



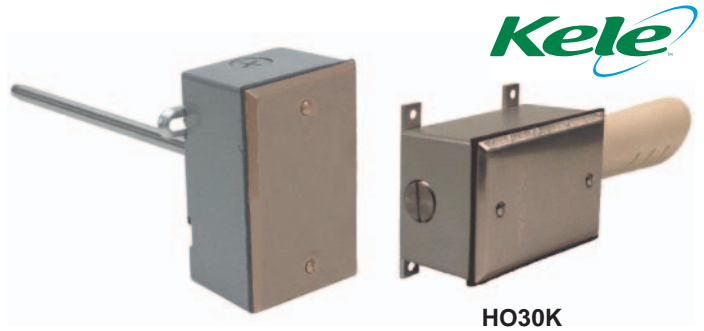
3% DUCT / OSA HUMIDITY TRANSMITTERS MODELS HD30K, HO30K

DESCRIPTION

Model HD30K Duct and HO30K Outside Air Humidity Transmitters have been specifically designed for use in HVAC/BAS applications. These instruments measure relative humidity from 0% to 100%. The standard two-wire, 4-20 mA output provides low cost duct and outside air monitoring for building control. Both duct and OSA RH transmitters are available with thermistor or RTD temperature sensors or a 4-20 mA rangeable temperature transmitter.

OPERATION

The transmitter converts the relative humidity into a 4-20 mA signal with 3% accuracy. The optional temperature sensors, thermistor or RTD, offer direct connections to most automation systems. The optional, rangeable temperature transmitter offers a 4-20 mA signal and is rangeable from -20° to 250°F (-29° to 121°C).



HD30K

HO30K



FEATURES

- 0% to 100% RH measurement
- ±3% accuracy (5% to 95% RH)
- Two-wire, 4-20 mA output RH
- Optional temperature thermistor
- Optional temperature RTD
- Optional temperature 4-20 mA

HUMIDITY

SPECIFICATIONS	
Sensing element	Capacitive sensor
Accuracy	±3% RH @ 77°F (25°C), 5% to 95% RH
Temp effect	Temperature compensated with less than 0.005% RH per °F (0.01% per °C)
Long term stability	Less than ±1% drift per year, typical
Output humidity	Two-wire, loop powered, 4-20 mA = 0% to 100% RH linear
Output temp	Two-wire, loop powered, 4-20 mA
Range limits	-30° to 250°F (-34° to 121°C), min span of 40°F (22°C)
Supply voltage	18-35 VDC
Operating range	0% to 100% RH, 4-20 mA
Operating temp	-20° to 140°F (-28° to 60°C)
Storage temp	-58° to 185°F (-50° to 85°C)
Max load impedance	(Supply voltage - 10 VDC) / 0.02 i.e., 700Ω @ 24 VDC
Connections	Screw terminals for loop termination
Enclosure	Single-gang, pressure-cast aluminum, weatherproof box with gasketed cover 1.2 lb (0.55 kg)
Weight	
Optional temp	
Thermistor	Type 3, 21, 22, 24, 27, 42
RTD	Type 81, 85, 91
Transmitter	4-20 mA, 675Ω @ 24V

DIMENSIONS	
<p>in (cm)</p> <p>2.25 (5.72)</p> <p>0.8 (2.04)</p> <p>9.0 (22.86)</p> <p>2.75 (6.99)</p> <p>4.5 (11.43)</p> <p>HD30K</p>	<p>in (cm)</p> <p>4.625 (11.75)</p> <p>6.0 (15.24)</p> <p>2.0 (5.08)</p> <p>2.88 (7.31)</p> <p>1.5 (3.81)</p> <p>Foam Gasket</p> <p>HO30K</p>

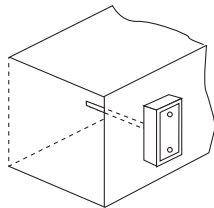


HUMIDITY

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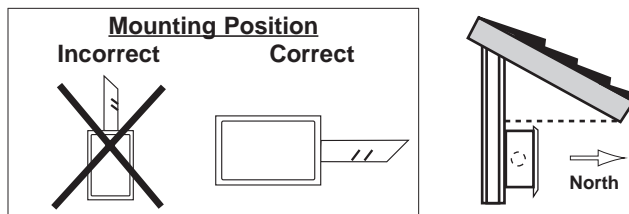
MOUNTING DUCT SENSOR

The transmitter should be mounted so that the 9" (22.86 cm) probe is in the center of the duct. The transmitter should be mounted away from fans, corners, heating and cooling coils, and other equipment that will affect the measurement of relative humidity. It should be mounted in a location that will receive adequate air flow for proper operation. The unit may be mounted horizontally or vertically.

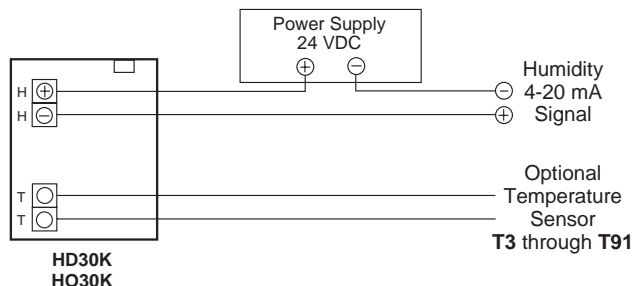


MOUNTING OSA SENSOR

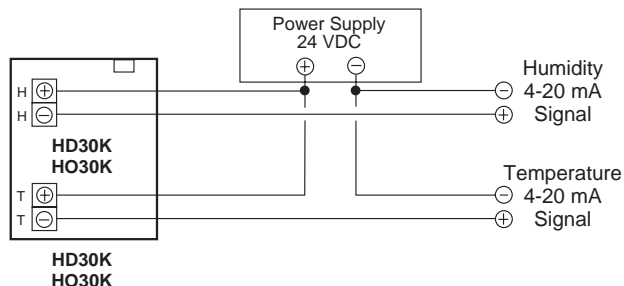
The transmitter should be mounted in a sheltered area, preferably on the north side of a building under the eave. This location will prevent the RH at the sensor from being affected by sun-heated air rising up the side of the building. The transmitter should be mounted horizontally with the sensor slots pointing down so that water does not collect in the sensor cavity.



WIRING FOR RH ONLY & "T" TEMPERATURE OPTION



WIRING FOR RH & "TT" TEMPERATURE OPTION



HUMIDITY

ORDERING INFORMATION

MODEL	DESCRIPTION
HD30K	3% OSA-Mount Humidity Transmitter, 4-20 mA Output
HO30K	3 % OSA-Mount Humidity Transmitter, 4-20 mA Output
OPTIONS (Temperature Sensors or Transmitters)	
--	No temperature sensor
T3	10,000Ω Thermistor @ 77°F (25°C), type III
T21	2252Ω Thermistor @ 77°F (25°C), type II
T22	3000Ω Thermistor @ 77°F (25°C), type II
T24	10,000Ω Thermistor @ 77°F (25°C), type II
T27	100,000Ω Thermistor @ 77°F (25°C), type II
T42	20,000Ω Thermistor @ 77°F (25°C), type IV
T81	100Ω 385 Platinum RTD
T85	1000Ω 385 Platinum RTD
T91	1000Ω 375 Platinum RTD
TT-XR	Rangeable temperature transmitter (specify range)
TT-2	-20° to 140°F (-29° to 60°C) Transmitter, 4-20 mA
TT-3	0° to 100°F (-18° to 38°C) Transmitter, 4-20 mA

HD30K - T3 **Example:** HD30K-T3 Duct-mount humidity sensor with 10 kΩ type III temperature sensor