



humidity meters

hygrometers & therma-hygrometers



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
- food processing
- computer rooms
- electronic component production
- livestock

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 at 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 at 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

ETI's in-house UKAS calibration laboratory offers certification for both temperature and humidity instruments. Each certificate indicates deviations from standards at five temperature or humidity check points.





6000 & 6100 therma-hygrometers

- ✓ remote or integral %rh & temperature probe
- ✓ max/min function & dew point calculation
- ✓ long battery life - 10000 hours
- ✓ high accuracy - 2 %rh

The 6000 and 6100 therma-hygrometers are easy to use relative humidity and air temperature measuring instruments. The unit measures %rh over the range of 0 to 100 %rh with a resolution of 0.1 %rh and temperature over the range of -20 to 50 °C with a resolution of 0.1 °C or °F switchable.

The instrument incorporates a clear custom LCD with °C, %rh, max/min, hold and dew point indication. There is an automatic display of both open circuit and low battery.

Both units are powered by three 1.5 volt AAA batteries with a minimum life expectancy of up to 10000 hours. An auto power off facility turns the therma-hygrometer off automatically after 10 minutes, maximising battery life.



6100 therma-hygrometer with remote probe

The 6100 therma-hygrometer utilises an interchangeable probe that incorporates a one-metre lead with a 6-pin Lumberg connector. If the probe needs to be replaced, the instrument will not require recalibration as the probes are fully interchangeable.



UKAS Calibration Certificate

An optional 3-point UKAS Humidity Calibration Certificate is available at a preferential price, if ordered at time of purchase.



order code	description
224-600	6000 therma-hygrometer
224-610	6100 therma-hygrometer
830-251	protective boot
224-615	6100 spare probe
890-111	*UKAS 3-point Certificate

specification	temperature	humidity
range	-20 to 50 °C	0 to 100 %rh
resolution	0.1 °C/°F	0.1 %rh
accuracy	±1 °C ±1 digit	±2 % (10 to 90 %rh)
sensor type	silicone bandgap	capacitance polymer
battery	3 x 1.5 volt AAA	
battery life	minimum 5 years (10000 hours)	
display	12 mm LCD	
dimensions	25 x 56 x 128 mm	
weight	130 grams	

optional UKAS Certificate of Calibration is available





Therma Hygro therma-hygrometer

- ✓ remote %rh & temperature probe
- ✓ incorporates max/min & backlight function

This easy to use, pocket-sized, therma-hygrometer measures both relative humidity and air temperature. The instrument will also display the maximum and minimum readings. The Therma Hygro measures %rh over the range of 20 to 100 %rh with a resolution of 0.1 %rh and temperature over the range of 0 to 50 °C with a resolution of 0.1 °C.

The digital Therma Hygro incorporates a clear LCD display indicating both %rh and temperature simultaneously. The display also automatically indicates both open circuit and low battery, when applicable.

The therma-hygrometer incorporates four, easy to use, push buttons allowing the user to select on/off, °C/°F, max/min and backlight functions. Each unit is supplied with a remote sensor with a 700 mm PVC lead.



specification	temperature	humidity
range	0 to 50 °C	20 to 100 %rh
resolution	0.1 °C/°F	0.1 %rh
accuracy	±1 °C ±1 digit	±3 % (50 to 70 %rh)
sensor type	thermistor	capacitance
battery	2 x 1.5 volt AAA	
battery life	1000 hours	
display	custom LCD	
dimensions	25 x 72 x 140 mm	
weight	205 grams	

order code	description
816-710	Therma Hygro

hygro-thermo pocket-sized hygrometer

- ✓ simultaneously displays humidity & temperature
- ✓ maximum & minimum function

The pen-shaped hygro-thermo incorporates a large, clear LCD that simultaneously displays both humidity and temperature over the range of 20 to 95 %rh and 0 to 50 °C.

The instrument is ideal for monitoring the humidity and temperature in a wide range of applications. Unlike many hygrometers that are large and heavy to carry around, this compact instrument is truly pocket-sized and convenient to use.

The hygro-thermo incorporates a max/min button which allows the user to display the maximum and minimum humidity and temperature simultaneously.

The unit is housed in a slim, pen-shaped ABS case measuring 20 x 23 x 138 mm and incorporates a pocket clip.



specification	temperature	humidity
range	0 to 50 °C	20 to 95 %rh
resolution	1 °C	1 %rh
accuracy 1 °C	±1 °C	±5 %rh
sensor type	thermistor	capacitance
battery	1.5 volt AAA	
battery life	6000 hours	
display	custom LCD	
dimensions	20 x 23 x 138 mm	
weight	35 grams	

order code	description
810-190	pen-shaped hygro-thermo





hygrometer therma-hygrometer

- ✓ integral %rh & remote temperature probe
- ✓ maximum, minimum & temperature alarm functions

This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

The instrument measures both humidity and temperature over the range of -20 to 70 °C and 20 to 99 %rh utilising the internal sensors. Utilising the external temperature sensor the temperature range is extended to -50 to 70 °C.

The unit features a temperature alert alarm that will sound when the external remote temperature probe indicates the temperature is 0 °C or below. This feature is ideal for frost/freeze alert in horticulture and similar.

The unit is housed in an ABS case, measuring 20 x 65 x 97 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

order code	description
810-155	therma-hygrometer



specification	temperature	humidity
range	-50 to 70 °C	20 to 99 %rh
resolution	0.1 °C or 0.1 °F	1 %rh
accuracy	±1 °C	±5 %rh
sensor type	thermistor	capacitance
battery	1.5 volt AAA	
battery life	1000 hours	
display	dual custom LCD	
dimensions	20 x 65 x 97 mm	
weight	100 grams	

Moisture Alert therma-hygrometer

- ✓ displays max/min humidity or max/min temperature
- ✓ pre-set audible alarm

The Moisture Alert therma-hygrometer incorporates a custom LCD display that indicates either humidity (20 to 95 %rh) or temperature (0 to 50 °C). The instrument is ideal for monitoring the humidity in buildings and housing or anywhere where humidity, moisture or dampness is a problem.

The Moisture Alert incorporates a pre-set audible max/min alarm for both humidity and temperature. The alert will automatically sound if the humidity exceeds 70 %rh or drops below 25 %rh. Alternatively, if the temperature exceeds 40 °C or falls below 1 °C the alert will sound.

The unit is housed in an ABS case, measuring 20 x 65 x 97 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

order code	description
810-170	Moisture Alert



specification	temperature	humidity
range	0 to 50 °C	20 to 95 %rh
resolution	0.1 °C	0.1 %rh
accuracy	±1 °C	±5 %rh
sensor type	thermistor	capacitance
battery	1.5 volt AAA	
battery life	5000 hours	
display	custom LCD	
dimensions	20 x 65 x 97 mm	
weight	73 grams	





hygrometer therma-hygrometer

- ✓ integral %rh & temperature
- ✓ max/min temperature humidity function

This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum temperature and humidity readings.

The instrument measures both humidity and temperature over the range of -10 to 60 °C and 20 to 95 %rh utilising the internal sensors.

This therma-hygrometer is ideal for monitoring both temperature and humidity in rooms, offices, factories and similar to ensure optimum working conditions are maintained.

The unit is housed in an ABS case, measuring 20 x 70 x 110 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.



order code	description
810-150	therma-hygrometer

specification	temperature	humidity
range	-10 to 60 °C	20 to 95 %rh
resolution	0.1 °C or 0.1 °F	1 %rh
accuracy	±1 °C	±5 %rh
sensor type	thermistor	capacitance
battery	1.5 volt AAA	
battery life	5000 hours	
display	dual custom LCD	
dimensions	20 x 70 x 110 mm	
weight	80 grams	

therma-hygrometer for panel-mounting

- ✓ simultaneously displays temperature & humidity
- ✓ easy panel-mounting installation

This panel-mounted therma-hygrometer simultaneously displays both humidity over the range of 20 to 99 %rh and temperature over the range of 0 to 50 °C with a resolution of 1 %rh and 0.1 °C. This instrument is ideal for OEMs for installing into equipment, i.e. vivariums, egg hatcheries and similar.

The therma-hygrometer is easily installed into a panel via a mounting hole with a minimum Ø33 mm cut-out. The unit incorporates a screw clamp with a maximum panel thickness of 7 mm.

The thermo-hygrometer features a max/min memory function for both temperature and humidity. The unit is powered by a CR2032 coin cell battery with a life expectancy of 5000 hours continuous use.



order code	description
810-180	panel-mounted therma-hygrometer

specification	temperature	humidity
range	0 to 50 °C	20 to 99 %rh
resolution	0.1 °C	1 %rh
accuracy	±1 °C	±5 %rh
sensor type	thermistor	capacitance
battery	3 volt CR2032 lithium coin cell	
battery life	5000 hours	
display	dual custom LCD	
dimensions	Ø50 x 41 mm	
weight	42 grams	





traditional hygrometers mason's & sling psychrometer

mason's hygrometer

This spirit-filled mason's hygrometer is a wall-mounted wet and dry thermometer for determining the relative humidity.

The mason's hygrometer measures the wet and dry temperature over the range of -15 to 50 °C.

The unit is supplied with a slide rule for calculating the relative humidity over the range of 1 to 97 %rh.

The mason's hygrometer housing is manufactured from robust white ABS plastic and incorporates an integral hook for wall-mounting. The case dimensions are 34 x 75 x 310 mm.



order code	description
817-050	mason's hygrometer - white

professional whirling hygrometer



This professional whirling hygrometer (sling psychrometer) offers a means to accurately measure the relative humidity utilising wet and dry bulb mercury-filled thermometers. The unit incorporates a water reservoir linked to the wet bulb by the means of a cotton sleeve.

The thermometer tubes measure temperature over the range of 0 to 50 °C enabling the %rh to be calculated utilising the chart supplied. The dimensions of the whirling hygrometer are 11 x 45 x 220 mm. Each hygrometer is supplied in a wallet.

order code	description
817-001	professional whirling hygrometer
817-025	spare tube

dial hygrometers for humidity

general purpose dial hygrometer



This easy to read general purpose hygrometer incorporates a 70 mm diameter dial with colour-coded zones. The hygrometer indicates the level of humidity in 5 % divisions over the range of 0 to 100 %rh. The green ABS housing measures 70 x 60 mm and can be free-standing or hung by the hook from a shelf.

order code	description
800-125	dial hygrometer - green

room dial hygrometer



This room hygrometer incorporates a 70 mm diameter dial with colour-coded zones indicating the moisture/ water vapour in the atmosphere. The unit indicates the level of humidity in 5 % divisions over the range of 0 to 100 %rh. The ABS housing measures 70 x 60 mm and can be free-standing or hung from a shelf.

order code	description
800-130	room dial hygrometer - white

