testo 745 · Non-contact voltage tester

Instruction manual [en]

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Overview

Instrument

1 Test tips for voltage testing
2 Voltage indicator (LED red)
3 On/Off key, change sensitivity
4 Measuring point illumination key
5 Battery compartment cap
6 Handle
7 Measuring point illumination (LED white)

Explanation of icons

Caution! 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

Conformity mark, verifies compliance with the valid EU Directives: EMC Directive (2014/30/EU) with the standard EN 61326-1, Low-Voltage Directive (2014/35/EU) with the standard EN 61010-1

The instrument complies with the WEEE Directive (2012/19/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 can no longer be guaranteed.
- If there is any battery leakage, the instrument must no longer 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.

Intended use

The instrument may only be used under the conditions and for the purpose for which it was designed:

- Testing the voltage at insulated cables (non-contact, with no direct galvanic contact) in the 12 to 1000 V range
- Checking cable breakage
- Phase testing at sockets
- The instrument may only be used within the specified measuring ranges and in low-voltage installations of up to 1000 V (measuring range category CAT IV 1000)

The instrument must **not** be used for the following:

- To verify that no voltages are present: only use two-pole voltage testers in accordance with EN 61243-3 to verify that no voltages are present!
- In potentially explosive environments: 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
Voltage indicator	Red LED and buzzer
Sensitivities	50 to 1000 V (standard setting) 12 to 50 V (high sensitivity, also displays voltages of 50 to 1000 V)
Frequency range	40 to 400 Hz
Temperature range	Operation: -10 to 50 °C Storage: -15 to 60 °C
Relative humidity	< 80 %
Height	< 2000 m
Batteries	2x 1.5 V IEC LR03 (AAA)
Power consumption	Approx. 80 mA
Dimensions (WxHxD)	Approx. 155 x 25 x 23 mm
Weight	Approx. 55 g
Standards	EN 61326-1, EN 61010-1
Protection class	IP 67 (IEC 60529)
Authorizations	CE
Warranty	Duration: 2 years Terms of warranty: see website www.testo.com/warranty

Operating the instrument

Switching the instrument on

> Briefly press the On/Off key.

- After switching it on, the test range 50 V - 1000 V is set.

> Briefly press the On/Off key to change the sensitivity range.

Within the 12 - 50 V range, voltages between 50 V and 1000 V are also displayed. If a voltage in excess of 50 V is near a voltage between 12 V and 50 V, the higher voltage might be displayed.

- The slowly flashing red LED indicates that the instrument is ready: single flash within the sensitivity range 50 V - 1000 V, double flash within the sensitivity range 12 - 50 V.

Measuring point illumination

> Press the measuring point illumination key.

- The illumination remains on as long as the key is pressed.

Switching the instrument off

> Press and hold down the On/Off key.

Automatic switch-off: if no button is pressed for approx. 3 minutes, the instrument switches off automatically.

Carrying out a test

Preparing the voltage test

Prior to every test, please ensure that the instrument is in perfect condition:

- For example, keep an eye out for a broken housing or leaking batteries.
- Check that the instrument is functioning properly (for example at a known voltage source) before and after every test.
- If the safety of the user cannot be guaranteed, switch off the instrument and secure it to prevent unintentional usage.

Carrying out a voltage test

When carrying out the test, please note:

- The signal during the voltage test does not provide any information about the type or level of the voltage being applied.
- The location of the earth conductor in the test object may affect the readings.
- The instrument has a complex digital filter for eliminating interference due to high-frequency electrical fields (for example from computers or fluorescent tube starters). Nevertheless, incorrect readings may occur in the vicinity of such sources of interference.

> Move the instrument slowly along the test object, for example a cable.

- When the instrument detects an AC voltage in the range 12 - 50 V, the red LED flashes and the buzzer emits a signal.
- When the instrument detects an AC voltage in the range 50 V - 1000 V, the red LED is permanently on and the buzzer emits a signal.

Service and maintenance

Changing the battery

When the red LED is permanently on with no audio signal, the batteries need to be changed. Change the batteries without delay, because reliable readings can no longer be guaranteed.

> Open the battery compartment: undo the screw and remove the battery compartment cap.
> Remove the spent batteries.
> Insert new batteries in accordance with the battery icon.
> Close the battery compartment: put the battery compartment cap on and tighten the screw.

Maintenance

When operated in accordance with the instruction manual, the instrument does not require any particular maintenance.

Storage

> If the instrument 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

Prior to cleaning, the instrument must be disconnected from all measuring circuits.

> 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.