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- WEATHER STATIONS



Flexibility of Multiple Analog and Digital Inputs

EasyLogGSM wireless AWOS/AWS data logger

Based on an ultra-low power microcontroller combined with high precision analog-digital converters and real time multitasking operating system. This ensures flexible and reliable continuous operation with long battery life and system reliability.

Analog Inputs

• Single Ended (12bit)	4x 0 ... 2.5V
• Differential (24bit)	4x $\pm 19\text{mV}$... $\pm 2.5\text{V}$
Accuracy	0.1% SE 0.05% DIFF
Input Noise	cca $0.2\mu\text{Vef}$
Input Offset	0.5 μV max
Statistics	Avg, Min, Max, StDev

Digital Inputs

Input Range	0...2kHz
Configurable to:	
• Frequency (wind speed)	
• Cumulative & time period (sunshine duration)	
• Counter & cumulative (rain gauge)	
• Statistics	Avg, Min, Max, StDev

PT100 Inputs

Ratiometric measurements (for 4 wire PT100 precision connection)	3 (+ 1 reference)
• Excitation for PT100	0.5mA appx.
• Statistics	Avg, Min, Max, StDev

Serial Sensors

Baud Rate	8 (RS-485 or RS-232)
Measurement Interval	300...115kBaund
Logging Interval	1...3600 s
Statistics	1...3600 s
	Avg, Min, Max, StDev

Memory

Internal Memory	4MB
Data Storage Medium	SD card (FAT32)

- Built-in watchdog timers and low-level intelligence ensure reliable operation which has been verified over the years.
- Analog sensor front end offers 4 inputs with 12 bit resolution (relative humidity, wind direction...) and 4 inputs with 24 bit resolution for precision measurements (temperature, solar radiation, pressure...).
- Each of the 4 digital inputs can be user configured to measure frequency (wind speed), time period (sunshine duration) or as a counter (rain gauge).
- In addition to the serial RS-232 data port for connection to PC or 3rd party devices, this data logger features a user selectable RS232/485 port for connecting smart sensors and other intelligent devices.
- All inputs are software configurable and offer basic statistics - average, minimum, maximum and standard deviation. 16 user defined polynomes (polynomial) are used for calculation to convert raw sensor values to engineering units.
- 12V Lead Acid (Pb) battery management is provided on board. Overcharge and deep discharge protection is ensured. Power source choices include a 12VDC power supply, solar or any DC source in the range of 4-20V.
- Internal memory of about 4MB and SD memory card are used for data recording and storage.
- Real time clock with 3V lithium backup battery. Time precision is achieved by time synchronization once a day over GPRS network with worldwide time zones.
- Remote data transfer is supported by software via email or FTP using integrated quad-band GSM/GPRS modem.

Applications of use

- Meteorological networks AWOS & AWS weather station
- Solar power systems analyses and evaluation
- Pollution monitoring
- Environmental protection
- Industrial waste management
- Hydrological stations & flood early warning systems
- Calibration systems

For applications where low power, ease-of-use and reliability is important

UPGRADE TO SIMPLE-TO-USE HARDWARE

used in over 2000 locations worldwide for 10+ years





Interface ports

- RS485 / RS232
- RS232 data out connection

2 (PLC, SCADA, PC...) selectable (for up to 8 sensors) MODBUS RTU & ASCII

Battery Management

Battery type 12V Pb (lead acid)
 Deep discharge protection
 Overcharge protection

Realtime Clock

Time Synchronization via GPRS
 Time synchronization frequency 1/day
 Time Zone worldwide
 Backup Battery 3V lithium
 Indication 2 LEDs

Power Options

DC source with battery charging 5V ...12VDC
 DC source without battery 4V... 20VDC
 Solar power 12V system
 Portable battery power 6xAA batteries

Remote Data Transfer

Full support for GPRS email and FTP data transfer

Environmental Operating Range

Temperature Range -30°C ...+60°C
 Protection IP65

Power Consumption

Sleep 40µA max
 Measuring 7mA typ
 Transmitting signal strength dependent

Customization (available per request)

New sensor drivers for RS485 or RS232
 MODBUS configuration of registers, data types, units

FTP and Email communication and .CSV data format

OUTPUT DATA FORMAT:

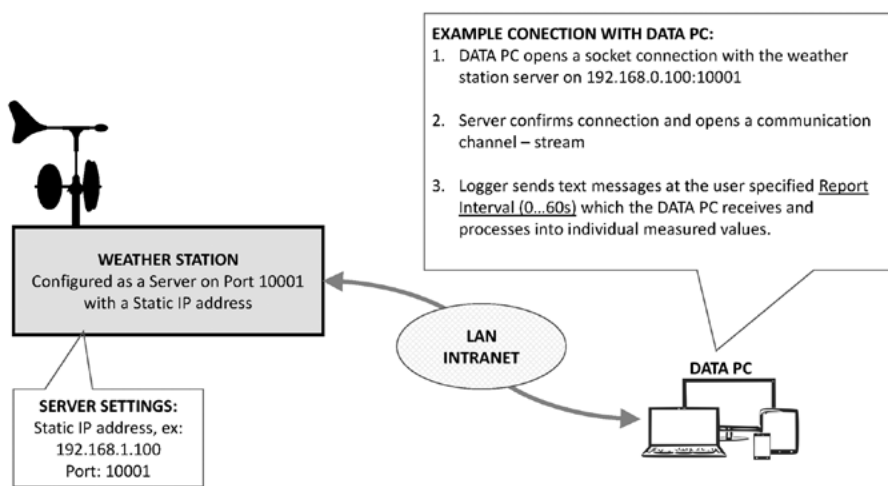
Date Time Data1 Data2 Data3... CRLF

Example: (space delimited format)

```
07.06.2017 04:43:39 3.117 13.839 99.043 -61.000
07.06.2017 04:43:39 3.117 13.839 99.043 -61.000
07.06.2017 04:43:39 3.117 13.839 99.043 -61.000
...
```

If required, CSV data format can be set:

```
07.06.2017,04:43:39,3.117,13.839,99.043,-61.000
07.06.2017,04:43:39,3.117,13.839,99.043,-61.000
07.06.2017,04:43:39,3.117,13.839,99.043,-61.000
...
```



Ethernet connectivity

HOW TO CONNECT A PC TO THE WEATHER STATION VIA ETHERNET:

1. The RS-232 to Ethernet converter inside the weather station is configured as a Server, which is listening on Port 10001. It has a fixed IP address. IP address and port are both user configurable. (Example:192.168.0.100:10001)
2. The internal Ethernet converter starts actively listening on Port 10001 immediately after the weather station is turned on.
3. When it receives a request to connect from a DataPC via the Ethernet connection, together they create an open bi-directional data stream. (This connection can be verified by setting up a connection on 192.168.0.100:10001 in HyperTerminal on the DataPC.)
4. Weather station and DataPC are connected and sending live data. (In HyperTerminal you should see text messages is measured values.)
5. DataPC must collect the data that it receives.
6. In case of an interruption in the connection with the weather station, the connection will remain closed until it receives a request to connect from a DataPC.

Reach your Gold Standard of measurement with BARANI sensors. ISO:9001 quality.

