POWER QUALITY ANALYZER
PQM-707

NEW!

NETWORK
AC/DC

CAT III
600V

IP 51

Operation:
-10...50°C

TOUCH SCREEN

ANALYZER MEASURES AND RECORDS ACCORDING TO THE IEC 61000-4-30
CLASS S
STANDARD

- 7" touch screen - **intuitive operating**
- CAT IV 600V - **high safety**
- all parameters acc. to class S - **high accuracy of measurements**
- Li-Ion rechargeable battery - **higher mobility**
- removable memory card - **recording data with no restrictions**

Possible measurements:
- Measurements according to EN 50160,
- Voltage L1, L2, L3, N-PE (five inputs),
  - average, minimum, maximum values, range to 760 V, ability to work with voltage transformers,
- Current L1, L2, L3, N (four inputs),
  - average, minimum, maximum values, measurement current with range to 3 kA (depends on used clamp), ability to work with current transformers,
- Crest factor for voltage and current,
- Frequency from 40 Hz to 70 Hz ,
- Active, reactive, distortion, apparent power, including the type of reactive power (capacitive, inductive),
- Power recording:
  - Budeanu method,
  - IEEE 1459,
- Active, reactive, apparent energy,
- Power factor, cosφ, tgφ,
- Up to 40th harmonics for voltage and current,
- Total Harmonic Distortion (THD) for voltage and current,
- Short-term (P_{ST}) and long-term (P_{LT}) flicker,
- Unbalance of voltage and current,
- Current and voltage events registration including waveforms and RMS graphs half period,
- Inrush current*
- Calculator of energy tariffs*
- **ANALYZER MEASURES AND RECORDS ACCORDING TO THE IEC 61000-4-30 CLASS S STANDARD.**

*Available in 2016

The device is designed to work with networks:
- with nominal frequency 50/60Hz,
- with nominal voltage:
  64/110 V; 110/190V; 115/200V; 127/220V; 220/380V;
  230/400V; 240/415V; 254/440V; 290/500 V; 400/690V.
- DC network

Supported networks:
- single-phase,
- two-phase with common N conductor,
- three-phase star connection with and without N conductor,
- three-phase delta.

Parameters of analyzer:

Parametr		Measurement range	Max. resolution	Accuracy
Alternating voltage (TRMS)	—	0,0…760,0 V	0,01 % U_{nom}	±0,5% U_{nom}
Crest Factor	Voltage	1,00…10,00 (≤1,65 for 690 V voltage)	0,01	±5%
	Current	1,00…10,00 (≤3,6 I_{nom})	0,01	± 5% m.v.
Alternating current TRMS	—	depending on clamp*	0,01% I_{nom}	±2% m.v. for m.v. ≥ 10% I_{nom} ±2% I_{nom} for m.v. < 10% I_{nom} (error does not account for clamps error)
Frequency	—	40,00…70,00 Hz	0,01Hz	±0,05 Hz
Active, reactive, apparent and distortion power	—	depending of configuration (trasformers, clamp)	up to for decimal places	depending on configuration (transformers, clamps)
Active, reactive apparent energy	—	depending of configuration (transformers, clamp)	up to for decimal places	as power error
cosφ and power factor (PF)	—	0,00...1,00	0,01	±0,03
tg φ	—	0,00...10,00	0,01	depends on active and reactive power error
Harmonics	Voltage	as for alternating voltage True RMS	as for alternating voltage True RMS	±5% m.v. for m.v. ≥ 3% U_{nom} ±0,15% U_{nom} for m.v.. < 3% U_{nom}
		as for alternating voltage True RMS	as for alternating voltage True RMS	±5% m.v. for m.v.. ≥ 10% I_{nom} ±0,5% I_{nom} for m.v. < 10% I_{nom}
THD	Voltage	0.0...100.0% (in regards to the rms value)	0,1%	±5%
	Current			±5%
Flicker severity P_{ST}, P_{LT}	—	0,40...10,00	0,01	±10%
Voltage asymmetry	Voltage and current	0,0...10,0%	0,1%	±0,15% (absolute error)
Inrush current	—	depending on clamp*	0,01% I_{nom}	±4% m.v. for m.v. ≥ 10% I_{nom} ±4% I_{nom} for m.v. < 10% I_{nom} ($RMS_{1/2}$)

*Clamp F-1A, F-2A, F-3A: 0..3000 A (10000 A_{p-p}) *Clamp C-4A: 0..1000 A (3600 A_{p-p})*Clamp C-5A: 0..1000 A (3600 A_{p-p})*Clamp C-6A: 0..10 A (36 A_{p-p}) *Clamp C-7A: 0...100 A (360 A_{p-p})

Standard accesories:

- test lead 1,2 m black, 3 pcs,	WAPRZ1X2BLBB	- Magnetic voltage adapter (4 pcs),	WAADAUMAGKPL
- test lead 1,2 m blue, 1 pc,	WAPRZ1X2BUBB	- carrying case L1,	WAFUTL1
- rest lead 1,2 m yellow, 1 pc,	WAPRZ1X2YEBB	- **Sonel Analiysis** software for data analysis,	
- „Crocodile" clip, black K01, 3 pcs,	WAKROBL20K01	- rechargeable Li-Ion battery,	WAAKU15
- „Crocodile" clip, blue K02, 1pc,	WAKROBU20K02	- touch pen,	
- „Crocodile" clip, yellow K02, 1pc,	WAKROYE20K02	- memory card microSD 4GB,	
- USB cable,	WAPRZUSB	- instruction manual, calibration certyficate.	
- adapter AC-16,	WAADAAC16		

Additional accessories:

- carrying case for clamps,	WAWALL2	- voltage adapter with M4/M6 thread (5 pcs).	WAADAM4M6

| Clamps	C-4A	C-5A	C-6A	C-7A	F-1A	F-2A	F-3A
INDEX	WACEGC4AOKR	WACEGC5AOKR	WACEGC6AOKR	WACEGC7AOKR	WACEGF1AOKR	WACEGF2AOKR	WACEGF3AOKR
Rated current	1000 A AC	1000 A AC 1400 A DC	10 A AC	100 A AC	3000 A AC		
Max. overload current	1200 A AC	1000 A AC 3000 A DC	20 A AC	100 A AC	10k A AC		
Minimal measurable current	100 mA	500 mA	10 mA	20 mA	1 A		
Frequency	30Hz…10k Hz	DC…5k Hz	40 Hz…10k Hz	40 Hz…1 kHz	40 Hz…10k Hz		
Imput signal level	1 mV / 1 A	1 mV / 1 A	100 mV / 1 A	500 mV / 1A	38,8 µV / 1 A		
Max. diameter of measured cord	52 mm	39 mm	20 mm	24 mm	360mm	235 mm	120mm
Minimal basic accuracy	≤0,5%	≤1,5%	≤1%	0,5%	1%		
Battery power supply	—	+	—	—	—		
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		

SONEL Analysis" software is an application used to work with PQM-707 power quality analyzer. It enables:

- reading data from the analyzer,
- network parameters check in real time,
- data presentation in tables,
- data presentation in diagrams,
- data analysis according to EN 50160 or according to user defined conditions,
- independent service of multiple analyzers,
- software upgrade through the Internet.

Live mode

"SONEL Analysis" software enables reading of selected parameters and their graphic presentation in real time. These parameters are measured independently of the registration saved in the memory. User can check:

- voltage and current diagrams (oscilloscope)
- diagrams of voltage and current in time function,
- scope phasor,
- different parameters values,
- harmonics.
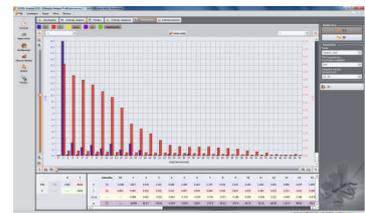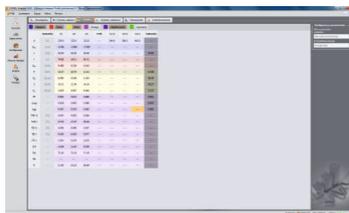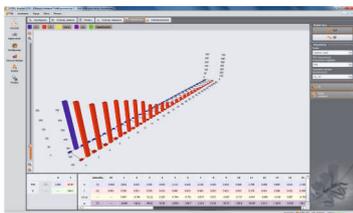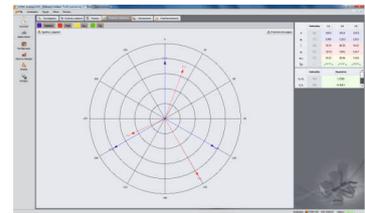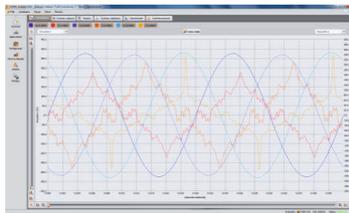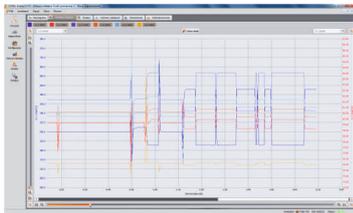
Standard accessories:

Magnetic voltage adapter used to connect voltage test leads to circuit breakers (type S) and residual current in switchgear - 4 pcs - **WAADAUMAGKPL**

Opptional accessories:

Voltage Adapter with M4/M6 thread used to connect voltage test leads to rail connectors in switchgear - 5 pcs - **WAADAM4M6**

Data analysis

With "SONEL Analysis" software user can read data stored on the memory card and analyze them. Data from the analyzer can be stored on hard drive and be used later. This feature enables data archiving.

The user can analyze the data from the device. There is a choice of:
- **General** – all data are shown with dots (Measurements, Events and Waveforms),
- **Measurements** – all measured values registered in averaging time are shown in table (voltage, frequency, etc.),
- **Events** – all detected events are shown in table (dips, swells, interruptions, etc.),
- **Configuration** – all data settings are shown.
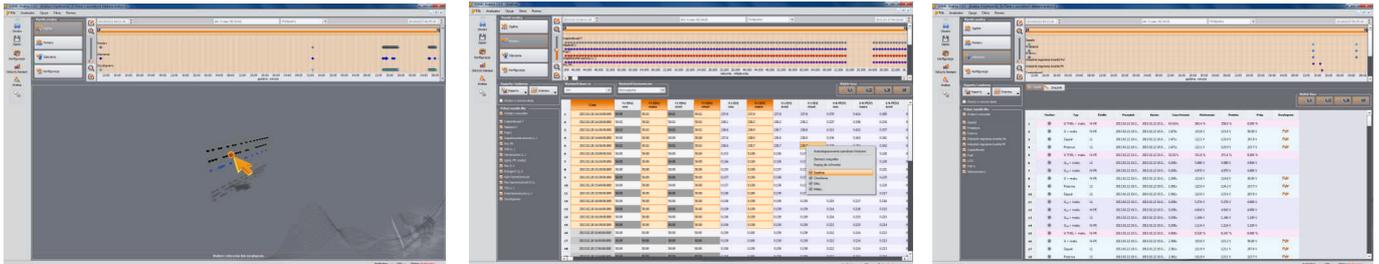
The software enables different types of diagrams, which show in a simple way the registered data:
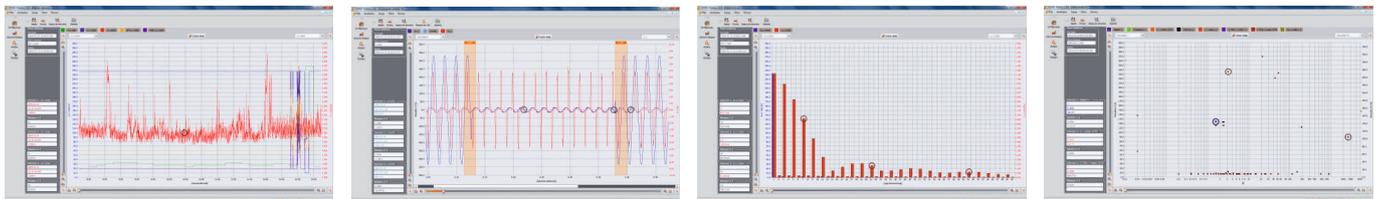
- **Time diagram** – graphs of indicated parameters in time function,
- **Waveforms** – graphs of instantaneous voltage and current during an event or at the end of averaging time,
- **Harmonics diagram** – bar graph showing harmonics from 1 to 40,
- **Value/Time diagram** – graph of events' duration time.

With data from the analyzer user can prepare reports, which can be saved on the hard drive in PDF, HTML, CSV or TXT files. The software enable to prepare the report according to EN 50160 standard.