

**CAT III****300 V****IP65**

Handiness in earth resistance measurements

Product features

- measurement of auxiliary electrode resistances R_s and R_H
- measurement of interference voltage
- measurement in the presence of interference voltages in networks with frequencies of 50 Hz and 60 Hz
- selection of maximum measurement voltage (25 V and 50 V)
- in ground resistivity measurements, distances between electrodes can be input in meters (m) or feet (ft)

Earthing resistance measurements

- with auxiliary electrodes (3-lead and 4-lead)
- with auxiliary electrodes and clamp (for measurement of multiple earthing systems)
- with two clamps (for measuring multiple earthing without underground edge connections)
- soil resistivity (Wenner method)
- continuity of protective conductors and equipotential bonding (meeting the requirements of EN 61557-4, with auto-zeroing function - with 200 mA current)



Application

The MRU-30 earth resistance meter is designed to measure single and multiple earthings using auxiliary electrodes and/or clamps. Moreover it is possible to measure ground resistivity (Wenner method) and verify the continuity of equipotential bondings and protective conductors.



Device capabilities

The meter provides the ability to make grounding tests with all kinds of the technical method. High immunity to interference allows it to be used even in difficult conditions in circuits with interfering currents. Simple and intuitive operation makes the measurements easier and faster. The meter has internal memory. The measurement results can be transmitted to a computer for data processing and preparation of documentation from the grounding tests.

Durable and practical casing

Ergonomic, small and practical housing allows comfortable and easy operation. The meter is resistant to all weather conditions. IP65 ingress protection guarantees dustproof and resistance to water jets on each side. The battery is permanently built-in and can be charged from a PowerBank or car cigarette lighter.

Earthing resistance measurement (3- and 4-lead method)

measurement range to IEC 61557-5:2007: 0,53 Ω...9999 Ω (for 50 V)

Range	Resolution	Accuracy
0...19.99 Ω	0.01 Ω	±(3% m.v. + 3 digits)
20.0...199.9 Ω	0.1 Ω	
200...1999 mΩ	1 Ω	±5% m.v.
2000...9999 mΩ	1 Ω	±8% m.v.

- measurement current: under short circuit >20 mA,
- voltage on open terminals: selectable 25 V AC or 50 V A
- frequency of measurement current: 125 Hz (for networks 50 Hz) or 150 Hz (for 60 Hz)

Ground resistivity measurement

(Wenner method, $\rho=2\pi LR_E$)

Range	Resolution	Accuracy
0...199.9 Ωm	0.1 Ωm	depends on accuracy of R_E measurement in 4-lead system, but no lower than ±1 digit
200...1999 Ωm	0.1 Ωm	
2.00...19.99 kΩm	0.01 kΩm	
20.0...99.9 kΩm	0.1 kΩm	
100...999 kΩm	1 kΩm	

- distance between measurement probes (L): 1...50 m

Measurement of interference voltage U_N (RMS)

measuring range according to EN 61557-4:2007: 0.13 V...1999 V

Range	Resolution	Accuracy
0...100 V	1 V	±(5% m.v. + 2 digits)

Resistance measurement of multiple earthing systems

with two clamps

Range	Resolution	Accuracy
0...19.99 Ω	0.01 Ω	±(10% m.v. + 8 digits)
20.0...199.9 Ω	0.1 Ω	±(20% m.v. + 3 digits)

• measurement current frequency 125 Hz (for 50 Hz network) or 150 Hz (for 60 Hz network)

Resistance measurement of multiple earthing systems with clamp and auxiliary electrodes (3-lead + clamp)

Range	Resolution	Accuracy
0...19.99 Ω	0.01 Ω	±(3% m.v. + 3 digits)
20.0...199.9 Ω	0.1 Ω	
200...1999 mΩ	1 Ω	±5% m.v.
2000...9999 mΩ	1 Ω	±8% m.v.

- measurement method: technical with the use of clamp and auxiliary electrodes
- voltage on open terminals: 25 V AC or 50 V AC available for selection
- measurement current: >20 mA upon closing of circuit
- frequency of measurement current: 125 (for 50 Hz network) or 150 Hz (for 60 Hz network), manual selection of measurement frequency

Measurement of auxiliary electrode resistances R_H and R_S

Range	Resolution	Accuracy
0...999 Ω	1 Ω	±(5%($R_S+R_E+R_H$) + 8 digits)
1.00...9.99 Ωm	0.01 kΩ	
10.0...19.9 kΩm	0.1 kΩ	

Continuity test of protective and equalizing connections

measuring range according to EN 61557-4:2007: 0.13 Ω...1999 Ω

Range	Resolution	Accuracy
0...9.99 Ω	0.01 Ω	±(2% m.v. + 3 digits)
10.0...99.9 Ω	0.1 Ω	
100...1999 Ω	1 Ω	

- method of measurement: technical two-lead
- measurement current: >200 mA upon closing of circuit
- auto-zeroing of test leads

Technical specification

insulation type	double, according to EN 61010-1 and IEC 61557
measurement category	III 300 V acc. to EN 61010-1
ingress protection according to EN 60529	IP65
operating temperature range	-10...+50°C
storage temperature	-20...+60°C
humidity	20...90%
LCD display	segmented, with backlighting
dimensions	200 x 150 x 73 mm
weight	1.14 kg

Standard accessories



test lead with banana plugs;
1 kV; 1.2 m; red
WAPRZ1X2REBB



earthing measurement test lead with banana plugs on reel;
25 m; red
WAPRZ025REBBSZ



earthing measurement test lead with banana plugs on reel;
50 m; yellow
WAPRZ050YEBBSZ



test probe with banana socket;
1 kV; red
WASONREOGB1



black "crocodile" clip 1 kV 20 A
WAKROBL20K01



test lead with banana plugs;
1 kV; 2.2 m; black
WAPRZ2X2BLBB



earth contact pin probe (30 cm)
WASONG30



clamp terminal with banana plug termination
WAZACIMA1



M-9 carrying case
WAFUTM9



meter power adapter (type Z7)
WAZASZ7



230 V power cord (IEC C7 plug)
WAPRZLAD230



L-10 carrying case
WAFUTL10



USB cable
WAPRZUSB



Sonel Reader PC software
WAPROREADER

Abbreviation „m.v.“ used in the specification of measurement means a measured value.

Additional accessories



**test lead
75 / 100 / 200 m
red, for MRU
(banana plugs,
on a reel)**

WAPRZ075REBBSZ
WAPRZ100REBBSZ
WAPRZ200REBBSZ



**test lead
75 / 100 / 200 m
blue, for MRU
(banana plugs,
on a reel)**

WAPRZ075BUBBSZ
WAPRZ100BUBBSZ
WAPRZ200BUBBSZ



**test lead
75 / 100 / 200 m
yellow, for MRU
(banana plugs,
on a reel)**

WAPRZ075BUBBSZ
WAPRZ100YEBBSZ
WAPRZ200YEBBSZ



**test lead 30 m, red,
for MRU (banana
plugs, on a reel)**

WAPRZ030REBBSZ



**test lead 15 / 25 m
blue, for MRU
(on a reel)**

WAPRZ015BUBBSZ
WAPRZ025BUBBSZ



test wire reel

WAPOZSZP1



**earth contact test
probe (rod), 15 cm**

WASONG15



**earth contact test
probe (rod), 26 cm**

WASONG26



**earth contact test
probe (rod), 80 cm**

WASONG80



**Crocodile clip,
1 kV 20 A
red /blue/yellow**

WAKRORE20K02
WAKROBU20K02
WAKROYE20K02



**Test lead 1.2 m
CAT III/1000V
CAT IV/600V
black/blue/yellow**

WAPRZ1X2BLBB
WAPRZ1X2BUBB
WAPRZ1X2YEBB



**Pin probe
CAT III/1000V
CAT IV/600V
black/blue/yellow**

WASONBLOGB1
WASONBUOGB1
WASONYEOGB1



**N-1 transmitting
clamp (Φ=52 mm)**

WACEGN1BB



**C-3 current clamp
(Φ=52 mm)**

WACEGC30KR



**battery charging
cable for 12 V
car sockets**

WAPRZLAD12SAM



**double-wire test lead
2 m, for N-1 clamps
(banana plugs)**

WAPRZ002DZBB



**L3 carrying case
for 80 cm rods**

WAFUTL3