MEDCAL N

Single-Phase Advanced Power Quality Monitor

Description

MEDCAL N is an advanced power quality monitor, specifically designed for Power Quality studies. It is extremely easy to configure and set-up, with no external switches or settings. Covering the requirements of EN50160, it is the first single-phase monitor able to fully implement the recommendations of EN61000-4-7 harmonics measurement standard. Unlike other analysers, in MEDCAL N every cycle is considered in the calculation of harmonic voltage amplitudes.

MEDCAL N also includes an advanced transient detection capability on the voltage channels. The voltage waveform will be recorded whenever there is a voltage distortion on the instantaneous voltage.

MEDCAL N can store, under normal conditions, more than three months of recordings without external intervention. The absence of any mechanical elements makes the instrument extremely robust and reliable.

The included USB interface and cable allows direct communication with a personal computer. It is possible to connect a standard modem in order to operate a remote MEDCAL N.

With every MEDCAL N a copy of MEDCALScope PC software is included at no additional cost.

MEDCALScope allows a complete and exhaustive analysis of recorded data. It is possible to save the recorded data for later use, and export the data to other computer applications, as well as check compliance with power quality standards.

Characteristics

3 RMS voltage channels:

- The first channel is fixed to measure line-to-neutral voltage. Optionally, it is possible to set-up the instrument so that phase-to-ground and neutral-to-ground voltages are also recorded

Recorded events:

- Voltage dips and voltage peaks. Parameters: Duration, maximum or minimum voltage reached and exact time of the event
- RMS profiles of events
- Fast voltage variations
- Voltage Harmonics amplitudes up to 63th harmonic
- Voltage R.M.S. value. Maximum, minimum and average values. Programmable calculation period between 1 second and 60 minutes
- Voltage interruptions. Duration and time of event
- Voltage transient detection. Voltage waveform is recorded. Optionally, the waveform of the second voltage channel is also recorded
- Voltage Frequency measurement. Maximum, minimum and average frequency recording for every calculation period
- Short (Pst) and long-term (Plt) flicker

Features of included software:

- Display registered values in spreadsheet format
- Show registered values in graphic format
- Produces automatic printed reports
- Perform statistical calculations on acquired data, in order to verify compliance with power quality standards
- Export data in ASCII format

Technical Specifications

RMS Voltage Resolution: 0.125 Volts

RMS Voltage Range: 0 to 256 Volts

RMS Voltage Precision: 0.5% of end-of-scale

Instantaneous voltage resolution for transient recording: 12 bits

Measuring method: True RMS calculation.

Harmonic amplitude precision: 0.1% relative to fundamental

Maximum harmonics recording order: up to 63th harmonic

Frequency precision: 0.02 Hz

Frequency measurement range: 48.4 to 51.6 Hz

Sampling frequency: 32 kHz per channel (640 samples/cycle at 50 Hz)

Internal Memory capacity: More than 3 months under normal conditions

Communication: USB, 1.1 and 2.0 compatible

Internal clock precision: 1 second / month

Power consumption: 1 W

Weigh: 200 g

Dimensions: 120 x 65 x 4 0 mm

Operating temperature: -10 °C to + 65 °C

Relative humidity: 0% to 90%

Computer Requirements

PC compatible

Pentium processor or higher

256 MB RAM Memory

3 MB free space on the Hard Drive

One USB port

Operating system: Windows 2000™ or Windows XP™

Regulatory Compliance

EN-55081 (part 1) Generic, Domestic and Light Industry emissions standard

EN-60555 Harmonics and fluctuation emissions standard

IEC-1000-4-1 Immunity against Voltage Dips and Interruptions

En-500082 (part 2) Generic, Commercial and Light Industrial immunity Standard

EN-61010 Measurement, Lab and Control Equipment. Low Voltage Directive. Safety requirements: Cat II 600V

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