4000RHT

DATA SHEET

4000RHT

The 4000RHT series of data logger and radio transmitter units are well established as the most flexible units on the market today. Each unit has been designed to be compatible with a wide range of temperature and humidity probes to provide accurate and reliable measurement specifically selected for the user's requirements.

Additionally, depending on the format required by the user, temperature and humidity data can either be downloaded directly to a local PC using a USB cable or wirelessly transmitted directly to a local PC for automatic and immediate notification and analysis. Most wireless devices include the logging facility to guarantee against data loss in the event of radio communication loss.

The units are powered by a single 3.6 Volt AA Lithium battery, which can be replaced by the user as and when required. The battery life will be dependent on the method of data collection, but can last up to 3 years, with notification of when a change is required.

Product Features

- Data logging and radio transmitter formats
- LCD display with data readings and battery life
- Logger memory capacity 100,000 readings
- Easily accessible battery and USB socket
- Supports (optional) hidden wall brackets
- Complies with RoHS, EU directives and WEEE
- Carries CE Marking

Benefits

- Assists with national regulatory compliance
- High performance technology with accurate probes
- Low power radio for long distance transmission (Over 3km over open ground)
- Up to 3 years battery life (depending on format of data retrieval, see below)
- Superior performance hardware with high accuracy sensors

Format

Data Logger	✔
Radio Transmitter	✔
GPRS *(see iSense)*	✘

CE ⌧ **RoHS**

Data Logger Functions

Memory: 256k EEPROM
Logging intervals: Programmable from 10 seconds to 24 hours.
Record Capacity: 100,000 records
PC Interface: USB communications
Battery Life: Up to 3 years
Software required: W200 – HanLog 4.5+
W300 – HanLog 4.5+ Validated software
Accessories: G129 – 3.6V AA Lithium battery
Y055 –USB cable
Y119 – Wall mount bracket*
This product can be calibrated to your specifications, contact us for further details.

N.B Instrument operating range -20°C to +65°C in a non-condensing RH environment

Radio Transmitter Functions

Frequency Options: A range of frequencies are available between 433-458MHz. Country specific regulations apply.
Radio Power: 10mW
Radio Range: 3km over open ground
Battery Life: Up to 18 months
Software required:
W700 – Standard Synergy Software Package
W706 – Validated Synergy Software Package
W400 – Legacy RadioLog Standard Software Package for Industrial
*See Synergy datasheet for further options
Hardware required: SR2 – Smart Receiver
CR2 – Controller
REP – Repeater
Accessories: 88706 – AA Lithium battery
Y119 – Wall mount bracket*
This product can be calibrated to your specifications, contact us for further details.

N.B Instrument operating range -20°C to +65°C in a non-condensing RH environment
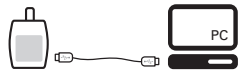
*for 4106, 4107, 4108, 4114 or 4115 only

Disclaimer
The information contained herein is believed to be reliable. The IMC Group Ltd is not responsible for any incorrect or incomplete information on this datasheet and the information or product may be changed without notice. Customers should obtain and verify the latest relevant information before placing orders for IMC products.

In Building Monitoring

The 4000RHT series are available as data loggers or radio transmitters depending on the relevant application. Each unit has durable hardware for a long-term monitoring solution and the most accurate sensors on the market depending on the application requirement. Both data collecting formats keep a record of historical data for regulatory compliance purposes.

Standalone data logger

Radio system
(requires radio receiver)

Parameters

 Ambient room conditions (4106)

 Stability cabinet monitoring (4114)

 Stability room monitoring (4114)

Instrumentation Specification

Dimensions: 110 x 80 x 35mm
Weight: 200 grams
Power Supply: 3.6V AA Lithium battery
Case Material: ABS & PC
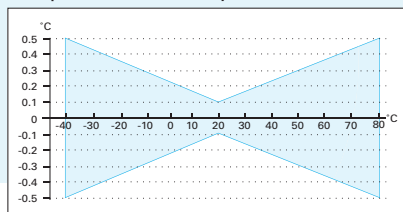**Memory Capacity:** 100,000 readings
IP Rating: IP50

The diagram above shows a typical radio system layout.

Technical Specifications

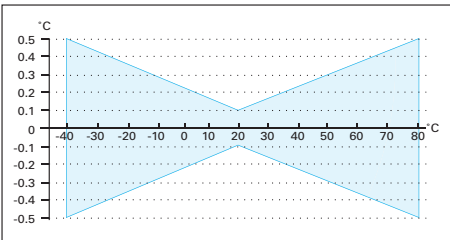| Description	RH/T unit with onboard sensors.	RH/T unit with onboard sensors and optional flood probe.	RH/T unit with onboard sensors and optional remote surface temperature probe.	RH/T unit high accuracy EE07 probe.	RH/T unit with C-Sense temperature and EE07-02 RH probes.	RH/T unit with C-Sense temperature and EE07-02 RH probes.
Data Logger Code	HL4106	N/A	HL4108	HL4114	HL4115	HL4116
Radio Transmitter Code	RL4106-434.075 (other frequencies available)	RL4107-434.075 (other frequencies available)	RL4108-434.075 (other frequencies available)	RL4114-434.075 (other frequencies available)	RL4115-434.075 (other frequencies available)	RL4116-434.075 (other frequencies available)
Add Your Probe			Option 1: J095-05 100mm x 4mm precision Thermistor probe, 3 mtr cable Option 2: J097-05 100mm x 4mm precision Thermistor probe, 5 mtr cable Option 3: Y306-1-05 Precision Thermistor surface probe with 1 mtr cable Option 4: Y306-3-05 Precision Thermistor surface probe with 3 mtr cable Option 5: Y306-5-05 Precision Thermistor surface probe with 5 mtr cable	Option 1: J140 EE07-02 RH/T probe Option 2: Y421-3 RH remote lead 3mtrs Option 3: Y421-5 RH remote lead 5m	Option 1: Y300 Short precision Thermistor probe mounted directly on a 2-pin lemo plug Option 2: Y300-80 Long (80mm) precision Thermistor robe mounted directly on a 2-pin Lemo plug Option 3: J140 EE07-02 RH/T probe Option 4: Y421-3 RH remote lead 3mtrs Option 5: Y421-5 RH remote lead 5m Option 6: J095-05 100mm x 4mm precision Thermistor robe, 3 mtr cable Option 7: J097-05 100mm x 4mm precision Thermistor probe, 5 mtr cable	Option 1: J095-05 100mm x 4mm precision Thermistor probe, 3 mtr cable Option 2: J097-05 100mm x 4mm precision Thermistor probe, 5 mtr cable Option 3: J140 EE07-02 RH/T probe Option 4: Y421-3 RH remote lead 3mtrs Option 5: Y421-5 RH remote lead 5m
Add Additional Probe:	N/A	V053 – Flood Cable	N/A	N/A	N/A	N/A
Internal Temp. Probe	Precision Thermistor	Precision Thermistor	Precision Thermistor			Precision Thermistor
Range	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C			-20°C to +60°C
Accuracy	±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes	±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes	±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes			±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes
Display Resolution	0.1°C	0.1°C	0.1°C			0.1°C
External Temp. Probe			Precision Thermistor	EE07 probe (11.8mm x 83mm) PT1000 (Tolerance class A)	Precision Thermistor	Precision Thermistor
Range			-40°C to +60°C	-40°C to +80°C	-40°C to +60°C	-40°C to +60°C
Accuracy			±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes	±0.1°C at 20°C (see Temperature accuracy chart below)	+/- 0.1°C between -20°C to +50°C +/-0.3 elsewhere	±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes
Resolution			0.1°C	0.1°C	0.1°C	0.1°C
Humidity Probes	Capacitive Polymer	Capacitive Polymer	Capacitive Polymer	Capacitive Polymer	Capacitive Polymer	Capacitive Polymer
Recommended Range	10-90%RH non condensing	10-90%RH non condensing	10-90%RH non condensing	0-100%RH non condensing	0-100%RH non condensing	0-100%RH non condensing
Accuracy	±3%RH	±3%RH	±3%RH	±2% (0-90%) ±3% (90-100%)	±2% (0-90%) ±3% (90-100%)	±2% (0-90%) ±3% (90-100%)
Temp Dependance	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C}\right]$
Resolution	0.1% RH	0.1% RH	0.1% RH	0.1% RH	0.1% RH	0.1% RH

Temperature accuracy chart

Outdoor/Remote Monitoring

The 4000RHT series outdoor loggers and transmitters are rugged units that are specifically designed for outdoor use. For total reliability of recorded data all Hanwell outdoor monitors are fitted with solar radiation shields. The radio transmitters' radio range is proven to reach up to 3km over open ground making them the most advanced on the market today.
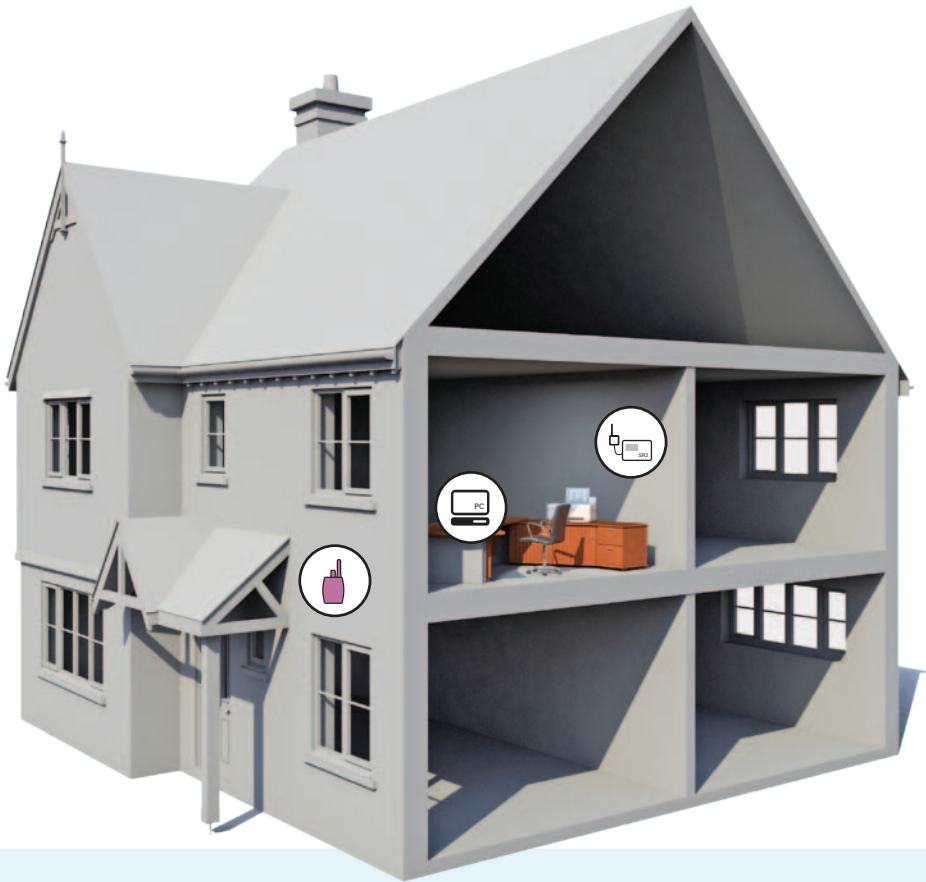
Temperature accuracy chart

Parameters

Temperature & humidity

Technical Specifications

Description	Outdoor RH/T unit with onboard sensors.	Outdoor RH/T unit with on board sensor and optional remote surface temperature probe.
Data Logger Code	HL4109	HL4110
Radio Transmitter Code	RL4109-434.075 (other frequencies available)	RL4110-434.075 (other frequencies available)
Internal Temp. Probe	EE07 probe (11.8mm x 83mm)	EE07 probe (11.8mm x 83mm)
Range	-20°C to +60°C	-20°C to +60°C
Accuracy	±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes	±0.1°C between -10°C to +40°C. ±0.3°C Outside these extremes.
Display Resolution	0.1°C	0.1°C
External Temp. Probe	Pt1000 (tolerance class A)	Pt1000 (tolerance class A)
Range	-40°C to +60°C	-40 to +60 C
Accuracy	±0.1°C at 20°C	±0.1 C at 20deg/C
Resolution	0.1°C	0.1 C
Humidity Probes	Capacitive Polymer	Capacitive Polymer
Recommended Range	0-100% RH non-condensing	0-100% RH non-condensing
Accuracy	±2% (0-90%) ±3% (90-100%)	±2% (0-90%) ±3% (90-100%)
Temp. Dependance	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C} \right]$	$< (0.025 + 0.0003 \times RH) \left[\frac{\%RH}{°C} \right]$
Add Additional Probe:		Remote Surface Probe
Range		-40°C to +60°C
Accuracy		±0.1°C between -10°C to +40°C ±0.3°C Outside these extremes
Display Resolution		0.1°C

*All specifications above refer to unadjusted units, custom adjustment can be performed to order to improve stated accuracies

Instrumentation Specification

Dimensions: 150 x 88 x 50mm
Weight: 485 grams
Power Supply: 3.6 Volt AA Lithium battery
Case Material: ABS & PC
Memory Capacity: 100,000 readings
IP Rating: IP65

Intelligent monitoring and control solutions:
In Buildings | In Transit | Outdoor/Remote