

MI 2792 PowerQ4 Plus



- **EASY TO USE**
- **SUPPORT OF GPRS MODEM**
- **QUALITY GRAPHICAL DISPLAY**
- **PC SW PowerView AS STANDARD SET**
- **4 CURRENT AND 4 VOLTAGE CHANNELS**
- **INTERHARMONICS AND MAINS SIGNALLING**

NEW
PowerQ4 Plus



The MI 2792 PowerQ4 Plus is top of the range power quality analyser. With its 4 current and 4 voltage channels it is suitable for locating, predicting and troubleshooting of problems in three and in single phase power distribution systems. All 4 current channels have the ability to automatically recognize clamps whose range can be set on the instrument. Rugged design makes it appropriate for field use. It can operate up to 15 hours on a single battery charge. Parameters of the instrument can be set directly on the instrument, via the PowerView software or remotely true the optional GPRS modem connection. It is compliant with power quality standard IEC 61000-4-30 Class S/A, and it has a predefined recorder profile for EN 50160 survey.

KEY FEATURES:

- 4 voltage channels with wide measurement range: 0 ... 1000 Vrms (CAT III / 1000 V).
- 4 current channels with support for automatic clamp recognition and "on instrument" range selection.
- Compliance with power quality standard IEC 61000-4-30 Class S/A. Predefined recorder profile for EN 50160 survey.
- Power measurements compliance with IEC 61557-12 and IEEE 1448.
- Simultaneous 8 channels - 16 bit AD conversion for accurate power measurements (minimal phase shift error).
- Simple to use and powerful recorder with 8 MB of memory and possibility to record up to 524 different power quality signatures.
- Interharmonics and mains signalling measurement and recording.
- Temperature probe for measuring the temperature of the tested transformer, capacitor bank, etc.
- Faster troubleshooting due to on-screen displaying of trends and captured events, while recording is performed in the background.
- 4-quadrant measurements (generator and load with capacitive or inductive characters).
- Powerful troubleshooting tools: transient, fast, and waveform recorder.
- Voltage events and user defined alarms capture.
- Internal memory allows recording up to 4 weeks.
- Instrument or a group of them can be remotely controlled and programmed via GPRS modem
- 15 hour of autonomous (battery) supply.
- PowerView is a companion PC Software which provides easiest way to download, view and analyze measured data and print test reports.

APPLICATION:

- Power quality assessment and troubleshooting in low and middle voltage electrical systems.
- Checking power correction equipment performance.
- Harmonics spectrum analysis for selection of harmonic filters.
- UPS, voltage generators and regulators checking and troubleshooting.
- Voltage, current, power monitoring and recording.
- Consumption profile recording.



MEASURING FUNCTIONS:

- Voltage: TRMS, peak, crest factor (4-channel);
- Current: TRMS, peak, crest factor (4-channel);
- Power (active, reactive, apparent)
- Power factor, $\cos \phi$;
- Unbalance, flicker measurement;
- Harmonic and interharmonic analysis up to 50th harmonics, THD measurement;
- Energy (active, reactive, generated, consumed);
- Power quality analysis according to EN 50160;
- Capturing and recording of power supply events (shutdowns, interruptions, swells, dips);
- Inrush currents monitoring and recording;
- Waveform displaying, snapshot and recording;
- Transients recording;
- Power quality analysis according to EN 50160;
- Recording up to 10 adjustable alarms;
- Temperature measurement.

STANDARDS:

Safety: EN 61010-1

EMC: EN 61326-2-2

Measurements:

IEC 61000-4-30 Class S;

IEEE 1448;

IEC 61557-12;

IEC 61000-4-7 Class II;

IEC 61000-4-15;

EN 50160

Technical specification

Function

AC Voltage inputs

Number of inputs	4
Input voltage range	20 ... 1500 Vrms L - N (20 ... 2600 Vrms L - L)
Basic accuracy	0.2% of reading
Resolution	10 mV, 100 mV
Sampling rate	1024 samples per 10 periods
Frequency range	10 ... 70 Hz

AC Current inputs

Number of inputs	4
Input voltage range	50.0 mVrms ... 2 Vrms
Current measuring range	100 ... 6000 A (depending on clamps)
Resolution	100 mV
Basic accuracy	0.25% of reading
Sampling rate	1024 samples per 10 periods

Function	Measuring range	Resolution	Accuracy
Frequency	10.00 ... 70.00 Hz	2 mHz	±10 mHz
Power (W, VA, VAR)	0.000 k ... 9.999 M	4 digits	±0.02
Power factor	-1.00 ... 1.00	0.01	±0.02
cos φ	0.00 ... 1.00	0.01	±0.02
Harmonics analysis up 50 th component	$U_{hN} < 3\% U_{nom}$	10 mV	0.15 % U_{hN}
	$3\% U_{nom} < U_{hN} < 20\% U_{nom}$	10 mV	5 % U_{hN}
	$I_{hN} < 10\% I_N$	10 mV	0.15 % I_N
	$10\% I_N < I_{hN} < 100\% I_N$	10 mV	5 % I_{hN}
	$0\% U_{nom} < THD_U < 20\% U_{nom}$	0.1%	±0.3
THD	$0\% I_N < THD_I < 100\% I_N$	0.1%	±0.6
	$100\% I_N < THD_I < 200\% I_N$	0.1%	±1.5

Voltage dips and swells evaluation

Magnitude	20 ... 1500 V	10 mV, 100 mV	0.5% of reading
Duration	30 ms ... 7 days	1 ms	±20 ms

Recording

Integration period (IP)	1 ... 3600 s
Maximum number of signals	524

Communication ports	RS 232, USB
Display	Graphic LCD with backlight, 320 x 200 dots
Memory module	8 MB Flash
Voltage supply	230 V _{AC} or 6 x 1.2 V NiMH rechargeable batteries, size AA
Over voltage category	1000 V / CAT III; 600 V / CAT IV
Protection class	double insulation
Dimensions	220 x 115 x 90 mm
Weight	0.65 kg

Ordering information:

Standard set

Part No. MI 2792



- Instrument PowerQ4 Plus
- 1-phase flexible current clamps 3000 / 300 / 30 A (A 1227), 4 pcs
- Test probe, red, 2 pcs
- Test probe (CAT II), red, 3 pcs
- Test probe (CAT II), black, 1 pcs
- Crocodile clip, red, 3 pcs
- Crocodile clip, black, 1 pcs
- Crocodile clip, green, 1 pcs
- Voltage measurement lead, red, 3 pcs
- Voltage measurement lead, black, 1 pcs
- Voltage measurement lead, green, 1 pcs
- PC SW PowerView
- RS232 and USB cables
- Power supply adapter
- 1.2 V NiMH rechargeable battery, 6 pcs
- Soft carrying bag
- Instruction manual
- Calibration certificate

Optional accessories:

Photo	Order No.	Acc. description
	A 1020	Small soft carrying bag
	A 1033	Current clamp 1000 A / 1 V
	A 1037	Current transformer 5 A/1 V
	A 1039	Connection cable for current clamp
	A 1069	Mini current clamp 100 A / 1 V
	A 1122	Mini current clamp 5 A / 1 V
	A 1179	3-phase flexible current clamp 2000/200/20 A / 1 V
	A 1257	3-phase flexible current clamp 3000/300/30 A / 1 V
	A 1281	Current clamp 1000 / 100 / 5 A / 1V
	A 1287	1-phase flexible current clamp 3000 / 30 / 30 A/1V
	A 1355	GPS receiver
	A 1356	GPRS modem
	S 2014	Safety fuse adapter, 3 pcs
	S 2015	Safety flat clamp, 4 pcs



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