



300 V

600 V

## The simplest method of professional measurements

### Features

- Measurement of short circuit loop parameters**
  - Measurement of short circuit loop impedance in networks with rated voltage: 220/380 V, 230/400 V, 240/415 V and frequency 45...65 Hz, operating voltage range: 180...460 V
  - Indication of short circuit loop resistance R and short circuit loop reactance X
  - Measurements of short circuit loop impedance with 15 mA current, without tripping the RCD circuit breaker
  - Maximum test current: 7.6 A (at 230 V), 13.3 A (at 400 V)
- Testing RCD breakers of AC, A types**
  - Testing of prompt, short-delay and selective RCDs with rated current values 10, 15, 30, 100, 300, 500 mA
  - Measurement of  $I_A$  trip current and tripping time  $t_A$  for currents  $0.5 I_{\Delta n}$ ,  $1 I_{\Delta n}$ ,  $2 I_{\Delta n}$ ,  $5 I_{\Delta n}$
  - $R_E$  and  $U_B$  measurement without RCD tripping
  - Extended AUTO function of RCD measurement, with the possibility of measuring  $Z_{L-PE}$  with low current
  - Measurement of  $I_A$  and  $t_A$  during one RCD tripping
- Measurement of resistance of protective conductors and equipotential bondings**
  - Measurement of protective connections continuity with a  $\pm 200$  mA current in accordance with EN 61557-4
  - Autocalibration of test leads - any leads can be used
  - Low current resistance measurement with sound signaling



### Additional functions

- Checking the correctness of PE connection using a contact electrode
- Measurement of voltage (0 ... 500 V) and network frequency
- Memory of 990 results
- Wireless data transmission to a computer
- Backlit keypad



## Simplicity included in the price

Features of MPI-502 are focused on ergonomics and maximally simplified user experience. The functions are selected with a rotary switch. Additional parameters are set with buttons located on the housing face. The settings are saved by the device even when the battery is completely discharged.

All buttons and the modular display have backlight, which significantly improves operation in low light. Large memory eliminates the need for taking notes during the measurements.

## Inspection of electrical safety

This device may be used to **inspect safety of electrical systems in households and industrial facilities**. Measurements can be easily automated with:

- auto mode of residual current devices (RCD) tests,
- the WS adapter that can be used for testing systems via standard 230 V sockets.



## Increased resistance to environmental conditions

The meter will cope well in difficult environmental conditions. Protection against penetration of dust and water is ensured by a unique housing with a level of protection IP67.

## Communication and software

You can easily transfer measurement data to your computer via Bluetooth wireless communication. In order to generate a report on measurements for electric shock protection, use **Sonel Reports PLUS** software. Saving the downloaded data to the simplest formats and printing is provided by free **Sonel Reader** software.



# Specifications

Measurement functions	Measurement range	Display range	Resolution	Accuracy ±(% m.v. + digits)
<b>Fault loop impedance</b>				
Fault loop $Z_{L-PE}$ , $Z_{L-N}$ , $Z_{L-L}$	0.13 Ω...1999 Ω acc. to IEC 61557	0.00 Ω...1999 Ω	from 0.01 Ω	±(5% m.v. + 3 digits)
Fault loop $Z_{L-PE}$ in RCD mode	from 0.5 Ω...1999 Ω acc. to IEC 61557	0.00 Ω...1999 Ω	from 0.01 Ω	from ±(6% m.v. + 5 digits)
<b>Measurements of RCD parameters</b>				
RCD tripping test and measurement of tripping time $t_A$ measuring current $0.5 I_{\Delta n}$ , $1 I_{\Delta n}$ , $2 I_{\Delta n}$ , $5 I_{\Delta n}$				
general and short-time delay RCD	0 ms...300 ms	0 ms...300 ms	1 ms	±(2% m.v. + 2 digits)
selective RCD	0 ms...500 ms	0 ms...500 ms	1 ms	±(2% m.v. + 2 digits)
Measurement of RCD tripping current $I_A$ measuring current $0.3 I_{\Delta n}$ ... $2.0 I_{\Delta n}$				
for sinusoidal residual current (AC type)	3.0 mA...500 mA	3.0 mA...500 mA	from 0.1 mA	±5% $I_{\Delta n}$
for unidirectional residual current and unidirectional with the 6 mA DC bias (type A)	4.0 mA...420 mA	4.0 mA...420 mA	from 0.1 mA	±10% $I_{\Delta n}$
<b>Resistance of protective conductors and equipotential bondings</b>				
Measurement of resistance of protective conductors and equipotential bondings with ±200 mA current	0.12 Ω...400 Ω acc. to IEC 61557-4	0.00 Ω...400 Ω	from 0.01 Ω	±(2% m.v. + 3 digits)
Measurement of resistance with low current	0.0 Ω...1999 Ω	0.0 Ω...1999 Ω	from 0.1 Ω	±(3% m.v. + 3 digits)

# Technical data

## Safety and operating conditions

Measuring category acc. to EN 61010	IV 300 V, III 600 V
Ingress protection	IP67
Type of insulation acc. to EN 61010-1 and IEC 61557	double
Dimensions	220 x 98 x 58 mm
Weight	ca. 0.6 kg

## Memory and communication

Memory	990 cells, 10 000 records
Data transmission	Bluetooth

## Other data

The product meets the EMC (emission for industrial environment) requirements according to standards	EN 61326-1 EN 61326-2-2
---	----------------------------

"m.v." - measured value

## Standard accessories



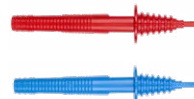
**WS-05 adapter  
(UNI-SCHUKO  
angular plug)**

WAADAWS05



**Test lead 1.2 m  
(banana plugs)  
red / blue / yellow**

WAPRZ1X2REBB  
WAPRZ1X2BUBB  
WAPRZ1X2YEBB



**Pin probe 1 kV  
(banana socket)  
red / blue**

WASONREOGB1  
WASONBUOGB1



**Crocodile clip  
1 kV 20 A yellow**

WAKROYE20K02



**M1 hanging straps**

WAPOZSZE4



**M1 hanging  
hook straps**

WAPOZUCH1



**M6 carrying case**

WAFUTM6



**4x LR6 1.5 V battery**



**Factory calibration  
certificate**

## Optional accessories



**EVSE-01 adapter  
for testing vehicle  
charging stations**

WAADAEVSE01



**TWR-1J  
RCD breaker  
testing adapter**

WAADATWR1J



**WS-01 adapter  
with START button  
(UNI-Schuko plug)**

WAADAWS01



**Pin probe 1 kV  
(banana socket)  
yellow**

WASONYE0GB1



**Foldable pin  
probe, 1 kV, 2 m  
(banana socket)**

WASONSP2M



**Crocodile clip 1 kV  
20 A red / blue**

WAKRORE20K02  
WAKROBU20K02



**Test lead for fault  
loop measurement  
(banana plugs)  
5 m / 10 m / 20 m**

WAPRZ005REBB  
WAPRZ010REBB  
WAPRZ020REBB



**Industrial socket  
adapter 16 A / 32 A**

WAADAAGT16T  
WAADAAGT32T



**Three-phase socket  
adapter 16 A / 32 A**

WAADAAGT16C  
WAADAAGT32C



**Three-phase socket  
adapter 16 A / 32 A**

WAADAAGT16P  
WAADAAGT32P



**Three-phase socket  
adapter 63 A**

WAADAAGT63P



**Calibration certificate  
with accreditation**