Class S Power Quality Analyser
MI 2883 Energy Master

The MI 2883 Energy Master is a hand-held three phase power quality analyser, specially designed for energy logging and subsequently efficiency calculation. Reducing energy use reduces energy costs and may result in a financial cost saving. Energy Master serves as a perfect tool for long term logging and later post processing of recorded data. Large easy-to-read graphical colour display enabling the user on site analysis and data checks. The handy Quick Set buttons makes the instrument more user friendly and are allowing faster data overview. Advanced PC SW package PowerView3 enables detailed analysis of recorded data, direct reading from the microSD memory card, analysis of long term records and automatic creation of professional test report.

MEASURING FUNCTIONS

- Voltage: TRMS, peak, crest factor (3-channels);
- Current: TRMS, peak, crest factor (4-channels);
- Power (active, reactive, apparent);
- Power measurements fully compliant with IEEE 1459 (active, non active, fundamental, harmonic, load unbalance);
- Unbalance, flicker measurement;
- Harmonic and interharmonic analysis up to 50th harmonics, THD measurement;
- Energy (active, reactive, generated, consumed);
- Capturing and recording of power supply events (shutdowns, interruptions, swells, dips);
- Power quality analysis according to EN 50160;
- Recording up to 7 adjustable alarms;
- Temperature measurement;
- Power factor, cos φ.

KEY FEATURES

- 3-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;
- Automatic Smart Clamp detection and Smart Clamp range selection;
- Compliance with power quality standard IEC 61000-4-30 Class S;
- Complete power quality analysis according to EN 50160 including signalling and interharmonics;
- Support for microSD memory card (8-GB supplied with the instrument) up to 32GB;
- Color-coded input terminals and terminal labels to suit your application region;
- Intuitive main menu and large icons that makes the equipment very easy to navigate and configure;
- Powerful PC SW PowerView3 enables downloading, view, analysis of recorded data and professional report creation;
- Flexible clamps (without additional power supply) are included in the Euro set.

APPLICATION

- Checking power correction equipment performance;
- Long-term analysis;
- Predictive maintenance;
- Verification of electrical system capacity before adding loads.

STANDARDS

Safety:
- EN 61010-1

Measurements:
- IEC/EN 61000-4-30,Class S;
- IEC/EN 61557-12;
- IEC/EN 61000-4-7, Class I;
- IEC/EN 61000-4-15;
- EN 50160;
- IEEE 1448;
- IEEE 1459

Electromagnetic compatibility (EMC):
- EN 61326

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TECHNICAL SPECIFICATION

FUNCTION

Voltage inputs — AC+DC

Number of inputs	4
Nominal voltage range (L – N)	Phase (L-N): 50 ... 1000 VRMS Line (L-L): 50 ... 1730 VRMS
Measuring range	10% ... 150% of nominal voltage
Accuracy	IEC 61000-4-30 Class S, ±0.5% of nominal voltage,
Sampling rate	7 kSamples per sec @ 50/60 Hz, sync with mains freq.
Mains frequency range	42,5 ... 69,0 Hz ±10 mHz

Current inputs — AC+DC

Number of inputs	4
Measuring range (with A 1227 / A 1502 flex clamps)	3 ... 6000 ARMS ±2% of m.v.
Measuring range (with A1281 iron clamps)	50 m ... 1200 ARMS ±1% of m.v.

Functions	Measuring range	Accuracy
Power (P, Q, S)	Depends on voltage and selected clamps	IEC 61557-12 Class 2
Energy	Depends on voltage and selected clamps	Active: IEC 62053-21 Class 2 Reactive: IEC 62053-23 Class 3
Harmonics (DC ... 50th)	0 ... 20% of nom. voltage	IEC 61000-4-7 Class 1
Interharmonics (1 ... 50th)	0 ... 20% of nom. voltage	IEC 61000-4-7 Class 1
Flicker	0.2 ... 10	IEC 61000-4-15 Class F3
Mains signalling	0 ... 15% of nom. voltage	IEC 61000-4-30 Class S
Unbalance	Voltage: 0.5 ... 5.0% Current: 0.0 ... 20%	
Temperature	-10 ... 85 °C	±0.5 °C
Dips, Swell	10 ... 150% of nom. voltage	±0.2 % of nominal voltage ±1 cycle
Interrupts	0 ... 10% of nom. voltage	±1 cycle

Recorders

Memory	8GB microSD, up to 32GB supported

General recorder

Integration period	1s ... 2h
Recorded signals	> 1000 (voltages, currents, harmonics, power...) Minimu, maximum, average and average ON value - Voltage events - Custom alarms
Duration	> 1 year (depends on size of SD card)

General

Display	4.3 inch color TFT (480 x 272)
Communication	USB
Power supply	110 ... 240 Vac or 6 x NiMh rechargable batteries, size AA
Overvoltage category	CAT IV / 600 V or CAT III / 1000 V
Weight	0.96 kg
Dimensions	230 x 140 x 80 mm

ORDERING INFORMATION

MI 2883 Advanced set (AD)
- Instrument Energy Master
- 1-phase flexible current clamps 3000 / 300 / 30 A (**A 1502**), 3 pcs
- Test probe, (brown, black, grey, blue), 4 pcs
- Crocodile clip, (brown, black, grey, blue), 4 pcs
- Voltage measurement lead, (brown, black, grey, blue), 4 pcs
- Labels for color coding
- microSD memory card 8.0GB
- microSD card reader
- PC SW PowerView3
- USB cable
- Power supply adapter
- 1.2 V NiMH rechargeable battery, 6 pcs
- Soft carrying bag
- Instruction manual
- Calibration certificate

MI 2883 Euro set (EU)
- With 1-phase flexible current clamps 3000 / 300 / 30 A (**A 1227**), 3pcs

MI 2883 Standard set (ST)
- Without flexible current clamps

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. decription
	A 1020	Small soft carrying bag
	A 1033	Current clamp 1000 A / 1 V
	A 1037	Current transformer 5 A / 1 V
	A 1561	Connection cable for current clamp (A 1069)
	A 1069	Mini current clamp 100 A / 1 V
	A 1588	Current clamp 0.5/5/50 A
	A 1281	Current clamp 1000/100/5 A / 1 V
	A 1503	1-phase mini flexible current clamp 6000/600/60 A / 1V
	A 1354	Temperature probe
	A 1458	microSD card reader
	S 2014	Safety fuse adapter, 3 pcs
	S 2015	Safety flat clamp, 4 pcs
	A 1391 PQA	AC/DC Current clamp 300/40 A / 1 V
	S 2072	USB storage device (for backup of data)

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

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