CESINEL
COMPAÑÍA ESPAÑOLA DE INSTRUMENTOS ELÉCTRICOS

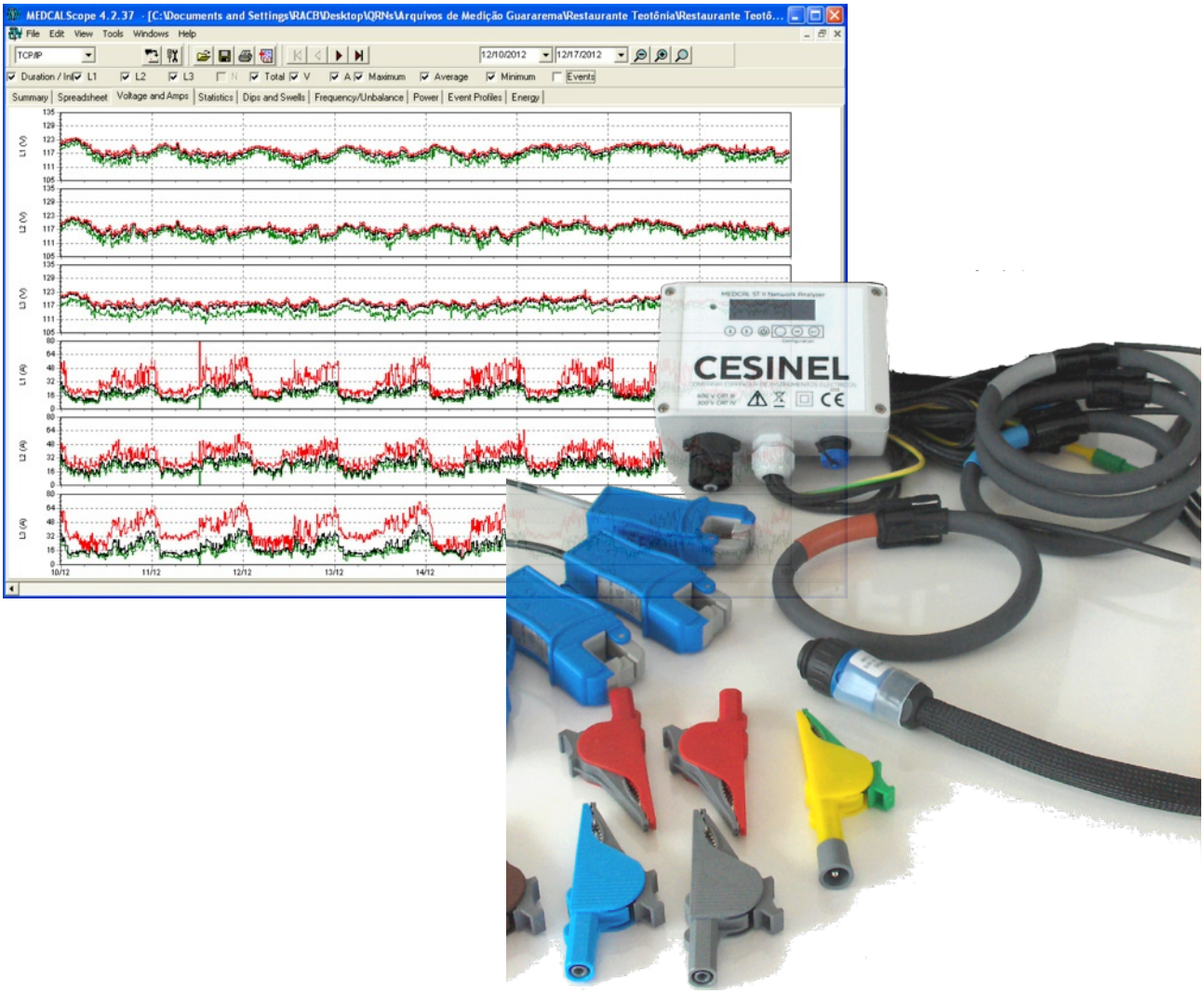
MEDCAL ST II Network Analyzer
Compact IP65 Version

Advanced Voltage and Power Quality recording solutions

The MEDCAL ST II three-phase network analyzer is the optimal solution for large-scale, distributed voltage quality recording solutions. Covering all the requirements of EN 50160, it records the most common disturbances: voltage dips and swells including voltage profiles, voltage and current harmonics and voltage flicker.
Additionally it also supports all the common electric magnitudes: Voltage, Current, Frequency, Unbalance, Active, Reactive and Apparent Power as well as Active, Reactive and Apparent Energy.

MEDCAL STII is capable of storing more than one month of data under normal conditions using the recommended default 10 minutes averaging period.

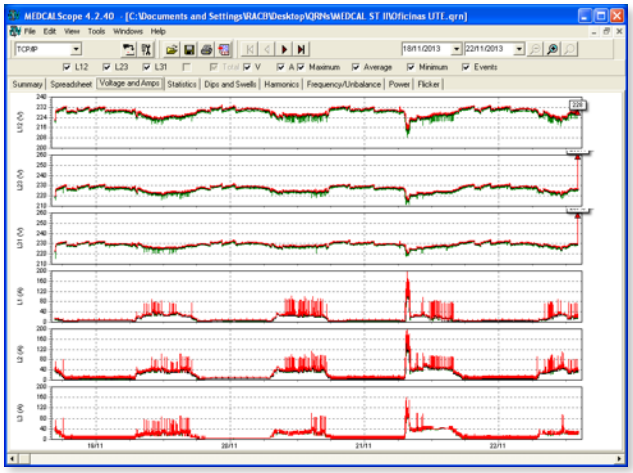
The instrument is powered via two independent safety leads. The internal power supply can accept AC voltages between 100 and 660 V as well as DC voltage between 100 and 250 V DC. In case of interruption the instrument is kept measuring for 10 seconds and after this period the recordings are saved into the internal memory. The recording will resume automatically once the power voltage returns.



Complete included software

With every MEDCAL ST II instrument 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 such as spreadsheets and word processors, as well as check compliance with EN50160 NV, PRDIST and other power quality standards and produce automated reports.

Voltage and current view



Harmonics view

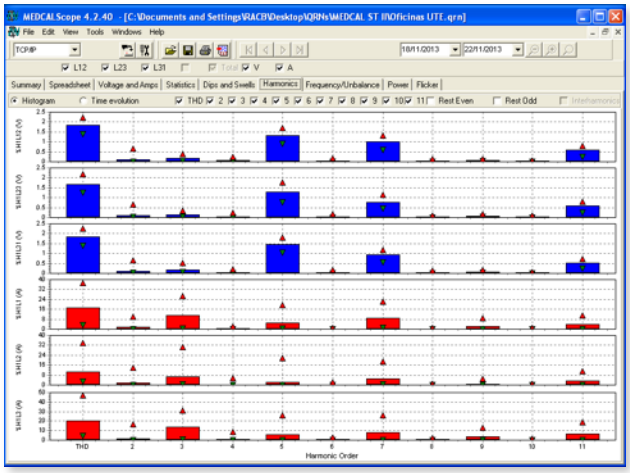
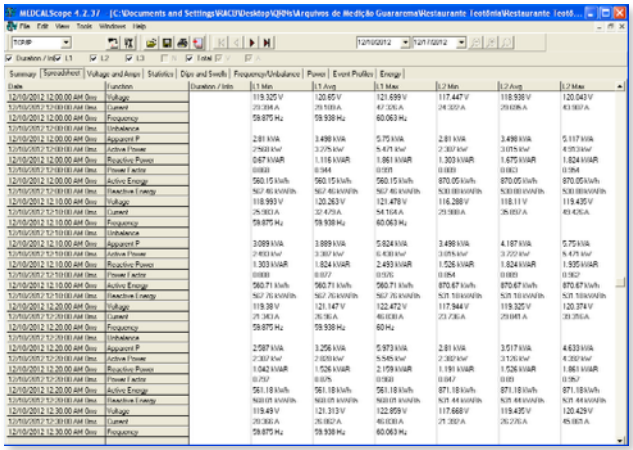
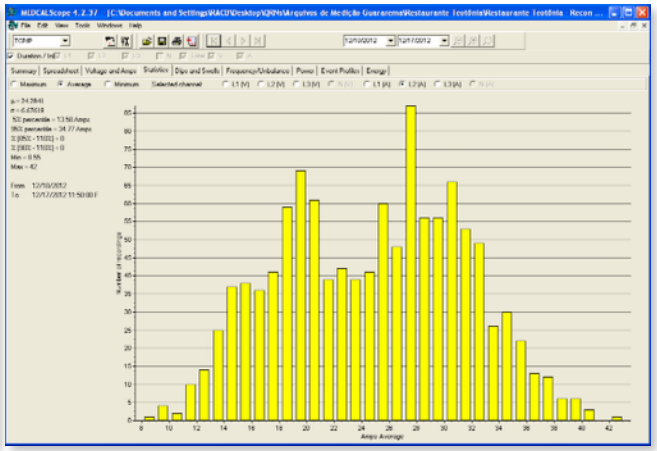


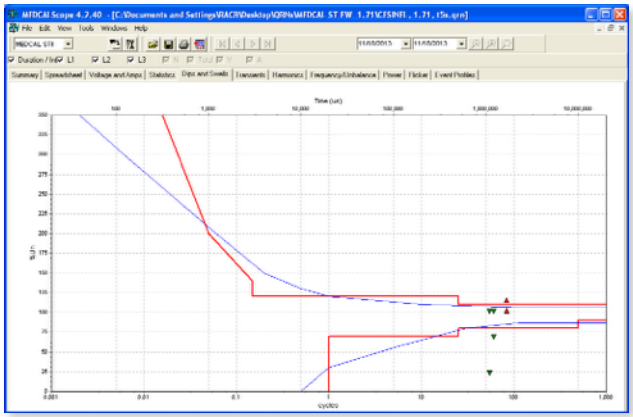
Table view



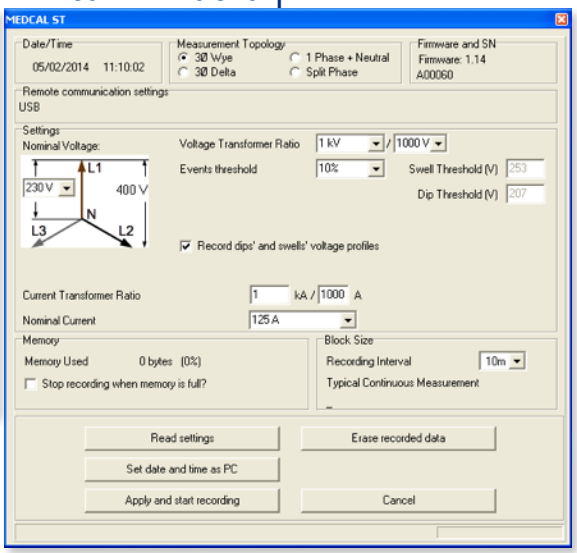
Statistics and compliance checking



ITIC / CBEMA events curves



Instrument setup



Detailed Technical specifications.

User interface characteristics

Display type	Graphical LCD Display with backlight. Auto-power off function for longer life
User interface	6 large and robust buttons for display and local configuration of the instrument. It is possible to operate the instrument with electric safety gloves.
Enclosure IP rating	IP65 according to IEC 60529

Voltage Measurement

Input Voltage (Phase-Neutral)	Max. 480 V ac
Input Voltage (Phase-Phase)	Max. 830 V ac
User-selectable nominal voltages	57/100 V, 64/110 V, 65/115 V, 69/120 V, 72/125 V, 73/127 V, 100/173 V, 110/190 V, 120/208 V, 125/217 V, 127/220 V, 133/230 V, 139/240 V, 220/380 V, 230/400 V, 250/415 V, 277/480 V, 347/600 V, 400/690 V, 480/831 V
User-selectable electric topology	Wye three-phase 4 wire: L1-N, L2-N, L3-N voltages and L1, L2, L3, N currents Delta three-phase 3 wire: L1-L2, L2-L3 and L3-L1 voltages L1, L2, L3 currents. Split-Phase: L1-N and L2-N Single-Phase: L1-N.
User-selectable voltage transformer primary	1 kV, 2.4 kV, 3.3 kV, 6.9 kV, 10.0 kV, 11.0 kV, 13.8 kV, 15.0 kV, 23.0 kV, 25.0 kV, 30.0 kV, 33.0 kV, 34.5 kV, 45.0 kV, 69.0 kV, 88.0 kV, 138.0 kV, 230.0 kV, 345.0 kV, 440.0 kV, 500.0 kV, 750.0 kV
User-selectable voltage transformer secondary	100V, 110 V, 115 V, 220V, 230 V, 400 V,1000 V
Input Impedance	600 kΩ per channel, 1.2 MΩ Phase-Neutral
Maximum error	Worst case: 100 mV + 0.5% of reading.

Voltage quality parameters

RMS voltage	Maximum, Average and Minimum for every interval.
Dips and Swells	Duration and depth measured according to EN 61000-4-30 Ed 2. Possibility of recording the RMS voltage profile of the recorded events.
RMS voltage profiles	Triggered by Dips and Swells. Cycle-by-cycle recording, maximum duration: 4 seconds.
Harmonics	Up to order 50th according to EN 61000-4-7 and EN 50160:2001
VTHD	Measured according to EN 61000-4-7 and EN 50160:2001
Flicker	Measured according to EN 61000-4-15 and EN 50160:2001
Frequency	Measured according to EN 61000-4-30 Ed 2 and EN 50160:2001
Unbalance	Measured according to EN 61000-4-30 Ed 2 and EN 50160:2001

Current Measurement using flexible current sensors. 4 sensors: L1, L2, L3, N

Input connector	IP-68 waterproof
Nominal current In	125 A / 300 A / 600 A / 1200 A
Current measuring range	2 x In: 250 A / 600 A / 1200 A / 2400 A
Maximum error	0.5% of range + current probe error

Current Measurement using inductive current clamps. 4 sensors: L1, L2, L3, N

Input connector	IP-68 waterproof
Nominal current In	10 A
Current measuring range	15 A
Maximum error	0.5% of range + current probe error.

Power and Energy measurements

Active, Apparent and Reactive/Non-Active Power. Maximum, Average and Minimum for every interval.

Active, Apparent and Reactive/Non-Active Energy with daily load curve.

Recording, memory and storage

Automatic storage of recordings after 10 seconds of losing supply power.

Automatic power on and resuming of recording after return of supply power.

Preprogramming recording sessions	Up to 8 recording sessions with pre-programmed start and stop time.
Averaging intervals	1 s, 2 s, 5 s, 10 s, 30 s, 1 m, 2 m, 5 m, 10 m, 15 m, 30 m.

Number of records and events	Over 600.000 records. Duration depends on selected topology. On most cases the instrument can store over 1 month of measurements with 10 minute averaging interval.
Type of memory	Internal Flash-type memory.

Communications

USB 2.0 as standard. Certified drivers for Windows Xp, 7, 8, and 8.1. Both 32 and 64 bit versions

USB effective data transmission speed: 1 Mbps

Optional Bluetooth wireless interface for remote communication.

Bluetooth effective transmission speed: 100 kbps

Dimensions and weight

External dimensions: 151 mm x 101 mm x 60 mm

Weight: 900 g

Safety

Installation category	600V CAT III / 300 V CAT IV
Pollution degree	2
Isolation level	Double isolation
Safety standard	IEC/EN 61010-1