

**Possible measurements**

- **Short-circuit loop measurement:**
  - impedance measurement with 23A current (44A phase-to-phase) - short-circuit resistor  $R=10\Omega$ ,
  - measurement range: 95...440V, frequency 45...65Hz,
- **Short-circuit loop measurement with resolution 0,01Ω, in distribution network without triggering RCD ( $I_{\Delta} \geq 30\text{mA}$ ):**
  - automatic calculation of short-circuit, detection of phase voltage 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, 2500V,
  - measurement range up to  $10G\Omega$ ,
  - 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.**

# MULTIFUNCTION ELECTRICAL INSTALLATIONS METER

## MPI-525



**2500V!**  
Insulation  
resistance  
measurement

CAT IV  
300V

IP 54

### Výhradný distribútor pre SR:

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### Standard accesories of the meter MPI-525:

- 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
- test lead with banana plug; 1,8m; 5kV; red
- test shield lead with banana plug; 1,8m; 5kV; black
- WAADAWS03 - pin probe 5kV with banana connector; red
- WAPRZ1X2YEBB - crocodile clip K04; 5kV; black
- WAPRZ1X2UBBB - crocodile clip K02; yellow
- WAPRZ1X2REBB - crocodile clip K02; red
- WAPRZ030REBBSZ - earth contact test probe (rod); 0,3m
- WAPRZ015BUBBSZ - carrying case L2
- WAPRZUSB - hanging straps
- WASONYEOGB1 - battery case LR14 (size C)
- WASONREOGB1 - batteries
- WASONBUOGB1 - calibration certificate issued by calibration laboratory
- WAPRZ1X8REBB
- WAPRZ1X8BLBB

WASONREOGB2  
WAKROBL2OK04  
WAKROYE2OK02  
WAKRORE2OK02  
WASONG30  
WAFUTL2  
WAP0ZSZEKPL  
WAPOJ1

### Optional accesories of the meter MPI-525:

- probe with UNI-SCHUKO (WS-04)
- earth contact test probe (rod); 0,8m
- software for creation of documentation from electrical measurements "SONEL PE4"
- interface for radio transmission OR-1 - receiver
- test lead on a reel with banana plugs; 50m; yellow
- test lead on a reel with banana plugs; 25m; blue
- WAADAWS04 - triple phase socket adapter AGT-16P
- WASONG80 - triple phase socket adapter AGT-32P
- WAPRZ050YEBBSZ - triple phase socket adapter AGT-63P
- WAPRZ025BUBBSZ - adapter AUTO-ISO-2500
- WAADASB0R1 - RCD breaker testing adapter TWR-1J - universal pin

WAADAAGT16P  
WAADAAGT32P  
WAADAAGT63P  
WAADAAISO1J  
WAADATWR1J

## Multifunction electrical installations meter

### 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% m.v. + 3 dgt)
20,0...199,9Ω	0,1Ω	
200...1999Ω	1Ω	

rated voltage: 95...270V (for  $Z_{L-PE}$  i  $Z_{L-N}$ ) 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 dgt)
20,0...199,9Ω	0,1Ω	
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...1999Ω

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

### Insulation resistance measurement

Measurement range in accordance with IEC 61557-2:

- for  $U_N = 50V$ : 50kΩ...250MΩ
- for  $U_N = 100V$ : 100kΩ...500MΩ
- for  $U_N = 250V$ : 250kΩ...1GΩ
- for  $U_N = 500V$ : 500kΩ...2GΩ
- for  $U_N = 1000V$ : 1MΩ...3GΩ
- dla  $U_N = 2500V$ : 2,5M...9,99GΩ

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

\*) limited to measurement range.

• with UNI-Schuko additional error ±2%.

### Phase sequence

- phase sequence indicator: forward, reverse
- mains voltage range  $U_{L-L}$ : 100...440V (45...65Hz)  $U_{L-N}$ : 100...440V (45...65Hz)
- display of phase-to-phase voltages

### Low voltage test of the circuit and insulation continuity

Test of PE wire continuity using a ±200mA current

Range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(2% m.v. + 3 dgt)
20,0...199,9Ω	0,1Ω	
200...400Ω	1Ω	

- Voltage on open terminals: 4...9V
- Test current at  $R<2\Omega$ : min. 200mA at rated battery voltage
- Autocalibration of test leads
- Measurements for both polarizations of the current

**RCD trigger and response time test  $t_A$  (for  $t_A$  mode)** Measurement ranges in accordance with IEC 61557: 0ms ... up to the upper bound of the displayed value

Breaker Type	Test Current Multiplier	Measurement Range	Resolution	Accuracy
Standard	0,5*I <sub>A</sub>	0...300ms	1ms	±(2% m.v. + 2 dgt)
	1*I <sub>A</sub>	0...150ms		
	2*I <sub>A</sub>	0...40ms		
	5*I <sub>A</sub>	0...8ms		
Selective	0,5*I <sub>A</sub>	0...500ms		
	1*I <sub>A</sub>	0...200ms		
	2*I <sub>A</sub>	0...100ms		
	5*I <sub>A</sub>	0...150ms		

Precision of the differential current: for  $0,5*I_{A_n}$ : -8...0% for  $1*I_{A_n}$ ,  $2*I_{A_n}$ ,  $5*I_{A_n}$ ; 0...8%

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

Selected Current	Range	Resolution	Test Current	Accuracy
10mA	3,3...10,0mA	0,1mA	$0,3 \times I_{A_n} \dots 1,0 \times I_{A_n}$	± 5% $I_{A_n}$
30mA	9,0...30,0mA			
100mA	33...100mA			
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 RDC 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	$0,4 \times I_{A_n} \dots 2,0 \times I_{A_n}$	±10% $I_{A_n}$
30mA	12,0...42,0mA			
100mA	40...140mA			
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	$0,4 \times I_{A_n} \dots 2,0 \times I_{A_n}$	±10% $I_{A_n}$
30mA	12...60mA			
100mA	40...200mA			
300mA	120...600mA			
500mA	200...1000mA			

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

„m.v.” measured value.

### Rated operational conditions:

- operation temperature 0...+50°C

### Electric security:

- type of insulation double, according to EN 61010-1 and IEC 61557, EMC IV 300V acc. to PN-EN 61010-1  
- measurement category  
- protection class acc. to PN-EN 60529 IP54

### Other technical data:

- power supply battery package Ni-MH or alkaline batteries LR14 (4 pcs.)

**MPI-525** is equipment to perform complete test and verify on electrical installations according to the most common safety standards (IEC 61557, VDE 0100, BS7671).



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