

RCD METER

MRP-200



AC, A, B (general or selective) type of RCD measurement

RCD disconnection time and current measurement

Earthing resistance measurement

Touch voltage measurement

AC voltage measurement

PE wire connection check

Internal memory

Main features of MRP-200:

- AC, A, B (general or selective) type of RCD measurement,
- nominal line voltage range: 220/380V or 230/400V, 45-65Hz,
- selected wave forms of testing current: sinusoidal (start phase of the testing current: 0° or 180°), unidirectional pulsed (positive or negative) with or without 6mA DC offset, DC (positive or negative),
- RCD disconnection time measurement (t_a) for the current values $I_{\Delta n} \times 0,5; 1; 2$ and 5 ,
- measurement using residual currents of 10, 30, 100, 300 and 500mA,
- measurement of RCD disconnection current with the tripping amplitude test current,
- measurement of touch voltage (U_b) referred to the nominal $I_{\Delta n}$ current,
- measurement of touch voltage (U_b) referred to the reference earth,
- touch voltage and earthing measurement,
- resistance measurement without tripping the RCD,
- measurement of short-circuit loop resistance R_s ,
- detects the position of the L and N wires and replaces them automatically in the instruments,
- possibility for selection of safe voltage value (25V, 50V or 12,5V),
- memory of 999 test results,
- serial computer interface.

The MRP-200 is a small, powerful portable meter with a very advanced functions for testing installations with AC, A, B (general or selective) type RCD. All the important parameters of the installation including disconnection time and current, touch voltage and earthing resistance can be measured.

The test results can be stored in the internal memory and send to a computer.

RCD- residual current device

Standard Accessories

- Test lead with banana plug 1,2m; red (WAPRZ1X2REBB)
- Test lead with banana plug 1,2m; yellow (WAPRZ1X2YEBB)
- Test lead with banana plug 1,2m; black (WAPRZ1X2BLBB)
- Pin probe with banana connector red (WASONREOGB1)
- Pin probe with banana connector yellow (WASONYEGB1)
- Pin probe with banana connector black (WASONBLOGB1)
- "Crocodile" clip KO1; black (WAKROBL20K01)
- "Crocodile" clip KO2; yellow (WAKROYE20K02)
- Mains outlet plug UNI-SCHUKO (WAADAUNI1)
- Carrying case M1 (WAFUTM1)
- User manual
- Calibration Certificate
- Sonel CD - technical data and software
- R6 batteries

Optional Accessories

- OPTO-RS serial transmission cable (WAPRZOPTORS)
- Adapter - converter USB1.1/RS232 (WAADAUSBRS232)
- Triple phase socket adapter AGT-16 (WAADAAGT16)
- Triple phase socket adapter AGT-32 (WAADAAGT32)
- Triple phase socket adapter AGT-63 (WAADAAGT63)
- Earth contact test probe (rod); 0,3m (WASONG30)
- Test lead on a reel with banana plugs; 25m; red (WAPRZ025REBBSZ)
- RCD breaker testing adapter TWR-1 (WAADATWR1)
- Calibration Certificate issued by Calibration Laboratory (LSWGBMRP200)
- Sonel PE3 - software for creation of documentation from electrical measurements for PC (WAPROPE3EN)
- Sonel PE3 + Sonel Schematic - software for creation drawings and diagrams for PC (WAPROPE3SEN)

2 year warranty

MRP-200 TECHNICAL DATA

☞ „m.v.“ in the definition of accuracy denotes the measured value

Nominal operating conditions

- nominal voltage of circuits: 220V, 230V
- frequency: 50 Hz \pm 0,5 Hz
- RCD type: AC, A and B (general and selective)

Electrical Safety

- type of insulation: double, EN 61010-1 and IEC 61557 compliant
- measurement category: CAT. III 300V, EN 61010-1 compliant
- protection class: IP40

Other technical data

- power supply: two alkaline batteries R6 (AA size)
- dimensions: 230 x 67 x 35 mm
- weight: approx. 450g
- operating temperature: 0...+40°C
- storage temperature: -20...+60°C
- reference temperature: +20...+25°C
- AUTO-OFF time: 2min.
- number of RCD measurements: >5000 (2 meas./min.) for alkaline batteries
- display: LCD 3 digits, 14mm high
- memory: 999 results
- data transmission interface: RS-232C

AC voltage measurement (U_{L-N})

Range	Resolution	Accuracy
0...250V	1V	$\pm(1\% \text{ m.v.} + 2 \text{ digits})$

Touch voltage measurement referred to the rated residual current (U_B)

Measurement range in accordance with IEC 61557: 10V ...50V

Selected Rated RCD Residual Current	Display Range	Resolution	Accuracy
10mA	0...50.0V	0.1V	0...10% m.v. ± 5 digits
30mA			
100mA			0...4% m.v. ± 5 digits
300mA			
500mA			

RCD disconnection test and the response time measurement (t_A)

Measurement range in accordance with IEC 61557: 0ms to the upper displayed value

RCD Type	Display Range	Resolution	Accuracy
General	0...200ms	1ms	$\pm(2\% \text{ m.v.} + 1 \text{ digit})$
Selective	0...500ms		

• accuracy of setting of the residual current: 0...5%

Earthing resistance measurement (R_E)

Selected Rated RCD Residual Current	Measurement Range	Resolution	Accuracy
10mA	0.01k Ω ...5.00k Ω	0.01k Ω	0...+10% m.v. ± 5 dgt
30mA	0.01k Ω ...1.66k Ω		0...+10% m.v. ± 3 dgt
100mA	1 Ω ...500 Ω	1 Ω	0...+4% m.v. ± 4 dgt
300mA	1 Ω ...166 Ω		
500mA	1 Ω ...100 Ω		0...+4% m.v. ± 3 dgt

RCD disconnection current measurement for a sine AC test current ($I_{\Delta n}$)

Measurement range in accordance with IEC 61557: (0.3...1.0) $I_{\Delta n}$

Selected Rated RCD Residual Current	Measurement Range	Test Current	Accuracy
10mA	3.3mA...10.0mA	0.3 x $I_{\Delta n}$...1.0 x $I_{\Delta n}$	$\pm 5\% I_{\Delta n}$
30mA	9.0mA...30.0mA		
100mA	33mA...100mA		
300mA	90mA...300mA		
500mA	150mA...500mA		

- start of measurement from the positive or negative half sine period of the test current
- test current flow time: max. 3200 ms

RCD disconnection current measurement for unidirectional pulsed residual current and unidirectional pulsed current with a 6mA DC offset (I_A)

Selected Rated RCD Residual Current	Measurement Range	Test Current	Accuracy
10mA	4.0mA...20.0mA	0.4 x $I_{\Delta n}$...2.0 x $I_{\Delta n}$	$\pm 8\% I_{\Delta n}$
30mA	12.0mA...42.0mA		
100mA	40mA...140mA	0.4 x $I_{\Delta n}$... 1.4 x $I_{\Delta n}$	$\pm 7\% I_{\Delta n}$
300mA	120mA...420mA		

- start of the measurement from the positive or negative half sine period of the test current
- test current flow time: max. 3200 ms

RCD response time measurement for the residual DC current (I_A)

Selected Rated RCD Residual Current	Measurement Range	Test Current	Accuracy
10mA	4.0mA...20mA	0.4 x $I_{\Delta n}$... 2.0 x $I_{\Delta n}$	$\pm 8\% I_{\Delta n}$
30mA	12.0...60,0mA		
100mA	40mA...200mA		
300mA	120mA...600mA		

- measurement possible for positive or negative residual current
- test current flow time: max. 3200 ms

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