



## Humidity / Psychrometric Sensor Information

Updated October 2020

### How the System Works

- Sensor 1 measures 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.

- Temperature:  $\pm 1$  °F over 32 to 125° F
- Humidity:  $\pm 3.0\%$  over the range of 10 to 90%, resolution 0.1%

Contact factory for more information or 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

\$235; Includes brand new sensor chip to eliminate drift accumulation.