



# PLC $\mu$ Smart Logger



## PLC $\mu$ Smart Logger features

- 200 channel x 16 bit sensors - 500,000 readings
- 2 line x 16 character LCD display with backlight – shows sensor readings and logger status
- Easy configuration – *plug & go*
- Finds sensors in seconds and starts logging
- Independent sensor schedules – 1 per second to 1 per day
- Virtual sensors – cattle heat stress, accumulated heat stress, evapo-transpiration, dew point, supply & bus voltage
- USB, RS232 – optional Bluetooth, GPS interface
- Web reporter interface to Next G and satellite internet
- Internal 6 volt 7.2Ah battery
- 1 $\mu$ S event synchronisation *with Garmin GPS*
- SMD technology for reliability
- RTC with 2ppm accuracy, leap year correction, 10 year lithium battery
- 8 output channels PLC controlled
- User programmable SMS alarms via modem
- 433 MHz radio link for 240Vac control

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### MONITOR SENSORS

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## The Logger

Monitor Sensors  $\mu$ Smart Loggers employ a bus wiring system in which the logger and all the sensors share a common communication cable. Each sensor is identified by an address, a single number or letter. This permits the use of up to 200 sensors on each logger (62 alphanumeric sensors - numbers 0-9, A-Z, and a-z). The address of each sensor must be unique and is displayed by the logger when displaying sensor data.

Every sensor is assigned a schedule identified by a single code letter. The logger uses the schedule to decide when to collect and store data from a sensor. For example schedule *m* will log sensor data every hour. Whenever a new sensor is added to the system, the logger will automatically assign a schedule, usually *m*. The schedule can be different for each sensor and may be changed at any time to a schedule more suited to the user's purpose.

The logged data is easily downloaded from the logger through a simple text menu system. The logger can communicate via RS232, USB or optionally Bluetooth. Remote communication is possible over satellite, mobile phone network, local radio link or wireless LAN by connecting the logger to external equipment. The downloaded data is formatted to allow easy analysis in a spreadsheet or database.

## The sensors

All Monitor Sensors products communicate over a shared 3-wire communication bus at a baud rate of 1200. Each sensor has a built in menu system that allows the changing of many sensor parameters. Sensors respond to commands sent over the communication bus. The simplest commands allow the viewing of the current sensor reading. Other commands sent to the sensors consist of a combination of characters, which must be sent as a string without time gaps between characters.

Sensors can communicate with a PC when connected to a Monitor Sensors  $\mu$ Smart Logger or when connected directly to a Monitor Sensors SI-8 interface.

## SMS alarms

The PLC logger can initiate SMS alarm messages, when a modem is connected. The alarm is easily setup with a text editor and the supplied software. Alarms can be sent to 3 phone numbers. To send a message when the channel 1 reading is high, the command would be **#1 = T>30°C** and the SMS control text would be **SMS1 = 0412545293, Temperature too high**

## SPECIFICATIONS

- Sensor Channels: up to 200
  - Sensor log entries: 500,000 – 4 Mb internal flash memory
  - Maximum log interval: 1 per day
  - Minimum log interval: 1 second
  - Real Time Clock: 2 minutes per year = 10 seconds per month
  - Temperature range: -20 ... 80°C
  - Interface: Monibus serial data – up to 200 sensors  
RS232 1200 – 115000 baud ( 9600 default )  
for PC, GSM, 3G, satellite modem  
USB 2.0  
Charger 8-24 Vdc 500mA
  - Options: Bluetooth, USB Flash drive interface  
Garmin GPS
  - Internal battery: 6 volt 7.2 Ah SLA
  - Monibus supply: 5.5 Vdc 80mA
  - Weight: 2.0 kg
  - Dimensions, materials: 170 W x 135 H x 90 D mm, ABS(IK 07) IP66 NEMA 4.4X
  - Protection: IP65 with plugs in all sockets or dust caps in place
- Supplied with: RS232 cable, USB A – mini B cable  
Windows software & documentation on USB flash drive