



## Humidity / Psychrometric Sensor Information

Updated January 27, 2016

### HOW THE SYSTEM WORKS

Sensor 1 measures %RH and dry bulb temp.

Sensor 2 measures barometric pressure

System calculates all other psychrometric parameters including air density adjustments for: wet bulb, enthalpy, hum. ratio, grains, specific volume.

Qualification tests matched results from web calculators: Vaisala, others.

### ACCURACY SPECIFICATIONS

Changed in Jan 2016 to harmonize with new AABC & NEBB specifications, and to facilitate testing & comparisons. Stable and accurate humidity measurements & comparisons are difficult to achieve, especially in the field. Contact the factory for more information.

Temperature: +/- 1°F over 32 to 125°F.

Humidity: +/- 3.0% over the range of 10 to 90%, resolution 0.1%.

Contact factory if better accuracy is desired.

### HOW THE HUMIDITY SENSOR CHIP WORKS

Porous polymer is sandwiched between capacitive plates.

Polymer absorbs water vapor, capacitance changes.

Probe is immersible.

### CONTAMINATION CAUSES SENSOR DRIFT

Contaminants can migrate into and become trapped in the polymer between the sensor chip's capacitive plates, shifting the output, causing inaccurate readings. Avoid these materials: foam, plastic bags, bubble wrap, glues, tapes & stickers, chemical solvents. Sensing Module is shipped inside a protective bag.

Evergreen Telemetry has redesigned our Humidity / Psychrometric Sensor to allow easy replacement of the sensor chip in case of contamination-caused drift.

### NIST-TRACEABLE CALIBRATION COST

Yearly at \$135. Includes brand new sensor chip to eliminate drift accumulation.