

# ML4109 data logger

## Pro ML4000RH/T Series

Part of the **Hanwell Pro** ML4000RHT Series, the ML4109 outdoor data logger combines accurate temperature and humidity measurements using EE07 probe and protected with external solar/ rain shield.

### Features

- ✓ Combined temperature & humidity measurement
- ✓ Superior performance hardware & high accuracy sensors
- ✓ Easily accessible battery & USB socket
- ✓ Logger memory capacity of 50,000 readings per channel
- ✓ Up to 3 year battery life
- ✓ Complies with RoHS, EU & WEEE directives
- ✓ Carries CE Marking

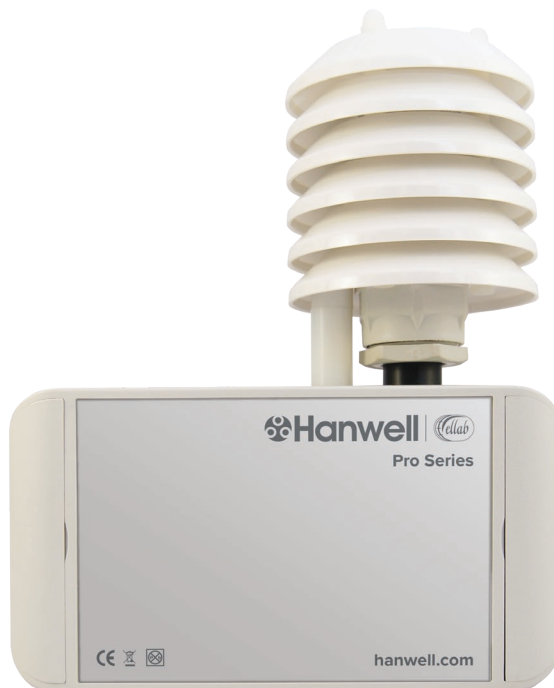
### Typical Applications

- Outdoor comparative data

Free HanLog  
software



Compatible with  
Hanwell EMS



Product code: ML4109-OD

### Instrumentation specification

Dimension (Excl. ancillaries)	150 x 88 x 50mm
Weight	485 grams
Power supply	1 x 3.6V AA Lithium battery
Case material	ABS & PC
Memory capacity	50,000 readings per channel (unit will wrap when full)
Clock accuracy (logging)	20 ppm at 25°C
IP Rating	IP65
Instrument measuring range	-20°C to +60°C
Instrument operating range	-20°C to +60°C in a non-condensing RH environment
Instrument storage temperature	-40°C to +60°C
Resolution	0.1°C (temp), 0.1%RH (humidity)

### Data Logger Functions

Memory	4MB Flash
Logging Intervals	Programmable from 10 seconds to 24 hours
Record Capacity	50,000 readings per channel
Battery life	Up to 3 years (depending on format of data retrieval)
PC Interface	USB Communications
Software required	W200 – HanLog 4.5+ Software Package W300 – HanLog 4.5+ Validated Software Package for Industrial, Food, Pharma & Hospital

### Accessories

Y119	Wall mounting bracket
88706	AA Lithium battery
Y055	USB Cable

Manufactured by Hanwell | Ellab   RoHS

Version 3 - EC190157

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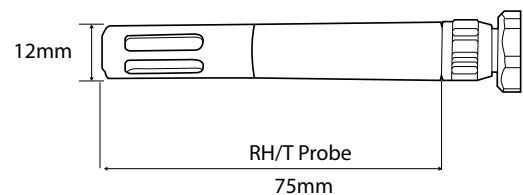
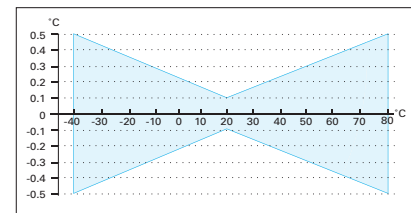
# Sensor (supplied with unit)

## J223

Temperature Probe	PT1000 (Tolerance class A)
Temperature operating range	-40°C to +80°C (restricted by instrument operating range)
Temperature accuracy	+/- 0.1°C at 20°C (see temp accuracy chart)
Long term drift	+/- 0.05°C per year
Humidity Probe	Capacitive Polymer
Recommended range	0-100% RH non condensing
Accuracy	+/- 2% (0-90%) +/- 3% (90-100%)
Temperature dependance	$<[0.025+0.0003 \times RH][\%RH/^{\circ}C]$

The J223 variant has an additional coating which substantially extends the lifetime and the measurement performance of the humidity sensor in corrosive environments. Additionally it improves the long term stability in dusty, dirty or oily applications by preventing stray impedances caused by deposits on the active sensor surface.

Temperature accuracy chart for EE07 probe



# Solar and rain shield

## T351-G18

### Operating environment

Operating/Storage temperature	-40°C to +80°C
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Maximum wind speed	75 m/s (168mph)
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### Shielding performance

Shielding efficiency (temperature rise/error due to incident solar radiation)	2.3°C/KW/m <sup>2</sup> at 1m/s typical
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### Mechanics

Diameter	76mm
Shield materials	Nylon/polyamide, polycarbonate, ABS, aluminium, stainless-steel
Overall height	118mm
Typical weight	110g

