

I-RH-TEMP Series
Relative Humidity/
Temperature Combinations

Product Description

The I-RH-TEMP Series Relative Humidity transmitters convert a resistance to a linear 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC output. The current signal may be transmitted over long distances on unshielded twisted-pair wire and will not be affected by lead wire resistance or electrical noise.

The Advanced Ceramic Technology design overcomes the limitations of other resistance-based humidity sensors that utilize water-soluble polymer coatings. The Advanced Ceramic Technology enables these sensors to recover fully from condensation. This allows the sensor to maintain its accuracy over a longer period of time. Despite its accuracy, the Advanced Ceramic Technology sensor and related circuitry are economical.

Accuracy is maintained over the entire operating range, using a thermistor for temperature compensation.

Each I-RH-TEMP Series humidity transmitter is calibrated using a NIST Traceable Temperature and Humidity Chamber.

Any thermistor, RTD, or temperature transmitter may be order with the I-RH transmitter. All I-RH-TT Room combination units will have a board mounted on the back of the enclosure. All I-RH-TEMP Series transmitters have a limited five year warranty.

Product Specifications

Supply Voltage	250 Ohm Load: +15 to 36 VDC / 24 VAC 500 Ohm Load: +18 to 36 VDC / 24 VAC
Power Consumption	1 VA max.
RH Measurement Range	0 to 100% RH
RH Output Signal	2-wire, 4-20mA, 3-wire 0-5 or 0-10 VDC
Temperature Sensor Output	2-Wire Resistive, or 2-wire uA Output
Temperature Transmitter Output	2-wire, 4 to 20mA, or 3-wire, 1-5, 2-10 VDC
Accuracy @ 77°F (25°C)	+/- 1% over 20% Span between 20-95% RH +/- 2, 3, or 5% from 20 to 95% RH
Repeatability	0.5% RH
Hysteresis	Less than 0.4% RH
Long Term Stability	Less than 2% RH Drift / 5 Years
Response Time	110 seconds for 63% Step
Saturated Response Time	10 minutes for 63% Step
Operating Temp. Range	-10 to 122°F (-23.3 to 50°C)
Operating RH Range	0 to 100% RH

RH-TEMP



Attributes:

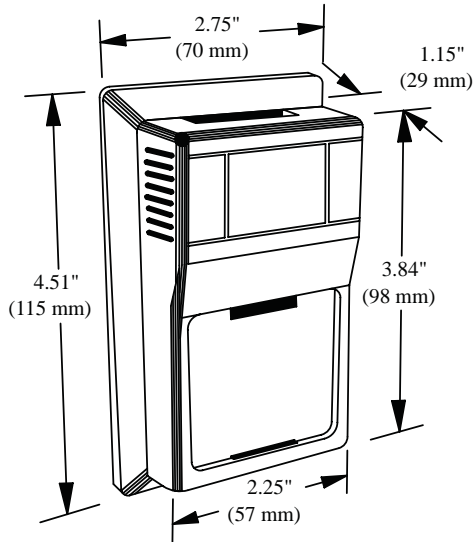
- **Low Drift**
- **Highly Repeatable**
- **Temperature Sensor Output**
- **Field Selectable Output Signals**
- **Single Point Field Calibration using DIP Switches**
- **Lowers Inventory Cost**

Applications:

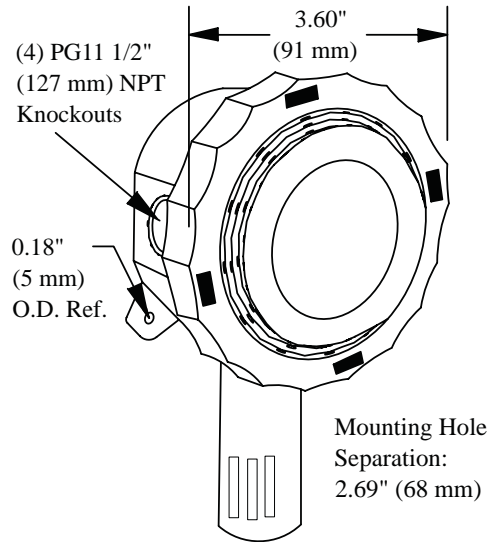
- **Light Industrial**
- **Pharmaceutical**
- **Humidity Chambers**
- **Pool Environments**
- **Process Control**

Dimensions

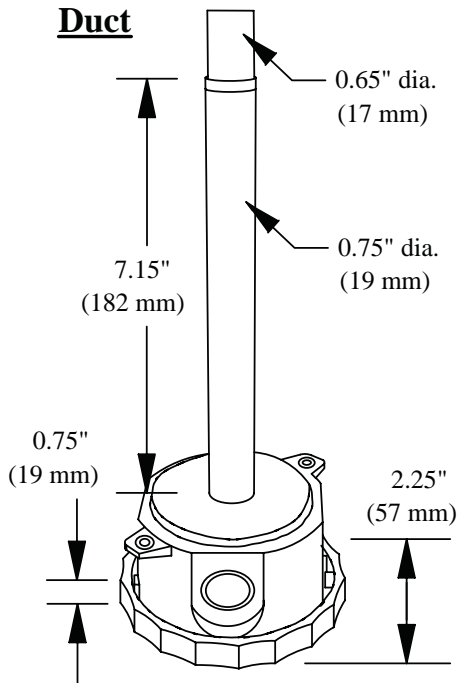
Room



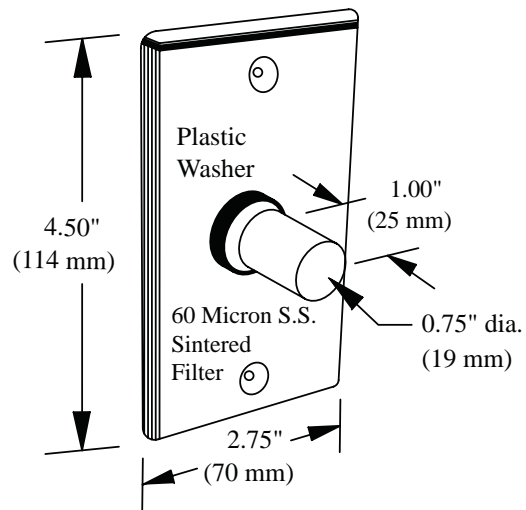
Outside



Duct



Stainless Plate



Ordering Information

Accuracy I- []	Temp Sensor []	Configuration []	Temp Transmitter Output (if needed) []
RH1 (+/- 1%)*	100 1K 1.8K	(R) Room	(4) 4 to 20mA Output
RH2 (+/- 2%)	2.2K ASI 3K	(RO) Room w/Override	(1) 1-5 VDC Output
RH3 (+/- 3%)	AN(Type III)	(RS) Room w/Set Point*	(2) 2-10VDC Output
RH5 (+/- 5%)	CP(Type II)	(RSO) Room w/Set Point &Override*	
	CSI 20K 100K	(D) Duct	
	1K Nickel	(O) Outdoor Air	
	TT1K** TT100**	(SP) Stainless Plate	

* See Temperature Cut sheet for additional information on setpoint specs

*Specify a 20 % RH Range when ordering an I-RH1%

**Specify a Temperature span for TT100 and TT1K Units