Features¹

- 12V Power supply from grid or solar panel controller.

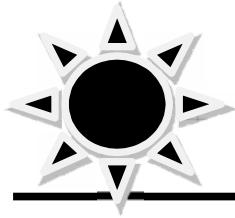
SENSORS AND POWER SUPPLY

- 3 anemometer channels for reading analog AC sine wave – No external signal condition module required;
- The angular speed of the sensors is computed by means of pulse integration technique;
- Accuracy 0.02%²;
- NRG#40 ready;
- 2 wind vane channels, no dead zone, encoding type;
- 1 dedicated temperature channel for p/n EN NT01A sensors;
- 1 dedicated atmospheric pressure channel for p/n EN BR01A sensors;
- 1 dedicated relative humidity channel for p/n EN RH01A sensors;
- 4" sampling rate;
- 5' fixed recording rate on SD MMC with:
 - timestamp;
 - min, max, average and variance () of the wind intensity;
 - direction of the wind (max absolute frequency value³);
 - Average of analogue sensors over the period;
- Battery pack SLA 12V for operation with solar panel and charger regulator;
- Polycarbonate enclosure IP65;

USER INTERFACE

- SD File format: "csv";
- Unit of measure:
 - Wind: m/s;
 - direction: tens of degree relative to geographic north⁴;
 - temperature: ° Celsius;
 - Pressure: mbar;
 - Rel. Humidity: %;
- 20x4 lines character LCD display;
- 1 On/Off switch;
- 1 pushbutton for display/set up operations;
- Terminal block for sensors connections;
- SD MMC slot;
- 3 status led (system fail, SD MMC fail, power on);

ESD PROTECTION



- Internal electronic devices and sensors input path protections meet ESD compliance requirements:
 - IEC 61000-4-2 (ESD) 15 kV (air) 8 kV (contact);
 - IEC 61000-4-4 (EFT) 40 A (5/50 ns);
 - IEC 61000-4-5 (lightning) 25 A (8/20 us);
- Internal power supply (5v level):
 - TVS protection bidirectional. Peak Power – 1500 Watts @ 1 ms ESD Rating of Class 3 (>16 kV) per Human Body Model;
- Auto resettable over current fuse protection (PTC – max 40A@30V).

GPRS MODEM⁵

- General Packet Radio Services (GPRS) standard;
- M2M application, on top of the TCP/IP stack, sends recorded data and failure codes;
- Full set up available to meet local telephone company SIM configuration.

Description

Libellula data logger is a easy to use wind data logger especially designed for SWT in order

to provide a minimum site assessment at very low cost.

Data are stored in SD MMC for easy to read and analyze format. Records are compatible with any commercial spreadsheet software.

Libellula data logger gprs version makes data collection even easier and reliable with no need to visit the sites for data retrieval.

Operation

Libellula data logger has two independent mode of operation:

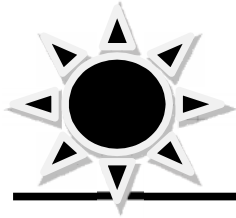
- Set up mode;
- Data acquisition mode.

In set up mode the data logger reads parameters stored in the SD MMC card and write them in the NVM internal module.

Parameters can easily be stored in a configuration file inside the SD MMC by means of WinLibellula pc based software and then passed to the data logger.

In few hundreds of seconds the Libellula data logger read and stores configuration parameters and exit the set up mode with no interruption on data sampling.

Libellula data logger enters the data acquisition mode as soon as the power switch is set on.



Wind and analogue values are recorded at 4 seconds interval and stored in the SD MMC at hardware fixed interval of 5 minutes.

An internal supervisor watchdog constantly monitors the cpu and the master real time clock. A master reset signal is generated in case of failure to restore proper operation.

Various failure codes are recorded and stored in the internal NVM of the device for in shop retrieval.

Live data are displayed on the 20x4 lcd by pressing the external pushbutton.

Gprs operation

Libellula version 2.5 equipped with gprs modem has the capability of transferring data over the internet. The application relies on the tcp/ip protocol and property algorithm for safe and secure data transfers.

The records are automatically sent to a web based database every 8h hours (3 transfers/day) thus preventing data loss in case of damage or theft of the on site data logger.

User can then read, export or print data over the internet via browser software (i.e. Microsoft I.E., Firefox).

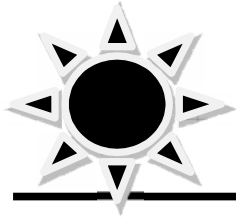
¹ Specifications subject to change without notice.

²Accuracy refers to the electrical frequency of the sensor. Wind accuracy depends on the sensor itself.

³Absolute frequency of the direction is computed discarding the samples that occur at 0m/s. Each sample is the 36th part of the wind rose.

⁴Requires that offset of installation is correct.

⁵LBL 2.5 version only. Requires gprs field coverage and SIM card from local telephone company.



LBL 2.0, LBL 2.5

LIBELLULA DATALOGGER WITH GPRS (2.5VERS ONLY)

lbldtsh2.6en – October 09
