

Stylitis-Power

MULTI-CHANNEL
ELECTRIC ENERGY/POWER MEASUREMENT DATA LOGGER

STYLITIS-POWER is specifically designed for in-coming and out-coming power/energy analysis in electric substations.

APPLICATIONS

- Electrical Energy Audits
- Electric bill cost management.
- Green building certification.
- Machine operation scheduling in factory.
- Monitoring of substations network.

INTEGRATED SYSTEM

Part of a complete system, Stylitis-Power collaborates with other Symmetron products:

- **Opton 4** – data and data logger management software.
- **AutoConnect** – automatic connection and download software.
- **Diameson** – Server gateway software that allows on-line connections in GPRS networks.
- **Emmetron** – Software that consolidates measurement data, resources and events in a central database.

For detailed specs please refer to individual product data



sheets.

FEATURES

Unique characteristics in a lightweight, portable instrument:

- 1 voltage input and 10 voltage-output current transformer inputs (differential).
- All inputs 3 phase + neutral.
- 2 additional temperature (Pt100) channels, in 3-wire connection.
- 11 parallel microcomputers and internal Flash and removable SD flash memory storage.
- Measurements, settings and clock time are non-volatile.
- Connection and data download via Ethernet, RS232, GSM modem and GPRS network.
- Touch-screen LCD graphic display.
- Built-in earth Leakage Circuit Breaker for added operator safety.
- Power supply may come from first voltage phase connection or separate socket.
- Rugged, watertight case and connectors for outdoor use.

MEASUREMENTS

- Simultaneous sampling and time-stamp for all inputs.
- Measures Active power, RMS Volts, RMS Amperes and Frequency for each phase.
- Computes Power factor, Reactive power, Apparent power and Energy for each phase.
- Computation in integral cycles contained within 0.5 seconds.
- Records transient phenomena without power supply for up to 20 seconds.
- Each phase individually gain-adjustable.

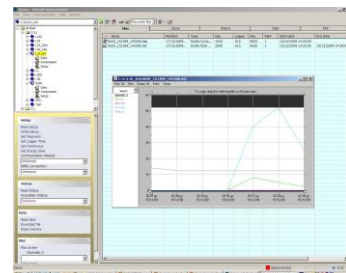
DATA

The free **Opton 4** software manages data logger operation. It also downloads and manages data files. These can be exported as:

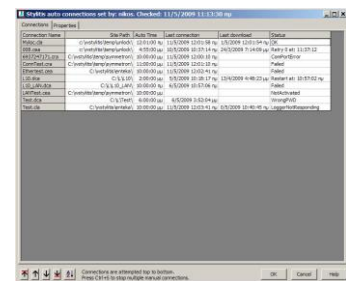
- Text files (ASCII) organized in columns.
- Graphs.
- Excel files.

The optional **Emmetron** software imports Opton 4 files into an Access or MySQL database. Outputs are:

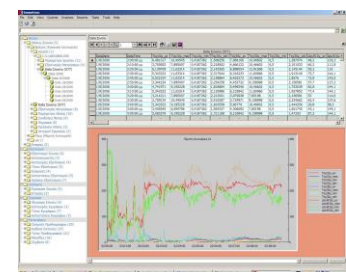
- Statistics
- Reports
- Queries
- Graphs
- Station comparisons



Opton 4



AutoConnect



Emmetron

Excel

INPUTS

- **VOLTAGE (phase to neutral):**
 - 4 differential voltage inputs. The 4 inputs are grouped into one 8-contact connector. Differential input impedance: 700kOhm
 - Input range: 0 to 280VAC. Connector used is male, IP68.
 - Voltage values measured are true RMS.
 - Accuracy: +/-0.25% of reading + 0.1% of full scale
 - Resolution 0.1V
 - Continuous over voltage: 350VAC
- **CURRENT:**
 - 40 differential voltage inputs for connection to voltage-output current transformers (CT). The inputs are grouped into one 8-contact connector per 4 inputs. Differential input impedance: 20kOhm
 - Input range is software configurable to cater for various CTs: 0,29 to 1,45 full scale VRMS for 0 to 6000A. Connector used is male, IP68.
 - Current values measured are true RMS.
 - Accuracy: +/-0.25% of reading + 0.1% of full scale
 - Resolution 0.01A
- **CT WIRING CONFIGURATIONS:**
 - 3-phase, 4 Current transformers: R, S, T, N.
 - 3-phase, 3 Current transformers: R, S, T. N current calculated from other 3.
 - 3-phase, 3 Current transformers: R, S, T.
 - 3-phase, 2 Current transformers: R, S. T current calculated from other 2
 - 1-phase, 1 Current transformer.
- **POWER FACTOR:** For each phase. Accuracy: +/-0.5% of reading + 0.2% of full scale
- **FREQUENCY:** 47 to 63 Hz. Accuracy +/- 0.25% of reading + 0.1% of full scale
- **CT CALIBRATION:** Current transformer phase shift error digitally adjustable in 500uS steps. Scale factor individually programmable for each CT.
- **TEMPERATURE:**
 - 2 PT-100 inputs, in 3-wire connection.

DATA STORAGE

- **INTERNAL MEMORY:** 4 Mbytes FLASH. No battery backup required. Up to 4000 files. Capacity all inputs at 15 minute averaging: more than 100 days. *Cyclic memory*, retains most recent files.
- **REMOVABLE MEMORY:** 2 GB SD Flash, with files directory. Capacity all inputs at 1 second averaging: more than 2 months.
- **REAL TIME CLOCK:** With automatic lap year correction. Accuracy: ± 7.5 ppm (4 minutes/year). Backed-up by internal, long-life Lithium battery.

DATA PROCESSING

- Individually programmable slope for each input.
- All inputs sampled simultaneously at 2 kHz sample rate.
- True RMS value calculation based on full cycles within a 0.5 second interval.
- Averaging Interval selectable from 0.5 second to 1 hour in steps of 0.5 seconds.

CALCULATED VALUES

- **POWER:** Active, Reactive and Apparent for each phase. Accuracy: +/-0.5% of reading + 0.2% of full scale
- **ENERGY:** Active, Reactive and Apparent for each phase. Accuracy: +/-0.5% of reading + 0.2% of full scale

HUMAN-MACHINE INTERFACE

- 240 by 128 -pixels graphic LCD with touch screen displays:
 - Acquisition status change capability.
 - Instantaneous frequency, voltage, current, power, and power factor for each phase.
 - Instantaneous bar graphs.
 - Time and recording status.
 - Memory used/left with time indication.
 - GSM Modem status.
 - Help pages

SAFETY

- Double insulated. Complies with IEC60950
- Built-in Earth Leakage Circuit Breaker.

PROTECTION

- All inputs are 4kV transient protected.

DATA TRANSFER AND PROGRAMMING

- **COMMUNICATION PORT:** RS232C port. 9600 baud, DB9M (DTE).
- **ETHERNET PORT:** 10/100Mbit. Communication capability via LAN/static or dynamic IP (via Diameson Server) internet connection.
- **MODEM:** Quad-Band GSM/GPRS Modem. GPRS connections using dynamic IP SIM cards via Diameson Server.

POWER SUPPLY

- Built-in universal power supply (85 to 264 VAC, 47 to 63 Hz). Input power source switch-selectable: internal or external.
- **INTERNAL:** via voltage measurement channel L1.
- **EXTERNAL:** via 3-prong wall socket
- **POWER OUTAGES:** operates for at least 10 seconds without power and records time/date of outage. Energy storage medium: Ultra capacitors.
- **POWER CONSUMPTION:** 5VA MAX

VARIOUS

- **ENCLOSURE:** IP67 sealed with carrying handle.
- **DIMENSIONS:** 27 x 24.6 x 17,4 cm (11275 cm³).
- **WEIGHT:** 3kg.
- **CONNECTORS:** Removable circular connectors on left and right side.
- **OPERATING TEMPERATURE:** -10° ~ +65°C
- **OPERATING HUMIDITY:** 5 ~ 95%
- **WARRANTY:** 1 Year.

SOFTWARE

- **INCLUDED:** Symmetron Opton 4, AutoConnect



- **OPTIONAL:** Symmetron Emmetron.