

## Portable power quality analysis center

### Features

- 7" touchscreen - ergonomic and intuitive graphical user interface.
- Over 10 years of recording.
- CAT IV 600 V measurement category - high safety.
- All parameters according to class S - high accuracy of measurements.
- Li-Ion rechargeable battery - higher mobility.
- Powering from measured network - reliability of measurements.
- Removable memory card - recording data with no restrictions.
- Quick setup and reporting - ease of use.
- Cooperation with desktop Sonel Analysis software - extended data analysis.

### Measured parameters

- Inrush current.
- Inverter efficiency.
- Voltages L1, L2, L3, N, PE (five measurement inputs) – average, minimum, maximum and instant values within the range up to 760 V, interoperability with voltage transducers.
- Currents L1, L2, L3, N (four measurement inputs) – average, minimum and maximum values, current measurement within the range up to 6 kA (depending on applied current clamp), interoperability with current transducers.
- Crest factors for current CFI and voltage CFU.
- Frequency within the range of 40...70 Hz.
- Active (P), reactive (Q), distortion (D) and apparent (S) power with the type of reactive power (capacitive and inductive).
- Active ( $E_p$ ), reactive ( $E_q$ ) and apparent ( $E_s$ ) energy.
- Power factor PF,  $\cos\phi$ ,  $\tan\phi$ .
- Harmonics up to the 50<sup>th</sup> order of voltage and current.
- Event logging for current and voltage along with oscillograms and half-period RMS charts.
- Energy cost calculator.
- ...and much more.
- All parameters are recorded in compliance with class S according to IEC 61000-4-30 standard



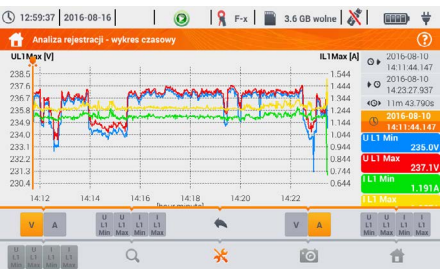
## Wide range of mains to analyze

- With rated frequency 50/60 Hz
- With rated voltages: 58/100 V, 64/110 V, 110/190 V, 115/200 V, 120/208 V, 127/220 V, 133/230 V, 220/380 V, 230/400 V, 240/415 V, 254/440 V, 290/500 V, 400/690 V
- Direct current
- Systems:
  - » single-phase
  - » split-phase with common N
  - » three-phase – WYE with and without N conductor
  - » three-phase – Delta
  - » three-phase – WYE and Delta Aron
  - » with current and voltage transducers



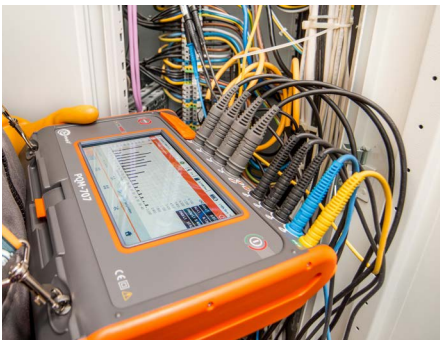
## Capabilities

PQM-707 is an autonomous meter allowing versatile measurement, analysis, and registration of energy network (DC and 50/60 Hz) parameters. All parameters are measured I/A/W class S of the IEC 61000-4-30 standard guaranteeing high accuracy of measurements. The **7-inch colour touchscreen** - The largest in this class of analyzers! - enables intuitive and ergonomic operation. Thanks to the built-in lithium-ion battery, the analyzer allows for efficient work during the measurement without the necessity of connecting an external AC adapter.



## Displaying data

The analyzer is equipped with a readable colour touchscreen. Its **800 x 480 pixel** resolution provides both high comfort of interacting with the interface and high readability of the measurement results. **The included stylus allows you to work with dielectric gloves.**



## Application

The analyzer is directed to a very wide range of users, with particular reference to the maintenance staff. Due to its mobility and autonomy, any problems occurring in the supply networks can be diagnosed on the spot. The analyzer can be used in virtually all kinds of networks with rated voltage from 54 V to 760 V - directly or indirectly via transducers. PQM-707 can be used in the field of professional power engineering, maintenance services in industrial plants, as well as among those providing services focused on network analysis.



## Durable and practical casing

The casing has been designed to allow easy access to the touchscreen and all measurement and communication sockets. Folding lid protects the display from damages. Thanks to the IP51 protection degree, the device can be used in difficult conditions - it is not afraid of dust or water splashes.

# Parameters

Parameter		Measuring range	Max. resolution	Accuracy
Alternating voltage (TRMS)	—	0.0...760.0 V	4 significant digits	$\pm 0.5\% U_{nom}$
Crest Factor	Voltage	1.00...10.00 ( $\leq 1,65$ for 690 V)	0.01	$\pm 5\%$
	Current	1.00...10.00 ( $\leq 3.6$ for $I_{nom}$ )	0.01	$\pm 5\%$
Alternating current (TRMS)	—	depending on clamp *	$0.01\% I_{nom}$	$\pm 0.2\% I_{nom}$ (error does not account for clamp error)
Frequency	—	40.00...70.00 Hz	0.01 Hz	$\pm 0.05$ Hz
Active, reactive, apparent and distortion power	—	depending on configuration (transducers, clamps)	4 significant digits	depending on configuration (transducers, clamps)
Active, reactive and apparent energy	—	depending on configuration (transducers, clamps)	4 significant digits	as power error
cos $\phi$ and power factor (PF)	—	0.00...1.00	0.01	$\pm 0.03$
tan $\phi$	—	0.00...10.00	0.01	depends on error of active and reactive power
Harmonics	Voltage	DC, 1...50	as for alternating voltage True RMS	$\pm 0.15\% U_{nom}$ for m.v. < $3\% U_{nom}$ $\pm 5\%$ m.v. for m.v. $\geq 3\% U_{nom}$
	Current	DC, 1...50	as for alternating current True RMS	$\pm 0.5\% I_{nom}$ for m.v. < $10\% I_{nom}$ $\pm 5\%$ m.v. for m.v. $\geq 10\% I_{nom}$
THD	Voltage	0.0...100.0% (relative to RMS value)	0.1%	$\pm 5\%$
	Current			$\pm 5\%$
Flicker index	—	0.40...10.00	0.01	$\pm 10\%$
Unbalance factor	Voltage and current	0.0...10.0%	0.1%	$\pm 0,15\%$ (absolute error)
Inrush current	Current	depending on clamp *	$0.01\% I_{nom}$	$\pm 4\%$ m.v. for m.v. $\geq 10\% I_{nom}$ $\pm 4\% I_{nom}$ for m.v. < $10\% I_{nom}$ (RMS <sub>1/2</sub> )

m.v. – measured value

\* F-1A1, F-2A1, F-3A1 clamp: 0...1500 A AC (5000 A<sub>pp</sub>) • F-1A, F-2A, F-3A clamp: 0...3000 A AC (10 000 A<sub>pp</sub>) • F-1A6, F-2A6, F-3A6 clamp: 0...6000 A AC (20 000 A<sub>pp</sub>)  
C-4A clamp: 0...1000 A AC (3600 A<sub>pp</sub>) • C-5A clamp: 0...1000 A AC/DC (3600 A<sub>pp</sub>) • C-6A clamp: 0...10 A AC (36 A<sub>pp</sub>) • C-7A clamp: 0...100 A AC (360 A<sub>pp</sub>)

							
	<b>C-4A</b>	<b>C-5A</b>	<b>C-6A</b>	<b>C-7A</b>	<b>F-1A1 / F-1A / F-1A6</b>	<b>F-2A1 / F-2A / F-2A6</b>	<b>F-3A1 / F-3A / F-3A6</b>
	WACEGC4AOKR	WACEGC5AOKR	WACEGC6AOKR	WACEGC7AOKR	WACEGF1A1OKR WACEGF1AOKR WACEGF1A6OKR	WACEGF2A1OKR WACEGF2AOKR WACEGF2A6OKR	WACEGF3A1OKR WACEGF3AOKR WACEGF3A6OKR
Rated current	1000 A AC	1000 A AC 1400 A DC	10 A AC	100 A AC	1500 / 3000 / 6000 A AC		
Frequency	30 Hz...10 kHz	DC...5 kHz	40 Hz...10 kHz	40 Hz...1 kHz	40 Hz...10 kHz		
Output signal level	1 mV / 1 A	1 mV / 1 A	100 mV / 1 A	5 mV / 1 A	77.6 $\mu$ V / 1 A	38.8 $\mu$ V / 1 A	19.4 $\mu$ V / 1 A
Max. diameter of measured conductor	52 mm	39 mm	20 mm	24 mm	360 mm	235 mm	120 mm
Minimum accuracy	$\leq 0.5\%$	$\leq 1.5\%$	$\leq 1\%$	0.5%	1%		
Battery power	—	✓	—	—	—		
Lead length	2.2 m	2.2 m	2.2 m	3 m	2.2 m		
Measurement category	IV 300 V	IV 300 V	IV 300 V	III 300 V	IV 600 V		
Ingress protection	IP40				IP67		

# SONEL ANALYSIS

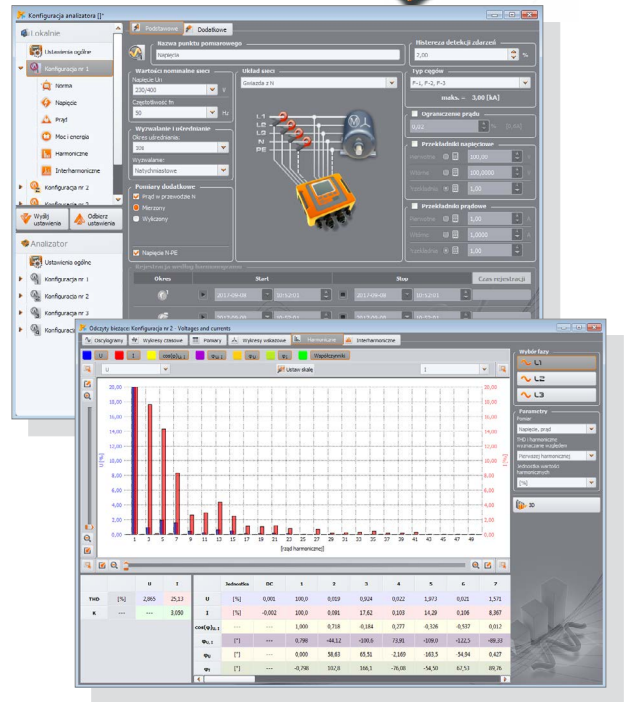


Sonel Analysis software - application delivered as standard accessory, indispensable for working with PQM-series analyzers. It enables:

- analyzer configuration,
- data reading from logger,
- preview of network parameters in real time (with capability of reading via GSM modem),
- deletion of data in the analyzer,
- data presentation in tables,
- data presentation in charts,
- data analysis in compliance with standard EN 50160 (reports) and other user defined reference conditions,
- independent support of multiple analyzers,
- analyzer firmware updates.

The software enables readout of selected parameters and their visualization in real time. These parameters are measured independently from the registration saved on the memory card. The user can view:

- charts of voltage and current progression (oscilloscope),
- charts of voltage and current over time,
- phasor diagram,
- measurements of multiple parameters,
- harmonics and harmonic powers,
- interharmonics.



## Standard accessories



**3 x crocodile clip, black, 1 kV, 20 A**  
WAKROBL20K01



**2 x crocodile clip, red, 1 kV, 20 A**  
WAKRORE20K02



**3 x test lead with banana plugs; 1 kV; 2.2 m; black**  
WAPRZ2X2BLBB



**Li-Ion rechargeable battery 11.1 V 3.4 Ah**  
WAAKU15



**Crocodile clip, blue, 1 kV, 20 A**  
WAKROBU20K02



**Crocodile clip, yellow, 1 kV, 20 A**  
WAKROYE20K02

**Test lead with banana plugs; 1 kV; 2.2 m**

blue  
WAPRZ2X2BUBB

yellow-green  
WAPRZ2X2YEBB



**AC-16 line splitter**  
WAADAAC16



**4 x F-3A flexible clamp (Ø=120 mm) 3 kA**  
WACEGF3AOKR



**4 x magnetic voltage adapter - set**  
WAA DAUMAGKPL



**Calibration certificate issued by an accredited laboratory**



**Storage & carrying**

**L-4 carrying case**  
WAFUTL4



**Meter strap (type L-2)**  
WAP0ZSZEKPL



**Power supply**

**Z-7 power supply**  
WAZASZ7

**AZ-2 power adapter (IEC C7 plug / banana plugs)**  
WAAZAAZ2

**230 V power cord (IEC C7 plug)**  
WAPRZLAD230

**Battery charging cable for 12 V car sockets**  
WAPRZLAD12SAM



**Data transfer and analysis**

**USB cable**  
WAPRZUSB

**Sonel Analysis software**  
WAPROANALIZA4



# Optional accessories



**F-1A flexible clamp**  
(Φ=360 mm)

1.5 kA: WACEGF1A10KR  
3 kA: WACEGF1A0KR  
6 kA: WACEGF1A60KR



**F-2A flexible clamp**  
(Φ=235 mm)

1.5 kA: WACEGF2A10KR  
3 kA: WACEGF2A0KR  
6 kA: WACEGF2A60KR



**F-3A flexible clamp**  
(Φ=120 mm)

1.5 kA: WACEGF3A10KR  
3 kA: WACEGF3A0KR  
6 kA: WACEGF3A60KR



**C-4A clamp**  
(Ø 52 mm)  
1000 A AC

WACEGC4A0KR



**C-5A clamp**  
(Ø 39 mm)  
1000 A AC/DC

WACEGC5A0KR



**C-6A clamp**  
(Ø 20 mm)  
10 A AC

WACEGC6A0KR



**C-7A clamp**  
(Ø 24 mm)  
100 A AC

WACEGC7A0KR



**L2 carrying case**  
for clamps

WAWALL2



**Magnetic voltage**  
adapter

black  
WAADAUMAGKBL  
blue  
WAADAUMAGKBU



**Pin probe, blue 1 kV**  
(banana socket)

black / blue / red / yellow  
WASONBLOGB1  
WASONBUOGB1  
WASONREOGB1  
WASONYEOGB1



**ASX-1 piercing**  
adapter – set (4 pcs)

WAADAPRZASX1



**Voltage adapter**  
with M4/M6  
thread - set 5 pcs

WAADAM4M6



**Flat test clip**  
(grip - banana  
socket) (5 pcs)

WASONKCB1KPL



**Test clips with steel**  
jaws – set (5 pcs)

WASONKGB1KPL



**Adapter for control**  
terminals (5 pcs)

WAADAPRZKPL1



**AGT-16C three-**  
phase socket adapt-  
er 16 A / 32 A (PEN)

WAADAAGT16C  
WAADAAGT32C



**AGT-16P three-**  
phase socket adapt-  
er 16 A / 32 A

WAADAAGT16P  
WAADAAGT32P



**AGT-63P three-**  
phase socket adapt-  
er 63 A

WAADAAGT63P



**AGT-16T industrial**  
socket adapter  
16 A / 32 A

WAADAAGT16T  
WAADAAGT32T

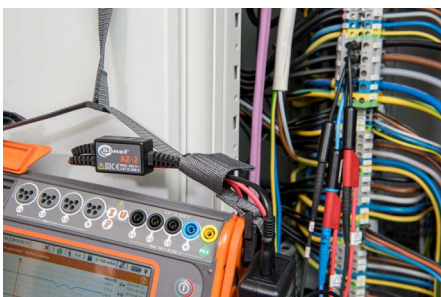


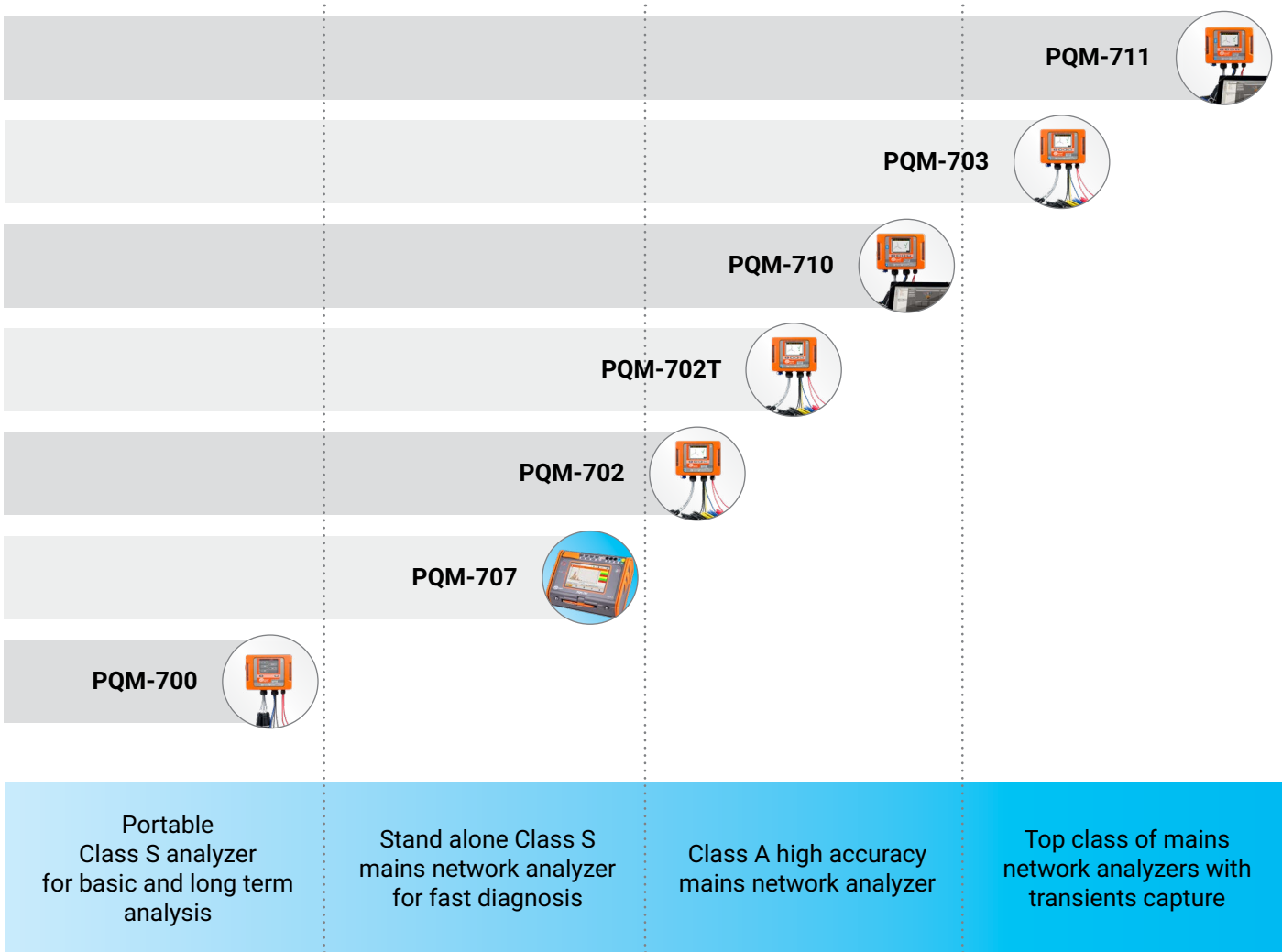
**Cover with a**  
magnetic strip  
(universal)

WAPOZUCH8



**Calibration**  
certificate with  
accreditation





INSULATION RESISTANCE METERS

MIC-30 INSULATION RESISTANCE METER

MIC-5010 INSULATION RESISTANCE METER

MIC-10k1 INSULATION RESISTANCE METER

EARTH RESISTANCE AND RESISTIVITY METERS

MIRU-30 EARTH RESISTANCE AND RESISTIVITY METER

MIRU-200-GPS EARTH RESISTANCE AND RESISTIVITY METER

POWER QUALITY ANALYZERS

PQM-700 POWER QUALITY ANALYZER

PQM-711 POWER QUALITY ANALYZER

Accessories for power quality analyzers

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