

EARTH RESISTANCE METER

MRU-21



PN-EN
61557

Possible measurements:

- earth resistance measurement with 3-pole method,
- measurement of continuity of equipotential bondings and protective conductors with auto-zero function - with current 200mA,
- resistance measurement using 2-pole method.

Standard accessories of the meter MRU-21:

- | | | | |
|--|-----------------------|--|---------------------|
| - Test lead with banana plug; 1,2m; blue | WAPRZ1X2BUBB | - Earth contact test probe (rod); 0,30m (2 pc.) | WASONG30 |
| - Test lead with banana plug 2,2m; black | WAPRZ2X2BLBB | - Carrying case L4 | WAFUTL4 |
| - Test lead on a reel with banana plugs; 30m; red | WAPRZ030REBBSZ | - „Crocodile” clip K01; black | WAKROBL20K01 |
| - Test lead on a reel with banana plugs; 15m; blue | WAPRZ015BUBBSZ | - Set of hanging straps | WAPOZSZEKPL |
| - „Crocodile” clip K02; blue | WAKROBU20K02 | - Box for batteries | WAPOJ1 |
| - USB cable | WAPRZUSB | - Batteries package (4 pc.- LR14) | |
| | | - Calibration certificate issued by calibration laboratory | |

Optional accessories of the meter MRU-21:

- | | | | |
|---|-----------------------|---|---------------------|
| - Earth contact test probe (rod); 0,80m | WASONG80 | - Crocodile clip K02; red | WAKRORE20K02 |
| - Carrying case L3 | WAFUTL3 | - Cramp | WAZACIMA1 |
| - Test lead on a reel with banana plugs; 25m; blue | WAPRZ025BUBBSZ | - Software for creation of documentation from electrical measurements „SONEL PE4” | WAPROSONPE4 |
| - Test lead on a reel with banana plugs; 50m yellow | WAPRZ050YEBBSZ | - Hardware Adapter for Sonele PE program | WAADAKEY1 |
| - Test wire reel | WAPOZSZP1 | | |

Sonele S.A.
ul. Wokulskiego 11
58-100 Świdnica, PL
tel. +48 74 85 83 860
fax +48 74 85 83 809

export sonel.pl
www.sonel.pl

• **It allows to take:**

- earth resistance measurement using auxiliary probes with 3-pole method, measurements with max. resistance of auxiliary probes 50kΩ
- resistance measurement using 2-pole method
- measurement of continuity of equipotential bondings and protective conductors (meeting the requirements of IEC 60364-6-61:2000 section 6.12.2) with auto-zero function – with current 200mA.

• **Additionally:**

- measurement of resistance of auxiliary electrodes R_s and R_H ,
- measurement of interference voltage,
- high immunity to interference voltage
- selection of maximum measuring voltage (25V and 50V),
- memory of 990 measurement results
- data transmission to the computer (USB)
- indication of battery state.

Electric security:

- type of insulation double, according to PN-EN 61010-1 and IEC 61557
- measurement category CAT IV 300V acc. to PN-EN 61010-1
- protection class acc. to EN 60529 IP54

Rated operational conditions:

- operation temperature -10...+55°C
- storage temperature -20...+70°C
- humidity 20...80%

Other technical data:

- LCD display segment, backlit
- interface USB
- number of measurements carried out of set of batteries > 1000 (5Ω, 2 meas./min.)
- warranty 2 years
- dimensions 288x223x75mm
- weight 1,4kg

Measurement of earthing resistance

measurement range to IEC61557-5: **0,50Ω...1,99kΩ for $U_N=50V$;**
0,68Ω...1,99kΩ for $U_N=25V$;

Range	Resolution	Accuracy
0,00...9,99Ω	0,01Ω	±(2% m.v. + 3 digits)
10,0...99,9Ω	0,1Ω	
100...999Ω	1Ω	
1,00k...1,99kΩ	0,01kΩ	

- measurement current: under short circuit >20mA,
- voltage on open terminals: selectable <25V AC or <50V AC,
- frequency of measurement current: 125Hz

Measurement of resistance of auxiliary electrodes R_H i R_s

Range	Resolution	Accuracy
0...999Ω	1Ω	±(5% ($R_s+R_t+R_H$)) + 3 digits)
1,00k...9,99kΩ	0,01kΩ	
10,0k...50,0kΩ	0,1kΩ	

Measurement of interference voltage U_N (RMS)

Range	Resolution	Accuracy
0...100V	1V	±(2% m.v. + 3 digits)

- measurement for DC and AC 45...65 Hz

Measurement of continuity of equipotential bondings and protective conductors

measurement range to IEC61557-4: **0,13Ω...199Ω**

Range	Resolution	Accuracy
0,00...9,99Ω	0,01Ω	±(2% m.v. + 3 digits)
10,0...99,9Ω	0,1Ω	
100...199Ω	1Ω	

- measuring method: technical 2-pole method,
- max. voltage on open terminals: 13V,
- measurement current: under short circuit >200mA,
- auto-zero function for measurement leads