



# MIC-10k1

Indeks: WMGBMIC10K1

Insulation Resistance Meter



## Description

### Insulation resistance measurement: up to 40 TΩ

- measurement voltage any in the range of: 50...10000 V (50...1000 V at 10 V and 1...10 kV at 25 V),
- continuous indication of measured insulation resistance or leakage current,
- automatic discharge of measured object capacitance voltage after the end of insulation resistance measurement,
- acoustic signaling of 5 seconds intervals to facilitate capturing time characteristics,
- adjustable measuring time to 99'59'',
- metered  $T_1$ ,  $T_2$  and  $T_3$  test times for measuring one or two absorption coefficients from the range of 1...600 s,
- polarization index (PI), absorption coefficients  $Ab_1$ ,  $Ab_2$  and dielectric absorption ratio (DAR) measurement,
- indication of actual test voltage during measurement,
- 1.2 mA, 3 mA and 6 mA test current,
- insulation resistance measurement using two- or three-wire method,
- measurements with test leads up to 20 m...

- protection against measuring live objects,
- automatic measurement of multiple core cables with the additional AutoISO-5000 adapter (for MIC-10k1 max. voltage 5 kV)
- measurement of capacitance during the measurement of  $R_{ISO}$ .
- measurement of temperature (with additional probe - WASONT1),
- step voltage insulation resistance measurement (SV),
- Dielectric Discharge calculation (DD),
- location of damage (burnout),

### **Digital filters function for measurements in high noise environment.**

**Measurement of leakage current during insulation resistance testing.**

**DC and AC voltage measurement in the range of 0...750 V.**

**Drawing graphs on the display during measurement.**

**Innovative memory with possibility of description of: measurement points, facilities, names of customers.**

**Operating with mini Bluetooth keyboard (option).**

**MIC-10s1 - Stable measurements in noisy environments such as 765 kV substations.**

**Graphic LCD 5,6" backlit.**

**Keyboard backlit.**

**Power supply from battery packs.**

**Built-in fast charger.**

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

[Virtual instrument application of Sonel MIC-10k1](#)

## **Technical Specification**

### **Insulation resistance measurement**

Measurement range acc. to IEC 61557-2:  $U_N = 10000V$ : 10,0M $\Omega$ ... 40,0T $\Omega$

Range	0,0...999 k $\Omega$
Resolution	1 k $\Omega$
Accuracy	$\pm(3\% \text{ m.v.} + 10 \text{ digits})$

Range	1,00...9,99 MΩ
Resolution	0,01 MΩ
Accuracy	±(3% m.v. + 10 digits)
Range	10,0...99,9 MΩ
Resolution	0,1 MΩ
Accuracy	±(3% m.v. + 10 digits)
Range	100...999 MΩ
Resolution	1 MΩ
Accuracy	±(3% m.v. + 10 digits)
Range	1,00...9,99 GΩ
Resolution	0,01 GΩ
Accuracy	±(3% m.v. + 10 digits)
Range	10,0...99,9 GΩ
Resolution	0,1 GΩ
Accuracy	±(3% m.v. + 10 digits)
Range	100...999 GΩ
Resolution	1 GΩ
Accuracy	±(3,5% m.v. + 10 digits)
Range	1,00...9,99 TΩ
Resolution	0,01 TΩ
Accuracy	±(7,5% m.v. + 10 digits)
Range	10,0...20,0 TΩ
Resolution	0,1 TΩ
Accuracy	±(12,5% m.v. + 10 digits)
Range	10,0...40,0 TΩ

Resolution	0,1 TΩ
Accuracy	±(12,5% m.v. + 10 digits)

### Values of measured resistance depending on measurement voltage

Voltage UIISO	50 V
Measurement range	200 GΩ
AutoISO-5000 measurement range	20,0 GΩ
Voltage UIISO	100 V
Measurement range	400 GΩ
AutoISO-5000 measurement range	40,0 GΩ
Voltage UIISO	250 V
Measurement range	1,00 TΩ
AutoISO-5000 measurement range	100 GΩ
Voltage UIISO	500 V
Measurement range	2,00 TΩ
AutoISO-5000 measurement range	200 GΩ
Voltage UIISO	1000 V
Measurement range	4,00 TΩ
AutoISO-5000 measurement range	400 GΩ
Voltage UIISO	2500 V
Measurement range	10,00 TΩ
AutoISO-5000 measurement range	400 GΩ
Voltage UIISO	5000 V
Measurement range	20,0 TΩ

AutoISO-5000 measurement range	400 GΩ
Voltage UIISO	10 000 V
Measurement range	40,0 TΩ
AutoISO-5000 measurement range	-

### Step voltage insulation resistance measurement

Voltage UIISO	50...1000 V
MIC-10k1	10 V
Voltage UIISO	1000...5000 V
MIC-10k1	25 V
Voltage UIISO	5000...10000 V
MIC-10k1	25 V

### DC and AC voltage measurement

Range	0.0...29,9 V
Resolution	0,1 V
Accuracy	±(2% m.v. + 20 digits)
Range	30,0...299,9 V
Resolution	0,1 V
Accuracy	±(2% m.v. + 6 digits)
Range	300...750 V
Resolution	1 V
Accuracy	±(2% m.v. + 2 digits)

- Frequency range: 45...65Hz

### Measurement of capacitance

Display range	1...999 nF
Resolution	1 nF
Accuracy	$\pm(5\%m.v. + 5 \text{ digits})$
Display range	1,00...49,99 $\mu$ F
Resolution	0,01 $\mu$ F
Accuracy	$\pm(5\%m.v. + 5 \text{ digits})$

- capacity measurement result is displayed after the  $R_{150}$  measurement
- for measuring voltages under 100 V capacitance measurement accuracy not specified.

### Measurement of temperature

Display range	-40,0...99,9 °C
Resolution	1 °C
Accuracy	$\pm(3\%m.v. + 8 \text{ digits})$
Display range	-40,0...211,8 °F
Resolution	1 °F
Accuracy	$\pm(3\%m.v. + 16 \text{ digits})$

### 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. with EN 61010-1
- case protection rating in acc. with EN 60529: IP40 (IP67 - with lid closed)

## **Other technical specifications:**

- power supply of the meter: built-in battery pack,
- weight of the meter: approx. 5,6 kg,
- dimensions: 390 x 310 x 180 mm,
- display: graphic LCD 5,6',
- transmission of measurement results USB or Bluetooth®.

The acronym "m.v." stands for a "measured reference value".