



## Humidity Sensing

- Room Sensors
- Outside Air Sensors
- Dual Humidity & Temperature Sensors
- Duct Sensors
- Condensation Detectors

Humidity sensing devices help maintain a comfortable environment for building occupants and safe conditions for equipment where moisture can cause damage. A variety of humidity and combination humidity and temperature sensors are available in different types of enclosures for installation in rooms, ducts and outdoors. Humidity sensing accuracy can be chosen based on the needs of the application. Sensors for monitoring and detecting condensation are also available.







# HS-R Series Room Humidity Sensors

The HS-R Series are room humidity transmitters that use a highly accurate and field-proven RH sensor in a sleek, elegant, and low profile enclosure to monitor room relative humidity levels. Additional options include an LCD display. The RH output can be field selected as a linear 4-20 mA, 0-5 or 0-10 Vdc signal. This product offers a cost effective solution for customers who wish to have ease of installation to their Building Automation System.

## Specifications

Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	0°C to 50°C (32°F to 122°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Stability	±1.2% RH typical @ 50% RH in 5 years
Output Signal	4-20 mA current loop , 0-5 VDC, or 0-10 VDC Jumper Selectable
Hysteresis	± 3% RH
Response Time	15 Seconds Typical
Material	White ABS

## 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.



## Applications

- Measure relative humidity in HVAC Systems
- Can be implemented in hospitals
- Appropriate for use in clean rooms
- Retrofits, where Allure communicating sensors cannot be installed on existing controllers

## Features & Benefits

- Economical
- Ease of installation
- Highly stable RH sensor element
- Proven long stability and performance
- Accuracy available at 2%, 3%, 5%



## Build Your Room Humidity Sensor

	HS-	R	2	PF	X	X
Mounting Style		R = Room				
Humidity Sensing Accuracy			2 = 2% 3 = 3% 5 = 5%			
Enclosure				PF = Plastic flat enclosure		
Temperature Sensor Option					T = Temperature sensor (10kΩ, Type II thermistor)	
Display Option						D = Display (Humidity only is displayed)



\* Items stocked at Distech Controls

HS-R2PFTX  
HS-R3PFTX  
HS-R2PFXX



# HS-RXXXMP Series Wall Plate Humidity Sensors



## Applications

- Used for measuring relative humidity of rooms

## Features & Benefits

- Economical
- Proven long term stability and performance
- Voltage and current output signals available
- Protected sensor

The HS-RXXXMP Series are stainless steel wall plate relative humidity transmitters. They use a field-proven capacitive type humidity sensor and microprocessor temperature compensation for reliable, accurate measurement of indoor humidity. The wall plate sensor is perfect for locations requiring periodic wipe down as it features a 304 stainless steel plate with a neoprene gasket. The sensor is protected by a 100 micron sintered stainless steel filter. The plate sensor is available with either 4-20 mA or 0-5 Vdc or 0-10 Vdc output signal types and the transmitter is located on the back of the plate for ease of installation.

## Specifications

Operating Temperature	0°C to 70°C, 32°F to 158°F
Storage Temperature	0°C to 70°C, 32°F to 158°F
Sensor Type	Thermoset polymer based capacitive
Accuracy at 25°C	3 or 5% RH from 5 to 95% RH
Measurement Range	0 to 100% RH
Hysteresis	±3% RH Maximum
Response Time	15 Seconds Typical
Stability	±1.2% RH Typical
Sensor Protection	100 µm (micron) Sintered Filter
Output Signal	4-20 mA Current Loop, 0-5 or 0-10 Vdc

## 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.



## Build Your Room Metal Plate Humidity Sensor

	HS-	R	3	C04	MP	T	X
Mounting Style		R = Room					
Humidity Sensing Accuracy		3 = 3% 5 = 5%					
Control Signal Output		C04 = Current, 4-20mA V05 = Voltage, 0-5VDC V10 = Voltage, 0-10VDC					
Enclosure		MP = Metal plate					
Temperature Sensor Option		T = Temperature sensor (10kΩ, Type II thermistor)					
Mounting Screws		X = Regular mounting screws S = Tamperproof mounting screws					





# HS-D\_2X Sensor Series

## Duct Humidity Transmitters, Nema 4X

The HS-D\_2X Series are duct humidity transmitters. They use a highly accurate and reliable Thermoset-Polymer-based capacitance humidity sensor, state-of-the-art digital linearization, and temperature compensated circuitry in order to monitor humidity levels. The sensing element 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 against contaminants. Excellent long-term stability and quick response time combined with temperature compensation make the HS-D\_2X Transmitter Series the ideal choice for the HVAC market. Models with accuracy of 2%, 3%, or 5% are available.

### Specifications

Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
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
Sensor Range	0 to 100% RH
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
Probe	230 mm (9") probe length x 12.7 mm (1/2") Diameter Stainless Steel with Porous Filter



### Accessories

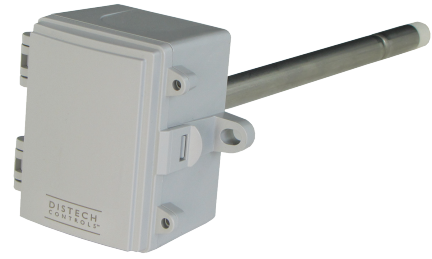
HS-FCAL	Factory calibration certificate
HS-NIST	NIST calibration certificate

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



## Build Your Duct Humidity Transmitter

	HS-	D	2	2X	X	X
Mounting Style	D = Duct Humidity Transmitters					
Humidity Sensing Accuracy	2 = 2%					
	3 = 3%					
	5 = 5%					
Enclosure	2X = Plastic enclosure, Nema 4X					
Temperature Sensor Option	T = Temperature sensor (10kΩ, Type II thermistor)					
Display Option	D = Display (available in Fall 2018) (Humidity only is displayed)					



### 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



\* Items stocked at Distech Controls HQ

- HS-D22XXX
- HS-D22TX
- HS-D32XXX
- HS-D32TX





# HS-O\_2X Series Outside Air Humidity Transmitters, Nema 4X



The HS-O\_2X Series are relative humidity transmitters for outside air. They use a highly accurate and reliable Thermo-set-Polymer-based capacitance humidity sensor along with state-of-the-art digital linearization and temperature compensated circuitry in order to monitor humidity levels. A 60-micron HDPE filter protects the sensor from contaminants. Excellent long-term stability and quick response time combined with temperature compensation make the HS-O Series the ideal choice for the HVAC market. Models with RH accuracy of 2%, 3%, or 5% are available.

## Applications

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

## Features & Benefits

- Economical
- Ease of installation
- Highly stable humidity sensor
- Proven long stability and performance
- Field-selectable analog signals

## Specifications

Operating Temperature	-40°C to 85°C (-40°F to 185°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
Output Signal	4-20 mA current loop, 0-5 Vdc, or 0-10 Vdc
Material	Grey ABS; Type: UL94-V0; IP65 (NEMA 4X)
Power Supply	18 to 30 Vdc, 15 to 26 Vac



## 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-O22XX	2% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs
* HS-O22XT	2%-accuracy outside-air relative-humidity transmitter, 24 Vac/dc and jumper-selectable outputs, 10kΩ, type 2, NTC thermistor.
HS-O32XX	3%-accuracy outside-air relative-humidity transmitter, 24 Vac/dc and jumper-selectable outputs
* HS-O32XT	3%-accuracy outside-air relative-humidity transmitter, 24 Vac/dc and jumper-selectable outputs, 10kΩ, type 2, NTC thermistor.
HS-O52XX	5%-accuracy outside-air relative-humidity transmitter, 24 Vac/dc and jumper-selectable outputs
HS-O52XT	5%-accuracy outside-air relative-humidity transmitter, 24 Vac/dc and jumper-selectable outputs, 10kΩ, type 2, NTC thermistor.



# HS-R Series Room Humidity and Temperature Transmitters

The HS-R Series temperature transmitter incorporates two sensors in one attractive wall mount enclosure for the most efficient environmental monitoring and control system. It uses a field-proven RH sensor to monitor relative humidity and a curve-matched thermistor to measure temperature and provides two analog outputs of either 4-20 mA, 0-5Vdc or 0-10 Vdc.



## Specifications

Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	0°C to 50°C (32°F to 122°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Stability	±1.2% RH typical @ 50% RH in 5 years
Output Signal	4-20 mA current loop, 0-5 VDC, or 0-10 VDC Jumper Selectable
Hysteresis	± 3% RH
Response Time	15 Seconds Typical
Material	White ABS

## Accessories

HS-TFCAL	Factory Calibration Certificate
HS-TNIST	NIST Calibration Certificate

Note:

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

## Applications

- Measure relative humidity in HVAC Systems
- Can be implemented in hospitals
- Appropriate for use in clean rooms
- Retrofits, where Allure communicating sensors cannot be installed on existing controllers

## Features & Benefits

- Highly stable RH sensor element
- Humidity range: 0-100%
- Accuracy available 2%, 3%, & 5%
- Choice of precision temperature sensors
- LCD display available
- Optional override, setpoint & fan speed control
- Field selectable outputs



## Build Your Room Humidity and Temperature Transmitter

	HS-	R	2	C04	PF	X	X
Mounting Style		R = Room					
Humidity Sensing Accuracy			2 = 2% 3 = 3% 5 = 5%				
Control Signal Output				C04 = Current, 4-20mA VFS = Voltage, 0-5VDC or 0-10VDC (Jumper selectable)			
Enclosure					PF = Plastic flat enclosure		
Display Option						D = Display	
Override Option							O = Override switch (monetary)



# Condensation Prevention Detectors



The HS-WD-CPS condensation prevention sensor is designed to meet the requirements for a low cost device to provide early warning of condensing conditions. The sensor provides either a volt-free contact or current output and is housed in a small enclosure which can be strapped to the surface that requires monitoring.

## Specifications

Power Supply	24Vdc $\pm 5\%$ or 24Vac $\pm 10\%$ 20mA max
Output	Current: dry <5mA, wet >12mA VFC: 24Vac/dc @ 1A resistive SPDT
Response Time	<5 seconds
Accuracy	$\pm 0.2^{\circ}\text{C}$ $\pm 5\%$ RH
Set Point Offset Range	$\pm 2^{\circ}\text{C}$
Flying Lead	Low Smoke Zero Halogen (LSZH)
EMC Compliance	Emissions EN61000-6-3, Immunity EN61000-6-2

## Model Selection

HS-WD-CPS-2M	Condensation detector, 2m (6.56ft) lead
HS-WD-CPS-5M	Condensation detector, 5m (16.4ft) lead

## Applications

- Chilled beam/ceiling systems

## Features & Benefits

- Strap-on or screw mounting
- VFC or current output
- Low smoke & fume flying lead cable
- Adjustable set point
- LED indication of status

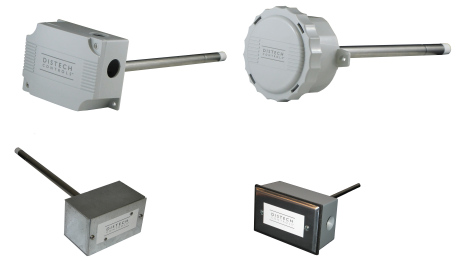






# HS-D Series Duct Humidity Transmitters

The HS-D 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 Series the ideal choice for the HVAC market. All models are available with accuracies of 2%, 3% or 5%.



## Specifications

Operating temperature	-40°C to 85°C (-40°F to 185°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
RH200 Probe	230 mm (9") probe length x 12.7 mm (1/2") Diameter Stainless Steel with Porous Filter

## 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.

## 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



## Build Your Duct Humidity Sensor

	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)					



\* Items stocked at Distech Controls HQ

HS-D2PSXX  
HS-D3PSTX  
HS-D3PSXX





## Applications

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

## Features & Benefits

- Economical
- Ease of installation
- Highly stable humidity sensor
- Proven long stability and performance
- Field selectable analog signals

# HS-O Series Outside Air Humidity Transmitters



The HS-O Series are relative humidity transmitters for outside air. 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. A 60 micron HDPE filter protects the sensor from contaminants. Excellent long term stability and quick response time combined with temperature compensation make the HS-O Series the ideal choice for the HVAC market. All models are available with RH accuracies of 2%, 3% or 5%.

## Specifications

Operating temperature	-40°C to 85°C (-40°F to 185°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
Output Signal	4-20 mA current loop, 0-5 Vdc, or 0-10 Vdc
Material	Grey ABS Type: UL94-5VB IP65 (NEMA 4X)

## 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-O2PSX	2% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs
HS-O2PST	2% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs, 10kΩ, type 2, NTC thermistor.
HS-O3PSX	3% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs
HS-O3PST	3% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs, 10kΩ, type 2, NTC thermistor.
HS-O5PSX	5% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs
HS-O5PST	5% accuracy outside air relative humidity transmitter, 24 Vac/dc and jumper selectable outputs, 10kΩ, type 2, NTC thermistor.



\* Item stocked at Distech Controls HQ



# HS-D Series

## Duct Humidity and Temperature Transmitters

The HS-D Series are duct humidity and temperature transmitters. They use a highly accurate and reliable Thermo-set Polymer based capacitance humidity sensor and Platinum RTD temperature sensor along with 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 S/S probe. A 60 micron HDPE filter protects the sensor from contaminants. Excellent long term stability and quick response time combined with temperature compensation make the HS-D Series the ideal choice for the HVAC market. A variety of enclosure types are available. All models are available with RH accuracies of 2%, 3% or 5%.



### Specifications

Operating temperature	-40°C to 85°C (-40°F to 185°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
Output Signal	4-20 mA current loop, 0-5 Vdc, or 0-10 Vdc
Material	Grey ABS ype: UL94-5VB IP61(NEMA 2)

### Applications

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

### Features & Benefits

- Economical
- Ease of installation
- Probes made of corrosion resistant stainless steel
- Proven long stability and performance
- Field selectable analog signals

### Accessories

H-TFCAL	Factory Calibration Certificate
HS-TNIST	NIST Calibration Certificate

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



## Build Your Duct Humidity/ Temperature Transmitter

	HS-	D	2	C04	PS	R1
Mounting Style	D = Duct					
Humidity Sensing Accuracy	2 = 2% 3 = 3% 5 = 5%					
Control Signal Output	C04 = Current, 4-20mA V05 = Voltage, 0-5VDC V10 = Voltage, 0-10VDC					
Enclosure	PS = Plastic square enclosure					
Temperature Range	R1 = 0° - 35°C (32° - 95°F) R2 = 0° - 50°C (32° - 122°F) R3 = 0° - 100°C (32° - 212°F) R4 = -50° - 50°C (-58° - 122°F)					





# HS-O Series Outside Air Humidity and Temperature Transmitters

The HS-O Series of relative humidity and temperature transmitters for outdoor air use a highly accurate and reliable Thermoset Polymer based capacitance humidity sensor, and a Platinum RTD. By combining the sensors with state-of-the-art digital linearization and temperature compensated circuitry, the humidity and temperature are intricately monitored. Excellent long term stability and quick response time combined with temperature compensation make the HS-O Series the ideal choice for the HVAC market.

## Applications

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

## Features & Benefits

- Economical
- Ease of installation
- Highly stable humidity sensor
- Proven long stability and performance
- Field selectable analog signals

## Specifications

Operating temperature	-40°C to 85°C (-40°F to 185°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Sensor Type	Thermoset polymer based capacitive
Sensor Accuracy	±2, 3 or 5% RH from 5 to 95% RH
Sensor Range	0 to 100% RH non-condensing
Hysteresis	±1.5% RH Maximum
Response Time	15 Seconds Typical
Temperature Dependence	±0.05% RH/ °C
Output Signal	4-20 mA current loop, 0-5 Vdc, or 0-10 Vdc
Material	Grey ABS, Type: UL94-5VB IP65(NEMA 4X)

## Accessories

HS-TFCAL	Factory Calibration Certificate
HS-TNIST	NIST Calibration Certificate

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



## Build Your Outdoor Humidity & Temperature Transmitter

	HS-	O	2	C04	PS	R1
Mounting Style		O = Outdoor				
Humidity Sensing Accuracy			2 = 2% 3 = 3% 5 = 5%			
Control Signal Output				C04 = Current, 4-20mA V05 = Voltage, 0-5VDC V10 = Voltage, 0-10VDC		
Enclosure					PS = Plastic square enclosure	
Temperature Range						R1 = 0° - 35°C (32° - 95°F) R2 = 0° - 50°C (32° - 122°F) R3 = 0° - 100°C (32° - 212°F) R4 = -50° - 50°C (-58° - 122°F)

