GOMETRICS

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Instrumentación • Calibración • Proyectos

hanwell
INSTRUMENTS LIMITED

Data Acquisition

SENSING, MONITORING & CONTROL

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ISO9001:2000 certified

- DATALOGGERS
- CONTROL PRODUCTS
- TEMPERATURE
- RADIOLOGGERS
- HUMIDIFIERS/DEHUMIDIFIERS
- RADIO TELEMETRY

Data Acquisition

Hanwell Instruments Limited has developed instrumentation techniques offering a comprehensive range of data acquisition and control solutions throughout Europe and America. We pride ourselves in our ability to accurately interpret customer requirements and so provide a total solution to real world instrumentation problems with totally flexible systems and unrivalled expertise in radio telemetry. Our philosophy of keeping all design and manufacturing in-house enables us to rapidly respond to ever-changing requirements, particularly those driven by legislation. The Lloyds ISO9001:2000 certification bears testimony to our success in quality assurance in all procedures and equipment.

Hanwell technicians

Surface Mount Technology Suite

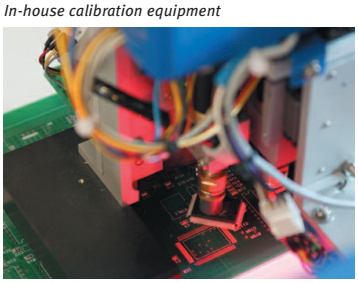
Comprising the latest in solder paste application, Quadra laser pick & place operation and combined infra red convection oven, our in-house, state-of-the-art Surface Mount Technology Suite ensures total quality control of our SMT printed circuit board assembly process.

Using this critical resource, we are able to rapidly produce thousands of pcb's, raising standards in reliability, repeatability and speed of delivery.

Calibration Laboratory

Using our fully equipped calibration laboratory, we can provide calibration certificates traceable to national standards covering all Hanwell industrial instrumention. Specialist staff have extensive experience in portable and non-portable equipment. The test equipment encompasses a strategic set of environmental variables, such as, temperature and humidity, pressure and light level. Hanwell's calibration testing infrastructure offers a thorough evaluation of the performance of instruments and systems.

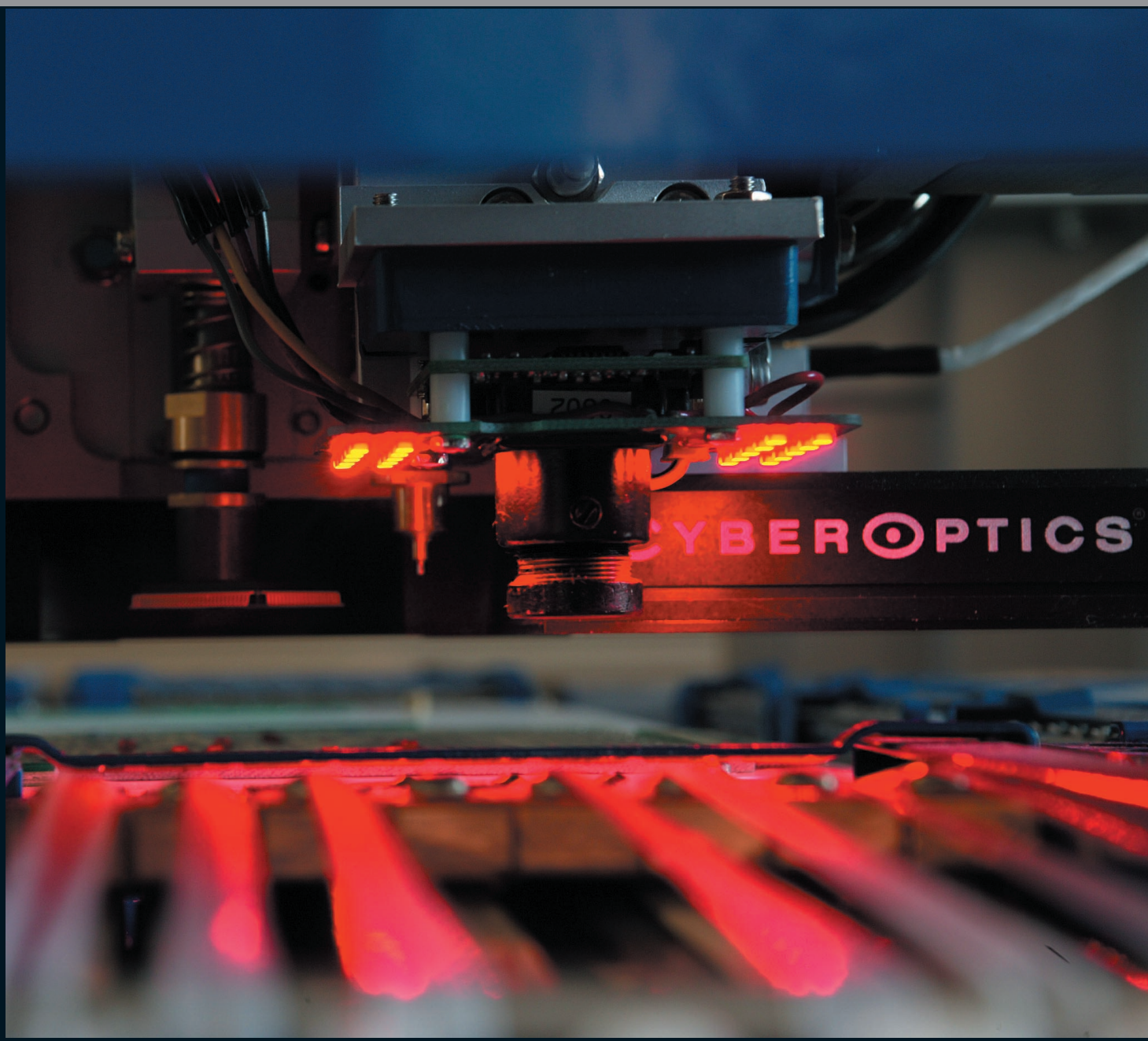
In-house calibration equipment



In-house SMT assembly equipment

1. 2. 3.

1. *rl2000 with display*
2. *dataloggers: rh-t bug, t-bug, i & v bugs*
3. *sr-1*



Laser guided pick and place machine

Certificate No. LRQ 0964710

control: humidity
light
temperature

log: temperature

log: humidity
temperature

radio: controllers
humidity
radio telemetry
temperature

Datalogger

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Left: Shown with Y300 and Y412 probes

Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The hl4101 datalogger is one of a new series of advanced standalone temperature and humidity dataloggers. 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 4000 logger reads its on-board sensors to provide accurate and reliable information about environmental conditions. 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 readings are written to its 192K 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 5 minutes will take more than 340 days to fill.

Each logger has an LCD screen simultaneously displaying the most recent readings taken, the predicted battery life, and if any readings have exceeded the alarm parameters set. The hl4101 logger is configured with 2 Lemo sockets for the probes. Probes can be connected directly to the unit, or supplied with cables and plugs for remote mounting. The flexible probe mounting options allow easy on-site calibration.

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. CFR21 part 11 compliant software is available. OQ & IQ templates are included, full on-site validation services are available.

The logger is powered by a single 3.6V AA lithium battery, which can be fitted by the user. The battery life will be dependent on the logging interval selected. An indicator on the LCD will warn when the battery is low, and the logger 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, as well as having slots to fit onto secure wall brackets. The ml4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Temperature & humidity

Product Code	*HL4101*
Series	*HL4000*

Typical Applications
Monitoring in:
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35 mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*Up to 3 years*
Case Materials:	*ABS & PC*
Memory Capacity:	*100000 readings*

N.B. Instrument operating range -10 to +70°C in a non-condensing RH environment

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*-40 to +70°C*
Accuracy:	*+/- 0.1°C between -25 to +50°C +/-0.3 elsewhere*
Resolution:	*0.1°C*

Humidity

Sensor:	*Precision capacitive polymer*
Range:	*0 to 100% non condensing*
Accuracy:	*+/- 2%*
Resolution:	*0.1% RH*

Logging Functions

Memory:	*2048k EEPROM*
Logging Intervals:	*Programmable from 10 seconds to 24 hours*
Record Capacity:	*100000 records*
PC Interface:	*USB communications*

Accessories

Code:	
W200	*USB logger software*
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement battery*
W300	*Validated software*
Y300	*Plug-in temperature probe*
Y412	*Plug-in RH probe*
J095-05	*Remote temperature probe*
Y404-3-05	*Remote RH probe*

Datalogger

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Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The hl4106 datalogger is one of a new series of advanced standalone temperature and humidity dataloggers. 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 hl4106 logger reads its on-board sensors to provide accurate and reliable information about environmental conditions. 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 readings are written to its 192K 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 5 minutes will take more than 340 days to fill.

Each logger has an LCD screen simultaneously displaying the most recent readings taken, the predicted battery life, and if any readings have exceeded the alarm parameters set.

The on-board probes are a precision temperature probe and a high quality humidity probe. These probes can be calibrated by the users or at Hanwell's in-house calibration laboratory.

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. CFR21 part 11 compliant software is available. OQ & IQ templates are included, full on-site validation services are available.

The logger is powered by a single 3.6V AA lithium battery, which can be fitted by the user. The battery life will be dependent on the logging interval selected. An indicator on the LCD will warn when the battery is low, and the logger 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, as well as having slots to fit onto secure wall brackets. The ml-4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Temperature & humidity

Product Code	*HL4106*
Series	*HL4000*

Typical Applications
Monitoring in:
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35 mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*Up to 3 years*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-0° to +65°C*
Memory Capacity:	*100000 readings*

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*0° to +65°C*
Accuracy:	*+/- 0.1°C*
Resolution:	*0.1°C*

Humidity

Sensor:	*Precision capacitive polymer*
Range:	*0 to 100% non condensing*
Accuracy:	*+/- 2%*
Resolution:	*0.1% RH*

Logging Functions

Memory:	*2048k EEPROM*
Logging Intervals:	*Programmable from 10 seconds to 24 hours*
Record Capacity:	*100000 records*
PC Interface:	*USB communications*

Accessories

Code:	
W200	*USB logger software*
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*

Datalogger

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Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The hl4401 & hl4402 are precision 4-wire PT100 temperature dataloggers. The hl4401 is single channel the hl4402 is dual channel. The sensors are connected via 5 pin Lemo plugs and sockets. Each 4000 unit reads its on-board sensors providing accurate and reliable information about environmental conditions.

hl4000 series dataloggers can be used in accordance with GAMP and FDA regulations. The dataloggers and sensors can be calibrated by the either user or Hanwell staff on-site or at Hanwell's in-house calibration laboratory.

The dataloggers are setup and downloaded using a simple software program and a standard USB cable. Data can be downloaded into individual files or downloaded data can be appended to the previous data giving a continuous history. The data is stored at user-defined intervals programmable between 10 seconds and 24 hours. Memory capacity is 100000 readings. The software provides easy to use graphs, trends and statistics. Data can be exported to common office programs.

Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life. Alarm information is also displayed.

The datalogger is powered by a single 3.6V AA Lithium battery, which can be fitted by the user and battery life will be dependent on the logging rate set, typical life will be 3 years or better. An indicator on the LCD will warn when the battery is low, and the logger maintains a record of when the battery was last changed.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets.

CFR21 part 11 compliant software is available. OQ & IQ templates are included, full on-site validation services are available.

The 4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

PT100 Temperature

Product Code	*HL4401 & HL4402*
Series	*HL4000*

Typical Applications
Monitoring in:
° Fridge/Freezer monitoring
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35 mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*Up to 3 years*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-20° to +60°C*
Memory Capacity:	*100000 readings*

Sensors
Temperature

Sensor:	*4 wire PT100*
Range:	*-100° to +110°C*
Accuracy:	*+/- 0.1°C*
Resolution:	*0.1°C*

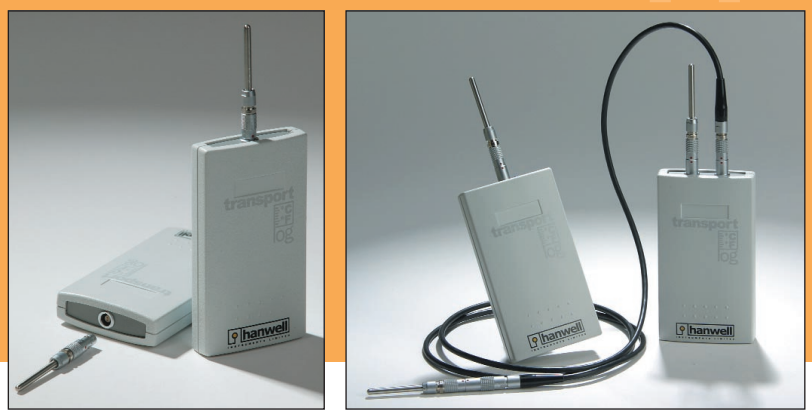
Logging Functions

Memory:	*2048k EEPROM*
Logging Intervals:	*Programmable from 10 seconds to 24 hours*
Record Capacity:	*100000 records*
PC Interface:	*USB communications*

Accessories

Code:	
W200	*USB logger software*
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*
CAL-T	*3 point calibration between -20 and +110°C (single Ch)*
CAL-T-LOW	*3 point calibration between -90 and +110°C (single Ch)*
CAL-T-2	*3 point calibration between -20 and +110°C (dual Ch)*
CAL-T-LOW-2	*3 point calibration between -90 and +110°C (dual Ch)*

Industrial Applications



Left: transport logger, right: the C-Sense temperature sensor plugged into a calibration cable

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Dataloggers

TEMPERATURE & HUMIDITY

transport °C °F log

Typical Applications

- Transportation
- Warehousing

Options & Accessories

- Remote probes
- Security mounting brackets
- 21 CFR Part 11 compliant sortware
- Traceable calibration

Hanwell's design philosophy is to see a need for a piece of equipment and design something that fits its purpose, not design and see where it can be used. The Hanwell Transport Logger is the epitome of this philosophy. Designed specifically with its end use in mind, the Transport logger combines unsurpassable functionality with a stylish design that makes it flexible and unobtrusive in any environment. This design approach, combined with the use of high stability "C-sense" sensors, ensures results on which both you and your industry regulators can rely.

Unlike most data loggers on the market, all Hanwell loggers, including the transport logger, have been designed with calibration very much in mind. The physical construction and software architecture allow multi point calibration to very high precision.

Temperature and humidity calibration services are offered both in-house or on-site, using equipment traceable to national standards. For those who have their own in-house calibration facilities, Hanwell provide all the necessary supplementary calibration documentation and software.

Other software included is that for Mean Kinetic Temperature (MKT) which is commonly used in the pharmaceutical industry to give an estimate of the cumulative effect of temperature variations on product. The software provided with the logger will automatically calculate this value for any selectable time period.

When used together, the Transport logger and Hanwell software comply with the most stringent administrative controls, as laid down in 21 CFR Part 11 (Control of Federal Regulations) by the Food and Drug Administration (FDA). These controls continue to be refined with each technological advance.

21 CFR Part 11 covers electronic records, electronic signatures, handwritten signatures executed to electronic records and requires each to be reliable, trustworthy and generally equivalent to paper records and handwritten signatures executed on paper. It applies to records that have been created, modified, maintained, archived, retrieved or transmitted.

Specification

(Accuracy quoted is combined instrument and sensor) ISO9001:2000 certified

Dimensions	90mm x 50mm x 16mm	*Temperature Ranges*	
Weight	60 grams	**Low**	-35°C to +60°C
Case material	ABS	**Ambient**	-15°C to +100°C
Power supply	3.6 volt lithium battery	**High**	+10°C to +150°C
Battery life	Up to 5 years (depending on use)		
Temperature sensor connector	2 way miniature Lemo	**Accuracy**	+/-0.1°C @25°C
Temperature sensor	C-Sense precision thermistor	**Resolution**	+/-0.1°C
Logging intervals	Programmable from 4 seconds to 18 hours		
Memory	128k EEPROM	**Part No.**	HL2016
Record capacity	10720 records		

Datalogger

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RHT Datalogger Environmental Recorders are portable data loggers that monitor and record temperature and humidity for products during transportation and storage. Collected data can be easily analysed in graphical or tabular form. Reporting tools deliver key environmental parameters for complete documentation of the shipping and handling environment.

T Datalogger: This device monitors and records temperature through a single channel. It is supplied with a Certificate of Conformity, as it is not capable of being calibrated by the user. For calibration the unit must be returned to Hanwell.

T Datalogger Plus: As above with the added functionality of being user calibratable, for industries where traceable calibration is essential. The software has been modified to allow the input of corrected calibration data and, therefore, the production of a third party calibration certificate. Alternatively, the units can be returned to the factory or a third party for an annual calibration.

RHT Datalogger-H: This device monitors and records temperature and humidity through dual channels. It is supplied as standard with a Certificate of Conformity, as it is not capable of being calibrated by the user. For calibration the unit must be returned to Hanwell.

RHT Datalogger-H Plus: As above with the added functionality of being user calibratable, for industries where traceable calibration is essential. The software has been modified to allow the input of corrected calibration data and, therefore, the production of a third party calibration certificate. Alternatively, the units can be returned to the factory or a third party for an annual calibration. All versions have user replaceable batteries and have high speed USB communications.

Benefits:
- *Reduces product damage and loss during shipping, handling, and storage*
- *Provides ongoing record of unacceptable exposure, including precise time & date*
- *Protects the quality and integrity of products*
- *Encourages adherence to product storage and handling temperature requirements*
- *Ensures health and safety compliance*
- *Ensures chain of accountability in storage and transportation*
- *Identifies potential product quality problems before delivery to end-user*
- *Protects against/reduces warranty claims*
- *Pinpoints trouble spots in storage and transportation*
- *Enables control of energy costs*

RHT Datalogger

Product Code	*43792-h*
Product Code	*43792PLUS-h*
Product Code	*43791-h*
Product Code	*443791PLUS-h*

Typical Applications
- *Biomedical and pharmaceutical products*
- *Photographic chemicals and supplies*
- *Perishable food products*
- *Agricultural Plants*
- *Medical devices*
- *Ammunition*
- *Sensitive electronics*
- *Wood products*
- *Cold Storage facilities*
- *Livestock*

Instrument - T Datalogger
Operating Range: *-40°C to 66°C, 0-100% RH*
Accuracy: *±0.2°C*
Temperature Resolution: *0.1°C*
Humidity Resolution: *0.1%*
Intervals: *10 seconds to 24 hours*
Memory: *100,000 samples*
Battery: *2AAA Alkaline, 5 years at 15 min intervals*
Sensors: *Band gap (temperature)*
Capacitive polymer (humidity)
Enclosure: *114.3 x 71.12 x 22.86 mm*
Weight: *100g without battery*
Alarms: *High/low limits exceeded*
Pass/fail alarm indicator

Instrument - RHT Datalogger-H
Operating Range: *-34°C to 66°C, 0-100% RH*
Accuracy: *0.2°C ±*
Temperature Resolution: *0.1°C*
Humidity Resolution: *0.1%*
Intervals: *10 seconds to 24 hours*
Memory: *100,000 samples*
Battery: *2AAA Alkaline, 5 years at 15 min intervals*
Sensors: *Band gap (temperature)*
Capacitive polymer (humidity)
Enclosure: *114.3 x 71.12 x 22.86 mm*
Weight: *100g without battery*
Alarms: *High/low limits exceeded*
Pass/fail alarm indicator

Software
The RHT Datalogger software is an 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; mean kinetic temperature (MKT); 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.

Datalogger

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htl1000 High Temperature Submersible Logger

Product Code	*HTL1000-105-xx**
	*HTL1000-125-xx**
	*HTL1000-150-xx**
Series	*htl1000*

Typical Applications

Monitoring in:
- *Water baths*
- *Food preparation areas*
- *High temperature washing*
- *Autoclaves*
- *Hospital washing machines*

Instrument

Dimensions: 95 x 34 mm diameter
Power Supply: 1 x 3.6V Lithium AA
Battery Life: Up to 5 years (depending on use)
Case Material(s): 303 stainless steel
Operating Humidity Range: 0-100% non condensing
Operating Temperature Range: -35°C...+105°C
-0°C...+125°C
+0°C...+150°C

Sensors

Chanel A Type: Thermistor
Range: +10°C...+105°C, +10°C...+125°C, +10°C...+150°C
Accuracy: +/- 0.5°C at design T.
Resolution: +/- 0.4°C at design T.

Logging options

Memory: 16k EEPROM
Record Capacity: 8172
Memory Full Behaviour: Stop logging
Logging Intervals: User defined from 1 sec - 18 hrs

Accessories - Probes

*Code:	
01	*25mm long heavy duty probe*
02	*170mm long heavy duty probe*
03	*Integral food grade thermistor probe*
04	*120mm x 3mm fast response probe (350mm silicone cable)*
05	*300mm x 3mm fast response probe (350mm silicone cable)*
06	*50mm x 3mm fast response probe (350mm silicone cable)*
07	*Lemo socket for remote probe*

The htl-1000 High Temperature Submersible Logger is designed for use in tough, high temperature environments where there is a requirement for accurate and reliable temperature data.

The logger itself is encased in 303 stainless steel to protect the electronics from damage. The high stability temperature sensor can be supplied either hardwired to the logger body, or on a 350mm silicone cable.

Unlike most Dataloggers on the market, all Hanwell loggers, including the htl-1000, are designed with calibration in mind. All units can optionally be supplied with full calibration certificates, traceable to national standards. Subsequent recalibration can be arranged either at our lab or on-site.

The logger can be set to record data at any user-defined period from 1 second to 18 hours, and can hold up to 8172 records.

The logger is programmed and downloaded via high speed serial communications and the HTLog Windows software. This software allows swift analysis of the data, providing graphical views, summaries and text views, as well as exporting the data to CSV format.

Industrial Applications

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Dataloggers

PROCESS LOGGING

i-bug v-bug

Typical Applications

- Pressure
- PH/conductivity
- Gas monitoring
- Flow/level
- Quality control
- HVAC investigation
- Research

Options & Accessories

- Weatherproof version
- OEM options
- Custom connecting cables
- Traceable calibration
- Mounting/security brackets

The i-bug and v-bug are palm sized standalone dataloggers that record current and voltage signals from industry-standard transducers, transmitters and sensors. Each unit is available as a two-channel device for logging dc voltage or 4-20mA current loop signals. The inputs of each logger are over voltage and reverse polarity protected. The i-bug has 51R1 0.1% 10ppm precision shunt resistance.

The i-bug and v-bug loggers are simple to use and configure, just connect to the two signals wires from your transmitter, transducer or sensing device to the logger's easy to use input connectors. The process readings are stored as raw readings. Scaling is done at the PC, data can be re-scaled as necessary.

The Hanlog PC software will convert the recorded results into familiar engineering units for display, analysis and presentation. Clear and concise graphical and tabular representations of the data can then be created plus overlay graphs from different loggers and a display of data in real time. Data from multiple loggers can be grouped and exported as a single file for use in other applications.

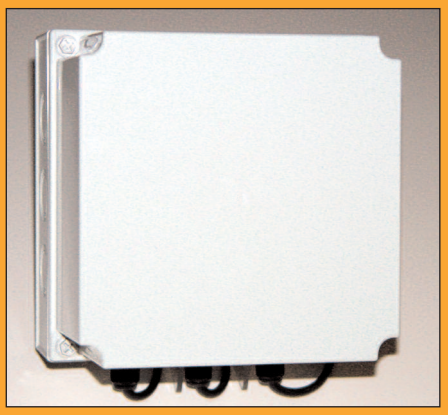
Both the i-bug and v-bug are ideal for interfacing to any equipment supplied with dc voltage or 4-20mA current loop outputs.

Hanwell loggers have full specification RS232 comms. at 19200 Baud, while most other loggers provide only marginal levels at a much lower Baud rate. The impressive result is an entire memory download in less than 15 seconds.

Specification

(Accuracy quoted is combined instrument and sensor) ISO9001:2000 certified

i-bug		*v-bug*	
Dimensions	67mm x 67mm x 27mm	**Dimensions**	67mm x 67mm x 27mm
Weight	65 grams	**Weight**	65 grams
Power supply	3.6 volt lithium battery	**Power supply**	3.6 volt lithium battery
Battery life	Up to 5 years (depending on use)	**Battery life**	Up to 5 years (depending on use)
Converter	10 bit	**Converter**	10 bit
Range	0-24mA	**Range**	0-1.2V low range, 0-12V high range
Accuracy	+/- 0.03mA	**Accuracy**	+/- 2mV low range, +/- 20mV high range,
Resolution	+/- 0.024	**Resolution**	1.2mV low range, 12mV high range
Logging intervals	Programmable from 4 seconds to 18 hours	**Logging intervals**	Programmable from 4 seconds to 18 hours
Memory	16k EEPROM	**Memory**	16k EEPROM
Record capacity	16368 records	**Record capacity**	16368 records
Delayed start	Yes	**Delayed start**	Yes



Model: rtm-40 gprs

Industrial Applications

Product Name: GSM Datalogger

Product Code: RTM40-2-01-24V

RoHS Compliant

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The rtm-40 series data loggers combine proven Hanwell data logging technology with state of the art GPRS data communications. The advantage of GPRS is that reliable communications can be established in areas where conventional land lines are not available or are unreliable. GPRS is the technology of choice, for minimum running costs, especially when large numbers of recorders are envisaged.

Many thousands of sensors can be supported by the GPRS version of Hanwell's market leading Radiolog software. This package provides totally automated communications with fully integrated, logging, alarming and reporting facilities. Multiple concurrent users are supported in networked environments.

Housed in a ruggedised polycarbonate housing, the rtm-40 series loggers have been designed with the toughest of environments in mind. A major problem with using GSM/GPRS technologies outside is condensation damage to the radio module and SIM card. The rtm-40 has a built-in condensation protection system, allowing the unit to be used over the temperature range -30°C to + 45°C.
The rtm-40 series is ideal for remote applications in transportation, cold storage, bulk storage, water and waste treatment, and other process industries. The rtm-40 is suitable for temperature, humidity, flow, level, pressure and many other monitoring applications.

Key Features

- Logging continues independently in the absence of external power.
- External power fail detect and alarm via GPRS.
- Hi and low alarms on all channels.
- Compact data encoding to minimise ongoing costs.
- Local download capability for field use and diagnostics.
- Field calibratable where return to base calibration would be impractical or would result in unacceptable downtime.
- Local onboard display.
- GPRS support to allow integrated tracking.
- Housing deliberately designed to be inconspicuous. To reduce vulnerability when located in unmanned locations.
- Optional RF interface for applications such as trailer to tractor.

Typical Applications

- Bulk storage
- Water industries
- Waste treatment
- Remote cold storage
- Transportation
- Tracking

Instrument (case etc.)	
Dimensions	180x180x125 mm
Weight	12kg
Case material(s)	High impact resistant, glass filled polycarbonate
Case rating	IP67
Environmental operating range	-30 to +45˚C
Power supply options	24 volts DC, 110 or 220 volts AC
GSM/GPRS module power supply	3.7 volt 900 mA/h lithium polymer
Independent datalogger supply	3.7 volt 2200 mA/h lithium
Network compatibility	For use on GSM/GPRS networks at 900/1800 MHz
Backup memory capacity	15,872 analogue readings and 15,872 digital readings
Logging inputs	4 x analogue or digital (configurable)
Alarm inputs	2 x digital inputs
Local alarm outputs	RF alarm and/or relay

Industrial Applications

rl2000 wireless

hanwell INSTRUMENTS LIMITED

Radiologgers

WIND SPEED AND DIRECTION

Typical Applications

- Emission tracking
- Wind direction
- Wind speed
- Weather surveys
- Legislation compliance

Options & Accessories

- Temperature sensor
- Humidity sensor
- Offshore / marine version
- Alarm input
- Solar power
- Mains power
- High capacity battery

The Wind Monitor is a high performance, rugged wind sensor. Its simplicity and corrosion resistant construction make it ideal for a wide range of wind measuring applications. The wind speed sensor is a four blade helicoid propeller. Propeller rotation produces an AC sine wave voltage signal with frequency directly proportional to wind speed. Slip rings and brushes are eliminated for increased reliability.

The wind direction sensor is a rugged yet lightweight vane with a sufficiently low aspect ratio to assure good fidelity in fluctuating wind conditions. Vane angle is sensed by a precision potentiometer housed in a sealed chamber. With a known excitation voltage applied to the potentiometer, the output voltage is directly proportional to vane angle. A mounting orientation ring assures correct realignment of the wind direction reference when the instrument is removed for maintenance. The instrument is made of UV stabilised plastic with stainless steel and anodised aluminum fittings. Precision grade, stainless steel ball bearings are used. Transient protection and cable terminations are in a convenient junction box. The instrument mounts on standard 25 mm pipe. For offshore and marine use, Model 05106, Wind Monitor-MA features special waterproof bearing lubricant and a sealed, heavy duty cable pigtail in place of the standard junction box. Separate signal conditioning for voltage or current outputs is available. The Wind Monitor is available with two additional output signal options.

Model 05103V offers calibrated 0-1 VDC outputs (0-5 VDC optional), convenient for use with many dataloggers.

Model 05103L provides a calibrated 4-20 mA current signal for each channel, useful in high noise areas or for long cables (up to several kilometres). Signal conditioning electronics are integrated into the sensor junction box.

The radio transmitter illustrated is the rl2000, a 2-channel unit fitted with a wind speed and direction sensor, part number RL2000-20-00-FF-P2. This unit is ideally suited to general purpose environmental monitoring tasks.

Specification

(Accuracy quoted is combined instrument and sensor) ISO9001:2000 certified

Dimensions			
Transmitter	100mm x 100mm x 57mm	**Wind speed**	0-60 m/s (134 mph)
Weight	320 grams	**Gust survival**	100 m/s (220 mph)
Power supply	2 x 3.6 volt lithium batteries		
Dimensions			
Wind sensor	370mm high x 550mm long		
Propeller	180mm diameter	**Accuracy**	Wind speed +/- 0.3 m/s (0.6 mph)
Weight	1.0 kg		Wind direction +/- 3 degrees
Channels	2 analogue 1 digital		
Radio frequency	434.075 MHz (standard)	**Life expectancy**	50 million revolutions
Power	10 mW		
Range	2 miles over open ground		
Transmit rate	4 seconds to 3 minutes (standard)		

Left: rl2000 transmitter

Above: sr-1 receiver

Model: rl-2000 wireless

Industrial Applications

Product Name: 2-Zone Flood Alarm

RoHS Compliant

Product Code: RL2000-16-16-xx[1]

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The 2-zone Flood Alarm is a radio transmitter connected to two highly responsive flood detection cables. These cables can be run along key areas enabling rapid notification of water leakage before serious damage can be done.

The flood cable consists of eight cores wrapped around a central strain relief plastic core to provide some rigidity. Of the eight cores, two are the conductors. These are uninsulated copper so, if the cable is wetted, they short and provide an alarm signal. The cable is sheathed in a black plastic overbraid to keep the cores in place and to prevent the conductors shorting on any metal surfaces the cable may run over.

Terminating in a connection box, the flood cable is then wired into the transmitter body using normal 2-core signal cable. This allows the transmitter to be located in a good radio position without running the specialist cable down walls or along floors which do not require flood monitoring. The signal cables are connected to the transmitter using 2-pin Lemo plugs.

When the flood cable is shorted by water, the transmitter unit immediately sends a change of state signal six times to the receiving equipment. This multiple transmission is to ensure the signal is received straight away. On the Radiolog software, the alarm will immediately appear on the live data view. The transmitter then checks the state of the flood cable and retransmits its current state back to the software.

Optionally, the Radiolog system can also be fitted with an alarm relay which triggers an autodialler, for out of hours instant notification via phone message or SMS, or a software add-in can send email/SMS notifications.

The obvious inherent advantages of the Flood Alarm are low installation costs with a minimal wiring requirement. Each sensor is powered by its own internal battery, which lasts 18 months and is easily replaced. A "battery low" indication is displayed on the software, warning of the requirement for battery change prior to complete power loss. A failure in transmission is also flagged by the software.

The 2-zone Flood Alarm comprises a rl2000 transmitter body fitted with two input channels, 2 x 5m flood cables as standard, plus 2 x 5m connecting cables to 2 x flood cable connection boxes. Longer flood cables are available – simply specify the length required when asking for a quote

Typical Applications

- Flood detection
- Condensation detection
- Fridge/freezer failure detection

See diagram overleaf

Transmitter	[1]xx indicates radio frequency, [3]Not available in US,		
Dimensions	110mm x 100mm x 57mm		
Weight	320 grams		
Power Supply Options	2 x 3.6V AA Lithium battery, typical life 18 months		
Case Material(s)	ABS		
Operating Humidity Range	0...90% RH, non-condensing		
Operating Temperature Range	10...30C (Temperature compensated range)		
Input Channels	2		
Radio Specification			
	FF[1]	F1[3]	SF[3]
Radio Frequency	434.075 MHz	433.920 MHz	433.875 to 434.650 MHz in 25 KHz increments
Radio Power	10mW	10mW	10mW
Radio Range	2 miles over open ground		
Cable			
Length	5m length (standard) or as required		
Diameter	Nominal 8mm diameter		

Left: rl2000 transmitter

Above: sr-1 receiver

Model: **rl-2000** wireless

Industrial Applications

Product Name: 2-Zone Flood Alarm

RoHS Compliant

Product Code: RL2000-16-16-XX[1]

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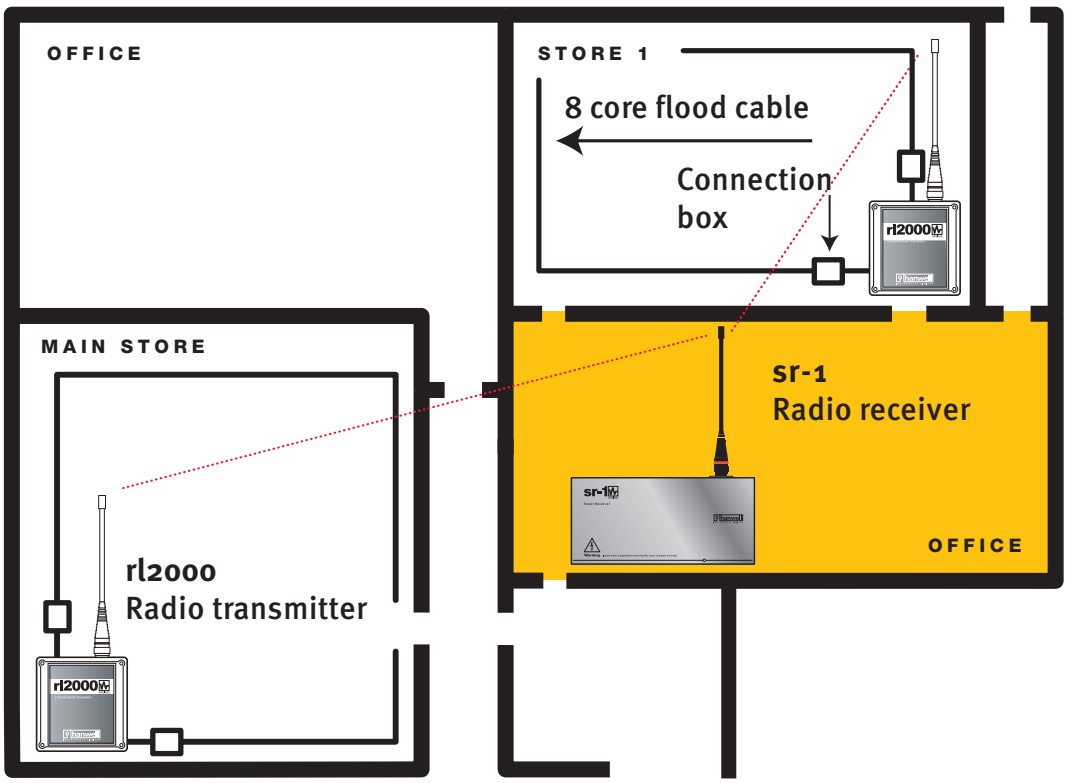

Radiologger - Transmitter

T#: +44 (0)844 815 6227 W: hanwell.com

HANWELL
MONITORING & CONTROL

Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The rl4001 & rl4002 are precision thermistor temperature measuring and radio transmission devices. The rl4001 has a single channel the rl4002 is dual channel. The sensors are connected via 2 pin Lemo plugs and sockets. They allow wire-free monitoring of a site, with real time alarm notification and historical analysis of data. Each 4000 unit reads its on-board sensors providing accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis.

rl4000 series transmitters can be used in accordance with GAMP and FDA regulations. The transmitters and sensors can be calibrated by the either user or Hanwell staff on-site or at Hanwell's in-house calibration laboratory.

Transmitter ID number and transmission rate are set in the transmitter using a simple software program (free to download) and a USB cable. Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life.The transmitter is powered by a single 3.6V AA Lithium battery, which can be fitted by the user.

The battery life will be dependent on the transmission rate set. An indicator on the LCD will warn when the battery is low, and the transmitter maintains a record of when the battery was last changed.

Each 4000 series radio transmitter has enough internal memory to store up to 100000 readings and is in fact continually logging guaranteeing 100% validity of the data. The 4000 series unit can be downloaded via the high speed USB connection directly into the PC software (V8.4 or later only). The data logged will be added to the radio data, providing a continuous history for that transmitter.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets.

CFR21 part 11 compliant software is available. OQ & IQ templates are included, full on-site validation services are available.

The 4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Single channel thermistor

Product Code	*RL4001-434.075* & RL4002-434.075**
Series	*rl4000*

Typical Applications
Monitoring in:
° Fridge/Freezer monitoring
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*18 months*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-20° to +60° C*
Memory Capacity:	*100000 readings*

Sensors
Temperature

Sensor:	*Precision thermistor*
Range:	*-40° to +70° C*
Accuracy:	*+/- 0.1° C between -25° C to +50° C +/-0.3 elsewhere*
Resolution:	*0.1° C*

Radio

**Radio Frequency:*	*434.075MHz 433.920MHz (fixed) 433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*
CAL-T	*3 point calibration between -20 and +110C (single Ch)*
CAL-T-LOW	*3 point calibration between -90 and +110C (single Ch)*
CAL-T-2	*3 point calibration between -20 and +110C (dual Ch)*
CAL-T-LOW-2	*3 point calibration between -90 and +110C (dual Ch)*

Radiologger - Transmitter

T: 0844 815 6227 W: hanwell.com

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MONITORING & CONTROL

Left: Shown with Y300 & J106

Above: Detail of USB socket

Below: Optional wall mounting security bracket

The rl4101 is part of the 4000 range of advanced temperature and humidity radio transmitters. They allow wire-free monitoring of a site, with real time alarm notification and historical analysis of data. Each rl4101 unit reads its on-board sensors providing accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis.

The rl4101 has a precision thermistor sensor and high quality humidity sensor. These sensors are housed in convenient plug mounted housings.

There are two sensor mounting options; either plug mounted or remote cable mounted. The on-board plug in sensors are used to measure over the instrument operating range. To measure over the whole range remote sensors are required.

The sensors can easily be removed for calibration; the plug mounted versions are connected for calibration using the optional calibration cables.

Transmitter ID number and transmission rate are set in the rl4101 using a simple software program (free to download) and a USB cable. Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life.

The rl4101 is powered by a single 3.6V AA Lithium battery, which can be fitted by the user. The battery life will be dependent on the transmission rate set.

An indicator on the LCD will warn when the battery is low, and the rl4101 maintains a record of when the battery was last changed.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets and a plain front panel to hide the LCD if more discreet monitoring of public areas is desired.

The rl4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark

Temperature & humidity

Product Code	*RL4101-434.075**
Series	*rl4000*

Typical Applications

Monitoring in:

- *Fridge/Freezer monitoring*
- *Laboratories*
- *Hospitals*
- *Pharmaceutical*
- *Warehousing*

Instrument

Dimensions:	*110 x 80 x 35 mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*18 months*
Case Materials:	*ABS & PC*
Memory Capacity:	*100000 readings*

N.B. Instrument operating range -10 to +70°C in a non-condensing RH environment

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*-40 to +60°C*
Accuracy:	*+/- 0.1°C between -20 to +50°C +/-0.3 elsewhere*
Resolution:	*0.1°C*

Humidity

Sensor:	*Capacitive polymer*
Range:	*0-100% RH non-condensing*
Accuracy:	*+/- 2%*
Resolution:	*0.1%RH*

Radio

**Radio Frequency:*	*434.075MHz 433.920MHz (fixed) 433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y055	*Setup communications cable*
G129	*Replacement battery*
CAL	*3 point calibration certificate*
J106	*Plug-in RH probe*
Y300	*Plug-in T probe*
J110-3-02	*Remote RH Probe*
J095.05	*Remote Thermister Probe*

Radiologger - Transmitter

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MONITORING & CONTROL

Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The rl4102 is part of the 4000 range of advanced temperature and humidity radio transmitters. They allow wire-free monitoring of a site, with real time alarm notification and historical analysis of data. Each rl4102 unit reads its on-board sensors providing accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis.

The rl4102 has a precision temperature sensor and a high quality humidity sensor. These sensors are housed in a remote probe for discrete mounting in a showcase. The sensors can be mounted in the case in two ways. The sensor can be supplied with an integral Lemo plug or cable mounted via a cable gland. Using the integral plug version a matching socket can be fitted to the base plate of the showcase. Using the cable mounted version the sensor can be fed in from beneath the case through a standard tank fitting. Both methods provide an air tight solution. The sensors can easily be removed for calibration, using the cable mounted method usually means that the sensor can be removed without opening the case.

Transmitter ID number and transmission rate are set in the rl4102 using a simple software program (free to download) and a USB cable. Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life.

The rl4102 is powered by a single 3.6V AA Lithium battery, which can be fitted by the user. The battery life will be dependent on the transmission rate set. An indicator on the LCD will warn when the battery is low, and the rl4102 maintains a record of when the battery was last changed.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets and a plain front panel to hide the LCD if more discreet monitoring of public areas is desired.

The rl4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark

Temperature & humidity

Product Code	*RL4102-434.075**
Series	*rl4000*

Typical Applications
Monitoring in:
° Fridge/Freezer monitoring
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*18 months*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-10° to +50° C*
Memory Capacity:	*100000 readings*

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*-10° to +50° C*
Accuracy:	*+/- 0.1° C*
Resolution:	*0.1° C*

Humidity

Sensor:	*Capacitive polymer*
Range:	*0-100% RH non-condensing*
Accuracy:	*+/- 2%*
Resolution:	*0.1%RH*

Radio

**Radio Frequency:*	*434.075MHz* *433.920MHz (fixed)* *433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*
CAL-IA	*3 point calibration certificate*

Radiologger - Transmitter

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HANWELL
MONITORING & CONTROL

Above:
Detail of USB socket

Below:
Optional wall mounting security bracket

The rl4106 radio transmitter is one of a new range of advanced temperature and humidity radio transmitters. They allow wire-free monitoring of a site, with real time alarm notification and historical analysis of data. Each rl4106 unit reads its on-board sensors to provide accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog for Museums system where it is filed for analysis.

The rl4106 has two sensors as standard: a precision temperature probe and a high quality humidity probe. These sensors can be mounted internally to the transmitter body, externally on the case or remotely on a probe. An additional surface temperature probe can be added to check the dewpoint margins. These sensors can be calibrated by the users or at Hanwell's in-house calibration laboratory.

The ID number and transmission rate are set in the rl4106 using a simple software program (free to download) and a USB cable. Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life.

The rl4106 is powered by a single 3.6V AA Lithium battery, which can be fitted by the user. The battery life will be dependent on the transmission rate set. An indicator on the LCD will warn when the battery is low, and the rl4106 maintains a record of when the battery was last changed.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets and a plain front panel to hide the LCD if more discreet monitoring of public areas is desired.

The rl4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Temperature & humidity

Product Code	*RL4106*
Series	*rl4000*

Typical Applications
Monitoring in:
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*18 months*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0 to 100% non-condensing*
Operating Temp Range:	*-15° to +65° C*
Memory Capacity:	*100000 readings*

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*-15° to +65° C*
Accuracy:	*+/- 0.2° C between -15° C to +65° C*
Resolution:	*0.1° C*

Humidity

Sensor:	*Capacitive polymer*
Range:	*0 to 100% non-condensing*
Accuracy:	*+/- 0.2° RH*
Resolution:	*0.1° RH*

Radio

**Radio Frequency:*	*434.075MHz 433.920MHz (fixed) 433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*

Radiologger - Transmitter

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HANWELL
MONITORING & CONTROL

Above:
PT100 probe

Below:
Optional wall mounting security bracket

The RL4401 & RL4402 are precision 4-wire PT100 temperature measuring and radio transmission devices. The RL4401 has a single channel the RL4402 is dual channel. The sensors are connected via 5 pin Lemo plugs and sockets. They allow wire-free monitoring of a site, with real time alarm notification and historical analysis of data. Each 4000 unit reads its on-board sensors providing accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis.

RL4000 series transmitters can be used in accordance with GAMP and FDA regulations. The transmitters and sensors can be calibrated by the either user or Hanwell staff on-site or at Hanwell's in-house calibration laboratory.

Transmitter ID number and transmission rate are set in the transmitter using a simple software program (free to download) and a USB cable. Each unit has an LCD screen simultaneously displaying the most recent readings taken and the predicted battery life.

The transmitter is powered by a single 3.6V AA Lithium battery, which can be fitted by the user. The battery life will be dependent on the transmission rate set. An indicator on the LCD will warn when the battery is low, and the transmitter maintains a record of when the battery was last changed.

Each 4000 series radio transmitter has enough internal memory to store up to 100000 readings and is in fact continually logging guaranteeing 100% validity of the data. The 4000 series unit can be downloaded via the high speed USB connection directly into the PC software (V8.4 or later only). The data logged will be added to the radio data, providing a continuous history for that transmitter.

The moulded case allows easy access to the battery and USB socket, as well as having slots to fit onto secure wall brackets.

CFR21 part 11 compliant software is available. OQ & IQ templates are included, full on-site validation services are available.

The 4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Temperature

Product Code	*RL4401-434.075* & RL4402-434.075**
Series	*RL4000*

Typical Applications
Monitoring in:
° Fridge/Freezer monitoring
° Laboratories
° Hospitals
° Pharmaceutical
° Warehousing

Instrument

Dimensions:	*110 x 80 x 35mm*
Weight:	*200 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*18 months*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-20° to +60° C*
Memory Capacity:	*100000 readings*

Sensors
Temperature

Sensor:	*4 wire PT100*
Range:	*-100 to +110C*
Accuracy:	*+/- 0.1° C*
Resolution:	*0.1° C*

Radio

**Radio Frequency:*	*434.075MHz* *433.920MHz (fixed)* *433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y119	*Wall mounting security bracket*
Y055	*Setup communications cable*
G129	*Replacement 3.6V Lithium AA battery*
CAL-T	*3 point calibration between –20 and +110C (single Ch)*
CAL-T-LOW	*3 point calibration between –90 and +110C (single Ch)*
CAL-T-2	*3 point calibration between –20 and +110C (dual Ch)*
CAL-T-LOW-2	*3 point calibration between –90 and +110C (dual Ch)*

Radiologger - transmitter

T: 0844 815 6227 W: elmo-it.com

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MONITORING & CONTROL

Elmo Radiologger

Product Code	*Code RL4602-xxx-xxx**
Series	*rl4000*

Typical Applications
° Energy reduction
° Energy studies
° Energy monitoring

Instrument
Dimensions:100 x 100 x 60 mm
Weight: 600g
Battery pack : 2 x alkaline D cells.
Battery Life: 5 years (depends on usage and configuration).
Case Materials: ABS & PC
Memory Capacity: 100000 readings
N.B. Instrument operating range -20°C to +60°C in a non-condensing RH environment

Current Transformers

Type:	*DC current transformers 0-5 volts*
Resolution:	*50mA*
Maximum Count:	*4094*
Accuracy :	*+/-2.5%*
Min Measurement Period:	*1 second*

Measurement Types: Instantaneous, Average & Events
Current Range: 0-120amps - Current clamps for 0-600amps - Rogowski coils with adapter PCB can be used

No. of Channels:	*3*
Connection:	*6 way terminal block*

Entry into case is via three separate cable glands

Need to monitor your energy consumption but don't want the hassle of wired installation on site? Hanwell's new Elmo range uses tried and tested Hanwell radio technology to monitor your energy usage remotely through point-to-point radio (PTP). With the added benefit that the current clamps can be added without disconnecting existing wiring.

Elmo will assist in diagnosing and eliminating areas of wasted energy and accurately report on costs and trends directly from the data it collects. The software allows up-to eight different tariffs to be created allowing an accurate costing of energy use over periods of time and for particular pieces of equipment and/or areas of concern.

This fast and reliable data transfer will allow automatic archiving of data onto a server. This can be done in two ways; though a LAN enabled retrieving base station or a receiving point with a direct USB PC connection. Both enable live data views to be available through compatible windows based software Radiolog. Limitless sensors can be added to a system to cover a site of any size or physical make up.

The Elmo unit is part of the 4000 range of advanced radio transmitters. They allow wire-free monitoring of a site, with real time and historical analysis of data. Each unit measure the output from current clamps providing reliable information about energy usage and cost. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis and can accurately pinpoint current consumption down to a 3 second resolution. Each 4000 radio transmitter has enough internal memory to store up to 100,000 readings and is in fact continually logging. The sensor cable entry into the case is via a cable gland and terminated into a terminal block allowing for ease of installation and making the unit suitable for use outdoors.

Power is provided from a battery pack consisting of 2 x alkaline D cells. Replacement battery packs are available from Hanwell and can be easily fitted by the customer.

This ruggedised version of Elmo comes in an IP 67 rated case and are suitable for use in harsh environments. The 4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

ELMO-IT
UTILITY MONITORING & CONSERVATION

Radiologger - Transmitter

T: 0844 815 6227 W: hanwell.com

HANWELL
MONITORING & CONTROL

The ml4109 is part of the 4000 range of advanced temperature and humidity radio transmitters. It allows wire-free monitoring in an outside area, with real time alarm notification and historical analysis of data. Each ml4109 unit reads its on-board sensors providing accurate and reliable information about environmental conditions. This data is transmitted, at user-defined intervals, to the Radiolog system where it is filed for analysis.

The ml4109 has a precision temperature sensor and a high quality humidity sensor. Each 4000 radio transmitter has enough internal memory to store up to 100000 readings and is in fact continually logging.

Transmitter ID number and transmission rate are set in the ml4109 using a simple software program (free to download) and a USB cable.

The ml4109 is powered by a single 3.6V AA Lithium battery, which can be fitted by the user. The battery life will be dependent on the transmission rate set. The ml4109 maintains a record of when the battery was last changed.

Benefits:

- Continuous analysis of temperature and humidity
- Reads up to a temperature of +50^{0}C
- ML4109 wireless range can reach up to 3km on open ground
- Facilitates clear temperature and humidity breakdowns
- Memory capacity can hold 100,000 readings
- The molded case allows easy access to the battery and USB socket.

The ml4000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

Temperature & humidity

Product Code	*ML4109-xxx.xxx**
Series	*ml4000*

Typical Applications

° Outdoor temperature and humidity monitoring

Instrument

Dimensions:	*150 x 88 x 50 mm*
Weight:	*485 grams*
Power Supply:	*3.6 Volt AA Lithium battery*
Battery Life:	*Up to 18 months*
Case Materials:	*ABS & PC*
Operating Humidity Range:	*0...100% non-condensing*
Operating Temp Range:	*-20 to +50° C*
Memory Capacity:	*100000 readings*

Sensors

Temperature

Sensor:	*Precision thermistor*
Range:	*-20 to +50° C*
Accuracy:	*+/- 0.2° C*
Resolution:	*0.1° C*

Humidity

Sensor:	*Capacitive polymer*
Range:	*0-100% RH non-condensing*
Accuracy:	*+/- 2%*
Resolution:	*0.1%RH*

Radio

**Radio Frequency:*	*457.600 (US only)* *434.075MHz* *433.920MHz (fixed)* *433.875 - 434.650MHz in 25KHz increments (synthesised)*
Radio Power:	*10 mW*
Radio Range:	*3 km over open ground*

Accessories

Code:	
Y055	*Set up communications cable*
G129	*Replacement 3.6V Lithium AA battery*
CAL-IA	*3 point calibration certificate*

Radiologger - Transmitter

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HANWELL
MONITORING & CONTROL

The rl5000 range is a new series of Hanwell radio telemetry transmitters, designed for use with the Radiolog 8 environmental monitoring system. The units are in IP65-rated cases and are suitable for use in tough environments.

Each rl5000 has two inputs for probes, the combination of which can be custom-defined. Supported temperature probe types include: thermistors, PT100s and thermocouples. The rl5000 also supports humidity probes and linear inputs. Probes are supplied separately.

The transmitter ID, transmission speed and calibration data is programmed into its on-board memory using Radiolog 8, a software package which automatically recognises the type of unit connected to the PC via the USB lead.

The custom-designed LCD indicates current readings of two channels (based on the onboard calibration data), battery life and alarm conditions. A plain cover is supplied if the LCD is not required.

The transmitter is typically powered by a 7.5V 2700mAh battery pack, which can be fitted by the user. The battery life will be dependant on the number of inputs and the transmission speed. An indicator on the LCD will warn when the battery is low, and the transmitter maintains a record of when the battery has been changed.

The rl5000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.

rl5002 radio transmitter

Product Code	*RL5002-xx*
Series	*rl5000*
	[1] Not available in US
	[2] Only available in US

Typical Applications

- *Environmental monitoring*
- *Warehouse monitoring*
- *Pharmaceutical monitoring*
- *Laboratory monitoring*
- *Building monitoring & control*
- *Event logging*
- *Temporary monitoring*

Instrument

Dimensions:	*197 x 106 x 60mm*
Weight:	*300 grams*
Case Material:	*ABS*
Power Supply:	*7.5V 2700mAh Alkaline battery pack*
Op. Humidity Range:	*0...95% RH, non-condensing*
Op. Temp. Range:	*-20 °C to +60 °C*

Sensors

Code	*Description*
RL5002	*Thermistor, PT100, Humidity, Linear*

Radio

**Radio Frequency:*	*Fixed frequency modules*
	434.075 MHz1
	433.920 MHz
	Synthesised modules
	433.875 to 434.650 MHz in 25KHz increments[1]
	458.650 MHz [2]
Radio power:	*10 mW*
Radio range:	*3 km over open ground*

Communications & Software

PC/Logger Interface:	*Standard USB A/ USB mini-B*
PC Software:	*32bit Windows with Radiolog 8.3 or later*
Minimum O/S:	*Windows 2000, Windows XP, Windows NT*

Accessories

Code	
Y055	*USB communications lead*
W250	*USB configuration tool (required for users with Radiolog software earlier than 8.3)*

Radiologger - Transmitter

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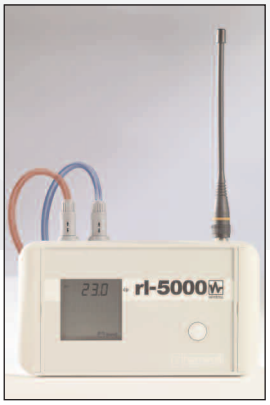
New from Hanwell is the rl5000 dp radiotelemetry transmitter, designed for use withthe Radiolog 8 environmental monitoringsystem. The units are in IP65-rated cases andare suitable for use in tough environments.

Utilising an integral temperature compensated pressure sensor the rl5000 differential pressure transmitter delivers exceptional performance. The sensor utilises a silicon, micro machined, stress concentration enhanced structure to provide a very linear output to the measured pressure. The ports are designed with matched dead volumes. This series is intended for use with non-corrosive, nonionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are the silicon diaphragm, glass filled nylon, RTV and alumina ceramic. The transmitter ID, transmission speed and calibration data is programmed into its onboard memory using Radiolog 8, a software package which automatically recognises the type of unit connected to the PC via the USB lead.

Fitted with a custom-designed LCD to indicate current readings, battery life remaining and alarm conditions. There is an instantaneous display update button located on the front panel. Pressure connections are made via quick release Lemo pressure connectors, which avoid damage to the pressure sensor when disconnecting for calibration.

The transmitter is typically powered by a 7.5V 2700mAh battery pack, which can be fitted by the user. The battery life will be dependant on the transmission speed. Larger battery packs are available, local power input is also an option. An indicator on the LCD will warn when the battery is low, and the transmitter maintains a record of when the battery has been changed. The rl-5000 range has been designed to comply with the RoHS and WEEE EU directives, and carries the CE mark.



rl5000 differential pressure

Product Code	*RL5405-xxx MHz*
Series	*rl5000*
	[1] Not available in US
	[2] Only available in US

Typical Applications

- *Measuring positive, negative and differential pressures*
- *Pharmaceutical industry*
- *Clean rooms*
- *Laboratories*

Instrument

Dimensions:	*197 x 106 x 60mm*
Weight:	*300 grams*
Case Material:	*ABS*
Power Supply:	*7.5V 2700mAh Alkaline battery pack*
Op. Humidity Range:	*0...95% RH, non-condensing*
Op. Temp. Range:	*+10 °C to +30 °C (fully compensated)*

Pressure Sensor

Type:	*Minature silicon sensor*
Range:	*+/- 50 Pa (other ranges available on request)*
Accuracy:	*+/-0.5 Pa*
Resolution:	*0.1 Pa*
Pressure connector:	*2 x Lemo pressure connectors*

Radio

**Radio Frequency:*	*Fixed frequency modules*
	434.075 MHz1
	433.920 MHz
	Synthesised modules
	433.875 to 434.650 MHz in 25KHz increments[1]
	458.650 MHz [2]
Radio power:	*10 mW*
Radio range:	*3 km over open ground*

Accessories

PC Software:	*32 bit Windows*
Minimum O/S:	*Windows 2000, Windows XP, Windows NT*

Accessories

Code	
Y055	*USB communications lead*
W250	*USB configuration tool (required for users with software earlier than 8.3)*
Y123	*rl-5000 wall mounting bracket*
V133	*Red silicone tubing*
V134	*Blue silicone tubing*

Industrial Applications

rl-8000 wireless

hanwell INSTRUMENTS LIMITED

Radiologgers

TEMPERATURE & HUMIDITY

Typical Applications

- Pharmaceutical industry
- Storage and warehousing
- Laboratories
- Quality control
- Validation
- Temperature/RH mapping

Options & Accessories

- GSM output module
- Ethernet (TCP/IP) module
- Memory module
- Battery backup module
- Traceable calibration
- CFR21 part 11 compliant software

The rl8000 is a highly flexible solution to a wide variety of low-speed instrumentation problems. The unit offers 8 configurable input channels and a variety of communication options including radio telemetry, TCP/IP and direct wired.

With up to 24bit resolution, the rl8000 offers a data scanning rate of up to once/second with full 50/60Hz rejection. They directly support a wide range of common sensors including PT100's, thermocouples, 4-20mA and bridge devices. The design of the input circuitry ensures that high standards of stability are maintained, with precision calibration becoming a straightforward operation performed via custom software.

The rl8000 is fully compatible with Hanwell Radiolog software and can be readily mixed with the rl2000 2-channel units.

In situations where a number of sensors are physically close it is possible to create a local system whereby up to 3 rl8000 slaves unit communicate with one master unit on a local bus, with the master providing the communication interface to the outside world. This flexibility results in a highly cost effective solution to many real-world measurement and monitoring problems, with the radio telemetry option resulting in minimal installation requirements.

The devices offer 1.5kV isolation between the inputs and the communication outputs, with connections made via readily accessible terminal blocks.

Specification

(Accuracy quoted is combined instrument and sensor) ISO9001:2000 certified

Dimensions	216mm x 117mm x 48mm (aerial)
Weight	780 grams
Power supply	12 volts DC
Channels	8 user configurable
A/D	12, 16 or 24 bit with 0.006uV sensitivity
	auto zeroing and self calibrating
Network isolation	1.5kV
Max. scan rate	Once per second
Radio frequency	434.075 MHz (standard)
Radio Power	10 mW
Range	2 miles over open ground
Transmit rate	4 seconds to 3 minutes

Inputs	Directly support a range of common process sensors including:		
	PT100		0-10V
	Thermistors		Thermocouples
	4-20mA		Pressure sensors
	0-1V		Bridge devices
	Different probe types can be used simultaneously. Each channel is user configurable via internal DIP switches, giving optimal accuracy for each sensor type. On board memory for storing sensor configurations i.e individual thermocouple tables.		
Outputs	RS232	GSM	RF
	RS485	STDN	Ethernet (TCP/IP)

Radiologger - Base Station

T#: +44 (0)844 815 6227 W: hanwell.com

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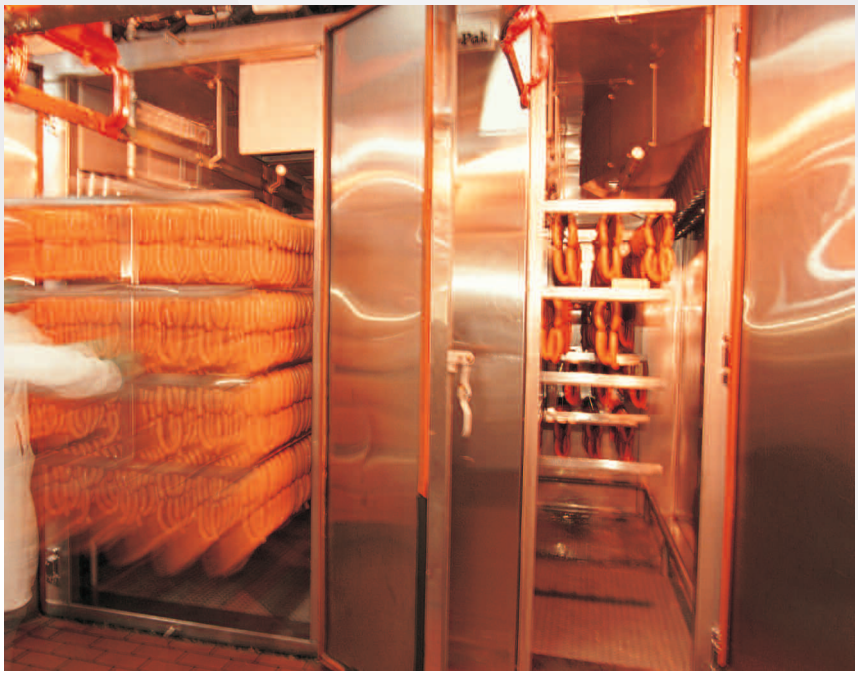
MONITORING & CONTROL

The base station receives and processes signals from Hanwell radio and wired sensors. These sensors communicate at regular short intervals with the cr2, which logs and stores the data pending transfer to a PC for analysis and archival storage. The cr2 also provides an interface for the ms1000 control system.

All data from the sensors, whether radio telemetry or hard wired in any combination, is ultimately collected, processed and stored by the cr2. This can be located conveniently and is designed for continuous monitoring of the entire system. A 16 x 2 alpha-numeric LCD displays the system status.

The cr2 also signals alarm conditions via the front panel LED'S (should any sensor measure above or below individual pre-set levels). Although the base station has an extensive memory capacity, it is intended that the data is transferred to a PC for detailed interpretation and permanent storage. This can be done automatically or manually, at any time.

*Built in GSM modem for remote communications is also available.



cr2 base station

Product Code *cr2i*

Typical Applications
° Warehouse monitoring
° Building control
° Laboratory monitoring
° Process monitoring
° Cold storage
° Remote level monitoring
° Rotating machinery

Controller

Dimensions:	*204 x 156 x 68 mm*
Weight:	*1000 grams*
Case Material:	*Powder coated extruded aluminium*
Power Supply:	*12v universal power supply*
Radio Frequency:	*434.075 MHz (32 channels available)*
Display:	*2x16 line alpha-numeric*
Environmental rating:	*IP54 internal*
Alarm indication:	*Red LED*
Comms indication:	*Yellow LED*
Status indication:	*Green LED*
Backup supply:	*7.2 volt rechargeable NiMH pack*
Memory Capacity:	*49152 standard records*

Controller Inputs

Radio sensors:	*Narrow band FM radio*
Interface:	*USB*

Controller Outputs
MS1000 control RS485
Alarm Relay via jack socket

Receiver

Dimensions:	*100 x 100 x 50 mm*
Weight:	*250 grams*
Case Material:	*ABS*

** GSM is a factory fit option only.*

Radiologger - Receiver

T: 0844 815 6227 W: hanwell.com

HANWELL
MONITORING & CONTROL

sr2 receiver

Product Code	*SR2-E-P4 (UK)*
	SR2-E-P5 (EU)
	SR2-E-P6 (US)
Series	*sr2*

Typical Applications

° Distributed monitoring over large sites
° Nationwide monitoring overdifferent geographical locations

Instrument

Dimensions: 300 x 200 x 85 mm
Weight: 1.2kg
Power Supply: 110V AC or 240V AC. On-board 12V battery back-up supplying 2.3A/hr
Case Material(s): Powder coated mild steel
Operating Humidity Range: 0-100% non condensing
Operating Temperature range: 5...40°C (Temperature compensated range)

Outputs

Alarm Outputs: 1 x nominal 12V, 2 x changeover relays (energised when no alarms exist)
MSBUS: 4 core signal cable

Accessories

RX-xx	*Remote receiver – please specify the frequency required*
Y306-05-03	*Thermistor probe on 5m cable with bare ends suitable for wiring into the sr-2's on-board probe inputs*
Y404-05-03	*Humidity probe on 5m cable with bare ends, as above*
Y405-05-03	*Combined thermistor & RH probe on 5m cable with bare ends, as above*
ABR12/24	*Alarm beacon, red strobe, 12/24V with bracket and 2m cable*
SR2-E-7.0-UPS	*7.0Ah external wall mounted UPS*
SR2-E-15-UPS	*15Ah external wall mounted UPS*

The sr2 is the second generation of the Hanwell Smart Receiver. It is a network enabled receiver, designed for collecting environmental monitoring data from multiple points within a site, or across multiple sites. In addition, it can be upgraded to a transceiver which both receives and retransmits the data. It uses standard TCP/IP communications protocols for speedy data handling. The network traffic generated is very low and data is automatically sorted and filed.

This multipoint operation can be further expanded, with the use of optional GPRS, and used on a larger national or international basis. See the diagram overleaf for some potential ways of using the sr2, or contact Hanwell to discuss your site specific requirements.

In addition to receiving data from the ml2000 and ml4000 ranges of sensors, the unit can also read hard-wired sensors and, optionally, be fitted with up to eight on-board probes. Each sr2 can handle data from up to 253 sensors, and up to 16 sr2s can be run on a single system bringing it to a total of 4048 sensors. The sr2 supports Hanwell's standard and extended transmission data formats.

The sr2 logs all received data in its on-board 512kb memory. The Radiolog software continually interrogates the sr2 for the most recent data, and downloads the data according to user-defined logging periods to the server or operating PC. Software users can view live and historic data, produce out of spec and summary reports and set alarms on both the data levels and the rate of change.

In addition to the data readings from the sensors, the sr2 can log the corresponding Received Radio Signal Indicators (RSSI) which reveal the strength of radio reception of each Sensor. As well as being logged, the RSSI is indicated on the front LCD along with other status information. An optional remote Receiver can be connected to improve radio reception in difficult areas.

The sr2 is designed to be in constant communication with the software but has user-configurable fallback behaviour in the event of network or power failure. An on-board battery provides a UPS with 2.3A/hour life to carry it through up to 12 hours' power disruption (larger external UPSs are available as an optional extra).

Alarm relays are included: these can indicate that the readings are out of specification, and can be optionally set to indicate a network failure. A MS BUS connection allows the sr2 to drive the Hanwell ms1000 environmental control system.

Radiologger - Receiver

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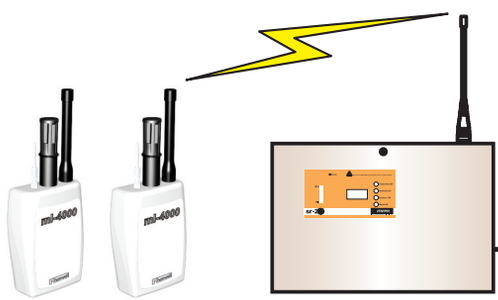
Local Site
One or more sr-2's on a main site connected via LAN points

Network Server
Collects data from all sr-2's and is interrogared by Network Users

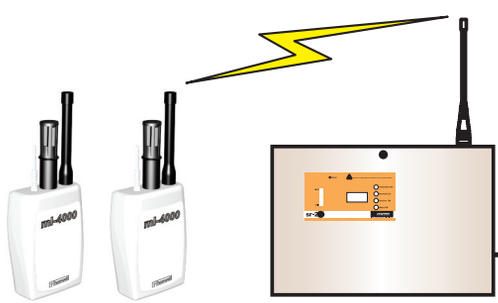
Network User
For example, main system administrator

Remote Sites
One or more sr-2's from remote sites via LAN or WAN, for example, off-site



Network User
For example, someone needing weekly reports

Remote Sites
Non-networked site connected via modem



Network User
For example, a home worker

One system can comprise up to 16 separate sites but all data is treated the same way.

Environmentalcontrol

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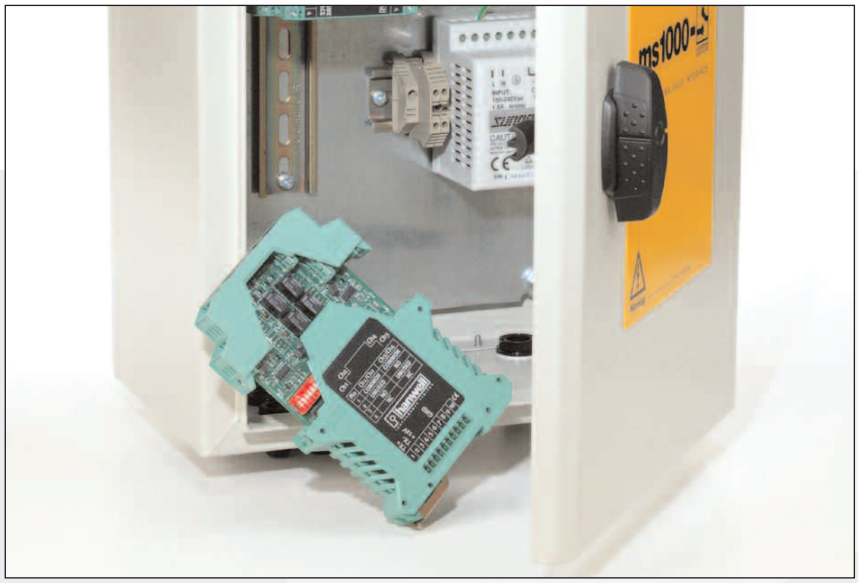
MONITORING & CONTROL



Environmental Control

Product Code
Series *ms1000*

Typical Applications
Monitoring in:
° Interfacing radio sensors to BMS systems
° Conservation heating systems
° Bespoke heating control
° Alarm panels

Instrument

Dimensions:	*114.5 x 99 x 22.5 mm*
Weight:	*127g*
Case material(s):	*Polyamide PA 6.6*
Temperature range (operating):	*0 to 50°C*
Temperature range (storage):	*-40 to 70°C*
Power supply:	*12 volts DC*
Bus connection:	*RS485*
Mounting:	*Top Hat DIN rail*

Output

MS1000-RM:	*4 x relay either NO or NC*
Rating:	*24 volts AC or 12 volts DC @ 0.5A*
MS1000-AM:	*4 x 2 to 10 volts or 4 to 20 mA*
Accuracy:	*8 bit*
MS1000-AM-12:	*4 x 2 to 10 volts or 4 to 20 mA*
Accuracy:	*12 bit*

The ms1000 system is designed to generate either latched voltages or currents corresponding to measured values in remote locations. This function is intended to allow radio sensors to directly replace wired-in sensors in applications such as building environmental control where the 3rd party BMS can directly accept analogue signals. Alternatively, it can supply relay outputs for alarm or control functions. A combination of all output types can be created within a single ms1000 system (see below).

Data is read and transmitted by sensors compatible with the Hanwell radio environmental monitoring system

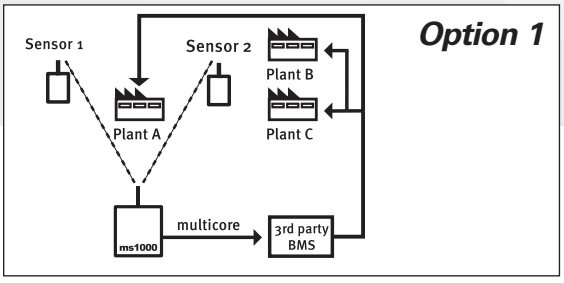
There are two card types, analogue and relay:
• The analogue cards contain four outputs capable of supplying either a voltage between 0...10V at 1mA, or a current between 0...20mA (compliant at 12V). The normal output ranges are 2...10V and 4...20mA. Fault conditions are indicated by a permanent drop to zero and a low battery condition is indicated by a brief drop to zero. The analogue cards are available with 8 or 12 bit resolution.

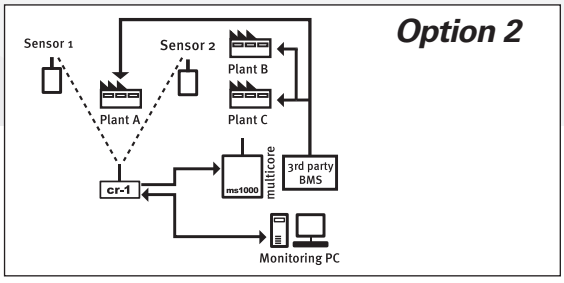
• The relay card contains four outputs capable of switching 0.5A at 12V DC or 24V AC. Normally open or normally closed are available as standard.

Option 1 - Standalone solution
Radio sensors transmit directly back to the ms1000 unit. The ms1000 control outputs are sent to the BMS.

Option 2 - Monitoring & control solution
Radio sensors transmit to the Radiolog cr1 unit. The cr1 sends the data to the monitoring PC and ms1000.

The ms-1000 control outputs are sent to the BMS:
• Sensor 1's output controls Plant A
• Sensor 2's output controls Plants B&C.





Environmentalcontrol

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HANWELL
MONITORING & CONTROL

b500 humidifier

Product Code	*2100*
Series	*Control*

Typical Applications
- *Computer rooms*
- *Stability rooms*
- *Cold stores*
- *Controlled manufacturing*

Instrument

Dimensions:	*75.5mm x 62mm x 36.5mm*
Weight:	*24 kg*
Power Supply:	*240 volts 50/60Hz AC 1.5kW*
Case Materials:	*Durable anti-static plastic*
Colours:	*White, light grey, anthracite*
Controls:	*Electronic accessed via remote control*

Evaporation capacity: 2.5l/h at 25°C and 20% RH
Evaporation filter area: 800 m^3/h 3.5 m^2
Water Capacity: 50 litres

Radio Transmitter (if fitted)

Dimensions:	*110mm x 67mm x 23mm*
Weight:	*265 grams*
Power supply:	*9 volt PP3 battery*
Battery life:	*18 months*

Humidity

Sensor:	*Vaisala capacitive polymer*
Humidity Range:	*0 to 100% RH (non condensing)*
Sensor Accuracy:	*+/- 2% over full range*
Resolution:	*0.1%*
Switching hysteresis:	*Programmable between 1 to 5%*
Radio Frequency:	*434.075 MHz*
Radio power:	*10 mW*
Transmit rate:	*Every 2.5 minutes*

Accessories
Hanwell radio control
Automatic flood detection
Air scoop to duct output
Water monitor
Air cleaning filters
Manual/automatic flushing

The b500 Electronic operates in accordance with the evaporation principle which is proven to be one of the best methods for humidification as it ensures that no calcium deposits or water precipitation can form.

Great importance has been attached to ensuring virtually silent operation in an environmentally friendly manner. The humidifier is electronically controlled, an integrated hygrostat keeps the humidity at the required level. In addition to thoroughly humidifying the air, the b500 Electronic also serves another purpose, it filters, purifies and rids the air of dust. Furthermore, it prevents static from forming.

The unit operates on normal or purified tap water. The b500 is normally filled by hand, however, the connection facilities to add an automatic water supply and overflow are already provided on the unit.

Its elegant, timeless design ensures it blends discreetly into any surroundings. The housing is made of the most durable plastic, designed to be anti static, resistant to acid and alkali, absolutely corrosion-proof and dimensionally stable. Cleaning poses no problems as the relevant assemblies can be removed from the unit without the use of tools.

The design pays particular detail to safety features. A screen guard protects all moving parts such as the blower wheel and pump vanes. The water tank is fitted with a baffle system in order to avoid spillage when moving the unit. Once the supply of water has been used up, the humidifier turns itself off automatically. The b500 Electronic is a compact environmental monitoring solution.

Environmentalcontrol

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HANWELL
MONITORING & CONTROL

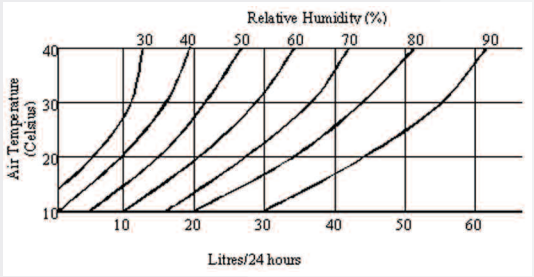
ccr30 de/humidifier

Product Code	*Z634*
Series	*Control*

Typical Applications
° Computer rooms
° Stability rooms
° Cold stores
° Controlled manufacturing

Instrument

Dimensions:	*760mm x 1150mm x 25.8mm*
Weight:	*70 kg*
Power Supply:	*240 volts 50/60Hz AC 1.5kW*
Case Materials:	*Powder coated steel*
Colour:	*White (other colours available)*
Water supply:	*Mains fed(filtered not softened)*
Drain:	*Gravity drain*
Range Controller Sensor:	*0 - 100% RH -20 - +80°C*
Accuracy Control Sensor:	*+/- 2% RH +/- 0.5°C*
Humidifier Type:	*Open electrode steam boiler*
Performance:	*2 litres per hour water supply*
Dehumidifier type:	*Refrigerant (R407C)*
Fan:	*Centrifugal 550 m³/hour*
Min. Operating Temperature:	*5°C (5°C with hot gas defrost)*
Performance:	*See chart below*



Accessories
Hanwell radio control
Automatic flood detection
Air scoop to duct output
BMS interphace
Water filters
Alarm outputs
Hot gas defrost

Environmental monitoring with the ccr30 combines a humidifier, a dehumidifier and a radio control system into one unit, actuated by signals from Hanwell T/RH telemetry units. The environmental monitoring afforded by the ccr30 allows the control of relative humidity over the full range required, with a user adjustable switching hysteresis. The hardware is guaranteed never to allow the dehumidifier and humidifier to be on simultaneously.

The ccr30 is designed to give precise and automatic control of humidity levels based on signals received from Hanwell radio telemetry sensors. Problems created by microclimates in the vicinity of the plant are completely removed by the use of remote radio sensors. Built to the highest standards, the ccr30 will give years of trouble free service with minimal maintenance.

Main features:
* Humidity set point and dead band are adjustable by the user
* The controller ensures there is no possibility of the humidifier and dehumidifier being on simultaneously
* Open electrode boiler Humidifier ensures sterile water vapour and scale retention
* Steam exit design ensures minimum visibility and low temperatures
* Microprocessor controlled with a host of safety features ensuring reliable operation

Alarmwatch

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HANWELL
MONITORING & CONTROL

Alarm Watch GSM

Product Code	*AW01*
Series	*Alarm Watch*

Typical Applications

- *Tank level alarms*
- *Vending machines*
- *Power failure monitoring*
- *Remote alarms*

Instrument

Dimensions:	*200 x 120 x 80mm (excludes antenna and cable glands)*
Weight:	*0.95Kg*
Power supply:	*5 x 1.5 volt alkaline C cells (recommended option) 12 volts DC connection 2.1mm DC jack*
Battery Life:	*2 years (depending on use)*
Case Material:	*ABS*
Humidity:	*0 to 95 % non –condensing (operating and storage)*
Temperature:	*(-10 to + 50° C operating) (-10 to +70° C storage)*

Inputs

Alarm Inputs:	*4 contact inputs either No or NC*

GSM Specification

Network	
Compatibility:	*For use on GSM/GPRS networks at 850 MHz to1900 MHz (Quad Band)*
Aerial Connection:	*SMA socket*
Aerial Type:	*Stubby straight/right angle + remote mount on 2mtrs cable*

Accessories

Code	
Y055	*Set up communications cable*
G204	*Replacement 1.5V Alkaline C cell battery*

The Alarm Watch unit is part of the GSM based Watch series. The AW01 combines 4 contact inputs.

All products in the Watch range are truly stand-alone and are suitable for use in the most remote locations. The only limitation to use is the availability of a GSM signal. The Alarm Watch units are battery powered which is user replaceable, with a life expectancy of around two years (depending on usage). The unit can be powered by 12v if required.

Many GSM alarm units use off the shelf GSM modems. These GSM modems have a habit of losing communication usually due to problems with the network, this may only happen once or twice a year and normally all that is required is a simple manual re-set of the modem module. However not that easy if it is 200 miles away, the costs associated with someone traveling to site are high.

Watch series products use our own proven GSM communication modules. The GSM module has an onboard micro controller acting as a watchdog for the modem. Should any problem with network connectivity be detected the modem will be automatically re-set and re-connected to the network.

The system stores up to 8 telephone numbers for sending SMS messages to. Once an alarm has been registered the alarm message is sent to the first programmed number. If there is no response the other numbers are called in order until a response is received. The delay time for a response is user programmable. The Alarm message contains alarm number, alarm information and site name.

All set-up is done via the USB interface using the simple setup program, which is supplied free. A heartbeat message can be programmed at user-defined intervals, low battery text message is sent on low battery. SIM card required.

Front on view

Fixed aerial

Contact inputs

Alarmwatch

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HANWELL
MONITORING & CONTROL

AlarmWatch GSM

Product Code	*AW04*
Series	*SMSWatch*

Typical Applications

° On-line alarm generation from Radiolog wireless monitoring system

Instrument

Dimensions:	*200 x 120 x 80 mm (excludes antenna and cable glands)*
Weight:	*0.95Kg*
Power supply:	*12 volts DC connection 2.1mm*
Battery Life:	*2 years (batteries are only used in event of mains failure)*
Case Material:	*ABS*

Operating & Storage

Humidity:	*0 to 95 % non –condensing*
Temperature:	*-10 to +70° C*

Inputs

Alarm Inputs:	*1 x USB*

GSM Specification

Network Compatibility:	*For use on GSM/GPRS networks at 850 MHz to 1900 MHz (Quad Band)*
Aerial Connection:	*SMA socket*
Aerial Type:	*Stubby straight/right angle + remote mount on 2mtrs cable*

Accessories

Code	
G204	*Replacement 1.5V Alkaline C cell battery*

The SMS Watch unit is part of the GSM based Watch series. The AW04 is designed to act as an alarm portal for the Hanwell range of monitoring systems. It is connected via a USB port to the server running the Radiolog master application

The system receives out of condition and/or system alarms generated from Hanwell's Radiolog wireless monitoring system. Alarm groups are set within Radiolog allowing specific types of alarms from specific sensors to be directed to individuals or groups. This can be further refined by specifying days, and times within those days, that alarms should be sent to the members of any particular alarm group.

When used in validated environments system events such as attempts to access the system or edit settings can be flagged and an SMS text message generated and sent to designated users.

Unlike other products in the Watch range the AW04 is normally mains powered; however an internal battery back is provided to allow messaging should a mains power failure occur.

Watch series products use our own proven GSM communication modules. The GSM module has an onboard micro controller acting as a watchdog for the modem. Should any problem with network connectivity be detected the modem will be automatically re-set and re-connected to the network.

A heartbeat message can be programmed at user-defined intervals from the PC software. Mains failure alarms and communications lost alarms are handled directly by the AW04 unit. Up to 8 numbers can be programmed directly into the unit for alarm notification in the event of a USB communication break or mains power failure. In the latter case the batteries will be used to power the GSM module.

A data enabled SIM card is required.