



# HUMIDITY

## ± 2% ROOM/ DUCT/ OSA HUMIDITY TRANSMITTERS H\_20K SERIES

### DESCRIPTION

The **Series H\_20K Humidity Transmitters** have been specifically designed for use with HVAC/BAS applications. These instruments measure relative humidity from 5 to 95% RH with 2% accuracy and produce a two wire 4-20 mA linear output. All can have an optional passive RTD or thermistor. The duct and OSA versions may also be fitted with a 4-20 mA temperature transmitter.

### OPERATION

The temperature compensated circuitry converts the relative humidity into a 4-20 mA signal. The optional temperature sensors, RTDs or thermistors, offer direct connection to most automation systems. On duct and OSA units, an optional 4-20 mA temperature transmitter may also be employed and is rangeable from -30° to 250°F (-34° to 121°C).



HW20K



HD20K



HO20K



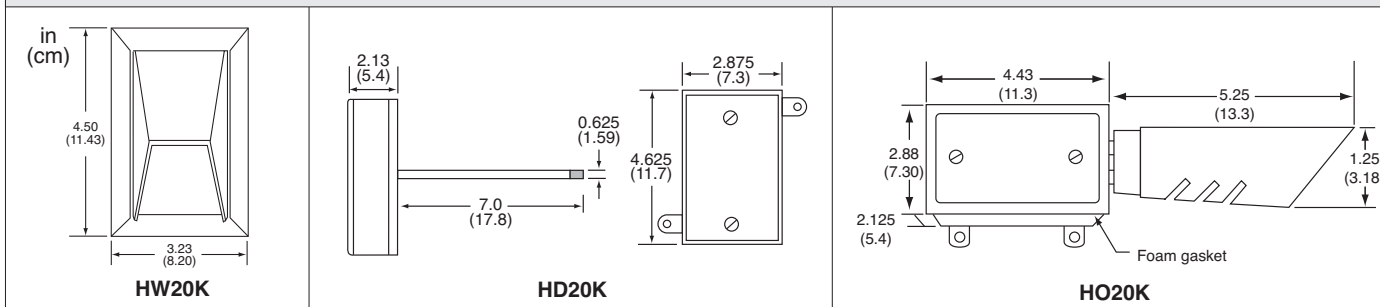
### FEATURES

- **±2% accuracy (5% to 95%)**
- **Two wire, 4-20mA RH output**
- **Optional temperature thermistor**
- **Optional temperature RTD**
- **Optional temperature 4-20 mA (duct or OSA)**

### SPECIFICATIONS

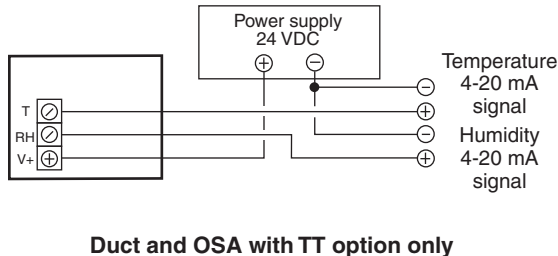
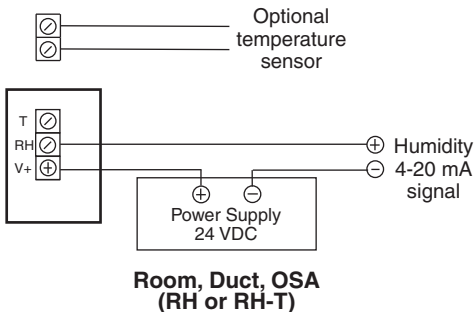
<b>Sensor</b>	Capacitive	<b>Load impedance</b>	(Supply voltage - 10V) / 0.02 e.g. 700Ω @ 24VDC
<b>Accuracy</b>	±2% RH @ 77°F (25°C) from 5% to 95% RH	<b>Operating range</b>	
<b>Stability</b>	0.5% drift per year	<b>RH</b>	0-100% RH non-condensing
<b>Temperature effect</b>	Temperature compensated with less than 0.005% per °F (0.01% per °C)	<b>Ambient temp</b>	-20° to 140°F (-28° to 60°C)
<b>Supply voltage</b>	18-35 VDC	<b>Electrical connections</b>	Terminal block (22 to 16 AWG)
<b>RH output</b>	Two wire 4-20 mA = 0-100% RH	<b>Sensor protection</b>	Sintered filter (duct and OSA)
<b>Temperature output</b>	Optional thermistor, RTD or two-wire, loop-powered, 4-20 mA with temperature range limits -20° to 140°F (-29° to 60°C)	<b>Enclosure material</b>	White plastic (room), weather proof cast aluminum (duct and OSA)
		<b>Weight</b>	Room 0.18 lb (0.08kg), Duct/OSA 1.2 lb (0.55kg)
		<b>Warranty</b>	18 months

### DIMENSIONS





### WIRING FOR RH ONLY AND "T" TEMPERATURE OPTION    WIRING FOR RH AND "TT" TEMPERATURE OPTION



### MOUNTING ROOM SENSOR

DIAGRAM 1: The transmitter should be mounted so that the 9" (22.86 cm) probe is in the center of the duct. The transmitter should be duct mounted away from fans, corners, heating and cooling coils, and other equipment that will affect the measurement of relative humidity.

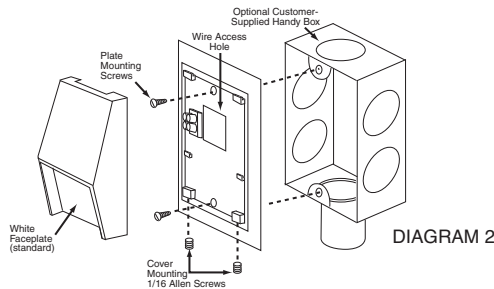
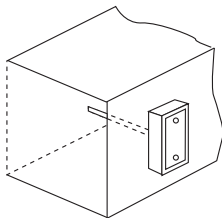
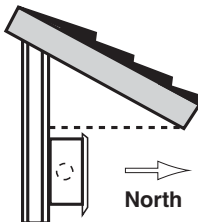


DIAGRAM 2: The sensor should be mounted approximately 5' (12.7 cm) above the floor, on an interior wall, away from any heating or cooling generating devices. Basic model comes with screw terminal block, two #6-32 screws for handy box mounting, and two #6 x 1" screws for direct wall mounting. Cover screws are #6-32 with a 1/16 allen key head. Precautions should be taken to prevent air infiltration from inside the wall.

### MOUNTING OSA SENSOR

The transmitter should be mounted preferably on the north side (Northern Hemisphere) of a building under the eave, not above windows or doors. The transmitter should be mounted horizontally with the sensor slots pointing down.



### ORDERING INFORMATION

MODEL	DESCRIPTION
HW20K	2% beige room humidity transmitter, 4-20 mA output
HW21K	2% white room humidity transmitter, 4-20 mA output
HD20K	2% duct-mount humidity transmitter, 4-20 mA output
HO20K	2% OSA-mount humidity transmitter, 4-20 mA output
<b>OPTIONS (Temperature Sensors or Transmitters)</b>	
--	No temperature sensor
T3	10,000Ω thermistor @ 77°F (25°C), Type III
T24	10,000Ω thermistor @ 77°F (25°C), Type II
T85	1000Ω 385 platinum RTD
T91	1000Ω 375 platinum RTD
TT-2	-20° to 140°F (-29° to 60°C) transmitter, 4-20 mA (duct and OSA only)
Other temperature options available	
HD20K - T3	<b>Example:</b> HD20K-T3 Duct-mount humidity sensor with 10 kΩ Type III temperature sensor