Earth testers
MI 3288 Earth Insulation Tester

High Voltage Insulation / Continuity / Earth / Transformer

MI 3288 Earth Insulation Tester is a portable, battery powered test instrument with excellent IP protection and designed for high altitude (300 V CAT III at 4000 m). It can measure earth resistance, specific earth resistance, earth potential, step and touch voltages, insulation resistance and continuity of protection conductors of various energetic and non-energetic objects. The MI 3288 Earth Insulation Tester also supports 4-wire earth resistance measuring method in combination with one clamp, two clamps earth resistance measurement, 4-wire specific earth resistance measurement and TRMS current measurement.

With the option to measure earth potential, step and touch voltage it is a truly versatile tester. It can even test the breakdown voltage of overvoltage protection devices. Among supported features is also the download of saved results to a PC with the help of Metrel ES Manager PC software to the computer for evaluation and report generation after testing.

MEASURING FUNCTIONS

- Earth resistance 4 - pole;
- Selective earth resistance with 1 clamp;
- Specific earth resistance Ro **Wenner and Schlumberger method**;
- Earth resistance with 2 iron clamps;
- Earth potential;
- Step and touch voltage measurement with external P/S probe;
- **Insulation resistance with DC voltage from 50 V to 2500 V** and PI, DAR calculation;
- Varistor test 2,5 kV;
- Current measurements with clamps AC and DC;
- TRMS voltage and frequency measurements;
- Low Ohm measurements with 7 mA and 200 mA DC test current.

KEY FEATURES

- Possibility of performing all main types of earth measurements with a single instrument.
- Multi-frequency test signal for best noise immunity.
- Insulation range: wide range of insulation test voltages from 50 V to 2500 V, resistance measuring range up to 100 GΩ.
- Overvoltage category 600 V CAT II, 300 V CAT III; **at 4000 m above sea level**.
- 4.3'' colour LCD display with touch screen.
- Programmable AUTO SEQUENCEs.
- High degree of protection.
- **4-wire 200 mA DC** resistance measurement.
- Support for single or automated measurements.
- Built-in charger and rechargeable Li-ion batteries as standard accessory.
- **BT communication** with PC, Android tablets and smart phones via built-in BT.
- PC SW Metrel ES Manager for measurement pre and post processing: preparation of the test structure, result download, tree-view, table view and graphical view, storing and printing.

APPLICATION

- Initial and periodic testing of domestic and industrial installations.
- Industrial areas, smaller buildings, mining facilities.

STANDARDS

Safety
- EN 61010 - 1
- EN 61010 - 2 - 030 c
- EN 61010 - 2 - 032
- EN 61010 - 031

Functionality
- EN 61557 - 2
- EN 61557 - 4
- EN 61557 - 5

Electromagnetic compatibility
- EN 61326

Other reference standards
- IEC/EN/HD 60364
- AS/NZ 3018
- CEI 64.8
- HD 384
- BS 7671
- VDE 0413

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TECHNICAL SPECIFICATION

FUNCTION	Measuring range	Resolution	Accuracy
Insulation resistance Riso Un = 2,5 kV	0 kΩ ... 999 kΩ 1.00 MΩ ... 9.99 MΩ 10.0 MΩ ... 99.9 MΩ 100 MΩ ... 999 MΩ 1.00 GΩ ... 9.99 GΩ 10.0 GΩ ... 99.9 GΩ	1 kΩ 0.01 MΩ 0.1 MΩ 1 MΩ 10 MΩ 100 MΩ	±(3 % of reading + 3 digits) ±(5 % of reading + 3 digits) ±(15 % of reading + 1 digit)
Continuity 200 mA of PE conductor with polarity change	0.020 Ω ... 1.999 Ω 2.00 Ω ... 19.99 Ω 20.0 Ω ... 999.9 Ω 1.000 kΩ ... 1.999 kΩ	0.001 Ω 0.01 Ω 0.1 Ω 1 Ω	±(1 % of reading + 2 digits)
Low resistance continuity measurement, test current 7 mA (continuous measurement)	0.0 Ω ... 199.9 Ω 200 Ω ... 1,999 kΩ 2.00 kΩ ... 19.99 kΩ 20.0 kΩ ... 199.9 kΩ 200 kΩ ... 999 kΩ	0.1 Ω 1 Ω 10 Ω 100 Ω 1 kΩ	±(0,5 % of reading + 5 digits) ±(2 % of reading + 5 digits)
Earth resistance 4-wire method test frequency 55 – 164 Hz	0.010 Ω ... 1.999 Ω 2.00 Ω ... 19.99 Ω 20.0 Ω ... 199.9 Ω 200 Ω ... 999 Ω 1.000 kΩ ... 1.999 kΩ 2.00 kΩ ... 19.99 kΩ	0.001 Ω 0.01 Ω 0.1 Ω 1 Ω 0.001 kΩ 0.01 kΩ	±(3 % of reading + 3 digits)
Earth resistance 4-wire method with one current clamp - Selective	0.010 Ω ... 1.999 Ω 2.00 Ω ... 19.99 Ω 20.0 Ω ... 199.9 Ω 200 Ω ... 999 Ω 1.000 kΩ ... 1.999 kΩ 2.00 kΩ ... 19.99 kΩ	0.001 Ω 0.01 Ω 0.1 Ω 1 Ω 0.001 kΩ 0.01 kΩ	±(8 % of reading + 3 digits)
2-clamp earth resistance measurement	2.00 Ω ... 9.99 Ω 10.0 Ω ... 49.9 Ω 50 Ω ... 100 Ω	0.01 Ω 0.1 Ω 1 Ω	±(5 % of reading + 2 digits) ±(10 % of reading + 2 digits) ±(20 % of reading)
Specific earth resistance Ro Wenner and Schlumberger method	0.00 Ωm ... 19.99 Ωm 20.0 Ωm ... 199.9 Ωm 200 Ωm ... 999 Ωm 1.000 kΩm ... 1.999 kΩm 2.00 kΩm ... 19.99 kΩm 20.0 kΩm ... 199.9 kΩm 200 kΩm ... 999 kΩm 1.0 MΩm ... 1.99 MΩm	0.01 Ωm 0.1 Ωm 1 Ωm 0.001 kΩm 0.01 kΩm 0.1 kΩm 1 kΩm 10 kΩm	calculated value (consider uncertainty of 4 – pole measurement)
Earth potential - voltage	0.00 mV ... 99.99 mV 100.0 mV ... 999.9 mV 1.000 V ... 9.999 V 10.00 V ... 49.99 V	0.01 mV 0.1 mV 1 mV 10 mV	±(1 % of reading + 3 digits)
Step and Touch	0.1 V ... 199.9 V 200 V ... 999 V	0.1 V 1 V	calculated value
Voltage TRMS	0.000 V ... 9.999 V 10.00 V ... 99.99 V 100.0 V ... 749.9 V	0.001 V 0.01 V 0.1 V	Range: 15 ... 99 Hz ±(0.5 % of reading + 3 digits) Range: 100 ... 399 Hz ±(1 % of reading + 3 digits) Range: 400 ... 1200 Hz ±(5 % of reading + 3 digits)
Voltage DC	0.000 V ... 9.999 V 10.00 V ... 99.99 V 100.0 V ... 999.9 V	0.001 V 0.01 V 0.1 V	±(0.5 % of reading + 3 digits)
Frequency	15.00 Hz ... 99.99 Hz 100.0 Hz ... 999.9 Hz 1000 Hz ... 1200 Hz	0.01 Hz 0.1 Hz 1 Hz	±(0.2 % of reading + 1 digit)
Current with A 1281 Current clamp	10 mA ... 749 mA 0.10 A ... 7.49 A 2.0 A ... 99.9 A 100 A ... 149 A 20 A ... 999 A	1 mA 0.01 A 0.1 A 1 A 1 A	±(2.5 % of reading + 3 digits)
Varistor Test	0.0 V .... 99.9 V 100 V .... 999 V 1.00 kV .... 2.50 kV	0.1 V 1 V 10 V	±(1 % of reading + 3 digits)

GENERAL	
Measuring category	300 V CAT IV; derated to 600 V CAT II; 300 V CAT III at 4000 m ASL
Protection class	Double insulation
COM port	BT, USB
Display	4.3'' colour LCD display with backlight and touch screen
Degree of protection	IP 54
Power supply	7.2 V (4400 mAh Li-ion battery pack)
Size (l x h x w)	250 x 110 x 160 mm
Weight	1.6 kg

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Note! Photographs in this catalogue may slightly differ from the instruments at the time of delivery.
Subject to technical change without notice.

ORDERING INFORMATION

Picture of MI 3288 - 50 m set

Standard set MI 3288
- MI 3288 Earth Insulation Tester
- Battery pack 7,2 V 4400 mAh
- Power supply adapter 12 V/3 A
- 2,5 kV test lead, 2 x 1,5 m
- Test lead, green, 1,5 m
- Test lead, 4 x 1 m
- Test probe, 2 pcs (red, black)
- Crocodile cclip, 4 pcs (black, blue, green, red)
- Soft carrying bag
- Soft carrying neck belt
- USB cable
- PC SW Metrel ES Manager BASIC License
- Short instruction manual
- Instruction manual (on CD)
- Calibration certificate

MI 3288 – 20 m
- MI 3288 ST
- Earth test set, 20 m (2 x test lead, 20 m; 2 x test lead, 4,5 m; 4 x earth test rod)

MI 3288 – 50 m
- MI 3288 ST
- Earth test set, 50 m (2 x test lead, 50 m; 2 x test lead, 4,5 m; 4 x earth test rod)

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. Decription
	A 1568	8800 mAh battery pack
	A 1019	Current clamp
	A 1281	Current clamp
	A 1227	Flexible current clamp
	S 2122	Earth test set, 4-wire, 20 m
	S 2123	Earth test set, 4-wire, 50 m
	S 2053	Step voltage plates
	A 1597	Human body resistance probe
	P 1101	BASIC to PRO licence key upgrade for Metrel ES Manager

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