

# Stylitis-10

PORTABLE, LOW-COST DATA ACQUISITION SYSTEM  
WITH ANALOG, MODBUS AND SDI-12 INPUTS  
AND CONTROL OUTPUTS

**STYLITIS-10 offers low-cost, high performance data acquisition and control.**

## FEATURES

- Versatile networking capabilities.
- 8 multi-function channels, which can be used as measurement inputs or control outputs.
- 10 digital bus channels, for connection of SDI-12 and MODBUS RTU (RS-485/RS-232) sensors.
- GPS position acquisition option.
- **NEW: Ethernet version works as MODBUS TCP slave.**

## APPLICATIONS

- Data acquisition networks.
- Weather stations.
- Solar installation monitoring.
- Tank level monitoring.
- Water pressure and flow.

## INTEGRATED SYSTEM

Part of a complete system, Stylitis-10 collaborates with other Symmetron products:

- **Opton 4** – data and data logger management software.
- **AutoConnect** – automatic connection and download software.
- **Diameson** – Tunnel Server that allows on-line connections in GPRS networks.

For detailed specs please refer to individual product data sheets.



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## MEASUREMENTS

Measures directly: voltage, current, frequency and events and data from MODBUS RTU and SDI-12 sensors. With suitable sensors it is also capable of measuring:

- Temperature, humidity, pressure.
- Wind speed and direction.
- Solar radiation, rain height, water speed, electrical energy, etc.

## CONTROL

Supports user-programmable control outputs according to input values. Outputs are capable of driving small relays, LEDs, etc.

## ALARMS

SMS or Email alarms on user-programmable conditions.

## COMMUNICATION OPTIONS

- Automatic interval data transmission to the Captum portal in the cloud. Users can view data from anywhere via a browser.
- Remote on-line GPRS/Ethernet client access (dynamic IP).
- Remote GPRS/Ethernet server (static IP).
- Daily data file emailing.
- SMS messages with daily data.
- Modem to modem (CSD) data calls.
- Local port for communication to a PC.
- Local and remote programming.
- Optional RS-232 to USB adaptor.

## DATA

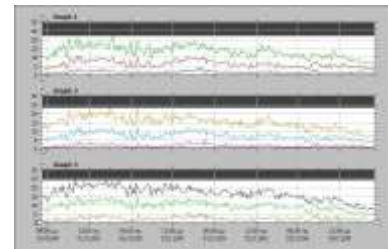
Data are compressed and stored in the internal 4MB flash memory and the optional removable 2 GB SD flash card. Data retrieval is done via any port or modem.

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.
- CSV files.
- Excel files.

## SOFTWARE

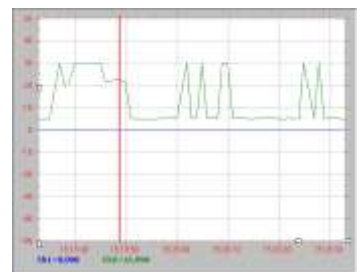
The optional Diameson Gateway server software is installed on a static IP server. The data loggers connect periodically to the server and transmit data files.



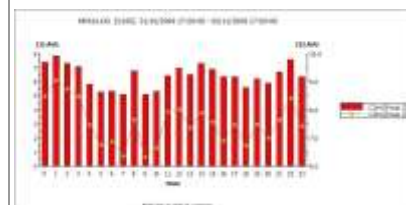
File trends



Graphical setup



Real-time plot



File Statistics

# Stylitis-10

## TECHNICAL SPECIFICATIONS

(Subject to change without notice)

### INPUTS

#### CHANNELS 1 and 8:

- Counter inputs, 32 bit. Accuracy and resolution:  $\pm 1$  count. Input range: 0~5 kHz. Input impedance: 1M $\Omega$ .
- Selectable signal threshold. Bipolar AC/Unipolar TTL signals: sensitivity 200mVp-p/2 Vp-p.

#### CHANNELS 1 to 8:

- Individually selectable as Analog inputs or TTL-level Digital (State) inputs.
- Channel 7 may be used as Wind Vane input.
- Up to 8 single-ended input channels. Up to 3 differential and 2 single-ended inputs. Resolution: 13bit plus sign. Accuracy:  $\pm 0.3\%$ .
- Programmable input voltage range: min 0 ~ 125mV/ max: 0 ~ +2.5 V (Resolution: 15  $\mu$ V/305  $\mu$ V). Impedance: 1 M $\Omega$ .
- Programmable input current range: min 0~+5 mA/ max 0 ~ +50 mA (Resolution: 0,61  $\mu$ A/6,1  $\mu$ A). Impedance: 40  $\Omega$ .
- PT100/1000 resolution: 0.06 degrees.
- Wind vane resolution: 2.8 degrees.
- Analog input channels may be ordered with 0~5V or 0~10V input range (Stylitis-10/5 or 10/10). Impedance is 40 k $\Omega$ .

#### CHANNELS 10~19:

- Reading per statistic interval. Individually selectable as:
- MODBUS RTU. Up to 16 words per node.
- SDI-12. Up to 16 values per node.

### ANALOG OUTPUTS (Sensor excitation)

- 1, pulsed 2.5V/20mA. Accuracy  $\pm 0.2\%$ .
- 1, pulsed current 0.5mA (for PT100, etc.). Accuracy  $\pm 0.6\%$ .

### PROTECTION

Over voltage & fuse protection on all I/O.

#### Option 4. SENSOR WARM-UP (1 OUTPUT):

- Powers-up sensor 1 second to 30 minutes before measurement (programmable).
- Switches the **EXTERNAL SUPPLY**.
  - Maximum current 0.5 A.

#### Option 5. SENSOR SUPPLY (1 OUTPUT):

- Supplies sensors from the external supply via a built-in, NC (On) switch. The switch opens (Off) at 00:00:00, for 10 seconds, to reset possibly stuck sensors.
- Maximum current: 0.5 A.

### DATA STORAGE

- **INTERNAL NON-VOLATILE MEMORY:** 4MBytes. Typical capacity (8 channels, 10min interval, average only): 32 months.
- **CYCLIC MEMORY:** retains the most recent files.
- **REMOVABLE MEMORY:** 2 GB SD Flash, with files directory. Capacity (8 channels, 10min interval): 1000 years.
- **REAL TIME CLOCK:** With automatic lap year correction. Typical Accuracy:  $\pm 20$  seconds/ month.

### CONTROL OUTPUTS (open drain)

- All inputs may function as digital outputs to user-specified conditions:
- Combinational AND, OR from inputs.
- 4 operators: *Above, Below, Between 2 values and Not Between*.
- Maximum voltage: 15VDC, current: 60mA

### DATA PROCESSING

- Individually programmable slope, slope<sup>2</sup> and offset for each input. Sampling: 1 Hz. Calculation of  $ax^2+bx+c$ .
- Selectable storage of Average, Min, Max and Standard Deviation values at intervals from 1 second to 60 minutes.
- Wind vane vector computation.

### COMMUNICATION OPTIONS

- 2 built-in RS232 serial ports for communication to a PC, external modem, etc. (standard in all models).
- Optional internal GSM/GPRS quad-band modem (Stylitis-10+GSM).
- Optional internal Ethernet port (Stylitis-10+Ethernet).
- Optional internal wireless Ethernet module (Stylitis-10+WiFi).

### REMOTE COMMUNICATION

#### (+GSM/+Ethernet only)

- Works as client (dynamic IP) or server (static IP).
- GPRS online communication via Symmetron's Diameson server. Uses a standard, dynamic IP SIM card.
- CSD data call (modem to modem). Requires a data service SIM card.
- Ethernet communication via a dynamic or static IP ADSL line.

#### EMAILS (+GSM/+Ethernet only)

- Daily email: File emailing.
- To save power, the modem can be set to be powered only when sending email.
- Opton 4 software supports single-click reception, decompression and storage of emailed data files.

### SMS MESSAGES (Stylitis-10+GSM only)

- SMS Data: message with statistical data upon completion of an interval.
- Daily SMS: message with statistical data every midnight.

### ALARMS

- SMS/Email alarms: with change of a Control Output condition.
- Up to 5 programmable ALARM conditions for each parameter.

### USER INTERFACE

- 2 x 16 LCD display and 4 buttons.
- Shows status, measurements and allows enabling/ disabling functions.

### POWER SUPPLY

- **INTERNAL BATTERY:** 9V alkaline- typical life 2 weeks.
- **EXTERNAL POWER SUPPLY 6~28 VDC:** Energy save current: 0.5 mA typical. GPRS connected: 0,06W. During transmission: Average: 2W, Peak 10W. Ethernet enabled: 1,5W

### VARIOUS

- **ENCLOSURE:** IP 40 plastic ABS with desktop stand. DIN rail clamp optional.
- **DIMENSIONS:** 18 x 10 x 4 cm.
- **WEIGHT:** 200g.
- **CONNECTORS:** Removable screw terminal strips on front panel.
- **OPERATING TEMPERATURE/HUMIDITY:** -40° ~ +70° (LCD: -20°~+70°C), 5~95%.
- **WARRANTY:** 2 Years.
- **APPROVALS:** CE.
- **MANUFACTURED:** In E.U/ ISO9001:2008

### SOFTWARE

- **INCLUDED:** Opton 4, AutoConnect.
- **OPTIONAL:** Diameson Gateway

### AVAILABLE MODELS

- Stylitis-10
- Stylitis -10+ETHERNET
- Stylitis -10+GSM
- Stylitis -10+GPS (includes GSM)
- Stylitis -10+WI-FI

