

METRAVOLT[®] 12D

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

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- **Voltage tester:** 8 to 1000 V AC / 1500 V DC, automatic
0.1 to 1200 V AC / 1500 V DC
0 to 10 kHz
- **Continuity tester:** 0.1 to 9.9 k Ω + high pitch acoustic signal
10 to 1999 k Ω + low pitch acoustic signal
- **Phase tester:** With contact electrode and LED ►
- **Polarity tester:** With preceding minus sign
- **Phase sequence tester:** LED ► indicates clockwise rotation



Applications

The METRAVOLT[®] 12D 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 8 to 1000 V at frequencies of up to 10 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, 5 LEDs and a tone generator indicate voltage, phase, phase sequence and continuity.

Features

Fully Automated Measuring Sequence

The voltage tester is switched on automatically as soon as a voltage of at least 8 V is applied. The respective voltage measuring range and voltage type are selected automatically. If interference voltages of greater than 8 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. The value is displayed until the HOLD key is once again released.

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 high impact, dust-proof housing makes the instrument virtually indestructible. The display is protected by means of an unbreakable cover. The instrument can be used in the rain 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 part 401):1999-09 | 2-pole voltage testers to 1000 V |
| EN 60529 VDE 0470, part 1 | Test instruments and test procedures Protection provided by enclosures (IP code) |
| DIN EN 61326 VDE 0843 Part 20 | Electrical equipment for measurement, control and laboratory use – EMC requirements |

METRAVOLT® 12D

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

Technical Data

Direct and Alternating Voltage, Resistance (continuity)

| Measured Quantity | Measuring Ranges (automatic range selection) | Resolution | Frequency Range / Measuring Current | Intrinsic Error |
|------------------------|--|--------------|-------------------------------------|-----------------------|
| U ₋ | 0.1 V ... 199.9 V 200 V ... 1500 V | 0.1 V 1 V | — | ±0.5% rdg. + 1 digit |
| U _~ TRMS | 0.5 V ... 199.9 V 200 V ... 1200 V | 0.1 V 1 V | 15 Hz ... 1.8 kHz | ±1.0% rdg. + 2 digits |
| U _~ 1) | 15 V ... 199.9 V 200 V ... 1200 V | 1 V | > 1.8 kHz ... 10 kHz | ±15% rdg. + 2 digits |
| R | 0 ... 9.9 kΩ | 0.1 kΩ | 5 μA | ±5% rdg. + 2 digits |
| | 10 ... 1999 kΩ | 1 kΩ | 1 μA | |

1) TRMS value, sinusoidal

Key

rdg. = reading (measured value)

Nominal Conditions of Use

| | |
|-------------------------|-----------------------------|
| Nominal voltage range | 8 ... 1000 V AC / 1500 V DC |
| Nominal frequency range | 15 Hz ... 10 kHz |
| Input impedance | 311 kΩ |
| Current | 3.2 mA at 1000 V |
| Duty cycle | 2 minutes |

Digital Display

| | |
|------------------|----------------------------------|
| Type | 7-segment characters, 3 ½ places |
| Display range | 0 ... 1999 digits |
| Overflow display | "OL" appears |
| Measuring rate | 3 measurements per second |

Power Supply

| | |
|--------------|---|
| Battery | 9 V flat-cell battery zinc-carbon battery per IEC 6 F22, alkaline manganese battery per IEC 6 LR61, or corresponding rechargeable NiCd battery |
| Battery test | "BAT" symbol is displayed automatically when the battery requires replacement. |

Electrical Safety

| | |
|-------------------------|-----------------------|
| Measurement category | 1000 V CAT IV |
| Surge voltage withstand | 14.8 kV (1.2 / 50 μs) |
| Test voltage | 6.6 kV |

Electromagnetic Compatibility

| | |
|------------------------|-----------|
| Interference emission/ | |
| Interference immunity | IEC 61236 |

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 | Rubber-insulated flexible cable H 07 RNF |
| Dimensions | Test probe with indicator: 62 × 240 × 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 | M630C |

Edited in Germany • Subject to change without notice • A pdf version is available on the internet