



HYGROMETERS FOR HUMIDITY MEASUREMENT

In many manufacturing processes the measurement of relative humidity (%rh) is important, as many products are sensitive to variations in humidity. Therefore humidity needs to be measured and controlled for the end products to be consistent in both quality and performance.

WHAT IS A HYGROMETER?

A hygrometer is an instrument used to measure the quantity of water vapour present in air. Hygrometers can measure relative humidity over the range of 0 to 100 %rh but in most instruments, this range may be more limited depending on the sensor type. Relative humidity is expressed as the ratio of the amount of water vapour present in the air or gas, to the quantity which would reach saturation, saturation being 100 %.

APPLICATIONS

There are a wide range of applications for %rh measurement in the following industries:

- Pharmaceutical
- Paper mills
- Computer rooms
- Healthcare
- Livestock
- Food processing
- Building & Construction
- Electronics production

The pharmaceutical industry is one of the largest users of humidity instrumentation as products can be sensitive to variations in humidity levels. Food manufacturing processes rely on humidity control, as food preservation techniques are often focused on limiting the activity of water.

The humidity is an essential element of climate control in buildings for optimum comfort and energy conservation. Paper and paper based products are highly sensitive to humidity and moisture levels. During production, storage and distribution, the monitoring of humidity can have significant benefits on quality.

MONITOR HUMIDITY LEVELS FOR BETTER HEALTH

If a building is too damp and the humidity level is too high (above 70 %rh), not only does mould develop but it can encourage dust mites to breed in carpets and mattresses. Conversely, if the humidity level is too low (below 25 %rh), it can cause respiratory discomfort. The regular monitoring of humidity levels in buildings can improve health.

DEW POINT

The dew point is defined as the lower temperature to which air must be cooled in order for condensation (saturation) to occur. The dew point is dependent on the concentration of water vapour (%rh) present.

UKAS CERTIFICATES OF CALIBRATION

Our in-house UKAS calibration laboratory offers certification for both temperature and humidity instruments. Each certificate indicates deviations from standards at various temperature or humidity check points. See pages 105 and 106 for more information.

6000 SERIES THERMA-HYGROMETERS

- High accuracy $\pm 2\% \text{rh}$ & $\pm 1^\circ \text{C}$
- Remote or integral $\% \text{rh}$ & temperature probe
- Displays max/min humidity or temperature
- Optional backlit display

The 6000 series therma-hygrometers are easy to use, relative humidity and air temperature measuring instruments. The units measure $\% \text{rh}$ over the range of 0 to 100 $\% \text{rh}$ with a resolution of 0.1 $\% \text{rh}$ and temperature over the range of -20 to 70°C (-20 to 50°C with a fixed probe) with a resolution of 0.1°C .

The therma-hygrometers incorporate a custom LCD, displaying $\% \text{rh}$, $^\circ \text{C}/^\circ \text{F}$, dew point indication, max/min and hold. There is an automatic display of both open circuit and low battery. The 6000/6100 display the temperature and humidity at the push of a button separately, whereas the 6002/6102 display humidity and temperature simultaneously and additionally incorporates a backlit display.

All units are powered by three AAA batteries with a minimum life expectancy of 10000 hours. An auto-power off facility turns the therma-hygrometer off automatically after ten minutes, maximising battery life.



6100/6102 therma-hygrometers with remote probe

These therma-hygrometers utilise an interchangeable probe that incorporates a one-metre lead with a 6-pin Lumberg connector.



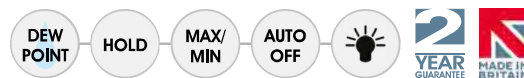
Optional UKAS Certificate of Calibration

An optional three-point UKAS Humidity Calibration Certificate is available at a preferential price when purchased with these units.



Protective silicone boot (830-227)

The Therma series is splashproof to IP64 when used in conjunction with this boot. Various colours are available - see page 13 for details



Order code	Description
224-600	6000 therma-hygrometer
224-610	6100 therma-hygrometer
224-602	6002 therma-hygrometer
224-612	6102 therma-hygrometer
224-617	6100/6102 spare probe**
830-227	Protective silicone boot - black
890-111	*UKAS 3-point Certificate
6100/6102 are supplied inclusive of probe	
*Price when purchased with a new instrument	

Specification	Temperature	Humidity
Range - 6000/6002	-20 to 50 °C	0 to 100 %rh
Range - 6100/6102	-20 to 70 °C	0 to 100 %rh
Resolution	0.1 °C/°F	0.1 %rh
Accuracy	±1 °C ±1 digit*	±2 %rh (10 to 90 %rh)
Hysteresis	N/A	±1 %rh
Sensor type	Silicon bandgap	Capacitance polymer
Battery & life	3 x 1.5 volt AAA - 10000 hours	
Display	12 mm LCD	
Dimensions	25 x 56 x 128 mm	
Weight	130/160 grams	
*Accuracy ±0.4 °C over the range 10 to 40 °C otherwise ±1 °C		

** Please note this probe will only work with 6100 Instrument with serial numbers later than D20120375, and 6102 Instruments with serial numbers later than D20100842.