

STYLITIS-41

ENVIRONMENTAL DATA ACQUISITION SYSTEM

WIND energy projects are evaluated by collecting site data regarding wind characteristics.

Designed with friendliness and reliability in mind, Stylitis-41 makes collection of **wind, meteorological and technical data** easy and cost effective.

Programming is simple, via the built-in LCD display and numeric keyboard. There is no need to carry special terminal units with you.

It has 3 counting and 4 analog inputs. It operates for more than 2 months on 2 small 9V batteries. And, data are stored on reliable PCMCIA memory cards.



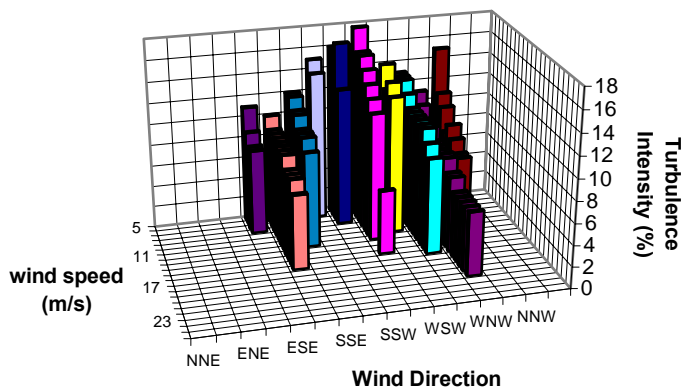
If you wish, however, you can leave a memory card in the PCMCIA slot to increase logging memory to more than 2Mbytes.

Of course, cards are replaced without interrupting the acquisition process.

The RS-232 serial port comes as standard with Stylitis-41. Thus, it is possible 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 PC program that comes with the unit. Further data manipulation and processing is possible using standard available software like Excel, Axum, etc.

NOTE: An internal PCMCIA (PC Card) drive is available for desktop PCs that do not possess one. Notebook PCs normally have a PCMCIA slot built-in.

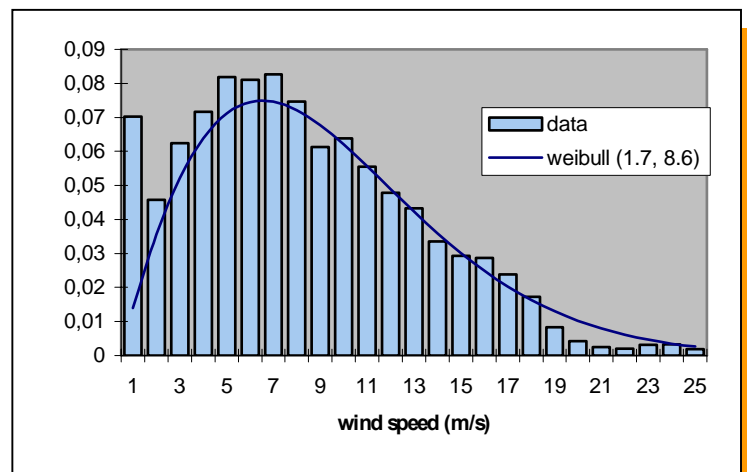


MEASUREMENTS. It is capable of directly measuring voltage, current, frequency and events.

With suitable sensors it is also capable of measuring:

- Wind speed, direction and wind-turbine power curves. It is capable of interfacing to virtually every type of anemometer and wind vane.
- Temperature, humidity, pressure.
- Solar radiation, rain height, water speed, etc.

DATA STORAGE & RETRIEVAL. To save space, data are stored compressed in the large internal buffer. Inserting, for a few seconds, a memory card in the slot, retrieves data. This capability lowers operating costs, since a memory card is not permanently required.



ANALYSIS SOFTWARE.

Optional Meteorological Analysis software is available as an add-in to Excel2000 for Win95/98/2000 /XP.

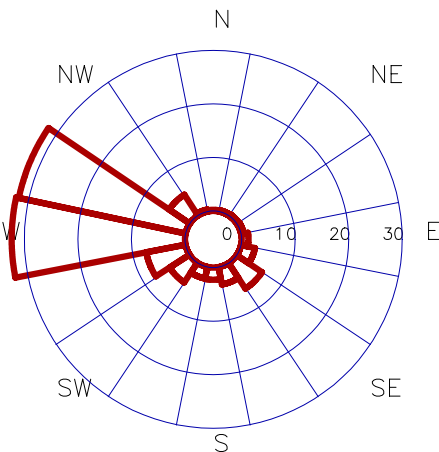
It manages and processes data from one or more units to produce output in standard spreadsheet format and graphs.

The amount of data processed is only limited by available memory in the computer.

WINDROSE CHARACTERISTICS:

It calculates and displays:

1. Speed and direction distribution of data.
2. Coefficients of the corresponding Weibull distribution.
3. Speed and direction distribution of turbulence.
4. Hourly speed distribution per day (Diurnal distribution)
5. Energy distribution of speed data and direction data.
6. Analytical time-series.
7. Time and energy based wind rose.
8. Speed probability distribution.
9. Expected energy output from a wind turbine, with a known power curve.
10. Correlations between 2 sites.



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STYLITIS-41 TECHNICAL SPECS

(Subject to change without notice)

INPUTS

- Each individually selectable:
- **ANALOG:** 4, 12bit each. Input range: 0~+5V. Input impedance 10M Ω . Resolution 1.22mV. Accuracy: $\pm 0.1\%$. Vane resolution ± 1.4 degrees.
- 2 of the inputs have a selectable resistor-set gain of up to x1000 and/or input impedance of 20 Ohms for 4~20mA sensors. Accuracy: $\pm 0.2\%$.
- **COUNTING:** 3, 16 bit each. Accuracy ± 1 count. Input range: 0-5kHz. Input impedance: 100k Ω . Sensitivity: 200mV.

OUTPUTS (SENSOR SUPPLY)

- Pulsed 5V (3). Total current 25mA. Accuracy $\pm 0.2\%$.
- Fixed 5V (2). Total current 10mA. Accuracy $\pm 5\%$.

PROTECTION

- Transient over voltage protection on all inputs/outputs.

SENSOR EXAMPLES

- Anemometers, vanes, pyranometers, thermometers, RTDs, rain level, water level, water speed, barometric pressure, pulse counting, etc.

DATA STORAGE

- **INTERNAL BUFFER:** 512KBytes. Typical capacity (1 analog/1 counting input, 10 min averaging): 212 days.
- **MEMORY CARDS (Optional):** Removable PCMCIA SRAM/FLASH 256Kbytes~2Mbytes
- **REAL TIME CLOCK:** With automatic lap year correction. Accuracy: ± 1 minute/ month.

DATA PROCESSING

- Individually programmable slope and offset for each input. 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.

POWER SUPPLY

- **INTERNAL BATTERY:** 2x9V alkaline- typical life 2 months (2 sensors, 10 min intervals). 1,5 month with +12V output energized.
- **EXTERNAL:** 6~15V, DC/AC typical consumption 500 μ A (LCD off) or 35mA (LCD on).

VARIOUS

- **ENCLOSURE:** polyester, IP65 sealed.
- **DIM:** 31 x 21 x 17cm. **WEIGHT:** 4kg.
- **CONNECTORS:** Removable terminal strips on bottom.
- **OPERATING TEMPERATURE:** -30 $^{\circ}$ ~ +70 $^{\circ}$ (LCD: 0C~+50C)
- **APPROVAL:** CE.
- **WARRANTY:** 1 Year.

OPTIONAL

- **GSM PACKAGE:** Modem, antenna and On/Off modem timer.
- **ETHERNET ADAPTER:** Allows operation in LANs.
- **POWER SUPPLY:** Receptacles for 2 additional 9V cells.
- **POWER SUPPLY:** Solar panel, charger and lead battery.
- **OUTPUT:** +12/18V ($\pm 10\%$) pulsed, for current-loop sensors.
- **SHELTER BOX:** 50 x 40 x 20 cm polyester, IP65 sealed.