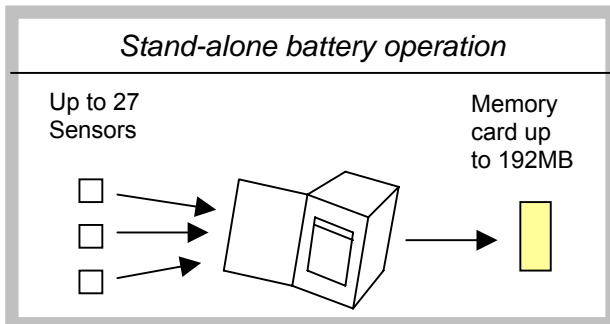


# STYLITIS-101

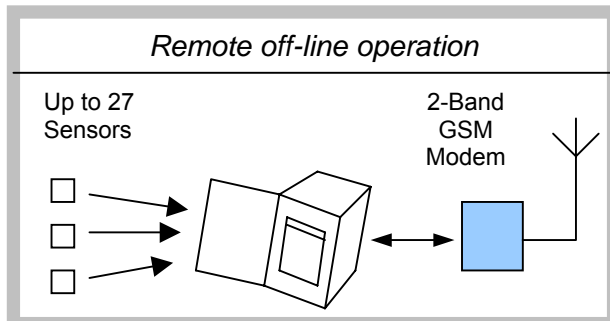
## ADVANCED PORTABLE DATA ACQUISITION SYSTEM

**S**TYLITIS-101 was designed to cover a wide range of measurement and recording needs in the industry, research, renewable energy, laboratory and education areas.



**FEATURES.** The instrument stands alone compared to other data collection methods:

- Competitive products offer small memory capacities for storing averages. In contrast, Stylitis-101 offers large internal and removable storage space, allowing recording of time-series samples. Detailed examination of phenomena is now easier than ever.
- It is smaller, less expensive, much more rugged and more temperature tolerant than a PC equipped with an A/D acquisition card. It is also a lot more easier to carry and set-up.
- Due to very low power consumption, it does not require an external mains supply to operate. Battery or a small optional PV panel is all that's needed.
- Upgradeable: Internal slots are provided to accept optional input signal conditioning modules. These include amplification, bridge excitation, current and resistance measurement, temperature measurement, etc.



Included in a robust and sealed box are:

- An LCD display and 16-key numeric keyboard. A  $\mu$ Computer with real-time clock/calendar and 512 Kbytes internal memory buffer.
- A PCMCIA socket for large capacity memory cards (up to 192Mbytes).
- A serial port for interfacing and data transferring to a PC.



- A variety of over-voltage protected input signal interfaces: analog, digital and counting.
- External sensor supply outputs.
- Batteries for stand alone operation.

**MEASUREMENTS.** The user interface is simple and straightforward through the built-in display and keyboard. It directly measures:

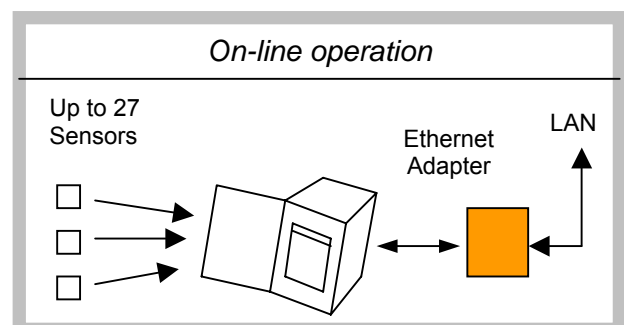
- Voltage:  $\pm 5\text{mV} \sim \pm 5\text{V}$ . 6-wire bridges. PT100 sensors.
- Current :  $\pm 200\mu\text{A} \sim \pm 20\text{mA}$ . Resistance  $0 \sim 50\text{k}\Omega$
- Frequency, events and digital state (switches, etc.)

With suitable sensors it is also capable of measuring:

- Wind speed, direction and wind-turbine power curves. Capable of interfacing to most types of anemometers and wind vanes.
- Temperature, humidity, pressure.
- Solar radiation, rain height, water speed, etc.

**PROCESSING.** First, data are scaled with user-selectable slope and offset values. Then data are processed according to one of the following operating modes:

1. **TIME-SERIES MODE:** Sampling frequency is programmable from 1 to 32 Hz. All data are stored without statistical processing.
2. **MATH MODE:** Sampling frequency is fixed at 1Hz, while averaging intervals are programmable from 1 to 60 minutes. Each record contains calculations for one interval:
  - Minimum, Maximum, Average and Standard Deviation for each selected input.Records are stored together with a "Time-Stamp" for enhanced data security.



**DATA STORAGE/RETRIEVAL.** To save space data are stored compressed in the internal buffer and in the removable memory cards. Full cards are replaced without interrupting the acquisition process.

The RS-232 serial port comes as standard with Stylitis-101. Thus, it is easy to program it and retrieve stored data locally with a Notebook PC or remotely. And, the optional GSM modem package allows data collection right from your office!

Data records are decompressed to columns using a Windows program that comes with the unit. Further data manipulation and processing is possible using standard available software like Excel, Axum, etc.

*NOTE: An optional internal PCMCIA (PC Card) drive is available for desktop PCs.*

## STYLITIS-101 TECHNICAL SPECIFICATIONS

(Subject to change without notice. Full specifications in manual.)

### INPUTS

- **ANALOG (Plug-in modules):** 18, 12bit each. See Card11~17 input modules. Each module carries 3 channels. Basic accuracy:  $\pm 0.1\%$  - refer to User's Manual. Vane resolution:  $\pm 1.4$  degrees.
- **COUNTING (built-in):** 3, 16 bit each (C1~C3). 0.5Hz resolution using a frequency doubling circuit when sampling at 1Hz. Accuracy  $\pm 0.5$  count. Input range: 0~5kHz. Input imp: 1M $\Omega$ . Sensitivity: 200mV. Input type Low-level AC, TTL.
- **COUNTING (Plug-in modules):** 3, 16 bit each (C4~C6). See Card21~27 input modules.
- **DIGITAL:** 3, 1 bit each (TTL).

### OUTPUTS (Sensor supply)

- 0~6 programmable (1 per Card1x module). Accuracy  $\pm 0.2\%$ . Total current: 100mA.
- 3 fixed +5V. Accuracy  $\pm 5\%$ . Total current: 10mA

### PROTECTION

- All inputs/outputs are over-voltage protected.

### EXPANDABILITY

- Up to 4 loggers can be connected in MASTER/SLAVE configuration to increase the total number of channels to more than 100.

### DATA STORAGE

- **INTERNAL BUFFER:** 512KBytes. Typical capacity (1 analog and 1 counting input, 10 min averaging): 7 months.
- **REMOVABLE PCMCIA MEMORY CARDS:** FLASH: 2Mbytes~192Mbytes.
- **REAL TIME CLOCK:** With automatic lap year correction. Accuracy:  $\pm 1$  minute/month.

### DATA PROCESSING

- Individually programmable slope and offset for each input. Operating Modes:
- **TIME-SERIES MODE:** Individually programmable and synchronized sampling rate for each input: 1, 2, 4, 8, 16, 32 Hz.
- **MATH MODE:** Sampling @ 1 Hz. Calculation and storage of Minimum, Maximum, Average and Standard Deviation selectable @ 1, 2, 5, 10, 15, or 60 minute intervals.

### SERIAL PORT

- **PROGRAMMING AND DATA TRANSFER:** RS232C port. 9600 baud, 8 bits, no parity, 1 stop bit. Socket is DB9M. Connects optionally to Ethernet adapter.

### POWER SUPPLY

- **INTERNAL BATTERY:** 2x9V alkaline- life 1 month (Math mode, 10 min intervals).
- **EXTERNAL:** 6~15V, DC/AC typical consumption 1.5mA (Energy save) or 50mA (Continuous mode).
- **OPTIONAL:** PV panel and internal rechargeable cell.

### VARIOUS

- **ENCLOSURE:** IP65 sealed.
- **DIMENSIONS:** 31x21,5x17,5cm.
- **WEIGHT:** 4kg.
- **CONNECTORS:** Removable terminal strips on right side.
- **OPERATING TEMPERATURE:** 30°~ +70°
- **APPROVAL:** CE
- **WARRANTY:** 1 Year.

### INPUT MODULES

#### CARD-11 (for analog slots)

- 2 differential voltage inputs  $\pm 5mV \sim \pm 5V$ . Diff. input imp:  $>10M\Omega$ .
- 1 single-ended current input  $\pm 200\mu A \sim \pm 20mA$ . Input imp. 35 $\Omega$ .
- 1 voltage output 0~5V step 0.1

#### CARD-12 (for analog slots)

- 2 differential voltage inputs  $\pm 5mV \sim \pm 5V$ . Diff. input imp:  $>10M\Omega$ .
- 1 single ended voltage input  $\pm 5mV \sim \pm 5V$ . Input imp:  $>10M\Omega$ .
- 1 voltage output 0~5V step 0.1

#### CARD-13 (for analog slots)

- 2 differential current inputs  $\pm 200\mu A \sim \pm 20mA$ . Input imp: 35 $\Omega$ .
- 1 single-ended current input  $\pm 200\mu A \sim \pm 20mA$ . Input imp: 35 $\Omega$ .
- 1 voltage output 0~5V step 0.1

#### CARD-14 (for analog slots)

- 2 differential voltage inputs  $\pm 5mV \sim \pm 5V$ . Diff. input imp:  $>10M\Omega$ .
- 1 single ended voltage input  $\pm 5mV \sim \pm 5V$ . Input imp:  $>10M\Omega$ .
- 1 current output 0~5mA step 0.1

#### CARD-16 (for analog slots)

- 2 differential voltage inputs  $\pm 0.5V \sim \pm 50V$ . Diff. input imp:  $>10M\Omega$ . Common mode input imp: 110K $\Omega$ .
- 1 single-ended voltage input  $\pm 0.5V \sim \pm 50V$ . Input imp: 110K $\Omega$ .
- 1 voltage output 0~5V step 0.1

#### CARD-21 (for counting slots)

- 1 input. Resolution: 1Hz. Accuracy:  $\pm 1$  count. Range: 0~5kHz (TTL), 0~50Hz (REED). Input imp: 100k $\Omega$ . Sensitivity: 2V.

#### CARD-22 (for counting slots)

- 1 input. Resolution: 1Hz. Accuracy:  $\pm 1$  count. Range: 0~5kHz (Sin), 0~5kHz (TTL). Input imp: 100k $\Omega$ . Sensitivity: 200mV.

### OUTPUT MODULES

#### CARD-25 (for counting slots)

- 1 'open drain' output. Output impedance  $<0.5\Omega$ .

### OPTIONAL

- **GSM PACKAGE:** Modem, antenna and On/Off modem timer.
- **ETHERNET ADAPTER:** Allows operation in LANs.
- **POWER SUPPLY:** Solar panel, charger and lead-acid battery.
- **SHELTER BOX:** 50 x 40 x 20 cm polyester, IP65 sealed.
- **WINDROSE:** Wind data analysis software for Excel.

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