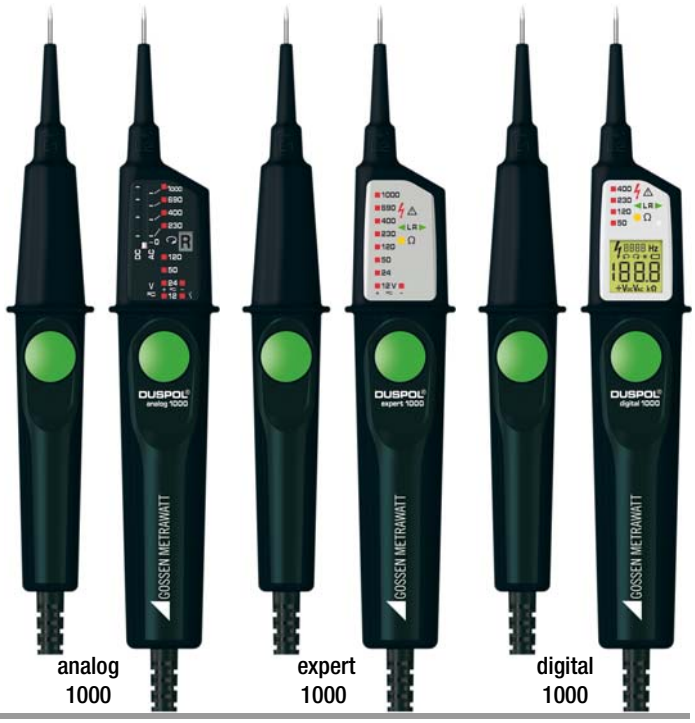
GOSSEN METRAWATT

DUSPOL analog 1000 / expert 1000 / digital 1000
Voltage Tester

3-349-712-03
1/4.13

- 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/ DIN EN 61010-1/ VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1 General requirements
DIN EN 61243-3 VDE 0682-401:2011-02	Live working - Voltage detectors – Part 3: Two-pole low-voltage type (IEC 61243-3:2009); German version EN 61243-3:2010
DIN 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

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

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Characteristic Values

	DUSPOL analog 1000	**DUSPOL** expert 1000	**DUSPOL** digital 1000
Nominal voltage range	LED: 12 ... 1000 V AC/DC additional moving coil level indicator during testing under load	LED: 12 ... 1000 V AC/DC	LCD: 6 ... 1000 V AC TRUE RMS / 1200 V DC 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)	±2.5% rdg. + 3 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: optical 0 ... 100 kΩ	yellow LED + buzzer: 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			±5% rdg. + 5 digits
Diode test			LCD: 0.3 V ... 2 V
Phase sequence test	LCD (≥ 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	LCD (≥ 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 (connection of vibration motor)	low-voltage test (connection of vibration motor)	low-voltage test (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)

Order Information

Designation	Type	Article Number
Voltage Tester 12 ... 1000 V AC/DC	**DUSPOL** analog 1000	M611D
Voltage and Continuity Tester 12 ... 1000 V AC/DC	**DUSPOL** expert 1000	M611E
Voltage and Continuity Tester 1 ... 1000 V AC TRUE RMS/1200 V DC	**DUSPOL** digital 1000	M611F

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