

AMPI-520

HIGHEST ACCURACY & LOWEST COST



Multifunction Electrical Installations Meter

AMPI-520

Short-circuit loop measurement.

Testing of general and selective RCD with the rated differential current.

Measurement of insulation resistance: Up to $3G\Omega$.

Voltages: 250 V, 500 V, 1000 V.

Measurement of earthing resistance.

Bi-directional testing of PE wire continuity.

Phase sequence testing.

amperis

www.amperis.com

 AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

 Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com

Possible measurements:

Short-circuit loop measurement:

- Impedance measurement with 23A (44A phase-to-phase) short-circuit resistor $R_{zw} = 10\Omega$.
- Measurement range: 95...440V, frequency 45...65Hz.

Short - circuit loop measurement with resolution 0,01 Ω , in distribution network without triggering RCD ($I_{\Delta n} \geq 30\text{mA}$):

- Automatic calculation of short-circuit, detection of phase and phase-to-phase voltage.
- Additional UNI-Schuko plug for automatic measurement, AGT adapter for 3 phase network measurement.

Testing of general and selective RCD with the rated differential current of 10, 30, 100, 300, 500 and 1000mA. (Type AC, A and B)

Measurement of insulation resistance:

- With test voltage 250V, 500V, 1000V.
- Measurement range up to 3G Ω .
- UNI-Schuko plug for insulation measurement.
- Automatic discharging after measurement.
- Automatic measurement of all resistances in 3,4,5-wire cables using optional adapter AUTO-ISO.
- Acoustic signals in 5sec intervals for insulation resistance characteristic.
- Safety measurement - protection against overvoltage.

Measurement of earthing resistance

Bi-directional testing of PE wire continuity using 200mA current:

- Autocalibration of test leads.

Phase sequence testing

Memory is divided into 10 memory banks each of them containing 99 memory cells.

Battery charge indicator

AUTO-OFF function

USB interface

Phase sequence

- Phase sequence indicator: forward, reverse.
- Mains voltage range U_{LL} : 100...440V (45...65Hz).
- Display of phase-to-phase voltages.

Measurement of the active P, passive Q and apparent S power and $\cos\phi$.

- Range of voltages U_{LN} : 100...440V.
- Nominal frequency of the network: 45...65Hz.
- Frequency measurement for voltage 50...440V in range 45,0...65,0Hz (accuracy max. $\pm 0,1\%$ m.v. + 1 digit).
- Measurement $\cos\phi$: 0,00...1,00 (resolution 0,01).

Low voltage test of the circuit and insulation continuity

Test of PE wire continuity using a $\pm 200\text{mA}$ current.

Range	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	$\pm(2\% \text{ m.v.} + 3 \text{ digits})$
20,0...199,9 Ω	0,1 Ω	
200...400 Ω	1 Ω	

Voltage on open terminals: 4...9V.

Test current at $R < 25\Omega$: min. 200mA at rated battery voltage.

Autocalibration of test leads.

Measurements for both polarizations of the current.

"m.v." – measured value

RCD trigger and response time test t_A (for t_A mode)

Measurement ranges in acc. with IEC61557: 0ms ... up to the upper bound of the displayed value.

Breaker Type	Test Current Multiplier	Measurement Range	Resolution	Accuracy
Standard	0,5* $I_{\Delta n}$	0...300ms	1ms	$\pm(2\% \text{ m.v.} + 2 \text{ digits})$
	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	1ms	$\pm(2\% \text{ m.v.} + 2 \text{ digits})$
	1* $I_{\Delta n}$	0...200ms		
	2* $I_{\Delta n}$	0...150ms		
	5* $I_{\Delta n}$	0...150ms		

Precision of the differential current: for 0,5* $I_{\Delta n}$: $\pm 8\%$; for 1* $I_{\Delta n}$, 2* $I_{\Delta n}$, 5* $I_{\Delta n}$: $\pm 0,8\%$.

Measurement of the RCD triggering current (I_A) for sine waveform testing current

Measurement of the RMS triggering current (I _{tr}) for sine waveform testing current				
Selected Current	Range	Resolution	Test Current	Accuracy
10mA	3,3...10,0mA	0,1mA	0,3*I _{Δn} ...1*I _{Δn}	±5% I _{Δn}
30mA	9,0...30,0mA			
100mA	33...100mA	1mA		
300mA	90...300mA			
500mA	150...500mA			
1000mA	330...1000mA			

It is possible to start the measurement from the positive or negative half of the forced leaking current

Measurement of the RCD triggering current (I_A) for a unidirectional half period sine waveform test current with a 6mA direct current offset

Selected Current	Range	Resolution	Test Current	Accuracy
10mA	4,0...20,0mA	0,1mA	0,4*I _{Δn} ...2*I _{Δn}	±10% I _{Δn}
30mA	12,0...42,0mA			
100mA	40...140mA	1mA	0,4*I _{Δn} ...1,4*I _{Δn}	
300mA	120...420mA			
500mA	200...700mA			

A measurement is possible for a positive or negative forced leakage current

Measurement of the RCD triggering current (I_A) for direct testing current

Selected Current	Range	Resolution	Test Current	Accuracy
10mA	4,0...20,0mA	0,1mA	0,4* $I_{\Delta n}$...2* $I_{\Delta n}$	$\pm 10\% I_{\Delta n}$
30mA	12,0...60,0mA	1mA		
100mA	40...200mA			
300mA	120...600mA			
500mA	200...1000mA			

A measurement is possible for a positive or negative forced leakage current.

AMPI-520 Specifications

Electric security:

Type of insulation	Double, according to EN 61010-1 and IEC 61557, EMC
Measurement category	CAT IV 300V acc. to EN 61010-1
Protection class acc. to EN 60529	IP54

Other technical data:

Power supply	Alkaline batteries LR14 (5 szt.) or battery package Ni-MH (additional option)
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Rated operational conditions:

Operation temperature	0...+50°C
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Standard accessories:

Probe with START button with UNI-SCHUKO (WS-03).
 Test lead with banana plug; 1,2m; yellow.
 Test lead with banana plug; 1,2m; blue.
 Test lead with banana plug; 1,2m; red.
 Test lead on a reel with banana plugs; 30m; red.
 Test lead on a reel with banana plugs; 15m; blue.
 USB transmission cable.
 Pin probe with banana connector; yellow.
 Pin probe with banana connector; red.
 Pin probe with banana connector; blue.
 Crocodile clip K02; yellow.
 Crocodile clip K02; red.
 Earth contact test probe (rod); 0,3m.
 Carrying case L1.
 Hanging straps.
 Battery case LR14 (size C).
 Batteries.
 Calibration certificate issued by calibration laboratory.

Optional accessories:

Test lead with banana plug 5m; red.
 Test lead with banana plug 10m; red.
 Test lead with banana plug 20m; red.
 Cable for battery charger.
 Lead for battery loading from the socket of car lighter (12V).
 Triple phase socket adapter AGT-16P.
 Triple phase socket adapter AGT-32P.
 Triple phase socket adapter AGT-63P.
 Adapter AUTO-ISO-1000C.
 RCD breaker testing adapter TWR-1 universal pin.
 AC line splitter (AC-16).
 Probe with UNI-SCHUKO (WS-04).
 Earth contact test probe (rod); 0,8m.
 Carrying case L3.
 Ground connector current clamps C3 (Ø=52mm).
 Ni-MH battery package 4,8V 4,2Ah.
 Crocodile clip K02; blue.
 Cramp.
 Test wire reel.
 Power supply adaptor Z7.
 Software for creation of documentation from electrical measurements.
 Software for creation drawings and diagrams.

Short-circuit loop impedance measurement Z_{L-PE} , Z_{L-N} , Z_{L-L}

Measurement using 23/40A current measurement range in accordance with IEC 61557: 0,13...1999,9Ω (for 1,2m lead).

Range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(5% v.m. + 3 digits)
20,0...199,9Ω	0,1Ω	
200...1999Ω	1Ω	

Rated voltage: 95...270V (for Z_{L-PE} y Z_{L-N}) and 95...440V (for Z_{L-L}).
 Frequency: 45...65Hz.

Short-circuit loop impedance measurement Z_{L-PE} RCD

Measurement using 15mA current measurement range in accordance with IEC 61557: 0,50...1999,9Ω.

Range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(6% m.v. + 10 digits)
20,0...199,9Ω	0,1Ω	±(6% m.v. + 5 digits)
200...1999Ω	1Ω	

Rated voltage: 95...270V.
 Frequency: 45...65Hz.

Measurement of earthing R_e

Rated voltage in accordance with IEC 61557-5: 0,5...1999V

Range	Resolution	Accuracy
0,00...9,99Ω	0,01Ω	±(2% m.v. + 4 digits)
10,0...99,9Ω	0,1Ω	±(2% m.v. + 3 digits)
100...999Ω	1Ω	
1,00...1,99kΩ	10Ω	

Insulation resistance measurement

Measurement range in accordance with IEC 61557-2:

-U_N=50V: 50kΩ...250MΩ -U_N=500V: 500kΩ...2GΩ
 -U_N=100V: 100kΩ...500MΩ -U_N=1000V: 1MΩ...3GΩ
 -U_N=250V: 250kΩ...1GΩ

Range	Resolution	Accuracy
0...1999kΩ	1kΩ	±(3% m.v. + 8 digits)
2,00...19,99MΩ	0,01MΩ	
20,0...199,9MΩ	0,1MΩ	
200...999MΩ	1MΩ	
1,00...3,00GΩ	0,01GΩ	±(4% m.v. + 6 digits)

With UNI-Schuko additional error ±2%.