



METRUM® PQX3-FR-P

PORTABLE POWER QUALITY FAULT RECORDER

IEC 62056, PQI-A
IEC 61000-4-30, Class A

HIGH-END PORTABLE POWER QUALITY INSTRUMENT

The Metrum PQX3-FR-P Portable Instrument is developed to meet the latest measurement requirements including both Class A Power Quality (PQI-A) and full featured Fault Recording techniques.

The instrument are equipped with multiple voltage and current inputs and can be used for many different measurement applications. Highest measurement performance provides reliable results in demanding environments including electrical grid sites, industrial areas, wind farms and solar cell parks.



HIGHEST MEASUREMENT PERFORMANCE

The PQX3-FR-P has an improved measurement performance including a high sample rate (1024 samples/period) and several different measurement channels. The improved disturbance detection, trig mechanisms and measurements of higher harmonics, makes the instrument excellent for not only performing normative measurements according to the voltage quality standards, but also for being a versatile means of detecting all kinds of problems in the electrical grid.



REMOTE REALTIME SUPERVISION AND CONTROL

The remote connectivity facilitates easy access, configuration and data analysis from the office. The instrument can also utilize an existing communication infrastructure using e.g. Modbus, IEC61850 or OPC-UA. This alternative can save a lot of money and gives an easier way for effective remotely managed measurements.

The Metrum IMU[®]-concept



Built-in automatic report analysis generation



Pro-active solution – alarm at early stage avoids costly problems



Supports national voltage quality standards



Black-box set-up – detailed data recorded on electric faults and power quality issues



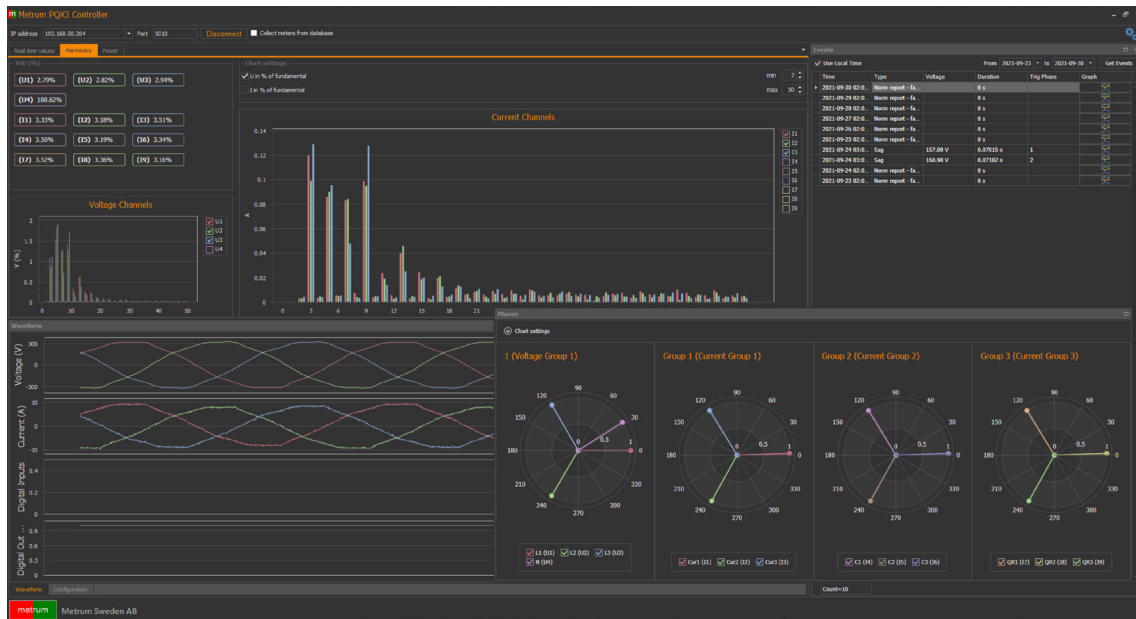
Clear information (red/green)



Statistics – indicating what maintenance should be prioritized

POWERFUL REAL-TIME ANALYSIS SOFTWARE

All measurement data can easily be collected and analyzed using the included Metrum PQX3 Controller software. The controller software is used for both configuration of the instrument, real-time evaluation and analysis of recorded data. The user can easily save own layouts of the different blocks showing real-time data for different channels/groups, waveform data, phase diagrams, harmonic spectrum charts and much more.



FLEXIBLE INSTALLATION KIT

The installation is made easy using the included voltage connection set and a wide range of selectable current clamps.

The PQX3- Portable kit includes 10 A current clamps for secondary CT measurements, as well as flexible Rogowski coils with selectable current ranges from 30-3000 A.



Technical Specification

Parameters	Specification	Information	PQX3-FR-P
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INPUTS/OUTPUTS

Voltage Inputs	0-460 V RMS	Differential voltage inputs (+/-), 51,2 kHz/channel	4
Voltage HV Inputs	0-6 kV peak	Built-in high frequency inputs (1 MHz)	4
Current Inputs (BNC)	2 V RMS	Current Clamp Inputs 51,2 kHz/channel	4
Current Inputs	0-10 A RMS	Differential current inputs (+/-), 51,2 kHz/channel	5
General Inputs	4-20 mA	General measurement inputs	4
Digital Inputs	20 V peak - 150 V peak	Digital inputs supporting FR-options	4
Digital Outputs	Max 150 Vpeak (0.1 A)	For alarm and control	2

POWER SUPPLY

Power Supply Range	85-264 VAC/110-350 VDC	(47-63 Hz)	Yes
Internal Backup			Yes

NORM CONFORMITY

IEC 62056, PQI-A		Power Quality Instrument Product Standard	Yes
IEC 61000-4-30, Class A, ED.3	< 0,1 %	Reference instrument	Yes
IEC 61000-4-7		Harmonic measurements	Yes
IEC 61000-4-15		Flicker measurements	Yes
EN 50 160		Calculated in the instrument	Yes
EIFS 2013:1		Calculated in the instrument	Yes
National standards (FoL, DEFU, Netcode NL, ZS387 etc)		Wide range of standards supported	Yes
User defined reports		Calculated in the instrument	Yes
Storage intervals		Selectable storage intervals	Yes
PQDIF format		Optional export	Yes

HARDWARE

Memory			32 GB
Sampling-rate, U/I Standard Inputs		Selectable sampling frequency	51.2 kHz
Sampling-rate, HV Inputs			1 MHz
Accuracy		IEC 61000-4-30, Class A	< 0,1 %
Resolution (U/I)		Voltage/Current Inputs	16 bit
Resolution (GI)		General Inputs	12 bit
Input Impedance - Voltage Inputs			10 MOhm
Input Impedance - Current Inputs (I5-I9)			10 mOhm
Anti-alias filter			Yes
PLL-synchronisation			Yes

COMMUNICATION

USB		Computer port	Yes
USB 2		Data storage	Yes
Ethernet port 1 (RJ-45)		Supports Modbus-TCP/OPC-UA/IEC61850	Yes
Ethernet port 2 (RJ-45)		For redundancy	Yes
Time synchronization		For external time synchronization (NTP/PTP/IRIG-B)	Yes

