

Product Data

I-RH Series
Relative Humidity Transmitters

Relative Humidity



Product Description

The I-RH Series Relative Humidity transmitters convert a resistance change to a linear 4 to 20 mA, 0 to 4 VDC, or 0 to 10 VDC output. The current signal may be transmitted over long distances on twisted-pair wire and will not be affected by the 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 humidity transmitter is calibrated using a NIST Traceable Temperature /Humidity Chamber. Both three and five point calibration certificates are available for 1% and 2% RH accuracies, but they must be ordered separately.

All I-RH Series transmitters have a limited five year warranty.

Product Specifications

Supply Voltage	250 Ohm Load: +15 to 36 VDC / 21.6-26.4 VAC 0-5VDC: +15-36 VDC / 21.6-26.4 VAC 500 Ohm Load: +18 to 36 VDC / 21.6-26.4 VAC 0-10VDC: +18-36 VDC / 21.6-26.4 VAC
Power Consumption	1 VA max.
RH Measurement Range	0 to 100%
RH Output	2-wire, 4 to 20mA (Factory Standard) 3-wire, 0-5, 0-10 VDC or 4 to 20mA
Accuracy @ 77°F	+/- 1% over 20% span (between 20 to 90%) +/- 2%, 3%, or 5% from 20 to 95%
Long Term Stability	Less than 2% drift / 5 years
Hysteresis	Less than 0.4% RH
Repeatability	0.5% RH
Sensitivity	0.1 % RH
Response Time	110 seconds for 63% Step
Operating Temperature Range	-10 to 122°F (-23.3 to 50°C)
Operating Humidity Range	0 to 95 % RH non-condensing
Saturation Response Time	10 minutes for 63% Step

Attributes:

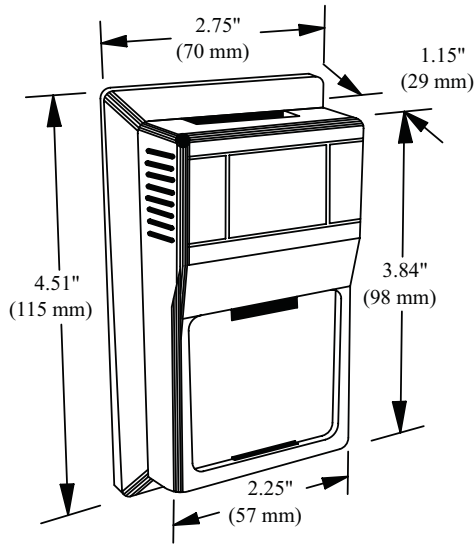
- **Single point Field Calibration**
- **Field selectable output signals**
- **1%, 2%, 3%, and 5% Accuracies**
- **Low Drift**
- **Highly Repeatable**
- **Calibration Certificates Available**

Applications:

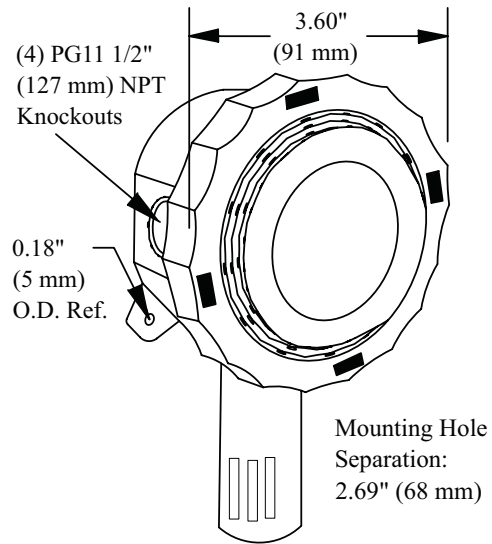
- **Building Automation Systems**
- **Light Industrial**
- **Pharmaceutical**
- **Humidity Chambers**
- **Data acquisition**
- **OEM**

Dimensions

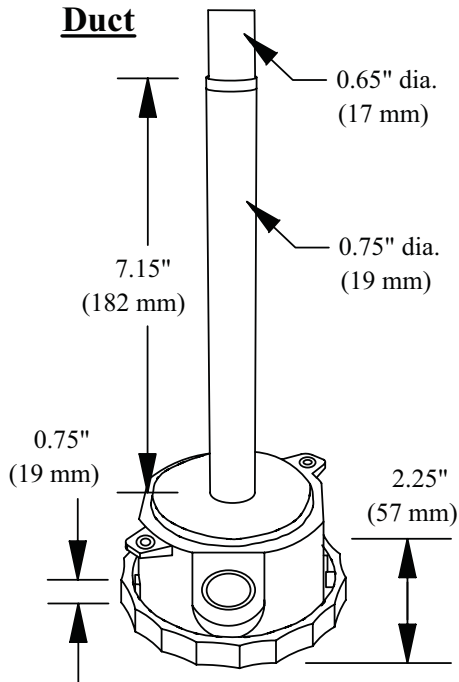
Room



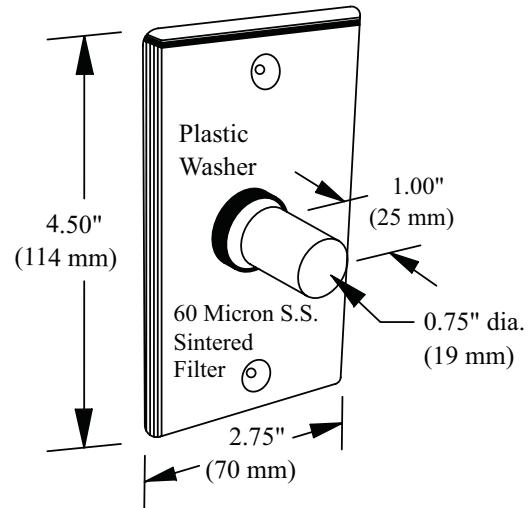
Outside



Duct



Stainless Plate



Ordering Information

I-	Accuracy	Range if 1%	Configuration
	[]	-[]	-[]
	↑	↑	↑
	RH1 (+/- 1%)	Please Specify	(R) Room
	RH2 (+/- 2%)	a 20% Span	(D) Duct
RH3 (+/- 3%)	(i.e. 40-60%)	(O) Outdoor Air	
RH5 (+/- 5%)		(SP) Stainless Plate	

3 PT NIST Certificate (3 point Calibration Certificate @ 20, 50 and 80% RH)
5 PT NIST Certificate (5 point Calibration Certificate w/standard points chosen)

Example: I-RH3-R or I-RH5-D or I-RH2-O or I-RH1-(40 to 60%)-SP