IEC 61000-4-30 Class A

METRUM® PQX3-SPQ

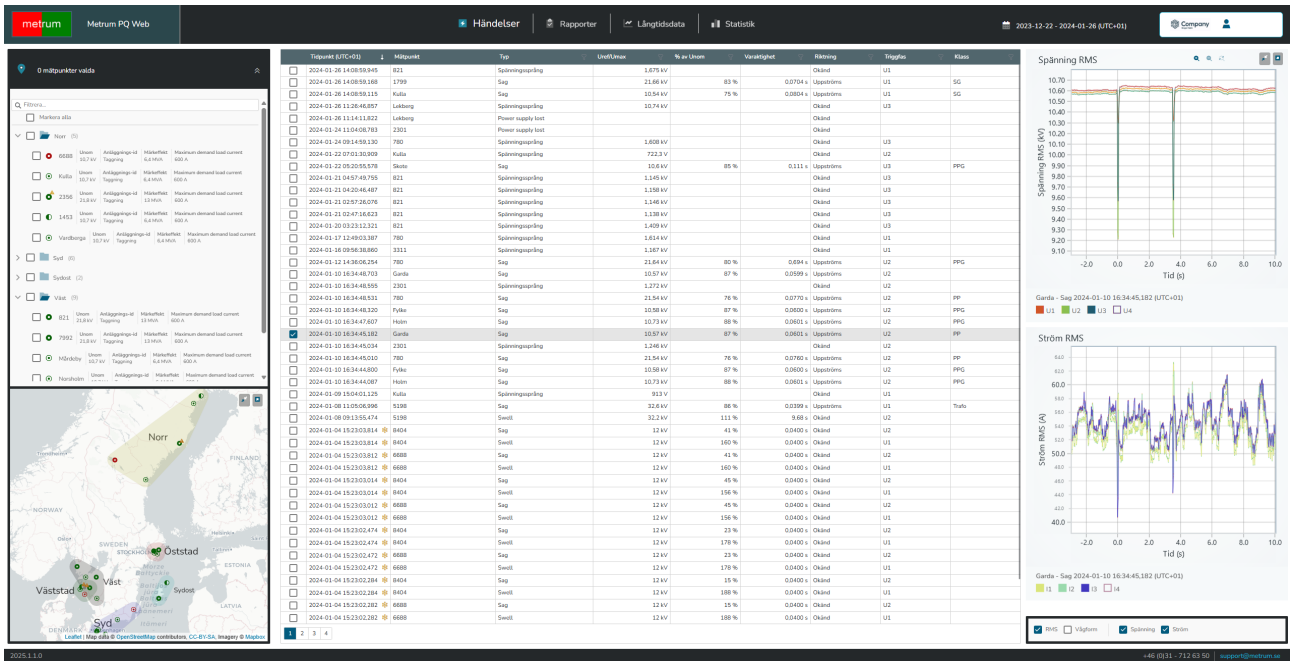
Reference meter for energy, power quality, and proactive disturbance analysis

Portable power quality instrument built on a third-generation measurement platform

Metrum PQX3-SPQ is developed on Metrum's latest instrument platform and meets the highest accuracy class, Class A. It can therefore be used as a reference instrument in power quality-related cases.

The instrument is user-friendly and compact enough to be installed directly at points of delivery, facade-mounted meter cabinets, and industrial substations. It is easily mounted using built-in magnets.

Metrum PQX3-SPQ continuously generates power quality reports in accordance with EIFS 2023:3 for straightforward evaluation of measurement results. These reports can be used as documentation in power quality cases and disputes.



Metrum PQX3-SPQ can be connected to Metrum's database system to easily compare measurement data from other points in the power grid. This provides a better understanding of where different phenomena occur within the grid.

Via the associated configuration interface, PQX3 Controller, extensive possibilities for real-time analysis are provided.

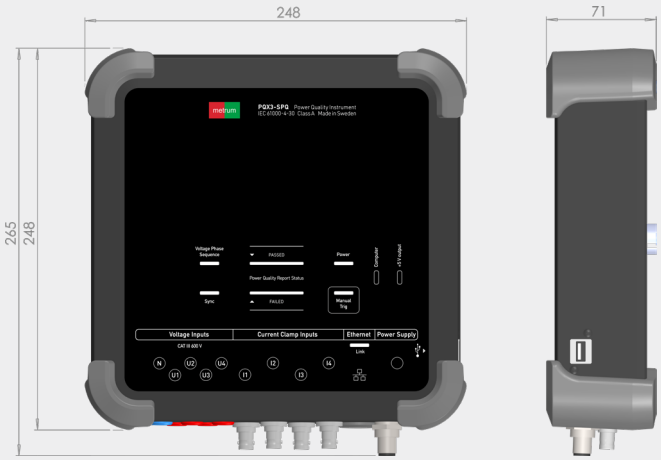
Metrum IMU® concept

- Built-in report analysis – supports national voltage quality standards
- Proactive solution – alarms at an early stage to avoid costly problems
- Support for national voltage quality regulations (e.g. Swedish EIFS 2013:1)
- Black-box – documented information on disturbances and poor power quality
- Clear feedback (red/green)
- Statistics – indicates where maintenance should be prioritised

Current clamps can be powered directly from the instrument via USB.

The instrument's high performance enables continuous waveform recording, which can be used in measurement applications requiring high-resolution data. The instrument also features a button that allows manual triggering of events.

The high measurement performance, with a sampling frequency of 51.2 kHz, expands the ability to detect fast events and disturbances in the power grid. It also improves the capability to measure harmonics in higher frequency bands, up to 9 kHz.



METRUM® PQX3-SPQ

Dimensions (H × D × W)	265 x 248 x 71 mm
IP rating	IP41
Weight	2 kg
Humidity	10–85 % non-condensing
Temperature	-25 °C to +55 °C

Technical specifications

Parameters	Specification	Information	PQX3-SPQ
INPUTS/OUTPUTS			
Voltage inputs	0-460 V RMS	Differential voltage inputs (+/-), 51.2 kHz/channel	4
HV Voltage inputs	0-6 kV peak	Built-in high-frequency inputs (1 MHz)	4
Current inputs	BNC, current clamps, ±3V Vrms	Differential current inputs (+/-), 51.2 kHz/channel	4
SUPPLY VOLTAGE			
Nominal supply	85-264 VAC/110-350 VDC	(47-63 Hz)	Yes
Internal backup		10 seconds	Yes
Power supply of current clamps	5V USB, Type C	For Rogowski current clamps	1
	5V USB, Type A	For Rogowski current clamps	1
STANDARDS COMPLIANCE			
IEC 62586	PQI-A-PI-H	Product standard	Yes
IEC 61000-4-30, class A, edition 3	< 0,1 %	Reference instrument	Yes
IEC 61000-4-7		Harmonic measurement	Yes
IEC 61000-4-15		Flicker measurement	Yes
EN 50 160		Calculated internally	Yes
EIFS 2023:3		Calculated internally	Yes
National standards (FoL, DEFU, NL, ZS387, etc.)		Large number of standards supported	Yes
Customised reports		Calculated internally	Yes
Storage interval		Selectable storage intervals	Yes
PQDIF format		Selectable export	Yes
INSTRUMENT			
Memory			64 GB
Sampling frequency, U/I standard inputs			51,2 kHz
Sampling frequency, HF inputs			1 MHz
Accuracy		IEC 61000-4-30, class A	< 0,1 %
Resolution (U/I)		Voltage/current inputs	16 bits
Resolution (GI)		General measurement inputs	16 bits
Input impedance – voltage inputs			0.01 Ohm
Input impedance – current inputs			2,5 MOhm
Anti-aliasing filter			Yes
PLL synchronisation			Yes
COMMUNICATION			
USB-C (Computer)		Computer port, connect to configure	Yes
USB-A		Possibility to connect USB drive	Yes
Ethernet	RJ45		Yes
Support for external communication protocols		IEC 61 850, IEC 62541, OPC-UA, Modbus-TCP, DDS/RTPS	Yes
Time synchronisation	For external time synchronisation	NTP/PTP	Yes

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