Foreword/Copyright

Foreword

Dear Testo customer

We are delighted that you have chosen a product from Testo. We hope that the product will give you a long period of satisfaction and will aid you in your work.

If problems should occur which you cannot rectify yourself, please consult our service department or your dealer. We will endeavour to provide fast and competent assistance to avoid lengthy down times.

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General notes

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

Pictograms

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Meaning</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Warning!</td>
<td>Warning advice: <strong>Warning</strong>! Serious physical injury could be caused if the specified precautionary measures are not taken.</td>
</tr>
<tr>
<td>!</td>
<td>Caution!</td>
<td>Caution! Warning advice: <strong>Caution</strong>! Slight physical injury or damage to equipment could occur if the specified precautionary measures are not taken.</td>
</tr>
<tr>
<td>!</td>
<td>Note.</td>
<td>Please pay particular attention.</td>
</tr>
</tbody>
</table>

| | Position the cursor over the specified element and click with the left mouse key. |
| | Position the cursor over the specified element and click with the right mouse key. |

Identification

- Terms which you will find on the screen again are shown in *italics*.
- Terms which you will find on the screen again and are also able to “click on” are shown in **bold**.
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1. Licence Agreement

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2. Intended purpose

This software module is used for storing, exporting and evaluating individual readings and series of measurements and for configuring the handheld testo 521 and testo 526.

The graphical presentation of readings is the main task of this program.

This software, when combined with the instruments and their probes, allows

- readings and measurement series stored in the instrument to be archived on a PC
- the handheld testo 521 and testo 526 instruments to be pre-programmed
- schedules to be planned
- individual print texts for logs to be set
- standard online measurements
- special quick online measurements
- pressure trends to be monitored and recorded according to trigger settings
- measurements to be graphically represented

The instructions contained in this manual presuppose that you are familiar with how to operate your computer under Windows®.
3. Installation

3.1 System requirements

Minimum system requirements

- PC with operating system
  - Microsoft Windows 95 or higher (if compatible)
  - Microsoft Windows NT 4, Service Pack 4 or higher (if compatible)
  - Windows 2000 or higher (if compatible)
- CD-ROM drive
- Pentium 100 MHz
- 32 MB RAM
- 15 MB hard disk space free
- Free serial interface (COM) or suitable adapter

3.2 Installing the software

The software interface (appearance, operation philosophy) is defined in accordance with the Microsoft® Office Standard. Icons and menu items are specified according to this standard. If you already use Office programs (Word®, Excel®, PowerPoint® ...), you will quickly become familiar with the user interface.

Installation process

In order to adapt the programming of your testo 521/526 to your own particular requirements, you will need a PC on which the testo ComSoft software is installed.

Instructions for installing and operating the software can be found in the testo ComSoft manual.

- After successfully installing the software, continue with 4.1 Connecting the testo 521/526 to the PC.
4. Programming

4.1 Connecting the testo 521/526 to the PC

To be able to connect the testo 521/526 to your PC, you need a free serial interface (RS232). If you only have USB interfaces, you need a USB-to-serial adapter, which can be obtained from your PC dealer. Testo recommends the following adapter: model no. F5U103 from Belkin. It has been checked for functional compatibility with the testo ComSoft software.

1. Connect the serial connecting cable (0409 0178) to your PC.
2. Connect the testo 521/526 to the connecting cable.
3. Start the testo ComSoft software.
4.2 Setting up a connection

1. Start the testo ComSoft software.

2. Select **Instrument > Autodetect...**
   - The Autodetect (searching) window opens.
   - A connection to the found instrument is set up automatically and the name of the connection then appears in the archive window.
   - or -

3. Select **Instrument > New device.**
   - The New device setup wizard window opens.

4. From the devices available, select **testo 521/526** and click on **Next.**

5. Under Connection, select the interface through which you connected the instrument to your PC and then click on **Next.**

6. Enter a name for the connection and click on **Finish.**
4.3 Opening a connection

- In the archive window, double-click on the connection you want to open.

  - If a measurement log is stored in the testo 521/526, the log symbol and the short name of the log will appear under the opened connection.

! When the connection is opened the readings stored in the testo 521/526 are not transferred to the PC. To transfer the readings:

  - Double-click on the short name of the log (see instruction manual for the testo ComSoft software).
4.4 Programming the testo 521/526

Programming will result in the loss of any readings that are stored in the device.

- Any data in the device should be exported before programming (see instruction manual for the testo ComSoft software).

- Select Instrument > Device 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 and then select Instrument > Device control.
  - The window for programming the testo 521 or testo 526 opens.
Module bar

On the left-hand side is a bar in which the available modules are represented. You can select these by clicking on them with the mouse.

Instrument

In the Instrument module you can read general information about the testo 521 or testo 526.
Date and time:
The set date and time are displayed.

- Click on **Synchronize** to synchronize the date and the time with the clock of your PC.

Settings

In the *Settings* window you can select the parameters
Units
Click on Units.

Options (testo 521)
To switch additional parameters on or off, click on Options.

Air density button
The Air density button starts the wizard for calculating the air density.

Manual density calculation
Activate the Manual menu item.

Press the Next button.

Enter the pitot tube factor.

Press the Finish button.
Calculating density from ambient conditions

Activate the **From ambient conditions** menu item.

Press the **Next** button.

- Inputting ambient conditions manually

Activate the **Manual** menu item.

Enter values.

- Ambient conditions from height

Select the **From height** menu item and press the **Next** button.

Enter the height and the pressure difference from the ambient pressure at the channel and then click on **Next**.
Enter the pitot tube factor.

- Barometer value of ambient conditions

Select the With barometer value menu item and click on Next.

Enter the barometer value, height and pressure difference and click on Next.

Enter the pitot tube factor.

After entering the values, click on Finish.
Options (testo 526)

Switching additional parameters on or off

Channels
Click on Channels.

With scalable sensors, scaling coefficients can be stipulated for the sensor inputs.

Activate the channel to which the power cable is connected. Click on Scaling.

Select the input value and unit and confirm with OK.
Service

Click on Service.

- Address

Press the Address button. The Enter address window is then opened. Create the user address. Confirm the input with OK.

A maximum of 24 characters can be entered per input field.

- Printed heading

Press the Printed heading button. The Printed heading window opens. Enter the heading. Confirm the input with OK.

- Factory reset

Press the Factory reset button. The Factory reset window opens. You are asked whether a factory reset is to be performed.

If you select Yes: the factory reset will be performed and all adjustable parameters will be reset.

If you select No: factory reset will be cancelled.

⚠️ Instrument memory is cleared.

⚠️ You will need to set the language again.
Cross-section

Activate the desired cross-section with the mouse key.

Then press the mouse key and open the Properties menu.

- Enter the value for round surfaces.

- Enter the value for rectangular surfaces.
- Enter the value for the area.

Factor: Enter offset factor.

Confirm each input by pressing **OK**.

### Measuring program

**Measuring rate:**
You have a choice between fast measurement and user defined. Fast measurement activates the measuring cycle 0.04 s, while user defined enables a free value to be entered.

- Choose the cycle at which the measurements are to be performed.

You have a choice between the time units sec (seconds), min (minutes), h (hours) and d (days).

**Stop criterion:**
- Select the desired criterion for stopping the measurement program.

You have a choice between until memory is full, no. of logs and duration.
4. Programming

Location:
- Choose the location at which the measurements are to be performed.

**Tightness test parameter**

Press the **Tightness test parameter** button.

Enter the parameter for the tightness test.

The terms used in this software are called the following in the instrument:

<table>
<thead>
<tr>
<th>PC software</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow-down time</td>
<td>t SlDo Req</td>
</tr>
<tr>
<td>Test time</td>
<td>t Test</td>
</tr>
<tr>
<td>Reference pressure</td>
<td>P Req</td>
</tr>
<tr>
<td>Max. pressure drop</td>
<td>ΔP Req</td>
</tr>
</tbody>
</table>

Press **Input from table**.

Enter the parameters.

Confirm the inputs with **OK**. Press **Start** to start the measurement program.
4.5 Fast measurement

Fast measurement records dynamic pressure processes. These can occur unexpectedly. In some circumstances large volumes of data can be created during recording, even though there is no event. The trigger function can be used to define a rule that filters out the interesting data material. These data are stored separately and visibly in individual mutually independent logs. The software shows the monitoring log and several snapshot pages. All logs are presented as line diagrams. They are displayed on registers.

The monitor time window shows the measured data with a time offset (approx. 2 s) for measurements in the handheld instrument.

The monitor log runs for as long as the fast measurement mask is visible. The monitor can be paused with the pause function, but recording will continue. Once the pause is over, the data recorded in the meantime will be presented.

! The monitor log is discarded on closing.

! Measuring rate 25/sec.

Click on Fast measurement.

The Fast measurement window opens.
Monitor functions

- **Play**
  Display the monitor log online. Only the “Pause” and “Snapshot” or “Trigger” buttons can be selected.

- **Pause**
  The monitor pauses. The scroll functions and “Snapshot” can be selected.

- **Scroll forward/back**
  1/10th the width of the window each time

- **To the start / To the end**
  Select the first or the last log.

- **Manual snapshot**
  Recording begins from Start. At the end a new page with the snapshot log is inserted. This button is only active if the trigger is deactivated.

- **Retrospective snapshot**
  Only possible during a pause. In the monitor log, define the start and end of a section (click in the display field with the right mouse key). If boundaries are defined, the snapshot function supplies a log that only contains this section.

- **Trigger**
  Trigger rules generate start/end criteria. At every end a new page with the snapshot log is inserted. If the trigger is active the “Manual snapshot” function is deactivated.

- **Signal field**
  The signal field is green while the log is running, and otherwise is red.

- **Delete or copy snapshot**
  Click with the right mouse key on the register to be deleted.
  **Delete** means that the log is deleted without a confirmation request.
  **Copy** means that the measurement is displayed in tabular form.
Settings

Recording can optionally be controlled by means of the reading trigger. Triggers generate snapshot logs. A history can also be added to the log.

Once the starting event has arrived, only 10s can be used as history. If the starting event arrives immediately after the time window has started, the history will not be included.

Press the Settings button.
The Settings window opens.

- “Reading trigger” box
  Activates start, stop and history
- Start criterion
  Selection list: Value over/under; enter the threshold.
- Stop criterion
  Selection list: Value over/under and seconds later.
  Enter the threshold or value for the time margin.

The start and stop criteria must be logically exclusive, otherwise the trigger will not be activated.

- Add history box
  Activates inputting of the time margin in sec. for recording the values before a start event of the trigger. Enter value from 1 to 10 seconds.
- Scaling
  Enter values from/to.
- Time window
  Enter the required width of the time window.

The diagram shows a time window of adjustable width. If the curve leaves the time window, the window is scrolled.
4.6 Scheduling

Activate the sites (keep shift button pressed and click on locations with left mouse button) located at the testo 521/526 instrument driver. Then click the right mouse button on a highlighted site.

Select the Extras menu.

The Locations Properties window is opened.

The order of locations can be changed. Select the location that is to be moved. Use the arrow keys ▲ or ▼ to move the location and confirm with OK.

Activate the device driver with the right mouse key.

Click on the Synchronize dialogue field. The message “Reprogramming will result in the saved data being deleted” appears. When you press Yes the data will be deleted. The chosen order of locations is shown in the device in the Locations menu.
5. Troubleshooting

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible causes</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduling is not accepted.</td>
<td>Device and PC are not synchronized</td>
<td>Synchronize device and PC with the “Synchronize” button</td>
</tr>
<tr>
<td>Fast measurement: Connection lost. Rectify the fault and press OK to continue</td>
<td>Connection lost, battery empty</td>
<td>Find and rectify the cause</td>
</tr>
<tr>
<td>Measuring program: Maximum program duration is %s</td>
<td>Program duration too long.</td>
<td>Clear memory</td>
</tr>
<tr>
<td>Fast measurement: Invalid or missing range selection</td>
<td>Snapshot function with fast measurement is lost</td>
<td>Add range selection</td>
</tr>
<tr>
<td>Fast measurement: Invalid trigger values</td>
<td>Illogical trigger configuration</td>
<td>Change settings accordingly</td>
</tr>
</tbody>
</table>

If we were unable to answer your question, please contact your distributor or Testo Customer Service. You will find contact details in the Warranty booklet or in Internet at [www.testo.com](http://www.testo.com).
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