

## HM3000 - DATA LOGGER

The HM3000 is a fully integrated data logger, solar regulator and battery housed in one rugged weatherproof enclosure. The HM3000 is built to withstand the harshest of environments. Plug 'n' play just about any environmental sensor. Optionally FLSIM telemetry interface, critical information can be sent wherever it is needed most.

### Benefits

#### Low Cost of ownership

- Economical to purchase and install
- Integrated all-in-one package

#### Flexible monitoring and control

- Standard I/O card supports seven sensor inputs and four outputs
- Expandable to five I/O cards
- Automated sensor power management
- Multi-channel data logging

#### Quick and Painless Configuration

- Easy point 'n' click channel configuration and calibration
- No proprietary coding knowledge required
- **Weir and flume lookup table supports all major types**

Telemetry ready

- ModBus
- SDI-12



## TECHNICAL SPECIFICATIONS

Weight:	5kg
Dimensions:	360mm (H) x 260mm (W) x 170mm (D)
Enclosure rating:	IP66
Enclosure material:	UV stabilized poly carbonate
Operating temperature:	-15 to +50 °C (with internal battery installed)
Operating temperature:	-20 to +65 °C (with internal battery removed and external power used)
Flow display:	16 character x 2 line alphanumeric LCD with backlight
Program memory:	2 Mb flash
Power Internal:	12Volt 7.2Ah battery with external solar panel or mains charger
Units of measure:	User definable (metric/US)
Application software:	FloWCom+ PC software for system configuration, calibration and data downloading.
Min system requirements:	Windows XP
Factory backup:	HM3000 is backed by a 24 month parts and labour guarantee
Telemetry options:	FISiM card supports MODBUS, SDI-12, RS232, RS485.
Optional:	data modem

### Inputs/Outputs per Card

One I/O Card Standard. Expandable to maximum of five I/O cards

Analogue inputs (per card):	2 X 4-20mA inputs, 12 bit resolution, accuracy 0.5% of full scale 2 X Voltage inputs (0-2.5V or 0-30V)
Analogue outputs (per card):	2 X 4-20mA outputs, 12 bit resolution, accuracy 0.5% of full scale
Digital inputs (per card):	2 X Frequency inputs, 16 bit resolution, range 0 – 16383Hz 2 X Counter inputs, range 0 – 10Hz
Digital outputs (per card):	2 X digital/pulse outputs, open collector referenced to GND, range 0 – 10Hz
Power Outputs (per card):	12Volt switched power output for 3rd party sensor power



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## HM3000 - APPLICATIONS

### Aquaculture Monitoring



The increasing reliance of farmed seafood for human consumption has added a new dimension to the importance of whole aquaculture enterprise monitoring. With the ability to monitor up to 20 channel parameters, such as: Level of tank/dams; Dissolved oxygen; Temperature; pH; Conductivity; Pump On/Off condition;

### Flow measurements



Various flow meter types with analogue or digital outputs can be interfaced and monitored (e.g. insertion electromagnetic, transit-time or mechanical). Furthermore, the HM3000 can monitor fuel flow meters, engine rpm, depth of the water from which a pump is extracting/delivering water or just a rainfall gauge. Additionally, should a preset level (either engine revolutions or river depth) be met, the HydroMace can stop an engine. Furthermore, with the optional FISIM telemetry interface, critical information can be sent wherever it is needed most.

### Sewer Wet Well Monitoring



The HM 3000 is ideally suited to the rigours of wet well monitoring. Housed in a fully integrated package with two 4-20mA and multiple digital inputs per I/O card, well depth can be measured with a downward looking ultrasonic sensor and/or float switches can be monitored with digital inputs. In addition, each I/O card has two 4-20mA outputs and a digital output for connecting to PLC's and the like.

### Flume/Weir Monitoring



Many large open channels have been historically monitored using a flume or weir structure that has been "rated" using empirical data. Typically this rating is based on the depth of the water running over/through the structure. In recent times, the use of flumes and weirs has been negated somewhat by the advent of cheaper area/velocity methods. However, thousands of rated structures are still used worldwide in diverse applications such as large open irrigation channels or small Parshall flumes in wastewater treatment plants. The HM3000 includes a powerful weir and flume look-up table that enables the user to interface downward looking ultrasonic or submerged depth sensors, and convert the depth readings to flow rate readings. The HM includes equations for all major flume/weir types including:

- Parshall flumes
- V-notch weirs (30°, 45°, 60°, 90°)
- Cipoletti weir
- Rectangular weir (contracted/suppressed)
- Replogle flume

### Water Quality Monitoring



HM3000 offers the ability to monitor all the critical water quality parameters. With the capability of integrating up to five Input/Output cards, the HM3000 allows the user to monitor up to 20 parameters important to their enterprise such as: Level of tank/dams; Dissolved oxygen; Temperature; pH; Conductivity; Turbidity.

### Rainfall monitoring



With a fully integrated data logger, solar regulator and battery housed in one rugged weatherproof enclosure, the HM3000 is built to withstand the harshest of environments. Remote rainfall logging has never been easier. With the ability to both count tipping bucket "tips" and totalize the result, the HM3000 is a simple "set and forget" solution. Furthermore, with the optional FISIM telemetry interface, critical information can be sent wherever it is needed most.



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## HM3000 - APPLICAZIONI

### Industrial Monitoring



With the capability of integrating up to five Input/Output cards, the HM 3000 allows the user to monitor up to 20 parameters important to their enterprise such as: Tank level; Pump On/Off; Temperature; pH; Conductivity; Turbidity. In addition, each I/O card has two 4-20mA outputs and a digital output for connecting to PLC's and the like. Furthermore, with the optional FISIM telemetry interface, critical information can be sent wherever it is needed most.

### Weather Station Monitoring



With the capability of integrating up to five Input/Output cards, the HM3000 allows the user to monitor up to 20 parameters important to their enterprise such as: Wind Speed; Wind Direction; Temperature; Dew point; Rainfall. HM3000 offers the ability to monitor all the weather parameters critical to a successful enterprise. Furthermore, with the optional FISIM telemetry interface, critical information can be sent wherever it is needed most.



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