

We take care of it.



They never stop – even when  
the going gets tough.



PQ-Box mobile

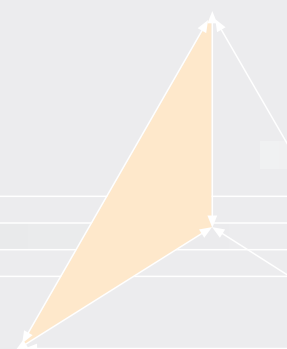
## A family of extremely robust power grid analyzers: PQ-Box 100/150/200

- Powerful tools to resolve network faults
- Evaluation of voltage quality in accordance with EN 50160 and IEC 61000-2-2/-2-4
- Frequency analysis up to 1 MHz
- Transient analysis up to 2 MHz (5 kV)
- Load analysis, energy measurements
- Ripple control signal analysis
- Comprehensive analysis software
- CAT IV and IP 65 rated
- IEC 61000-4-30 Ed. 3 Class A device





PQ-Box



The PQ device family: Portable PQ-Box 100/150/200 and permanently installed fault recorders PQI-D, PQI-DA and PQI-DA smart

The PQ-Box 100/150/200 power grid analyzers are powerful, mobile network analyzers, output meters and as well as transient recorders in one. The user-friendliness of the measuring instrument and the intuitiveness of the software were two of the main development goals.

The devices were specially developed for mobile operation (protection class IP 65) and designed for measurements in public power grids (installation category CAT IV). The device meets all of the requirements of the strict Measurement Instrument Standard IEC 61000-4-30 E. 3 for Class A devices.

The devices are equipped with a wide range of trigger options which enable them to quickly identify the cause of a failure in the power grid. In the event of a power failure an onboard UPS ensures that the PQ-Boxes continue monitoring.

The robust mechanical design and the lack of rotating parts such as fans and hard drives, enable the devices to be used in the toughest conditions.

### IEC 61000-4-30 Ed. 3 Parameters

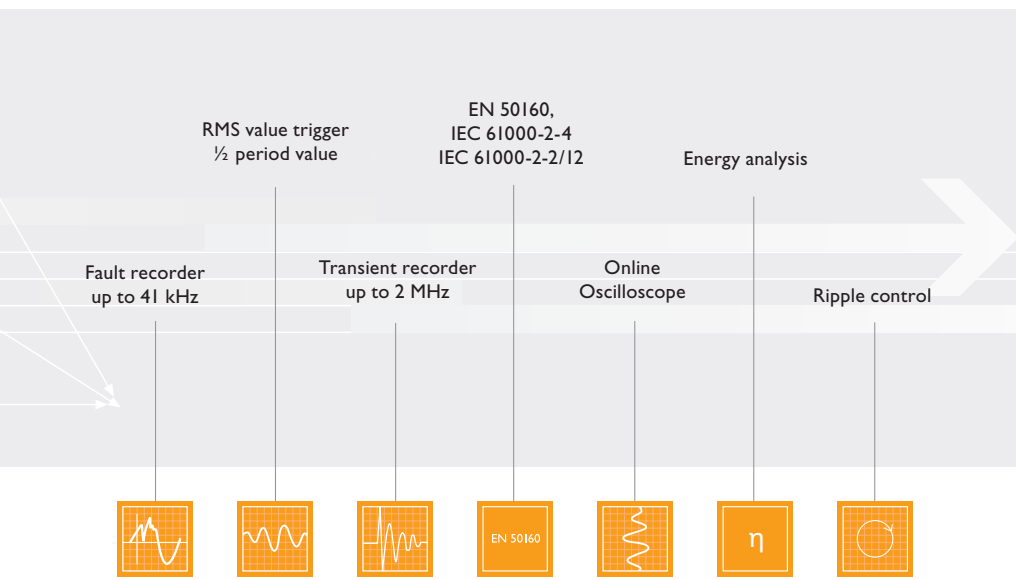
Parameter	Class
Accuracy of voltage measurement	A
Determination of time intervals	A
Flagging of event measurements	A
Harmonics, interharmonics	A
Flicker	A
Frequency	A
Voltage asymmetry	A
Event logging	A
Time synchronization	A



Level-Time diagram: Voltage, Current

# The Allrounders for tough field jobs.

PQ-Box 100/150/200 are clever, portable additions to the permanently installed Power Quality analyzers



PQ-Box 200 in operation

The devices are equipped with large memory ranging from 2 GB up to 32 GB (optional), which enables measurement data to be stored for up to a year.

The accessories are sophisticated and yet simple. A code in the connector enables the PQ-Box 100, 150 and 200 to recognize the connected current clamps and adjust the measurement ranges automatically. There is no need to setup the PQ-Box.

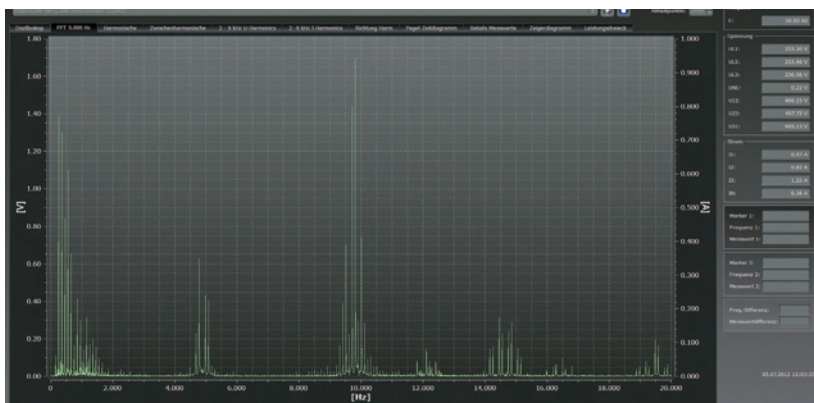
## Monitoring software

WinPQmobil, the comprehensive and practice-oriented evaluation software for the PQ-Box 100, 150 and 200, is supplied free and can be installed on any number of PCs.

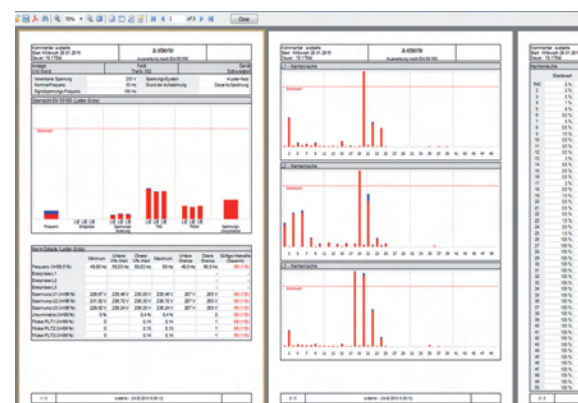
The software offers a wide range of evaluation options, such as load analysis and the ability to diagnose faults on the power grid. Standard reports in accordance with EN

50160, IEC 61000-2-2/-2-12 (public power grids) or IEC 61000-2-4 (industrial power grids) are automatically generated. Measurement data can be exported as COMTRADE, XML or CSV files. A comprehensive online function provides valuable information while PQ-Box is logging measurements.

Software updates can be downloaded free of charge. WinPQmobil is continuously developed.



Frequency range DC to 20 kHz



## Product characteristics

Type of power grid analyzer	PQ Box 100			PQ Box 150		PQ Box 200	
	Basic	Light	Expert	Light	Expert	T1	
Option							
Memory / GB	2			4 to 32		4 to 32	
Inputs voltage	4			4		4	
Inputs current	4			4		4	
Capacity accumulator	20 sec			6 h		6 h	
Analog input						x	x
Binary input						x	x
<b>Automatic evaluation of voltage quality according to</b>							
EN 50160/IEC 61000-2-2/IEC 61000-2-12/IEC 61000-2-4 (Class 1; 2; 3)/NRS048 /IEEE 519/VDE N-4105		x	x	x	x	x	x
<b>Logging of free interval from 1 sec to 30 min (&gt; 3,500 measurement parameter permanent parallel)</b>							
Voltage: Average, minimum, maximum value	x	x	x	x	x	x	x
Current: Average, maximum value	x	x	x	x	x	x	x
Power: P, Q, S, PF, cos phi, sin phi	x	x	x	x	x	x	x
Distortion power D; Power at the fundamental frequency	x	x	x	x	x	x	x
Energy: P, Q, P+, P-, Q+, Q-	x	x	x	x	x	x	x
Flicker (Pst, Plt, Ps5)	x	x	x	x	x	x	x
Asymmetric current and voltage; negative, positive and zero sequence component	x	x	x	x	x	x	x
Voltage harmonics in accordance with IEC 61000-4-30 Ed. 3 Class A - to 50.		x	x	x	x	x	x
Voltage harmonics extreme values 2. to 50.				x	x	x	x
Phase angle of voltage harmonics - to 40.				x	x	x	x
Voltage harmonics 200 Hz frequency bands 2 kHz to 9 kHz					x	x	x
Current harmonics 2. to 50.		x	x	x	x	x	x
Current harmonics extreme values 2. to 50.				x	x	x	x
Current harmonics 200 Hz frequency bands 2 kHz to 9 kHz					x	x	x
Phase angle of current harmonics - to 40.		x	x	x	x	x	x
THD U and I; PWhd U and I; PHC	x	x	x	x	x	x	x
FFT calculation for voltages and currents up to		5 kHz		10 kHz		20 kHz	
Ripple control signal 100 Hz to 3 kHz		x	x	x	x	x	x
Frequency, 10 sec, average, minimum, maximum value	x	x	x	x	x	x	x
<b>10/15/30 min intervall power values P, Q, S, D, cos phi, sin phi</b>	x	x	x	x	x	x	x
<b>Online mode</b>							
Oscilloscope image - Sampling frequency		10,24 kHz		20,48 kHz		40,96 kHz	
3D power triangle for apparent, active and reactive current and distortion power	x	x	x	x	x	x	x
Voltage and current harmonics		DC to 5 kHz		DC to 10 kHz		DC to 20 kHz	
Interharmonic groups (U, I)		DC to 5 kHz		DC to 10 kHz		DC to 20 kHz	
Voltage and current harmonics 200 Hz frequency bands - 2 kHz to 9 kHz					x	x	x
Direction of harmonics and phase angle current harmonics	x	x	x	x	x	x	x
<b>Trigger functions (Rec A / Rec B)</b>							
Manual trigger via trigger button		x	x	x	x	x	x
RMS level trigger (U, I)			x	x	x	x	x
RMS jump trigger (U, I)			x	x	x	x	x
Phase shift trigger			x	x	x	x	x
Envelope trigger			x	x	x	x	x
Interval trigger			x	x	x	x	x
Automatic trigger			x	x	x	x	x
Trigger on binary input (0 – 250V AC/DC; 10V threshold)						x	x
<b>Option R1</b> Ripple control analysis recorder for voltage and current 100 Hz to 3 kHz	x	x	x	x	x	x	x
<b>Option T1</b> Transient recorder programmable 200 kHz; 500 kHz; 1 MHz; 2 MHz							x

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