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INSULATION RESISTANCE METERS

MIC-10 and MIC-30

CAT IV
600V

IP 67

Wireless data transmission to a computer.
Radio USB interface included!

- **Insulation resistance measurement:**

- selected test voltage: 50, 100, 250, 500, 1000V (MIC-10) or any voltage in the 50...1000V range with 10V step (MIC-30),
- automatic measurement in sockets with the UNI-Schuko adapter (MIC-30) with possibility of configuring pairs of measured cables,
- 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,
- measured test times T1, T2 i T3 to measure one or two absorption coefficients in the 1... 600 sec. range (only MIC-30),
- 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 >200mA current**

- **Low-voltage circuit continuity and resistance measurement:**

- circuit resistance measurement (<1999) with the <15mA current,
- quick sound signal if circuit resistance is below 30 .

- **Leakage current measurement (only MIC-30).**

- **Capacitance measurement during the R_{ISO} measurement**

- **Measurement of alternating and direct voltages in the 0...600V range.**

- **990 memory cells and wireless data transmission to a computer using the USB - OR-1 adapted (only MIC-30).**

- **Power supply: 4 AA disposable or rechargeable batteries, monitoring of power supply voltage.**

- **Meters conform to EN 61557.**

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MIC-10 i MIC-30

Insulation resistance measurement

Measuring range according to EN 61557-2 for U_n=50V: 50kΩ...250,0MΩ

Range	Resolution	Accuracy
0,0...999,9kΩ	0,1kΩ	±(3% m.v. + 8 digits) [±(5% m.v. + 8 digits)]*
1,000...9,999MΩ	0,001MΩ	
10,0...99,99MΩ	0,01MΩ	
100,0...250,0MΩ	0,1MΩ	

*- for the WS-04 lead (MIC-30)

Measuring range according to EN 61557-2 for U_n=100V: 100kΩ...500,0MΩ

Range	Resolution	Accuracy
0,0...999,9kΩ	0,1kΩ	±(3% m.v. + 8 digits) [±(5% m.v. + 8 digits)]*
1,000...9,999MΩ	0,001MΩ	
10,00...99,99MΩ	0,01MΩ	
100,0...500,0MΩ	0,1MΩ	

*- for the WS-04 lead (MIC-30)

Measuring range according to EN 61557-2 for U_n=250V: 250kΩ...2,000GΩ

Range	Resolution	Accuracy
0,0...999,9kΩ	0,1kΩ	±(3% m.v. + 8 digits) [±(5% m.v. + 8 digits)]*
1,000...9,999MΩ	0,001MΩ	
10,00...99,99MΩ	0,01MΩ	
100,0...999,0MΩ	0,1MΩ	
1,000...2,000GΩ	0,001GΩ	

*- for the WS-04 lead (MIC-30)

Measuring range according to PN-EN 61557-2 for **U_n=500V:**

- 500kΩ...5,00GΩ (MIC-10)
- 500kΩ...20,00GΩ (MIC-30)

Range	Resolution	Accuracy	
0,0...999,9kΩ	0,1kΩ	±(3% m.v. + 8 digits) [±(5% m.v. + 8 digits)]*	
1,000...9,999MΩ	0,001MΩ		
10,00...99,99MΩ	0,01MΩ		
100,0...999,0MΩ	0,1MΩ		
1,000...5,000GΩ	0,001GΩ	±(4% m.v. + 6 digits)	MIC-10
1,000...9,999GΩ	0,001GΩ	±(4% m.v. + 6 digits)	MIC-30
10,00...20,00GΩ**	0,01GΩ	[±(6% m.v. + 6 digits)]*	

*- for the WS-04 lead (MIC-30)
**- for the WS-04 lead – range to 10GΩ

Measuring range according to EN 61557-2 for **U_n=1000V:**

- 1000kΩ...10,00GΩ (MIC-10)
- 1000kΩ...100,00GΩ (MIC-30)

Range	Resolution	Accuracy	
0,0...999,9kΩ	0,1kΩ	±(3% m.v. + 8 digits)	
1,000...9,999MΩ	0,001MΩ		
10,00...99,99MΩ	0,01MΩ		
100,0...999,0MΩ	0,1MΩ		
1,000...5,000GΩ	0,001GΩ	±(4% m.v. + 6 digits)	MIC-10
5,00...10,00GΩ	0,01GΩ		MIC-10
1,000...9,999GΩ	0,001GΩ		MIC-30
10,00...99,99GΩ	0,01GΩ		MIC-30
100,0GΩ	0,1GΩ		MIC-30

„m.v." measured value.

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

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

Range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(2% m.v. + 3 digits)
20,0...199,9Ω	0,1Ω	
2000...1999Ω	1Ω	±(4% m.v. + 3 digits)

- Voltage on open terminals: <8V
- Output current at R <2Ω: I_{SC} >200mA: I_{SC} >200mA
- Compensation of test leads' resistance
- MIC-30 – bidirectional current flow, average resistance value is displayed
- MMIC-10 - unidirectional current flow

Low-voltage and resistance measurement

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

- Voltage on open terminals: <8V
- Current for closed terminals 5mA < ISC < 15mA
- Sound signal and green LED on when measured resistance < 30Ω ± 50%
- Compensation of test leads' resistance,

Capacitance measurements

Range	Resolution	Accuracy
1...999nF	1nF	±(5% m.v.. + 5 digits)
1,00...9,99µF	0,01µF	

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

Measurement of alternating and direct voltage

Range	Resolution	Accuracy
0,0...299,9V	0,1V	±(2% m.v. + 6 digits)
300...600V	1V	±(2% m.v. + 2 digits)

- Frequency range: 45...65Hz

Standard accesories:

- **MIC-30** Test lead with banana plug; 1,2m; red	**WAPRZ1X2REBB**
- **MIC-30** Test lead with banana plug; 1,2m; blue	**WAPRZ1X2BUBB**
- **MIC-30** Shielded test lead with banana plug; 1,2m; black	**WAPRZ1X2BLBBE**
- **MIC-30** "Crocodile" clip K02; blue	**WAKROBU20K02**
- **MIC-30** Receiver – interfejs for radio transmission OR1 (USB)	**WAADAUSBOR1**
- **MIC-10** Test lead with banana plug; 1,2m; black	**WAPRZ1X2BLBB**
- **MIC-10** Test lead with banana plug; 1,2m; red	**WAPRZ1X2REBB**
- **MIC-10** "Crocodile" clip K01; black	**WAKROBLK01**
- Pin probe with banana connector; black	**WASONBLOGB1**
- Pin probe with banana connector; red	**WASONREOGB1**
- Carrying case M6	**WAFUTM6**
- Hanging straps	**WAPOZSZE4**
- Handle to suspend the meter	**WAPOZUCH1**
- Certificate calibration	
- Battery set	

Additional accesories:

- Test lead with banana plug 5m; red	**WAPRZ005REBB**
- Test lead with banana plug 5m; blue	**WAPRZ005BUBB**
- Shielded test lead with banana plug; 5m; black	**WAPRZ005BLBBE**
- Test lead with banana plug 1,2m; blue	**WAPRZ1X2BUBB**
- "Crocodile" clip K02; red	**WAKRORE20K02**
- "Crocodile" clip K01; black	**WAKROBL20K01**
- "Crocodile" clip K02; blue	**WAKROBU20K02**
- Pin probe with banana connector; blue	**WASONBUOGB1**
- Adapter WS-04 with UNI-Schuko	**WAADAWS04**
- **MIC-30** Software for creation of documentation from electrical measurements "SONEL Reports"	**WAPROSONPE4**

Electric safety:

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

Other technical data:

- power suply	4 alkaline batteries or or battery package Ni-MH
- weight	~1kg
- dimentions	220 x 100 x 60 mm