Stylitis-Power

MULTI-CHANNEL
ELECTRIC POWER MEASUREMENT DATA LOGGER

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

APPLICATIONS

- 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** – 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.
- 11 parallel microcomputers and internal 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.

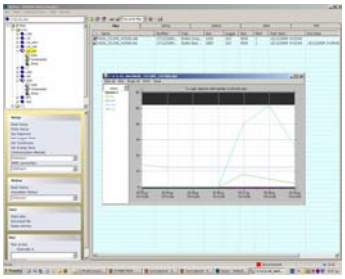
DATA

The free **Opton** 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.

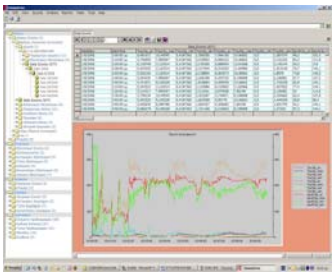
The optional **Emmetron** software imports Opton files into an Access or MySQL database. Outputs are:

- Statistics
- Reports
- Queries
- Graphs
- Station comparisons

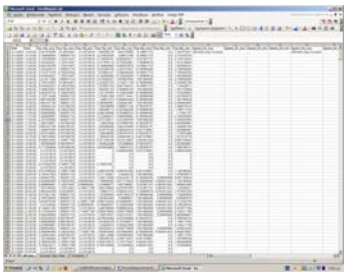


Opton

AutoConnect



Emmetron



Excel

Stylitis-Power

TECHNICAL SPECIFICATIONS
(Subject to change without notice)

INPUTS

- ***VOLTAGE (phase to neutral):***
  a. 4 differential voltage inputs. The 4 inputs are grouped into one 8-contact connector. Differential input impedance: 700kOhm
  b. Input range: 0 to 280VAC. Connector used is male, IP68.
  c. Voltage values measured are true RMS.
  d. Accuracy: +/-0.25% of reading + 0.1% of full scale
  e. Resolution 0.1V
  f. Continuous over voltage: 350VAC
- ***CURRENT:***
  a. 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
  b. 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.
  c. Current values measured are true RMS.
  d. Accuracy: +/-0.25% of reading + 0.1% of full scale
  e. Resolution 0.01A
- ***CT WIRING CONFIGURATIONS:***
  a. 3-phase, 4 Current transformers: R, S, T, N.
  b. 3-phase, 3 Current transformers: R, S, T. N current calculated from other 3.
  c. 3-phase, 3 Current transformers: R, S, T.
  d. 3-phase, 2 Current transformers: R, S. T current calculated from other 2
  e. 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.

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.
- ***REAL TIME CLOCK:*** With automatic lap year correction. Accuracy: ±7.5ppm (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:
  a. Instantaneous frequency, voltage, current, power, and power factor for each phase.
  b. Instantaneous bar graphs.
  c. Time and recording status.
  d. Memory used/left with time indication.
  e. GSM Modem status.
  f. 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.
- ***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 cm^3).
- ***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, AutoConnect
- ***OPTIONAL*:** Symmetron Emmetron.

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