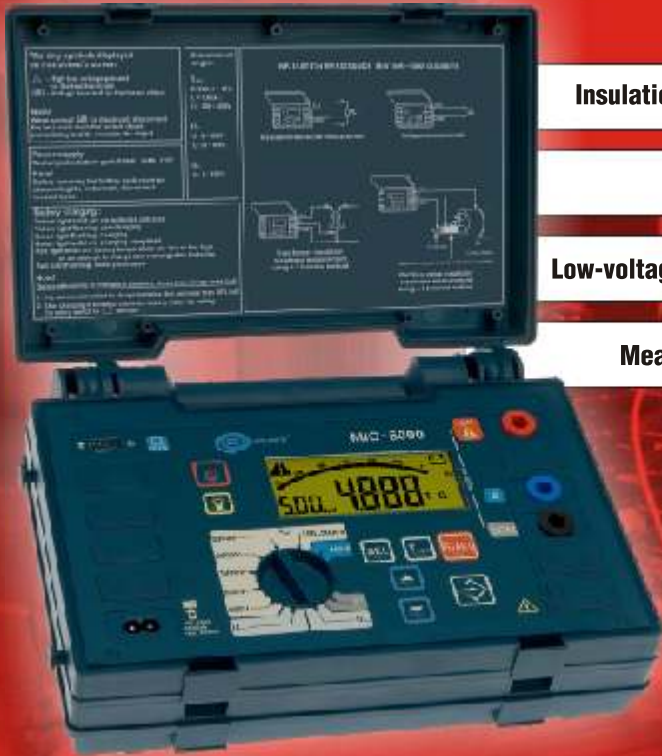


INSULATION RESISTANCE METER

MIC-5000



Insulation resistance measurement

Leakage current indication

Low-voltage resistance measurement

Measurement of AC/DC voltage

Main features of MIC-5000:

- test voltages between 50...5000V in 50V steps,
- insulation resistance measurement up to 5TΩ (5000GΩ),
- low-voltage resistance measurement,
- direct measurement of absorption coefficients,
- Polarization Index (PI),
- Dielectric Absorption Ratio DAR,
- automatic selection of measuring ranges,
- measurement time intervals adjustable from 1s to 600s,
- memory for 999 measurement results,
- ability to transfer the data to a PC,
- automatic discharge of tested object after measurement,
- acoustic determination of 5 second time intervals that facilitates to take time characteristics during measurement,
- built-in power supply adaptor for automatic battery charging,
- ergonomic operation.

Digital insulation resistance meter MIC-5000 is intended for direct measurements of insulation resistance in power cables, transformers, electric motors and other power devices and equipment. Additionally, the device enables measurement of DC and AC voltages as well as low voltage measurement of resistances. Input of the meter are electronically protected from overloading, e.g. due to incorrect connection to the circuit being tested or incorrect use of input terminals.

Standard Accessories

- NiMH battery package 7,2V 3Ah (WAAKU05)
- test lead with banana plug; 1,8m; 5kV; red (WAPRZ1X8REBB)
- test shielded lead with banana plug; 1,8m; 5kV; black (WAPRZ1X8BLBB)
- test lead with banana plug; 1,8m; 5kV; blue (WAPRZ1X8BUBB)
- "Crocodile" clip K04; 5kV; black (WAKROBL20K04)
- "Crocodile" clip K05; 5kV; red (WAKRORE20K05)
- cable for battery charger (WAPRZLAD230)
- RS-232 serial transmission cable (WAPRZRS232)
- carrying case L1 (WAFUTL1)
- hanging straps (WAPOZSZE1)
- user Manual
- Calibration Certificate
- Sonel CD - technical data and software

Optional Accessories

- Adapter - converter USB1.1/RS232 (WAADAUSBRS232)
- Calibration Certificate issued by Calibration Laboratory (LSWGBMIC5000)
- Sonel PE3 - software for creation of documentation from electrical measurements for PC (WAPROPE3EN)
- Sonel PE3 + Sonel Schematic - software for creation drawings and diagrams for PC (WAPROPE3SEN)

2 year warranty

Nominal operating conditions

- test voltages 250...5000V with 50V step
- test voltage accuracy ($R_{obc} [\Omega] \geq 1000 \cdot U_N [V]$): -0+10% of the set value
- the voltage temperature stability better than: 0.2% / °C
- measurement times T_1, T_2 i T_3 for absorption coefficient measurement selected from the range between 1sec and 600sec with accuracy ± 1 sec

Electrical Safety

- type of insulation: double, PN-EN 61010-1 and IEC 61557 compliant
- measurement category: CAT. III 300V PN-EN 61010-1
- protection class PN-EN 60529: IP54

Other technical data

- power supply: battery pack type SONEL NiMH 7.2V
- dimensions: 295 x 222 x 95 mm
- weight (incl. batteries): approx. 1.9 kg
- operating temperature: -10...+50°C
- storage temperature: -20...+60°C
- reference temperature: +20...+25°C
- AUTO-OFF time:
mode R_{ISO} : depends on T_2 or T_3 ($T_2/T_3 + 300$ sec) settings
other modes: 300 sec
- frequency of measurements in R_{ISO} mode: approx. 1 measurement/sec
- number of RISO measurements: min. 1000
- display: LCD, 4 digits 14mm high
- data interface standard: RS-232

Measurement range:

$$R_{ISOmin} = U_{ISONom} / I_{ISOmax} \dots 5,000T\Omega \quad (I_{ISOmax} = 1mA)$$

Range	Resolution	Accuracy
000,0...999,9kΩ	0,1kΩ	±(3% m.v. ± 20 digits)
1,00...9,999MΩ	0,001MΩ	
10,00...99,99MΩ	0,01MΩ	
100,0...999,9MΩ	0,1MΩ	
1,00...9,999GΩ	0,001GΩ	
10,00...99,99GΩ	0,01GΩ	
100,0...999,9GΩ	0,1GΩ	
1,00...5,000TΩ	0,001TΩ	

Maximum value of the measured resistance depending on the test voltage:

Test Voltage	Range
250V	400GΩ
500V	800GΩ
1000V	1,60GΩ
2500V	4,00TΩ
5000V	5,00TΩ

Leakage current reading:

Range	Resolution	Accuracy
0... I_{pmax}	Depending on range	- ΔI , + ΔI

AC voltage 50-60Hz

(sine waveform with a harmonic component <2%):

Range	Resolution	Accuracy
0...600V	1V	±(3% m.v. ± 2 digits)

DC voltage:

Range	Resolution	Accuracy
0...600V	1V	±(3% m.v. ± 2 digits)

☞ „m.v.“ in the definition of accuracy denotes the measured value

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