MIC-5005

Indeks: WMGBMIC5005

Insulation resistance meter

CAT IV 600V

IP 54

CAT III 1000V

Description

- Insulation resistance measurement:
  - measurement voltage any in the range of 50...1000 V at 10 V and 1000...5000 V at 25 V resolution,
  - continuous indication of measured insulation resistance or leakage current,
  - automatic discharge of measured object capacitive voltage after the end of insulation resistance measurement,
  - acoustic signaling of 5 seconds intervals to facilitate capturing time characteristics,
  - metered T_1 , T_2 and T_3 test times for measuring one or two absorption coefficients from the range of 1...600 s,
  - adjustable measuring time to 99'59'',
  - polarization index (PI) and dielectric absorption ratio (DAR) measurement,
  - indication of actual test voltage during measurement,
  - 1.2 mA and 3 mA test current,
  - step voltage insulation resistance measurement (SV),
  - Dielectric Discharge calculation (DD),
  - protection against measuring live objects,
  - measurements with test leads up to 20 m.

- Digital filters function for measurements in high noise enviroment (10 s, 30 s , 60 s).
- Measurement of leakage current during insulation resistance testing.
- Measurement of capacitance during the measurement of R_{ISO}.
- DC and AC voltage measurement in the range of 0…600 V.
- 990 cells of memory (11880 records) with the capability of wireless data transmission to a PC or through a USB cable.
- Power supply from battery packs, low battery warning indicator, built-in fast charger.
- Display backlit.

The instruments meet the requirements of the EN 61557 standard.

Technical Specification

Insulation resistance measurement (two-lead)

Measurement range acc. to IEC 61557-2: 50k…15,0 TΩ (I_{ISOnom} = 1,2 mA or 3 mA)

Range	Resolution	Accuracy
0,0…999 kΩ	1 kΩ	±(3% m.v. + 10 digits)
1.00…9,99 MΩ	0,01 MΩ	
10.0…99,9 MΩ	0,1 MΩ	
100…999 MΩ	1 MΩ	
1.00…9,99 GΩ	0,01 GΩ	
10.0…99,9 GΩ	0,1 GΩ	
100…999 GΩ	1 GΩ	±(3.5% m.v. + 10 digits)
1.00…9,99 TΩ	0,01 TΩ	±(7.5% m.v. + 10 digits)
10.0…15,0 TΩ	0,1 TΩ	±(10% m.v. + 10 digits)

Values of measured resistance depending on measurement voltage

Voltage U_{ISO}	Measurement range
250 V	500 GΩ
500 V	1.00 TΩ
1000 V	2.00 TΩ
2500V	5.00 TΩ
5000V	15.0 TΩ

Measurement of leakage current

Range	Resolution	Accuracy
0…$I_L$max	m, µ, n [A]	Calculated basing on resistance measurements

· $I_L$max – 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, 1000 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

Capacity measurement

Range	Resolution	Accuracy
1...999 nF	1 nF	±(5% m.v. + 5 digits)
1.00...49.99 µF	0.01 µF	

· Capacity measurement result is displayed after the R_{ISO} measurement

DC and AC voltage measurement

Range	Resolution	Accuracy
0.0...29.9 V	0.1 V	±(2% m.v. + 20 digits)
30.0...299.9 V	0.1 V	±(2% m.v. + 6 digits)
300...600 V	1 V	±(2% m.v. + 2 digits)

The acronym “m.v.” stands for a “measured reference value”.