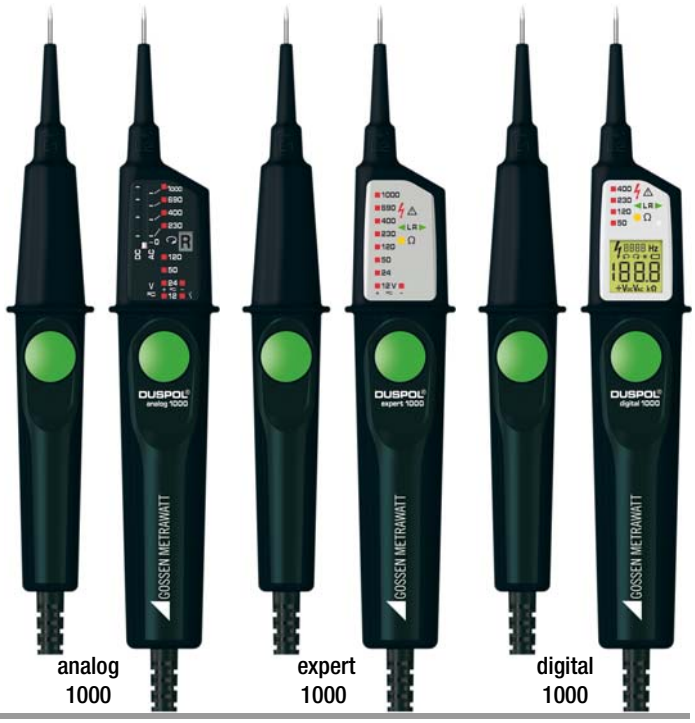
GOSSEN METRAWATT

# **DUSPOL** analog 1000 / expert 1000 / digital 1000
# Voltage Tester

3-349-712-03
3/11.16

- Voltage testing
- Phase sequence test
- Phase testing
- Polarity check
- Cable fracture detector
- Continuity test (**DUSPOL expert 1000** & **digital 1000** only)
- Load connection via vibration motor
  – for the suppression of reactive voltage
  – for the discharge of capacitors
  – for the triggering of 10/30 mA RCCBs
- Vibrating alert:
  the integrated motor with unbalance signals activity during load testing by generating vibrations in the tester handle
- Illumination of measuring points
  (**DUSPOL expert 1000** & **digital 1000** only)
- Rugged housing design with rubberized handle surface
- Protection class: IP 65




## Application

The instruments are rated for DC and AC voltage tests in a voltage range from 12 V to 1000 V. With DC voltage, it is possible to perform polarity tests and with AC voltage, it is also possible to perform phase tests with these instruments. They show the phase sequence of a 3-phase current system, provided the neutral point is grounded.

## Applicable Regulations and Standards

| | |
|---|---|
| IEC 61010-1/<br>DIN EN 61010-1/<br>VDE 0411-1 | Safety requirements for electrical equipment for measurement, control and laboratory use<br>– Part 1 General requirements |
| DIN EN 61243-3<br>VDE 0682-401:2011-02 | Live working - Voltage detectors<br>– Part 3: Two-pole low-voltage type (IEC 61243-3:2009); German version EN 61243-3:2010 |
| DIN EN 60529<br>VDE 0470-1 | Test instruments and test procedures<br>Protection provided by enclosures (IP code) |
| DIN EN 61326-1<br>VDE 0843-20-1 | Electrical equipment for measurement, control and laboratory use – EMC requirements<br>– Part 1: General requirements |

## Electric Safety

Measuring category CAT IV 600 V / CAT III 1000 V

## Electromagnetic Compatibility (CEM)

Interference emission /
Interference immunity EN 61326 Part 1

## Mechanical Design

Protection Housing IP 65
per DIN VDE 0470 Part 1/EN 60529
Extract from table on the meaning of IP codes

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

Weight approx. 250 g
Connector cable approx. 1000 mm

# **DUSPOL** analog 1000 / expert 1000 / digital 1000
# Voltage Tester

## Characteristic Values

| | **DUSPOL** analog 1000 | **DUSPOL** expert 1000 | **DUSPOL** digital 1000 |
|---|---|---|---|
| **Nominal voltage range** | LED: 12 ... 1000 V AC/DC<br>additional moving coil level indicator during testing under load | LED: 12 ... 1000 V AC/DC | LCD:<br>6 ... 1000 V AC TRUE RMS / 1200 V DC<br>Low voltage range: 1.0 ... 11.9 V AC |
| **Nominal frequency range** | 0 ... 60 Hz | 0 ... 500 Hz | 0 ... 1000 Hz |
| **Resolution** | | | 0.1 V to 198.9 V / 1 V as from 199 V |
| **Voltage measurement accuracy** | Un ±15% (max. display error) | Un ±15% (max. display error) | ±3% rdg. + 5 digits |
| **Display stages** | LED: 12/24/50/120/230/400/690/1000 V AC/DC | LED: 12/24/50/120/230/400/690/ 1000 V AC/DC | LED: 50/120/230/400 V AC/DC |
| **Continuity test** | | yellow LED + buzzer:<br>optical 0 ... 100 kΩ | yellow LED + buzzer:<br>optical 0 ... 100 kΩ |
| **Cable fracture detector** | | yellow LED blinks/fades out | yellow LED blinks/fades out |
| **Resistance measurement** | | | LCD: 0.1 kΩ ... 300 kΩ |
| **Resistance measurement accuracy** | | | ±10% rdg. + 5 digits |
| **Diode test** | | | LCD: 0.3 V ... 2 V |
| **Phase sequence test** | LED (≥ Un 230 V 50/60 Hz) | green LED (≥ Un 230 V 50/60 Hz) | green LED (≥ Un 230 V 50/60 Hz) |
| **Frequency measurement** | | | 15 Hz ... 1,000 Hz |
| **Frequency meas. accuracy** | | | ±2.5% rdg. + 1 digit |
| **Phase (conductor) test** | LED (≥ Un 230 V 50/60 Hz) | red LED (≥ Un 230 V 50/60 Hz) | red LED (≥ Un 230 V 50/60 Hz) |
| **Polarity check** | LED: + / – | LED: + / – | LCD: + / – |
| **Direct display without pressing a pushbutton** | high-impedance test | high-impedance test | high-impedance test |
| **Load connection via pushbutton** | low-voltage test<br>(connection of vibration motor) | low-voltage test<br>(connection of vibration motor) | low-voltage test<br>(connection of vibration motor) |
| **Deliberate triggering of RCCB** | Testing of phase conductor (phase) towards PE (earth) | Testing of phase conductor (phase) towards PE (earth) | Testing of phase conductor (phase) towards PE (earth) |
| **Illumination** | | Measuring point | Measuring point and display |
| **Internal resistance of measuring circuit** | 180 kΩ | 175 kΩ | 175 kΩ |
| **Maximum permissible on-time** | 30 s, followed by 600 s inactivity | 30 s, followed by 240 s inactivity | 30 s, followed by 240 s inactivity |
| **Power supply** | no batteries necessary | 2 x 1.5 V micro, LR03/ AAA | 2 x 1.5 V micro, LR03/ AAA |

## Ambient Conditions

Operating and storage temperatures
**DUSPOL analog 1000**: –20 °C ... +45 °C
**DUSPOL expert 1000**: –15 °C ... +55 °C
**DUSPOL digital 1000**: –15 °C ... +55 °C

Relative humidity 20 ... 96 % (climatic category N)

**Accessory**
**CASE-DUSPOL**
**(Z611T)**




## Order Information

| Designation | Type | Article Number |
|---|---|---|
| Voltage Tester<br>12 ... 1000 V AC/DC | **DUSPOL analog 1000** | M611D |
| Voltage and Continuity Tester<br>12 ... 1000 V AC/DC | **DUSPOL expert 1000** | M611E |
| Voltage and Continuity Tester<br>1 ... 1000 V AC TRUE RMS/1200 V DC | **DUSPOL digital 1000** | M611F |
| Case for DUSPOL with belt clip and velcro<br>Dimensions: 31 x 12,5 x 6 cm | CASE-DUSPOL | Z611T |

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