

Overview

Instrument



Explanation of icons



Attention! Warning about a danger spot, refer to instruction manual



Caution! Dangerous voltage, risk of electric shock



Continuous double or reinforced insulation in accordance with category II DIN EN 61140/IEC 536



Conformity mark, verifies compliance with the valid EU Directives: EMC Directive (2014/30/EU) with the standard EN 61326-1



The instrument complies with the WEEE Directive (2012/16/EU)

Observe prior to use!

- The instruction manual contains information and instructions which are necessary for operating and using the instrument safely. Before using the instrument, read the instruction manual carefully and comply with all aspects of it. Keep this document to hand so that you can refer to it when necessary. Forward this documentation to any subsequent users of the instrument.
- If the manual is not followed, or if you fail to observe the warnings and instructions, there is a risk of fatal injury to the user and damage to the instrument.

Safety instructions

- The instrument may only be used by trained personnel. During all operations, please observe the Employers' Liability Insurance Association provisions for health and safety at work.
- In order to prevent electric shock, take safety precautions when working with voltages greater than 120 V (60 V) DC or 50 V (25 V) rms. AC. These values are the limit for contact voltages in accordance with DIN VDE (values in brackets apply to restricted areas, for example agricultural sectors).
- The instrument may only be touched at the designated grip areas, the display elements must not be covered.
- Maintenance work that is not described in this documentation must only be carried out by trained service technicians.
- If the instrument is modified in any way, operational safety cannot be guaranteed.
- If there is any battery leakage, the instrument must not be used until it has been checked by our Customer Service.
- The battery acid (electrolyte) is highly alkaline and electrically conductive. Risk of acid burn! If the battery acid comes into contact with your skin or clothing, thoroughly rinse the areas affected immediately with plenty of water. If battery acid gets into your eyes, rinse them immediately with plenty of water and seek medical advice.
- Measurements may only be taken near electrical installations under the direction of an authorised qualified electrician - never alone.
- The instrument may only be used under the conditions and for the purpose for which it was designed. To be observed in particular are the safety instructions, technical data with ambient conditions, and use in dry environments.
- The multimeter or clamp meter jacks not in use are to be covered by the protection of the thermocouple adapter.
- When using the thermocouple adapter, never connect a measurement cable to one of the free jacks of the multimeter. Nothing other than the thermocouple adapter may be connected to the multimeter. The thermocouple is not galvanically isolated from the measurement circuit or clamp meter which means there is a risk of electric shock.
- Check and replace batteries, if necessary, before use.
- Always store in a dry place.
- If operator safety can no longer be guaranteed, the instrument is to be taken out of service and prevented from being inadvertently used. This is the case if the instrument:
 - Is obviously damaged. e.g.
 - Housing breakages
 - Defective measurement cables
 - Leaking batteries
 - Does not carry out the required measurements
 - Has been stored too long in unfavourable conditions
 - Has been exposed to mechanical stresses during transit.
- Protect from direct solar radiation to prevent the instrument from heating up. This is the only way to guarantee the instrument will function perfectly and have a long service life.
- To prevent electric shocks, never use this instrument in places, with electrical equipment, or on surfaces where there is a dangerous voltage.

Intended use

The instrument may only be used in the fields of application defined in the instruction manual. Any application deviating from this is considered to be improper and unchecked use and may result in accidents or instrument damage. Any improper use will completely void any right to claims under Testo's guarantee and warranty.

The manufacturer is not responsible for damage to property or personal injury caused by the following:

- Failure to comply with the instruction manual
- Modifications to the instrument not approved by the manufacturer
- The use of spare parts not approved by the manufacturer
- Use when under the influence of alcohol, drugs, or medication

For temperature differences, thermocouples measure a point between a measuring point and a reference point. The thermocouple adapter uses an electronic reference point.

The thermocouple adapter must be used within the specified ambient conditions.

The instrument must not be used for the following purposes:

- In potentially explosive atmospheres: the instrument is not explosion-proof!
- When it rains: risk of electric shock!

Technical data

Specifications valid at 23 °C ± 5 °C, < 80% relative humidity:

Feature	Value
Measuring range	-20 °C to +500 °C
Resolution	0.2 °C
Accuracy ¹	-20 to 0 °C ± 2 °C 0 to 100 °C ± 1 °C 100 to 250 °C ± 1.5 % of m.v. >250 °C ± 2%
Max. voltage at thermocouple input	25 V DC/15 V AC
Power supply	1 x round cell type CR2032
Battery life	approx. 150 h
Dimensions (WxHxD)	35 mm x 75 mm x 20 mm
Temperature range	Operation: 0 to 50 °C Storage: -15 to 60 °C
Humidity	0 to 90% (0-35 °C) 0 to 70% (35-50 °C)
Weight	Approx. 100 g
Connector	3/4 inch banana jack
Warranty	Duration: 2 years Warranty terms: see website www.testo.com/warranty

¹ The basic accuracy does not make allowances for the tolerance of the thermocouple or the multimeter/clamp meter. Refer to the respective instruction manuals for the tolerances of these devices.

Taking temperature measurements

testo 770

The contents of the testo 770 documentation must have first been read and understood.

- The thermocouple is attached to the thermocouple adapter.
 - The instrument is switched on.
 - The instrument is in AUTO V mode.
- Connect the thermocouple adapter to the instrument: Insert the adapter into the jacks. Ensure correct polarity!
 - The thermocouple adapter switches on automatically.
- Activate temperature measuring: Press [ZERO] > 2 seconds.
 - The measured values are indicated in °C and °F on the LC display.

Service and maintenance

Replacing the batteries

If the battery voltage is high enough, the LED lights up green. When batteries start running out, the LED lights up red, which means the batteries need changing soon.

- > Remove the thermocouple adapter from the instrument.
- > Open the battery compartment: Turn the cover anti-clockwise.
- > Remove the spent batteries and insert new ones (type CR2032) so that the plus pole (+) is visible.
- > Close the battery compartment: Turn the cover clockwise.

Maintenance

When operated in accordance with the instruction manual, the instrument does not require any particular maintenance. If a malfunction occurs during operation, the ongoing measurement should be stopped immediately. Send the instrument to Testo Service for checking.

Storage

- > Make sure the thermocouple adapter is stored in a dry place.
- > If the thermocouple adapter is not in use for a significant period of time: remove the batteries in order to prevent any danger or damage due to any potential leaking of the batteries.

Cleaning

- > Always switch off the instrument prior to cleaning and disconnect it from external voltage or other connected instruments (e.g. multimeter).
- > Wipe the instrument with a damp cloth and a small amount of mild household detergent.

Never use any harsh cleaning agents or solvents to clean the instrument! After being cleaned, the instrument must not be used until it has completely dried.

Protecting the environment

- > Dispose of faulty rechargeable batteries/spent batteries in accordance with the valid legal specifications.
- > At the end of its useful life, send the product to the separate collection for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.