



## Great little multitasker

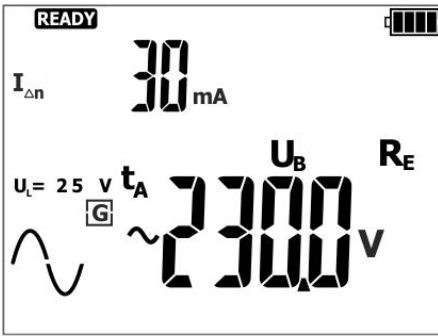
### Features

- **Measurement of short circuit loop parameters**
  - Measurement of short circuit loop impedance in networks with rated voltage: 220/380 V, 230 V/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
- **Insulation resistance measurement**
  - Test voltage 100 V, 250 V, 500 V
- **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
- **Phase sequence indication**



### 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 and cutting edge technologies

MPI-506 is probably the **world's smallest meter** with such a large number of measurement functions. 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. Its main advantage is **quick measurement (just a few seconds!) of fault loop impedance** in circuits with RCD.

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<br>±(% m.v. + digits) |
|--|---|-----------------|-------------|--------------------------------|
| <b>Fault loop impedance</b>  |   |                 |             |                                |
| Fault loop $Z_{L-PE}, Z_{L-N}, Z_{L-L}$  | 0.13 Ω...1999 Ω<br>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<br>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 $t_A$<br>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)          |
| <b>Measurement of RCD tripping current <math>I_A</math></b><br>measuring current $0.3 I_{\Delta n}, \dots, 2.0 I_{\Delta n}$                     |   |                 |             |                                |
| 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)  | 3.5 mA...420 mA   | 3.5 mA...420 mA | from 0.1 mA | ±10% $I_{\Delta n}$            |
| <b>Insulation resistance</b>   |   |                 |             |                                |
| Measuring voltage 100 V  | 100 kΩ...99.9 MΩ<br>acc. to IEC 61557-2   | 0 kΩ...99.9 MΩ  | from 1 kΩ   | ±(5% m.v. + 8 digits)          |
| Measuring voltage 250 V  | 250 kΩ...199.9 MΩ<br>acc. to IEC 61557-2  | 0 kΩ...199.9 MΩ | from 1 kΩ   | ±(5% m.v. + 8 digits)          |
| Measuring voltage 500 V  | 500 kΩ...599.9 MΩ<br>acc. to IEC 61557-2  | 0 kΩ...599.9 MΩ | from 1 kΩ   | ±(5% m.v. + 8 digits)          |
| <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<br>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)          |
| <b>Phase sequence indication</b>   | in the same direction (correct), opposite direction (incorrect), $U_{L-L}$ voltage: 100 V...440 V (45 Hz...65 Hz) |                 |             |                                |

# Technical data

## Safety and operating conditions

|  |                      |
|--|----------------------|
| <b>Measuring category acc. to EN 61010</b>                 | IV 300 V (III 600 V) |
| <b>Ingress protection</b>                                  | IP67                 |
| <b>Type of insulation acc. to EN 61010-1 and IEC 61557</b> | double               |
| <b>Dimensions</b>  | 220 x 98 x 58 mm     |
| <b>Weight</b>  | ca. 0.8 kg           |

## Memory and communication

|                          |                           |
|--------------------------|---------------------------|
| <b>Memory</b>            | 990 cells, 10 000 records |
| <b>Data transmission</b> | Bluetooth                 |

## Other data

|  |                            |
|--|----------------------------|
| <b>The product meets the EMC (emission for industrial environment) requirements according to standards</b> | EN 61326-1<br>EN 61326-2-2 |
|--|----------------------------|

"m.v." - measured value

## Standard accessories



**WS-03 adapter  
with START button  
(UNI-Schuko plug)**

WAADAWS03



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

WAPRZ1X2REBB  
WAPRZ1X2BUBB  
WAPRZ1X2YEBB



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

WASONREOGB1  
WASONBUOGB1  
WASONYEGB1



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

WAKRORE20K02  
WAKROYE20K02



**M1 hanging straps**

WAPOZSZE4



**M1 hanging  
hook straps**

WAPOZUCH1



**M6 carrying case**

WAFUTM6



**4x LR6 1.5 V battery**



**Calibration  
certificate**

## Optional accessories



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

WAADAEVSE01



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

WAADATWR1J



**WS-04 adapter  
(UNI-SCHUKO  
angular plug)**

WAADAWS04



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

WAPRZ005REBB  
WAPRZ010REBB  
WAPRZ020REBB



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

WASONSP2M



**Crocodile clip  
1 kV 20 A blue**

WAKROBU20K02



**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**