



testo easyEmission
Software

Instruction manual

en





2 General Information

General Information

This documentation includes important information about the features and application of the product. Please read this documentation through carefully and familiarise yourself with the operation of the product before putting it to use. Keep this document to hand so that you can refer to it when necessary.

This documentation describes the **testo easyEmission software** with the program language **English - GB**.

! The range of functions of the software depends on the country version of the measuring instrument connected and on the number and kind of instrument types for which the software has been enabled via licence key. The descriptions in this document apply to the complete enabling of all instrument types.

Symbols

Symbol	Meaning
!	Identifies particularly important information.
Text	Text appears on the instrument display or PC monitor

* Data refers to standard mouse configuration (left button: selects, right button: context menu)

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A. Intended Purpose

The testo easyEmission software adds many useful functions to the testo 335, testo 340, testo 350 S/M/XL and testo 350 measuring instruments:

- Instrument configuration via software.
- Folder, location and measurement data management.
- Data import from and data export to the measuring instrument.
- Data export to Microsoft Excel®.
- Graphic and tabular presentation of measurement data.
- Online measurement.
- Sets up, saves and prints measurement protocols from imported data.

B. Using software

B.1 System requirements

Operating system

The software can be run on the following operating systems:

- Windows® XP ServicePack 3 (SP3)
- Windows® Vista (only 32 Bit)
- Windows® 7 (only 32 Bit)
- Others: On request

Computer

The computer must meet the requirements of the corresponding operating system. The following requirements must additionally be fulfilled:

- Interface USB 1.1 or higher
- Internet Explorer 5.0 SP1 or higher
- **Hard drive (min.):** 150MB free memory
- Microsoft® .Net-4-Framework: 2GB

! The testo easyEmission Software automatically synchronizes date and time to the bus subscribers. If Control Unit and meas. box have not been synchronized to the same date and time, the settings of the Control Unit will automatically be used! If a system consisting of Control Unit, meas. box and testo easyEmission Software is to be synchronized, the Control Unit must first be adjusted / connected with testo easyEmission Software and subsequently the meas. box.




8 B. Using software

B.2 Installing software

- ! To install the USB driver, please read the separate documentation included with the USB driver CD.
Administrator rights are required in Windows® XP, Vista and Windows 7 to install the program.
Once installed, input of a licence key is required. Without this input, the software will only run as a demo version with a limited range of functions (time limit of 30 days). When the software is first started, a window automatically appears for you to enter the licence key.

1 Insert CD.

If the installation program does not start automatically:

- ▶ Start **Setup.exe** file ( double click) from the CD-directory (access via **My Computer** or **Windows Explorer**).

2 Follow the instructions in the installation program.

- **testo easyEmission** software is installed.
- **testo 350-data bus-Controller** software is installed. It sets up the connection between testo 350 S/M/XL oder testo 350 and PC via the USB data bus controller.

B.3 Starting the software

- ▶  → **Programs** → **Testo** → **testo easyEmission software**

- The program is opened. The program language corresponds to the operating system language.
 - When the software is first started, a window appears for you to enter the licence key.
 - ▶ Enter licence key (found on inside of CD packaging). → **[OK]**

- ! The range of functions of the software depends on the country version of the analyser connected and on the number and kind of instrument types for which the software has been enabled via licence key.

To enter additional licence keys, refer to *Enhance licence*, p. 17.

B.4 Setting up testo 335, 340 connection

! The analyser switches to the **Slave Mode** during data transfer; the analyser operating buttons are disabled in this mode. Once data is no longer being transferred the **Slave Mode** is stopped and the analyser can be controlled via the control buttons, as normal.

! Close the software before you end an existing connection between the testo 335, testo 340 and the PC, otherwise this can lead to program crashes.

Verbindung über USB-Kabel

To connect testo 335, testo 340 to a PC the “connection cable PC/instrument 0449 0047” is required. Alternatively, the testo 335 can be set up via an IrDA interface.

- 1 Connect cable to USB connection socket in the PC.
- 2 Connect cable to USB socket in measuring instrument.
- 3 Switch on instrument (.

Connection via IrDA interface

See *Configure testo 335/340*, *testo 350 S/M/XL*, *testo 350*, p.44.

Connection via Bluetooth

! The Bluetooth module on the PC and the Bluetooth module in the testo335, testo 340 must be activated (Bluetooth®-Symbol in der Taskleiste: blau = an, grau = aus). In addition to this, a Bluetooth connection between the measuring instrument and the PC must be set up.

The connection is set up automatically via a Bluetooth assistant. This is started as soon as the Bluetooth interface is selected in the configuration of the testo 335, testo 340, see *Configure testo 335/340*, *testo 350 S/M/XL*, *testo 350*, p.44.

! Depending on the Bluetooth® module of the PC the input of a password or main key may be required for device recognition. For all Testo instruments this is: 1234.

! The status of the Bluetooth connection is displayed via the Bluetooth symbol in the task bar (green: connected, white: not connected).



B.5 Setting up testo 350 S/M/XL connection

! Connection problems and loss of measurement data can occur when the energy saving or standby mode in your PC is activated. These functions should therefore be switched off.

! The analyser switches to the **Slave Mode** during data transfer; the analyser operating buttons are disabled in this mode. Once data is no longer being transferred the **Slave Mode** is stopped and the analyser can be controlled via the control buttons, as normal.

If the connection is interrupted without stopping the software, testo 350 remains in **Slave Mode**. Do the following to deactivate **Slave Mode**:


►  → **ESC**.

! Close the software before you end an existing connection between the testo 330/335 and the PC, otherwise this can lead to program crashes. **Connection via serial interface**

Connection via serial interface

! Serial connection is set up using a testo 350 S/M/XL Control Unit. Only **one** Control Unit can be connected to the measurement system.


For serial connection of testo 350 S/M/XL to a PC, the “PC connection cable/ 0409 0178 instrument” is required.

- 1 Connect connection cable to a serial connection socket in the PC.
- 2 Connect connection cable to the RS232 socket of the Control Unit.
- 3 Switch on measuring instrument (.

Connection via USB serial adapter

! USB serial connection is set up using a testo 350 S/M/XL Control Unit. Only **one** Control Unit can be connected to the measurement system.

For USB serial connection of testo 350 S/M/XL to a PC, the “PC connection cable/ 0409 0178 instrument” an USB-serial adapter is required.

- 1 Connect USB-serial adapter to a serial connection socket in the PC.
- 2 Connect connection cable to the RS232 socket of the Control Unit.
- 3 Connect USB-serial adapter with connection cable
- 4 Switch on measuring instrument (.

! The measuring instrument switches to the **Slave Mode** while data is being exchanged, the control buttons in the measuring instrument are blocked in this mode. If data is

not being exchanged, the **Slave Mode** is stopped and the measuring instrument can be controlled normally via control buttons.

If the connection is interrupted without stopping the software, testo 350 S/M/XL remains in **Slave Mode**. Do the following to deactivate **Slave Mode**:

►  → **ESC**

Connection via Bluetooth

! The Bluetooth® module on the PC and the Bluetooth® module in testo 350 S/M/XL must be activated. Blue background / white symbol = Bluetooth® on, Bluetooth® and Testo data bus connection to meas. box up and running, communication via Testo data bus.

The connection is set up automatically via a Bluetooth® assistant. This is started as soon as the Bluetooth® interface is selected in the configuration of the testo 350 S/M/XL, see *Configure testo 335/340, testo 350 S/M/XL, testo 350*, p.44.

! Depending on the Bluetooth® module of the PC the input of a password or main key may be required for device recognition. For all Testo instruments this is: 1234.

! The status of the Bluetooth® connection is displayed via the Bluetooth® symbol in the task bar (green: connected, white: not connected).

Connection via USB data bus controller (not available for Vista 64 Bit and Windows 7 64 Bit)

! USB connection is set up directly to the flue gas analysers via the data bus controller. No Control Unit should be connected to the measurement system.

The USB data bus controller is a HighPower instrument, an additional USB Hub may be required.

- 1 Connecting the flue gas analyser to the data bus controller: connect instrument plug to **DATA** socket of flue gas analyser, connect serial connection plug to **Channel 1** socket in data bus controller.
- 2 Connecting USB data bus controller to PC: connect USB plug (Type B) to **USB** socket in data bus controller, connect USB plug (Type A) to a USB socket in the PC.
- 3 Set up power supply in flue gas analyser.
- 4 Start software **testo 350 data bus controller** under **Start > Programms > testo**.



B.6 Set up connection testo 350

- ! During the exchange of data the measuring instrument switches to **Slave Mode**, the control buttons on Control Unit are at this time locked. If no data exchange takes place, the **Slave Mode** is quit and the measuring instrument can be controlled in the usual way via the control buttons.
- ! Before disconnecting a cable link between the testo 350 and the PC, run the testo easyEmission Software
 - and use the button Button **[Cancel connection]** (**Configure 350 → Connection**)
oder
 - open the start page
oder
 - quit beforehand.
- ! When connecting a meas. box without a pre-set country version (condition as delivered):
In the meas. box activate the country setting that corresponds with the country setting in the PC. This process takes about 1 min. The meas. box is automatically shut down and restarted.

Connection via USB-cable

The "Connecting cable PC / Instrument 0449 0073" is required for connecting the testo 350 to a PC.

- 1 Plug the connecting cable into a USB-port on the PC.
- 2 Plug the connecting cable into the USB-port on the measuring instrument.
- 3 Switch on the measuring instrument. (🔌).

The testo 350 can alternatively also be set up via Bluetooth®, see *Configure testo 335/340, testo 350 S/M/XL, testo 350*, p. 44.

Connection via Bluetooth®

- ! Both the Bluetooth®-modules on PC in the testo 350 must be activated Blue background / white symbol = Bluetooth® on, Bluetooth® and Testo data bus connection to meas. box up and running, communication via Testo data bus.

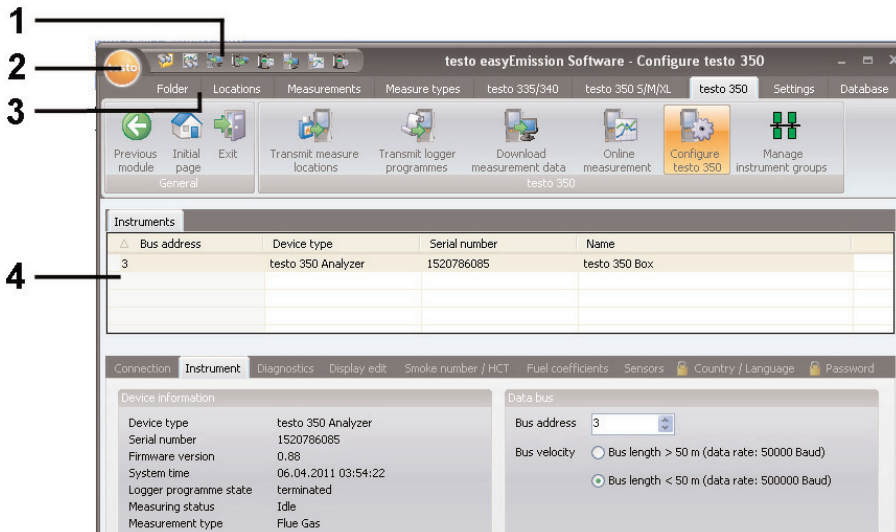
The connection is set up automatically via a Bluetooth® wizard. This wizard is started when the Bluetooth® interface is selected in the configuration of the testo 350, see *Configure testo 335/340, testo 350 S/M/XL, testo 350*, p. 44

- ! Depending on the Bluetooth® module of the PC the input of a password or main key may be required for device recognition. For all Testo instruments this is: 1234.
- ! The status of the Bluetooth® connection is indicated by the Bluetooth® symbol in the task bar (blue: connected, white: not connected).

Connection via USB data bus controller (not available for Vista 64 bit and Windows 7 64 bit)

- ! The USB connection via data bus controller is set up directly to the flue gas analyzers.
The USB data bus controller is a HighPower unit, an additional USB hub with its own power supply may be required.
 - ! Operation of the CANcaseXL box requires installation of the USB driver for the box..
(The USB driver can be found on the testo easyEmission software CD in the sub-directory: \CanCaseXL\32bit\CanCaseXL).
- 1 Plug the connecting cable into the USB data bus controller (**Channel 1**) and into the flue gas analyzer (**DATA**).
 - 2 Connect the USB data bus controller with the PC: Insert the USB plug (type B) into the USB port on the data bus controller, insert the USB plug (type A) into a USB port on the PC.
 - 3 Connect the electric power supply to the flue gas analyzer.
 - 4 Start the software **testo 350-data bus controller** under **Start > Programms > Testo**.
 - 5 Start the **testo easyEmission Software** under **Start > Programme > Testo** and set up a connection to the testo 350.

C. Operation



- ① **Quick access toolbar:** Fast access to established modules
- ② **Testo-Logo:** Possibility of a licence extension
- ③ **Ribbon bar:** Displays existing modules, sorted by module groups.

► Open module: Select desired module, e. g. **Configuration**

The modules can also be opened via the Quick Access Toolbar. The menus have the same name as the corresponding module groups.

! Some of the modules can only be opened if data was stored or specific data was selected in advance in another module.

! If a module is not activated, the homepage containing the modules required most frequently (favourites) appear enabling direct access. Some modules consist of several tabs (e.g. **Configure testo 350 S/M/XL** module):

► To open the module: Select required tab e.g. **Instrument**

- ④ **Work area:**

The work area is the area in which all inputs are carried out.


! You can switch between the standard display and full-screen display in the work area with [F11].

D. Application example

The most important steps required for a typical application of the software is explained in this Chapter using an example.

A detailed description of all software functions can be found at Functions, p. 17.


Configuring software

- 1 Tab **Settings** →  **Configuration**.
- 2 Tab **Own data** → Enter/change address data.
- 3 Tab **Units** → Select units.
- 4 Tab **Backup** → Make settings.
- 5 Taking on changes: **[Apply]**


Configuring the instrument

- 1 **testo 335/340, testo 350 S/M/XL, testo 350** → **Configure testo 335/340** or **Configure testo 350 S/M/XL, Configure testo 350**
- 2 **Print text** → **Own address data** → **[Ready]**

Setting up new folders

- 1 **Folder** →  **Insert new folder**
- 2 Enter new folders in the corresponding boxes → **[Save]**

Setting up a new location

- 1 **Locations** →  **Insert new location**
- 2 Enter new location in the corresponding boxes in the tabs **Location, Installation, Flow data, Data sheet** → **[Save]**

Transmitting location(s) to the instrument

- 1 **testo 335/340, testo 350 S/M/XL, testo 350** → **Transmit measure locations**
- 2 Select location(s) in the **Measure locations on PC** folder (☒) → **[Transmit]**



16 D. Application example

Carrying out measurements

- To activate location, carry out measurement and save reading: see Instruction manual on testo 335, testo 340, testo 350 S/M/XL, testo 350.

Reading in measurement data protocol(s) from the instrument

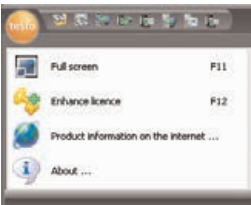
- 1 **testo 335/340, testo 350 S/M/XL, testo 350** →  **Read measurement data**
- 2 Select measurement protocol(s) in tab **Measurements in instrument** (☒) → **[Read]**

Displaying and printing a measurement protocol

- 1 **Measurements** → **Search measurement**
- 2 Select measurement protocol → **View**
- 3 Print measurement protocol: **Print**

E. Functions

E.1 Testo Logo

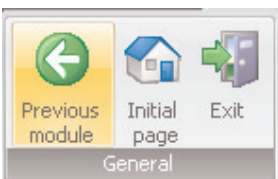


E.1.1 Enhance licence

Input of a separate licence key is required for every instrument type in order to enable corresponding software functions.

- 1 **testo-Logo** → **Enhance licence**
- 2 Enter licence key (located on CD packaging) → **[OK]**

E.2 General



E.2.1 Previous module



- Scroll back to previous module: **Previous module**

E.2.2 Initial page

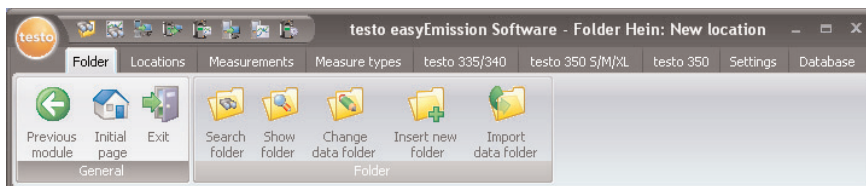
- Open initial page: **Initial page**

The initial page includes the modules used most frequently for direct access (favourites).

E.2.3 Exit

- ▶ End program:  **Exit**
- If you have not carried out data backup on the day, the **Database backup** window will open offering you the following options:
 - **Complete backup:** A complete backup is made of the database.
 - **Save changes:** Any changes made since the last backup will be saved.
 - **Currently no backup:** Program is ended without data backup being carried out.
- ▶ Carrying out data backup: Select required option () → **[OK]** → **[OK]**.

E.3 Folder



Folders are given the names of customers, e.g. companies. Each folder contains the locations with the relevant measurement protocols.

The **Search folder**, **Show folder**, **Change folder data**, **Insert new folder** and **Import folder data** modules can be opened via the **Customer** menu. The module group/the **Folder** menu can be de-/activated (**Settings** - **Configuration** - **Programme**).


E.3.1 Search folder

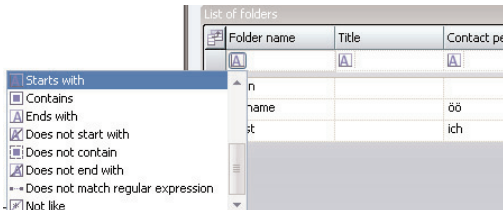
Using the **Search folder** module, you can search for folders using search criteria

Opening the module

- ▶ **Folder** → **Search folder**

E.3.1.1 List of folders

- ▶ 
- ▶ Select desired search criterion (condition) for a field.




- All folders whose entry begins with the corresponding condition, e. g. in the field **Contact Persons**, are displayed
- If several search criteria (conditions) are entered, only those customers are found for whom these criteria (conditions) apply.

Activating folders


! If a folder is not activated, the **Show folder** and **Change data folder** modules cannot be opened.

- ▶ Activating folders
- The selected folder is highlighted in colour.

Displaying folder data

- ▶ Activating folders →  **[Show]**
- The **Show folder** module is opened, see *Show folder*, p. 20.

Changing folder data

- ▶ Activating folders →  **[Show]**
- The **Change data folder** module is opened, see *Change data folder*, p. 21.

Neuen Ordner einfügen

- ▶ **[New]**
- The module **Insert new folder** is opened, see *Insert new folder*, p. 21

Deleting folders

- ▶ Activate folders → **[Delete]** → **Yes**
- The folder is deleted.

! Several folders can be activated and deleted. If a folder is deleted, all measure locations and measurements are also deleted.

E.3.2 Show Details folder

The folder data and other stored information about a folder can be displayed with the **Show folder** module.

Opening a module

! The **Show folder** module can only be opened if a folder has been activated in the **Search folder** module, see *Search folder*, p. 18.

► Folder →  Search folder

The **Show folder** module is divided into two areas. The **Address** tab is located in the upper area while the **Locations** tab is located in the lower area.

E.3.2.1 Address

Changing address

► [Change folder]

- The **Change data folder** module is opened, see *Change data folder*, p. 21.

Deleting folders

► [Delete folder] → [Yes]

- The folder is deleted.

Searching for folders

► [Search folder]

- The **Search folder** module is opened, see *Search folder*, p. 18.

E.3.2.2 List of locations

Activating location

! If a location is not activated the **Show measure location data** and **Change measure location data** modules cannot be opened.

► Activating a location

- The selected location is highlighted in colour.

Displaying measurement location data

► Select location → [Show]

- The **Show measure location data** module is opened, see *Show measure location data*, p. 23.

Changing measurement location data

► Activating location → [Change]

- The **Change measure location data** module is opened, see *Change measure location data*, p. 25.

Deleting a location

- ▶ Activating location → **[Delete]** → **Yes**
- The location is deleted.


Setting up a new location

- ▶ **[New]**
- The **Insert new location** module is opened, see *Insert new location*, p. 25.

E.3.3 Change data folder

Existing folder data can be changed with the **Change folder data** module.

Opening a module

- ! The **Change data folder** module can only be opened if a folder was activated in the **Search folder** module, see *Search folder*, p. 18.
- ▶ **Folder** →  **Change data folder**


Changing data

- ▶ Enter changes to the folder data in the corresponding boxes → **[Save]**
- The **Show folder** module is open, see *Show folder*, on this page.

E.3.4 Insert new folder

A new folder can be set up with the **Insert new folder** module.

Opening the module

- ▶ **Folder** →  **Insert new folder**
- ▶ Enter new folder data in the corresponding boxes → **[Ready]**
- The **Show folder** module is opened, see *Show folder*, on this page.

E.3.5 Import data folder

Using the **Import data folder** module, existing folder data can be imported from other applications.

Opening the module

- ▶ **Folder** →  **Import data folder**

Importing data

Before importing folder data, it has to be changed to a supported import format:

- Text file with separating character (comma, semicolon, Tabulator)
- Microsoft Access® database
- Microsoft Excel® worksheet

Standard programs (such as Microsoft® Outlook®) usually support one of the named formats.

1 Select import format () → **[Locate]**

2 Select file to be imported.

When importing an Access database you may be required:

- ▶ To enter **User ID** and **Password**.

3 **[Next >]**

When importing an Excel worksheet you may be required:

- ▶ To select a worksheet → **[Next >]**.

When importing an Access database you may be required:


- ▶ To enter User ID/Password.
- ▶ To select a table → **[Next >]**.

Allocating import data

Once the data is read in, the data boxes have to be allocated. Only allocated data boxes will take effect.

When importing from a text file, it is possible that the first line does not include any address data. If required:

- ▶ **First line contains column name** ()

1 Open list box () - Select target data box

- The import data box is allocated to the target data box.

2 Repeat step 1 for all required data boxes.

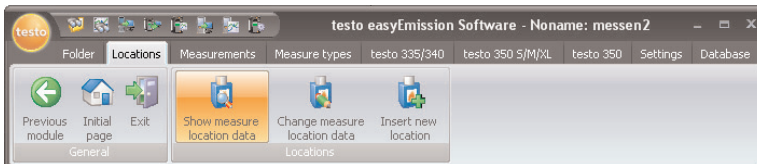
! If the data field Folder exists, but the file description has already been allocated in the software, then the existing data are replaced by the imported data.

If the data field Folder is empty, then the corresponding dataset is not imported.

3 **[Apply]** → **[OK]**

- The **Search folder** module is opened, see *Search folder*, p. 18..

E.4 Locations



The **Show measure location data**, **Change measure location data**, **Insert new location** modules can be opened via the **Locations** function.

E.4.1 Show measure location data

System data and the measurement data saved in a system can be displayed with the **Show measure location data** module.

Opening a module

! When the **Use folders and measure locations (Settings - Configuration - Programme)** menu is activated: The **Show measure location data** module can only be opened if a location was activated in the, **Show folder** module, see *Show folder*, p. 20

When the **Use measure locations only (Settings - Configuration - Programme)** menu is activated:

The **Show measure location data** module can be opened.

► Locations → Show measure location data

The **Show measure location data** module is divided into two areas. The **Location**, **Owner file**, **Installation** and **Flow data** tabs are located in the upper area while the **Measurement values** tab is located in the lower area.

E.4.1.1 Location, Owner file, Installation, Flow data

Information on the measurement location is displayed.

Details folder



[Details folder]

- The module **Details folder** is opened, see *Details folder*, p. 20

Data sheet



[Data sheet]

- The module **Data sheet** is opened.



- ! The module **Data sheet** can only be opened when the module **Use data sheet (Settings - Configuration - Programme)** is activated.

The displayed system data are determined in the Data sheet designer. (**Settings - Data sheet designer**), see p. 48

The data which are displayed for displayed archiving are determined in the data.

- ▶ Enter input in the editable fields and confirm with **[Save]**.

Change measure location data

[Change]

- The module **Change measure location data** is opened, see *Change measure location data*, p. 25

E.4.1.2 Measurements

Activate measurement protocol

- ! If a measurement protocol is not activated, the **Display measurement data** module cannot be opened.

- ▶ Activate the measurement protocol
- The selected measurement protocol is highlighted with colour.

Displaying a measurement protocol

- ▶ Activating the measurement protocol → **[Display measurement]**
- The **Display measurement data** module is opened, see *Display measurement data*, p. 27.

Deleting a measurement protocol

- ▶ Activate the measurement protocol → **[Delete]** → **[Yes]**
- The measurement protocol is deleted.

Merging measurement protocols

Multiple measurement protocols can be merged into one measurement protocol.

- 1 Activate measurement protocols, for multiple selections, hold the **[Strg]** key depressed.


- 2 **[Connect]**

- The measurement protocols are merged into one protocol.

E.4.2 Change measure locations data

Existing location data can be changed using the **Change measure location data** module.

Opening the module

- ! When the **Use folders and measure locations (Settings - Configuration - Programme)** menu is activated: The **Change measure location data** module can only be opened if a folder was selected in the **Show folder** module, see *Show folder*, p. 20.
- **Locations** →  **Change measure location data**


Changing data

- Enter changes to the location in the appropriate boxes → **[Save]**
- The **Show measure location data** module is opened, see *Show measure location data*, p. 23.

E.4.3 Insert new location

A new location can be set up with the **Insert new location** module.

Opening the module

- **Locations** →  **Insert new location**
- Enter the data from the new location in the corresponding boxes in the **location, Installation, Flow data, Data sheet** tabs → **[Save]**
- The **Show measure location data** module is opened, see *Show measure location data*, p. 23.

E.5 Measurements



The **Search measurement** and **Display measurement data** modules can be opened via the **Measurements** function.

E.5.1 Search measurement

You can search for measurement protocols stored in your PC using the **Search measurement** module.

Opening the module

► **Measurements** →  **Search measurement**

- All of the measurement protocols stored in the PC are displayed. To display the measurement protocols from only one location, see *Show measure location data*, p. 23.

Activate a measurement protocol


! If a measurement protocol is not activated, the **Display measurement data** module is not opened.

- Activate measurement protocol
- The measurement protocol is highlighted by a colour.

Display a measurement protocol

- Activate measurement protocol → **[View]**
- The **Display measurement data** module is opened, see *display measurement data*, p. 27.

Delete a measurement protocol

- Activate a measurement protocol ( → **[Delete]** → **[Yes]**
- The measurement protocol is deleted.

Changing the location

- Activate measurement protocol → **[Change location]** → Activate location → **[OK]**
- The measurement protocol is assigned to the selected location.

Connect measurement protocols

Multiple measurement protocols can be merged into one measurement protocol.

1 Activate measurement protocols, for multiple selections, hold down the [Ctrl] key.

2 **[Connect]**

3 Select location where the measurement protocol is to be saved → **[OK]**

- The measurement protocols are merged into one protocol.

Exporting/importing a measurement protocol

► Export only: Activate measurement protocol

► **[Export]** or **[Import]** → Enter File name () → **[Save]**

- The measurement protocol is exported/imported.

! The following registers are available as information in the Excel file :

■ Register testo: Measurement results

Register Information: Incl. start and end time of a measurement

Register Folder: Name and customer number

Register Measurement location: Incl. address, measurement location description

E.5.2 Display measurement data

Measurement protocols can be displayed and processed via the **Display measurement data** module.

! The **Display measurement data** module can only be opened if a measurement protocol was selected in the **Search measurement** or **Show measure location data** modules, see *Search measurement*, p. 26 or *Show measure location data*, p. 23.

Open a module

► **Measurements** →  **Display measurement data**

E.5.2.1 Information

Information on the measurement protocol is shown in the **Information** tab

► Enter text in the **Remark** box.

Print measurement protocol

► Print measurement protocol with information data and readings: **[Print report]**

► Select form template → **[OK]**

► Set printer → **[OK]**

- Print report

Display print preview

► Display measurement protocol as a print preview: **[Preview report]**



Save measurement protocol in PDF format

- ▶ **[Save as PDF]**

E.5.2.2 Graphics

The readings are shown in graphics form in the **Graphics** tab (maximum 16 channels).

Print measurement protocol

- ▶ Print measurement protocol with information data and readings: **[Print report]**
- ▶ Select form template → **[OK]**
 - ▶ Set printer → **[OK]**
 - Print report

Display print preview

- ▶ Display measurement protocol as a print preview: **[Preview report]**
- ▶ Select form template → **[OK]**
 - A report will be created.

Save measurement protocol in PDF format

Save as PDF format

- ▶ **[Save as PDF]**
[Save as PDF] → Enter file name (▼) → Select file type (▼) → **[Save]**

Print measurement protocol as graphic

- ▶ **[Print bitmap]**
- ▶ Printer settings → **[OK]**

Save measurement protocol as graphic

- ▶ **[Save bitmap]**
[Save as PDF] → Enter file name (▼) → Select file type (▼) → **[Save]**.

Changing features in graphics

- 1 **[Settings]**
- 2 **Channel:** Select measurement channels (▼), **Legend:** Enter channel name.
- 3 Save settings: **[OK]**

E.5.2.3 Measure values

The readings in a table or list are shown in the **Measure values** tab.

Print measurement protocol

- ▶ Print measurement protocol with information data and readings: **[Print report]**
 - Select form template → **[OK]**
 - ▶ Set printer → **[OK]**
 - Print report

Display print preview

- ▶ Display measurement protocol as a print preview: **[Preview report]**
 - ▶ Select form template → **[OK]**
 - A report will be created.

Save measurement protocol in PDF format

- ▶ **[Save as PDF]** → Enter file name (▼) → Select file type (▼) → **[Save]**

Export readings as an Excel file

- ▶ **[Export Excel]** → Enter File name (▼) → **[Save]**
- The measurement protocol will be **exported**

! The following registers are available as information in the Excel file :

- Register testo: Measurement results
- Register Information: Incl. start and end time of a measurement
- Register Folder: Name and customer number
- Register Measurement location: Incl. address, measurement location description

Export readings into the PC's clipboard

- ▶ **[Clipboard]**
- The readings are exported as a file text, separated by tabs, into the PC's clipboard.

Analysis of measurement results

The mean, maximum and minimum readings can be displayed. The analysis range can be limited.

- ▶ **[Min/Max/Mean]** Activate desired functions (☑) → **[OK]**

Option:

- ▶ Mark reading range → Open context menu → Choose a designation for the analysis range (Range 1, 2, or 3).

E.5.2.4 Data sheet

The tab **data sheet** shows system data.

- ▶ Open **Data sheet** tab: **Data sheet**

! Tab **Data sheet** can only be opened when the module **Use data sheet** (**Settings - Configuration - Programme**) is activated.

The data which are displayed for displayed archiving are determined in the data sheet designer (**Settings - Data sheet designer**), see p. 48

Scroll through pages

- ▶ **[Next page / Previous page]**

Alter view

- ▶ **[Zoom in / Zoom out]**

Save data sheet as PDF

- ▶ **[Save as PDF]**

[Save as PDF] → Enter file name () → Select file type () → **[Save]**

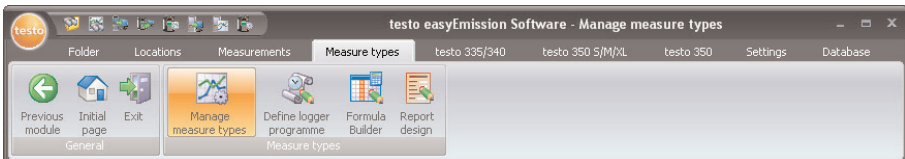
Print data sheet

- ▶ Print data sheet with information data and measurement values: **[Print report]**
 - ▶ Set printer → **[OK]**
 - Print protocol

Save data sheet

- ▶ Confirm input with **[Save]**.

E.6 Measure types



E.6.1 Manage measure types

Measure types serve to repeatedly carry out measurements in a predefined way. Measurement programs (logger programs), formulae to calculate additional values (formula editor) and the layout for printing measurement data (form designer) can be stored in a measure type.

Opening a module

► **Measure types** → **Manage measure types**

The **Manage measure types** module is divided into two sections. The **Measure types** tab is located in the upper section, the **Logger programme**, **Input fields**, **Formula builder**, **Ranges of measure value** and **Report designer** tabs are located in the lower section.

Activating a measure type

► Activate measure type

- The measure type selected is highlighted in colour.
- The most important information stored with the respective measure type is shown in the **Logger programme** (only with user-defined measure types), **Formula builder** and **Report designer** tabs. Formulae can be stored in the **Input fields** folder so that the values are calculated from the values in the other fields. Value ranges are specified in the **Ranges of measure value** tab. The start of a range is given as **Range 1**. The scope of the value range is entered into **Number of rows**.

Option:

► Open logger program/formula editor/form designer tab: **[Edit]**

Setting up user-defined measure type

! Ensure you enter the correct measure type name, it cannot be changed later.

► **[New]** → Input name → **[OK]**



Deleting a user-defined measure type

! Only user-defined measure types (**User**) can be deleted.

- ▶ Select user-defined measure type (on name) → **[Delete]**

Exporting a user-defined measure type

! Only user-defined measure types (**User**) can be exported.

- 1 Select user-defined measure type (on name) → **[Export]**
- 2 Enter storage location and file name → **[Save]**

Importing user-defined measure type

! It is not possible to overwrite/replace existing measure types.

- ▶ **[Import]** → Select a user-defined measure type (zip file) (on name) → **[Open]**

E.6.2 Define logger programme

! Logger programmes can only be defined for user-defined measure types (**User**), this is not possible for measure types (**System**) set up in the system.

The **Define logger programme** module can only be opened if a measure type was user defined in the **Manage measure types** module, see *Manage measure types*, p. 31 The logger programme is always allocated to the activated measure type.

Opening the module

- ▶ **Measure types** →  **Define logger programme**

Defining a logger programme


A logger programme of type **testo 335/340** (measurement program), **testo 350 S/M/XL** (measurement program) , **testo 350** (measurement program) and **Online (testo 350 S/M/XL / testo 350)** (online measurement program) can be defined respectively for each user-defined measure type.

- 1 Activate tab with the required logger programme type.
- 2 Enter characteristics of logger programme → **[Ready]**

Only for Online testo 350

Individual measurement and flushing phases can be defined in an **Online testo 350** loggerprogram.

Enter measure rate

► Measure rate ()

- The data recording of measure rates can be started. If a measure rate of 0 is set, no measurement value will be stored

Condition 1 (max duration)

► Max duration ()

- the duration of each phase is set

Condition 2 (max number)

► Max number ()

- the number of measurement values of each phase is entered

Condition 3 (overshoot/shortfall of a measurement value)

► Condition ()

- the measurement phase is ended in case of overshoot/shortfall of a value in a measurement channel.

Set repetition loops

► Repeat measurement phases (☒)

- ! When setting the measurement and flushing phases, the measurement and flushing cycles should be adhered to (see instruction manual for instrument).

E.6.3 Formula builder


- ! The **Formula builder** module can only be opened if a measure type has been selected in the **Measure types** module, see *Manage measure types*, p. 31. The formulae are always allocated to the activated measure type.

Opening module

► **Measure types** →  **Formula builder**

Adding/editing formulae

A separate measurement channel (column) is set up for each formula and is identified by a freely selectable measurement channel name.

1 Adding a formula: **Add new column** () → Enter measurement channel name → **[Next >]**

-or-


Editing a formula: **Change already defined additional column** () → Select measurement channel name → **[Next >]**


! The naming of standard columns (measurement channels) stored in the system, consists of the elements “measurement unit” and “measurement parameter”. If several flue gas analyzers are connected in a bus-system, the “bus-address” of the instrument is additionally given in order to clearly identify the individual measurement channels. For this reason, to create formulae for bus-systems, use only columns (measurement channels), which have been calculated from an existing measurement (**Get columns from an existing measurement**), as these already have the respective bus-address in their name. This guarantees that the columns used in the formulae are clearly allocated to respective measurement channels in the instruments, and thus also guarantees the applicability of the formulae.

2 Using standard columns (standard measurement channels) stored in the system:

Use standard columns () → **[Next >]**

-or-

Using columns (measurement channels) from an already existing measurement: **Get columns from an existing measurement** () → Select measurement → **[Next >]**.

3 Enter a calculation formula for the column: Select columns ( Double-click) and link by mathematical operators (+, -, *, /). Press the **[Help]** button for a detailed description of the syntax of the formulae.

4 Check the formula you have entered for validity: **[Check]**.


5 Save the formula: **[Save]**

E.6.4 Report design

! The **Report designer** module can only be opened if a measure type has been selected in the **Manage measure types** module, see *Manage measure types*, p. 31. The form is always allocated to the measure type activated.

A print form must be defined in order to be able to print records of a measure type.

Opening the module

1 **Measure types** →  **Report design**

The **form designer** module is separated into two areas. The **Field**, **Font**, **Border** and **Page** tabs are located in the left area while the **Editor** and **Preview** tabs are located in the right area.


Setting up/editing a form

The elements and features of the form can be set up or edited using the functions in the **Field**, **Font**, **Border** and **Page** tabs, see *Field, Font, Border, Page*, p. 36.

Please proceed as follows:

- Only placeholders for data and readings are shown in the Editor and Preview tabs

and on the printout of a form within the form designer. The form boxes are only filled with data and readings when the respective measurement is printed.

- The following steps are required for entering readings, acquired using the analysis function, in the form (see *Measure values*, p. 29, *Analysis* section):
 - 1 Carry out sample measurement for measure type.
 - 2 Select the **Reporting** button in the **Display measurement data** module, **Measure values** tab and activate the required functions.
Optional: If the analysis functions are to be applied to certain ranges, define the required ranges, for example, in the readings table (Range 1 to 3) (via context menu: ).
 - 3 Print measurement using **[Print]** → **[OK]** (a white sheet will be printed if form boxes have not been set up).
 - The analysis functions are allocated to the measure type during printing and are available as data boxes in the form editor.

Save form

The saved form is used to print records of the measure type activated.

- ▶ **[Save]**

Save form as template

Stored forms can be used as a template for additional forms and to restore to original states if modified by mistake (backup copy).

- ▶ **[Backup as ...]** → Enter Form name → **[OK]**

Restore form

Restored forms can be used as a template for other forms and to restore to original states if modified by mistake (backup copy).

- ▶ **[Restore form ...]** → Select form name → **[OK]**

Delete form template

- ▶ **[Restore form ...]** → Select form name → **[Del]** (Keypad).

Print form

- ▶ **[Print]**
 - The form is printed as it is shown in the **Preview** folder.

E.6.4.1 Field, Font, Border, Page

The box properties of the form boxes (field type, font and margin) and the page properties can be changed in the tabs.

! The displayed properties for box, font and margin are valid for the form box which is selected in the **Editor** tab (in the same module).

Set up box type

- ▶ Select box type in **Field** (🔍):
 - **Textfield**: Text is entered in the form box.
 - ▶ Enter text in the text box.
 - **Data field**: The selected data box value stored in the database (reading, folder or system data) is entered in the form box.
 - ▶ Select data box (▼).
 - **Graphics (Logo)**: The selected graphic is entered in the form box.
 - ▶ Select graphic: **[File ...]** → Select file → **[Open]**
 - **Chart (measured data)**: The measurement protocol readings stored in the database are input as diagram.
 - **Table**: The measurement protocol readings stored in the database are input in form in the form box.

By marking the printing area, you can determine which area of the table will be printed.

- ▶ **Select printing area** (▼): Limit printing area or print out entire table
- ▶ **Select range of table to be printed** (▼): Select individual areas or print out entire table
- ▶ **Select data of table to be printed** (▼): Select the data to be printed

Determining the font

! This function is only available if the **Textfield** or **Data field** box type is selected.

- ▶ Select font in **Font** (🔍):
 - **Standard font**: The standard font set in the Page folder is used.
 - **Special font**: A font deviating from the standard font is used.
 - ▶ Select font: **[Font ...]** → Set values → **[OK]**
 - **Barcode**: The "Barcode" font is used.
- ▶ Select alignment in the **Alignment** text box (▼).

Border settings

- ▶ Select border properties for the form box in **Border** (▼).

Page settings

Page properties and the form standard font can be changed in the **Page** folder.

- ▶ Input and set page properties (.
- ▶ Define standard font: **[Default font ...]** → Adjust values → **[OK]**

E.6.4.2 Editor

Form boxes can be inserted, modified in size and deleted in the **Editor** tab.

Insert new form box

- ▶ Select corner point of form box on a free area of the form (keep pressed) → Drag form box until it is the right size → End input, release

Move form box

- ▶ Select form box (and then keep pressed) → Move form box to required position → End moving, release.

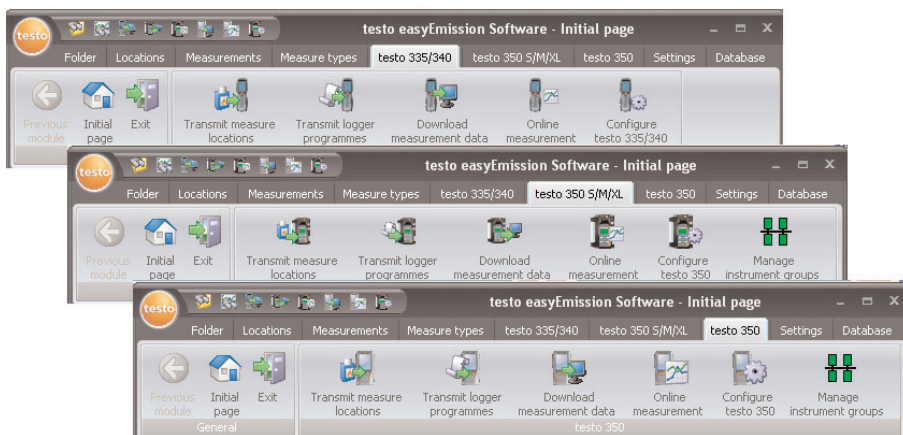
Delete form box

- ▶ Highlight form box → **[Del]** (keypad).

E.6.4.3 Preview

A preview of the form is shown in the **Preview** tab.

E.7 testo 335/340, testo 350 S/M/XL, testo 350



E.7.1 Transmit measure locations

Locations can be transmitted to a Control Unit testo 350 S/M/XL / testo 350 or a testo 335, testo 340 using the **Transmit measure locations** module.

testo 350 S/M/XL: only: If there is no Control Unit in the system (Connection via USB Databus-Controller) this function is not available.

Opening the module

► **testo 335/340, testo 350 S/M/XL, testo 350** →  /  /  **Transmit measure locations**

The **Transmit measure locations** module is divided into two areas. The **Measure locations on PC** tab is located in the upper area while the **Measure locations on instrument** tab is located in the lower area.

E.7.1.1 Measure locations on PC

The **Measure locations on PC** tab shows the locations saved on the PC.

Search for a specific location

► Enter search criterion in a search box → Start search: **[Search]**

Transmit location(s) to measuring instrument

Options:

- ▶ Select all locations: **[Select all]**
- ▶ Cancel location selection: **[Select none]**
- ▶ Select location(s) ☒ → **[Transmit]**

Display location

- ▶ Activate location → **[Display]**
- The **Show measure location data** module is opened, see *Show measure location data*, p. 23.

Change location

- ▶ Activate location → **[Changes]**
- The **Change measure location data** module is opened, see *Change measure location data*, p. 25.

E.7.1.2 Measure locations on instrument

The **Measure locations on instrument** tab shows the locations which are saved in the instrument.

Select location(s)

- ▶ Select location(s) ☒ → **[Delete]**

The selected locations are deleted together with the associated measurement data.

Activating location(s)

- ▶ Select location ☒ → **[Activate]**

The activated location is filled up with measurement data from the instrument.

Options:

- ▶ Select all location(s): **[Select all]**
- ▶ Cancel location selection: **[Select none]**

E.7.2 Transmit logger programmes

Opening a module

- ▶ **testo 350, testo 335/340**  →  /  **Transmit logger programmes** .

The **Transmit logger programmes** module is divided into two sections. The **logger programmes on PC** tab is located in the upper section while the **logger programmes on instrument**, tab is located in the bottom section.



Transmit logger programmes to measuring instrument

There are always 6 programs saved on every measuring instrument. If a programme is transmitted to a measuring instrument, an existing programme is always overwritten. A programme can be transmitted simultaneously to several instruments in instruments of type testo 350.

The programme names are accepted in testo 335, testo 340 and testo 350, while in testo 350 S/M/XL the standard names available are shown in the instrument.

- 1 Select logger programmes **on instrument** which is/are to be overwritten.
- 2 Select logger programmes on PC which is to be overwritten → **[Transmit]**

Activating logger programmes on instrument

Only 1 measurement programme per instrument can be activated.

- ▶ Select logger programmes on instrument (☒) → **[Activate]**

E.7.3 Download measurement data

Measurement protocols stored in measurement instruments can be transmitted to your PC using the **Download measurement data** module.

Open module

- ▶ **testo 335/340, testo 350 S/M/XL, testo 350** → / / **Download measurement data** ().

Measurements in instrument

Options:

- ▶ Select all **measurements in instrument**: **[Select all]**
- ▶ Cancel selection of **measurements in instrument**: **[Select none]**

! Ensure correct selection of the measure type to which the measurement(s) are allocated; this regulates allocation to formulae. Your selection cannot be changed at a later stage. Allocation to a measure type is automatic in instruments of type testo 335, testo 340 using measurement program name(s).

- 1 Only testo 350: Select **Measure type** ().
- 2 Select **measurements in instrument**: (☒) → **[Read]**
 - The measurement protocol is saved on your PC at the same location as in the instrument. If the location of the selected measurement protocol is not available on your PC, you will be asked if it should be set up.

-or-

- 2 Select **measurements in instrument**: (☒) → **[Download as ...]** → Select target location → **[OK]**

Delete measurements in instrument

- ▶ Activate **measurements in instrument** → **[Delete]** → **[Yes]**
- The measurement is deleted.

Display measurements in instrument

! If the selected location was not saved on the PC, this function is not available.

- ▶ Select **measurements in instrument**: ☒ → **[View]**
- The **Display measurement data** module is opened, see *Display measurement data*, p. 27.

! If the incorrect interface was inadvertently selected when installing the software, the message No connection to the testo 350/testo335 system found appears.

- ▶ **Configure testo 335/340, testo 350 S/M/XL, testo 350** → Select interface 

E.7.4 Online measurement

Using the **Online measurement** module, up to 9 flue gas measurements can be carried out simultaneously; instrument control is via PC. Readings are transmitted directly to your PC and then shown.

! Flue gas analyzers testo 350 S/M/XL and flue gas analyzers testo 350 **cannot** be used together for parallel online measurements.

testo 350 S/M/XL and testo 350: only: When carrying out a measurement with several flue gas analysers, instrument groups can be set up which can be controlled by the software like a separate instrument, see *Manage instrument groups*, p. 47.

testo 350 S/M/XL und testo 350: only: If a flue gas analyser is configured in several instrument groups, there may be reciprocal influencing of the program if online measurements are running simultaneously (e.g. rinse phases may apply to flue gas analysers, not to instrument groups).

Opening the module

- ▶ **testo 335/340, testo 350 S/M/XL, testo 350** →  /  /  **Online measurement**
- The folder with Online measurement number **1** is opened.

Options:

- ▶ Set up new Online measurement folder: **+**
- ▶ Display other Online measurement (on folder number).

Carry out Online measurement

! Only parameters and measurement units are shown which are activated in the **Display order** tab (in the same module).

The smallest possible measurement cycle depends on the type of connection and number of instruments which have to be read out from the software:

- testo 335, testo 340: 1 sec.
- testo 350 S/M/XL, serial connection: 5s, 5s for each additional flue gas analyser
- testo 350 S/M/XL, USB connection: 1s per flue gas analyser
- testo 350: 1s

If the measurement cycle is set to 0 sec., the readings in the **Display** tab are continuously updated but not saved.

1 Select **Measure type** to which the measurement is to be allocated (▼)

2 Set **Measurement cycle** (⏱)

testo 350 S/M/XL und testo 350: only:

3 Select instrument group from which readings are to be read (▼🔍)

4 Only when a user-specific measure type has been selected for which an **Online (testo 350 S/M/XL, testo 350)** logger program has already been set up: **manually** (☐) accept already configured online measurement from the measure type, ☒ (configure online measurement manually)

5 Start measurement: **[Start]** or **[Start all sessions]**

- Online measurement starts (initialisation phase may possibly run first)
- Readings are displayed as table (**Measure values** tab), display boxes (**Display** folder) or graphic (**Chart** tab), see *Measure values*, *Display*, *Chart*, on this page.

6 End measurement: **[Stop]** oder **[Stopp all sessions]**

E.7.4.1 Measure values, Display, Chart

· **Measure values** tab: Table with all measurement channels and data/time of single measurements.

- ▶ Save readings in Online location: **[Save as...]**
- ▶ Export readings to Microsoft Excel (Microsoft Excel 2000 or newer required!): **[Export Excel]**
- ▶ Export readings to clipboard (text file separated by tab stop): **[Clipboard]**

· **Display** tab: Display fields with all measurement channels.

- ▶ Save readings manually (only available if measurement cycle is set at 0s): **[Save]**
- ▶ Alter size of display windows: Drag slide control (🔍).
- ▶ During a measurement, Mean values, Max values, Min values can be displayed instead of the actual values: **[Actual values]** (▼)
- ▶ Show large display boxes: **[extra large]** (☑)
- ▶ Display measurement values in separate window which is always on top: **show mini window** (☑).

- Chart folder: Measurement diagram with four selectable measurement channels and automatic scaling of the time axis.

- ▶ Adjust diagram characteristics (displayed channels, line colour, scale): **[Settings]**
- ▶ Save diagram as bitmap file: **[Save bitmap]**



[Save bitmap] → Enter file name () → Select file type () → **[Save]**

E.7.4.2 Display order

The measurement channels available are shown in the **All channels** area. Only the parameters and measuring units are available which are in the current display sequence of the measuring instrument

The measurement channels, which appear on your PC during online measurement, are shown in the **Shown channels** area.


Setting up the display sequence

- ▶ Add/delete measurement channels: **[Add ->]**, **[Add all ->]**, **[<- Delete]** or **[<- Delete all]**
- ▶ Arrange order of measurement channels: Select measurement channel → **[Up]** or **[Down]**
- ▶ If necessary enter the value for the alarm limit: Exceed lower limit (), Exceed upper limit ()

E.7.4.3 Instrument control

testo 350 S/M/XL, testo 350

Some functions for instruments of type **testo 350 S/M/XL**, **testo 350** can be controlled manually. The functions apply to measuring instruments but not instrument groups.

- ▶ Select instruments which are to be controlled manually: select instrument(s) (), **[Select all]** or **[Select none]**
- ▶ Start flue gas measurement: **[Flue gas measurement]**
- ▶ Start fresh air phase (only in instruments with fresh air valve option): **[Fresh air]**
- ▶ Start zeroing: **[Zeroing]**
- ▶ Set dilution factor (only in instruments with fresh air valve or measurement extension CO option) (CO: testo 350 S/M/XL; for single slot: testo 350): **[Dilution...]** → Set factor (**1** = dilution off, **2** to **40** and **automatic** = CO dilution; **all sensors** = dilution on everything) → **[OK]**
- ▶ Start differential pressure measurement: **Difference Pressure**. Values are internally stored and added to the table.
- ▶ Start fine draught: **[Fne draught]**

testo 335, testo 340, testo 350

Flow velocity and differential pressure can be selected in addition to flue gas measurement.

- ▶ Start flue gas measurement: **Fluegas measurement** (🔍) → [Start]
- ▶ Start flue gas measurement + m/s: **Fluegas measurement + m/s** (🔍) → [Start]
- ▶ Start flue gas measurement + Δp : **Fluegas measurement + Δp** (🔍) → [Start]

! For flow velocity/differential pressure measurements: Before a measurement, carry out the measurement location settings (Pitot tube factor and correction factor). Do not measure for longer than 5 mins, as pressure sensor drift can lead to measurement values outside the tolerance limits.

E.7.5 Configure testo 335/340, testo 350 S/M/XL, testo 350

Open a module

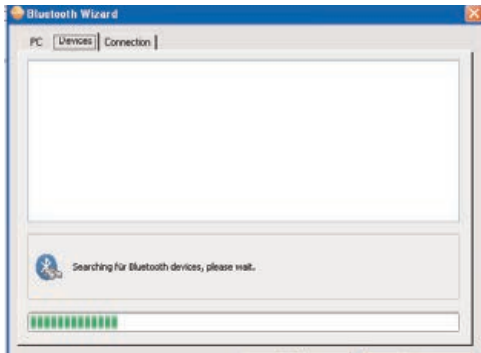
- ▶ **testo 335/340, testo 350 S/M/XL, testo 350** →  **testo 335/340 konfigurieren**,  **testo 350 S/M/XL konfigurieren**,  **testo 350 konfigurieren**

Select connection type

Select flue gas analyzer and type of connection: (🔍)

If the connection type Bluetooth has already been selected, the Bluetooth assistant starts automatically. In order to be able to select a different connection type, cancel the assistant or deactivate the Bluetooth module of the PC before starting the easyEmission software.

- Bluetooth assistant starts automatically → all Bluetooth instruments in the surrounding area are searched



- ▶ Select the desired Testo measuring instrument (testo 335, testo 340, testo 350 S/M/XL, testo 350) → connection is set up.

! If the required instrument is not found, the search procedure must be repeated.

- ▶ Only testo 350 with connection via RS232: Select **Port** used (.

E.7.5.1 Measuring instruments (testo 350S/M/XL, testo 350 only)

The instruments connected are displayed. In this way, the configuration settings of all system components can be quickly called up and changed in a bus system (only with Control Unit testo 350 XL and testo 350).

- ▶ Select instrument whose Configure data is to be displayed/modified.

E.7.5.2 Showing configuration data / changing configuration


- ▶ Select tab
- The Configure **data** available is shown in separate tabs whose name corresponds to the function name in the menu of the measuring instrument.

In some tabs modifications can be made to the configure. The modification options correspond as far as possible to those in the measuring instrument menu, see *Instruction manual for measuring instrument*.

Sensors

The sensors of the instrument can be calibrated and adjusted. On the **testo 350** the measuring accuracy for sensors showing cross-sensitivity to other gases, can additionally be optimized. This is accomplished via cross-sensitivity adjustments (only possible with the testo easyEnmission software)..

Notes on the operation sequence calibration / adjustment / cross-sensitivity adjustment:

- 1 Select the sensor to be calibrated / adjusted (left hand selection bar)→
[Calibration / Adjustment].
- ▶ If password protection is activated: Enter the password → **[Next]**.
- 2 Select the desired function (.
- 3 Enter the test gas concentration (nominal value) → **[Next]**.
- 4 Apply test gas to the gas inlet of the meas. box→ **[Next]**.
- 5 If the indicated measurement value (actual value) is stable:
[Cancel].(perform calibration only, no adjustment)
-oder-
[Apply] (Adjustment).

Notes on optimization of measuring accuracy (only testo 350):

For the following sensors there is a cross-sensitivity to other gases:

Sensor	Cross-sensitivity to
NO	NO ₂
CxHy	CO
H ₂ S	CO, NO, NO ₂ , SO ₂
NO ₂	H ₂ S
SO ₂	NO ₂ , CO

- ! In SO₂ measurement NO concentrations >1000 ppm and simultaneous O₂ concentrations >5 % in the measuring gas lead to a reduced measuring accuracy. This cannot be influenced by adjusting the cross-sensitivity.

Recommendations for optimizing the measuring accuracy of a sensor:

- ! Only optimize the measuring accuracy when the measuring instrument is equipped with the sensors to which the sensor to be optimized has a cross-sensitivity.

- 1 Adjust the sensors to which the optimized sensor has a cross-sensitivity.
The test gas should have a concentration which corresponds with the expected concentration in the measuring gas.
- 2 Adjust the cross-sensitivity of the sensor to be optimized to all gases, to which the sensor has a cross-sensitivity.
The test gas should have a concentration which corresponds with the expected concentration in the measuring gas.
- 3 Adjust the cross-sensitivity of the sensor to be optimized to all gases, to which the sensor has a cross-sensitivity.

The test gases should have the following properties:

Optimization of sensor	Cross-sensitivity-adjustment to	Test gas properties
NO	NO ₂	Test gas concentration at the level of the expected NO ₂ concentration in the measuring gas; if unknown: approx. 80...100ppm NO ₂ ; rest: synthetic air, no NO or O ₂ components.
CxHy	CO	Test gas concentration at the level of the expected CO concentration in the measuring gas; if unknown: ca. 500...2000ppm CO; rest: synthetic air
H ₂ S	CO	Test gas concentration at the level of the expected CO concentration in the measuring gas; if unknown: approx. 100...300ppm CO; rest: synthetic air
H ₂ S	NO	Test gas concentration at the level of the expected NO concentration in the measuring gas; if unknown: approx. 100...300ppm NO; rest: synthetic air
H ₂ S	NO ₂	Test gas concentration at the level of the expected NO ₂ concentration in the measuring gas; if unknown: approx. 80...100ppm NO ₂ ; rest: synthetic air, no NO or O ₂ components.

Optimization vof sensor	Cross-sensitivity- adjustment to	Test gas properties
H2S	SO2	Test gas concentration at the level of the expected SO2 concentration in the measuring gas; if unknown: approx. 100...300ppm SO2; rest: synthetic air
NO2	H2S	Test gas concentration at the level of the expected H2S concentration in the measuring gas; if unknown: approx. 100...300ppm H2S; rest: synthetic air
SO2	NO2	Test gas concentration at the level of the expected NO2 concentration in the measuring gas; if unknown: approx. 120ppm NO2; rest: synthetic air, no NO or O2 components
SO2	CO	Test gas concentration at the level of the expected CO concentration in the measuring gas; if unknown: ca. 80...1000ppm NO2; rest: synthetic air

E.7.6 Manage instrument groups (testo 350 S/M/XL and testo 350 only)

Several flue gas analysers can be pooled to form an instrument group for online measurements. Each instrument or individual measurement channels in the instrument can then be allocated to several instrument groups.

Opening a module

► **testo 350 S/M/XL, testo 350** →  **Manage instrument groups**

The **Manage instrument groups** module is divided into two sections. The **Available instrument groups** tab is located in the upper section while the **Configure instrument group** tab is located in the lower section.

Setting up instrument group

! Ensure that the instrument group name is entered correctly. It cannot be changed at a later stage.

► **[New]** → Enter name → **[OK]**

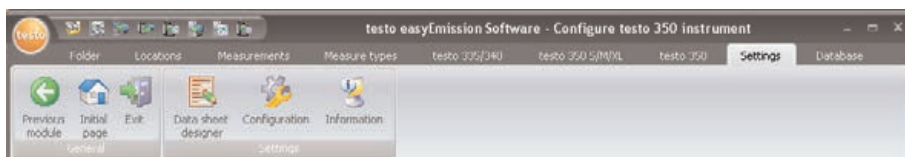
Deleting instrument group

► Select instrument group (on name) → **[Delete]**

Editing instrument group

- 1 Select instrument group (on name).
 - The instrument group selected is highlighted in colour. The configuration of the instrument group is shown.
- 2 Activate measurement channels of all instruments or certain instruments (☒) or deactivate (☐) .
- 3 Save modified configuration: **[Save]**.

E.8 Settings



E.8.1 Data sheet designer

! The module **Data sheet** can only be opened when the menu **Use data sheet** (**Settings** - **Configuration** - **Programme**) is activated. The formulae are always allocated to the activated measure type.

Opening module

► **Settings** →  **Data sheet designer**

The **Data sheet designer** module is separated into two areas. The **Field**, **Font**, **Border** and **Page** tabs are located in the left area while the **Editor** and **Preview** tabs are located in the right area.

Create/process data sheet

The elements and features of the form can be set up or edited using the functions in the **Field**, **Font**, **Border** and **Page** tabs.

Save data sheet

The saved form is used to print records of the measure type activated.

► **[Save]**

Save data sheet as template

Stored forms can be used as a template for additional forms and to restore to original states (backup copy).

► **[Backup as ...]** → Enter data sheet name → **[OK]**

Restore data sheet

Restored data sheets can be used as a template for other data sheets and to restore to original states (backup copy).

► **[Restore data sheet ...]** → Select data sheet name → **[OK]**

Print data sheet

► [Print]

- The **data sheet** is printed as it is shown in the **Preview** folder.

E.8.1.1 Feld, Schrift, Rahmen, Seite

The box properties of the form boxes (field type, font and margin) and the page properties can be changed in the tabs.

- ! The displayed properties for box, font and margin are valid for the data sheet box which is selected in the **Editor** tab (in the same module).

Set up box type

- Select box type in **Field** (👁):
 - **Textfield**: Text is entered in the form box.
 - Enter text in the text box.
 - **Graphics**: The selected graphic is entered in the form box.
 - Select graphic: **[File ...]** → Select file → **[Open]**
 - **Logo**: The logo stored under **Settings - Configuration - Own data** is inserted.
 - Enter Logo into the text or input field.
 - **Chart (measured data)**: The measurement protocol readings stored in the database are input as diagram.
 - Enter parameter.
 - **Entry field**: Establishes input fields with conditions.
 - Enter conditions.
 - **Check box**: Create checkbox with conditions.
 - Enter conditions.
 - **Button**: Create button with description.
 - Enter description.

Determining the font

- ! This function is only available if the **Textfield**, **Entry field** or **Check box** type is selected.

- Select font in **Font** (👁):
 - **Standard font**: The standard font set in the Page folder is used.
 - **Special font**: A font deviating from the standard font is used.
 - Select font: **[Font ...]** → Set values → **[OK]**
 - **Barcode**: The "Barcode" font is used.
- Select alignment in the **Alignment** text box (▼).

Border settings

- ▶ Select border properties for the form box in **Border** ()

Page settings

Page properties and the form standard font can be changed in the **Page** tab.

- ▶ Input and set page properties ()
- ▶ Define standard font: **[Default font ...]** → Adjust values → **[OK]**

E.8.1.2 Editor

Form boxes can be inserted, modified in size and deleted in the **Editor** tab.

Insert new form box

- ▶ Select corner point of form box on a free area of the form keep pressed) → Drag form box until it is the right size → End input, release

Move form box

- ▶ Select form box (and then keep pressed) → Move form box to required position → End moving, release.

Delete form box

- ▶ Highlight form box → **[Del]** (keypad).

E.8.1.3 Preview

A preview of the form is shown in the **Preview** tab.

E.8.2 Configuration

Opening the module

- ▶ **Settings** () →  **Configuration** ()

E.8.2.1 Instruments

The instruments which are to be supported by the software can be selected in the **Instruments** tab.

- ▶ Activate required instruments ()

E.8.2.2 Initial page

The modules that are to be displayed on the initial page can be selected in the **Initial page** tab.

Adding or removing a module


- ▶ **Initial page** → Mark module → **[Add]** or **[Delete]**

Standard module (Factory setting)

- ▶ **Initial page** → **[Default]**

E.8.2.3 Units

The units for temperature, length and printing are defined in the **Units** tab.

- ▶ **Units** → Select unit () → **[Save]**.

E.8.2.4 Special location data

The **Special location data** tab offers the option of creating additional fields for designating a location. The defined information fields are added in the **Installation** folder in the **Change measure location data** module.

- 1 **Special location data** → Enter a field designation.

Option:

- ▶ Create a selection list with preset values for the field.

- 2 **[Save]**

E.8.2.5 Programme

The user-specific programme settings can be made in the **Programme** tab.

Use folders and measurement locations

Data are saved under folders and measurement locations used

- ▶ **Use folders and measure locations:** ()

Use only measurement locations

Data are stored only in the form of individual measurement locations

- ▶ **Use measure locations only** ()

Use data sheet

Data on a system can be displayed as a data sheet

- ▶ **Use data sheet** ()

Show measurement data during the fresh air phase of testo 350

During the fresh air phase, data are displayed not only with "---"

- ▶ **Show measure value during fresh air phase of testo 350** ()

E.8.2.6 Own data

Your own address data can be input in the **Own data** folder.

- ▶ **Own data** → Enter/change address data.

E.8.2.7 Color scheme

The monitor presentation can be selected in the tab **Colour scheme**.

- ▶ Select desired monitor presentation (.

E.8.2.8 Software update

In the tab **Software**, the regular automatic software check can be activated.

- ▶ **Check automatically for software updates** 

! An internet connection is required for the regular check.

E.8.2.9 Language

The country specific language can be selected in the tab **Language**.

- ▶ **Use language selected in the regional settings of the operating system:** ()
- ▶ **Use selected language:** ()

E.8.2.10 Backup


Presettings for data backups are made in the **Backup** tab.

! To protect your data from a fault in the hard disk, your backup files should be saved on another data carrier.

Select directory for backup files

- ▶ **[Search]** → Select directory → **[OK]**

Determine backup methods

- ▶ **Full backup** () → Select Storage interval
- ▶ **Changes backup** () → Select Storage interval

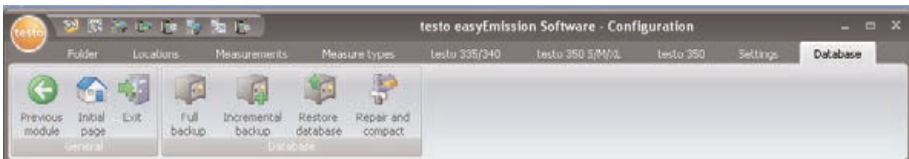
E.8.3 Information

The **Information** module contains 4 folders in which important information for the PC used and for the software is shown. This information is important if you contact our hotline and will help us to diagnose the fault.

Open a module

- ▶ **Settings** →  **Information**

E.9 Database



E.9.1 Full backup

- 1 Full backup of data: **Database** → **Full backup**
- 2 Confirm **Information 3010**: [OK]

E.9.2 Incremental backup

- 1 Save changes since last data backup: **Database** → **Incremental backup**
- 2 Confirm **Information 3009**: [OK]

E.9.3 Restore database

- 1 **Database** → **Restore database**
- 2 Restore data: Select time for restore → [OK]
- 3 Confirm **Information 3013**: [OK]

E.9.4 Repair and compact

Faults in the database occurring after a system crash or power failure can be corrected.

- Repair faults in database: **Database** → **Repair and compact**



F. Questions and answers

Question	Possible reasons	Answer
Uninstall software.	-	► Use Windows uninstall routine.
Failure in setting up the Bluetooth® connection using the Bluetooth® wizard	- System related problems	► Setting up the Bluetooth® connection manually, see below: Manual setup of a Bluetooth® connection

Manual setup of a Bluetooth® connection

The handling steps required to do this vary depending on which PC Bluetooth® module and operating system are used. Typically, the input template / installation assistant are called up via:

- The Bluetooth® symbol in the task bar: Bluetooth® symbol
- Windows XP: Start symbols > Programs > Program group "Bluetooth" or similar
- Windows Vista: Start symbols > System control > Hardware and sound > Bluetooth
- The password or the pass key for the instrument identification for all testo instruments is: 1234

If necessary, also refer to the documentation of your Bluetooth® module or operating system.

If your query was not included, please contact your nearest distributor or Testo's Customer Service. You will find contact details in our Warranty booklet or in Internet at www.testo.com.



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