



7"

touch  
screen

$\rho$   $R_E$   
 $R_{ISO}$   $Z_s$   $R_{CONT}$   
 $E$

complex  
measurements of  
installations



## Maximum functionality in a minimum price

- **The largest touch screen on the market (7") – remarkable ergonomics and ease of use**
- Removable microSD memory card – easy increase of memory capacity
- Li-Ion battery – longer operation of the meter
- **Measurement of all parameters related to earthing and protection against electric shock – one device instead of several**
- Quick measurement of the fault loop impedance in networks secured with RCD without triggering (up to several seconds) – time saver
- Auto measurements – the ability to perform automatic measurements in sequence – simplified measurements
- Fast path from measurements to report – time saver

### Features

The meter offers a **wide range** of functionalities. It combines the measuring capabilities of several devices, while ensuring equally good accuracy.

MPI-535 can be used for all measurements for commissioning of electrical installations in accordance with applicable regulations:

- » short circuit loop impedance (also in circuits secured with RCDs),
- » RCD parameters,
- » insulation resistance,
- » earth resistance (4 measurement methods + soil resistivity measurement),
- » continuity of protective and equipotential bondings,
- » light intensity measurement,
- » phase sequence test,
- » motor rotation direction test.



## Automatic installation safety test

MPI-535 allows safety control of **residential, commercial and industrial electrical installations**. Measurements can be easily automated with:

- auto mode of residual current devices (RCD) tests,
- auto measurements – freely configurable measuring sequences,
- AutoISO-1000C adapter for automatic insulation resistance test of 3-, 4- and 5-conductor cables, without switching.

## Ease of reading

The device is equipped with a color TFT LCD touch screen with a resolution of 800x480 pixels and a diagonal of 7", which allows for convenient operation and easy reading of parameters and plotted waveforms. This screen size enables displaying more information, available at any time of use. The interface is visible in all conditions – also thanks to the appropriate size of displayed symbols. **Included stylus allows to work also with dielectric gloves.**



## Built-in help system

The device has built-in help screens with measurement diagrams. Thanks to this you can easily and quickly check and make sure how to connect to a given system depending on the type of performed measurement.

## Increased resistance to environmental conditions

The MPI-535 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 IP51. It is resistant to mechanical damage, and a special design allows you to easily protect the touch screen by shielding using the cover of the meter. In addition to the fact that it protects against damage, it also allows you to conveniently carry and use the device in different positions.

## Communication and software

A very strong feature of the device is the multitude of communication interfaces and cooperation with external software. You can easily transfer measurement data to your computer via USB port, removable SD memory card, or wireless communication (Bluetooth, Wi-Fi).

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...1999.9 Ω acc. to IEC 61557	0.000 Ω...1999.9 Ω	from 0.001 Ω	±(5% m.v. + 30 digits)
Fault loop $Z_{L-PE}$ in RCD mode	from 0.50 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	from ±(2% m.v. + 2 digits)
selective RCD	0 ms...500 ms	0 ms...500 ms	1 ms	from ±(2% m.v. + 2 digits)
Measurement of RCD tripping current $I_A$ measuring current $0.2 I_{\Delta n}, 2.0 I_{\Delta n}$				
for sinusoidal residual current (AC type)	3.3 mA...1000 mA	3.3 mA...1000 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...700 mA	3.5 mA...700 mA	from 0.1 mA	±10% $I_{\Delta n}$
for direct residual current (type B)	2.0 mA...1000 mA	2.0 mA...1000 mA	from 0.1 mA	±10% $I_{\Delta n}$
<b>Earth resistance</b>				
3- and 4-pole method	from 0.50 Ω...1.99 kΩ acc. to IEC 61557-5	0.00 Ω...1.99 kΩ	from 0.01 Ω	from ±(2% m.v. + 3 digits)
3-pole + clamp method	0.00 Ω...1.99 kΩ	0.00 Ω...1.99 kΩ	from 0.01 Ω	from ±(2% m.v. + 4 digits)
2-clamp method	0.00 Ω...99.9 kΩ	0.00 Ω...99.9 kΩ	from 0.01 Ω	from ±(10% m.v. + 4 digits)
<b>Resistance-to-earth</b>	0.0 Ωm...99.9 kΩm	0.0 Ωm...99.9 kΩm	from 0.1 Ωm	Depending on accuracy of $R_E$ measurement
<b>Insulation resistance</b>				
Measuring voltage 50 V	50 kΩ...250 MΩ acc. to IEC 61557-2	0 kΩ...250 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digits)
Measuring voltage 100 V	100 kΩ...500 MΩ acc. to IEC 61557-2	0 kΩ...500 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digits)
Measuring voltage 250 V	250 kΩ...999 MΩ acc. to IEC 61557-2	0 kΩ...999 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digits)
Measuring voltage 500 V	500 kΩ...2.00 GΩ acc. to IEC 61557-2	0 kΩ...2.00 GΩ	from 1 kΩ	from ±(3% m.v. + 8 digits)
Measuring voltage 1000 V	1000 kΩ...9.99 GΩ acc. to IEC 61557-2	0 kΩ...9.99 GΩ	from 1 kΩ	from ±(3% 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 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>Light intensity</b>				
Measurement in luxes (lx)	0 lx...399.9 klx	0 lx...399.9 klx	from 0.001 lx	from ±(2% m.v. + 5 digits)
Measurement in feet-candles (fc)	0 fc...39.99 kfc	0 fc...39.99 kfc	from 0.001 fc	from ±(2% m.v. + 5 digits)
<b>Phase sequence indication</b>	in the same direction (correct), opposite direction (incorrect), $U_{L-L}$ voltage: 95 V...500 V (45 Hz...65 Hz)			

## Other technical data

### Safety and work conditions

Measuring category according to EN 61010	IV 300 V, III 500 V
Ingress protection	IP51
Type of insulation according to EN 61010-1 and IEC 61557	double
Dimensions	288 x 223 x 75 mm
Weight	ca. 2.5 kg
Operating temperature	0...+45°C
Storage temperature	-20...+60°C
Humidity	20...90%
Nominal temperature	23 ± 2°C
Reference humidity	40%...60%

### Memory and communication

Memory of measurement results	unlimited
Data transmission	USB 2.0

### Other information

Quality standard – development, design and production	ISO 9001
The product meets the EMC (emission for industrial environment) requirements according to standards	EN 61326-1 EN 61326-2-2

## Standard accessories



**Test lead 1,2 m (banana plugs) red / blue / yellow**

WAPRZ1X2REBB  
WAPRZ1X2BUBB  
WAPRZ1X2YEBB



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

WAKRORE20K02  
WAKROBU20K02  
WAKROYE20K02



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

WASONREOGB1  
WASONBUOGB1  
WASONYEOGB1



**WS-03 adapter with START button with UNI-Schuko plug (CAT III 300 V)**

WAADAWS03



**Test lead on a reel 15 m / 30 m**

WAPRZ015BUBBSZ  
WAPRZ030REBBSZ



**2x earth contact test probe (rod), 30 cm**

WASONG30



### Charging

Mains cable with IEC C7 plug  
WAPRZLAD230  
Z7 power supply  
WAZASZ7



Li-ion battery 11.1 V 3.4 Ah  
WAAKU15



**USB cable**

WAPRZUSB



**L2 hanging straps (set)**

WAPOZSZEKPL



**L2 carrying case**

WAFUTL2



**Calibration certificate**

## Optional accessories



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

WAADAEVSE01



**AutoISO-1000C  
adapter**

WAADAAISO10C



**WS-04 adapter  
with UNI-SCHUKO  
angular plug**

WAADAWS04



**C-3 clamp  
(Ø 52 mm)**

WACEGC30KR



**N-1 transmitting  
clamp (Ø 52 mm)**

WACEGN1BB



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

WAADATWR1J



**PRS-1 resistance  
test probe**

WASONPRS1GB



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

WASONSP2M



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

WAPRZ005REBB  
WAPRZ010REBB  
WAPRZ020REBB



**Test wire reel**

WAPOZSZP1



**Test lead for  
earth resistance  
measurement  
25 m**

WAPRZ025BUBBSZ



**Test lead for  
earth resistance  
measurement  
50 m**

WAPRZ050YEBBSZ



**Cramp with  
banana socket**

WAZACIMA1



**Earth contact test  
probe 80 cm**

WASONG80



**L-3 carrying  
case (for 80 cm  
test probes)**

WAFUTL3



**Cable for battery  
charging from car  
cigarette lighter  
socket (12 V)**

WAPRZLAD12SAM



**CS-1 cable simulator**

WAADACS1



**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



**LP-10A light  
meter probe with  
WS-06 plug**

set  
WAADALP10AKPL

only probe with  
miniDIN-4P plug  
WAADALP10A

only WS-06 adapter with  
miniDIN-4P socket  
WAADAWS06



**LP-10B light  
meter probe with  
WS-06 plug**

set  
WAADALP10BKPL

only probe with  
miniDIN-4P plug  
WAADALP10B

only WS-06 adapter with  
miniDIN-4P socket  
WAADAWS06



**LP-1 light meter  
probe with  
WS-06 plug**

set  
WAADALP1KPL

only probe with  
miniDIN-4P plug  
WAADALP1

only WS-06 adapter with  
miniDIN-4P socket  
WAADAWS06



**4 GB microSD card**



**Calibration certificate  
with accreditation**