

# Class S Power Quality Analyser

## MI 2885 Master Q4

NEW



The MI 2885 Master Q4 is an ideal troubleshooting tool. The recorders are designed to automatically record all important data and waveforms of voltage events like Dips and Swells. In addition the user can set 7 optional triggers for capturing waveforms of selected quantities. A large easy-to-read graphical colour display enabling the user to detect harmonics, phasors and waveforms anomalies in the installation simply by connecting the device. The handy Quick Set buttons makes the instrument more user friendly and are allowing faster data overview. The instrument is designed for a long term recording as well as for troubleshooting power quality problems in three-phase and single-phase power distribution systems. 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 (4-channel);
- Current: TRMS, peak, crest factor (4-channel);
- 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);
- Inrush currents monitoring and recording;
- Waveform/inrush displaying, snapshot and recording;
- Power quality analysis according to EN 50160;
- Recording up to 7 adjustable alarms;
- Temperature measurement;
- Power factor  $\cos \phi$ .

### 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;
- 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;
- Remote communication via Ethernet (GPS clock synchronization - optional).

### APPLICATION

- Power quality assessment and troubleshooting in low and middle voltage electrical systems;
- Checking power correction equipment performance;
- Long-term analysis;
- Predictive maintenance;
- Verification of electrical system capacity before adding loads.

### STANDARDS

#### Functionality

- 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

## TECHNICAL SPECIFICATION

| <b>Voltage inputs</b>                       |  | <b>AC+DC</b>                          |  |
|---|--|---------------------------------------|--|
| Number of inputs                            | 5  |                                       |  |
| Nominal voltage range (L - N)               | Phase (L-N): 50 ÷ 1000 VRMS<br>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   |                                       |  |
| <b>Current inputs</b>                       |  | <b>AC+DC</b>                          |  |
| Number of inputs                            | 4  |                                       |  |
| Measuring range<br>(with A1227 flex clamps) | 3 ÷ 6000 ARMS ±1.5% of m.v.  |                                       |  |
| Measuring range<br>(with A1281 iron clamps) | 50 m ÷ 1200 ARMS ±0.5% of m.v.   |                                       |  |
| <b>Functions</b>                            |  | <b>Measuring range</b>                |  |
| Power (P, Q, S, cos φ, PF...)               | Depends on voltage and selected clamps   |                                       | IEC 61557-12 Class 1   |
| Energy                                      | Depends on voltage and selected clamps   |                                       | Active: IEC 62053-21 Class 1<br>Reactive: IEC 62053-23 Class 2 |
| 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%<br>Current: 0 ÷ 17%  |                                       |  |
| Temperature                                 | -10 ÷ 85 °C  | ±0.5 °C                               |  |
| Dips, Swell                                 | 10 ÷ 150% of nom. voltage  | ±0.2 % of nominal voltage<br>±1 cycle |  |
| Interrupts                                  | 0 ÷ 10% of nom. voltage  | ±1 cycle                              |  |
| <b>Recorders</b>                            |  |                                       |  |
| Memory                                      | 8GB microSD, up to 32GB supported  |                                       |  |
| <b>General recorder</b>                     |  |                                       |  |
| Integration period                          | 1s ... 2h  |                                       |  |
| Recorded signals                            | > 1000 (voltages, currents, harmonics, power...)<br>Minimal, maximal and average value per interval<br>- Voltage events<br>- Custom alarms |                                       |  |
| Duration                                    | > 1 year (depends on size of SD card)  |                                       |  |
| <b>Waveform recorder</b>                    |  |                                       |  |
| Duration                                    | Up to 20 seconds of voltage and current waveform   |                                       |  |
| Trigger                                     | Manual, Voltage Events, Custom Alarms,<br>Voltage or current level (inrush), Time interval   |                                       |  |
| <b>General</b>                              |  |                                       |  |
| Display                                     | 4.3 inch color TFT (480 x 272)   |                                       |  |
| Communication                               | USB, Ethernet  |                                       |  |
| Time synchronisation                        | GPS receiver (A 1355)  |                                       |  |
| Power supply                                | 110 ÷ 240 Vac or 6 x NiMH rechargeable batteries, size AA  |                                       |  |
| Overvoltage category                        | CAT IV / 600 V or CAT III / 1000 V   |                                       |  |
| Weight                                      | 1 kg   |                                       |  |
| Dimensions                                  | 230 x 140 x 80 mm  |                                       |  |

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

## ORDERING INFORMATION



### Euro set MI 2885 EU

- Instrument Master Q4
- 1-phase flexible current clamps 3000 / 300 / 30 A (A 1227), 4 pcs
- Test probe, (brown, black, grey, green, blue), 5 pcs
- Crocodile clip, (brown, black, grey, green, blue), 5 pcs
- Voltage measurement lead, (brown, black, grey, green, blue), 5 pcs
- Labels for color coding
- microSD memory card 8.0GB
- microSD card reader
- PC SW PowerView3
- RS232, USB and Ethernet patch cable
- Power supply adapter
- 1.2 V NiMH rechargeable battery, 6 pcs
- Soft carrying bag
- Instruction manual
- Calibration certificate

### Standard set MI 2885 ST

- Without A 1227 1-phase flexible current clamps, 4 pcs

## 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 / 1 V                  |
|       | A 1287    | 1-phase flexible current clamp 3000 / 30 / 30 A / 1 V |
|       | A 1458    | microSD card reader                                   |
|       | A 1354    | Temperature probe                                     |
|       | A 1355    | GPS receiver  |
|       | S 2014    | Safety fuse adapter, 3 pcs                            |
|       | S 2015    | Safety flat clamp, 4 pcs                              |
|       | A 1391    | AC/DC Current clamp 300 / 40 A / 1 V                  |
|       | A 1475    | WiFi / 3G modem                                       |
|       | S 2072    | USB storage device (for backup of data)               |