



testo 104  
Thermometer

Instruction manual



99 Washington Street  
Melrose, MA 02176  
Phone 781-665-1400  
Toll Free 1-800-517-8431



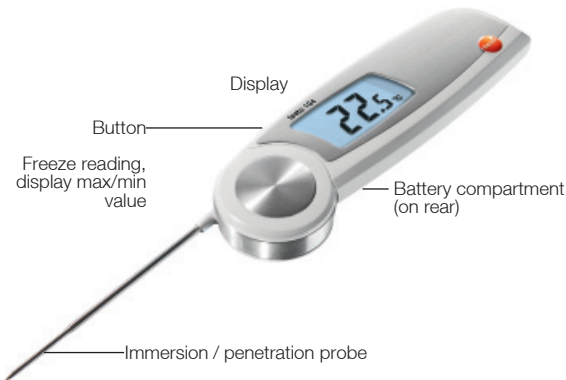
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## 1. General Information

Please read this document through carefully and familiarise yourself with the operation of the product before using it. Keep this documentation to hand so that you can refer to it when necessary.

## 2. Product Description



## 3. Safety Information



### Avoid electrical hazards:

- ▶ Do not conduct measurements on or near live parts!



### Preserving product safety / warranty claims:

- ▶ Operate the instrument properly and according to its intended purpose and within the parameters specified. Do not use force.
- ▶ Do not store with solvents (e. g. acetone).
- ▶ Only open the instrument if this is expressly described in the documentation for maintenance purposes.



### Ensure correct disposal:

- ▶ Dispose of defective rechargeable batteries and spent batteries at the collection points provided.
- ▶ Send the instrument directly to us at the end of its life cycle. We will ensure that it is disposed of in an environmentally friendly manner.

## 4. Intended Use

The testo 104 is a robust food thermometer.

The product is designed for the following tasks/areas:

- Food sector: production, food service, spot check measurement
- Measuring liquids, pastes and semi-solid materials



The following product components are designed for continuous contact with foodstuffs in accordance with Regulation (EC) 1935/2004:

From the tip of the immersion/penetration probe up to 2 cm before the probe handle or the plastic housing. If provided, the information about penetration depths under point 7.2 in the instruction manual or the mark(s) on the immersion/penetration probes should be noted.

The product may not be used in the following areas:

- Potentially explosive areas
- For diagnostic measurements in the medical sector

## 5. Technical Data

Feature	Values
Sensor type	NTC
Measurement range	-50...+250°C
Parameter	Temperature in °C/°F/°R
Resolution	0.1°C/°F/°R
Accuracy	±1.0 °C (-50.0...-30.1°C) ±0.5 °C (-30.0...+99.9°C) ±1 % of the measurement range (+100.0...+250.0°C)
Response time t99	10 s (measured in moving liquid)
Measuring rate	2 measurements per second
Operating temperature	-20...+60°C
Transport / storage temperature	-30...+70°C
Power supply	2 x AAA batteries
Battery life	100 h (typically at 25°C without display illumination)
Housing	ABS/TPE/PC and die-cast zinc/stainless steel
Protection class	IP65
Dimensions	265 x 48 x 19 mm (immersion/penetration probe open)
Weight	165 g (incl. batteries)
Display	LCD, single line, with status line (Hold/Auto Hold) illuminated
Standards	EN 13485
EC Directive	2004/108/EEC
Warranty	2 years



### Information on standards

This product complies with the EN 13485 standard

Suitability: S, T (storage, transport)

Environment: E (transportable thermometer)

Accuracy class: 0.5

Measurement range: -50...+250 °C

According to EN 13485, the measuring instrument should be checked and calibrated regularly under the terms of EN 13486 (recommended frequency: yearly).

Contact us for more information.

## 6. Initial Operation

### 6.1 Inserting batteries



- 1 Loosen the screw on the battery compartment.
- 2 Open the battery compartment.
- 3 Insert batteries (2 x AAA).  
Observe the polarity!
- 4 Close the battery compartment.
- 5 Tighten the screw.

### 6.2 Configuring the unit



- 1 Loosen the screw on the battery compartment.
- 2 Open the battery compartment.
- 3 Set the switch (e.g. using a sharp instrument) to the desired temperature unit ( $^{\circ}\text{C}/^{\circ}\text{F}/^{\circ}\text{R}$ ).
- 4 Close the battery compartment.
- 5 Tighten the screw.

### 6.3 Labelling the instrument

The testo 104 can be labelled using coloured foils. The coloured label can be used, for example, to allocate the instrument to a particular processing stage or employee.



- 1 Open the battery compartment.
- 2 Open the flap on the inside of the battery compartment.
- 3 Stick the coloured foil onto the flap.
- 4 Close the flap.
- 5 Close the battery compartment.

## 7. Operation

The instrument switches off automatically 60 minutes after it has been switched on even if the immersion/penetration probe is open.

### 7.1 Switching On / Off



- ▶ Switch on the instrument: open the immersion/penetration probe.
- ▶ Switch off the instrument: close the immersion/penetration probe.

### 7.2 Measuring

! Observe the required immersion / penetration depth for correct readings: at least 23 mm.

! The housing must only be subjected to operating temperature between -20 and +60°C.

✓ Instrument is switched on.

- ▶ Immerse / penetrate the probe into the object being measured.
- The current reading is shown.

#### Holding the reading manually (Hold)

✓ The instrument is in Hold mode (mode when supplied).

- ▶ Hold reading: press .
- Signal emitted, reading is frozen and Hold lights up.

- ▶ Restart measurement: press .

#### Holding the reading automatically (Auto Hold)



✓ The instrument is in Auto Hold mode (See description under “Changing the measurement mode”).

- Auto Hold flashes. If the reading remains stable within 10 seconds, it is frozen. A signal is emitted and Auto Hold lights up.

- ▶ Restart measurement: press .





## 8. Configuring the instrument

### Changing the measurement mode


- ✓ Instrument is switched off.
- 1 Open the configuration mode: open the immersion/penetration probe while holding down .
- Depending on the preconfigured settings, either Hold or Auto Hold is shown.
- 2 Select Hold or Auto Hold: press .
- Configuration is complete. The instrument changes to the measurement mode.

### Displaying min/max values

Only Hold and Auto Hold values are stored in the min/max memory.

- ✓ Instrument is switched on.
- 1 Immerse / penetrate the probe into the object being measured.
- 2 In the Hold measurement mode: press .
- In the Auto Hold measurement mode: wait until a signal is emitted and Auto Hold lights up.
- 3 Hold down  for at least 2 seconds.
- Max lights up and the maximum measurement value is shown.
- 4 Press .
- Min lights up and the minimum measurement value is shown.
- 5 Press .
- The instrument changes to the measurement mode.

### Deleting min/max values

- ✓ Steps 1-4 of “Displaying min/max values” have been followed.
- 5 Hold down  for at least 2 seconds.
- Max Min CLr. appears on the display.
- The instrument changes to the measurement mode.

## 9. Service and Maintenance

### 9.1 Changing the batteries



- 1 Loosen the screw on the battery compartment.
- 2 Open the battery compartment.
- 3 Insert batteries (2 x AAA).  
Observe the polarity!
- 4 Close the battery compartment.
- 5 Tighten the screw.


### 9.2 Cleaning the instrument

Only use weak, commercially available neutral/household cleaning agents (e.g. washing-up liquid) to clean the instrument. Do not use any aggressive cleaning agents or solvents!

The housing and probe can be disinfected using an alcohol-based spray. In doing so, always follow the manufacturer's instructions.

- ▶ Clean the housing and probe under running water and rub dry with a towel.

## 10. Questions and Answers

Question	Possible causes	Possible solution
 lights up.	Batteries dead.	▶ c Change batteries.
- - - lights up.	Measurement range exceeded.	▶ Measurements can only be carried out in the range specified.
Instrument cannot be switched on.	Batteries dead.	▶ Change batteries.
Instrument switches itself off.	The instrument switches off automatically 60 minutes after it is switched on.	▶ Close and reopen the immersion/penetration probe.

If we have not answered your question, please contact your local dealer or Testo's Customer Service.



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