



# 2% AND 3% HUMIDITY TRANSMITTER AND OPTIONAL TEMPERATURE SENSORS MODELS KHR, KHD, KHO

## DESCRIPTION

**Model KHR, KHD, and KHO Humidity Transmitters** are 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 humidity monitoring for building control. The RH transmitters are available with thermistor or RTD temperature sensors. They come in room (**KHR**), duct (**KHD**), and OSA (**KHO**) mounting styles.

## OPERATION

The transmitter converts the relative humidity into a 4-20 mA signal with the latest microprocessor capacitive design. Multi-point factory-automated calibration improves accuracy and repeatability. The optional temperature sensors, thermistor or RTD, offer direct connections to most automation systems.

## FEATURES

- Calibration-free interchangeable sensors
- Twelve-point computerized calibration
- ±2% or ±3% accuracy (5% to 95% RH)
- Replaceable sensor probe (no re-calibration)
- No need to remove box to replace sensor probe
- Attractive room enclosure design
- Two-wire, 4-20 mA output, 0% to 100% RH



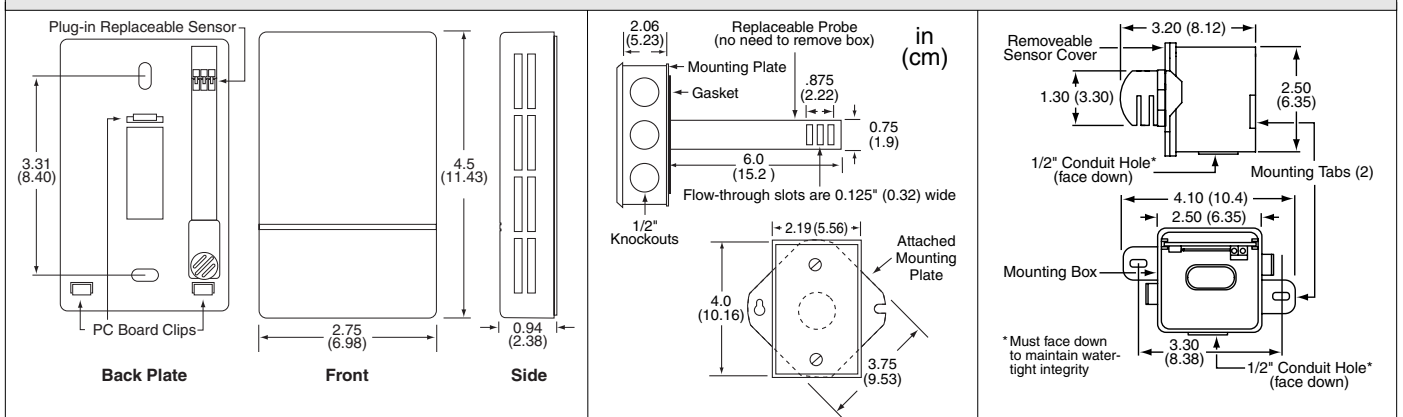
## OPTIONS

- Temperature thermistor / RTD
- Custom logo
- Weatherproof duct box
- Occupied button
- Communication jack
- LED

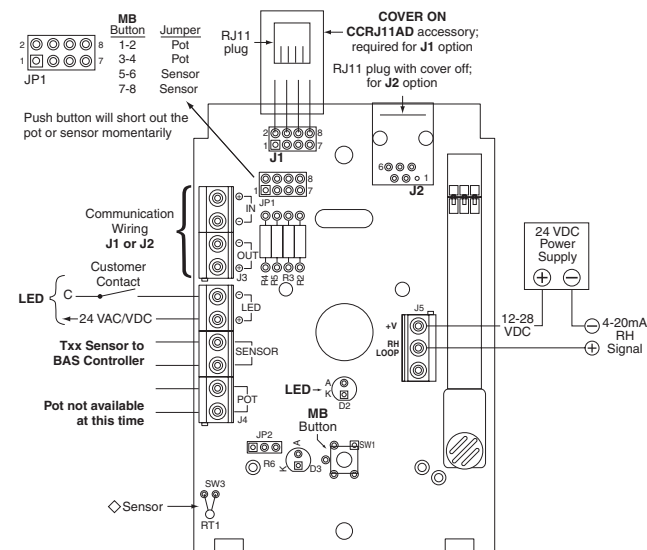
## SPECIFICATIONS

<b>Sensing element</b>	Precon HS-2000 capacitive sensor	<b>Probe Sensing</b>	Interchangeable; no need to re-calibrate or remove mounting box
<b>Accuracy</b>	±2% or ±3% RH from 0° to 70°C, 5% to 95% RH noncondensing	<b>Room OSA</b>	HSR, plug-in module under cover
<b>Temp effect</b>	Temperature compensated with <math><0.008\%</math> RH per °C	<b>Duct</b>	HSD, 1/2" aluminum tube, plug-in wiring harness, 40 micron stainless steel sintered filter
<b>Long-term stability</b>	<math><±0.5\%</math> drift per year	<b>Options</b>	N.O. button, RJ11 comm jack, LED-24V
<b>Output humidity</b>	4-20 mA = 0% to 100% RH, two-wire, loop-powered	<b>Optimal temp</b>	
<b>Supply voltage</b>	8.5-28 VDC	<b>Thermistor</b>	Type 3, 21, 22, 24, 27, 42
<b>Ambient temp</b>	-22° to 185°F (-30° to 85°C)	<b>RTD (Platinum)</b>	Type 81, 85, 91
<b>Max load impedance</b>	(Supply voltage - 8.5 VDC) / 0.02, 775Ω @ 24 VDC	<b>Connections</b>	Screw terminals
<b>Enclosure</b>		<b>Weight</b>	
<b>Room</b>	White plastic, UL94HB	<b>Room/OSA</b>	0.2 lb (.084 kg)
<b>Duct</b>	Metal handy box (weatherproof box optional)	<b>Duct</b>	1 lb (0.45 kg)
<b>OSA</b>	NEMA 3R plastic box		

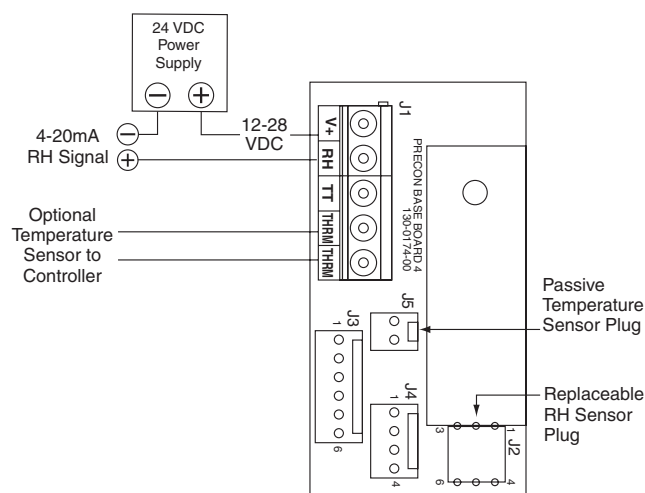
## DIMENSIONS



## WIRING — KHR



## WIRING — KHD and KHO



## ORDERING INFORMATION

MODEL	DESCRIPTION
KHR	Room relative humidity transmitter
KHD	Duct relative humidity transmitter
KHO	OSA relative humidity transmitter
<b>RELATIVE HUMIDITY ACCURACY</b>	
2	2% accuracy
3	3% accuracy
<b>TEMPERATURE SENSOR and TRANSMITTER OPTIONS</b>	
--	No temperature sensor
CL1	KHR custom logo, 1 color (CL2 = 2 color, CL3 = 3 color)
J1	RJ11 externally accessible communication jack (CCRJ11AD)
J2	RJ11 internal communication jack
LED	LED lamp indicator, standard 24V (AC/DC) voltage
MB	Momentary push button switch, jumpered across sensor/pot (JP1)
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 RTD, 385 platinum curve
T85	1000Ω RTD, 385 platinum curve
T91	1000Ω RTD, 375 platinum curve
WP	KHD duct in weatherproof metal box

### Sample orders:

- KHD2 2% RH duct transmitter  
 KHR3T3 3% RH room transmitter with 10kΩ Type III thermistor

### Custom Logo Color Chart

Red	Pantone 485	Green	Pantone 356
Brown	Pantone 492C	Yellow	Pantone 124C
Blue	Pantone 300	Grey	Pantone 431C
Light Blue	Pantone 299	Black	Pantone 6C

Other Pantone colors available on request.

HSR Room replacement sensor  
 HSO\* OSA replacement sensor

### ACCESSORIES

HSD\* Duct replacement sensor  
 HSD-WP\* Duct replacement sensor for WP (metal box)

Note: All replacement sensors are 2% accuracy.

\*If a temperature sensor is included with an HS sensor, the temperature suffix must be added (T3, T21, T22, T24, T27, T42, T81, T85, or T91).