MRP-201

Indeks: WMGBMRP201

RCD Meter

CAT IV 300V

CAT III 600V

IP 67

Description

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 tripping 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 tripping,
- AUTO RCD test function.

AC voltage and frequency measurement.

PE lead connection check using a touch electrode.

Bulit-in memory for up to 990 cels of measurement results.

Wireless radio communication interface.

Professional software for reading data and creating reports.

Technical Specification

RCD trigger test and response time measurement t_A

Measurement range according to IEC 61557: 0 ms...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...300 ms	1 ms	±(2% m.v. + 2 digits)*
	$1*I_{\Delta n}$			
	$2*I_{\Delta n}$	0...150 ms		
	$5*I_{\Delta n}$	0...40 ms		
Selective	$0,5*I_{\Delta n}$	0...500 ms		
	$1*I_{\Delta n}$			
	$2*I_{\Delta n}$	0...200 ms		
	$5*I_{\Delta n}$	0...150 ms		

*for IΔn= 10 mA and 0,5 $I_{\Delta n}$ accuracy is ±2% m.v. + 3 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: 220 V, 230 V, 240 V,
- work voltage range: 180...270 V,
- nominal frequency f_n: 50 Hz, 60 Hz,
- work frequency range: 45 Hz...65 Hz.

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
10 mA	3,3...10,0 mA	0,1 mA	0,3 mA x $I_{\Delta n}$ ...1,0 mA x $I_{\Delta n}$	±5% $I_{\Delta n}$
30 mA	9,0...30,0 mA			
100 mA	33...100 mA	1 mA		
300 mA	90...300 mA			
500 mA	150...500 mA			

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

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

Measurement range according to IEC61557: (0,15...1,4) $I_{\Delta n}$ for $I_{\Delta n}$ >

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

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

- start of the measurement from the positive or negative half sine period of the test current
- test current flow time - max. 14710 ms at f=50 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
10 mA	2...20,0 mA	0,1 mA		
	6...60			

30 mA	mA	1 mA	0.2 mA x $I_{\Delta n}$ ...2,0 mA x $I_{\Delta n}$	±10% $I_{\Delta n}$
100 mA	20...200 mA			
300 mA	60...600 mA			

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

$I_{\Delta n}$ - rated residual current value RCD

Touch voltage measurement referred to the rated residual current (UB)
Measurement range according to IEC61557: 10,0...99,9 V

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

Earthing resistance measurement (R_E)

Selected rated RCD current	Range	Resolution	Measurement current	Accuracy
10 mA	0,01...5,00 kΩ		4 mA	0...+10% m.v. ± 5

		0,01 kΩ		digits
30 mA	0,01...1,66 kΩ		12 mA	0...+10% m.v. ± 5 digits
100 mA	1...5000 Ω	1 Ω	40 mA	0...+5%m.v. ± 5 digits
300 mA	1...166 Ω		120 mA	
500 mA	1...100 Ω		200 mA	

Voltage measurement
Measurement range in accordance with IEC 61557: 1,1 Ω...1,99 kΩ

Range	Resolution	Accuracy
0,00...299,9 V	0,1 V	±(2% m.v. + 6 digits)
300...500 V	1 V	±(2% m.v. + 2 digits)

- frequency range: 45...65 Hz

Range	Resolution	Accuracy
45,0...65,0 Hz	0,1 Hz	±(0,1% m.v. + 1 digit)

- voltage range 50...500 V

Electric security:

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

61010 - 1
- protection class: IP67

Other technical data:

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

Rated operational conditions:

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

„m.v.” - measured value.