



ComSoft testo 174 · Software

Instruction manual



1 Contents

1	Contents	3
2	About this document.....	4
3	Specifications	5
	3.1. Use	5
	3.2. System requirements.....	5
4	First steps	6
	4.1. Downloading software	6
	4.2. Installing the software/driver	6
	4.3. Starting the software.....	7
	4.4. Setting up a connection	7
5	Using the product.....	8
	5.1. User interface	8
	5.2. Menus.....	9
	5.2.1. Start.....	9
	5.2.2. Edit	10
	5.2.3. Extras	11
	5.2.4. Style.....	12
	5.2.5. Help (?).....	12
	5.3. Configuring the logger	12
	5.3.1. Opening a connection	12
	5.3.2. Performing settings	13
	5.3.3. Disconnecting	16
	5.4. Analyzing series of measurements.....	16
	5.4.1. Graphic view.....	16
	5.4.1.1. Enlarging the view.....	17
	5.4.1.2. Information on a reading (crosshairs).....	17
	5.4.1.3. Characteristics of a curve.....	17
	5.5. Creating evaluations	22
	5.5.1. Printing measurement data	22
6	Tips and assistance.....	23
	6.1. Questions and answers	23

2 About this document

Use

- > Please read this documentation through carefully and familiarize yourself with the product before putting it to use. Pay particular attention to the safety instructions and warning advice in order to prevent injuries and damage to the products.
- > Keep this document to hand so that you can refer to it when necessary.
- > Hand this documentation on to any subsequent users of the product.



Knowledge of Windows® operating systems is required when working with the software.

Symbols and writing standards

Representa- tion	Explanation
	Note: Basic or further information.
1. ...	Action: more steps, the sequence must be followed.
2. ...	
> ...	Action: a step or an optional step.
- ...	Result of an action.
Menu	Elements of the program interface.
[OK]	Buttons of the program interface.
... ...	Functions/paths within a menu.
“...”	Example entries

3 Specifications

3.1. Use

The ComSoft testo 174 software is used for storing, reading out and evaluating individual readings and series of measurements. The graphical presentation of readings is the main task of this program.

Readings are measured with Testo measuring instruments and transmitted via the serial interface to the PC.

They are read out using the ComSoft testo 174 software, which activates the interfaces and provides all functions.

3.2. System requirements

Operating system

The software can be run on all operating systems as of Windows®2000 SP4.

Computer

The computer must meet the requirements of the respective operating system. In addition, the following requirements must be met:

- USB 1.1 or higher interface
- Internet Explorer 5.0 SP1 or higher

4 First steps

4.1. Downloading software

i The ComSoft testo 174 software can be ordered on CD (article no. 0572 0580) if the download from the Internet is not desired.

1. Download ComSoft testo 174 software in the Internet free of charge at www.testo.com, **International**, **Service&Support** | **Download Center** (registration required).
2. Save Zip file with software.

4.2. Installing the software/driver

i Administrator rights are required for installation.

Installing the software

1. Select the folder in which the downloaded Zip file was saved.
2. Extract Zip file.
3. Start **Setup.exe** file.
4. Follow the directions of the installation wizard.

When installing under Vista, note the following steps during the installation procedure:

- The **User Account Control** window opens.
 - > Click on **[Continue]**.
 - The **Windows Security** window opens.
 - > Select **Install this driver software anyway**.
5. To finish the software installation, click on **[Finish]**.

Installing the driver

1. Select the folder in which the extracted Zip file was saved.
2. Start **Setup USB Driver.exe** file.
3. Follow the directions of the installation wizard.
4. To finish the driver installation, click on **[Finish]**.

4.3. Starting the software

Starting ComSoft

i The user interface of the software is opened in the language of the operating system if this is supported. If the operating system language is not supported, the user interface is in English.

i IF you have already installed a ComSoft version (e.g. ComSoft V4 Basic) on the computer, you can also use this with the loggers testo 174T and testo 174H after the installation of ComSoft testo 174.

> Click on **[Start] | Programs** (Windows XP) or **All Programs** (Windows Vista) | **Testo | Comfort Software**.

i Under Windows Vista, the **User Account Control** window is opened during the initial start of the software.

> Click on **Allow**.

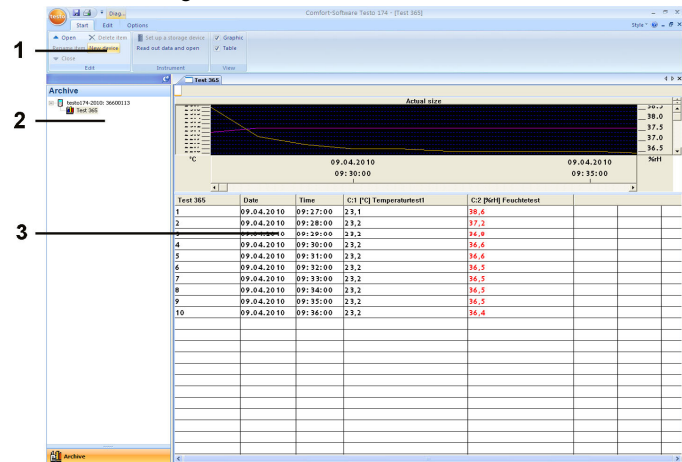
4.4. Setting up a connection

- ✓ Software ComSoft testo 174 is installed, see Installing the software/driver page 6.
- ✓ Data logger is connected to the PC via interface, see separate instruction manual.
- 1. Start ComSoft testo 174 software.
- 2. Select **Start > New device**.
 - The **New device setup wizard** window opens.
- 3. Select testo 174-2010 in the list of instruments and click on **Continue**.
- 4. Enter names for the connection and click on **Finish**.
 - The connection to the data logger is set up. The name of the connection appears in the **Archive** window.
- 5. Confirm with **OK**.

5 Using the product

5.1. User interface

In this chapter, you learn how the user interface of the ComSoft testo 174 is designed.



1 Ribbon

The ribbon helps you to carry out modifications and settings and to find the relevant functions and commands quickly.

Menu	Explanation
	All functions that you require to open, close, save, delete and print. Using this menu, the program can also be ended.
	Saves the current selection in a file.
	Prints the current view.
	Setting options for the menu bar.

The functions and commands are divided into different groups on the following tabs: **Start**, **Edit** and **Extras**.

Start	Functions for editing the measurement data records, for the evaluation and for the view
--------------	---

Edit	Functions for evaluating the graphics or tables and possible settings for the curves in the graphic view.
Extras	Setting options for the font in the tables and graphics and display of the service data.

2 Data range

The measurement data are managed in the data range.

3 Display range

The readings are displayed as diagrams and tables in the display range.

5.2. Menus

In this chapter you will learn which menus are available to you.

5.2.1. Start

Start | Edit menu

Menu function	Description
Open	Opens the marked element; e.g. the data from a group.
Rename	Renames the marked element.
Delete	Deletes the marked element.
Close	Closes the marked element; e.g. the data from a group.
New Instrument	Set up new instrument.

Start | Instrument menu

Menu function	Description
Instrument control	The configuration page corresponding to the selected instrument is shown. These are tuned to the respective instruments and provide the respective setting options.
Read out data and open	Save a created protocol in the display range to the hard disk and open it.

Start | View menu

Menu function	Description
Graph	Activate/deactivate the graphic representation of the data.
Table	Activate/deactivate the tabular representation of the data.

5.2.2.

Edit**Edit in the graphic view**

The **Edit** (graphic) menu is only shown if the graphic is activated by clicking in the window.

Edit | Tools (graphic) menu

Menu function	Description
Zoom in	Drag to form a rectangle in the graphic window to zoom in on the highlighted area. Click on [Original size] to display the graphic in its total size again.
Crosshairs	Crosshairs with which the curve can be followed are shown by clicking on a point of the measurement curve. The date, time, reading number and reading are shown in the process.
Edit pattern	Is used in graphics to set the background and gridline colour as well as to change the line type of the grid.

Edit | Curves (graphic) menu

Menu function	Description
K:1 [°C]	Legend for the graphic. Click on the entry of a curve and the dialogue for the characteristics of the curve is opened.

Edit | Axes (graphic) menu

Menu function	Description
Upper limit value range	Maximum of the shown range of values.
Lower limit value range	Minimum of the shown range of values.
Grid	Scaling of the value axis.

Edit | Time axis (graphic) menu

Menu function	Description
Grid	Scaling of the time axis.

5.2.3. Extras**Extras | Font menu**

Menu function	Description
Font	Setting the font for the tables and graphics.
Font size	Setting the font size for the tables and graphics.



When selecting the font and font size, take into account the legibility of the graphics and tables. Use sans-serif fonts such as Arial or Verdana.

Extras | Service menu

Menu function	Description
Display service data	<p>Creates a text file with the required information for Customer Service if servicing is required.</p> <p>i If the service data cannot be displayed under Windows® Vista, start the WordPad program and save, for example, an empty file of your choice in *.wri format. To do so, manually enter the file extension behind the file name.</p> <p>A link is thus formed between the file and the service data and WordPad.</p>

5.2.4. Style

Selection of the colour scheme for the program window.

5.2.5. Help (?)

Display copyright, program information and version number.

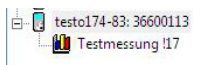
5.3. Configuring the logger

5.3.1. Opening a connection

- ✓ Software ComSoft testo 174 must be installed and started.
- > In the **Archive** window, double click on the connection that is to be opened.



- If a measurement protocol is stored in the data logger, the stored data are transferred and the protocol icon and the short name of the protocol will appear under the opened connection.



Use one connection for several data loggers

- i** You can connect various data loggers via a set-up connection. When changing the data logger, the connection must be disconnected and then reopened for the new data logger, as otherwise this cannot be identified by the software (see Disconnecting page 16)
-

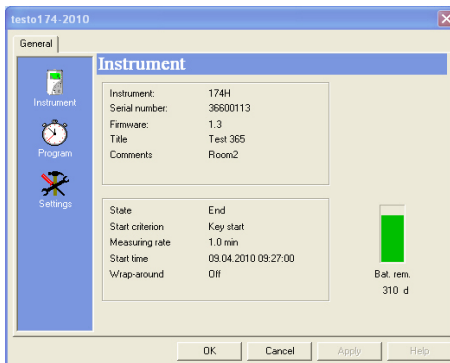
5.3.2. Performing settings

- > Select **Start > Instrument control**.

This function is only activated if the name of the connection is highlighted in colour. If this is not the case:

- > First click on the name of the connection so that this is highlighted in colour and then select **Start > Instrument control**.

- The window for programming the data logger opens.



Instrument

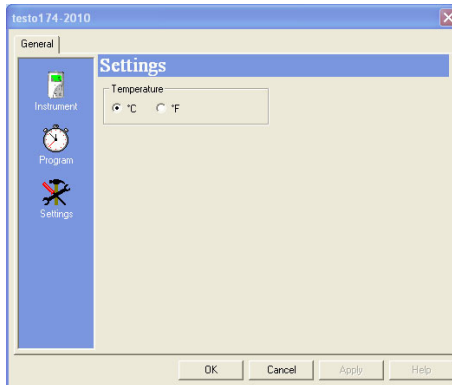
You can read general information about the data logger in the **Instrument** window.

This window serves as an information window. No programming can be carried out here.

- i** We recommend first performing the programming in the **Settings** window and then in the **Program** window.
-

Settings

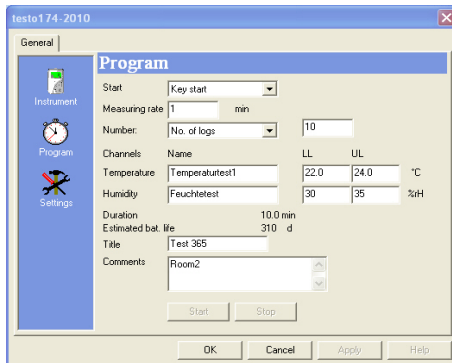
> Select **Settings**.



- Temperature:
 - > Select the desired temperature unit (°C or °F).

Measurement program

> Select **Program**.



- Start criterion:
 - > Select the desired criterion for starting the measurement program:
 - Date/time
 - Button start
 - PC start.

- Measuring rate:
 - > Select the cycle at which the measurements should be performed.
- Stop criterion:
 - > Select the desired criterion for stopping the measurement program:
 - Memory full
 - No. of measurements
 - Ring memory.
- Channel des.:
 - > Enter name for the measurement channels.
- LL:
 - > Enter the lower limit value.
- UL:
 - > Enter the upper limit value.
- Duration:

Specifies the running time of the measurement program which was calculated based on the start criterion, measuring rate and stop criterion values.
- Battery life:

Specifies the expected battery life.
- Short name:
 - > Enter short name for the measurement program (maximum 15 characters).

The short name of the measurement program is applied in the ComSoft testo 174 software when reading out the data logger.
- Info:
 - > Enter additional information on the measurement program (maximum 70 characters).
- Start and stop:
 - > Click on **Start** to start a measurement program.



This function can only be selected if PC-Start was selected as the start criterion and the measurement program was transferred to the data logger (see following section: Finishing programming).

- > Click on **Stop** to end a measurement program.



This function can only be selected if a measurement is being performed (data logger in operating status **Rec**).

Finishing programming

- ✓ The data logger is in the operating status **Wait** or **End**.
 1. Click on **Apply** to transfer the measurement program to the data logger.

If a measurement is in progress (status **Rec**):

 - > End measurement: Click on **Stop**.
 - The LED of the interface lights up red during the data exchange.
 - The **Programming data** window opens to confirm the programming performed.
 - 2. Click on **OK**.
 - The programming is completed.

5.3.3. Disconnecting

1. In the **Archive** window, click on the connection that is to be disconnected.
2. Select **Close**.
 - The connection to the data logger is disconnected.

5.4. Analyzing series of measurements

You can represent series of measurements as a diagram or a table.

- > In the **Start | View** menu, select the
 - **Diagram** function if the data should be displayed graphically or
 - **Table** function if the data should be displayed as a table.

5.4.1. Graphic view

In this view, the readings are shown as line diagrams.

In the **Start | View** menu, the **Graphics** command is activated.

- > If necessary, deactivate channels via the checkboxes for the display.

i You can show or hide the gridlines for the corresponding axis by clicking on the time axis or the value axis.

5.4.1.1. Enlarging the view

Zoom in on a detail of the diagram to check the behavior of the readings within a specific time span, for example.

1. Click on **Edit | Tools | Zoom in**.
2. In the diagram, use the left mouse button, pressed and held, to highlight the area that should be shown enlarged.

i Click on **[Original size]** and the entire diagram is shown again.

5.4.1.2. Information on a reading (crosshairs)

If you move your crosshairs along a curve, you will quickly receive detailed information on the individual readings.

1. Click on **Edit | Tools | Crosshairs**.
2. In the diagram, click on the point for which the details should be shown.
 - A dialogue with the following information on the reading is shown:
 - date on which the reading was recorded,
 - time at which the reading was recorded,
 - number of the reading and
 - reading.

i You can move along the curve with the left mouse button pressed and held and thereby see the individual information for the readings.

In doing this, it is not necessary to exactly follow the course of the curve; the crosshairs does this automatically if you move the mouse to the right or left.

5.4.1.3. Characteristics of a curve

You can adapt the representation of a measurement series to your requirements. For example, you can change the line weight of a curve or the representation of the limit values in the diagram.

1. Change to the diagram view of the measurement series, the characteristics of which are to be displayed.

2. Click in the **Edit | Curves** menu on the entry of the curve, the characteristics of which are to be displayed.
 - The **Characteristics of (name of curve)** dialogue is opened.

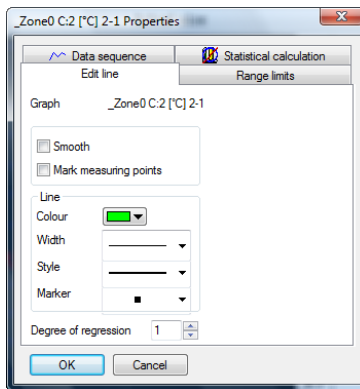
The following tabs are available in the dialogue:

- **Curve** tab
- **Range limits** tab
- **Data sequence** tab
- **Statistical computation** tab.

Buttons of the dialogue

Button	Explanation
[OK]	Applies the changed settings. The dialogue is closed.
[Cancel]	Closes the dialogue without applying the changes.

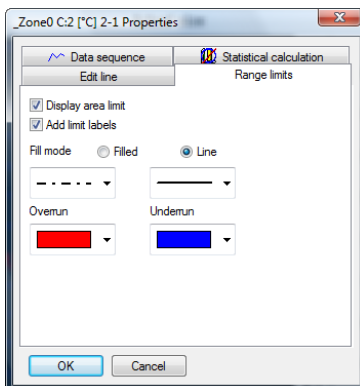
Curve tab



Designation	Explanation
Smooth	The measurement points are connected by an interpolated curve; the plot-points on the curve between two measurement points are estimated mathematically.

Designation	Explanation
Mark measuring points	<p>The individual measurement points are represented by a symbol.</p> <p>i The value shown only corresponds to the exact measured value at these points. The measurement points are connected with straight lines during the measurement. When the measurement is paused the curve can be smoothed.</p>
Colour	Line colour of curve.
Width	Line weight of curve.
Style	Line pattern of curve.
Marker	Symbol for the measurement points.
Degree of regression	Possible values "0" to "7". The "0" degree represents a pure mean calculation, the "1" degree of regression the linear trend, a higher value helps in the event of curves with several extreme values.

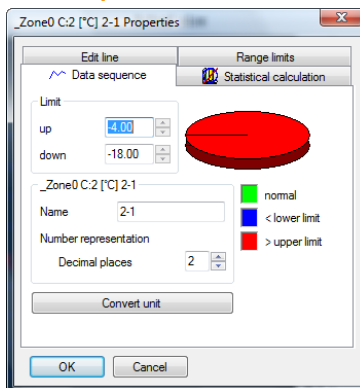
Range limits tab



Designation	Explanation
Display area limit	Specification as to whether the limit values should be shown in the diagram.

Designation	Explanation
Add limit labels	Specification as to whether the limit values should be labelled (Upper/Lower limit value: name of curve).
Area fill	Specification as to whether the areas outside of the limit values should be marked by means of an area fill.
Selection list for area fill	Selection of the fill.
Line fill	Specification as to whether the limit values should be marked by means of horizontal lines.
Selection lists for line fill	Selection lists for line type and line thickness.
Overshoot	Colour selection for the fill of the area above the upper limit value.
Undershoot	Colour selection for the fill of the area below the lower limit value.

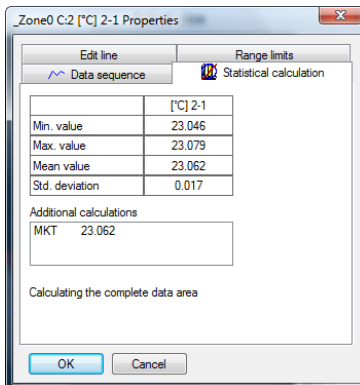
Data sequence tab



Designation	Explanation
Upper limit values	Specification of the upper limit value.
Lower limit values	Specification of the lower limit value.
Name	Designation of curve.

Designation	Explanation
Decimal places number representation	Number of the decimal places; e.g. for the data table. Possible values "0" to "6".
[Convert unit]	Opens a dialogue for converting the unit of the curve.
Pie chart	Graphical representation for the distribution of the readings: <ul style="list-style-type: none"> • green: readings that are within the limit values. • blue: readings that are below the lower limit value. • red: readings that are above the upper limit value.

Statistical computation tab



Designation	Explanation
Min. value	Smallest reading of the curve.
Max. value	Largest reading of the curve.
Mean value	Arithmetically-determined average value.
Std. deviation	Measure of the scattering of the readings around the average.
Calculating the complete data area	Specification that the given values are valid for the entire measurement curve.

Designation	Explanation
Calculation in section area	An alternative to Calculating the complete data area , if an area was marked. Specification that the given values are only valid for the selected area of the measurement curve.

5.5. Creating evaluations

You can print out series of measurements.

5.5.1. Printing measurement data

Measurement data can be printed in graphic or table form.

1. In the **Start | View** menu, select the
 - **Graphics** command if the table view is activated but the graphic view should be printed.
 - **Table** command if the graphic view is activated but the table view should be printed.



Open the preview of the report using the **File** (Testo logo) | **Print preview** command.

Use portrait format for printing a table and landscape format for printing a graphic.

You can determine the format under **File | Page Setup....**

2. Select the **Print** command in the **File** menu.
 - The **Print** dialogue for selecting the printing options is shown.
3. Change printing options, if needed, and click on **[OK]**.
 - The report is printed.

6 Tips and assistance

6.1. Questions and answers

Question	Possible causes/solution
Instrument is not responding...	<p>This message appears if the PC program cannot communicate with the connected measuring instrument or if the measuring instrument does not respond.</p> <ul style="list-style-type: none"> • Make sure that the device is switched on. • Check the connecting cable. • Check whether the drivers are installed.
Invalid name: The symbols: !,?,*,;, \ cannot be used in measurement location and folder names.	Rename it and do not use these characters.
An instrument setting with this name already exists: Please select a new name.	Different names should be used when setting up new instruments. The same name should not be used for different instruments.

