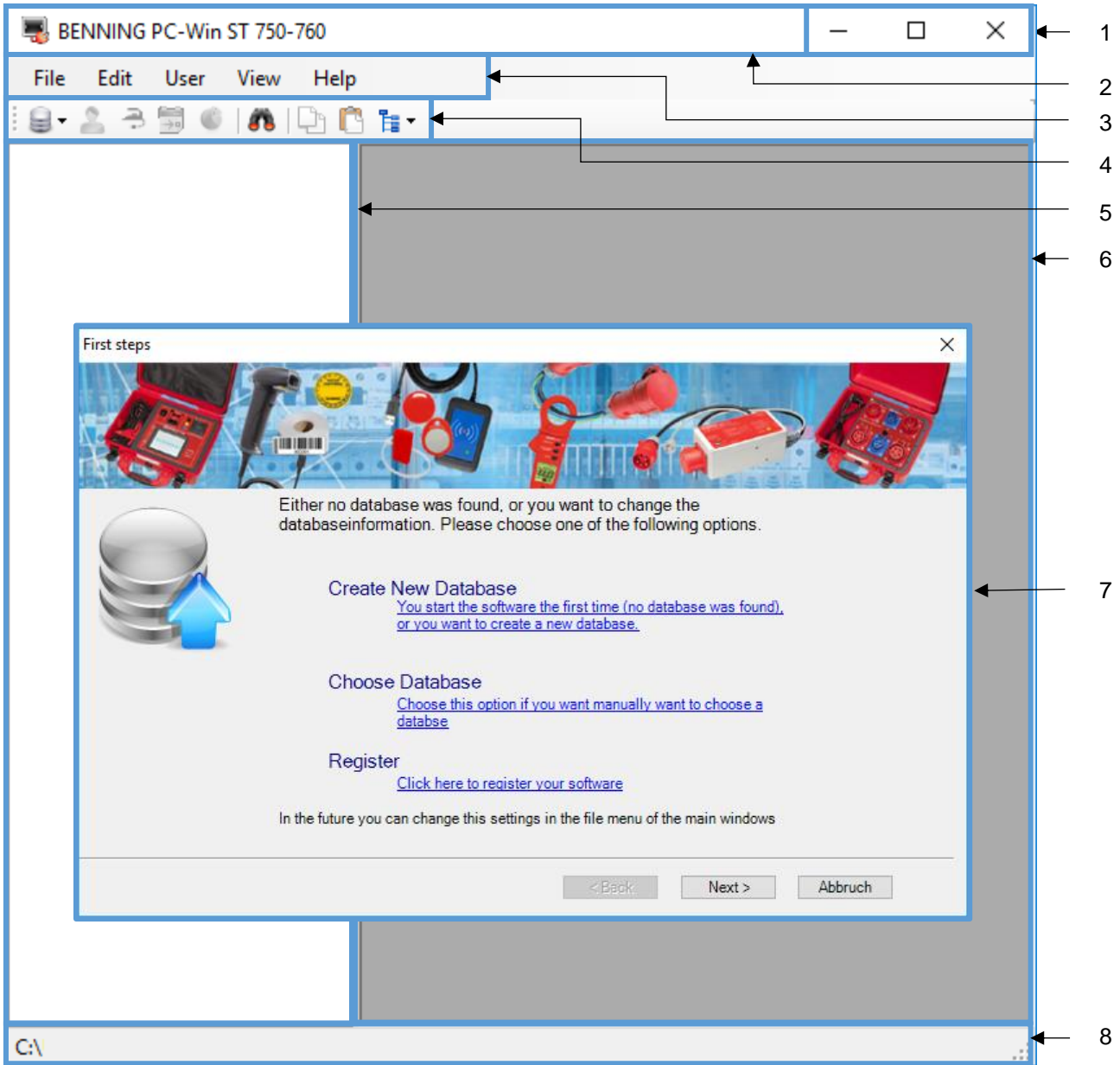
Confirm the installation and follow the instructions of the setup wizard.

3.4. Starting the program for the first time

After successful installation, the logging software can be started.

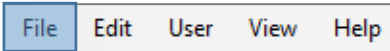
When you start the program for the first time, the detailed **"Getting started"** dialog opens and guides you through the basic functions of the software.

4. PC-Win ST 750 - 760 user interface



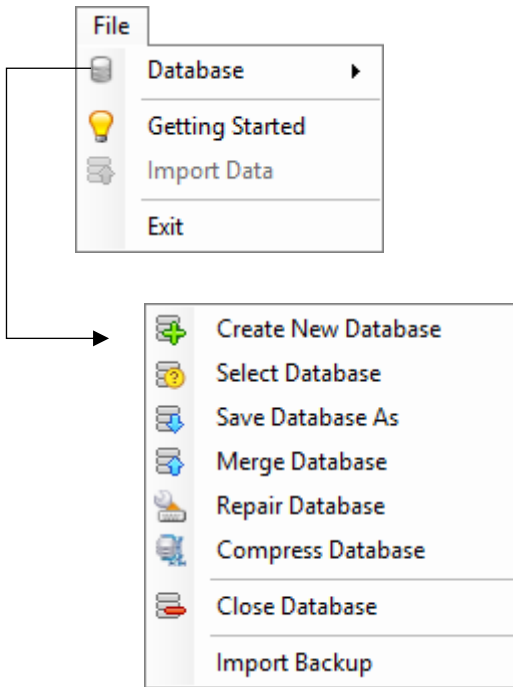
	Meaning	Pos.
	Area with operating elements	1
	Title bar	2
	Menu bar	3
	Toolbar	4
	Data explorer	5
	Function field	6
	“Getting started” dialog	7
	Status bar	8

4.1. Menu bar



Use the menu path *Menu bar -> File* to get to the options described in the following.

You can manage databases, import data and learn how to use the **BENNING PC-Win** software using the convenient "**Getting started**" dialog.



Getting started

Click this menu item to select an existing database or create a new database. Optionally, you can register your PC software online.

Import data

Click this menu item to import data from the **BENNING PC-Win 700** logging software and from **Microsoft® Excel**.
(See chapter 9.4.)

Exit

Click this menu item to exit the **BENNING PC-Win** software.

Create new database

Click this menu item to create a new database. This database is empty and does not contain any entries at the beginning.

(See chapter 5.1.)

Select database

Click this menu item to select a database that you want to work with in the software environment.

(See chapter 5.2.)

Save database as

Click this menu item to save the current database under a new name. The current work database will not be changed. You only create a backup of the current database.

(See chapter 9.1.)

Merge database

Click this menu item to merge databases into a common database.

(See chapter 9.5.)

Repair database

Click this menu item to repair a corrupted database. You will then receive feedback as to whether the repair was successful.

(See chapter 9.6.)

Compress database

Click this menu item to reduce the memory space required by a database without data loss occurring.

(See chapter 9.7.)

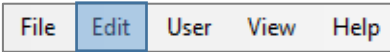
Close database

Click this menu item to close an open database. The database is removed from the tree diagram and all open file windows are closed.

Restore backup

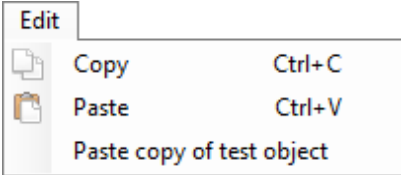
The software creates various backups. Click this menu item to restore a backup.

(See chapter 9.3.)



Use the menu path *Menu bar -> Edit* to get to the options described in the following.

You can mark data in the file explorer with a mouse click and copy them into the desired location using the options "Copy" and "Paste".



The list is dynamic and may contain additional functions if a tabular view is enabled.

Copy (Ctrl + C)

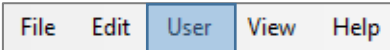
Copies the selected element (test sample or customer) to the clipboard.

Paste (Ctrl + V)

Adds an element (test sample or customer) from the clipboard. Results will also be copied.

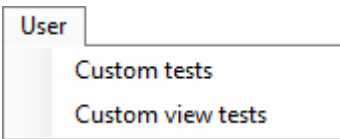
Paste copy of test sample

Creates an exact copy of a test sample without copying stored results.



Use the menu path *Menu bar -> User* to get to the options described in the following.

You can edit existing customer-specific tests and visual inspections and create, copy or delete new entries.



Custom tests

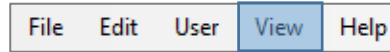
Click this menu item to go to the "Custom tests" dialog box.

(See chapter 6.1.)

Custom visual inspections

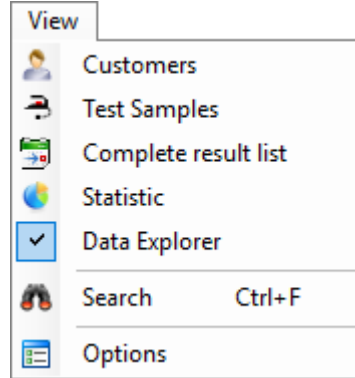
Click this menu item to go to the "Custom visual inspections" dialog box.

(See chapter 6.2.)



Use the menu path *Menu bar -> View* to get to the options described in the following.

By selecting "Customers", "Test samples" or "Test results", tabular overviews are provided in the function field. In addition, you can statistically evaluate your selected database, hide the data explorer and search for specific entries in the tabular overviews.



Customers

Displays an overview of all existing customers. You can add, edit or delete customers and hide unnecessary entries by using filters.

Test samples

Displays an overview of all existing test samples. You can add, edit or delete test samples and hide unnecessary entries by using filters. In addition, you can also view the test result of an individual test sample and mark overdue test samples.

Test results

Displays an overview of all existing tests. You can delete unnecessary entries or hide them by using filters and view the test result of an individual test.

Statistics

Displays a statistical evaluation of all test samples.

Data explorer

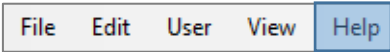
Hides or shows the data explorer.

Search (Ctrl + F)

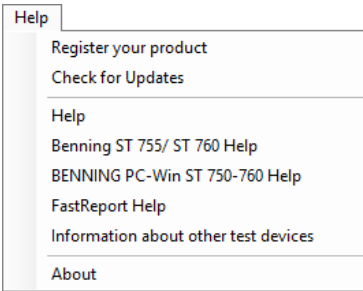
Displays the search function.

Options

Displays the options of the **BENNING PC-Win** software.



Use the menu path *Menu bar -> Help* to get to the options described in the following.



Register your product

You will be redirected to the Product and Software Registration page on the **BENNING** website.

Check for updates

A dialog box opens showing update information for the **BENNING PC-Win** logging software.

BENNING ST 755 - ST 760 help

Menu path to the description of the appliance tester

BENNING PC-Win ST 750 - 760 help

Menu path to the description of the logging software

FastReport help

Menu path to the Report Designer software

Information about other test devices

Link to the **BENNING** testers and measuring instruments website

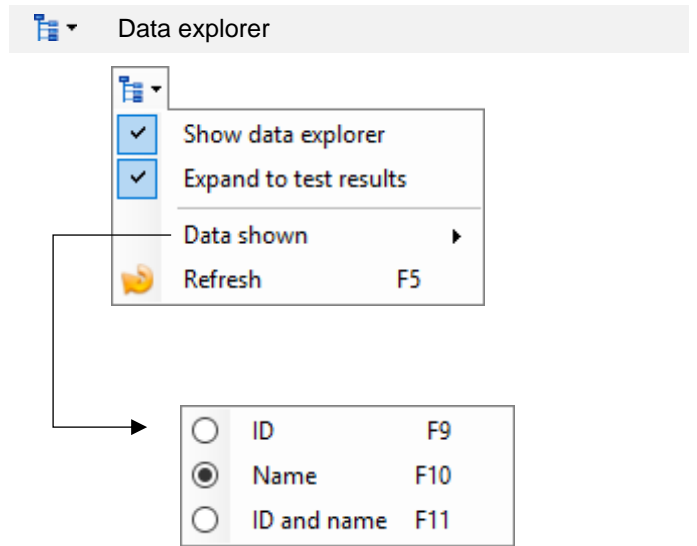
4.2. Toolbar



The toolbar serves as *quick access* to all frequently used functions. A description of the functions can be found in the chapter *"Menu bar"*.

In addition to the functions from the chapter *"Menu bar"*, the functions of the menu item *"Data explorer"* are listed here.

- Database
- Customers
- Test samples
- Test results (tests)
- Statistics
- Search element
- Copy
- Paste

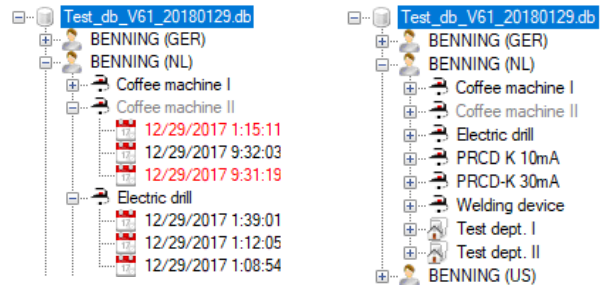


Show data explorer

Hides or shows the data explorer.

Expand to test results

If this option is enabled, the data explorer expands to show the test results as well.

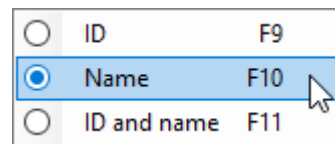


enabled

disabled

Data shown (F9, F10, F11)

Changes the view in the data explorer according to the selected option.



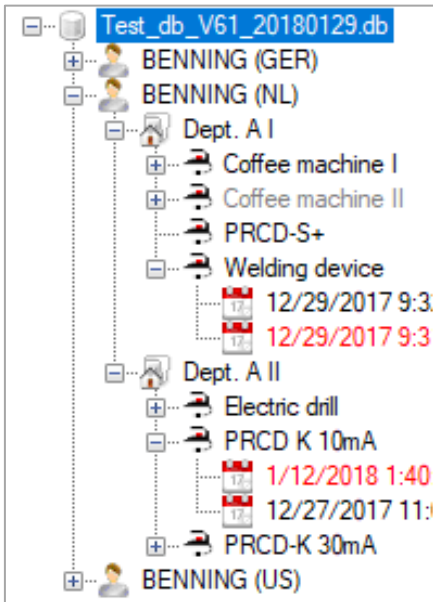
Refresh (F5)

Updates the display of the data explorer.

4.3. Data explorer

The data explorer provides you with an overview of all database levels.

4.3.1. Database levels



To edit, create or delete a database level in the data explorer, select the corresponding level with a left mouse click.

A right mouse click then shows you the options of the context menu.

- Database
- Customer(s)
- Department(s)
- Test sample(s)
- Test result(s)

Expand or collapse database levels

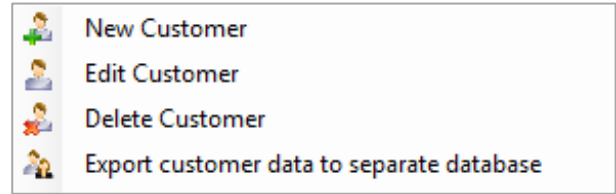
- Expands a single database level.
- Collapses a single database level.
- Expands all database levels.
- Collapses all database levels.

4.3.2. Data explorer functions

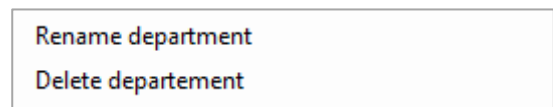
Context menu (right mouse click)

Depending on the database level selected, different functions are available in the context menu.

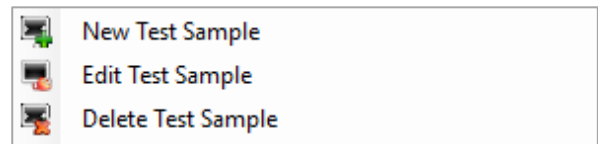
Customer



Department



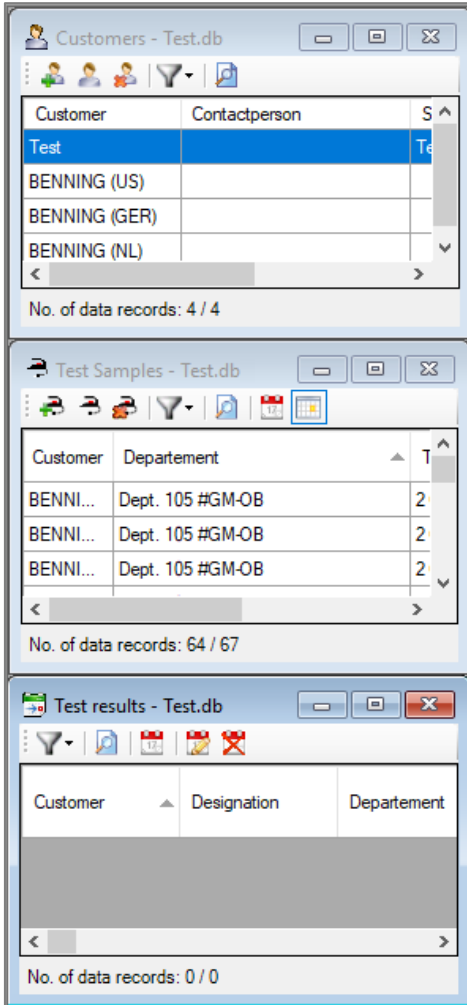
Test sample



Test result



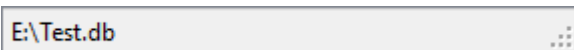
4.4. Function field



The selected menu items from the toolbar are displayed in the function field.

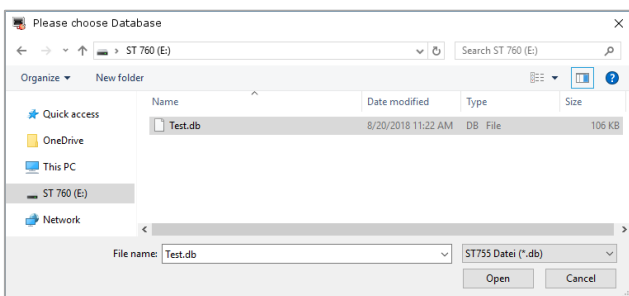
Example:
Customers, Test samples or Test results

4.5. Status bar

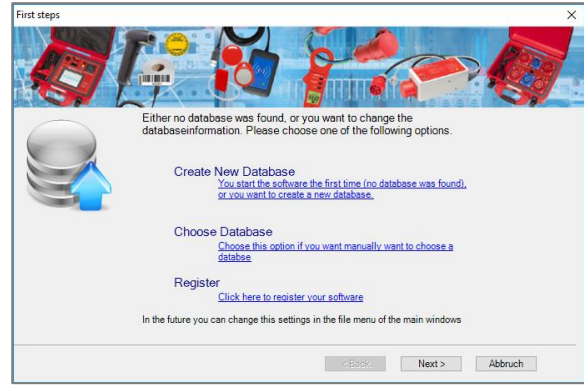


The status bar shows the current directory of the selected database.

Double-clicking on the status bar takes you to the folder overview of the selected directory.



4.6. "Getting started" dialog



The "Getting started" dialog offers an easy introduction into how to use the **BENNING PC-Win** logging software. You can start with a new database or edit an existing database. Navigate to the desired function and follow the instructions displayed on your screen.

Since the "Getting started" dialog guides the user conveniently through the basic functions of the software, no detailed description of the steps to be taken is given in this documentation.

A left mouse click on the menu item "Register" will take you to the Product and Software Registration page on the **BENNING** website.

After registration of your **BENNING** product, you will benefit from a faster information service and our expert 24/7 service hotline.

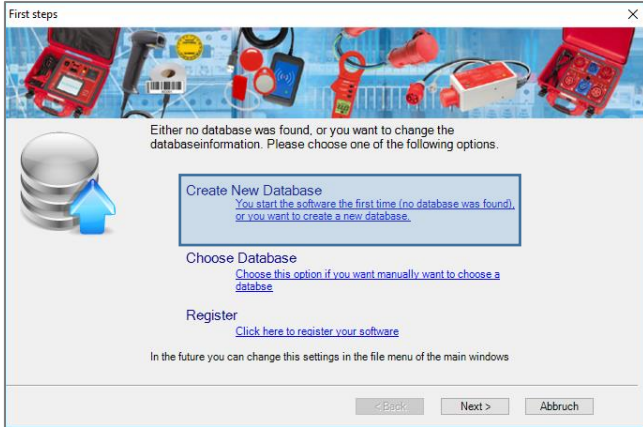
5. Getting started

5.1. Creating a new database

You can create a new database using different menu paths.

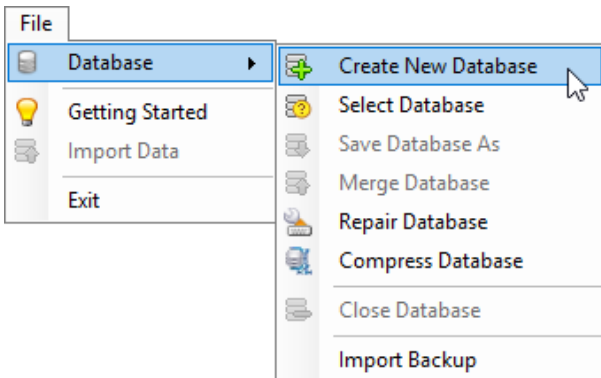
If you are using the **BENNING PC-Win** logging software for the first time, follow the instructions of the "Getting started" dialog.

1. option ("Getting started" dialog)

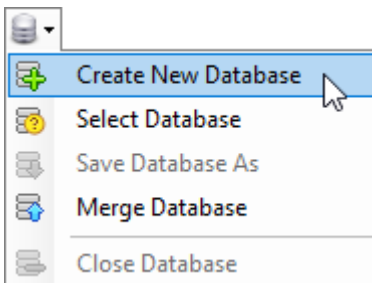


Otherwise, navigate using the following menu paths:

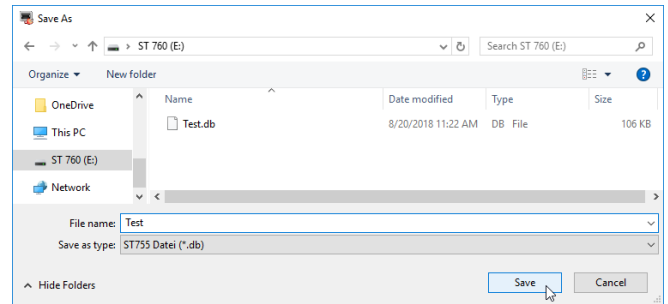
2. option (menu bar)



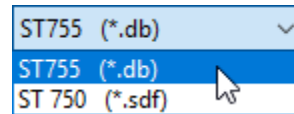
3. option (toolbar)



The "Save as" dialog box opens where you can select the storage location for the new database to be created.



Select the storage location, enter a file name (e. g. *Test.db*) and select the correct file type.



ST 750 = *.sdf / ST 755 - 760 = *.db

Confirm your selection and click the Save button.

An empty database is created and is available for further editing.

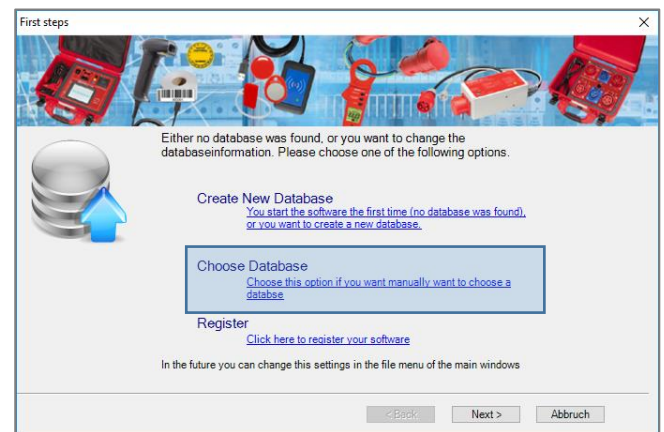
The newly created database is automatically used for further editing and displayed in the data explorer.

5.2. Select database

You can select an already existing database for editing.

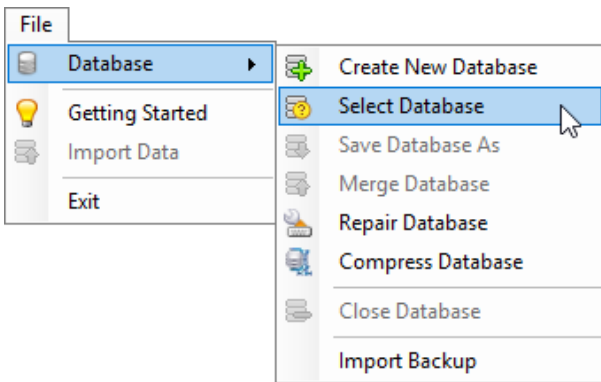
If you are using the **BENNING PC-Win** logging software for the first time, follow the instructions of the "Getting started" dialog.

1. option ("Getting started" dialog)

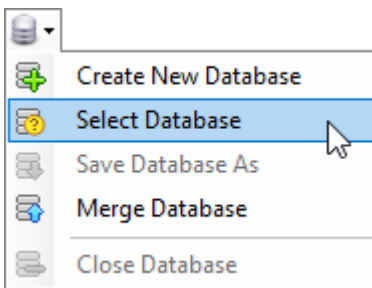


Otherwise, navigate using the following menu paths:

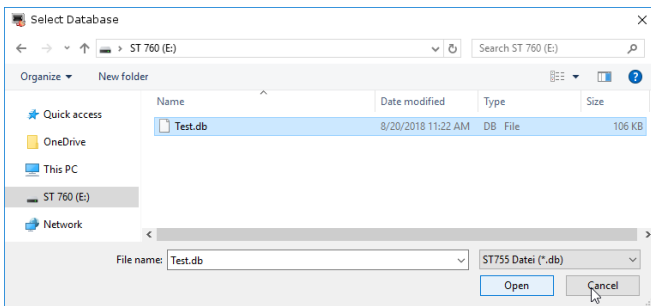
2. option (menu bar)



3. option (toolbar)



The “*Select database*” dialog box opens where you can select the storage location for the database to be edited.



Select the corresponding storage location, select the database to be edited and click the *Open* button.

The selected database opens and is available for further editing.

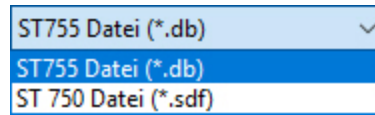
Please observe the correct database format when opening a database.

*It is possible to select older databases of the **ST 750** and **ST 750 A** appliance testers.*

These have a different database format (.sdf) than the ST 755/ST 760 appliance testers (*.db) and are hidden in the “**Select database**” dialog box in case of wrong selection!*



In the “*Select database*” dialog box, the filter for the corresponding database formats can be changed.



After successful selection, the selected database is displayed in the data explorer.

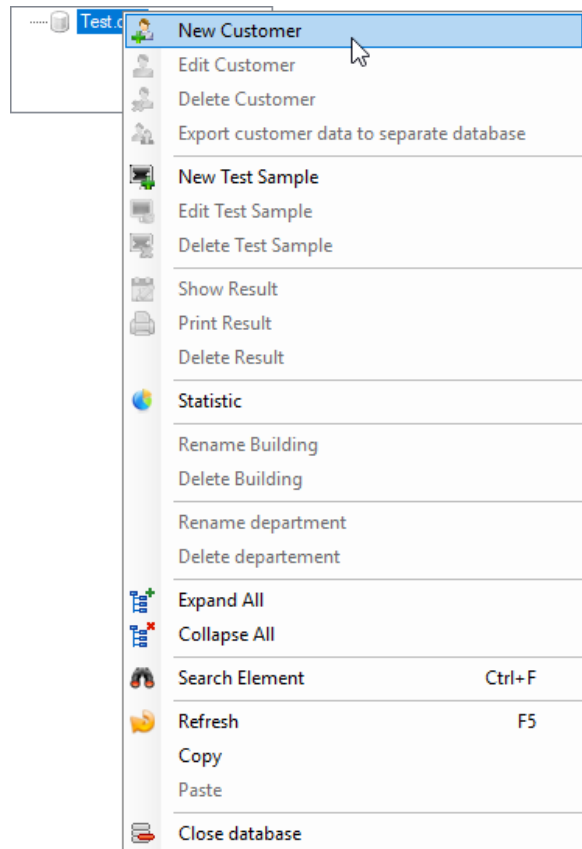


To make sure that you can use this database to its full extent on your appliance tester, at least **1 customer** must be created.

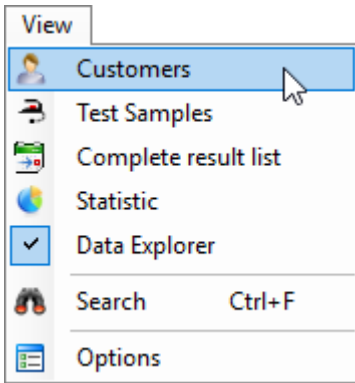
5.3. Creating a new customer

After you have selected a database for editing, you can now add a desired number of customers to it.

1. option (data explorer context menu)



2. option (menu bar)



The "Customers" function opens in the function field. There, you can edit customer entries using the following buttons:



3. option (toolbar)



The "Customers" function opens in the function field. There, you can create new customer entries using the following buttons:



After you have selected the **New customer** function using one of the three options, the "Customer" dialog box opens.

Customer X

Please enter customer data

Customer:

Name:

Department:

Contact:

Phone no. 1:

Phone no. 2:

Fax no.:

E-Mail 1:

E-Mail 2:

Address:

Street:

Postal code:

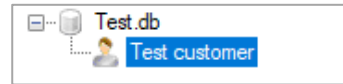
Place:

Notes:

Ok Cancel

Enter the required customer data in the corresponding lines of the "Customer" dialog box and confirm your entries by clicking "OK".

After having successfully entered the data, you will see the customer entry in the data explorer under the selected database.



You can also view the customer entry in the function field. To do this, the tabular "Customers" view must be enabled (options 2 and 3).

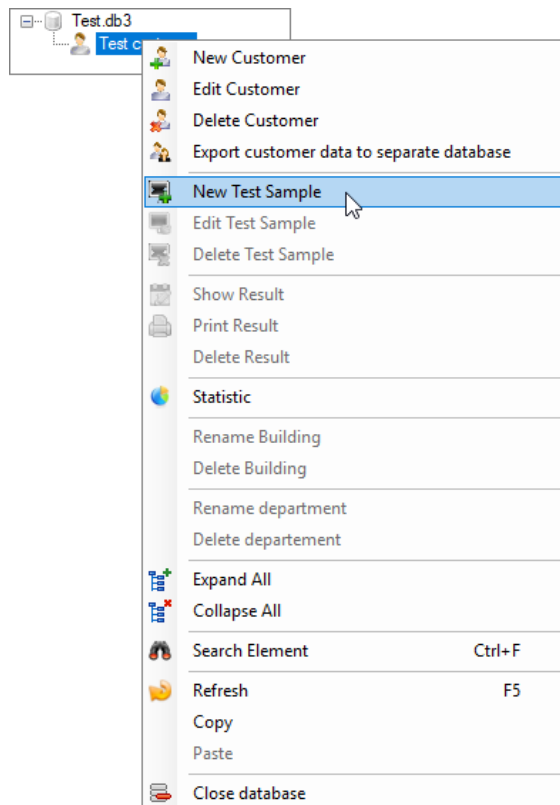
Customer	Contactperson	Street	City
Test customer		Test Street 12	Richardson, Texas

To make sure that you can use this database to its full extent on your appliance tester, at least **1 test sample** must be created.

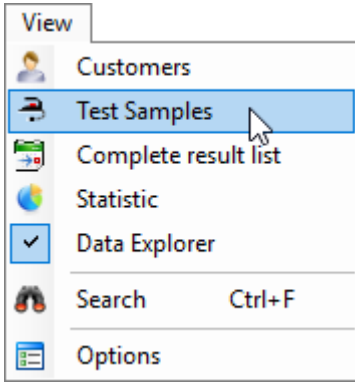
5.4. Creating a new test sample

After you have created a new customer, you can now add a desired number of test samples to it.

1. option (data explorer context menu)



2. option (menu bar)



The "Test samples" function opens in the function field. There, you can edit or influence test sample entries using the following buttons:



3. option (toolbar)



The "Test samples" function opens in the function field. There, you can edit or influence test sample entries using the following buttons:



After you have selected the **New test sample** function using one of the three options, the "Test sample" dialog box opens.

Test Sample [X]

Please edit the test sample data.

Designation: !

Serial no.:

Manufacturer:

Nominal power (kV):

Line length (m):

Cross-sectional area (mm²):

No. of conductors:

Output voltage (V):

Customer:

ID: !

Department:

Out of Order:

Test Options

Test...:

View test:

Test interval:

Test date:

Next test:

Note

OK Cancel

Enter the required test sample data in the corresponding lines of the "Test sample" dialog box and confirm your entries by clicking "OK".

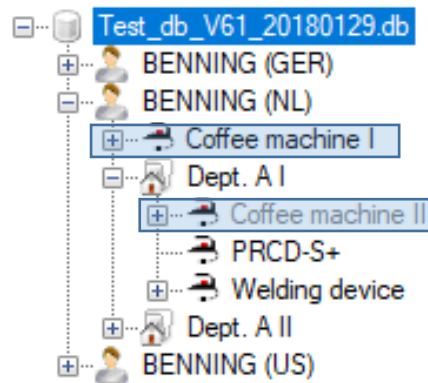
Mandatory fields: Designation, ID + Test (test procedure)

When entering your test sample data, pay particular attention to the "Department" input field.

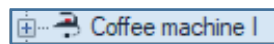
The "Department" input field generates an additional database level and allows you to structure your test samples more precisely.

Thus, within the corresponding company, a better overview of the local distribution of your test samples is provided.

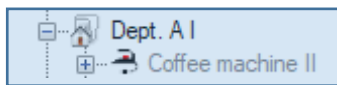
As an example, the following database shows several test samples with and without a department being assigned.



Test sample without a department being assigned:



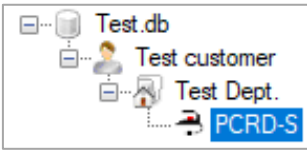
Test sample with a department being assigned:



The department level is not required to use the database to its full extent on your appliance tester.

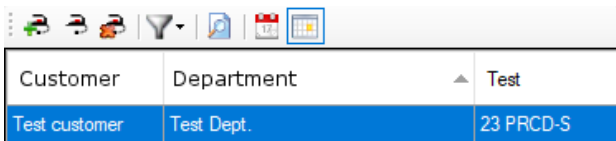
If the department level is not used for a large number of test samples, this might involve longer loading times at the appliance tester.

After having successfully entered the test sample data, you will see the test sample entry in the data explorer under the selected database.



You can also view the test sample entry in the function field.

To do this, the tabular "Test samples" overview must be enabled (options 2 and 3).

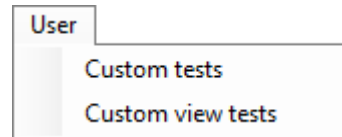


Now that your database contains the required customer, department and test sample entries, you can export them to your appliance tester.

6. Customer-specific tests and visual inspections

You can create your own test procedures using customer-specific tests and visual inspections.

Use the following menu path to go to the customer-specific tests/visual inspections where you can edit them, create new entries and copy and delete existing ones.



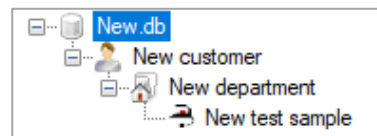
6.1. Customer-specific tests



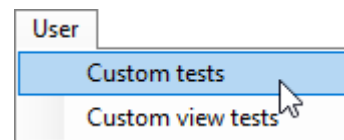
To use the **Custom tests** function, a database must be selected.

Create a new database or select an already existing database.

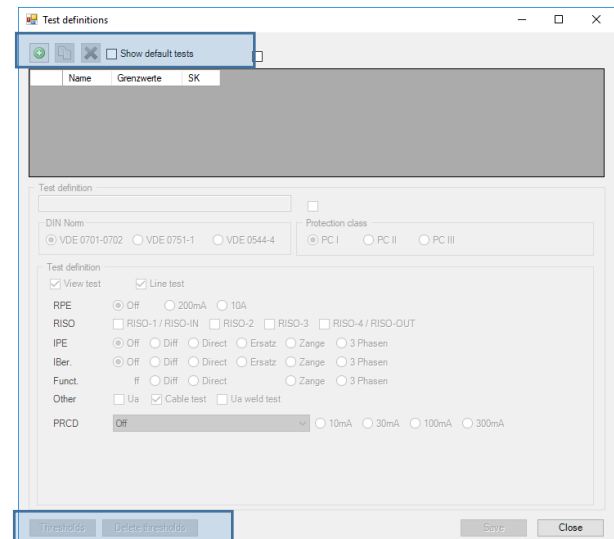
In this example, the database *New.db* has been created and selected.



Use the following menu path to navigate to the *Custom tests* function.



The following dialog box opens:



Create customer-specific test

This function creates a new customer-specific test procedure.

Copy customer-specific test

This function copies existing customer-specific tests or standard test procedures.

Delete customer-specific test

This function deletes an existing customer-specific test.

Thresholds **Customer-specific limits**

You can use this function to create test-related limits for customer-specific tests.

Limits can only be created or modified if at least one individual test is enabled (e. g: RPE, RInsu, IPE...).

These specified limits apply to the selected customer-specific test procedure and do not apply to standard test procedures.

Changed limits are highlighted in color and can be reset to the factory settings using the *Reset* button.

Color marking of changed limits:

(e. g.: RPE limit in [Ω])

Standard limit (font color: black)

RPE (Ω)

Below standard limit (font color: yellow)

RPE (Ω)

Standard limit exceeded (font color: red)

RPE (Ω)

Delete thresholds **Delete limits**

This function deletes all individual limits of the selected customer-specific test and resets the limits to the factory settings.

Show default tests

This function displays the pre-installed standard test procedures.

You can select a standard test procedure, then copy it and create it as a customer-specific test procedure with a different name and changed configuration.

6.1.1. Creating a customer-specific test

Navigate to the *Create customer-specific test* button.

Assign a name for the customer-specific test procedure and select the required DIN standard and protection class.

Enable at least one of the individual tests (e. g.: RPE; RInsu, IPE ...).

*Optionally, you can assign individual **limits** for the customer-specific test.*

*To do this, click the **Limits** button and confirm the confirmation prompt with "Yes".*

Edit the corresponding limits.

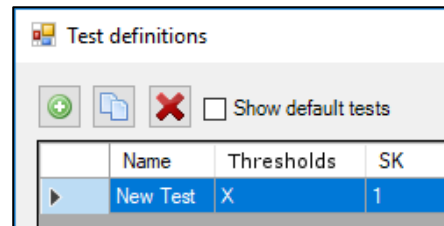
If no changes are made to the limits, the pre-installed default values apply.

Confirm your entries by clicking the *Save* button.

The test procedure can be used after the data have been saved.

6.1.2. Copying a customer-specific test

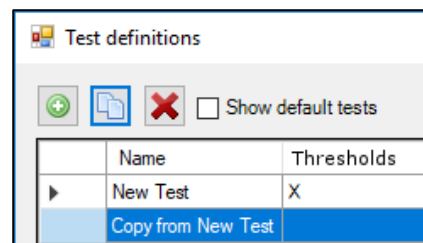
Select a standard or customer-specific test procedure.



(Check "Show default tests" to get an overview of the standard test procedures.)

Navigate to the *Copy customer-specific test* button.

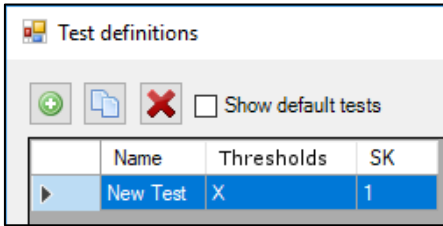
A copy of the selected test procedure will be created. The name of the selected test procedure is preceded by "Copy of ...".



You can configure the copied entry and save it under a different name.

6.1.3. Deleting a customer-specific test

Select a customer-specific test procedure.



Navigate to the *Delete customer-specific test* button.

Confirm the confirmation prompt with "Yes".

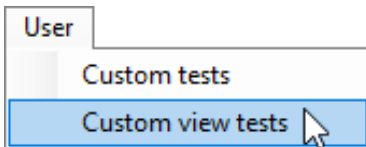
The customer-specific test procedure is irrevocably deleted.

6.2. Customer-specific visual inspections

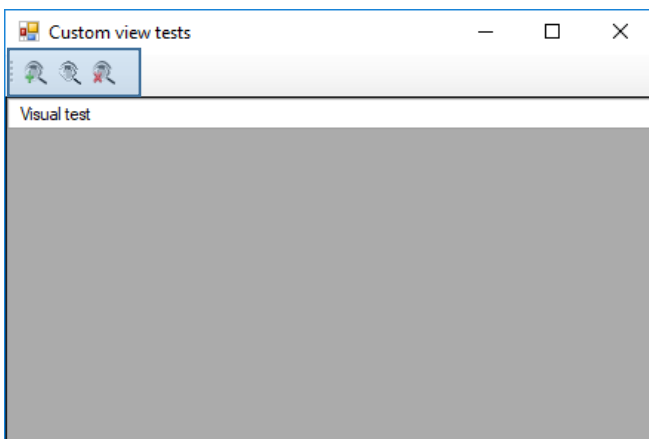
To use the **Custom visual inspections** function, a database must be selected.

Create a new database or select an already existing database.

Use the following menu path to navigate to the *Custom visual inspections* function.



The following dialog box opens:



Create customer-specific visual inspection

This function creates a new test question for customer-specific visual inspections.

Edit customer-specific visual inspection

You can use this function to edit an existing customer-specific test question.

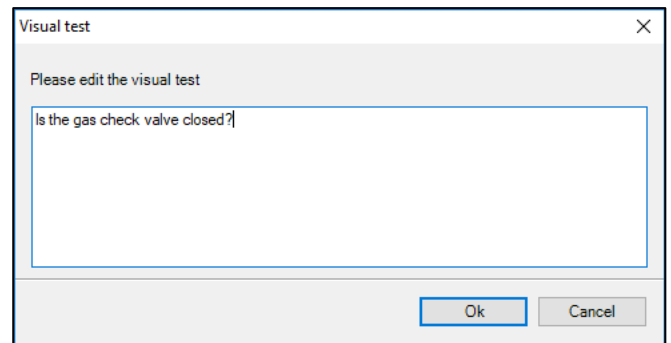
Delete customer-specific visual inspection

This function deletes an existing customer-specific test question.

6.2.1. Creating a customer-specific test question

Navigate to the *Create customer-specific visual inspection* button.

Enter the required test question in the text input field "Visual inspection".

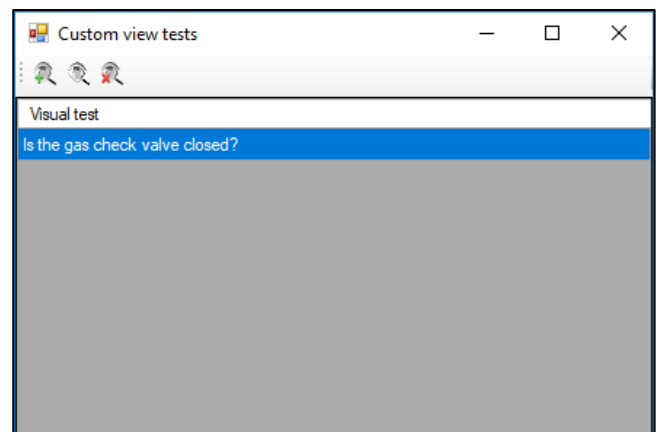


Confirm your entries by clicking "OK".

The test question can now be used in the selected database.

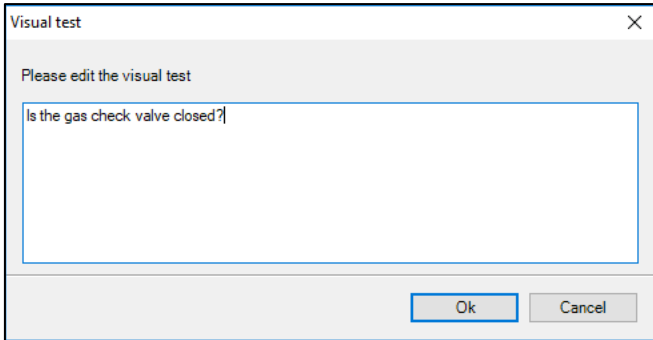
6.2.2. Editing a customer-specific test question

Select the test question to be edited in the *Custom visual inspections* dialog box.





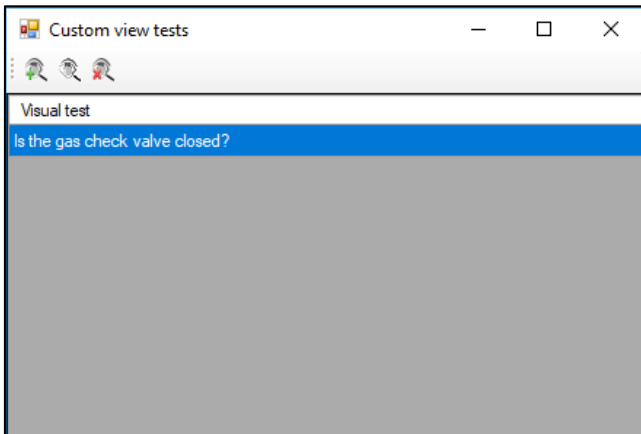
Click the *Edit customer-specific visual inspection* button.



Modify the test question to be edited and confirm your entries by clicking "OK".

6.2.3. Deleting a customer-specific test question

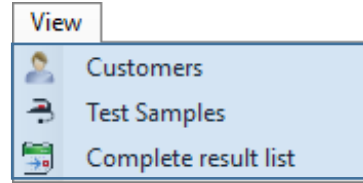
Select the test question to be deleted in the *Custom visual inspections* dialog box.



Click the *Delete customer-specific visual inspection* button and confirm the confirmation prompt with "Yes".

The test question is deleted.

7. Tabular views



The tabular views provide an overview of all entries of the corresponding database level.



Customers

The tabular *Customers* view provides an overview of all existing customers of the selected database.

You can add, edit or delete customers and hide unnecessary entries by using filter functions.



Test samples

The tabular *Test samples* view provides an overview of all existing test samples of the selected database.

You can add, edit or delete test samples and hide unnecessary entries by using filter functions.

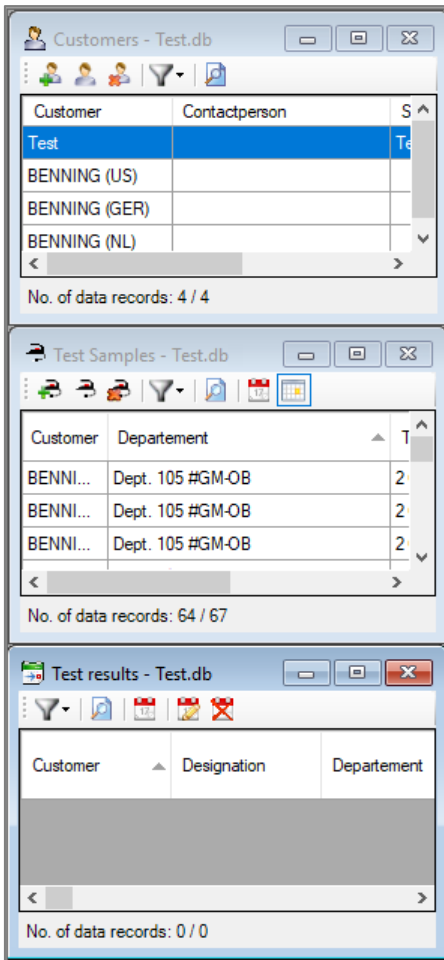


Test results

The tabular *Test results* view provides an overview of all existing test results of the selected database.

You can delete unnecessary entries or hide them by using filters.

Tabular views are called in the function field of the **BENNING PC-Win** logging software.



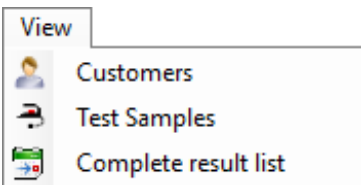
Use the following buttons to minimize, maximize or close a tabular view.



If you maximize a tabular view, that view expands to the size of the function field. Thus, views that are already open might be *covered*.

The *covered* views are still open in the background and can be *uncovered* as follows:

Navigate to the view again via the menu path *View -> Customers / Test samples / Test results*



or click the following buttons on the right of the menu bar.



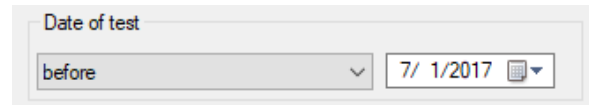
7.1. Filtering data

Apply filter

In the tabular views, you can filter certain database entries applying a logical filter function.

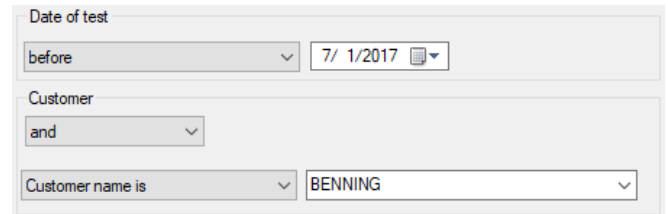
In the following, the basic functionality of the filter is explained using some examples.

Filter selection: e. g. date of test

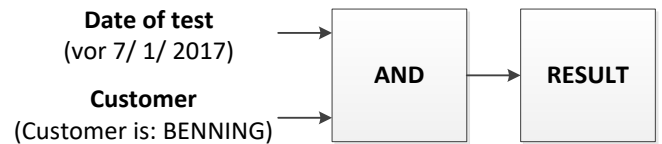


All test results before 1st July 2017 are displayed.

Filter selection: e. g. date of test AND customer



See the logical operation of these filter settings below.

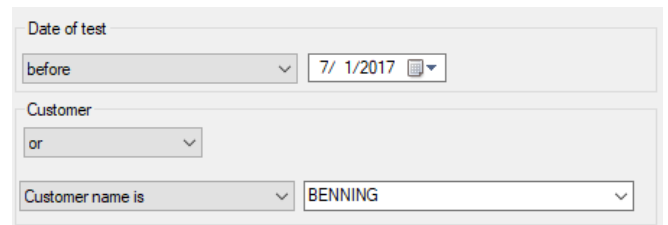


Result:

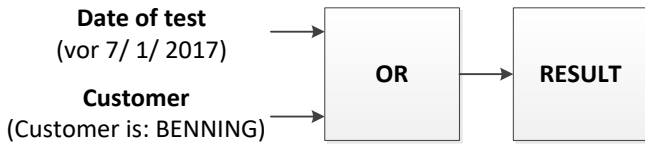
Only entries that fulfill both filter characteristics (*date of test + customer*) are displayed.

So, only entries that were tested **before 1st July 2017** **and** belong to the customer **BENNING** are displayed.

Filter selection: e. g. date of test OR customer



See the logical operation of these filter settings below.



Result:

Only entries that fulfill one of the two filter characteristics (*date of test + customer*) are displayed.

So, all entries that were tested **before 1st July 2017** are displayed.

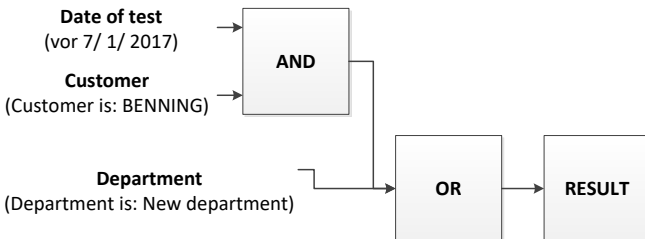
+

All entries belonging to the customer **BENNING** are displayed.

Filter selection:

e. g. date of test **AND** customer **OR** department

See the logical operation of these filter settings below.



Result:

All entries that fulfil both filter characteristics (*date of test + customer*) of the **AND** operation or correspond to the filter characteristic (*department*) of the **OR** operation are displayed.

So, all entries that were tested **before 1st July 2017** and belong to the customer **BENNING** are displayed.

+

All entries belonging to the department **New department** are displayed.



Delete filter

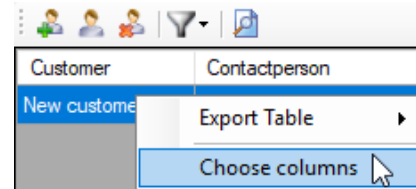
You can use this function to delete your current filter settings.

7.2. Selecting columns to be displayed

In a tabular view, you can manually select the number of visible columns.

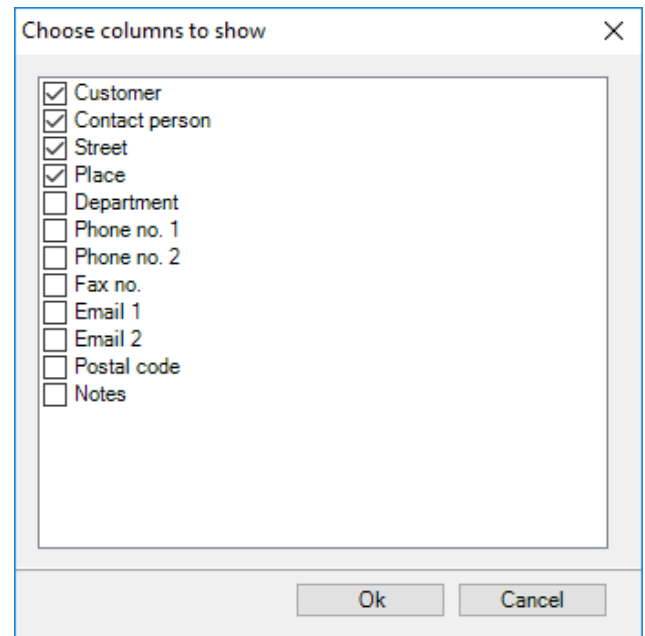
To do this, navigate to the *Select columns* function.

You can go to the *Select columns* function by right-clicking in the table pane of the tabular view.



Example: Tabular “Customers” view

The following dialog box opens:



Example: Tabular “Customers” view

Select the required columns and confirm your selection by clicking “OK”.

You will get back to the tabular “Customers” view.



Example: Tabular “Customers” view

The columns are displayed according to your selection.

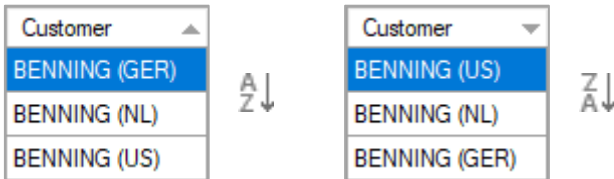
7.3. Sorting entries

7.3.1. Alphabetical or numerical sorting

You can sort entries by a particular characteristic in ascending and descending order independently of filter settings.

The data are sorted alphabetically or numerically in ascending or descending order according to the selected column.

Use a left mouse click to select the header of a column the entries of which you want to sort.



Example: Alphabetical sorting of the *Department* column

In columns with numerical designations, the data are sorted in ascending and descending numerical order.

7.3.2. Changing the order of columns

If you have enabled several columns in a tabular view, you can change the order of the columns by moving them.

Customer	Device Manufacturer	ID
BENNING (US)	Hela	00003
BENNING (US)	Kopp	00007
BENNING (US)	Fronius	1.0001
BENNING (US)	Fronius	1.0001.0

Example: Tabular “Test samples” view

Navigate to the header of the corresponding column (e. g. **ID**) and hold down the left mouse button.

Now, move the corresponding column (**ID**) in horizontal direction until it has reached the desired position.

Customer	Device Manufacturer	ID
BENNING (US)	Hela	00003
BENNING (US)	Kopp	00007
BENNING (US)	Fronius	1.0001
BENNING (US)	Fronius	1.0001.0

Release the left mouse button. After having released the mouse button, the column remains at the corresponding position.

7.4. Creating / editing / deleting entries

Depending on the tabular view selected, you can **create**, **edit** or **delete** entries using different buttons.

7.4.1. Creating entries



Tabular “Customers” view

A new customer is created.



Tabular “Test samples” view

A new test sample is created.



Tabular “Test results” view

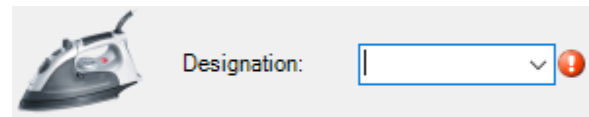
(A test can only be created by real testing using the appliance tester.)

Follow the prompts of the corresponding dialog box after you have clicked one of the buttons.

Input fields marked with the following symbol are mandatory fields that must be filled in when creating a customer or test sample.



Mandatory fields



Example: Mandatory field for creating a new test sample

7.4.2. Editing entries



Tabular “Customers” view



Tabular “Test samples” view



Tabular “Test results” view

Follow the prompts of the corresponding dialog box after you have clicked one of the buttons.

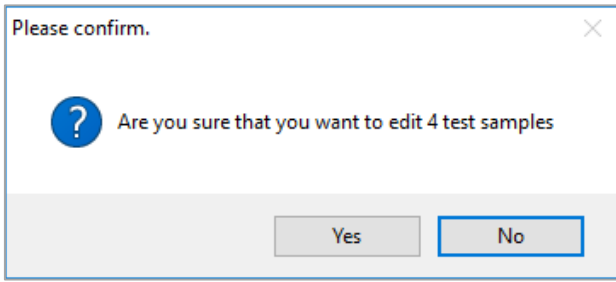
Editing multiple entries simultaneously

To do this, select multiple entries simultaneously in the tabular view and click the corresponding *Edit* button.

Customer	ID	Device M
BENNING (US)	00003	Hela
BENNING (US)	00007	Kopp
BENNING (US)	1.0001	Fronius
BENNING (US)	1.0001.0001	Fronius

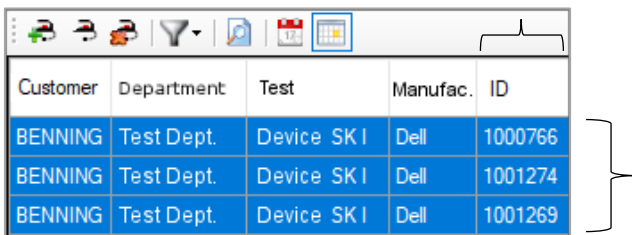
Example: Tabular “Test samples” view

Confirm the confirmation prompt with "Yes".



When editing multiple test samples, all input fields that do not have a common designation are grayed out in the following dialog box.

Example:



Tabular test sample overview – ID column deviates

The designations of the selected test samples are different in the ID column.

The designation of the customer is identical with regard to the following aspects:

- Customer,
- Department,
- Test and
- Manufacturer.

This is why the ID input field can not be edited in the dialog box for modifying multiple test samples.



All common designations can be edited.

7.4.3. Deleting entries

- Tabular "Customers" view**
- Tabular "Test samples" view**
- Tabular "Test results" view**

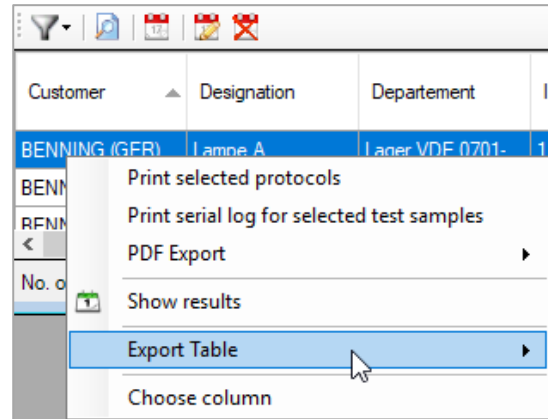
Follow the prompts of the corresponding dialog box after you have clicked one of the buttons.

The corresponding entry will be deleted irrevocably!

7.5. Exporting tables

Navigate to the desired tabular view and right-click one of the listed entries.

Then, continue navigating via *Export table*.



Please click:

Select the storage directory and the desired file name. The **BENNING PC-Win** logging software exports the complete tabular view to the desired directory.

You can then open the .xml file via Microsoft®-Excel® or a suitable XML program from the storage directory.

7.6. Special functions of tabular views

Some functions are only available for the corresponding tabular view.

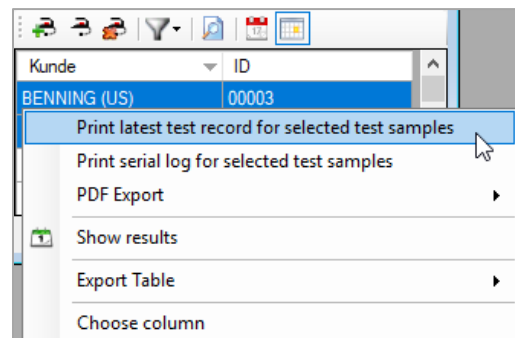
7.6.1. Tabular "Test samples" view

Printing the latest test report for selected test samples

Navigate to the tabular *Test samples* view.

Select one or more test sample entries and right-click to navigate to the context menu.

Select the "Print latest test report for selected test samples" function.




Follow the prompts of the corresponding dialog box and confirm printing by clicking the "Print" button.

The **BENNING PC-Win** logging software prints the latest (*most recent*) test report for the selected test sample entries.

7.6.2. Tabular "Test results" view

Displaying visual inspections and measuring results

Navigate to the tabular *Test results* view.

 Select a test sample entry and click the button next to it to display the corresponding test result.

The dialog box of the selected test opens.

You can use the buttons "*Visual inspections*" and "*Measuring results*" to display the evaluations of the individual inspections as well as all the questions contained in the visual inspection.

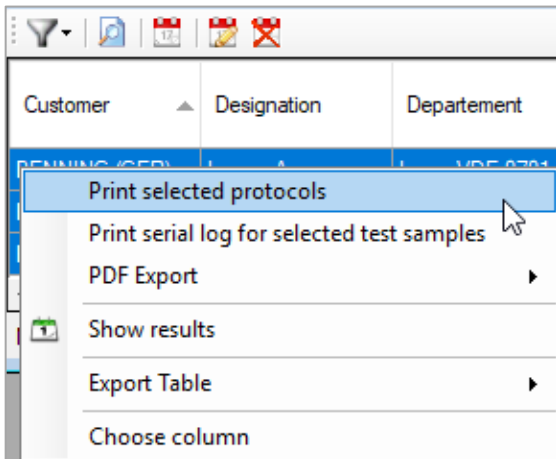


Printing selected reports

Navigate to the tabular *Test results* view.

Select one or more entries and right-click to navigate to the context menu.

Select the "*Print selected reports*" function in the context menu.







1. Select a hardware printer as printer (*not a PDF printer*).
2. Start the print job.

The **BENNING PC-Win** logging software sends all selected test sample entries to the hardware printer one after the other.

8. Statistics

The "*Statistics*" function allows a statistical evaluation of the following database levels:

-  Database -> Database statistics
-  Customer -> Customer statistics
-  Department -> Department statistics
-  -> Contains also a statistical *distribution of the error causes*.

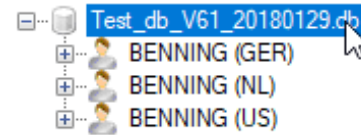
8.1. Calling statistics

There are different menu paths to call the required statistics.

1. **option**
(Navigate from the top database level to the subordinate statistics using the interactive pie charts.)

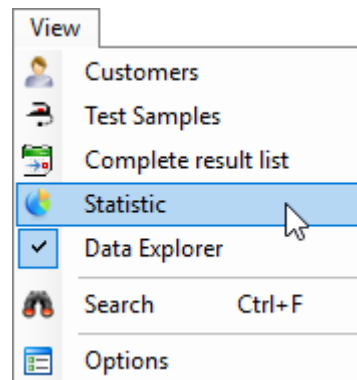
To do this, select the top database level "*Database*" in the data explorer.

In this example, the following database is used: *Test_db_V61_20180129.db*.



By selecting the "*Database*", a corresponding "*Database statistics*" will be generated in the next step.

For this, navigate to the "*Statistics*" function via one of the following menu paths.

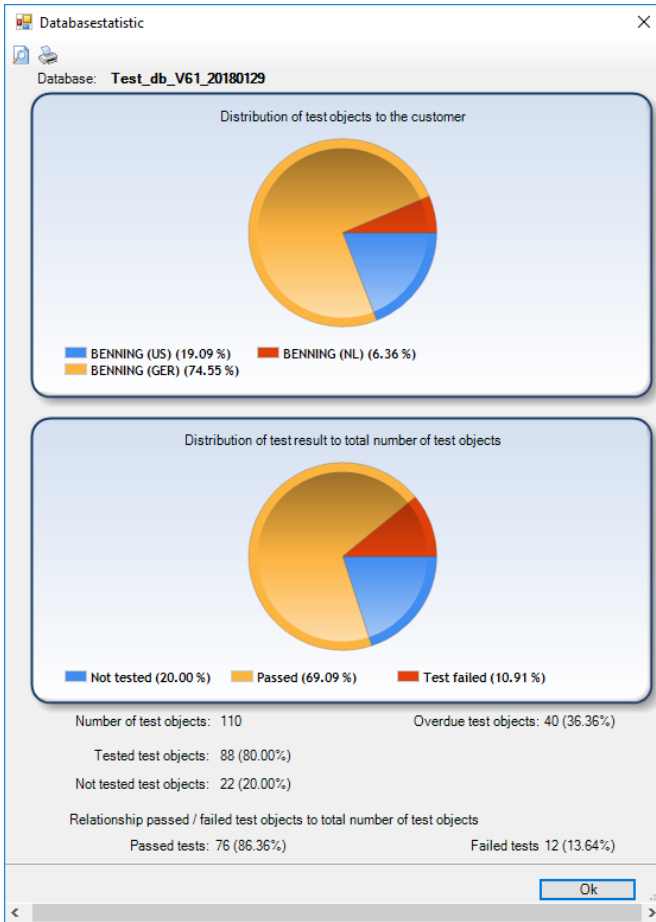


Menu bar



Toolbar

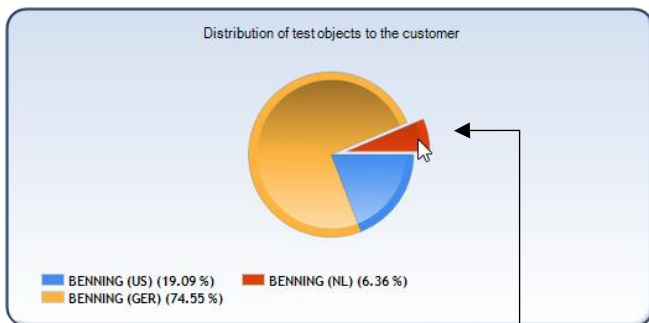
You will get to the "Database statistics" dialog box.



To create "Customer statistics" or "Department statistics", you can now navigate to the subordinate statistics using the interactive pie charts.

To do this, move the mouse pointer over the required section of the interactive pie chart.

The selected section of the interactive pie chart is visibly split off and can be clicked with the mouse.



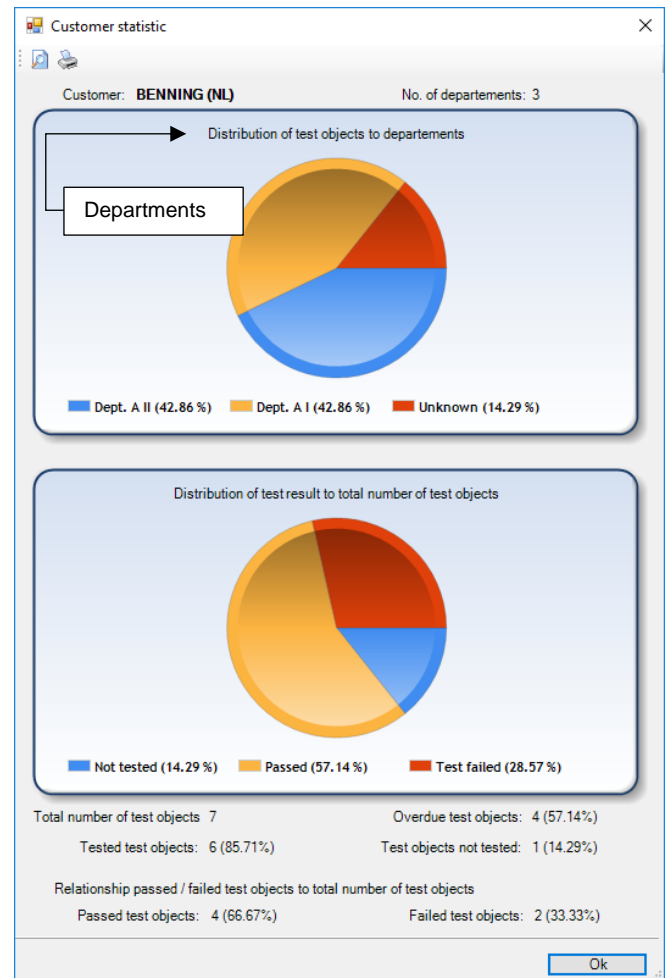
Customer: BENNING (NL)

After successful execution, the corresponding statistics opens.

In this example, the "Customer statistics" of BENNING (NL) opens and provides an overview with regard to the following:

- Distribution of test samples to the departments
- Total number of test samples
- Overdue test samples
- Tested test samples
- Not tested test samples
- Passed tests
- Failed tests

The interactive pie chart of the "Customer statistics" for BENNING (NL) concerning the department can be used in the same way.

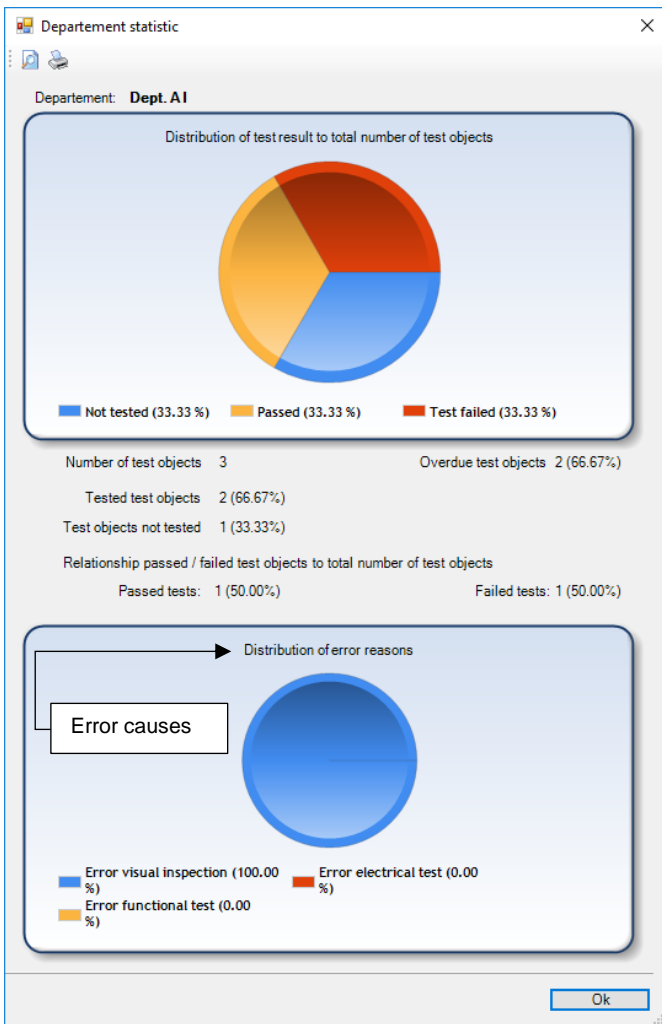


You can move the mouse pointer over a section of the interactive pie chart and click this section.

Thus, you will get to the "Department statistics" of the selected department.

In this example, the test department "Dept. A I" of the "Customer statistics" for BENNING (NL) is used.

Moreover, the "Department statistics" contains an overview of the *distribution of error causes* with regard to the corresponding test samples.



In this example, the "Department statistics" of the **Dept. A I** provides an overview with regard to the following:

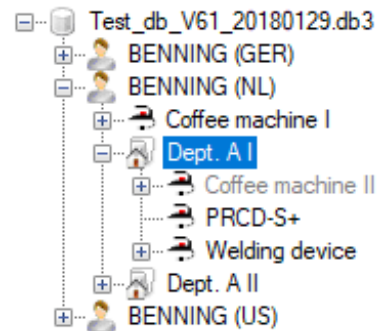
- Total number of test samples
 - Overdue test samples
 - Tested test samples
 - Not tested test samples
 - Passed tests
 - Failed tests
-
- Information on errors during visual inspection
 - Information on errors during functional testing
 - Information on errors during electrical testing

2. option

(Select the database level of the required statistics directly.)

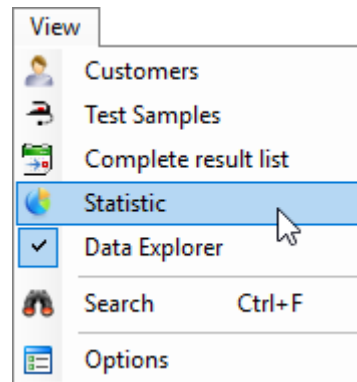
- Database -> Database statistics
- Customer -> Customer statistics
- Department -> Department statistics

In the data explorer, navigate directly to the database level of the required statistics.



In this example, the department **Dept. A I** of the customer **BENNING (NL)** is used.

Use the following menu path to navigate to the "Statistics" function.

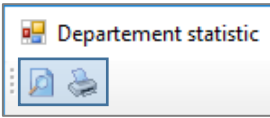


You will get directly to the corresponding statistics.

In this example, the "Department statistics" of the test department "Dept. A I" of the customer **BENNING (NL)** opens.

8.2. Printing statistics

Each dialog box of the statistics contains the following buttons.

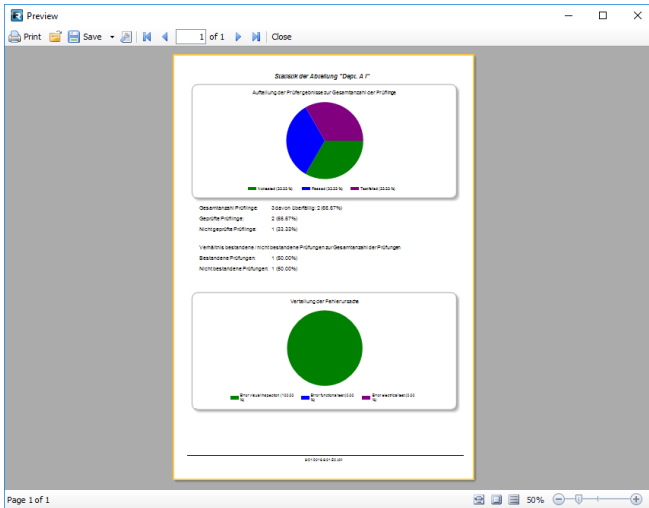


(e. g.: department statistics)

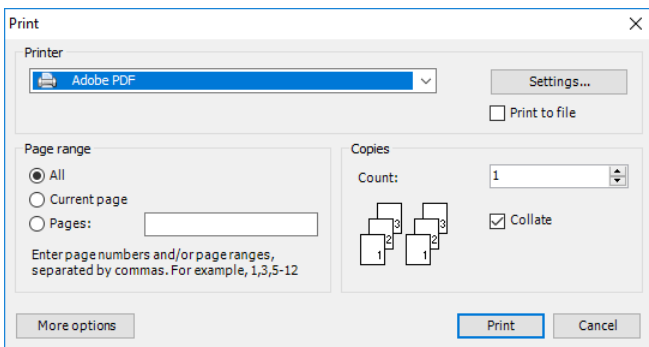
Navigate to one of these buttons to start the print job of the required statistics.



A print preview is generated. All print functions can be operated from there.

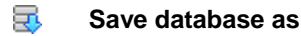


The "Print" dialog box opens. You can edit the printer settings and start the print job for the selected statistics.



9. Database options

9.1. Saving a database



You can save a database created or edited on the PC to your appliance tester using the "Save database as" function.



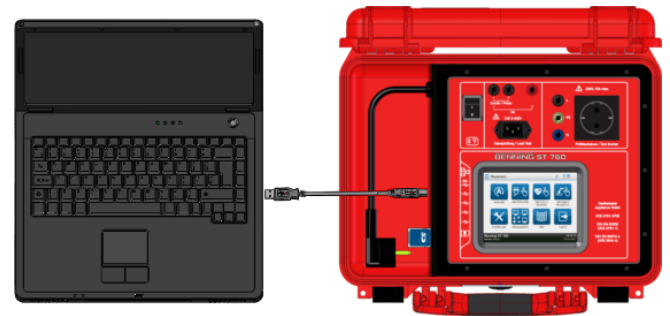
The target directory for all databases is the SD memory card of your appliance tester.



Save the database directly to the SD card!
The database must not be located in a sub-folder, since subfolders are ignored by the appliance tester when searching for database formats.

SD card access:

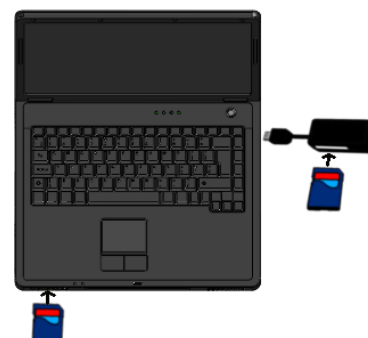
- option
(Connect the appliance tester to the PC via a USB cable.)



After having connected the appliance tester, the PC recognizes the appliance tester as a removable medium and enables access to the inserted SD card.

Please make sure that the appliance tester is in operating mode.

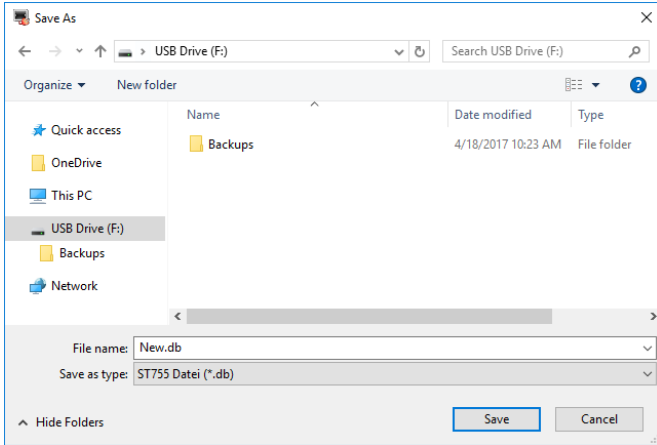
- option
(Connect the SD card via an SD card reader.)



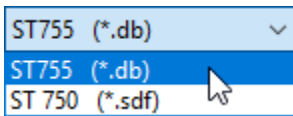
(An SD card reader is not included in the scope of delivery.)

After having connected the SD card reader, the PC recognizes the inserted SD card as a removable medium.

After the PC has recognized the SD card as a removable medium, use the "Save database as" function to open the "Save as" dialog box and select the SD card as the storage location for the database.



Select the SD card as storage location and assign a database name as well as the corresponding database format.



Then, confirm saving by clicking the Save button.



*If you remove the appliance tester's USB cable or SD memory card from your PC, use the integrated Windows® function "**Safely remove hardware and eject media**" prior to removal. This prevents unintentional loss of data in the event of an error.*

9.2. Reading a database from the appliance tester

Databases created by means of an appliance tester can be copied from the SD memory card of the appliance tester to a PC.



The database directory of the appliance tester is located on its SD memory card.

SD card access:

1. option

(Connect the appliance tester to the PC via a USB cable.)

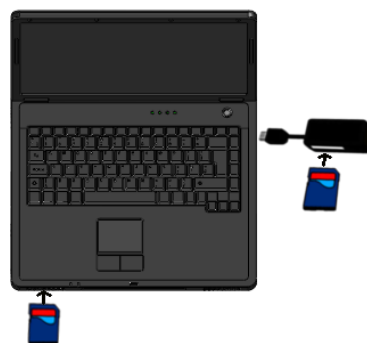


After having connected the appliance tester, the PC recognizes the appliance tester as a removable medium and enables access to the inserted SD card.

Please make sure that the appliance tester is in operating mode.

2. option

(Connect the SD card via an SD card reader.)



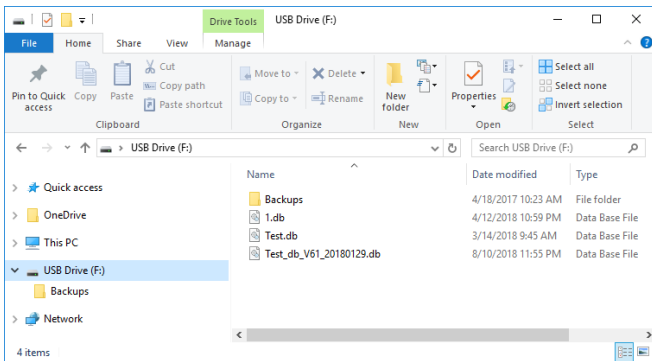
(An SD card reader is not included in the scope of delivery.)

After having connected the SD card reader, the PC recognizes the inserted SD card as a removable medium.

Open the directory of the removable medium via the Explorer of your Windows® PC after it has recognized the SD card as a removable medium.

After successful execution, the existing databases of the appliance tester as well as a file folder "Backups" are displayed.

For more information on the "Backups" folder, refer to the notes in chapter 9.3.



Select the required database(s) (recognizable by the file extensions *.db/.sdf*) and copy them to a local directory on your PC.

You can now edit the local copies of your database using the **BENNING PC-Win** logging software.



*The manufacturer generally recommends making **backup copies** before making changes to existing databases. This prevents unintentional loss of data in the event of an error.*



*If you remove the appliance tester's USB cable or SD memory card from your PC, use the integrated Windows® function "**Safely remove hardware and eject media**" prior to removal. This prevents unintentional loss of data in the event of an error.*

9.3. Database backups

Database backups are created automatically and in different ways.

The appliance tester has a pre-installed configuration and creates a maximum of **5** database backups.

The **BENNING PC-Win** logging software can be configured individually by the user.

9.3.1. Creating a database backup (appliance tester)

Each time the **ST 750, ST 750 A, ST 755** and **ST 760** appliance testers are restarted, a database backup is created automatically.



The database backups are located on the inserted SD card in the "Backups" file folder.



Database backups are created with the *_Backup* name affix and a numerical file extension. **Example:** *Test_Backup.001*

The database *Test_Backup.001* corresponds to the first automatically created database backup of the original database *Test.db*.

In case of continuous database backup (*after each restart of the appliance tester*), the numerical file extension increases up to the maximum number of database backups. *Test_Backup.005*

When the maximum number is reached, the principle of a *ring buffer* is used.

The appliance tester overwrites the oldest database backup with the latest database backup.

Name	Date modified	Type
Test_Backup.001	09.03.2018 14:42	001-File
Test_Backup.002	09.03.2018 14:43	002-File
Test_Backup.003	09.03.2018 14:44	003-File
Test_Backup.004	09.03.2018 14:45	004-File
Test_Backup.005	09.03.2018 14:46	005-File

Continuously created database backups

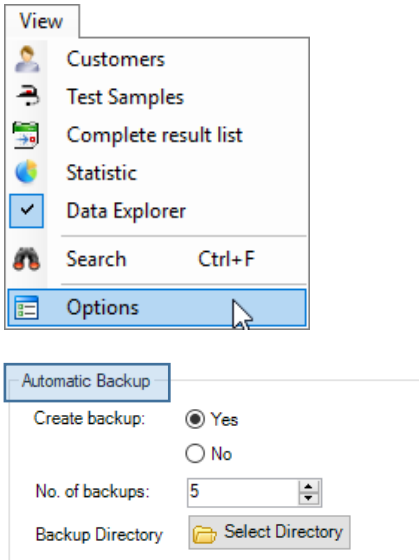
Name	Date modified	Type
Test_Backup.001	09.03.2018 14:47	001-File
Test_Backup.002	09.03.2018 14:43	002-File
Test_Backup.003	09.03.2018 14:44	003-File
Test_Backup.004	09.03.2018 14:45	004-File
Test_Backup.005	09.03.2018 14:46	005-File

Overwriting of the oldest database backup

9.3.2. Creating a database backup (logging software)

The **BENNING PC-Win** logging software allows the automatic creation of database backups in a selected directory. For this, *Automatic backup* must be enabled in the options of the software.

Use the following menu path to navigate to the *Automatic backup* option.



You can enable or disable the automatic database backup, specify the maximum number of database backups to be created and choose a backup directory.

The selected backup directory can be located on your local PC or on an inserted removable medium (e. g. a *USB stick*).

When the maximum number is reached, the principle of a *ring buffer* is used.

The logging software overwrites the oldest database backup with the latest database backup.

Name	Date modified	Type
Test_Backup.001	09.03.2018 14:42	001-File
Test_Backup.002	09.03.2018 14:43	002-File
Test_Backup.003	09.03.2018 14:44	003-File
Test_Backup.004	09.03.2018 14:45	004-File
Test_Backup.005	09.03.2018 14:46	005-File

Continuously created database backups

Name	Date modified	Type
Test_Backup.001	09.03.2018 14:47	001-File
Test_Backup.002	09.03.2018 14:43	002-File
Test_Backup.003	09.03.2018 14:44	003-File
Test_Backup.004	09.03.2018 14:45	004-File
Test_Backup.005	09.03.2018 14:46	005-File

Overwriting of the oldest database backup

9.3.3. Restoring a database backup

You can use the **BENNING PC-Win** logging software to restore a database. To do this, you need access to the backup directory where the database backups are located.

To restore a database from the backup directory of the appliance tester, you must establish a connection to the SD card.

To do this, follow one of the two options below:

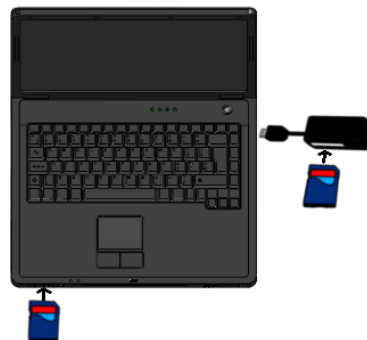
- option**
(Connect the appliance tester to the PC via a USB cable.)



After having connected the appliance tester, the PC recognizes the appliance tester as a removable medium and enables access to the inserted SD card.

Please make sure that the appliance tester is in operating mode.

- option**
(Connect the SD card via an SD card reader.)



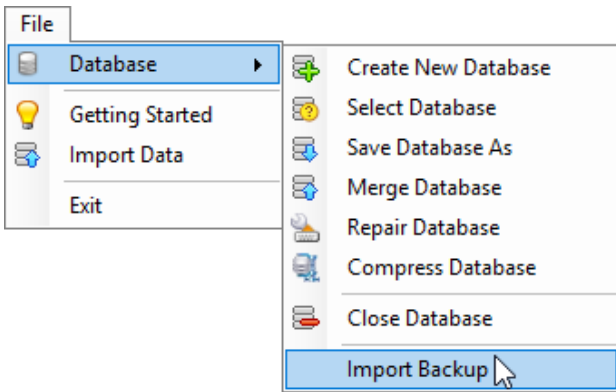
(An SD card reader is not included in the scope of delivery.)

After having connected the SD card reader, the PC recognizes the inserted SD card as a removable medium.

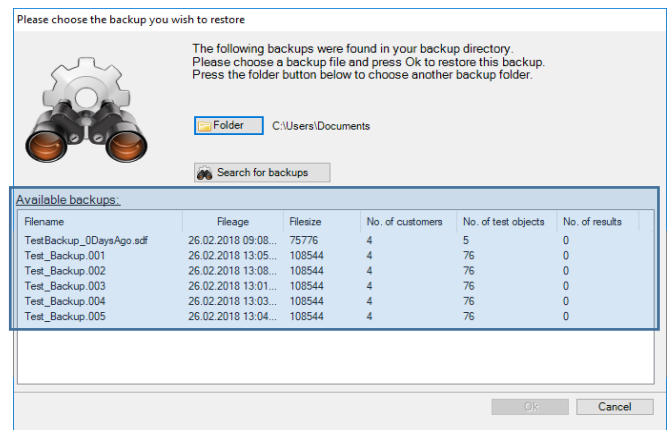
To restore a database from the backup directory of the logging software, you must establish a connection to this directory.

Starting to restore a database:

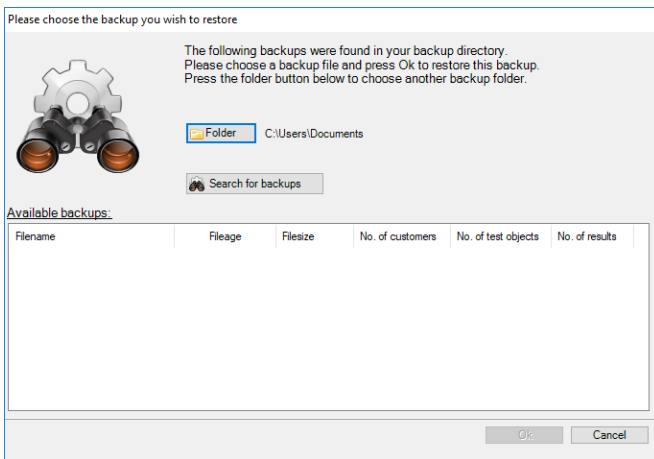
Use the following menu path to navigate to the restore function of the logging software:



If there are database backups in the selected directory, the search results are displayed in the dialog box.



The following dialog box opens:



Select the required database backup and confirm your selection by clicking "OK".

A confirmation prompt for database overwriting opens.

Before confirming the overwrite procedure, note what is displayed in your status bar!

The currently selected database is displayed in the status bar.

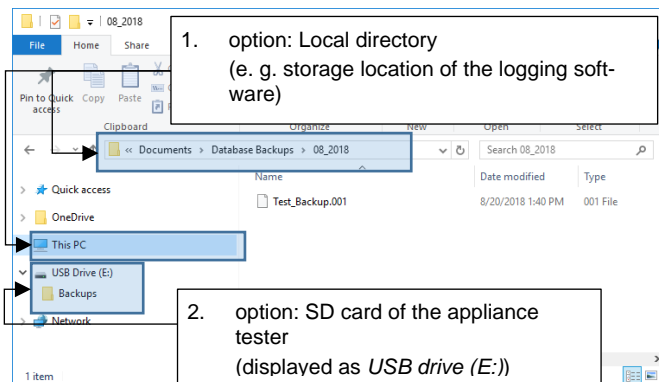
Make sure that the currently selected database corresponds to the database backup you want to restore!



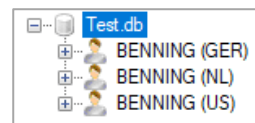
C:\... Documents\Neue Datenbank\Test Backup Wiederherstellung\Test.db

Click the *Folder* button and navigate to the storage location where the database backups are located.

The database backups belonging to *Test.db* contain the name affix *_Backup* and a numerical file extension (e. g. **.001*).



In this example, the database backup *Test_Backup.005* has been selected.



After having restored the database successfully, the original name of the original database is displayed in the data explorer (*Test.db*).

Now, the database can be used as usual.

You can use the backup directory on the SD card of the appliance tester as well as the backup directory of the logging software you have selected.

Confirm your selection by clicking "OK" and then click "Search for backups".

9.4. Importing data

Import data

You can use the "Import data" function to add further data from other databases to an existing database.

This function enables you, for example, to import data from an **Excel®** file or from databases of the **BENNING PC-Win 700** logging software into a current **ST 750/ST 760** database.

Please observe the following steps when importing data into a database to which you want to add data.



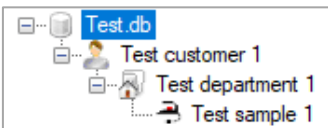
*The manufacturer generally recommends making **backup copies** before making changes to existing databases. This prevents unintentional loss of data in the event of an error.*

Select the database to which you want to add data. (See chapter 5.2, *Select database.*)

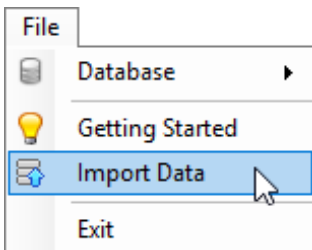
After successful selection, the selected database is displayed in the data explorer.

The two figures below show a test database to illustrate the data import.

Data from other databases shall be added to the *Test.db* database.

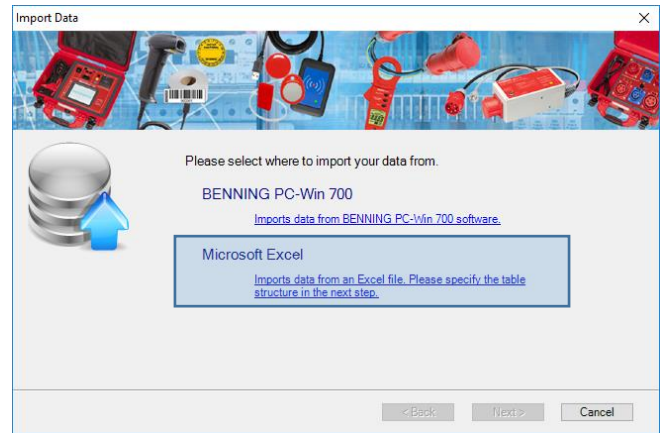


Use the following menu path to start the data import.



After successful execution, the "Import data" dialog box opens.

1. option (Data import from Excel®)



Select the "Microsoft Excel®" function. You will be asked for the storage location of the Excel® file.

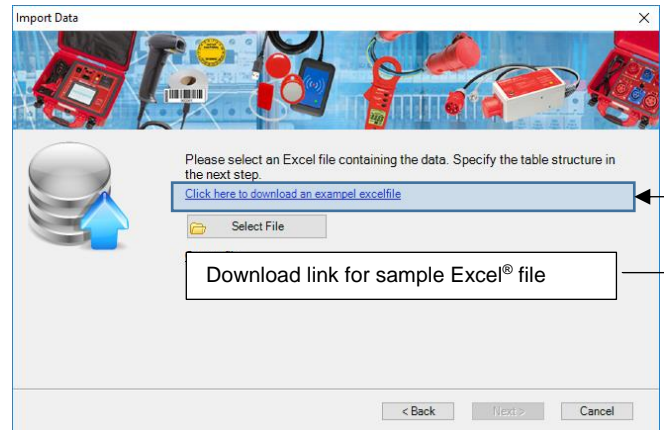
*Alternatively, the **BENNING** company will provide you with a sample Excel® file for free download.*



You can fill the sample Excel® file with your data and use it as a template.

The sample Excel® file contains additional filter settings and all data import identifiers that are intended for data import.

Use the following link to navigate to the download of the sample Excel® file.



If an Excel® file already exists, click the *Select file* button and navigate to the storage location of the Excel® file.

Select the Excel® file and confirm by clicking "Open".

The following aspects must be observed when importing data from an Excel® file:

The Excel® table must be available in *.xls or *.xlsx format.

Please observe the correct naming of the worksheets. For data import, they must be named continually in numerical (1...2...3) or descending alphabetical (Z↓) order.

Example:

(1...2...3)

Worksheet 1 = 1. Data

Worksheet 2 = 2. Test procedures

OR

(Z↓)

Worksheet 1 = Data

Worksheet 2 = Test procedures



The **BENNING PC-Win** logging software examines the Excel® file according to a programmed pattern.

To do this, the system starts with the headers (line 1) on the first worksheet of the table to be imported.

ID	Name	Department	Manufactur	Serial num	Customer
1	Welding device	Dept. A I	Weid-Tech	1234567	BENNING (US)
2	Coffe machine I	Dept. A I	High-Tech	AB94693	BENNING (US)
3	Coffe machine II	Dept. A I	High-Tech	4711	BENNING (US)
4	PRCD-S	Dept. A I	KOPP	84712	BENNING (US)
5	PRCD-S	Dept. A II	KOPP	69874WER	BENNING (NL)
6	PRCD-S+	Dept. A II	KOPP	87935	BENNING (NL)
7	Water pump	Dept. A II	Water-Tech	6578912548A	BENNING (NL)
8	Welding device	Dept. A II	Weid-Tech	58769KL	BENNING (NL)

Worksheet 1.: (e. g. 1.Maintenance_Tests)

The **BENNING PC-Win** logging software recognizes the header names of each column and makes them available for data import in the following dialog box.

The Excel® table might contain more columns and information than you need to import data.

Unnecessary information can be selected and filtered via the drop-down menus of the "Import data" dialog box.

The Excel® table used in this example already contains matching header names for each data import identifier. However, you do not have to use every data import identifier.

Click the *Next* button to confirm the import of the database.

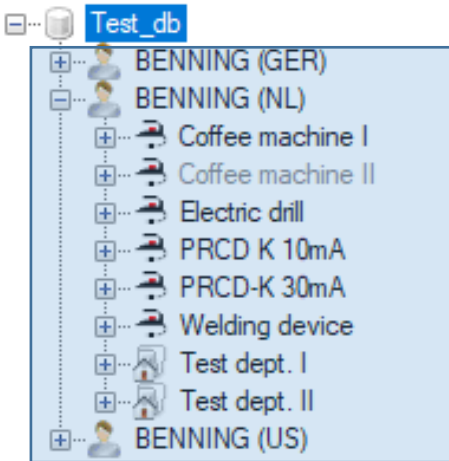
Data import identifiers

Data import identifiers:

- ID** Identification number of the test sample
- Name** Test sample designation
- Serial no.** Serial number of the test sample
- Manufacturer** Manufacturer of the test sample
- Customer** Customer for whom the tests are carried out
- Department** Department in which the tests are carried out
- Test** Selected test procedure
- Interval** Test interval
- Next Test** Date of next test
- Comment** Comments on the test sample
- Last Test** Date of last test

After the data import has been completed, confirm by clicking the *Done* button.

The imported data are now displayed in the data explorer.



Click the *Select database* button and navigate to the storage location of the database.

Select the corresponding database and note the selected file format (*.mdb).

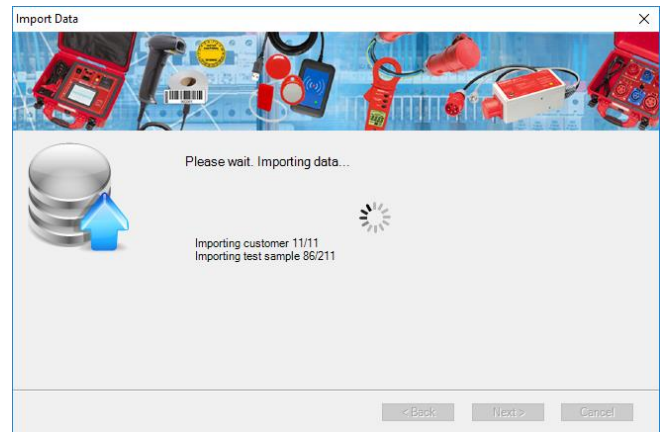
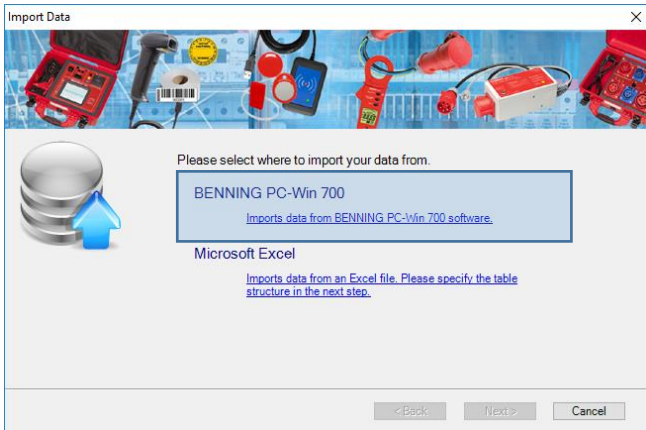


Confirm by clicking "Open".

Click "Next" to start the data import.

2. option

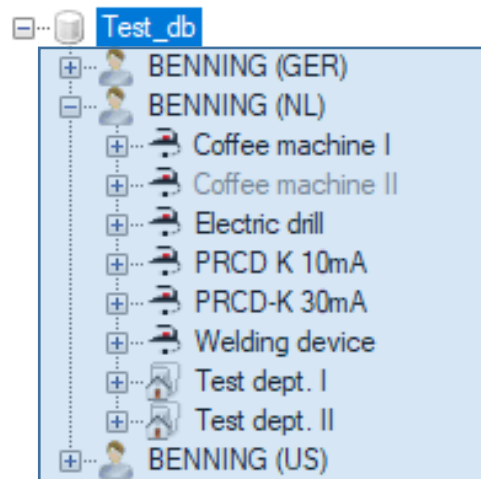
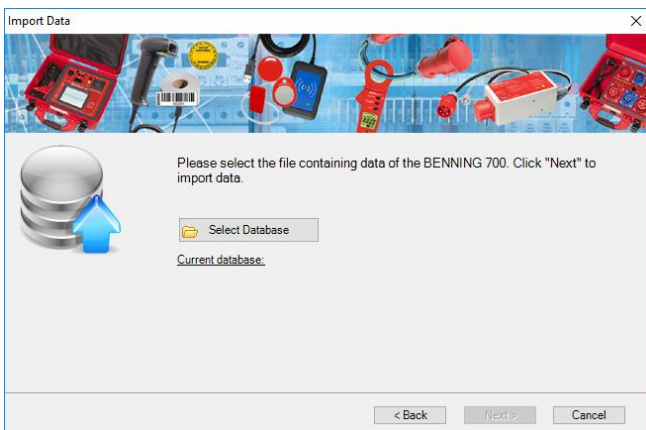
(Data import from the **BENNING PC-Win 700** logging software)



Wait until the data import has been completed and then confirm by clicking "Done".

The imported data are now displayed in the data explorer.

Select the "BENNING PC-Win 700" function. You will be asked for the storage location of the database.



9.5. Merging databases

The handling of your appliance tester(s) and the associated database(s) provides many possibilities that can be important for *database merging*.

For database merging, the manufacturer recommends the use of a **master database** (on a PC) and a **work database** for each appliance tester.



Master database
(on a PC)



Work database
(on SD card for each appliance tester)

9.5.1. Questions / general information

- **May I subsequently change a customer name?**

Each **customer** receives a unique name when creating a database.

If a **customer** is renamed in a database (*master database or work database*), this customer must be renamed identically in all other databases before merging.

Otherwise, a new **customer** with all associated departments, test samples and test results will automatically be created in the master database when the databases are merged later on.

- **May I change a device ID?**

Each **device ID** is unique for *each customer* and may not be changed subsequently.

Using the **device ID**, the logging software identifies the test samples (*per customer*).

If a **device ID** is changed, a new test sample will automatically be created in the master database when the databases are merged later on.

(Ideally, a **device ID** is unique for all customers.)

- **Which database formats can be merged?**

If the master database is a ***.db** database, ***.sdf** and ***.db** databases can be added.

If the master database is an ***.sdf** database, only ***.sdf** databases are allowed.

- **May I make the following changes to a test sample in the work database?**

Changing a test sample:

Yes, the test sample may be changed.

Other changes of different work databases might be overwritten.

Changing the department name:

Yes, the department name may be changed.

Other changes of different work databases might be overwritten.

Changing the test procedure:

Yes, test procedures may be changed.

Other changes of different work databases might be overwritten.

Changing limits:

Yes, limits may be changed.

Other changes of different work databases might be overwritten.

The following applies to all changes:



The *time stamp* of a change is the decisive criterion for overwriting other database entries.

Older database entries are automatically overwritten by new database entries.

- **May I create and use new customer-specific tests and customer-specific visual inspections in the work database?**

No, the tests and visual inspections must be previously created in the master database.

9.5.2. Using a database

The following use case describes how to use a database when several test persons with different appliance testers are working on the same test job.

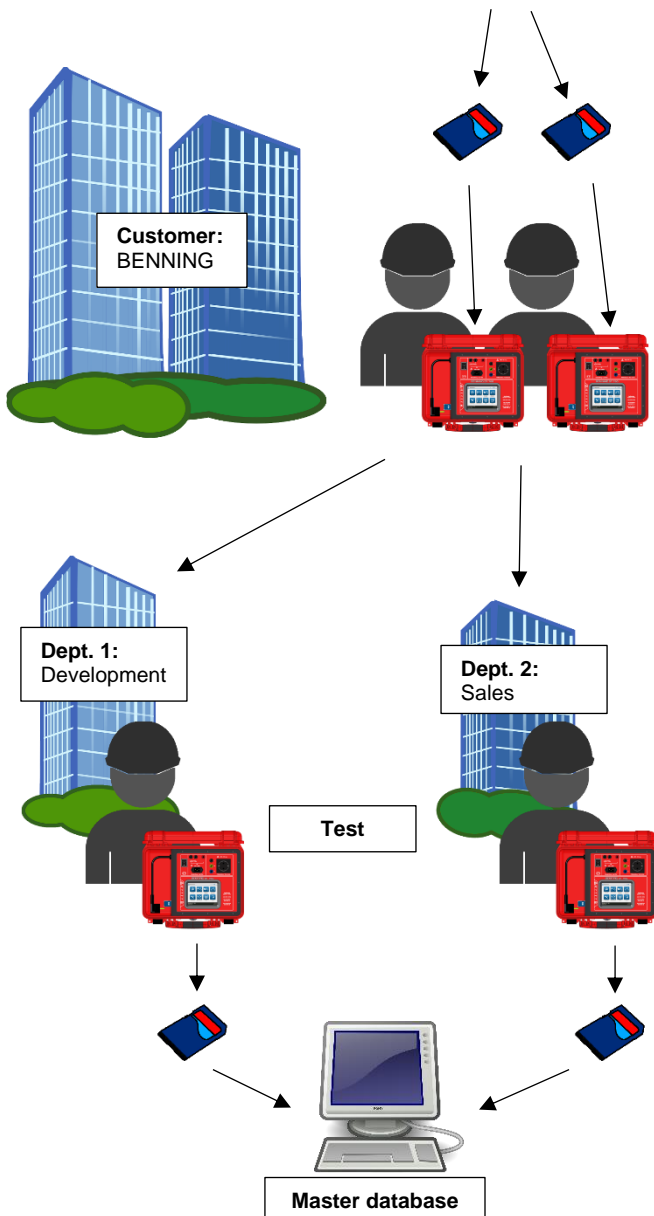
The starting point is always a common **master database**.

This **master database** can be created before testing or already exists (recommended file format: *.db).

Please observe the following test procedure:

Copy a master database to SD card:

e. g. BENNING.db



Merge master database with work databases
(copies of the master database).

This use case enables both test persons to view all test data in the master database during testing and independently of each other.

No **customer names** or **device IDs** must be changed during the test procedure!

Only change **customer names** or **device IDs** after merging the databases with the **BENNING PC-Win** logging software.

The described use case can be extended for any number of test persons and appliance testers.

Moreover, the procedure described is suitable for individual test persons.

The individual steps of the procedure remain identical. Only the number of test persons and appliance testers varies.

All entries can be compared, evaluated and output in a large variety of file formats in the finally merged **master database**.

9.5.3. Steps to be taken in the software

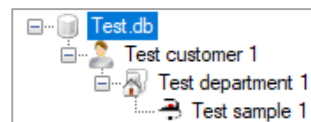
Merge database

You can use the *Merge database* function to merge several databases.

At the beginning, select a **master database** to which you want to add all differing entries of the **work databases**.

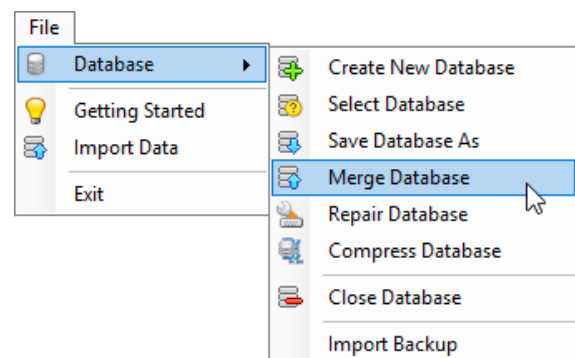
In the following example, all data records from the **work database** Test2.db shall be added to the **master database** Test1.db.

Select the **master database** to which the customer entries shall be added.

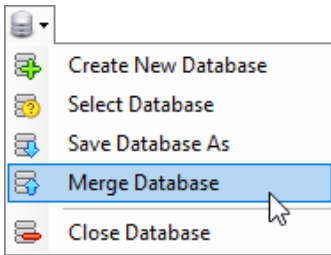


Use one of the following menu paths to navigate to the *Merge database* function:

1. option (menu bar)



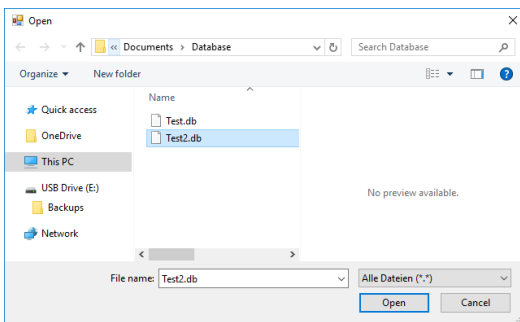
2. option (toolbar)



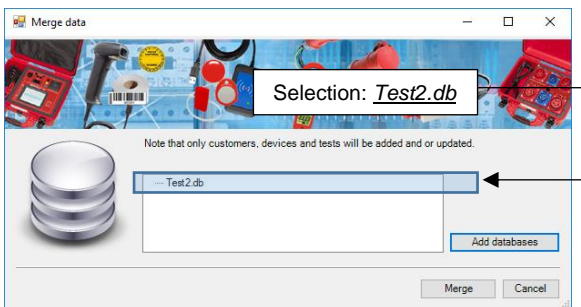
The "Merge database" dialog box opens.

Click the *Select databases* button.

The "Open" dialog box opens.

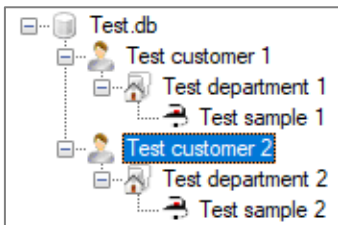


Select one or more **work databases** and confirm your selection by clicking *Open*.



Click the *Merge* button.

After successful merging, all differing entries from the **work database** *Test2.db* are stored in the previously selected **master database** *Test1.db*.



During merging, customer entries and device IDs from the **work database** are compared with the customer entries and device IDs of the **master database**. Identical entries are excluded from the import process.

9.6. Repairing a database

Repair database

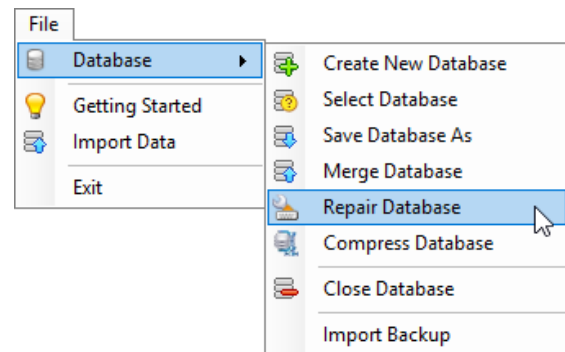
The *Repair database* function enables you to repair a defective database.

Databases can be defective, for example, if an interruption occurs during the read or write process on the SD card.

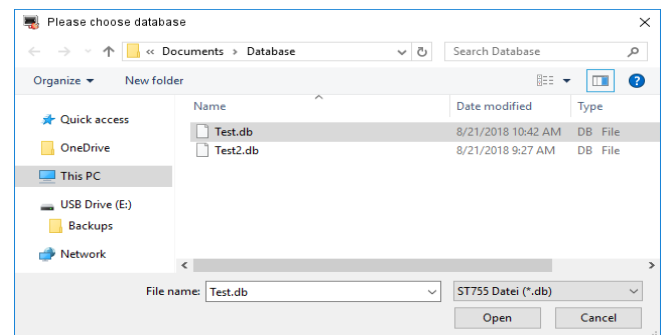
Not all kinds of errors can be repaired.

In the following example, the database *Test.db* shall be repaired.

Use the following menu path to navigate to the *Repair database* function:

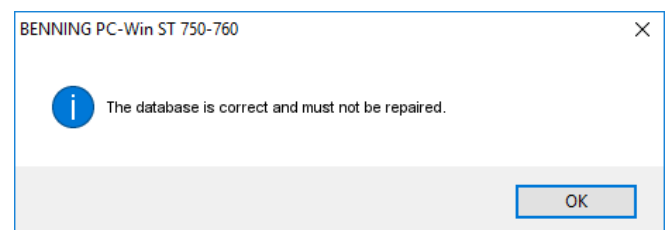


The "Select database" dialog box opens.



Select the database to be repaired and confirm your selection by clicking *Open*.

If the database is free of errors, the following message appears:



Defective databases are opened and repaired by the logging software.

After successful repair, the database appears in the data explorer and is available for further use.

9.7. Compressing a database

Compress database

This function allows you to reduce the size of a database.

If data records of a database system are deleted, the storage location of the deleted data record will not be released again. These "empty storage locations" can occur when using databases and inadvertently increase the size of the database.

The **Compress database** function rearranges existing data records and then removes the "empty storage locations".

The original order of the data records will not be changed during rearrangement!

The manufacturer recommends using this feature regularly, particularly if large numbers of data records have been removed from a database.

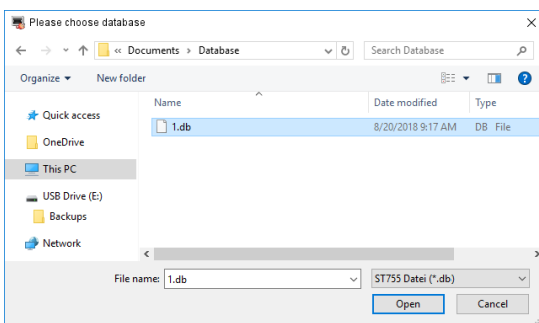
The database size can only be reduced if the **BENNING PC-Win** logging software can find and delete "empty storage locations" in the database.

In the following example, the database 1.db shall be compressed.

Original size of the database:

1.db	01.03.2018 09:54	Data Base File	19.586 KB
------	------------------	----------------	-----------

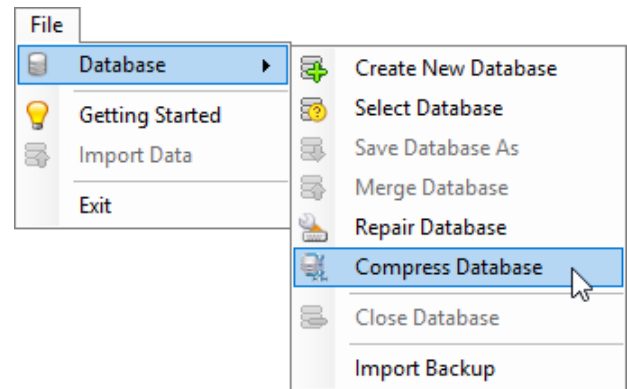
Select a database to be compressed.



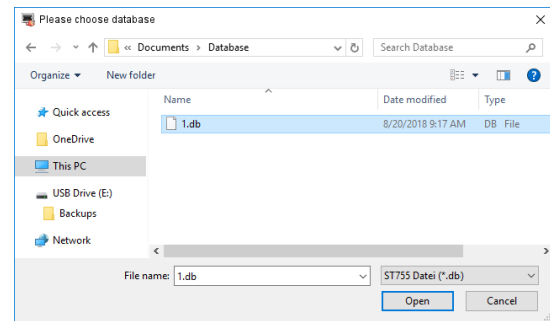
The selected database is shown in the data explorer.



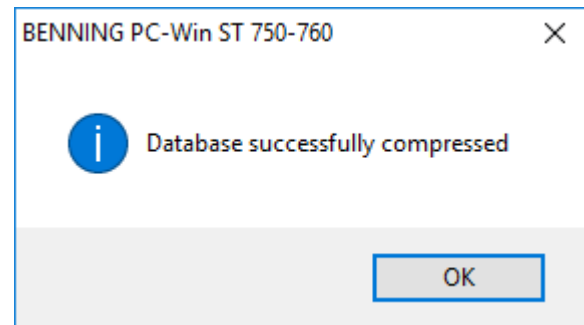
Use the following menu path to navigate to the *Compress database* function.



Select the database to be compressed again and confirm your selection by clicking *Open*.



After successful execution, the following dialog box opens:



In the Explorer of your Windows PC, you can trace a compression that has been carried out.

To do this, compare the initial size of the database with its current size after compression has been completed.

Database size after compression:

1.db	01.03.2018 14:32	Data Base File	18.189 KB
------	------------------	----------------	-----------

In this example, the database size can be reduced from **19,586 KB** to **18,189 KB**.

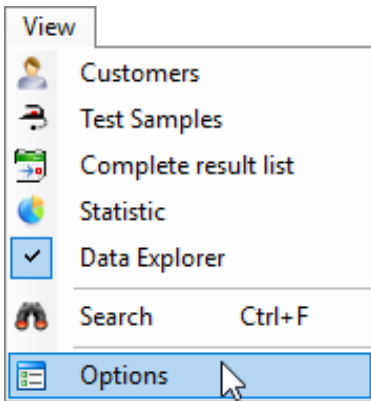
10. Options of the logging software

The options contain the basic settings of the **BENNING PC-Win** logging software. You can view or edit the existing print templates of the Report Designer.

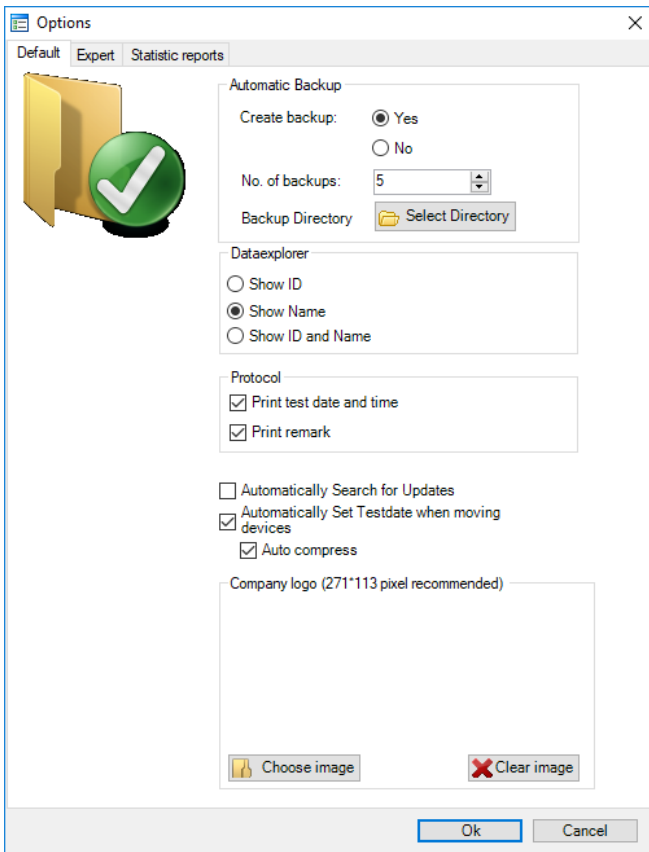
The options are divided into:

- Default options
- Expert options
- Statistics report templates

Use the following menu path to navigate to the *Options* function.



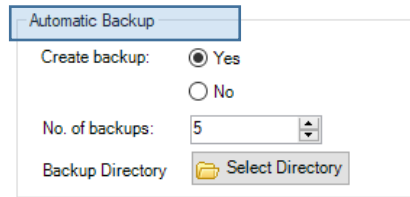
The following dialog box opens:



10.1. Default options

10.1.1. Automatic backup

In the options, make the desired settings for automatic database backup.

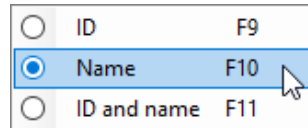


You can enable or disable the automatic database backups, specify the number of database backups to be created and select a backup directory.

The selected backup directory can be located on your local PC or on an inserted removable medium (e. g. a *USB stick*).

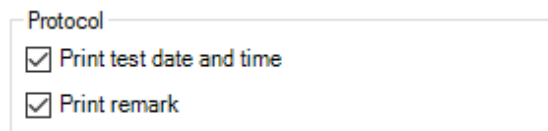
10.1.2. Data explorer

Changes the view in the data explorer according to the selected option.



10.1.3. Report printout

Enable the following checkboxes to add the corresponding information to the report printout.



Automatically search for updates

The software automatically searches the Internet for available updates of the **BENNING PC-Win** logging software.

Automatically adapt next test date

This function updates the date of the next test when a test sample is moved to another database or database level in the data explorer.

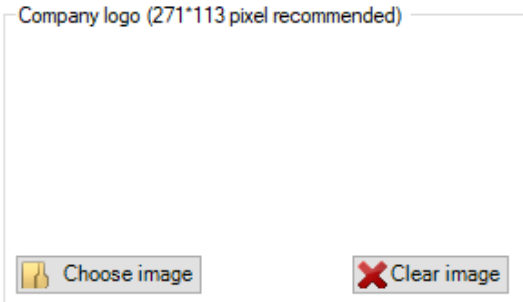
Auto compress

If this checkbox is enabled, the *Compress database* function is executed each time the program is started.

(See chapter 9.7.)

10.1.4. Company logo

This function enables the integration of a company logo into the print template "Test report" by default.



10.2. Expert options

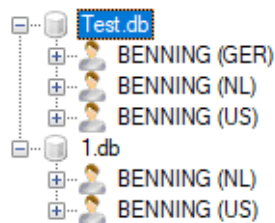
Navigate to the *Expert* tab.

The following view appears.



Open more than one database at the same time

If this checkbox is enabled, several databases can be open at the same time in the data explorer.

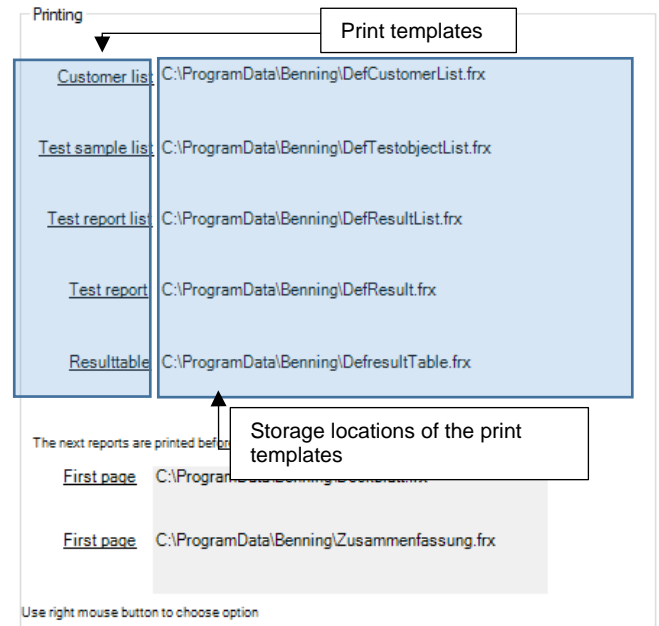


This allows you, for example, to copy database levels from one database to another.

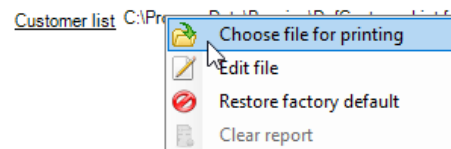
10.2.1. Printing

In the *Printing* pane, you will find the default print templates of the Report Designer. You can use these print templates, for example, to create lists or test reports of existing database entries.

The manufacturer provides you with a large number of detailed print templates, which can be easily adapted according to your own needs by means of the Report Designer.



To adapt a print template, move the mouse pointer over the corresponding print template and right-click to open the context menu.



You can

- select another print template,
- edit the current print template in the Report Designer,
- restore the default print template or
- delete the print template.

By default, the print templates of the manufacturer are selected.

In the following, the different print templates are described with regard to their function and usability (e. g. *customer list*, *test sample list*, etc.).

Customer list

The *customer list* corresponds to the print template for a tabular customer overview of all existing customers.

Customer	Contact person	Street address	Place
[Kunden.Kunden_Name]	[Kunden.Kunden_An]	[Kunden.Kunden_Str]	[Kunden.Kunden_PLZ]
Page [Page]/[TotalPages]			

Report view (default template)

Customer	Contact person	Street address	Place
----------	----------------	----------------	-------

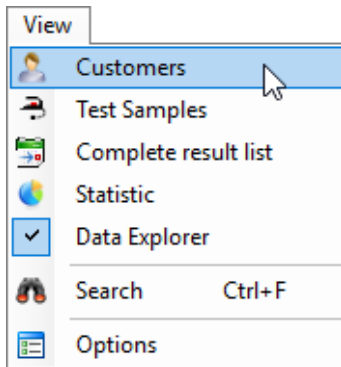
Print preview (default template)



Please observe the following steps to create or print a print preview for a customer list.

Select a database that contains customer entries.

Use the following menu path to navigate to the tabular "Customers" view.



Click the Print preview icon.

Customer	Contact person	Street	City
BENNING (US)	Print Preview		
BENNING (NL)			
BENNING (GER)			

The "Print preview" dialog box opens.

For the functions of the "Print preview" dialog box, refer to the notes in chapter 10.2.2.

Test sample list

The *test sample list* corresponds to the print template for a tabular test sample overview of all existing test samples.

Customers	Designation	Manufacturer	Department	Test sequence	Next Test	ID
[PrüflingeUndK*]	[PrüflingeUndKunde*]	[PrüflingeUndK*]	[PrüflingeUndK*]	[PrüflingeUnd*]	[PrüflingeUn*]	[PrüflingeUnd*]
Page [Page]/[TotalPages]						

Report view (default template)

Customers	Designation	Manufacturer	Department	Test sequence	Next Test	ID
BENNING (US)	Electric Drill	Drill-Tech	Dept. 202 #Clemens	20973587	10/10/2010 12:00:00 AM	102
BENNING (US)	Welding Device	Weld-Tech	Dept. 202 #Clemens	20973587	5/25/2012 12:00:00 AM	104

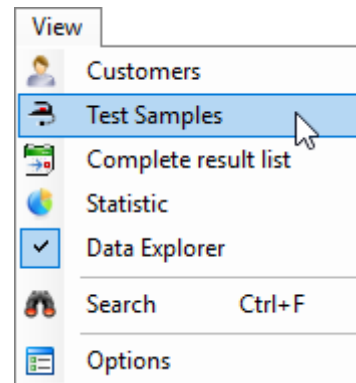
Print preview (default template)



Please observe the following steps to create or print a print preview for a test sample list.

Select a database that contains test sample entries.

Use the following menu path to navigate to the tabular "Test samples" view.



Click the Print preview icon.

Customer	ID
BENNING (US)	Print preview
BENNING (US)	104
BENNING (US)	105
BENNING (US)	138

The "Print preview" dialog box opens.

For the functions of the "Print preview" dialog box, refer to the notes in chapter 10.2.2.

Results list

The *results list* corresponds to the print template of a tabular test overview.

Unlike the *results table*, which lists all tests of the database, the *results list* allows you to select individual tests and print them together.

You can select the test samples or the subordinate tests under "View -> Test samples" or "View -> Test results".

Test record for electrical devices

[varPrüfer] [varKunde]
[strPrüfer] [strKunde]
[varPrüfgerät] [varAuftragsnummer]
[strPrüfgerät] [strAuftragsnummer]

Results

Date	Designation	ID	PC	View test passed	RPE	RISO	IPE	IB	Overall check passed
Serial number	Serial number	Serial number	Serial number	Serial number	Serial number	Serial number	Serial number	Serial number	Serial number
Summary: [ParameterAnzahlOK] passed. [ParameterAnzahlFehler] failed.									
Place, Date					Signature				

Report view (default template)

Prüfprotokoll für elektrische Geräte

Admin: BENNING Niederlassung (NL)
Prüfer (in): Kunde
BENNING ST 760
Prüfgerät: Auftragsnummer

Ergebnisse

Datum	Bezeichnung	ID	SK	Sichtprüfung bestanden	RPE	RISO	IPE	IB	Gesamtprüfung bestanden
29.12.2017	Kabeltrommel 5x 30m 2,5mm²	28.530.0003	I	Ja	---	0,00 MΩ	mA	---	Ja
29.12.2017	Kabeltrommel 5x 30m 2,5mm²	28.530.0004	I	Ja	---	0,00 MΩ	mA	---	Ja
29.12.2017	Kabeltrommel 5x 30m 2,5mm²	28.530	I	Ja	---	0,00 MΩ	mA	---	Ja
29.12.2017	Kabeltrommel 5x 30m 2,5mm² Kopie	28.530.0001	I	Ja	---	0,00 MΩ	mA	---	Ja
29.12.2017	Kabeltrommel 5x 30m 2,5mm² Prüflingskopie	28.530.0002	I	Ja	---	0,00 MΩ	mA	---	Ja
27.11.2017	Kabelverlängerung	3,68	I	Ja	---	0,00 MΩ	mA	---	Ja
27.11.2017	Kabelverlängerung	3,68	I	Ja	---	0,00 MΩ	mA	---	Ja
27.11.2017	Kabelverlängerung	3,68.00.01	I	Ja	---	0,00 MΩ	mA	---	Nein
27.11.2017	Kabelverlängerung	3,68.00.01	I	Ja	---	0,00 MΩ	mA	---	Ja

Zusammenfassung: 8 bestanden. 1 durchgefallen

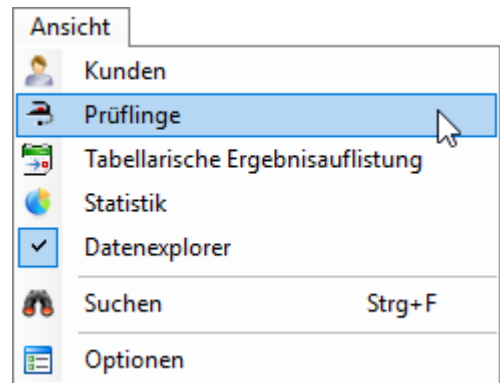
Ort, Datum: Unterschrift

Print preview (default template)

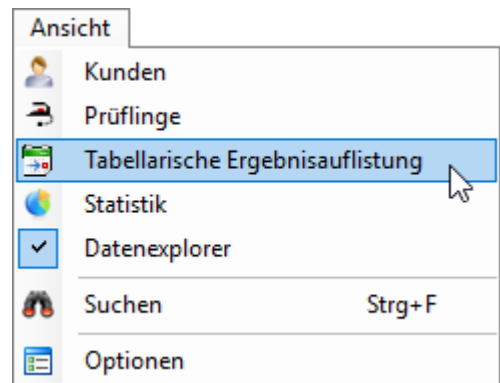
Please observe the following steps to create or print a print preview for a results list.

Select a database that contains test results.

Use one of the following menu paths to create a results list:



or



Select test samples or tests.

Customer	ID
BENNING (US)	102
BENNING (US)	104
BENNING (US)	105
BENNING (US)	138

or

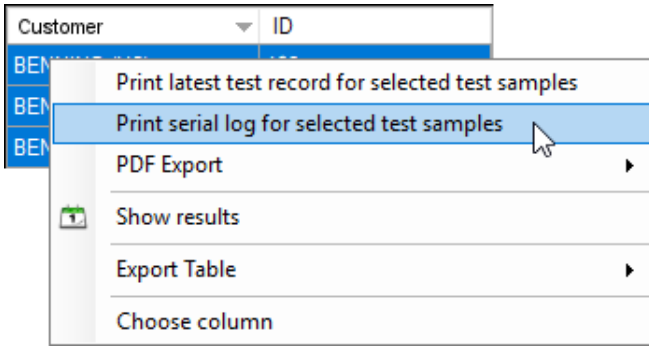
Selecting test samples in the tabular "Test samples" view

Customer	Designation	Departement	ID
BENNING (US)	PRCD	Dept. A II	20076
BENNING (US)	PRCD	Dept. A I	20076
BENNING (US)	PRCD	Dept. A II	20076
BENNING (US)	PRCD	Dept. A II	20076

Selecting tests in the tabular "Test results" view

You can select several entries by holding down the "CTRL" key and clicking on individual entries or select successive entries while holding down the "SHIFT" key.

Right-click one of the selected entries to open the context menu.



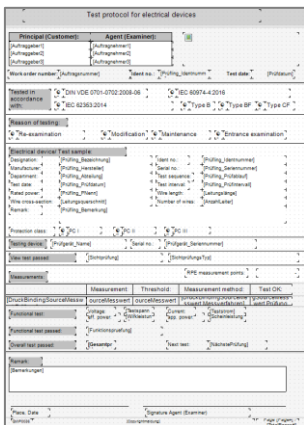
In the context menu, click the "Print serial report for selected test samples" option.

The "Print preview" dialog box opens.

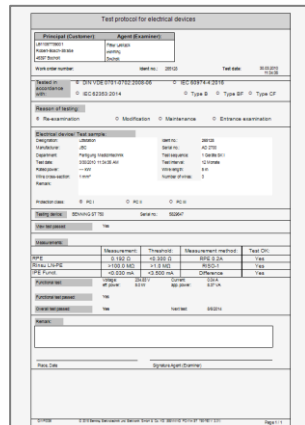
For the functions of the "Print preview" dialog box, refer to the notes in chapter 10.2.2.

Test result ("Test report")

The *test result* corresponds to the print template of an individual test sample. A detailed test report will be created.



Report view (default template)



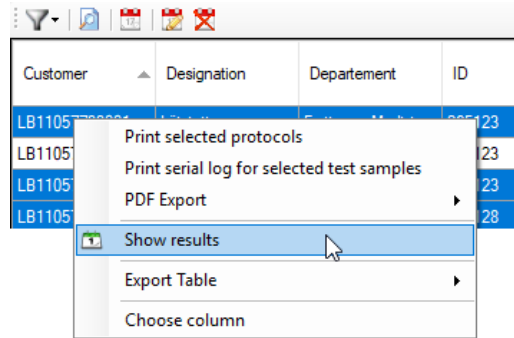
Print preview (default template)

Please observe the following steps to create or print a print preview for a test report.

Select a database that contains test results.

Navigate to the test result of a selected test sample via one of the following menu paths.

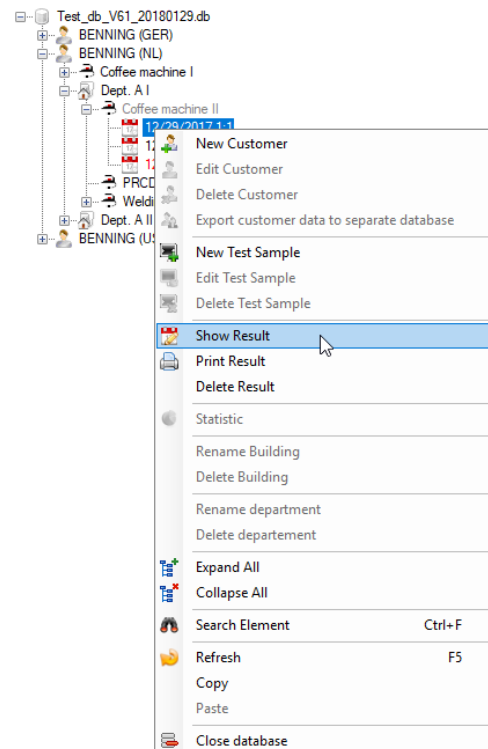
- To go to the test result of the selected test sample, use the context menu as follows:
 "View -> Test samples" or
 "View -> Test results"



or

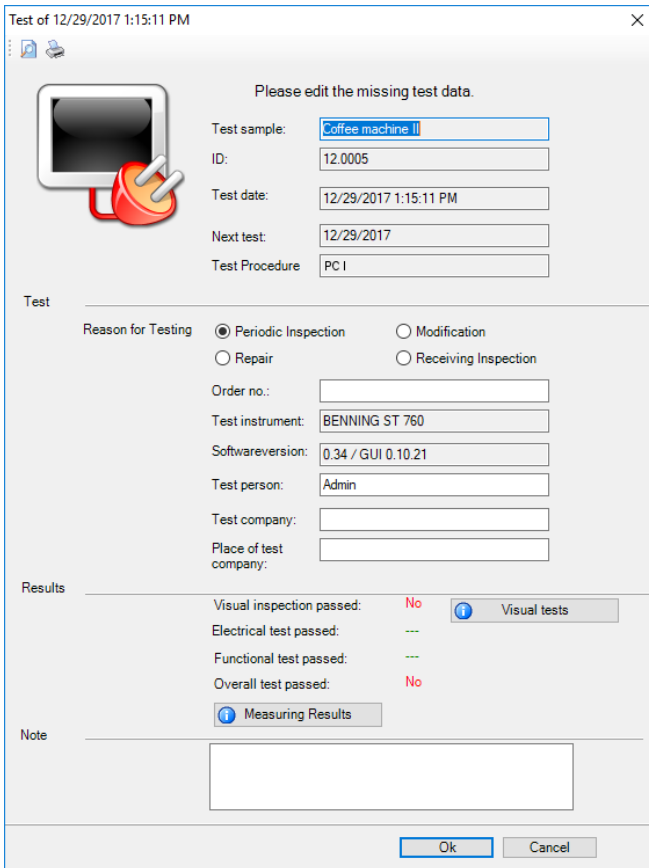


- To go to the test result of the selected test sample, use the context menu in the data explorer as follows:

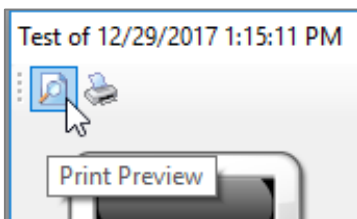


The test result can also be opened by double-clicking a test entry.

The "Test of..." dialog box opens.



Click the Print preview icon.



The "Print preview" dialog box opens.

For the functions of the "Print preview" dialog box, refer to the notes in chapter 10.2.2.

Results table

The *results table* corresponds to the print template of a tabular results overview.

Unlike the *results list*, which lists only test results of selected test samples, you do not have to select anything in the *results table*.

All test results will be printed.

Report view (default template)

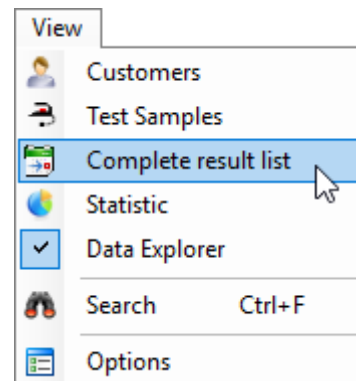
Test date	Designation	ID	Department	Test sequence	Test Ok	View test Ok	electrically Ok	functionally Ok
9/4/2017	Lamp	1	Dept. A1	PC1	Yes	Yes	Yes	Yes
9/4/2017	Lamp	2	Dept. A1	PC1	Yes	Yes	Yes	Yes

Print preview (default template)

Please observe the following steps to create or print a print preview for a results table.

Select a database that contains test results.

Use the following menu path to navigate to the tabular "Test results" view.



Click the Print preview icon.

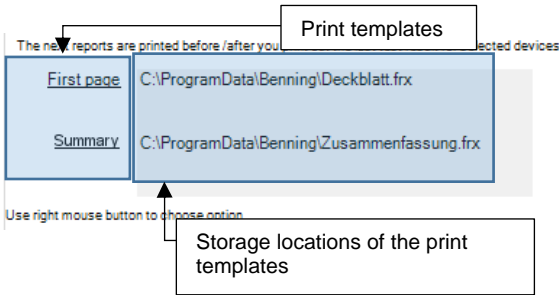


The "Print preview" dialog box opens.

For the functions of the "Print preview" dialog box, refer to the notes in chapter 10.2.2.

Cover sheet and summary

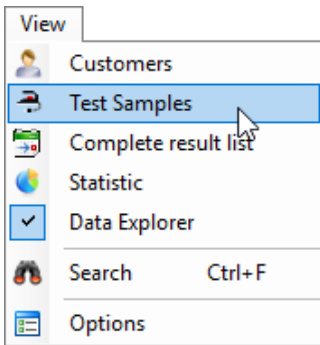
The two print templates *Cover sheet* and *Summary* are automatically attached to a test report printout as soon as several *test results* are output simultaneously.



The following steps show you how to create a test report collection, including automatic generation of a cover sheet with a final summary.

Use one of the following menu paths to create a test report collection.

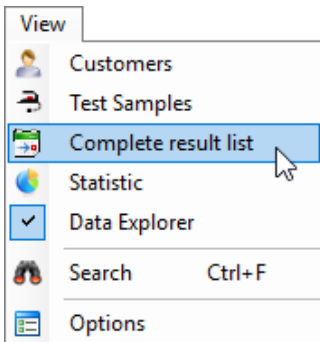
Please observe the particularities of the individual menu paths.



If you navigate via *View -> Test samples*, you can only output the latest test results for the selected test samples later on.

Older test results will not be displayed!

or



If you navigate via *View -> Test results*, you can choose between all tests in the database.

You can also choose test results from older tests!

Select test samples or tests.

Customer	ID
BENNING (US)	102
BENNING (US)	104
BENNING (US)	105
BENNING (US)	138

Selecting test samples in the tabular "Test samples" view

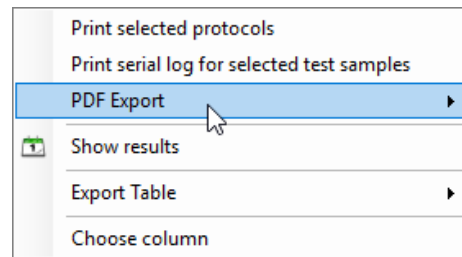
or

Customer	Designation	Departement	ID
BENNING (US)	PRCD	Dept. A II	20076
BENNING (US)	PRCD	Dept. A I	20076
BENNING (US)	PRCD	Dept. A II	20076
BENNING (US)	PRCD	Dept. A II	20076

Selecting tests in the tabular "Test results" view

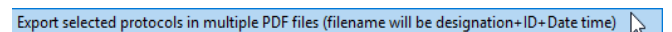
You can select several entries by holding down the "CTRL" key and clicking on individual entries or select successive entries while holding down the "SHIFT" key.

Right-click one of the selected entries to open the context menu.



In the context menu, click the "PDF export" option and select whether the data shall be output in a common PDF file or in separate PDF files.

In both cases, both the cover sheet and the summary will be created.



If you have navigated via *View -> Test samples*, the option "Export latest test report of selected test samples to one file" appears.

Older test results will not be displayed!

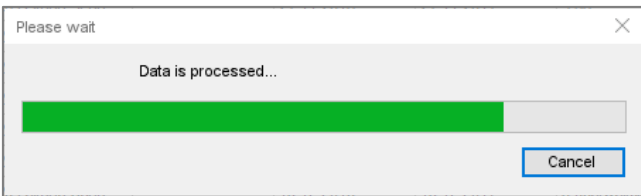
Export selected protocols in one PDF file

If you have navigated via *View -> Test results*, the option *"Export selected reports to one PDF file"* appears.

You can also choose test results from older tests!

The "Save as" dialog box opens.

Select the desired storage location and confirm the export by clicking "Save".

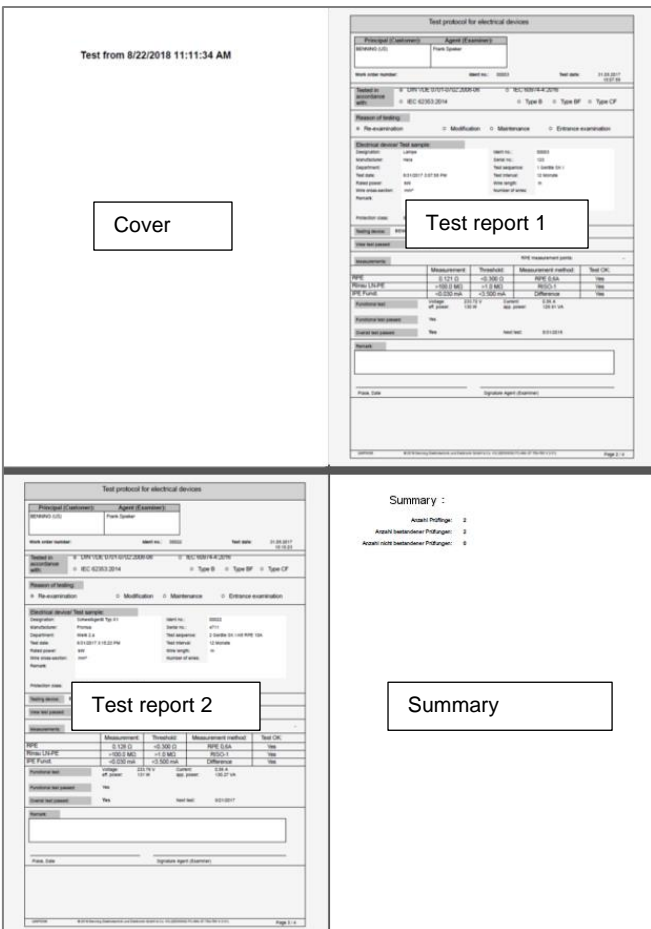


Wait until the file conversion is completed.

In the following example, the option *"...export to one PDF file"* has been selected.

After successful conversion, you can open the PDF file in your directory.

The selected test reports have been summarized and provided with a *cover sheet* and a *final summary*.



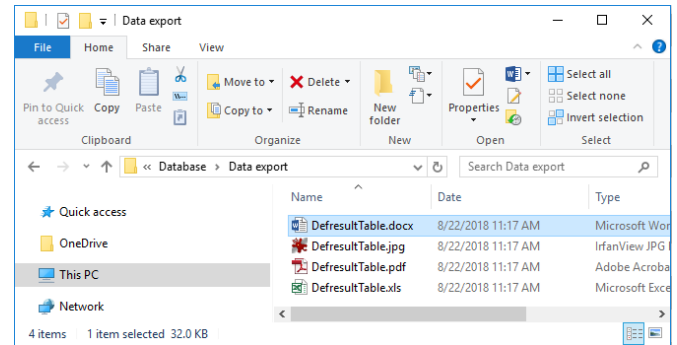
10.2.2. "Print preview" dialog box



Save

Click the Save icon to save your tabular customer overview in a variety of file formats.

When saving different file formats, take into account the resulting file sizes as well as the respective compatibility with other users of your data.



Print

Click the Print icon to print your tabular customer overview by means of an installed printer.



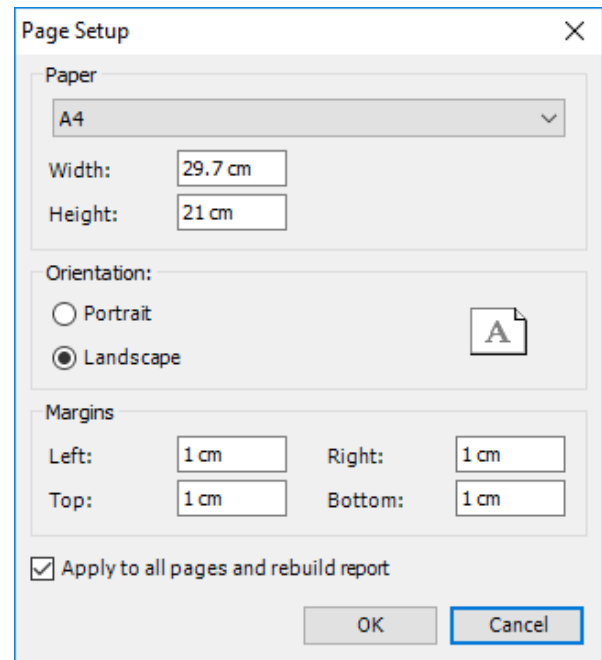
Open file

Click the Open file icon to open a previously created report (file format *.fpx).



Page setup

Click the Page setup icon to set the paper size, orientation and margins.



10.3. Statistics reports

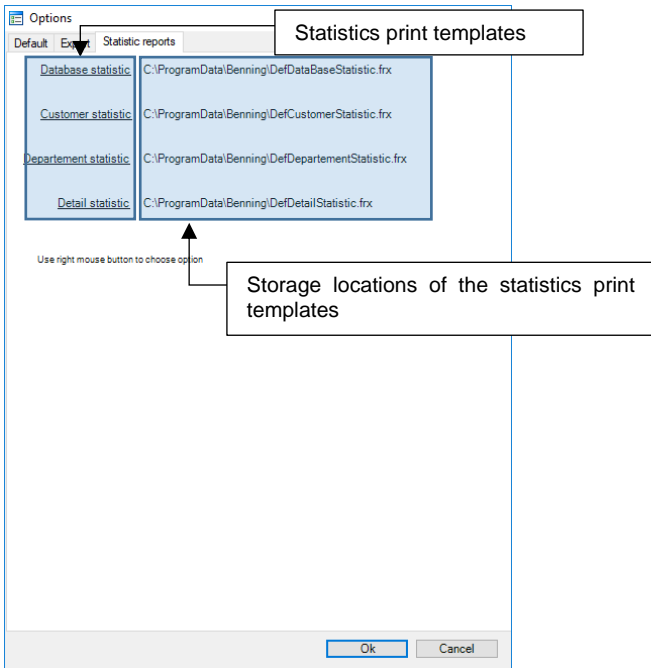
The Statistics reports tab contains the print templates for all statistics.

Here you will find the print templates of the

- Database statistics,
- Customer statistics,
- Department statistics and
- Error cause statistics.

Click *Options* and go to the *Statistics reports* tab.

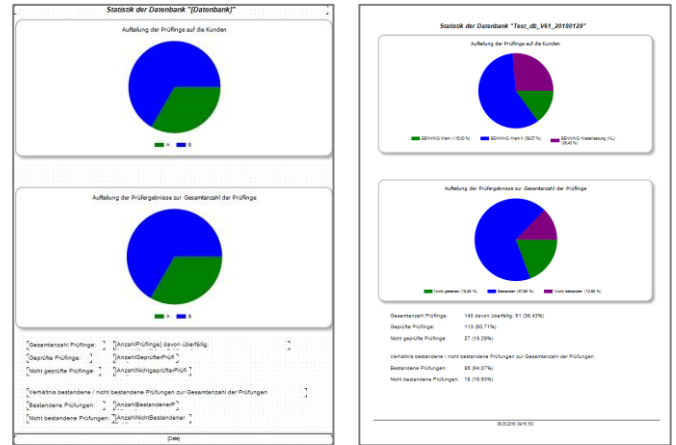
The following view opens:



Statistics print templates

A statistics print template defines the print output of the selected statistics.

The manufacturer provides you with a large number of detailed print templates, which can be easily adapted according to your own needs.



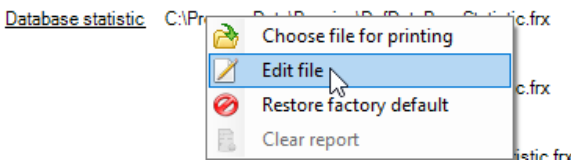
Report view (default template, e. g. "Database statistics")

Print preview (default template, e. g. "Database statistics")

Please observe the steps described in chapter 8.2 to create or print a print preview for the statistics.

To edit statistics, e. g. customer, department or error statistics, the database used must contain corresponding entries.

To adapt a print template, move the mouse pointer over the corresponding print template and right-click to open the context menu.



You can

- select another print template,
- edit the current print template in the Report Designer,
- restore the default print template or
- delete the print template.

By default, the pre-installed statistics print templates of the manufacturer are selected.

In the following, the statistics print templates are described with regard to their function and usability (e. g. *database statistics*). Other statistics print templates are used in the same way.

11. Report Designer

The Report Designer is intended for the convenient creation of technical reports and uses the *print templates* of the **BENNING PC-Win** logging software.

(See chapter **10.2.1** for information on print templates.)

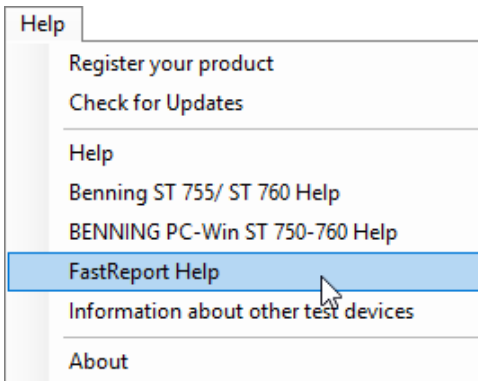
The print templates include all contents required to document the normative specifications.

11.1. Application

By means of the provided print templates, you can consistently log all test procedures of the appliance tester and make them available in digital form or as a printout.

The following chapters describe the most common applications of the *Report Designer* software.

For further information on how to use the Report Designer, use the following menu path to navigate to the corresponding manufacturer’s documentation (“FastReport Help”).



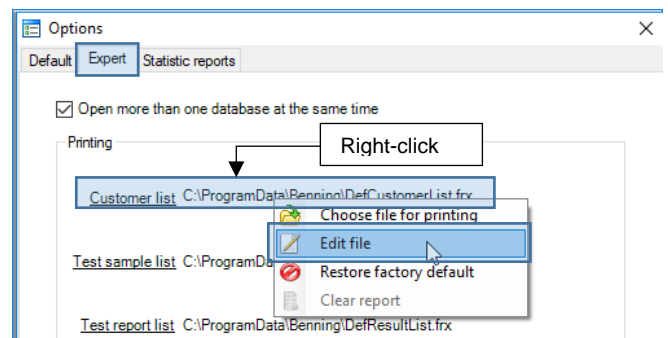
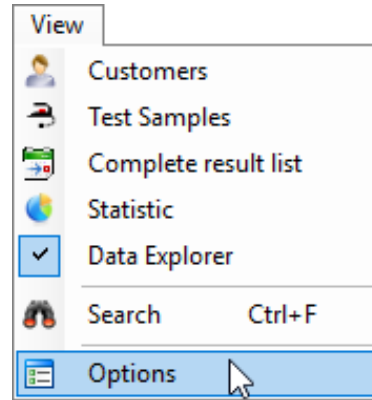
The Report Designer included in the **BENNING PC-Win** logging software is not subject to the technical support of the **BENNING** company.

11.1.1. Inserting a company logo

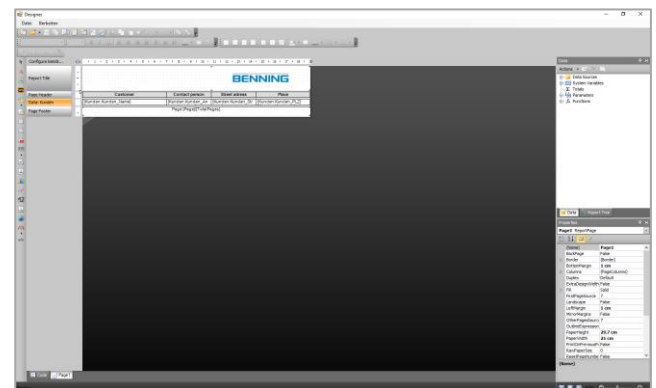
You can open an existing print template and add your own graphics.

In the following example, a company logo is inserted in the *Customer list* print template.

Navigate using the following menu path:

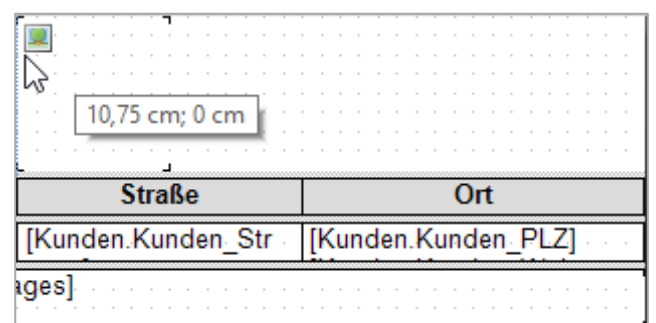


The Report Designer with the corresponding print template opens.



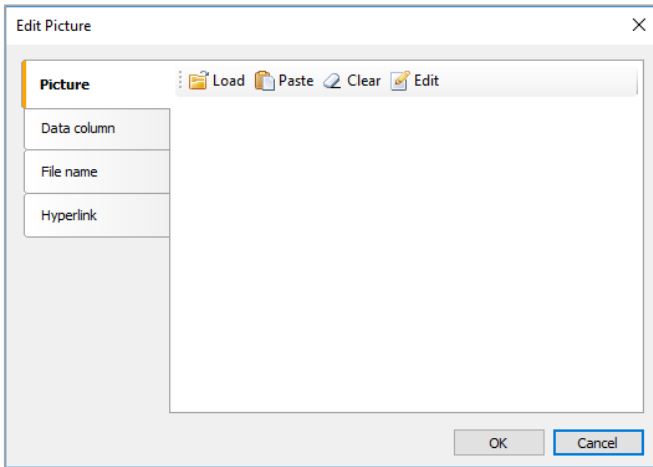
Select the *Image* button on the left edge of the screen and drag the positioning frame of the graphic to the desired position in the print template.

Left-click to confirm the final position.



You can edit the positioning frame by double-clicking the left mouse button or using the context menu with the right mouse button.

The following dialog box opens:



Click the *Load* icon to load an image file from a storage directory.

Click the *Paste* icon to insert an image file from your current cache.

Click the *Load* button and select the corresponding image file in your storage directory.

Confirm your selection by clicking "OK".

The image preview shows your current image selection.



Confirm your selection by clicking "OK".

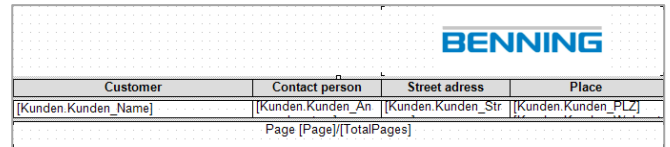


The image you selected is now displayed in the print template. The size of the graphic is adapted to the positioning frame.



Drag the selected positioning frame to the desired size. To do this, use the resize handles of the positioning frame.

The selected graphic proportionally adapts to the size of the positioning frame.



Click the *Save* icon in the menu bar of the Report Designer.

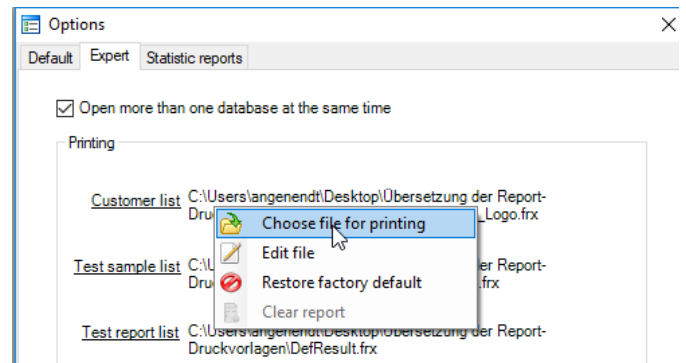
Since you are about to modify a protected print template, an error message appears.

Confirm this error message by clicking *OK* and select a new storage location for the modified print template.

Go back to the **BENNING PC-Win** logging software.

Change the storage location of the default print template to the storage location of your customized print template.

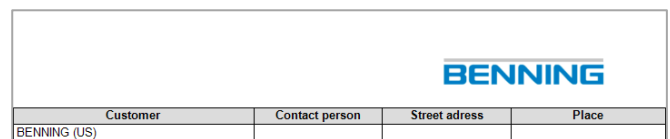
Navigate using the following menu path:



Select the modified print template and confirm by clicking *Open*.

Close the *Options* dialog by clicking *OK*.

When creating a print preview, you will now see the company logo you have inserted.



11.1.2. Inserting a barcode / QR code

You can open an existing print template and add a code positioning frame.

It is absolutely important to differentiate whether the print template contains an individual test sample or a list of test samples.

This is of particular importance when assigning properties to the code positioning frame.

1. option

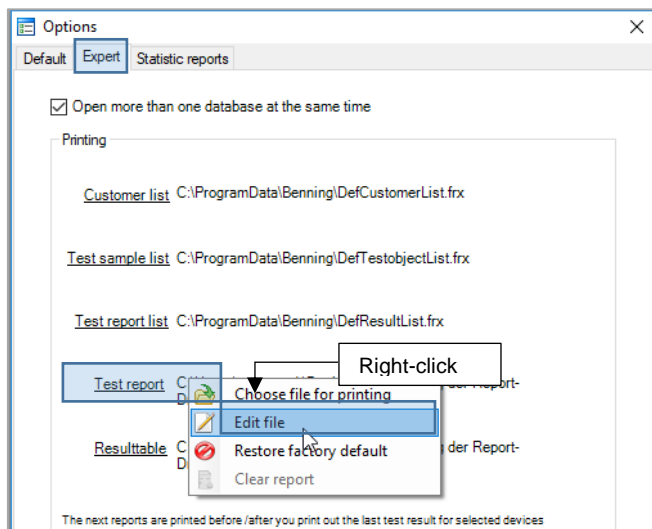
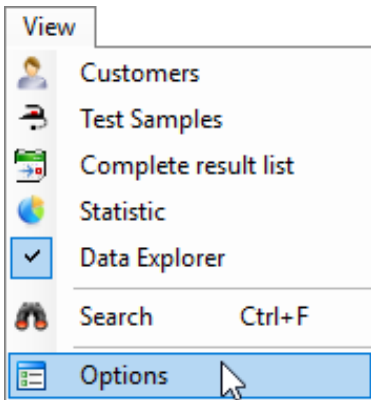
(The **code positioning frame** to be inserted refers to an individual test sample.)

Example: Print template *Test report*

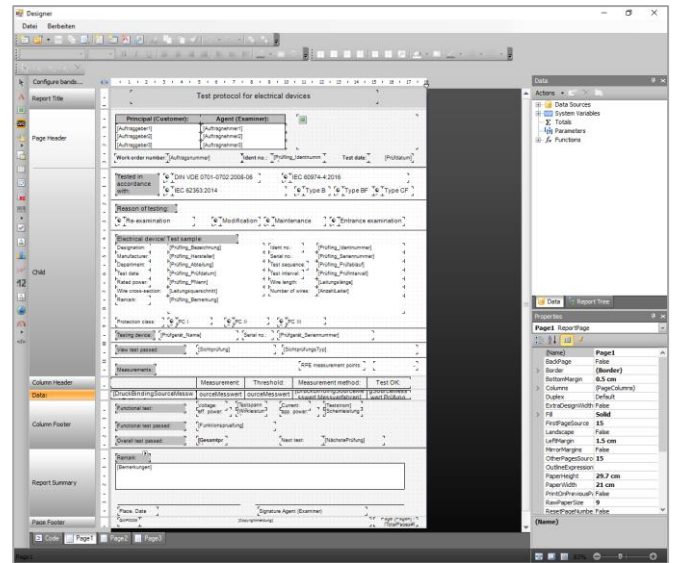
In the print template *Test report*, a detailed test report is generated for an individual test sample.

For this reason, you can use the **device ID** of the individual test sample when assigning properties to the code positioning frame.

Navigate using the following menu path:



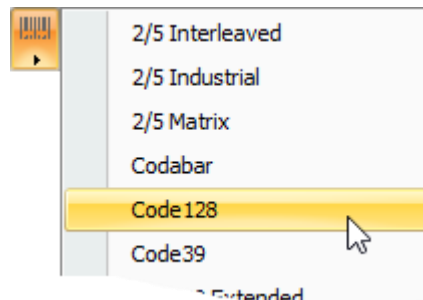
The Report Designer with the corresponding print template opens.



Click the *Barcode* icon on the left edge of the screen and select the required code.

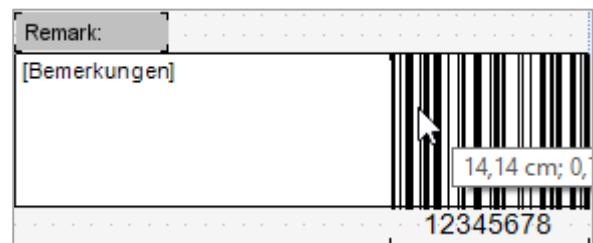
In this example, a **Code128** is used.

When selecting a code, make sure that your barcode scanner supports the selected barcode.



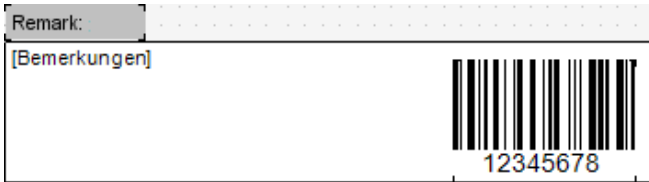
Drag the code positioning frame to the desired position in the print template.

Left-click to confirm the final position.



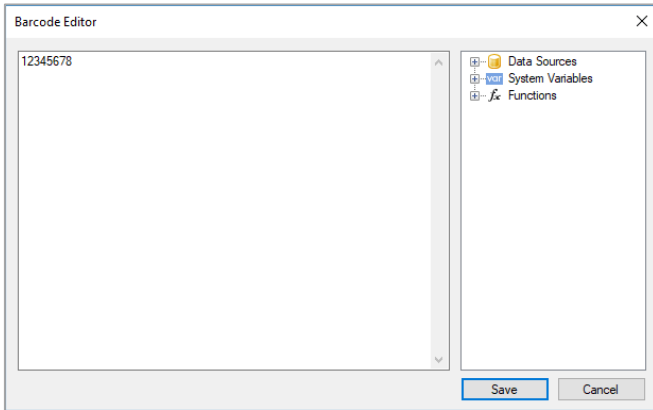
Drag the selected positioning frame to the desired size.

To do this, use the resize handles of the positioning frame.



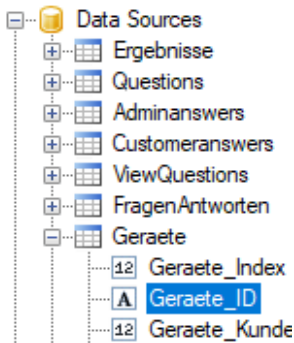
You can edit the code positioning frame by double-clicking the left mouse button or using the context menu with the right mouse button.

The following dialog box opens:

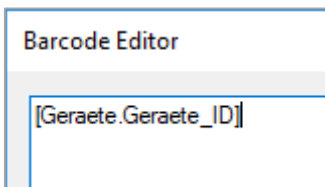


Delete the default sequence of numbers (12345678) in the input field of the editor and assign the **Device ID** property to the code position frame.

To do this, open the following level in the tree structure of the dialog box.



Press and hold the left mouse button, drag the **Device ID** property into the input field of the editor and release the mouse button.



Confirm your entries by clicking "OK".



Click the **Save** icon in the menu bar of the Report Designer.

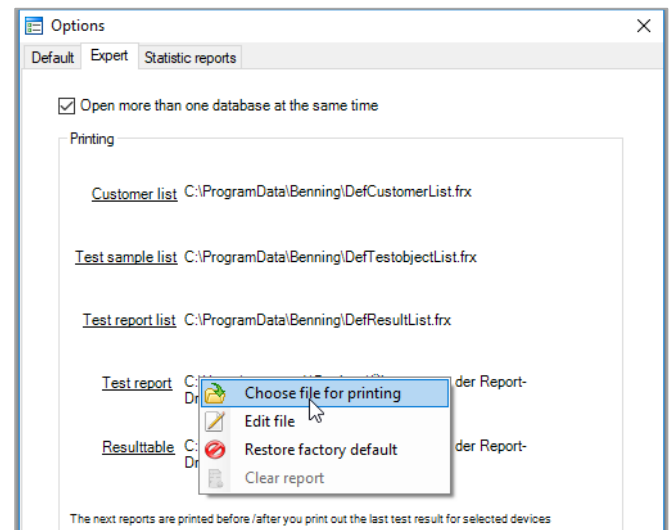
Since you are about to modify a protected print template, an error message appears.

Confirm this error message by clicking **OK** and select a new storage location for the modified print template.

Go back to the **BENNING PC-Win** logging software.

Change the storage location of the default print template to the storage location of your customized print template.

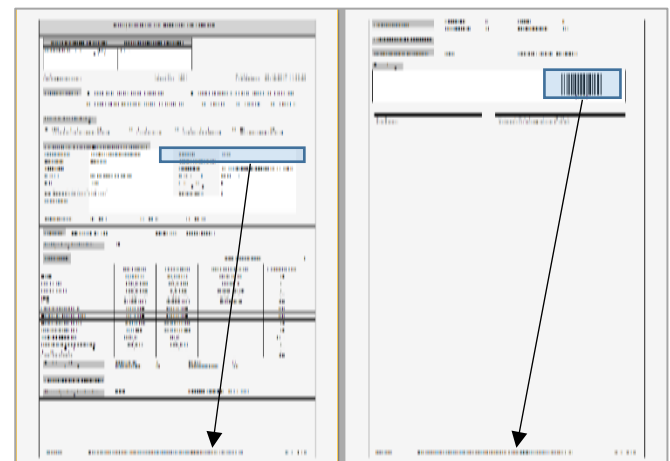
Navigate using the following menu path:



Select the modified print template and confirm by clicking **Open**.

Close the *Options* dialog by clicking **OK**.

When creating a print preview, you will now see the barcode you have inserted.



2. option

(The **code positioning frame** to be inserted refers to several test samples.)

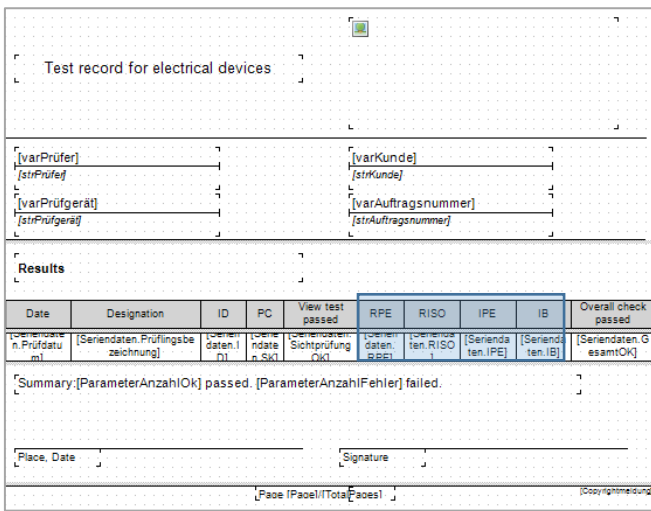
Example: Print template *Results list*

The steps to be taken for creating, positioning and saving are identical to those for using an individual test sample.

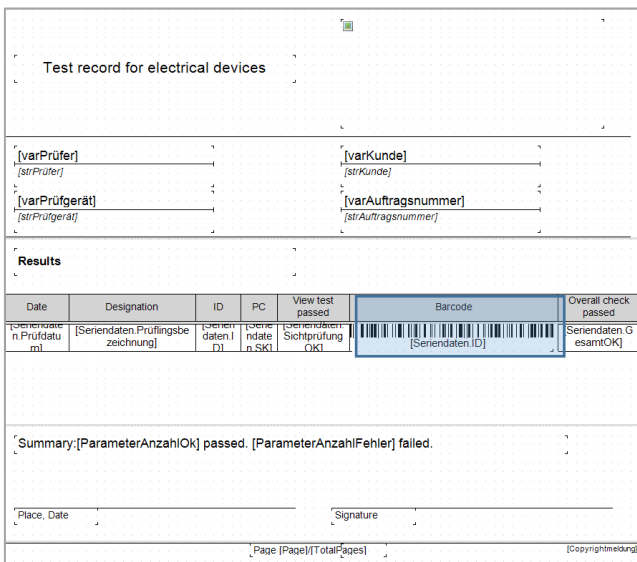
Only the property assignment of the code positioning frame has to be adjusted.

Open the *Results list* print template and create a code positioning frame as described in **option 1**.

In this example, the columns **RPE**, **RInsu**, **IPE** and **ICont** of the default print template are removed and replaced by a corresponding barcode column.



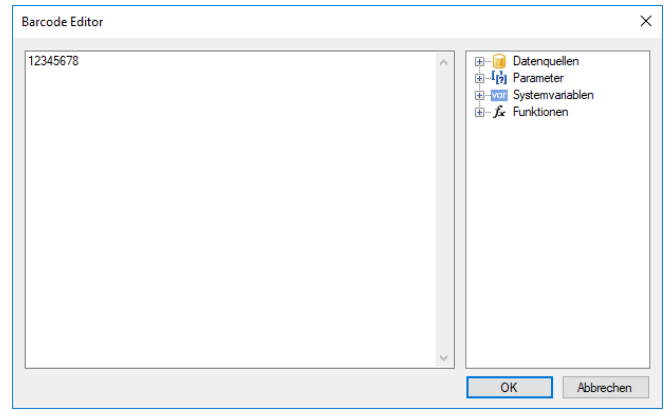
Results list with RPE, RInsu, IPE and ICont



Results list with barcode column

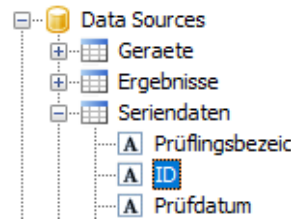
You can edit the code positioning frame by double-clicking the left mouse button or using the context menu with the right mouse button.

The following dialog box opens:

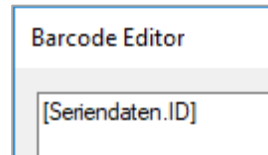


Delete the default sequence of numbers (12345678) in the input field of the editor and assign the **ID** property to the code positioning frame.

To do this, open the following level in the tree structure of the dialog box.



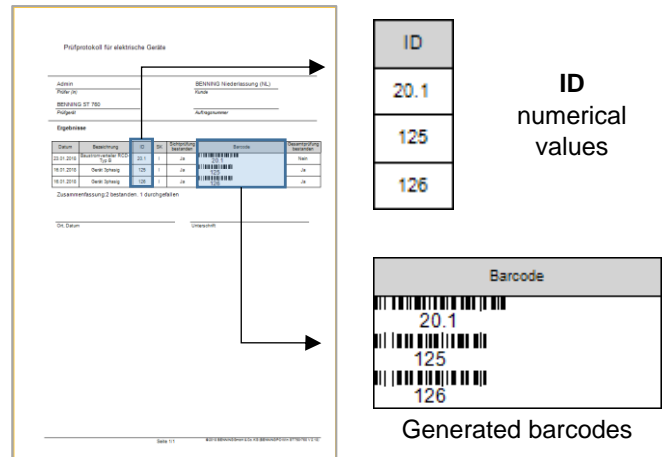
Press and hold the left mouse button, drag the **ID** property into the input field of the editor and release the mouse button.



Confirm your entries by clicking "OK".

Finish editing as described in **option 1**.

When creating a print preview, you will now see the barcodes you have inserted in the print template.



Generated barcodes

12. Service contacts

Spare parts management

Phone: +49 2871 93-553

E-mail: spareparts@benning.de

General service requests

Phone: +49 2871 93-556

E-mail: servicerequests@benning.de

Returns management

Phone: +49 2871 93-554

E-mail: returns@benning.de

Training management

Phone: +49 2871 93-557

E-mail: trainingscenter@benning.de

Technical support

Phone: +49 2871 93-555

E-mail: helpdesk@benning.de

BENNING

Support / helpdesk

BENNING helpdesk team

Phone: +49 2871 93-555

Fax: +49 2871 93-6555

E-mail: helpdesk@benning.de

Website: www.benning.de