

PHARMACEUTICAL
INDUSTRY SPECIFIC
PRODUCT SOLUTIONS



Hanwell

An environmental monitoring and control professional at your finger tips

Delegate your environmental monitoring to Hanwell

Hanwell is a well established brand with a reputation for being the most reliable, durable and flexible system within the pharmaceutical market. As well as being designed to offer customers a total solution to current environmental monitoring and control requirements, our systems have the ability to grow along with an organisation providing a uniquely future proof solution to monitoring.

The table below illustrates the full range of Hanwell monitoring formats and the product capabilities within a monitoring process, from measurement of the required parameter to generating the potential action required. The Hanwell systems have been specifically designed to cater for a wide variety of needs with varying product capabilities because we understand that although all monitoring principles are similar, all buildings, resources and budgets are different.



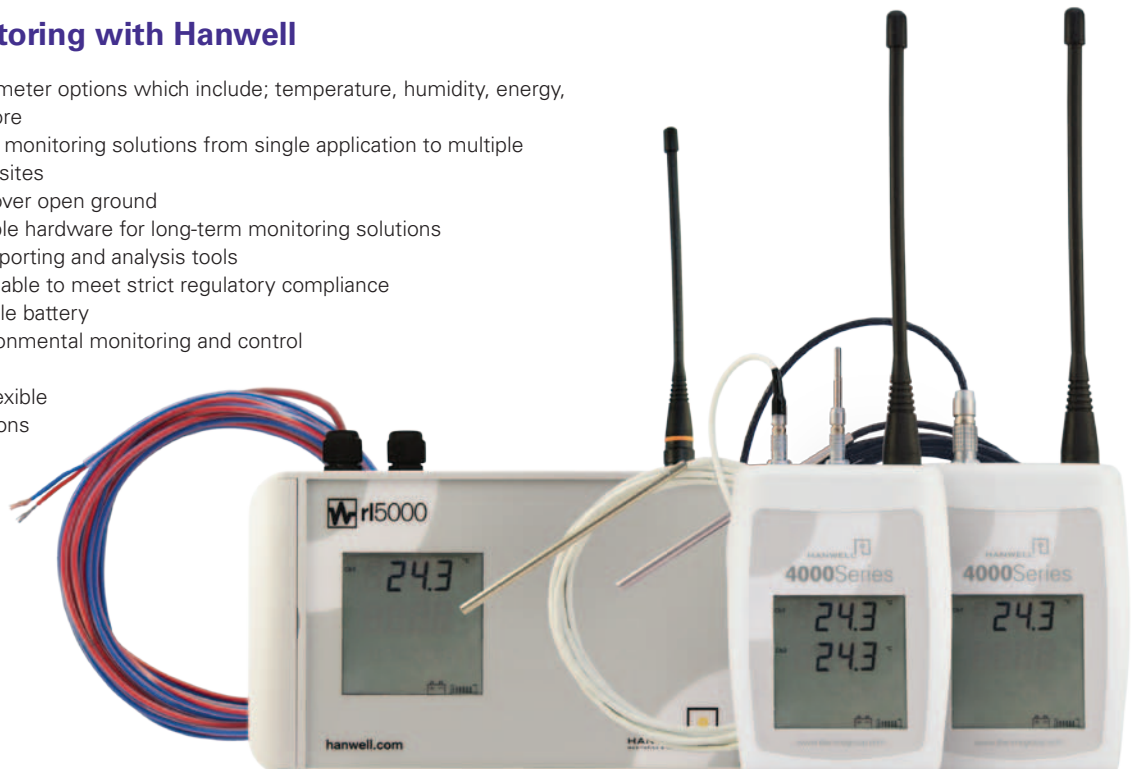
5 step monitoring process

Hanwells full range of format options:

	Indicator	Data Logger	Radio/GPRS	Radio/Control
1 Measure parameter	✓	✓	✓	✓
2 Display data	✓	✓	✓	✓
3 Log/Transmit Data		✓	✓	✓
4 Data Collation/Reporting			✓	✓
5 Generate Action				✓

Advantages of monitoring with Hanwell

- Wide range of product parameter options which include; temperature, humidity, energy, pressure, CO₂ and many more
- Hanwell offer a multitude of monitoring solutions from single application to multiple applications within multiple sites
- Proven radio range of 3km over open ground
- Reliable, accurate and durable hardware for long-term monitoring solutions
- Comprehensive software reporting and analysis tools
- Fully validated systems available to meet strict regulatory compliance
- Long-life and user changeable battery
- Complete closed loop environmental monitoring and control system solutions
- Future proof system with flexible hardware and software options

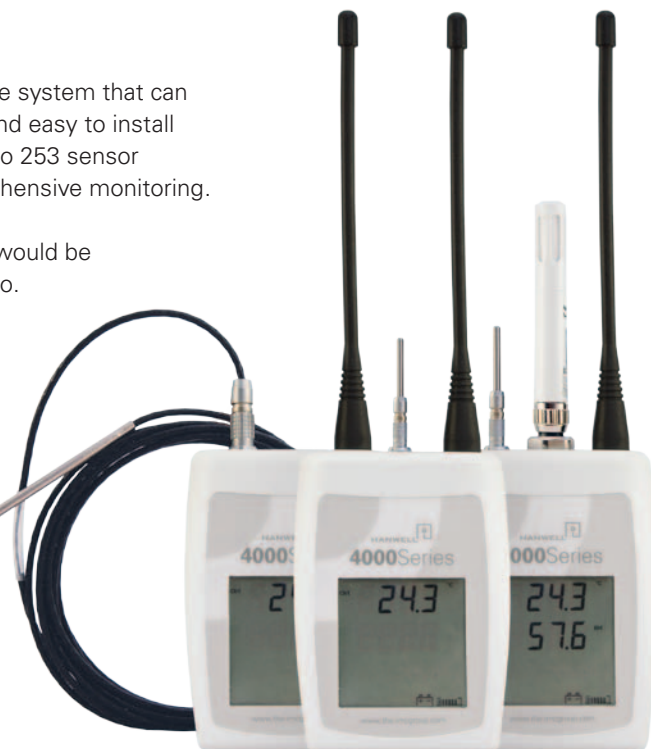


Radio-Wave your manual checks goodbye

The Hanwell radio technology provides users with a reliable and durable system that can cover a range of 3km over open ground. The system is cost-effective and easy to install due to its wireless format. The base station is capable of receiving up to 253 sensor transmissions and provides users with an optimum solution to comprehensive monitoring.

Unless the monitoring needs are isolated (where a data logger option would be the most cost-effective solution) the most logical system format is radio.

Radio monitoring eliminates user manual checks and sends relevant data and alerts to a local PC or network for immediate action. Other Hanwell radio monitored sites can feed data into an organisations network for a multiple site monitoring solution.



Typical pharmaceutical applications

Application	Product
Monitor and generate alarms within fridges at 2°C and 8°C temperatures	RL4001-434.075 single channel or
	RL4002-434.075 dual channel. A wide variety of probes are available
Monitor and generate alarms for temperatures within rooms, stability chambers, labs and clean rooms	RL4001-434.075 transmitter fitted with 1x Y300 short thermistor probe
	RL4007-434.075 with internal sensor
Monitor and generate alarms for temperature and humidity monitoring & alarming in rooms, stability chambers, labs and clean rooms	RL4106-434.075 with internal RH/T probe
	RL4114-434.075 for use with combined external RH/T probe
	RL4115-434.075 for use with individual external RH/T probes
Monitor and generate alarms for temperature levels within storage and distribution warehouses	RL4001-434.075 single channel or
	RL4002-434.075 dual channel for external sensors. A wide variety of probes are available
	RL4007-434.075 with internal sensor
Monitor and generate alarms within freezers down to -40°C	RL4001-434.075 single channel or
	RL4002-434.075 dual channel, for use with J095-05 thermistor probe/s.
Monitor and generate alarms within freezers down to -80°C	RL4401-434.075 single channel or
	RL4402-434.075 dual channel, for use with J099-01 PT100 4 wire probe/s
Monitor and generate alarms for cryogenic storage temperatures down to -200°C	RL5002-434.075 fitted with 1 x Y420-03 probe
Monitor and generate alarms for differential pressure within clean rooms	RL5405-434.075
Monitor and generate alarms for differential pressure across filters	RL4502-434.075
Monitor and generate alarms for CO ₂ and temperatures within Incubators	RL5116-434.075 (0-5%) CO ₂
	RL5118-434.075 (0-10%) CO ₂
A range of transport data loggers are available for providing ongoing records of unacceptable temperature/humidity exposure including precise time and date	

Complete closed loop monitoring and control

Hanwell wireless systems can go beyond just monitoring with the unique ability to integrate control functionality into the system. The ability to monitor and control environments sets us apart from other wireless monitoring system providers.

Our closed loop monitoring and control solutions can be achieved in a number of ways that suit our customers' needs. The simplest way is using Hanwell MS1000 relay of analogue cards to interface directly to a BMS system.

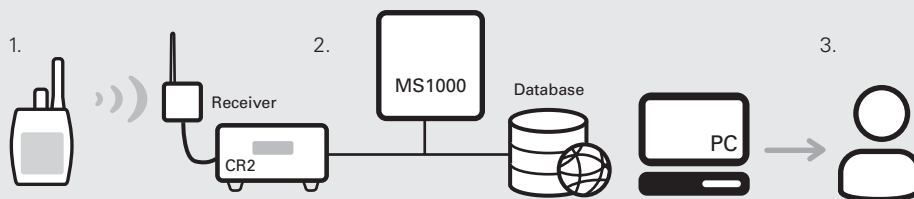
The MS1000 system is ideal when a small number of sensor readings need to be interfaced to a BMS system, for larger systems with many sensor points the following options are available:

- Local radio receiver with Modbus RTU output
- OPC server (software to software communication)
- Modbus TCP service

Hanwell wireless sensors can also be interfaced to industry standard SCADA systems using either OPC or Modbus.

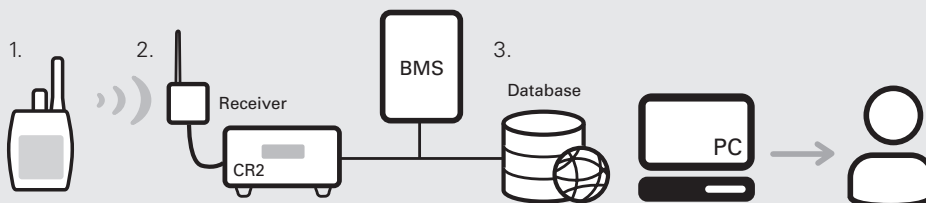


The schematic below details how a system can be used for standalone control



1. Transmitter records & sends data to CR2.
2. If a sensor has breached a predetermined setting the CR2 sends a command to the MS1000 to restore conditions.
3. Data is stored on a local network and can be accessed by multiple servers if necessary. Multiple users can access the site via their local PC / server.

The schematic below details how a system can be interfaced into a local BMS



1. Transmitter records & sends data to CR2.
2. If a sensor has breached a predetermined setting the CR2 sends a command to the BMS to restore conditions.
3. Data is stored on a local network and can be accessed by multiple servers if necessary. Multiple users can access the site via their local PC / server.

Creating **Synergy** between you and your critical environments

Synergy is the software platform that brings all the Hanwell hardware together and takes environmental monitoring data display to another level. All transmitters are configured through Synergy and all data is recorded in the Synergy database. Full data collection with interactive graphs, tables and plan views enable users to slice historical data in multiple ways for advanced analysis as well as set alarms and report on alarms generated. Synergy user access levels can be managed through customisable groups. Managing environmental data has never been so easily accessible to so many – whatever and whenever you need it – from wherever you are.



Whatever you need

- Single or multi user access for small, medium or large monitoring needs
- Share data with users and allocate permissions to various data groups where required
- Data collection and display of more environmental parameters than any other product on the market
- Display quick overview of sites and / or sensor groups specified by individual users
- Access interactive graphs, tables and plan views for detailed data analysis

Whenever you need it

- View real-time data 24/7
- Immediate system, email and SMS alarm notification to user defined personnel
- Generate automated reports or access data immediately and easily via the system

Wherever you are

- Access critical information on your local PC, via company intranet or network and via the internet
- View and interact with data and settings from anywhere in the world using commercially available browser based formats e.g. Firefox or IE



Optional add-on E-alarm provides email notification of alarms. Optional add-on SMS-alarm provides SMS notification of alarms. For validated users RadioLog8 is available.

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