M B Control & Systems Pvt. Ltd.
Innovative Electronics For You
Providing Industrial Automation solutions since 1983

EasyLogGSM Data Logger

Weather Monitoring Solutions
built with **BARANI DESIGN** *sensors*

- **AGRICULTURE**
- **AIRPORTS**
- **COASTAL & MARINE**
- **HYDROLOGY**
- **INDUSTRIAL & PLC**
- **METEOROLOGY**
- **OCEANOGRAPHY**
- **ROAD MANAGEMENT**
- **POLAR AND WINTER**
- **SHIPS & BUOY**
- **SKI LIFT & SNOW MAKING**
- **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.

- 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 (polynomials) 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.

Analog Inputs — 8
Single Ended (12bit)	4x 0 ... 2.5V
Differential (24bit)	4x ±19mV ... ±2.5V
Accuracy	0.1% SE	0.05% DIFF
Input Noise	cca 0.2µVef
Input Offset	0.5µV max
Statistics	Avg, Min, Max, StDev

Digital Inputs — 4
Input Range	0...2kHz

Configurable to:
- Frequency (wind speed)
- Time period (sunshine duration)
- Counter (rain gauge)
- Statistics — Avg, Min, Max, StDev

PT100 Inputs — 3 (+ 1 reference)
- Ratiometric measurements (for 4 wire PT100 precision connection)
- Excitation for PT100 cca 0.5mA
- Statistics — Avg, Min, Max, StDev

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

Interface ports — 2 (PLC, SCADA, PC...)
- RS232 — data connection
- RS485 / RS232 — selectable (8 sensors)

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

Memory

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

Realtime Clock

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

Remote Data Transfer

Full support for GPRS email and FTP data transfer

Power Consumption

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

Battery Management

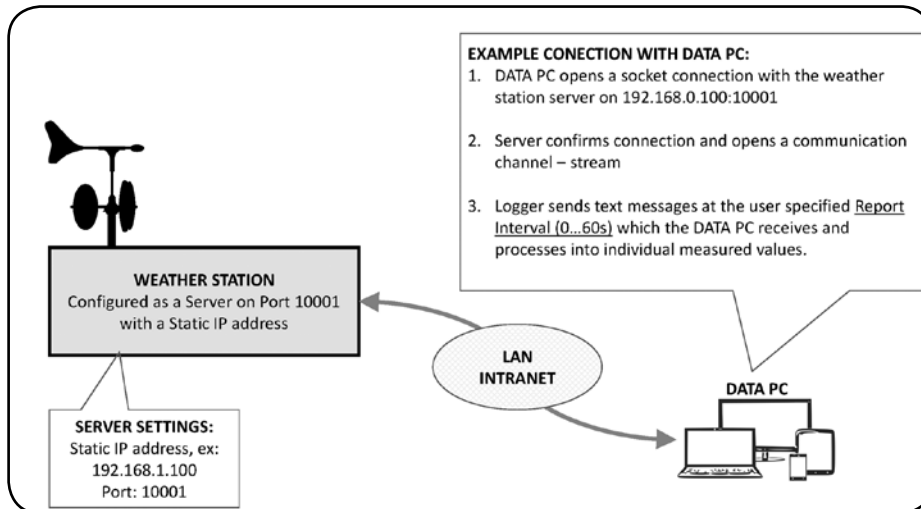|	
Battery type	12V Pb (lead acid)
Deep discharge protection	
Overcharge protection	

Power Options

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

Environmental Operating Range

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

Customization (available per request)

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

EXAMPLE CONECTION WITH DATA PC:

1. DATA PC opens a socket connection with the weather station server on 192.168.0.100:10001

2. Server confirms connection and opens a communication channel – stream

3. Logger sends text messages at the user specified Report Interval (0...60s) which the DATA PC receives and processes into individual measured values.

WEATHER STATION
Configured as a Server on Port 10001 with a Static IP address

SERVER SETTINGS:
Static IP address, ex:
192.168.1.100
Port: 10001

LAN INTRANET

DATA PC

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

If required, CSV data format can be set:
07.06.2017,04:43:39,3.117,13.839,99.043, -61.000

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.

M. B. Control & Systems Pvt. Ltd.

Corporate Office
31/1, Ahiripukur Road, Kolkata 700019, West Bengal, India
Call : +91 98313 30473, 98312 06454 | Fax : +91 033 2287 0445
Email : enquiry@mbcontrol.com, service@mbcontrol.com (for service related quires)
Website : www.mbcontrol.com

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