

**CAT IV****600 V****CAT III****1000 V** **IP65**

For measurement  
of wiring in houses



For measurement  
of wires and cables



For measurement  
of pole transformer  
substations



For measurement  
of street lighting  
power cables



For measurement  
of telephone wiring



For measurements  
of pre-insulated  
pipes

## Measure insulation resistance with the MIC-2501 Insulation Resistance Meter

### Product features

- measurement voltage within the range of 100...2500 V, selected in steps of 100 V
- continuous reading of measured insulation resistance or leakage current
- automatic discharge of the measured object's capacitance upon completion of insulation resistance measurement,
- sound signalling of five-second time intervals, facilitating capture of time characteristics
- timed measurement times  $T_1$ ,  $T_2$  and  $T_3$  for measurement of absorption coefficients (Ab/PI/DAR) at 15, 60 and 600 s and polarization index
- reading of actual measurement voltage during measurement
- protection against measurement of live objects



## Application

This insulation resistance meter is a device with a wide range of applications. It may be successfully operated both in residential construction industry and for inspecting industrial systems or traction networks. Due to its characteristics - excellent performance, low power consumption from batteries, the option of charging them during measurements, convenience of use and a high ingress protection level - it is often used by electricians working in maintenance teams, testing motors, cables, street lighting or at the construction and maintenance of photovoltaic systems. The device perfectly matches the needs of installers of telecommunications networks and operators of district heating networks, where the inspection of alarm system on insulated pipes is necessary.

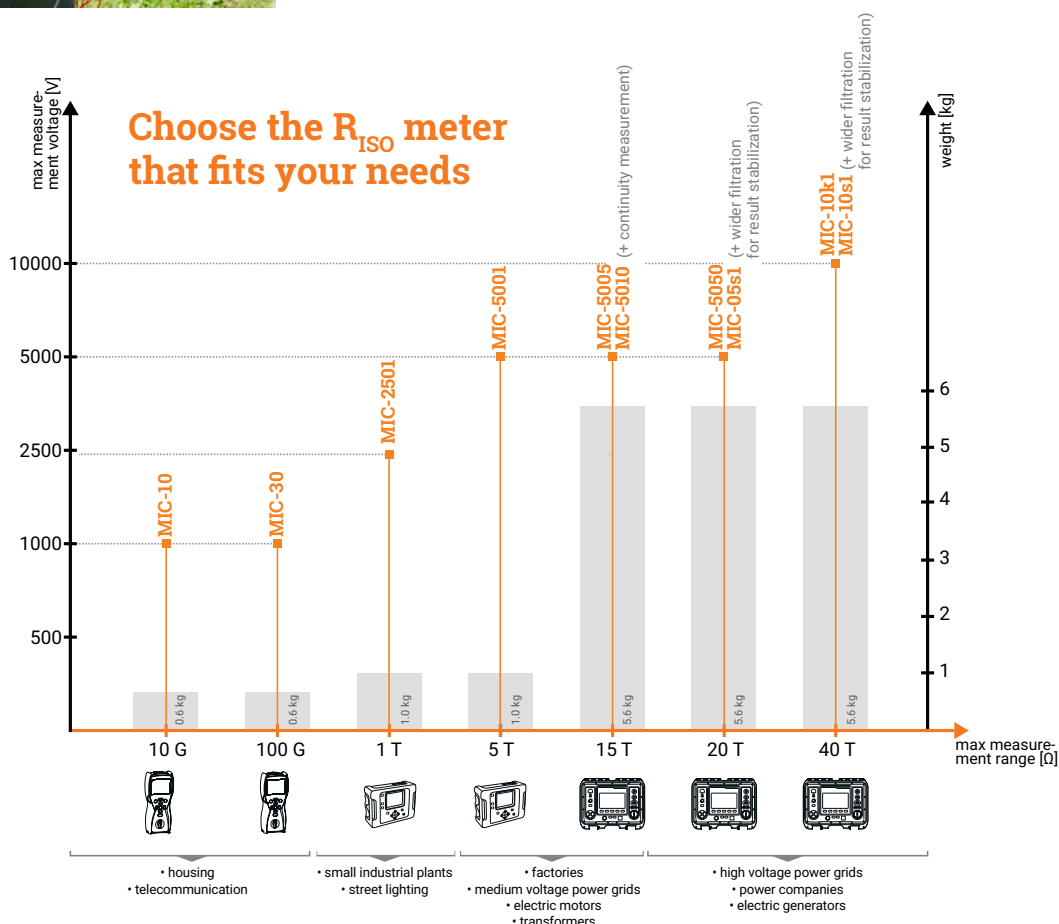
## Features

The meter may be used to measure the insulation resistance using the test voltage up to 2500 V. When testing the cables, it automatically discharges their load at the moment of completing the measurement. MIC-2501 allows user to measure the continuity of protective conductors and equipotential bondings with current exceeding 200 mA in both directions. The meter has a built-in voltmeter of AC and DC voltages in the range of up to 750 V. Extensive memory allows the device to record and send to a computer nearly 12,000 measurement results.



## Capabilities

An important advantage of the device is its ability to a sufficiently long operation after one recharging of batteries. Electricians performing tests on repetitive objects or at short intervals do not have to worry about batteries discharging before completing the task. In addition, during the measurement work, the user may recharge device from an external power source, e.g. a powerbank of 12 V/2 Ah.



## Insulation resistance measurement

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

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	
1000 GΩ	1 GΩ	

## 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	

• frequency range: 45...65 Hz

## 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

## Low-voltage measurement of resistance and circuit continuity

Range	Resolution	Accuracy
0.00...19.99 Ω	0.01 Ω	±(2% m.v. + 3 digits)
20.0...199.9 Ω	0.1 Ω	
200...999 MΩ	1 Ω	±(2% m.v. + 3 digits)

## Technical specification

type of insulation	double, acc. to EN 61010-1 and EN 61557
measurement category	CAT IV 600 V (CAT III 1000 V) acc. to EN 61010-1
degree of housing protection acc. to EN 60529	IP65
power supply of the meter	SONEL battery pack NiMH 9.6 V 2 Ah
battery charging time	usually 4 h max. 10 h
parameters of the external power supply adapter	90...264 V 50...60 Hz
dimensions	200 x 150 x 75 mm
meter weight	approx. 1.0 kg
operating temperature	-15...+40°C
number of $R_{ISO}$ measurements acc. to EN 61557-2	approx. 800
display	modular LCD
memory of measurement results	990 cells
data transmission	USB
quality standard for design, construction and manufacturing compliant with	ISO 9001 ISO 14001 PN-N-18001
the device meets the requirements of	EN 61557 standard
the product meets EMC requirements (immunity for industrial environment) according to the following standards	EN 61326-1 EN 61326-2-2



## Standard accessories



**shielded test lead with banana plugs; 5 kV; 1.8 m; black**  
WAPRZ1X8BLBB



**test lead with banana plugs; 5 kV; 1.8 m; red**  
WAPRZ1X8REBB



**test lead with banana plugs; 5 kV; 1.8 m; blue**  
WAPRZ1X8BUBB



**black "crocodile" clip 11 kV 32 A**  
WAKROBL32K09



**red "crocodile" clip 11 kV 32 A**  
WAKRORE32K09



**blue "crocodile" clip 11 kV 32 A**  
WAKROBU32K09



**test probe with banana socket; 5 kV; black**  
WASONBLOGB2



**test probe with banana socket; 5 kV; red**  
WASONREOGB2



**USB cable**  
WAPRZUSB



**meter power adapter (type Z7)**  
WAZASZ7



**230 V power cord (IEC C7 plug)**  
WAPRZLAD230



**Sonel Reader PC software**  
WAPROREADER



**M-8 carrying case**  
WAFUTM8

## Additional accessories



**test lead 5 m / 10 m, black, 5 kV (banana plugs, shielded)**  
WAPRZ005BLBBE5K  
WAPRZ010BLBBE5K



**test lead 5 m / 10 m, red, 5 kV (banana plugs, shielded)**  
WAPRZ005REBB5K  
WAPRZ010REBB5K



**test lead 5 m / 10 m, blue, 5 kV (banana plugs, shielded)**  
WAPRZ005BUBB5K  
WAPRZ010BUBB5K



**cable for battery charging from car cigarette lighter socket (12 V)**  
WAPRZLAD12SAM



**PRS-1 resistance test probe**  
WASONPRS1GB



**pin probe, blue 1 kV (banana socket)**  
WASONBUOGB1



**CS-1 cable simulator**  
WAADACS1