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According to the conformity certificate, the instruments fulfill **2004/08/EEC** guidelines.

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Initial operation

Please read prior to measurement

Do not measure on live parts.

Observe storage and transport temperature and max. operating temperature (e.g. protect measuring instrument from direct sunlight)

The V24 cable (PC connection) can be inserted anytime.
A simultaneous print command is not possible if the PC cable is connected.

Opening the instrument, inexpert handling and use of force cancels your warranty.

Putting in the batteries

9V block battery is included in delivery.

Open the battery compartment at the back of the instrument.
Put in block battery. Observe polarisation
Close battery compartment.

Refer to “Power supply” Chapter for more information on alternative power supply, charge, battery quality.
The description of the instrument and an overview of the controls provide a quick introduction.

You will receive up to date readings once the instrument is switched on. However, you will still need to update or define the data in the instrument:

- Date/Time:
- Auto Off:
- Units:

Some things can only be set via PC software (See Ordering data):

- Location name (8 characters)
- Log heading (24 characters), e.g. your company name - is printed when the readings are printed.
Instrument description

Keyboard/Connection assignment

Keypad:

- On/Off
- Prints
- Confirms menu setting/ executes function
- Saves
- Return to current measurement/ location selection
- Arrow buttons move the cursor
- Hold Max Min Mean
The symbols on the top line are explained below

Name of input socket and parameter
Displays reading in line 1

Name of location
Time/number of points in mean calculation
Displays measurement functions

Explanation of symbols:
Counter for the log number in the memory.
When saving manually: number of the measurement saved.
When saving automatically: number of the measurement series. This counter is needed in order to be able to find single logs or a measurement series when reading out the memory.

Counter for saving a measurement cycle (required only for automatic saving). The measurement cycle in a measurement series can be found.

Manual saving of a single measurement by pressing the save button.
Automatic saving program has been set up.
Saving is activated by pressing the button.
Symbol for reading contents of memory on display.
Symbol for deleting memory contents.
If this symbol appears, the printing function is activated.
The symbol flashes while data is being transmitted. You can print on the desktop printer by pressing the print button.
Shows capacity of battery and rechargeable battery.
If the inner segment no longer appears (symbol flashes), the battery has to be changed or the rechargeable battery has to be recharged. The instrument switches itself off automatically after 1 minute.
Overview of controls

1. Current measurement
   - Manual or automatic saving, depending on setting (5.)
   - Print readings

2. Measurement functions
   - **HOLD** Freeze values
   - **MAX** Display maximum values
   - **MIN** Display minimum values
   - **MEAN** Multi-point mean calculation
     - Update values
     - Calculate mean
     - Reset mean
   - **MEAN** Timed mean calculation
     - Start and end
     - Calculate mean
     - Reset mean

3. Location selection
   - Selection of location
   - 1...
   - 99

4. Measuring range switchover function
   - **Lux**
     - Switching from resolution of 1 Lux (meas. range 32,000 Lux)
     - 10 Lux (meas. range 100,000 Lux) *
   - **fc**
     - Switching from resolution of 0.1 fc (meas. range 3200 fc)
     - 1 fc (meas. range 10,000 fc)

* Multiply displayed value by 10.
Overview of controls

1. Current measurement

5. Memory settings

- MAN
  - Activate manual saving
- AUTO
  - Program automatic saving
  - Select no. of meas. cycles
  - Set measurement rate
- OUT
  - Read memory contents on display with printing option
- CLEAR
  - Clear memory
Note: Everything in the memory is deleted

6. Instrument configuration

- Activate - deactivate automatic switch-off function
- Selection: Power supply
  - Battery - Rechargeable
- Setting: Date
- Setting: Time
- Unit selection
- Lux \( \rightarrow \) fc
- Factory reset

Note
Flashing display is activated and is confirmed by pressing \( \text{OK} \).
Current measurement

Switching on / Saving / Printing

It is possible to activate the following functions during measuring at the touch of a button:

- **Save readings.**
  Manual or automatic saving is determined by the save setting (Chapter 5).

- **Print readings.**
Measurement functions

Freezing values, maximum readings, minimum readings

Current measurement

Freezing values

- Save reading
- Print reading

Maximum readings since the measurement began

- Save maximum reading
- Print maximum reading

Minimum readings since the measurement began

- Save reading
- Print reading

See multi-point/timed mean calculation
Measurement functions

Multi-point mean calculation \textit{Mean•}

Current measurement

ESC

Location

New mean calculation possible

Store values

Calculate mean

\textbf{Multi-point mean calculation}

Applies only to parameter on first line

Note on saved or printed logs:

1. The log of a \textbf{multi-point} mean calculation contains single values, max. value, min. value and mean value.
2. The log of a \textbf{timed} mean calculation contains max. value, min. value and mean value.

\vspace{1cm}

\textbf{Mean}

\textbf{Number of values logged}

Save mean.

Print mean.

Return to current measurement.
Measurement functions

Timed mean calculation **Mean**

Current measurement

Hold Hold Hold Hold Hold Max/Min Mean

Start timed mean calculation.

Finish timed mean calculation.

Continue timed mean calculation

or

Calculate mean.

Note on saved or printed logs:
1. The log of a **multi-point** mean calculation contains single values, max. value, min. value and mean value.
2. The log of a **timed** mean calculation contains max. value, min. value and mean value.

New mean calculation is possible

Mean

Duration of mean calculation

Save mean.

Print mean.

Return to current measurement.
Location selection

The location names Location 1 to 99 are specified by the factory.

You can load your own location names (8 characters) onto your instrument using PC software.

1. Current measurement

Selection of location.

Confirm selection and return to measurement.

Return to current measurement

Measuring range switchover function

Switching between measuring range and lux or fc resolution

Lux ➤ Lux x 10 / 0.1 fc ➤ fc

The resolution selected flashes.

Select

Confirm selection and return to measurement.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Meas. range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lux</td>
<td>32,000 Lux</td>
</tr>
<tr>
<td>10 Lux</td>
<td>100,000 Lux</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Meas. range</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 fc</td>
<td>3200 fc</td>
</tr>
<tr>
<td>1 fc</td>
<td>10,000 fc</td>
</tr>
</tbody>
</table>

* Multiply displayed value by 10.
Memory settings

OVERVIEW

1. Current measurement

Press the [OK] button to get to the memory settings mode. Confirm flashing save symbol [ ] via [OK] button.

4 memory settings are possible. Select the required saving option by pressing [ ]:

MAN ➤ AUTO ➤ OUT ➤ CLEAR ➤ MAN ➤ ...

The symbol corresponding to the selection appears in the top line. The function is activated with [OK].

Parameter settings

---

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Memory settings

Manual / Automatic saving

Press the **OK** button to get to the memory settings mode. Confirm flashing save symbol **M** via **M** button.

**Manual saving:**
Each time **M** is pressed a log of the measurement is saved in the instrument and includes measured values, location, date and time. The counter in the top left corner of the display shows the number of logs saved for this location.

**Saving a log with timed or multi-point mean calculation:**
The log includes MIN value, MAX value and mean of the measurement and also single values in multi-point mean calculations.

**Automatic saving:**
When this saving function is set, the instrument automatically accepts the measured values at fixed intervals and saves them (logger operation). The number of measuring cycles (CYCLE-N.) to be saved and intervals (CYCLE) have to be programmed:

1. **Cycle-N.**
The instrument automatically offers the maximum possible number of measuring cycles. Set required number using **△ / ▼ / ▼**. Confirm set value by pressing **OK**.

2. **Cycle**
Select interval in which the measured values are to be saved. The blinking position can be changed using **△ / ▼ / ▼**. Confirm set value by pressing **OK**.

Automatic saving is started by pressing **M**. The symbol flashes until the programmed measurement series is accepted.

**Cancel saving procedure.**
**M** starts automatic saving again. An additional measurement series is added.
Memory settings

Reading or printing memory

Press the OK button to access the memory settings mode. Confirm flashing save symbol via the button. Cancel printout by pressing the button.

1. Reading out or printing memory contents:
If the “OUT” display is flashing and the button is pressed, printing of the complete memory contents is started. Cancel printout by pressing the button.

2. Selecting the location:
If is activated, selection options appear in the display to select the required location. Select location by pressing .
If printing is activated by pressing at this point, all of the logs (measurement series and cycles) for this location are printed. Cancel printout by pressing the button.

3. Selecting the log:
Confirm the location selected above by pressing .
The M.0x counter flashes in the display.
Select the log no. by pressing .
activates a printout of the selected measurement log.
Press OK to display the values measured.
Cancel printout by pressing the button.

4. Select the measurement cycle (only possible if a measurement log consists of a measurement series):
Confirm the measurement log selected above by pressing .
The N.0x counter flashes in the display.
Select the measurement cycle by pressing .
activates a printout of the selected measurement cycle.

The button enables you to go back one step.
Press the OK button to access the memory settings mode. Confirm flashing save symbol via the OK button.

Memory settings
Clearing memory contents/Sample printouts

4 CLEAR Clearing memory:

Memory is not cleared.

Memory is cleared completely

Current measurement

Printout of automatic saving

Printout of manual saving

Smith Ltd.
31.08.1998 11:26:05
Museum

M.05
31.08.1998 11:26:59
cycle 00:00:02

653 652 650 690 705 710 695 675 638

INFO:

1 Lux
01 653
02 652
03 650
04 690
05 705
06 710
07 695
08 675
09 638

INFO:
Instrument configuration

Power save function / Power supply

**Power save function**

**Auto OFF function** is switched on (“ON”)

If a button has not been pressed in the last 5 minutes or there is no communication with the PC, the instrument switches off automatically.

**Exceptions:**
- the function is deactivated during timed and multi-point mean calculation
- Automatic saving mode: The function is only activated if saving cycles > 1 min are programmed.
- In the case of an activated function (cycle >1 min) the instrument switches itself on at the measurement time and switches off again. This also occurs if the instrument is switched off via the button after the saving program has been activated.

**BAT: Battery operation** with 9 V block battery, Alkali manganese IEC 6LR61.

**AKKU: Rechargeable battery operation** with Testo rechargeable battery (Part no. 0515.0025), Type: Ni-MH IEC 6F22. If the rechargeable battery is empty: Recharge battery in external charger (Part no. 0554.0025).

**Note:**
If the battery/rechargeable battery is removed, the instrument retains set values (date/time) and memory contents for approx. 10 minutes. The data is lost after 10 minutes. The capacity of the battery/rechargeable battery is shown in the display:

- 100 %
- 75 %
- 50 %
- 25 % (last segment is flashing: the battery/rechargeable battery is almost empty)
- 0 % (change battery/recharge rechargeable battery). Instrument switches off after 1 min.
Instrument configuration

Unit selection / Factory reset / Power supply

Setting date
The flashing position in the display can be set
- ▲/▼ = scroll/ ▶ = next position -

Setting the time
The blinking position in the display can be set
- ▲/▼ = scroll/ ▶ = next position -

Lux ▶ fc
The selected parameter flashes.

▶ → Select
OK confirms the selection.

Factory resets all of the settings in the instrument configuration to the factory settings.
- “AUTO OFF” is set at “ON”
- “Lux” is activated

OK confirms the selection and switches to the display of the current measurement.
## Error messages

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<th>Error message</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory full</td>
<td>The memory is full</td>
<td>Clear memory</td>
</tr>
<tr>
<td>![Error Icon]</td>
<td>Measuring range has not been reached</td>
<td>The measured values are outside the allowed measuring range. Switch resolution.</td>
</tr>
<tr>
<td>![Error Icon]</td>
<td>Connection to the probe has been interrupted.</td>
<td>Please contact a Testo service point.</td>
</tr>
</tbody>
</table>
### Technical data

<table>
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<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
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<tr>
<td><strong>Sensor</strong></td>
<td>Silicon photodiode</td>
</tr>
<tr>
<td><strong>Meas. range</strong></td>
<td>0 to 100,000 Lux</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>To DIN EN 13032-1</td>
</tr>
<tr>
<td></td>
<td>$f_1 = 6 %$</td>
</tr>
<tr>
<td></td>
<td>$f_1 = V$ (l) adaptation</td>
</tr>
<tr>
<td></td>
<td>$f_2 = 5 %$</td>
</tr>
<tr>
<td></td>
<td>$f_2 = \cos$ like rating</td>
</tr>
<tr>
<td><strong>Resolution can be switched:</strong></td>
<td>0 to 32,000 Lux 1 Lux</td>
</tr>
<tr>
<td></td>
<td>0 to 100,000 Lux 10 Lux</td>
</tr>
<tr>
<td></td>
<td>0 to 3.200 fc 0.1 fc</td>
</tr>
<tr>
<td></td>
<td>0 to 10.000 fc 1 fc</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>2 line LCD and 2 matrix lines</td>
</tr>
<tr>
<td><strong>Battery lifetime</strong></td>
<td>9 V IEC 6F22 &gt; 50 h Al-Mn</td>
</tr>
<tr>
<td><strong>Battery check</strong></td>
<td>Automatically in 4 stages</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>0 to +50 °C</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-20 to +70 °C</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>220 x 68 x 50 (instrument)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>500 g (incl. packaging)</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>Instrument: 2 years Probes: 12 months</td>
</tr>
</tbody>
</table>
## Ordering data for testo 545

<table>
<thead>
<tr>
<th>Measuring instrument and accessories</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>testo 545</td>
<td>0560.0545</td>
</tr>
<tr>
<td>incl. probe, batteries and instruction manual and calibration protocol</td>
<td>0554.0547</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TopSafe (indestructible protective case)</th>
<th>0516.0441</th>
</tr>
</thead>
<tbody>
<tr>
<td>With bench stand and belt clip, protects measuring instrument from impact, dirt...</td>
<td>0516.0445</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testo log printer, with 4 AA batteries and 1 roll of thermal paper</th>
<th>0554.0547</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prints measured data, location with date and time</td>
<td>0554.0830</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ComSoft 3 “Professional” with data management</th>
<th>0554.0830</th>
</tr>
</thead>
<tbody>
<tr>
<td>incl. data base, analysis and graphics function, data analysis, trend curve</td>
<td>0516.0445</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport case</th>
<th>0516.0445</th>
</tr>
</thead>
<tbody>
<tr>
<td>For safe storage of measuring instrument, TopSafe, probe and Testo log printer</td>
<td>0409.0178</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RS232 cable</th>
<th>0409.0178</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connects measuring instrument ↔ PC for data transmission</td>
<td>0520.0010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISO calibration certificate</th>
<th>0520.0010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration point: 1000 Lux</td>
<td>0520.0010</td>
</tr>
</tbody>
</table>

Calibration point: 1000 Lux