



MIC-5010 5kV Class Insulation Tester

Indeks: WMUSMIC5010

Insulation Resistance meter

CAT IV
600V

IP 54

CAT III
1000V

Description

The MIC-5010 is a portable, rugged, easy-to-use, 5 kV class insulation test meter. The MIC-5010 has a wide measurement range, selectable test voltages, and excellent safety features.

Insulation resistance measurement features:

- User-selectable test voltage any from 50 to 1,000 V (with 10 V resolution) and 1,000 to 5,000 V (with 25 V resolution)
- Continuous indication of measured insulation resistance or leakage current
- Audio beeps every five-second periods to indicate measurement progress
- Indication of actual test voltage during measurement
- 1.2 mA and 3 mA test current
- Step voltage insulation resistance measurement (SV)
- Selectable test times (T1, T2 , T3 from 1 to 600 seconds) to measure one or two absorption coefficients
- Adjustable measuring time to 99' 59"
- Polarization index (PI) and dielectric absorption ratio (DAR) measurements
- Dielectric Discharge calculation (DD)
- High-noise immunity; digital filters function for measurements in high noise environment (10 s, 30 s , 60 s)
- Continuity measurement of protective connections and equipotential

bonding in accordance with EN 61557-4

- Adjustable limits for measured resistance RISO and RCONT.
- Measurement of capacitance during the measurement of RISO
- DC and AC voltage measurement in the range of 0 to 600 V
- Meter conforms to EN 61557

Safety First Features.

- CAT-IV 600V, CAT-III 1000V
- Automatic discharge of tested object after the insulation resistance measurement completes to remove high-voltage charge remaining due to cable capacitance
- Protection against measuring live objects, measurement will not proceed
- Measurements with test leads up to 66 ft / 20 m length

Construction

- Backlit keyboard and display
- Rugged IP 54 case - Protected from water spray from any direction

Power Supply

- Power supply from battery packs, low battery warning indicator, built-in fast charger

Memory Features

- 990 cells of memory (11,880 records) to save test results
- Data transmission to a PC via USB cable

Press article: [MIC-10k1, MIC-5050: new models of insulation resistance meters.](#)

[Test drive the MIC 5010 with this Online Simulator:](#)



There is also an offline simulator of **MIC 5010** ready to download in the Files section.

Technical specification

Insulation resistance measurement (two-lead)

Measurement range acc. to IEC 61557-2: 50k to 15.0 TΩ (IISO_{nom} = 1.2 mA or 3 mA)

Range	Resolution	Accuracy
0.0 to 999 kΩ	1 kΩ	±(3% m.v. + 10 digits)
1.00 to 9.99 MΩ	0.01 MΩ	
10.0 to 99.9 MΩ	0.1 MΩ	
100 to 999 MΩ	1 MΩ	
1.00 to 9.99 GΩ	0.01 GΩ	
10.0 to 99.9 GΩ	0.1 GΩ	
100 to 999 GΩ	1 GΩ	±(3.5% m.v. + 10 digits)

1.00 to 9.99 TΩ	0.01 TΩ	±(7.5% m.v. + 10 digits)
10.0 to 15.0 TΩ	0.1 TΩ	±(10% m.v. + 10 digits)

Values of measured resistance depending on measurement voltage

Voltage UIISO	Measurement range
250 V	500 GΩ
500 V	1.00 TΩ
1,000 V	2.00 TΩ
2,500V	5.00 TΩ
5,000V	15.0 TΩ

Measurement of leakage current

Range	Resolution	Accuracy
0 to ILmax	m, μ, n [A]	Calculated basing on resistance measurements

- ILmax – maximum current at short circuit of leads,
- resolution and units result from the measurement range of individual insulation resistance.

Step voltage insulation resistance measurement

Target voltage	Measurement voltage sequence
1 kV	200, 400, 600, 800, 1,000 V
2.5 kV	0.5, 1, 1.5, 2, 2.5 kV
5 kV	1, 2, 3, 4, 5 kV

- duration of each "step" adjustable from 30s to 5mins
- measurement result for each voltage step is stored in memory

Continuity measurement of protective connections and equipotential bonding with 200 mA current

Measurement range acc. to EN 61557-4: 0.12 to 999 Ω

Range	Resolution	Accuracy
0.00 to 19.99 Ω	0.01 Ω	$\pm(2\% \text{ m.v.} + 3 \text{ digits})$
120.0 to 199.9 Ω	0.1 Ω	
200 to 999 Ω	1 Ω	$\pm(4\% \text{ m.v.} + 3 \text{ digits})$

- Voltage on open terminals: 4 to 24 V
- Output current at $R < 2 \Omega$: $I_{\text{min}} > 200 \text{ mA}$ (ISC: 200 to 250 mA)
- Compensation of test lead resistance
- Current flowing in both directions, mean value of resistance is displayed

Capacity measurement

Range	Resolution	Accuracy
1 to 999 nF	1 nF	$\pm(5\% \text{ m.v.} + 5 \text{ digits})$
1.00 to 49.99 μF	0.01 μF	

- Capacity measurement result is displayed after the RISO measurement

DC and AC voltage measurement

Range	Resolution	Accuracy
0.0 to 29.9 V	0.1 V	$\pm(2\% \text{ m.v.} + 20 \text{ digits})$
30.0 to 299.9 V	0.1 V	$\pm(2\% \text{ m.v.} + 6 \text{ digits})$
300 to 600 V	1 V	$\pm(2\% \text{ m.v.} + 2 \text{ digits})$

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