

# Hygromaster™

## Protimeter

### Thermo-Hygrometer



The Hygromaster is a unique instrument that can be used for spot measurements of humidity and temperature and as a data logger for monitoring humidity and temperature trends. It is a versatile tool ideally suited for professionals involved in the following industries:

- HVAC
- Building survey/home inspection
- Dampness diagnosis in buildings
- Flooring installation
- Specialty coating applications
- Flood restoration

### Functions and Features

The measurements that can be displayed on the Hygromaster are:

- Relative humidity
- Air temperature
- Dew point temperature
- Mixing ratio/absolute humidity/grains per pound
- Surface temperature
- Surface proximity to dew point

Relative humidity and air temperature values are displayed simultaneously when switching the Hygromaster on. Dew point and mixing ratio/absolute humidity are displayed at the touch of a button. An optional surface temperature probe is required to display surface temperature and temperature difference measurements.



# Data Logging Functions

When concise and accurate environmental readings need to be reported, the Hygromaster is the ideal instrument. The ability to record readings instantly at the push of a button or leave the instrument in place over a period of time makes this instrument ideal for many applications including:

- Concrete floor moisture measurement
- Indoor air quality
- Environmental health
- HVAC
- Flood restoration

The Hygromaster can be set to record measurements over time. The data logger can be set and activated from the instrument buttons or from a PC. Measurements can be saved and displayed in tabular and graphical form.

The user selects four data logging parameters listed below:

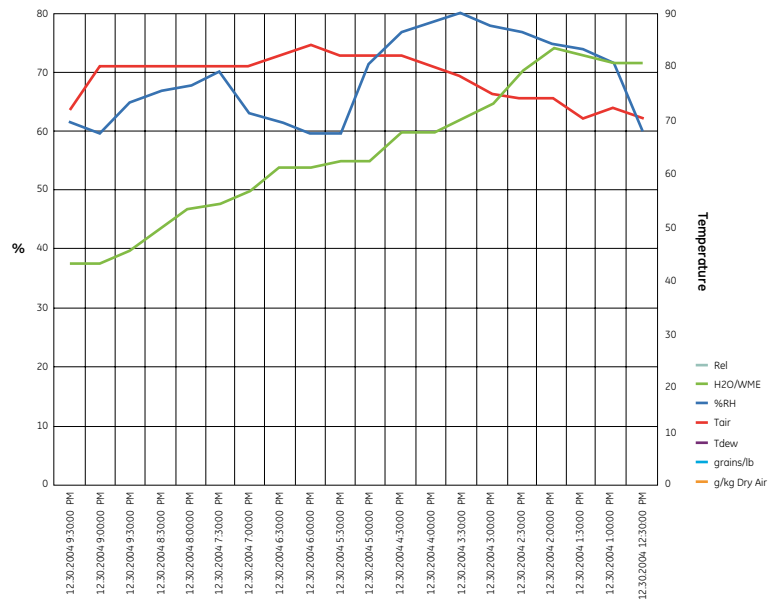
- Logging interval: 1 minute to 24 hours
- Delayed start logging: 1 minute to 24 hours
- Number of logs: maximum of 398 records
- Job number: range from 1 to 15



Assign job numbers to data



Set interval 1 minute to 24 hours



Automatic graphing -Windows based PC.

## Humidity Probe Options

The Hygromaster may be used with two styles of interchangeable humidity probe, the Hygrostick and the Quikstick.

Hygrostick part number POL4750, ideal for high moisture applications such as concrete



Quikstick part number POL8250-2, ideal for full range fast response % RH application

## Concrete Floor Moisture Measurement

The Hygromaster may be used in accordance with BS8201/8203 and ASTM F2170-02 codes of practice for surface and sub-surface humidity measurement of concrete floor slabs.

Protimeter pioneered the sleeve test for sub-surface measurement that involves measuring the equilibrium humidity in a sleeve inserted into a hole drilled into the slab. If excessive moisture is found, the sleeve cap is replaced and left for re-testing when appropriate.

A small hole is drilled in the concrete. Next, a humidity sleeve is inserted and capped flush with the floor. The relative humidity of the air in the test hole is now at the same moisture level as the concrete around it. Flooring product manufacturers normally recommend RH readings between 75% and 85% depending on the permeability of the product being installed. See humidity box in accordance with BS8201/8203 or ASTM F2170-02 for exact test procedures.

Readings from multiple Hygrosticks can be taken and recorded with ease. If it's long term measurements you need, simply set the logging start, stop and interval times and leave the instrument in place.

Humidity readings can be taken with the use of humidity sleeves or humidity box.

A further equilibrium relative humidity test method, which requires no drilling, is the surface humidity box method. This method is incorporated in the current British Standard Codes of Practice for floor laying, BS8201, BS8203 and BS5325. At the time of print this method is also a draft ASTM test F2420-05. The humidity box is a block of foam with a cavity at its center, which equalizes with the surface it is placed. The HygroStick is inserted through a hole in the side of the box and measurements are taken using the optional extension lead and Hygromaster or MMS Plus instrument. Although the method measures at the surface, it is largely unaffected by changes to atmospheric conditions unlike the calcium chloride test.



# Hygromaster Specifications

## Product

Protimeter Hygromaster

## Part Number

BLD7700 - Hygrostick  
BLD7701 - Quikstick

## Standard Supply

Hand-held Hygromaster, Hygrostick™ humidity sensor, velcro pouch with belt loop and instructions.

## Surface Temperature Probe Range BLD7710-080

32°F to 122°F (0°C to 50°C)

## Hygrostick Data (Nominal)

- 30% to 40% RH ( $\pm 3\%$  RH)
- 41% to 90% RH ( $\pm 2\%$  RH)
- 32°F to 122°F (0°C to 50°C)  $\pm 0.6^\circ\text{F}$  ( $\pm 0.3^\circ\text{C}$ )
- Dimensions:  $\varnothing$  0.3 in x 2 in (8 mm x 50 mm)

## Quikstick Data (Nominal)

- 0% to 10% RH,  $\pm 3\%$  RH at 68°F to 86°F (20°C to 30°C),  
10% to 90% RH,  $\pm 2\%$  RH at 68°F to 86°F (20°C to 30°C),  
90% to 100% RH,  $\pm 3\%$  RH at 68°F to 86°F (20°C to 30°C),  
32°F to 122°F (0°C to 50°C)  $\pm 0.6^\circ\text{F}$  ( $\pm 0.3^\circ\text{C}$ )
- Dimensions:  $\varnothing$  0.6 in x 2.5 in (16 mm x 65 mm)

## Batteries

AA x2

## Weight

4 oz (100 g)



## Optional Accessories

- Surface temperature sensor BLD7701-80
- Five pack Hygrostick: Software and cable BLD5810
- Hygrostick/Quikstick™ extension lead BLD5802
- Hygrostick POL4750
- NIST traceable calibration certificates available BLDCERT
- Surface humidity box BLD4711
- Data cable and software BLD7712

## Floor kits

- Hygromaster is available in kit form for the flooring industry
- Hygromaster standard supply (see picture above)
- Extension lead BLD5802
- 20 pack humidity sleeves BLD4750HS-020

## Warranty

24 months on mechanical or manufacturing defects. Does not include wearing part or accessories



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