

METRAVOLT 12D+L

Voltage and Continuity Tester with Phase, Polarity and Phase Sequence Testing

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- **Voltage tester:** Nominal voltage range
0 ... 1000 V AC/1500 V DC
when switched on manually;
Automatic power-up as from 24 V
- **Resistance and Continuity tester:** 0.1 ... 49 k Ω
50 ... 1999 k Ω
acoustic signal up to 10 k Ω
- **Phase tester:** Display of „POL“ on LCD panel and symbol ▶
- **Polarity tester:** Minus sign before displayed value
- **Phase sequence tester:** Symbol ▶ indicates clockwise rotation
- **Display with background illumination**



Applications

The METRAVOLT 12D+L is a 2-pole voltage tester with digital display combined with integrated continuity, phase, polarity and phase sequence testing. It allows for safe detection and measurement of AC and DC voltages within a range of 24 to 1000 V at frequencies of up to 4 kHz. Resistance can also be measured within a range of 0 to 1999 k Ω with the integrated continuity tester. Voltage and resistance values appear in digital format at the LCD. Additionally, four LEDs indicate voltage, phase, phase sequence, and a LED and a sound generator indicate continuity.

Features

Fully Automated Measuring Sequence

The voltage tester is switched on automatically as soon as a voltage of at least 24 V is applied. The respective voltage measuring range and voltage type are selected automatically. If interference voltages of greater than 24 V are detected, the instrument switches automatically from the continuity test to the voltage test.

The instrument is switched off automatically approximately 30 seconds after the last measurement in order to extend battery life.

Measured Value Storage

The displayed measured value can be “frozen” at the LCD by pressing the HOLD key.

Self-Test and Battery Monitoring

The self-test checks all display elements and device functions. A signal is generated automatically if the battery requires replacement.

Rugged Housing

The impact resistant, dust-tight housing makes the instrument virtually indestructible. The display is protected by means of an unbreakable cover. The instrument can also be used in precipitation thanks to IP 65 protection.

High Safety Levels

Excellent electrical safety is achieved by means of series resistors integrated into both test probes.

Applicable Regulations and Standards

DIN EN 61243-3 VDE 0682-401:2011-02	2-pole voltage testers to 1000 V
EN 60529 VDE 0470-1	Test instruments and test procedures Protection provided by enclosures (IP code)
DIN EN 61326-1 VDE 0843-20-1	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements

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Technical Data

Measured Quantity	Measuring Ranges ²⁾ (Automatic Range Selection)	Resolution	Frequency Range / Measuring Current	Intrinsic Uncertainty
U-	0.01 V ... 8.99 V 9.0 V ... 99.9 V 100 V ... 1500 V	0.01 V 0.1 V 1 V	—	±(1.5% rdg. + 3 digits)
U~ TRMS	1.0 V ... 99.9 V 100 V ... 1200 V	0.1 V 1 V	15 Hz ... 1.8 kHz	±(1.5% rdg. + 3 digits)
U~ ¹⁾	15 V ... 99.9 V 100 V ... 499 V		> 1.8 kHz ... 10 kHz	
	500 V ... 1200 V		> 1.8 kHz ... 4 kHz	
R	0.1 kΩ ... 49 kΩ	100 Ω	5 μA	±(5% rdg. + 3 digits)
	50 kΩ ... 1999 kΩ	1 kΩ	1 μA	

¹⁾ TRMS value, sinusoidal

²⁾ Display as from 0,0 V

Key: rdg. = reading (measured value)

Nominal Conditions of Use

Nominal voltage range 0 ... 1000 V AC / 1500 V DC
(Auto on from 24 V onwards)

Nominal frequency range 15 Hz ... 10 kHz < 500 V
15 Hz ... 4 kHz > 500 V

Input impedance 311 kΩ, series resistors directly
downstream of the two test electrodes

Current 3.2 mA at 1000 V

On-time 2 minutes



LEDs

3 round red LEDs for voltage ±50 V and 120 V
green square LED Ω continuity up to 1999 Ω and diodes
red triangular LED for phase and phase sequence

Digital Display

Type LCD, 7-segment characters, 3½ places,
for V or kΩ measurement
as well as voltage type ~/DC and polarity,
with background illumination

Display range 0 ... 1999 digits

Overflow display "OL" appears

Measuring rate 3 measurements per second

Power Supply

Battery 9 V flat block battery
zinc-carbon battery per IEC 6 F22,
alkaline manganese cell per IEC 6 LR61,
or equivalent rechargeable NiCd battery

Battery test The battery status is symbolized by a
3-stage battery indicator „“.

Electrical Safety

Measurement category 1000 V CAT IV

Surge withstand capability > 12 kV (1.2 / 50 μs) (type testing)

Test voltage 6 kV

Electromagnetic Compatibility

Interference emission EN 61236-1:2006 class B

Interference immunity EN 61236-1:2006

Ambient Conditions

Operating temperature -10 ... + 55 °C

Relative humidity max. 85 %

Elevation max. 2000 m

Mechanical Design

Protection IP 65

Housing Impact-resistant, dust-proof plastic
housing with unbreakable display cover

Connector cable between test probes PUR sheathed cable with double insulation
1 x 1,5 mm², 1000 V

Dimensions Test probe with display panel:
62 x 240 x 39 mm

Weight 270 g (including battery)

Standard Equipment

- 1 Voltage tester
- 1 Operating instructions
- 1 Battery

Order Information

Designation	Type	Article Number
Voltage and continuity tester with phase, polarity and phase sequence testing	METRAVOLT 12D+L	M630G

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