HS-D Sensor Series

Duct Humidity Transmitters

Overview

The HS-D Sensor Series are duct humidity transmitters. They use a highly accurate and reliable Thermoset Polymer based capacitance humidity sensor and state-of-the-art digital linearization and temperature compensated circuitry to monitor humidity levels. The sensor is encapsulated in a 228.60 mm (9”) long by 12.7 mm (0.5”) diameter 304 S/S probe. A 60 micron HDPE filter protects the sensor from contaminants. A variety of enclosures are available. Excellent long term stability and quick response time combined with temperature compensation make the HS-D Sensor Series the ideal choice for the HVAC market. All models are available with accuracies of 2%, 3% or 5%.

Applications

- HVAC
- Clean rooms
- Museums / Archives
- Hospitals and Pharmaceuticals

Features & Benefits

- Economical
- Ease of installation
- Probes made of corrosion resistant 304 stainless steel
- Optional LCD

Accessories

HS-FCAL	Factory Calibration Certificate
HS-NIST	NIST Calibration Certificate

Note: Calibration certificates must be purchased at the time of purchasing the relative sensors.

Model Selection

		HS-	D	2	PS	X	X
Mounting Style	D = Duct						
Humidity Sensing Accuracy	2 = 2% 3 = 3% 5 = 5%						
Enclosure	PS = Plastic square enclosure PR = Plastic round enclosure MJ = Metal junction box enclosure MW = Metal weatherproof enclosure						
Temperature Sensor Option	T = Temperature sensor (10kΩ, Type II thermistor)						
Display Option	D = Display (only available on PS Enclosure) (Humidity only is displayed)						

Product Specifications

Environmental

Operating temperature	-40 °C to 85 °C (-40 °F to 85 °F)
Storage temperature	-40 °C to 85 °C (-40 °F to 85 °F)
Ambient humidity	0 to 95% Non-condensing

Humidity Sensor/Probe

Sensor Type	Thermoset Polymer based Capacitive
Sensor Accuracy	±2, 3, or 5% RH (5 to 95% RH)
Output Signal	4-20mA current loop, 0-5 VDC, or 0-10 VDC
Range	0 to 100%RH
Response	15 seconds typical
Temperature Dependence	±0.05% RH/ °C
Hysteresis	±1.5% RH maximum
Repeatability	±0.5% RH typical
Linearity	±0.5% RH typical
Probe	230 mm (9”) probe length x 12.7 mm(1/2”) Diameter Stainless Steel with Porous Filter

Enclosure

Material:

□ Plastic square enclosure (PS)	Grey ABS; Type: UL94-5VB IP61(NEMA 2)
□ Plastic round enclosure (PR)	Grey ABS; Type: UL94-5VB; IP65/NEMA4X
□ Metal junction box enclosure (MJ)	Galvanized Steel Type: IP50 (NEMA1)
□ Metal weatherproof enclosure (MW)	Cast Aluminum Type: IP64 (NEMA3X)

Shipping weight

□ Plastic square enclosure (PS)	0.70 lbs (0.32 kg)
□ Plastic round enclosure (PR)	0.70 lbs (0.32 kg)
□ Metal junction box enclosure (MJ)	1.05 lbs (0.48 kg)
□ Metal weatherproof enclosure (MW)	1.05 lbs (0.48 kg)

Electrical

Dissipation Factor	2.2mW/K (Thermistor)
Max Power @ 25°C (77°F)	75mW (Thermistor)
Thermal Time Constant	Less than 10s (Thermistor)
Power Supply	18 to 30 Vdc, 15 to 26 Vac
Consumption	22 mA Maximum
Output Drive at 24 Vdc	550 Ω Max for Current Output 10 kΩ Min for Voltage Output
Internal Adjustments	Clearly marked ZERO and SPAN pots
Protection Circuitry	Reverse voltage protected and output limited
Termination	Screw terminal block (14 20 22 AWG)

Temperature Sensor Option

Type[1]	10k Ω NTC thermistor, Type 2
Accuracy	±0.2°C; ±0.36°F

LCD Display Option

LCD Specifications	3 digit for 00.0 to 99.9% RH, 24 x 11mm (0.95”w x 0.45”h) (PS Enclosure only)

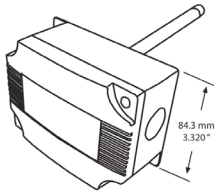
Agency Approval

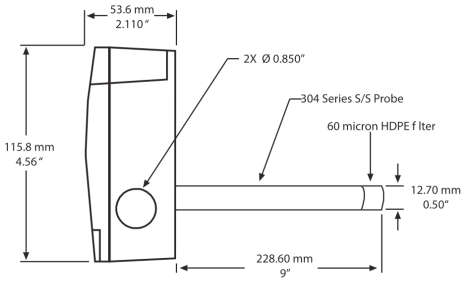
Material[2]	UL94-VB

1. Temperature sensor type stated is standard. Other temperature sensor types are available.
2. All materials and manufacturing processes comply with the RoHS directive

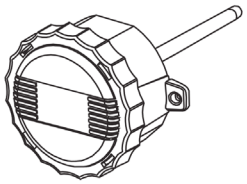
Dimensions

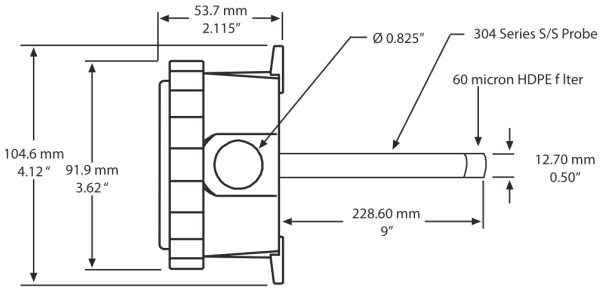
ABS Enclosure (A)



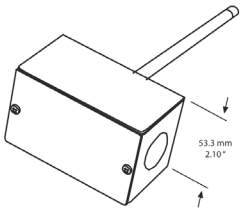


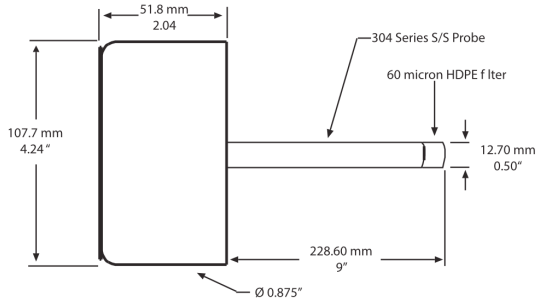
Round ABS Enclosure (E)



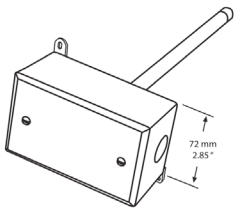


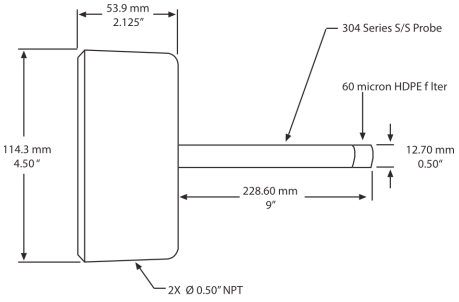
Metal Enclosure (M)





Weatherproof Enclosure (W)





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