



## RCD METER

### MRP-201

CAT IV  
300V  
IP 67



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

- **Testing RCD breakers of AC, A and B types.**
  - testing of general, short delay and selective RCDs for the rated current values  $I_{\Delta n} = 10, 30, 100, 300$  and  $500$  mA,
  - simultaneous measurement of triggering current  $I_A$  and disconnection time  $t_A$ , for currents  $0,5I_{\Delta n}, 1I_{\Delta n}, 2I_{\Delta n}, 5I_{\Delta n}$ ,
  - ability to measure touch voltage  $U_b$  and earth resistance  $R_E$  without triggering,
  - AUTO RCD test function.
- **AC voltage and frequency measurement.**
- **PE lead connection check using a touch electrode.**
- **Built-in memory for up to 990 cells of measurement results.**
- **Wireless radio communication interface.**
- **Professional software for reading data and creating reports.**

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# MRP-201

## RCD trigger test and response time measurement $t_A$

Measurement range according to IEC 61557: 0ms...the upper limit of the displayed value

RCD type	Rated Current Multiplication Factor	Range	Resolution	Accuracy
General or short delay	0,5 * $I_{\Delta n}$	0...300ms	1ms	$\pm 2\% \text{ m.v.} + 2 \text{ digits}^{1)}$
	1 * $I_{\Delta n}$	0...150ms		
	2 * $I_{\Delta n}$	0...40ms		
	5 * $I_{\Delta n}$	0...150ms		
Selective	0,5 * $I_{\Delta n}$	0...500ms		
	1 * $I_{\Delta n}$	0...200ms		
	2 * $I_{\Delta n}$	0...80ms		
	5 * $I_{\Delta n}$	0...40ms		

<sup>1)</sup> for  $I_{\Delta n}=10\text{mA}$  and  $0,5 I_{\Delta n}$  accuracy is  $\pm 2\% \text{ m.v.} + 3 \text{ digits}$

- residual current setting accuracy:
  - for  $1 * I_{\Delta n}, 2 * I_{\Delta n}$  and  $5 * I_{\Delta n}$ :  $0...8\%$ ,
  - for  $0,5 * I_{\Delta n}$ :  $-8...0\%$ ,
- nominal voltage  $U_n$ : 220V, 230V, 240V,
- work voltage range: 180...270V,
- nominal frequency  $f_n$ : 50Hz, 60Hz,
- work frequency range: 45Hz...65Hz.

## RCD disconnecting current measurement for a sine AC test current ( $I_A$ )

Measurement range according to IEC 61557: (0,3...1,0) $I_{\Delta n}$

Selected rated RCD current	Range	Resolution	Measurement current	Accuracy		
10mA	3,3...10,0mA	0,1mA	$0,3 \times I_{\Delta n}$ ... $1,0 \times I_{\Delta n}$	$\pm 5\% I_{\Delta n}$		
30mA	9,0...30,0mA					
100mA	33...100mA	1mA				
300mA	90...300mA					
500mA	150...500mA					

- start of measurement from the positive or negative half sine period of the test current
- test current flow time - max. 7510ms at  $f=50,0\text{Hz}$ .

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

Measurement range according to IEC61557:

(0,15...1,4)  $I_{\Delta n}$  for  $I_{\Delta n} \geq 30\text{mA}$  and (0,15...2)  $I_{\Delta n}$  for  $I_{\Delta n}=10\text{mA}$

Selected rated RCD current	Range	Resolution	Measurement current	Accuracy
10mA	1,5...20,0mA	0,1mA	$0,15 \times I_{\Delta n}$ ... $2,0 \times I_{\Delta n}$	$\pm 10\% I_{\Delta n}$
30mA	4,5...42,0mA			
100mA	15...140mA	1mA	$0,15 \times I_{\Delta n}$ ... $1,4 \times I_{\Delta n}$	$\pm 10\% I_{\Delta n}$
300mA	45...420mA			

- start of the measurement from the positive or negative half sine period of the test current
- test current flow time - max. 14710ms at  $f=50\text{Hz}$

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

Measurement range according to IEC61557: (0,2...2) $I_{\Delta n}$

Selected rated RCD current	Range	Resolution	Measurement current	Accuracy		
10mA	2,0...20,0mA	0,1mA	$0,2 \times I_{\Delta n}$ ... $2,0 \times I_{\Delta n}$	$\pm 10\% I_{\Delta n}$		
30mA	6...60mA					
100mA	20...200mA	1mA				
300mA	60...600mA					

- measurement possible for positive or negative residual current
- test current flow time - max. 4500ms at  $f=50\text{Hz}$

## Touch voltage measurement referred to the rated residual current ( $U_b$ )

Measurement range according to IEC61557: 10,0...99,9V

Range	Resolution	Measurement current	Accuracy
0..9,9V	0,1	$0,4 \times I_{\Delta n}$	$0...10\% I_{\Delta n} \text{ m.v.} \pm 5 \text{ digits}$
10,0...99,9V			$0...15\% I_{\Delta n} \text{ m.v.}$

## Earthing resistance measurement ( $R_E$ )

Selected rated RCD current	Range	Resolution	Measurement current	Accuracy
10mA	0,01kΩ...5,00kΩ	0,01kΩ	4mA	$0...+10\% \text{ m.v.} \pm 8 \text{ digits}$
30mA	0,01kΩ...1,66kΩ			$12\text{mA}$
100mA	1Ω...500Ω	1Ω	40mA	$0...+5\% \text{ m.v.} \pm 5 \text{ digits}$
300mA	1Ω...166Ω			
500mA	1Ω...100Ω		200mA	

## Voltage measurement

Range	Resolution	Accuracy
0,0...299,9V	0,1V	$\pm(2\% \text{ m.v.} + 6 \text{ digits})$
300...500V	1V	$\pm(2\% \text{ m.v.} + 2 \text{ digits})$

- frequency range: 45...65Hz

## Frequency measurement

Range	Resolution	Accuracy
45,0...65,0 Hz	0,1Hz	$\pm(0,1\% \text{ m.v.} + 1 \text{ digit})$

- voltage range 50...500V

### Electric security:

- type of insulation
  - measurement category
  - protection class
- double, according to EN 61010-1 and IEC 61557  
CAT IV 300V (III 600V) acc. to EN 61010-1  
IP67

### Other technical data:

- power supply
- alkaline batteries LR6 (AA) (4 pcs.)

### Rated operational conditions:

- operating temperature
  - storing temp.
  - humidity
- 10...+50°C  
-20...70°C  
20...80%

## Standard accessories of MRP-201 meter:

- Adapter UNI-SCHUKO (WS-05)
- Test lead with banana plug; 1,2m; yellow
- Test lead with banana plug; 1,2m; red
- Test lead with banana plug; 1,2m; blue
- "Crocodile" clip K02; yellow
- Pin probe with banana connector; red
- Pin probe with banana connector; blue
- Carrying case M6
- hanging straps
- Receiver - interface for radio transmission OR-1 (USB)
- handle to suspend the meter
- R6 batteries - 4pcs.
- operation manual
- calibration certificate

WAADAWS05

WAPRZ1X2YEBB

WAPRZ1X2REBB

WAPRZ1X2BUBB

WAKROYE20K02

WASONRE0GB1

WASONBU0GB1

WAFUTMG

WAPOZSZE4

WAADAUSBOR1

WAPOZUCH1

## Optional accessories of MRP-201 meter:

- Test lead with banana plug 5m; red
- Test lead with banana plug 10m; red
- Test lead with banana plug 20m; red
- Probe with START button with UNI-SCHUKO (WS-01)
- Software for creation of documentation from electrical measurements "SONEL Reports"

WAPRZ005REBB

WAPRZ010REBB

WAPRZ020REBB

WAADAWS01

WAPROSONPE4

„m.v.” - measured value.