

# Hand-held insulation tester

## MD1000<sub>R</sub>



### Features

- Insulation test up to 200 GΩ
- Test voltages: 250 V - 500 V - 1000 V
- Short circuit current: 1.5 ± 0.3 mA
- Guard terminal
- Auto-range
- Programmable timer
- Pass-fail test
- Low resistance and continuity measurement
- AC/DC voltmeter up to 600 V True RMS
- Rechargeable battery

### Description

The MEGABRAS **MD1000R** is a smart, microprocessor-controlled, 1 kV insulation tester for up to 200 GΩ @ 1 kV resistance measuring with 250 V, 500 V and 1000 V test voltage. It is a portable, hand-held, battery powered equipment. Due to its measurement principle (actual voltage and current readings) it is a "true megohmmeter" and so the accuracy of resistance measurement is not affected by any test voltage error.

Operation is very simple and user-friendly: just connect the leads, switch-on the equipment, select the test voltage and press the start button. Then the equipment automatically selects the most suitable scale and shows the measured value in the digital display.

In order to guarantee the operator safety there are no accessible metallic parts. Output terminals are placed in the furthest and most protected area of the equipment. A light indicator shows high-voltage presence and is switched-off when the capacities (both internal and external) are discharged up to reaching a safe value.

Furthermore, it offers useful additional features: 200 mA continuity range, low resistance measurement, AC/DC voltage measurement up to 600 V, selectable timer, hold memory, and selectable resistance limits for pass-fail testing, with acoustic indication.

Surface leakage paths may affect the measurement of high value insulation resistance. The use of the GUARD terminal permits to remove the effect of this current, substantially improving the test result.



Illustrative image

# Technical specifications

ELECTRICAL	
<b>MD1000R</b>	
Test voltages	250 V - 500 V - 1000 V Negative, DC voltage
Resistance measurement range	10 k $\Omega$ up to 200 G $\Omega$
Short circuit current	1.5 $\pm$ 0.3 mA
Test voltage accuracy	-0 / +15 % for resistances between 10 M $\Omega$ and open circuit
Basic accuracy	R $\leq$ 50 G $\Omega$ : $\pm$ 5 % of reading $\pm$ 2 digits R > 50 G $\Omega$ : $\pm$ 10 % of reading $\pm$ 2 digits
Low resistance measurement and continuity tester	Range: 0.05 $\Omega$ to 150 $\Omega$ Accuracy: $\pm$ 5 % of reading $\pm$ 2 digits Test current: up to 200 mA Continuity indicator: Activates at R < 5 $\Omega$ $\pm$ 0.5 $\Omega$
Voltmeter	True RMS Range: 0 - 600 V <sub>AC/DC</sub> Accuracy: $\pm$ 3 % of reading $\pm$ 2 digits
FEATURES	
Built-in timer	5 - 10 - 15 - 30 seconds 1 - 2 - 3 - 5 - 10 - 15 minutes
Pass / fail test	1 - 2 - 5 - 10 - 20 - 50 - 100 - 200 - 500 M $\Omega$ 1 - 2 - 5 - 10 - 20 - 50 - 100 G $\Omega$
Polarization index	Automatic
Display	3½ digits
Auto power-off	The equipment powers off automatically after 5 minutes of inactivity.

STANDARDS	
Overvoltage protection	CAT III - 600 V
Safety class	IEC 61010-1
EMC	IEC 61326-1
Electrostatic immunity	IEC 61000-4-2
Electromagnetic irradiation immunity	IEC 61000-4-3
ENVIRONMENTAL	
Operation temperature	-5 °C to 50 °C
Storage temperature	-10 °C to 60 °C
Humidity	95 % RH (without condensation)
POWER SUPPLY	
Rechargeable battery	4 x 1.2 V LR6 (AA) NiMH (included)
Battery life	Approx. 1000 tests of 5 seconds with an interval of 25 seconds according IEC 61557-2. During the measurement is used a test resistance which the value is UN x (1000 $\Omega$ / V)
Battery charger	AC Adapter, 12 V - 1 A
MECHANICAL (OF THE INSTRUMENT)	
Weight	Approx. 0.5 kg
Dimensions	102 x 195 x 46 mm

## Included accessories

- 2x Measuring test leads
- GUARD test lead
- AC Adapter
- User manual
- Carrying bag

## Global Presence

MEGABRAS equipment are used in more than 40 countries around the world



### Test & Measurement equipment

Digital transformer ratiometer  
Earth ground testers  
Hipots  
Insulating glove tester  
Insulation testers  
Kilovoltmeters  
Micro-ohmmeters  
Power quality analyzers  
Vibration meter



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