

MI 2592 PowerQ4

NEW



**Powerfull, high-end
4-channel power
quality analyser with
extraordinary
price-performance
ratio**

The MI 2592 PowerQ4 is a handheld, simple to use, portable power quality analyser with four current and four voltage measuring channels. Integrated in rugged housing and packed with powerful functions it can be effectively used for monitoring, troubleshooting and analysing of power quality conditions in power distribution networks either in industry or utilities.

The PowerQ4 is the first handheld power quality analyser which is compliant with power quality standard IEC 61000-4-30 Class S and standard IEC 61557-12.

Powerful PC Software package PowerView comes delivered as part of a standard set and enables downloading, analysing of recorded data and printing of professional test reports. Through a simple but powerful interface PowerView helps to find recorded data quickly and allows to make complex analysis and data comparison.

FEATURES:

- 4 voltage channels with wide measurement range: 0 ... 1000 Vrms (CAT III / 1000 V).
- 4 current channels with support for automatic clamp recognition.
- Simultaneous measurement and recording of basic power quality parameters. (U, I, P, Q, S, PF, cos ϕ , THD).
- Power quality analysis according to EN 50160 including flicker measurement and standardized report printout in graphic and table form.
- 4-quadrant measurements (generator and load with capacitive or inductive character).
- 509 parameters can be monitored or recorded simultaneously.
- 8 MB of internal memory space allows recording over 4 weeks.
- PowerQ4 is compliant with power quality standard IEC 61000-4-30 Class S.
- Power measurements comply with IEC 61557-12 and IEEE 1448.
- Large LCD display, 320x200 dots, with backlight.
- On-line Scope, Trend and Metering modes.
- Flexible clamps (without additional supply) are included in the standard set.
- Simultaneous 8 channels - 16 bit AD conversion for accurate power measurements (minimal phase shift error).
- 15 hours of autonomous (battery) supply.
- Powerful PC SW PowerView enables downloading, view, analysis of recorded data and professional report creation.

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 ϕ
- Unbalance, flicker measurement
- Harmonic 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 (shut-down's, interruptions, swells, dips)
- Inrush currents monitoring and recording
- Recording up to 10 adjustable alarms
- Waveform displaying and snapshot

STANDARDS:

Instrument is developed and manufactured in accordance with following standards:

Safety: EN 61010-1

EMC: EN 61326

Measurements:

IEC/EN 61000-4-30 Class S;

IEC/EN 61557-12;

IEC/EN 61000-4-7 Class II;

IEC/EN 61000-4-15;

IEEE 1448;

IEC/EN 61000-4-15;

IEC/EN 61000-4-30 Class A or Class S*;

EN 50160

Technical specification

Function

AC Voltage inputs

Number of inputs	4
Input voltage range	5 ... 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	20.0 mVrms ... 2 Vrms
Current measuring range	3 ... 6000 A (for current clamp A 1227)
Resolution	0.1 mV (0.1 A for current clamp A 1227)
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	±0.5 % of reading
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_{nom}
	$3\% U_{nom} < U_{hN} < 20\% U_{nom}$	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	509
Communication ports	RS 232, USB
Display	Graphic LCD with backlight, 320 x 200 dots
Memory module	8 MB Flash
Voltage supply	230 VAC 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 2592



- Instrument PowerQ4
- 1-phase flexible current clamps 3000 / 300 / 30 A (A 1227), 4 pcs
- Test probe, red, 3 pcs
- Test probe, black, 1 pcs
- Crocodile clip, black, 1 pcs
- Crocodile clip, red, 3 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

Option accessories:

Photo	Order No.	Acc. description
	A 1020	Small soft carrying bag
	A 1033	Current transformer 5 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
	S 2014	Safety fuse adapter, 3 pcs
	S 2015	Safety flat clamp, 4 pcs



Measuring and Regulation Equipment Manufacturer

METREL d.d.
Ljubljanska 77
SI-1354 Horjul
Tel: + 386 (0)1 75 58 200
Fax: + 386 (0)1 75 49 226
E-mail: metrel@metrel.si
http://www.metrel.si

Note! Photographs in this catalogue may slightly differ from the instruments at the time of delivery. Subject to technical change without notice.