

Power Quality and Energy Management for Industrial Applications

LIST OF AVAILABLE CURRENT CLAMPS

Part No.	Smart Clamps	Description	Target application	MI 2892	MI 2885	MI 2883
A 1501		1-phase mini flexible current clamp 3000/300/30 A / 1V	Single phase flexible current clamp with three selectable measuring ranges (25 cm loop). Does not require external power supply as it is powered by the measuring instrument.	*	*	*
A 1502		1-phase mini flexible current clamp 3000/300/30 A / 1V	Single phase flexible current clamp with three selectable measuring ranges (48 cm loop). Does not require external power supply as it is powered by the measuring instrument.	*	*	*
A 1503		1-phase mini flexible current clamp 6000/600/60 A / 1V	Single phase flexible current clamp with three selectable measuring ranges (90 cm loop). Does not require external power supply as it is powered by the measuring instrument.	*	*	*
A 1281		Current clamp 0.5/5/100/1000 A / 1V	High accuracy current clamp 0.5/5/100/1000 A / 1V for precise current and power measurements including leakage current measurement.	*	*	*
A 1227		1-phase flexible current clamp 3000/300/30 A / 1V	Single phase flexible current clamp with three selectable measuring ranges. Does not require external power supply as it is powered by the measuring instrument.	*	*	*
A 1446		1-phase flexible current clamp 6000/600/60 A / 1V	Single phase flexible current clamp with three selectable measuring ranges. Does not require external power supply as it is powered by the measuring instrument.	*	*	*
A 1391		Current clamp 40/300 A / 1V	AC + DC current clamp 40/300 A / 1V with jaw opening 25 mm for power measurements. Battery Life, 66 hours typical (Alkaline).	*	*	*
A 1033		Current clamp 1000 A / 1V	High accuracy current clamp 1000 A / 1V with jaw opening 52 mm and fixed 1.5 m cable for power measurements with Metrel power quality analysers.	*	*	*
A 1122		Mini current clamp 5 A / 1V	Mini current clamp 5 A / 1V with jaw opening 15 mm for power measurements. Requires A 1561 connection cable.	*	*	*
A 1069		Mini current clamp 100 A / 1V	Mini current clamp 100 A / 1V with jaw opening 15 mm for power measurements. Requires A 1561 connection cable.	*	*	*
A 1257		3-phase flexible current clamp 3000/300/30 A / 1V	3-phase flexible current clamp with three selectable measuring ranges. Powered by alkaline or rechargeable batteries.	*	*	*
A 1287		1-phase flexible current clamp 3000/300/30 A / 1V	Single phase flexible current clamp with three selectable measuring ranges. Powered by alkaline or rechargeable batteries.	*	*	*
A 1179		3-phase flexible current clamp 2000/200/20 A / 1V	3-phase flexible current clamp with three selectable measuring ranges. Powered by alkaline or rechargeable batteries.	*	*	*
A 1037		Current transformer 5 A / 1V	3-phase transformer for power measurements on distribution panels with 5 A nominal output current.	*	*	*

Metrel provides a wide range of different current sensors and other special accessories. Current sensors are available as flexible, iron or as a current transformer. Different ranges and sizes are available as well.

RECOMMENDED OPTIONAL ACCESSORIES

Part No.	Description	Target application	MI 2892	MI 2885	MI 2883
S 2015	Safety flat clamp, 4 pcs	Safety flat clamps assure good contact when connecting the test leads on busbars and other larger flat surfaces.	*	*	*
S 2014	Safety fuse adapter, 3 pcs	Fuse adapters protect the instrument and the user against current strike and overload.	*	*	*
A 1355	GPS receiver	GPS Synchronization unit guarantees that the time clock of the Metrel PowerQ4 Plus analyzer is synchronized according to IEC 61000-4-30.	*	*	*
A 1198	Magnetic contact probe	Test probe with magnetic contact provides reliable contact with metal surface during the measurement.	*	*	*
A 1475	Wifi / 3G modem	3G and Wi-Fi Router enables remote handling of the measuring instrument and its data. If the measuring instrument has to be located on distant or hardly accessible place, the 3G and Wi-Fi Router is the only practical solution for fast access to the instrument.	*	*	*
S 2072	USB storage device (for backup of data)	USB stick enables you to backup your data to a USB drive. This is a practical backup solution as it allows you to store recorded data files to external device, offering increased portability.	*	*	*
A 1354	Temperature probe	Temperature probe can be used for monitoring and recording of temperature trend at measuring objects, such as capacitors, motors, transformers, etc.	*	*	*
A 1458	microSD card reader	Move data between your computer and memory card with memory card reader.	*	*	*

MAIN DIFFERENCES BETWEEN MODELS

Model	IEC 61000-4-30 Compliance	Transient recorder	Waveform recorder	Remote access	Current sensors
MI 2892 Power Master	Class A	*	*	*	4
MI 2885 Master Q4	Class S		*	*	4
MI 2883 Energy Master	Class S				3 + 1 optional

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Power Quality and Energy Management for Industrial Applications 2016

Measuring instruments and testers



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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Power Quality and Energy Management for Industrial Applications

Power Quality and Energy Management for Industrial Applications and Power Loads

Hand-held three phase power quality analysers offering complete solution for:

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

Finding of hidden power quality problems such as:

- Voltage Dips and Swells;
- Harmonic Distortion;
- Voltage Unbalance;
- Flicker;
- Transients;
- Inrush current recording.

Standards Applied:

- IEC/EN 61000-4-30, Class A
- IEC/EN 61557-12
- IEC/EN 61000-4-7, Class I
- IEC/EN 61000-4-15
- EN 50160
- IEEE 1448
- IEEE 1459



Recommended set MI 2892:

- MI 2892 Power Master
- A 1227 1-phase flexible current clamp 3000/300/30 A/ 1V, 4 pcs
- A 1281 1-phase iron current clamp 0.5/5/100/1000 A/ 1V, 4pcs
- A 1355 GPS receiver
- A 1455 WiFi / 3G modem
- S 2015 Safety flat clamp, 4 pcs
- S 2072 USB storage device (for backup of data)

Recommended set MI 2885:

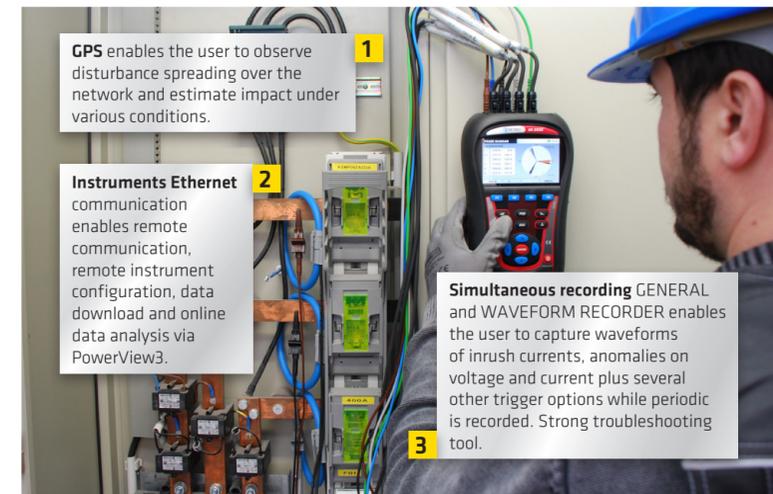
- MI 2885 Master Q4
- A 1227 1-phase flexible current clamp 3000/300/30 A/ 1V, 4 pcs
- A 1281 1-phase iron current clamp 0.5/5/100/1000 A/ 1V, 4 pcs
- S 2015 Safety flat clamp, 4 pcs
- S 2072 USB storage device (for backup of data)

Recommended set MI 2883:

- MI 2883 Energy Master
- A 1227 1-phase flexible current clamp 3000/300/30 A/ 1V, 3 pcs (+ 1 pcs optional)
- A 1281 1-phase iron current clamp 0.5/5/100/1000 A/ 1V, 3 pcs (+ 1 pcs optional)
- S 2015 Safety flat clamp, 3 pcs (+ 1 pcs optional)
- S 2072 USB storage device (for backup of data)

Power Quality and Energy Management for Industrial Applications

Power quality analyzing, on-site troubleshooting, and energy management - nowadays the electronic devices need to be powered from a quality power source, therefore standard EN 50160 defines power quality criteria. Power meter is a perfect tool for long term recording and analysis and a perfect tool to monitor the quality of the power.



1 GPS enables the user to observe disturbance spreading over the network and estimate impact under various conditions.

2 Instruments Ethernet communication enables remote communication, remote instrument configuration, data download and online data analysis via PowerView3.

3 Simultaneous recording GENERAL and WAVEFORM RECORDER enables the user to capture waveforms of inrush currents, anomalies on voltage and current plus several other trigger options while periodic is recorded. Strong troubleshooting tool.

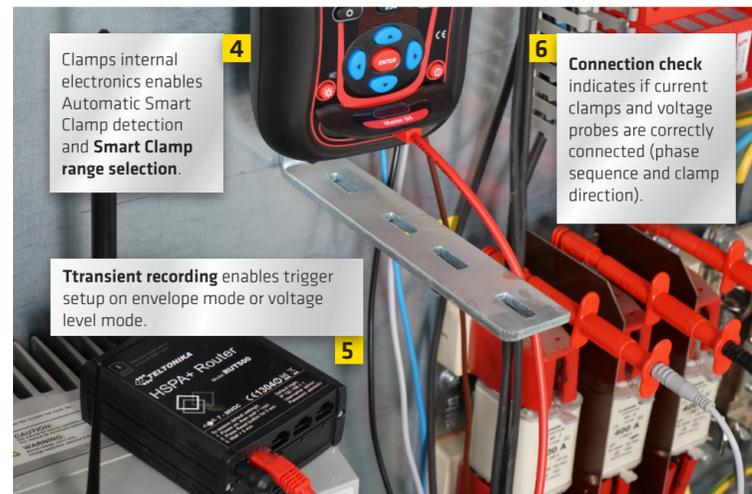
1. GPS time synchronization...

2. Ethernet communication...

3. Simultaneous General and Waveform recorders...



Power quality analyser enables complete solution for - easy identification and elimination of problems in the power utilities or customer's installation, - preventative maintenance by the early location of potential sources of disturbances or failures, - optimization of the power network based on Power Quality parameters.



4 Clamps internal electronics enables Automatic Smart Clamp detection and Smart Clamp range selection.

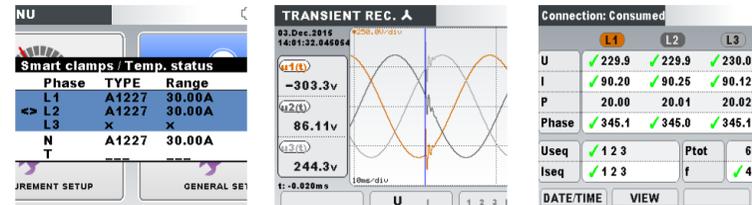
5 Transient recording enables trigger setup on envelope mode or voltage level mode.

6 Connection check indicates if current clamps and voltage probes are correctly connected (phase sequence and clamp direction).

4. Smart range selection...

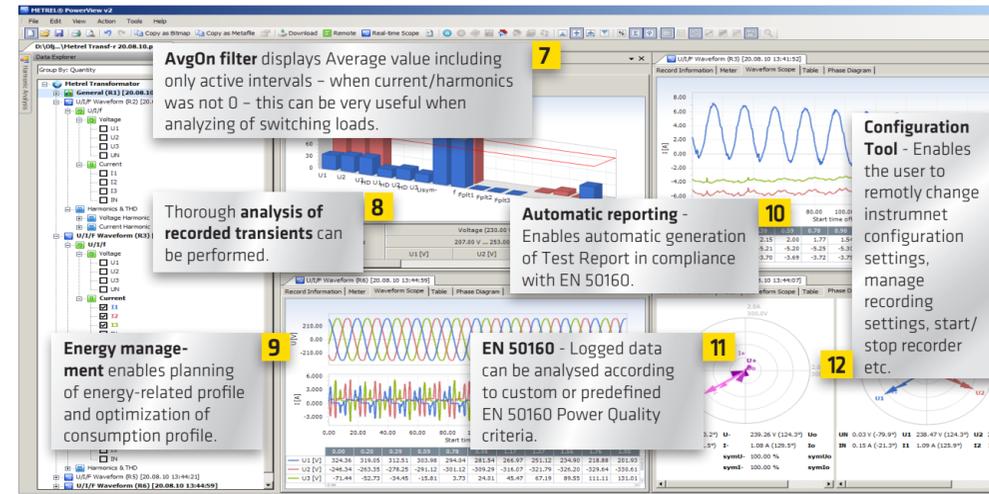
5. Transient recording...

6. Connection check...



Power Quality and Energy Management for Industrial Applications

PowerView software - is a powerful platform for downloading, analysing recorded data and creation of power quality test reports. PC Software contains a package of functionalities needed for profound evaluation of power quality phenomena, data comparison and creation of complex test reports. It works in conjunction with Metrel new generation of power quality analysers. For the instruments equipped with GPRS or Ethernet functionality PowerView enables remote control of the instrument and its data.



7 AvgOn filter displays Average value including only active intervals - when current/harmonics was not 0 - this can be very useful when analyzing of switching loads.

8 Thorough analysis of recorded transients can be performed.

9 Energy management enables planning of energy-related profile and optimization of consumption profile.

10 Automatic reporting - Enables automatic generation of Test Report in compliance with EN 50160.

11 EN 50160 - Logged data can be analysed according to custom or predefined EN 50160 Power Quality criteria.

12 Configuration Tool - Enables the user to remotely change instrument configuration settings, manage recording settings, start/stop recorder etc.

7. PowerView enables several filters...

8. Transient waveform analysis...

9. Energy management...

10. Automatic reporting...

11. EN 50160 automatic evaluation...

12. Instruments remote configuration tool...

