

# INSULATION RESISTANCE METER MIC-5001

INSULATION RESISTANCE  
MEASUREMENT UP TO  
**5TΩ**  
IN ACCORDANCE  
WITH IEC 61557-2



- **Insulation resistance measurement:**

- measuring voltage selectable in the 50 ... 500 V range with 50 V step, and in the 500 V to 5000 range with 100 V step,
- continuous indication of insulation resistance or leakage current,
- automatic discharge of capacitance of tested object after the insulation resistance measurement,
- acoustic signalling of five-second periods to facilitate obtaining time characteristics,
- measured test times of T1, T2 and T3 for measuring the absorption coefficient DAR and polarization index PI,
- indication of actual test voltage during the measurement,
- protection against measuring live objects.

- **Two and three-lead measurement method.**

- **RampTest Insulation resistance measurement and measurement of breakdown voltage with increments up to ~ 1 kV / s.**

- **Measurement of alternating and direct voltages in the 0...750 V range.**

- **990 cells of memory (11880 records), data transmission to a PC through a USB cable.**

- **Built-in rechargeable battery pack.**

- **The instruments meet the requirements of the EN 61557 standard.**

- **The ability to charge from car lighter (12 V) socket (additional accessories).**

Sonel S.A.  
Wokulskiego 11  
58-100 Świdnica  
tel. +48 74 85 83 860  
fax +48 74 85 83 809

[export@sonel.pl](mailto:export@sonel.pl)  
[www.sonel.pl](http://www.sonel.pl)

# MIC-5001

## Insulation resistance measurement (two-lead)

Measurement range acc. to IEC 61557-2 for  $R_{ISOmin}=U_{ISOmin}/I_{ISOmax} \dots 1T\Omega (I_{ISOmax}=1 \text{ mA})$

| Range            | Resolution | Accuracy               |
|------------------|------------|------------------------|
| 0,0...999,9 kΩ   | 0,1 kΩ     | ±(3% m.v. + 20 digits) |
| 1,000...9,999 MΩ | 0,001 MΩ   |                        |
| 10,00...99,99 MΩ | 0,01 MΩ    |                        |
| 100,0...999,9 MΩ | 0,1 MΩ     |                        |
| 1,000...9,999 GΩ | 0,001 GΩ   |                        |
| 10,00...99,99 GΩ | 0,01 GΩ    |                        |
| 100,0...999,9 GΩ | 0,1 GΩ     |                        |
| 1,000...5,000 TΩ | 1 GΩ       | ±(4% m.v. + 50 digits) |

## Values of measured resistance depending on measurement voltage

| Voltage $U_{ISO}$ | Measurement range |
|-------------------|-------------------|
| up to 100 V       | 50 GΩ             |
| 200 V...400 V     | 100 GΩ            |
| 500 V...900 V     | 250 GΩ            |
| 1000 V...2400 V   | 500 GΩ            |
| 2500 V            | 1000 GΩ           |
| 5000 V            | 5 TΩ              |

## RampTest Insulation resistance measurement

| Range            | Resolution | Accuracy               |
|------------------|------------|------------------------|
| 0,0...999,9 kΩ   | 0,1 kΩ     | ±(5% m.v. + 40 digits) |
| 1,000...9,999 MΩ | 0,001 MΩ   |                        |
| 10,00...99,99 MΩ | 0,01 MΩ    |                        |
| 100,0...999,9 MΩ | 0,1 MΩ     |                        |
| 1,000...9,999 GΩ | 0,001 GΩ   |                        |
| 10,00...99,99 GΩ | 0,01 GΩ    |                        |
| 100,0...999,9 GΩ | 0,1 GΩ     |                        |
| 1,000...4,999 TΩ | 0,001 TΩ   |                        |

## The measurement of breakdown voltage in RampTest mode

| Range               | Resolution | Chosen $U_{ISO}$ | Accuracy                |
|---------------------|------------|------------------|-------------------------|
| 25,0 V ... 99,0 V   | 0,1 V      | <600 V           | (± 5% m.v. ± 10 digits) |
| 100 V ... 600 V     | 1 V        | <600 V           | (± 5% m.v. ± 4 digits)  |
| 25 V ... 999 V      | 1 V        | >600 V           | (± 5% m.v. ± 5 digits)  |
| 1,00 kV ... 5,00 kV | 10V        | >600 V           | (± 5% m.v. ± 4 digits)  |

## DC and AC voltage measurement

| Range       | Resolution | Accuracy              |
|-------------|------------|-----------------------|
| 0...299,9 V | 0,1 V      | ±(3% m.v. + 2 digits) |
| 300...750 V | 1 V        | ±(3% m.v. + 2 digits) |

• frequency range: 45...65 Hz

\*The acronym „m.v.“ stands for a „measured reference value“

## Electrical safety:

- type of insulation double, in acc. with EN 61010-1 and IEC 61557
- measurement category IV 600 V (III 1000 V) in acc. EN 61010-1
- case protection rating in acc. EN 60529 IP65

## Other technical specifications::

- power supply of the meter NIMH 9.6 V - 2 Ah battery pack and power supply 12 V
- weight of the meter approx. 0,9 kg
- dimensions 200 x 180 x 77 mm
- display LCD segment display
- measurement results memory 990 cells, 11880 records
- transmission of measurement results USB

## Standard accessories of the meter:

- test lead with banana plug; 1.8 m; 5 kV; red
- test lead with banana plug; 1.8 m; 5 kV; blue
- test lead with banana plug; 1.8 m; 5 kV; black
- USB transmission cable
- crocodile clip K09; black; 11 kV
- crocodile clip K09; red; 11 kV
- crocodile clip K09; blue; 11 kV
- pin probe 5kV red
- pin probe 5kV black
- carrying case M8
- power supply adaptor Z7
- battery pack
- SONEL Reader software
- calibration certificate
- warranty card

WAPRZ1X8REBB  
WAPRZ1X8UBBB  
WAPRZ1X8LBB  
WAPRZUSB  
WAKROBL32K09  
WAKRORE32K09  
WAKROBU32K09  
WASONREOG82  
WASONBLOG82  
WAFUTM8  
WAZASZ7

## Additional accessories of the meter:

- shielded test lead with banana plug; 5 m; black 5kV
- shielded test lead with banana plug; 5 m; red 5kV
- shielded test lead with banana plug; 5 m; blue 5kV
- probe insulation resistance of floors and walls
- test lead with banana plug; 10 m; 5 kV; black
- test lead with banana plug; 10 m; 5 kV; red
- test lead with banana plug; 10 m; 5 kV; blue
- lead for battery loading from the socket of car lighter (12V)
- Sonel PE 5 software
- 5 kV Calibration Box

WAPRZ0058LBBE5K  
WAPRZ0058REBB5K  
WAPRZ0058UBB5K  
WASONPRS1GB  
WAPRZ0108LBBE5K  
WAPRZ0108REBB5K  
WAPRZ0108UBB5K  
WAPRZLAD12SAM  
WAPROSONPE5  
WAADACS5KV

