

METRAVOLT® 7A

Voltage Tester per EN 61 243-3

with Phase, Polarity and Phase Sequence Testing

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- **Voltage tester:** Indication via LCD: $U > 24\text{ V}$
Indication via LED: $U > 50\text{ V}$
Measurement with measuring movement:
direct and alternating voltage:
120 ... 740 V (0 ... 100 Hz)
- **Phase tester:** By means of contact electrode and
▶ and LED ▶ symbols at LCD
- **Polarity tester:** + or – LED lights up
- **Phase sequence:** ▶ and LED ▶ symbols at LCD indicate
clockwise rotation



CAT IV



Applications

The METRAVOLT® 7A is a 2-pole voltage tester with LCD indicator, top quality moving-iron measuring element and LED display. Direct and alternating voltages can be tested within the nominal voltage range, polarity can be ascertained, phases can be tested and phase sequence can be determined with the METRAVOLT® 7A.

Applicable Regulations and Standards

DIN EN 61 243-3 (VDE 0682 part 401):1999-09	2-pole voltage testers to 1000 V
EN 60529 VDE 0470, part 1	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)
DIN EN 61 326 VDE 0843, part 20	Electrical equipment for control technology and laboratory use – EMC requirements

Features

Measuring Sequence

After contacting two conductors with the test probes, the voltage tester indicates the presence of direct or alternating voltage at the LCD by means of the V symbol.

If both of the buttons in the handles are pressed simultaneously, the RMS value is indicated by the measuring movement.

Clockwise rotation of the phase sequence is indicated with the ▶ symbol at the LCD after contacting two phase conductors with the test probes and simultaneously touching the contact electrode.

The two LEDs indicate polarity for direct voltage after establishing contact with the test probes.

High Levels of Safety

Outstanding electrical safety is assured by means of CAT IV, large creepage distances and good surge strength.

Voltages of greater than 50 V are indicated by the LEDs.

Rugged Housing

The measuring movement is protected against impacts, water and dust by an unbreakable **safety housing of solid rubber**.

The METRAVOLT® 7A can be used in the rain thanks to IP 65 protection.

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Technical Data

Nominal Conditions of Use

Nominal voltage range	24 ... 740 V
Nominal frequency range	0 ... 100 Hz
Input impedance	1 MΩ (57 kΩ with active measuring movement)
Current	$I_S = 0.6$ mA (13 mA with active measuring movement)

Display

Analogue Display (measuring movement)

Type	Moving-iron instrument, class 2.5
Display range	120 ... 740 V

LCD and LED Indicators

2-pole measurement (24 ... 740 V):
"V" indicates that voltage is present.

Single-pole measurement with contact electrode (as of 165 V to earth):
▶ and LED ► indicate presence of phase voltage.

2-pole measurement with contact electrode (as of 165 V to earth):
▶ and LED ► indicate clockwise phase sequence.

2 LEDs (50 ... 740 V)

2-pole measurement: LEDs indicate voltage of greater than 50 V:
– One LED lights up for direct voltage (for polarity testing as well).
– Two LEDs light up for alternating voltage.

Electrical Safety

Measuring category	740 V CAT IV
Surge voltage withstand	12 kV
Test voltage	6.0 kV

Electromagnetic Compatibility

Interference emission /
Interference immunity IEC 61236

Ambient Conditions

Operating temp.	– 10 ... + 55° C
Relative humidity	< 85%, no condensation allowed
Elevation	Max. 2000 m

Mechanical Design

Protection IP 65
Extract from table on the meaning of IP codes

IP XY (1 st digit X)	Protection against foreign object entry	IP XY (2 nd digit Y)	Protection against the penetration of water
6	dust-tight	5	water jets

Housing	Impact resistant, dust-proof rubber housing
Display cover	Unbreakable
Connector cable between test probes	Rubber-insulated flexible cable: H 07 RNF, 1 m
Dimensions	Test probe with display: 274 x 75 x 47 mm
Weight	460 g

Standard Equipment

- 1 voltage tester
- 1 set operating instructions

Order Information

Designation	Type	Article Number
Voltages tester with phase, polarity and phase sequence testing	METRAVOLT®7A	M630D

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