



## MIC-10

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### Insulation Resistance Meter

#### Description

- Insulation resistance measurement:
  - selected test voltage: 50, 100, 250, 500, 1000 V,
  - 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,
  - indication of actual test voltage during the measurement,
  - protection against measuring live objects,
  - three-lead measurement.
- Continuity measurement of protective and equipotential conductors according to EN 61557 - 4 with the >200 mA current
- Low-voltage circuit continuity and resistance measurement:

- circuit resistance measurement (<1999 ) with the <15 mA current,
- quick sound signal if circuit resistance is below 30 .
- Capacitance measurement during the  $R_{ISO}$  measurement
- Measurement of alternating and direct voltages in the 0...600 V range.
- Power supply: 4 AA disposable or rechargeable batteries, monitoring of power supply voltage.
- Meter conform to EN 61557.

## Specifications

### Electric safety:

- type of insulation: double, according to EN 61010 - 1 and IEC 61557
- measurement category: IV 600 V (III 1000 V) according to EN 61010 - 1
- protection class acc. to EN 60529: IP67

### Other technical specifications:

- power supply: 4 alkaline batteries or or battery package Ni-MH
- weight: ~1 kg
- dimensions: 220 x 100 x 60 mm

### Insulation resistance measurement

Measuring range according to EN 61557 - 2 for  $U_N=50$  V: 50 k ...250,0 M

| Range           | Resolution | Accuracy               |
|-----------------|------------|------------------------|
| 0,0...999,9 k   | 0,1 k      | ± (3% m.v. + 8 digits) |
| 1,000...9,999 M | 0,001 M    |                        |
| 10,0...99,99 M  | 0,01 M     |                        |
| 100,0...250,0 M | 0,1 M      |                        |

Measuring range according to EN 61557 - 2 for  $U_N=100$  V: 100 k ...500,0 M

| Range            | Resolution | Accuracy               |
|------------------|------------|------------------------|
| 0,0...999,9 k    | 0,1 k      | ± (3% m.v. + 8 digits) |
| 1, 000...9,999 M | 0,001 M    |                        |
| 10,0...99,99 M   | 0,01 M     |                        |
| 100,0...500,0 M  | 0,1 M      |                        |

Measuring range according to EN 61557 - 2 for  $U_N=250$  V: 250 k ...2,000 G

| Range           | Resolution | Accuracy               |
|-----------------|------------|------------------------|
| 0,0...999,9 k   | 0,1 k      | ± (3% m.v. + 8 digits) |
| 1,000...9,999 M | 0,001 M    |                        |
|                 |            |                        |

|                 |         |  |
|-----------------|---------|--|
| 10,0...99,99 M  | 0,01 M  |  |
| 100,0...999,0 M | 0,1 M   |  |
| 1,000...2,000 G | 0,001 G |  |

Measuring range according to PN-EN 61557 - 2 for  $U_N=500$  V: 500 k ...5,00 G

| Range           | Resolution | Accuracy               |
|-----------------|------------|------------------------|
| 0,0...999,9 k   | 0,1 k      | ± (3% m.v. + 8 digits) |
| 1,000...9,999 M | 0,001 M    |                        |
| 10,00...99,99 M | 0,01 M     |                        |
| 100,0...999,0 M | 0,1 M      | ± (4% m.v. + 6 digits) |
| 1,000...5,000 G | 0,001 G    |                        |

Measuring range according to EN 61557 - 2 for  $U_N=1000$  V: 1000 k ...10,00 G

| Range           | Resolution | Accuracy               |
|-----------------|------------|------------------------|
| 0,0...999,9 k   | 0,1 k      | ± (3% m.v. + 8 digits) |
| 1,000...9,999 M | 0,001 M    |                        |
| 10,00...99,99 M | 0,01 M     |                        |
| 100,0...999,0 M | 0,1 M      | ± (4% m.v. + 6 digits) |
| 1,000...5,000 G | 0,001 G    |                        |
| 5,00...10,00 G  | 0,01 G     |                        |

Continuity measurement of protective and equipotential conductors with the 200 mA current

Measuring range according to EN 61557 - 4: 0,10...1999

| Range        | Resolution | Accuracy               |
|--------------|------------|------------------------|
| 0,00...19,99 | 0,01       | ± (2% m.v. + 3 digits) |
| 20,0...199,9 | 0,1        |                        |
| 200...1999   | 1          | ± (4% m.v. + 3 digits) |

- Voltage on open terminals: <8 V
- Output current at  $R < 2 \Omega$  :  $I_{SC} > 200$  mA:  $I_{SC} > 200$  mA
- Compensation of test leads' resistance
- Unidirectional current flow

Low-voltage and resistance measurement

| Range       | Resolution | Accuracy               |
|-------------|------------|------------------------|
| 0,0...199,9 | 0,1        | ± (3% m.v. + 3 digits) |
| 200...1999  | 1          |                        |

- Voltage on open terminals: <8 V
- Current for closed terminals  $5 \text{ mA} < I_{SC} < 15 \text{ mA}$
- Sound signal and green LED on when measured resistance < 30  $\pm 50\%$
- Compensation of test leads' resistance,

## Capacitance measurements

| Range                     | Resolution         | Accuracy                                    |
|---------------------------|--------------------|---|
| 1...999 nF                | 1 nF               | $\pm (5\% \text{ m.v.} + 5 \text{ digits})$ |
| 1,00...9,99 $\mu\text{F}$ | 0,01 $\mu\text{F}$ |   |

- Capacitance value displayed during the  $R_{ISO}$  measurement
- For test voltages below 100 V and measured resistance below 10 M $\Omega$ , unspecified capacitance measurement error

## Measurement of alternating and direct voltage

| Range         | Resolution | Accuracy                                    |
|---------------|------------|---|
| 0,0...299,9 V | 0,1 V      | $\pm (2\% \text{ m.v.} + 6 \text{ digits})$ |
| 300...600 V   | 1 V        | $\pm (2\% \text{ m.v.} + 2 \text{ digits})$ |

- Frequency range: 45...65 Hz