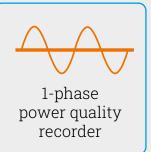


MPI-530 / 530-IT

index: WMGBMPI530 / WMGBMPI530IT



ρ R_E

R_{ISO} Z_S R_{CONT}

complex

measurements of installations













Professional and versatile

Features

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

- MPI-530 / MPI-530-IT 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.
- MPI-530 / MPI-530-IT can record 50/60 Hz power quality parameters:
 - » voltage L1 average values in the range up to 500 V,
 - » L1 current average values, current measurement in the range up to 3 kA (depending on the current probes used),
 - » frequency in the range of 40 Hz 70 Hz,
 - » active (P), reactive (Q) and apparent (S) power,
 - » power factor (PF), cosφ,
 - » harmonics (up to 40th for voltage and current),
 - » total harmonic distortion (THD) for current and voltage.

page 1 / 6 sonel.com



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,
- AutoISO-1000C adapter for automatic insulation resistance test of 3-, 4and 5-conductor cables, without switching.

Memory structure

The memory structure has a tree form. It has the ability to store tens of thousands of results in the configuration of CLIENT-OBJECT-FACILITY-MEASURING POINT, which helps to create a clear test protocol during later stages. This structure may be prepared in the meter, before starting the work. Entering data into the device is facilitated by QWERTY keyboard with Bluetooth communication module.

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-530 / MPI-530-IT 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 IP54. It is resistant to mechanical damage, and a special design allows you to easily protect the 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

You can easily transfer measurement data to your computer via USB port or 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.





page 2 / 6 sonel.com

Measurement functions	Measurement range	Display range	Resolution	Accuracy ±(% m.v. + digits)
Fault loop impedance				
Fault loop $Z_{L-PE'}$, $Z_{L-N'}$, Z_{L-L}	0.13 Ω1999.9 Ω acc. to IEC 61557	0.000 Ω1999.9 Ω	from 0.001 Ω	from ±(5% m.v. + 0.03 Ω
Fault loop Z_{L-PE} in RCD mode	from 0.50 Ω 1999 Ω acc. to IEC 61557	0.00 Ω1999 Ω	from 0.01 Ω	from ±(6% m.v. + 5 digits
Measurements of RCD parameters				
RCD tripping test and measurement of tripping measuring current $0.5 I_{\Lambda n'} 2 I_{\Lambda n'} 5 I_{\Lambda n}$	oing time t _A			
general and short-time delay RCD				
• TN / TT mains	0 ms300 ms	0 ms300 ms	1 ms	±(2% m.v. + 2 digits)
• MPI-530-IT IT mains	0 ms400 ms	0 ms400 ms	1 ms	±(2% m.v. + 2 digits)
selective RCD	0 ms500 ms	0 ms500 ms	1 ms	±(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 mA1000 mA	3.3 mA1000 mA	from 0.1 mA	$\pm 5\%~I_{\Delta n}$
for unidirectional residual current and unidirectional with the 6 mA DC bias (type A)	3.5 mA700 mA	3.5 mA700 mA	from 0.1 mA	±10% I _{Δn}
for direct residual current (type B)	2.0 mA1000 mA	2.0 mA1000 mA	from 0.1 mA	±10% I _{∆n}
arth resistance				
3- and 4-pole method	from 0.50 Ω1.99 kΩ acc. to IEC 61557-5	0.00 Ω1.99 kΩ	from 0.01 Ω	from ±(2% m.v. + 3 digit
3-pole + clamp method	0.00 Ω1.99 kΩ	0.00 Ω1.99 kΩ	from 0.01 Ω	±(8% m.v. + 4 digits)
2-clamp method	0.00 Ω99.9 kΩ	0.00 Ω99.9 kΩ	from 0.01 Ω	from ±(10% m.v. + 4 digi
Resistance-to-earth	0.0 Ωm99.9 kΩm	0.0 Ωm99.9 kΩm	from 0.1 Ωm	Depending on accurace of R _F measurement
nsulation resistance				<u>-</u>
Measuring voltage 50 V	50 kΩ250 MΩ acc. to IEC 61557-2	0 kΩ250 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digit
Measuring voltage 100 V	100 kΩ500 MΩ acc. to IEC 61557-2	0 kΩ500 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digit
Measuring voltage 250 V	250 kΩ999 MΩ acc. to IEC 61557-2	0 kΩ999 MΩ	from 1 kΩ	from ±(3% m.v. + 8 digit
Measuring voltage 500 V	500 kΩ2.00 GΩ acc. to IEC 61557-2	0 kΩ2.00 GΩ	from 1 kΩ	from ±(3% m.v. + 8 digit
Measuring voltage 1000 V	1000 kΩ9.99 GΩ acc. to IEC 61557-2	0 kΩ9.99 GΩ	from 1 kΩ	from ±(3% m.v. + 8 digit
Resistance of protective conductors and eq	uipotential bondings			
Measurement of resistance of protective conductors and equipotential bondings with ±200 mA current	0.12 Ω400 Ω acc. to IEC 61557-4	0.00 Ω400 Ω	from 0.01 Ω	±(2% m.v. + 3 digits)
Measurement of resistance with low current	0.0 Ω1999 Ω	0.0 Ω1999 Ω	from 0.1 Ω	±(3% m.v. + 3 digits)
ight intensity				
Measurement in luxes (lx)	0 lx399.9 klx	0 lx399.9 klx	from 0.001 lx	from ±(2% m.v. + 5 digit
Measurement in feet-candles (fc)	0 fc39.99 kfc	0 fc39.99 kfc	from 0.001 fc	from ±(2% m.v. + 5 digit
Phase sequence indication	in the same direction (corr	ect) apposite direction (in	poorroot) II. voltage	o: 05 V 500 V (45 Hz 65 H

page 3 / 6 sonel.com

Specifications – 1-phase power quality recorder

The device is designed to work with mains:

Supported systems:

» with nominal frequency 50/60 Hz

with nominal voltage: 110/190 V, 115/200 V, 127/220 V, 220/380 V, 230/400 V, 240/415 V » single-phase

Parameter	Measuring range	Max. resolution	Accuracy
Alternating voltage (TRMS)	0.0500 V	0.1 V	from ±(2% m.v. + 2 digits)
Alternating current (TRMS)	depending on clamp*	0.1 mA	from ±(5% m.v. + 3 digits) (error does not account for clamp error)
Frequency	45.065.0 Hz	0.1 Hz	±(0.1% m.v. + 1 digit)
Active vecetive appearant and	0 VA1.5 MVA	1 VA	
Active, reactive, apparent and	0 W1.5 MW	1 W	from ±(7% m.v. + 3 digits)
distortion power	0 var1.5 Mvar	1 var	
cosφ and power factor (PF)	0.001.00	0.01	unspecified
Harmonics			
Voltage	0.0500 V	0.1 V	from ±(5% m.v. + 3 digits)
Current	depending on clamp*	as for alternating current True RMS	from ±(5% m.v. + 3 digits) (error does not account for clamp error)
THD			
Voltage	0.0999.9%	0.10	±5%
Ourmant	(in relation to the first harmonic)	0.1%	±5%
Current			(error does not account for clamp error)

^{*} F-1A, F-2A, F-3A clamp: 0...3000 A AC (10 000 A_{p-p}) • C-3 clamp: 0...1000 A AC (3600 A_{p-p}) • C-6A clamp: 0...10 A AC (36 A_{p-p})

	8				8
	C-3	C-6A	F-1A	F-2A	F-3A
	WACEGC30KR	WACEGC6AOKR	WACEGF1AOKR	WACEGF2AOKR	WACEGF3AOKR
Rated current	1000 A AC	10 A AC		3000 A AC	
Frequency	30 Hz5 kHz	40 Hz10 kHz		40 Hz10 kHz	
Max. diameter of measured conductor	52 mm	20 mm	380 mm	250 mm	140 mm
Minimum accuracy	≤0.3%	≤1%		0,5%	
Battery power	_	_		_	
Lead length	2 m	2.2 m		2.5 m	
Measurement category	III 600 V	IV 300 V		IV 600 V	
Ingress protection	IP40	IP40		IP67	

page 4 / 6 sonel.com

Other technical data

Safety and work conditions

Measuring category according to EN 61010	IV 300 V, III 600 V
Ingress protection	IP54
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+50°C
Storage temperature	-20+70°C
Humidity	2090%
Nominal temperature	23 ± 2°C
Reference humidity	40%60%

Memory and communication

Memory of measurement results	6000 cells, 10 000 records	
Data transmission	USB 2.0, Bluetooth	

Other information

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

Standard accessories



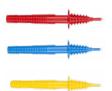
Test lead 1.2 m (banana plugs) red / blue / yellow

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



Test lead 15 m, blue (on a reel) WAPRZ015BUBBSZ





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

WASONG30



WS-03 adapter with START button with UNI-Schuko plug WAADAWS03

USB cable WAPRZUSB



Charging

Z-7 power supply + mains cable with IEC C7 plug



Cable for battery charging from car cigarette lighter socket (12 V) WAPRZLAD12SAM



Ni-MH battery 4.8 V 4.2 Ah WAAKU07



L-2 hanging straps (set)

WAPOZSZEKPL



L-2 carrying case

WAFUTL2



Factory calibration certificate

page 5 / 6 sonel.com

Optional accessories



EVSE-01 adapter for testing vehicle charging stations

WAADAEVSE01



AutoISO-1000C adapter

WAADAAISO10C



WS-04 adapter with UNI-SCHUKO angular plug

WAADAWS04



F-1A flexible clamp (Ø 360 mm)

WACEGF1AOKR



F-2A flexible clamp (Ø 235 mm)

WACEGF2AOKR



F-3A flexible clamp (Ø 120 mm)

WACEGF3AOKR



C-3 clamp (Ø 52 mm)

WACEGC30KR



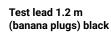
N-1 transmitting clamp (Ø 52 mm)

WACEGN1BB



Crocodile clip 1 kV 20 A black

WAKROBL20K01



WAPR71X2RI BB



Double-wire test lead 2 m for N-1 clamp

WAPRZ002DZBB



PRS-1 resistance test probe

WASONPRS1



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 red / blue

WAPRZ025REBBSZ WAPRZ025BUBBSZ



Test lead for earth resistance measurement 50 m

WAPRZ050YEBBSZ



Cramp with banana socket

WAZACIMA1



Earth contact test probe 80 cm

WASONG80V2



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

WAFUTL3





Industrial socket adapter 16 A / 32 A

WAADAAGT16T WAADAAGT32T



TWR-1J RCD breaker testing adapter

WAADATWR1J



AC-16 line splitter

WAADAAC16





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



CS-1 cable simulator

WAADACS1



Battery pack 4xLR14

WAPOJ1



XL-13 carrying case

WAWALXL13



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

WAADALP10AKPL



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

WAADALP10BKPL



LP-1 light meter probe with WS-06 plug

WAADALP1KPL



Sonel Reports PLUS software

WAPROREPORTSPLUS



Calibration certificate with accreditation

page 6 / 6 sonel.com