



The humbug datalogger has been designed with size in mind, measuring in at only 105 x 65 x 19 mm. These smart loggers are ideal for situations where logging may be temporary, for enclosing with a valuable shipment or situations where a wired or radio system is not the best solution.

Each humbug logger reads its on-board sensors to provide accurate and reliable information about environmental conditions. The RH sensor is temperature compensated for more accurate readings at varying temperatures.

The logging interval can be set for any period between 10 seconds and 24 hours, depending on the data requirements. An unlimited delay can be set so that logging only begins when the unit is in situ. The humbug has a very impressive 100000 reading memory, which can either stop logging if it becomes full, or wraparound so that the most recent data is not lost. A unit set to log every 10 minutes will take more than 12 months to fill the memory.

Each logger has a tri coloured LED to indicate status and to alert the user if any readings have exceeded the alarm parameters set. The on-board sensors used are a high precision thermistor for temperature and a digital capacitive humidity probe. These probes can be calibrated by the users or at Hanwell's in-house calibration laboratory. Calibration software is included with the unit.

The logger is set-up and downloaded using an integrated software package, which automatically recognises the type of unit connected to the PC via the USB lead. Additional software add-ons allow the software to be run with advanced security features if required, (additional software module required for this function).

The logger is powered by two 1.5 volt AAA alkaline batteries, which can be fitted by the user. The battery life will be dependent on the logging interval selected but is expected to be around 3 years with normal use (logging every 15 minutes). The PC software maintains a record of when the battery was last changed. Replacing the battery when the logger is connected to the PC allows the logging session to continue uninterrupted. The moulded case allows easy access to the battery and USB socket.

The humbug has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

## Humbug Datalogger

**Product Code** 43791-h

### Typical Applications

- ° Biomedical & pharmaceutical products
- ° Perishable foods
- ° Wood products
- ° Cold storage
- ° Ammunition
- ° Sensitive electronics
- ° Medical devices
- ° Livestock

### Instrument

**Dimensions:** 105 x 65 x 19 mm  
**Weight:** 100g without battery  
**Power Supply:** 2 x AAA Alkaline  
**Battery Life:** 3 years at 15 min intervals  
**Case Material:** ABS  
**Alarms:** Tri colour LED. High/low limits exceeded and low battery indication

**N.B. Instrument storage range -40°C to +70°C in a non-condensing RH environment**

### Temperature Sensor

**Sensor:** Precision thermistor  
**Range:** -34°C to +66°C  
**Accuracy:** +/- 0.2°C  
**Resolution:** 0.1°C

### Humidity Sensor

**Sensor:** Capacitive polymer  
**Range:** 0-100% RH non-condensing  
**Accuracy:** +/- 3% between 10-90%  
**Resolution:** 0.1%

### Logging Functions

**Memory:** 200kBytes EEPROM  
**Logging Intervals:** Programmable from 10 sec to 24 hrs  
**Record Capacity:** 100,000 records (50,000 pairs)

### Benefits

- ° Provides ongoing record of unacceptable exposure, including precise time & date
- ° Protects the value and heritage of items
- ° Encourages adherence to storage and handling parameters

### Software

*Easy-to-use, Windows® based application. The intuitive set-up process allows for quick deployment of the logger. Powerful tools report key environmental parameters such as minimum, maximum and average temperature and humidity; and number and percentage of measurements in and out of range. Data can be displayed, analysed, and printed in graphical, tabular, or text formats and then exported to Microsoft® Excel for further analysis. These extensive capabilities enable complete visibility of the environmental conditions that affect product quality.*