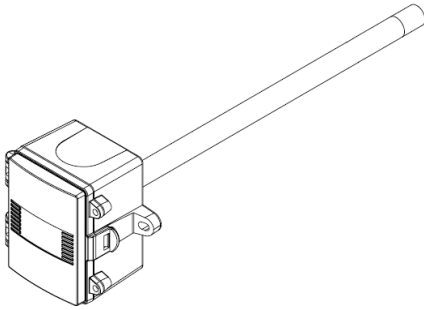


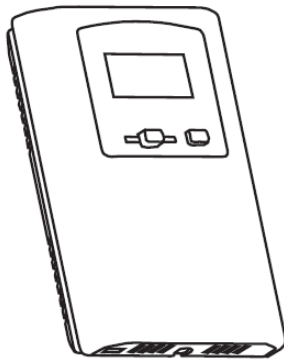
## Introduction

The HT-690x Series Room Humidity Transmitters 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. They are available in both wall or duct mount packages and Relative Humidity (RH) accuracy of  $\pm 2\%$  or  $\pm 3\%$ . You can field select the RH output as a linear 4 mA to 20 mA, 0 VDC to 5 VDC or 0 VDC to 10 VDC signal. The duct humidity sensor is encapsulated in a 9 in. (230 mm) long by 0.5 in. (12.7 mm) diameter 304 S/S probe with a 60 micron HDPE filter to protect the sensor from contaminants.

**Figure 1: HT-69 Duct Probe RH Transmitter**



**Figure 2: HT-69 Wall Mount RH Transmitter**

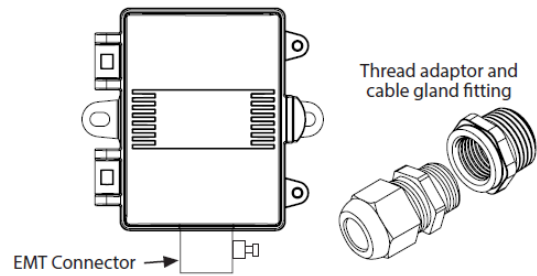


## HT-6902NP-0, HT-6903NP-0 Duct Probe RH Transmitters

For further installation and wiring details, refer to the *HT-6902NP-0, HT-6903NP-0 Duct Probe RH Transmitter*

*Installation Guide (Part No. 24-11025-56)*. Install the immersion type probes in the appropriate length thermowell for the pipe size. Add a thermal conductive compound inside the thermowell to provide optimum thermal transfer. Figure 3 shows an example of the connectors.

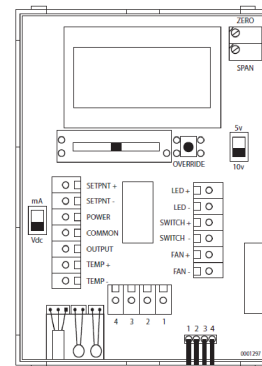
**Figure 3: HT-69 Duct Probe RH Transmitter connectors**



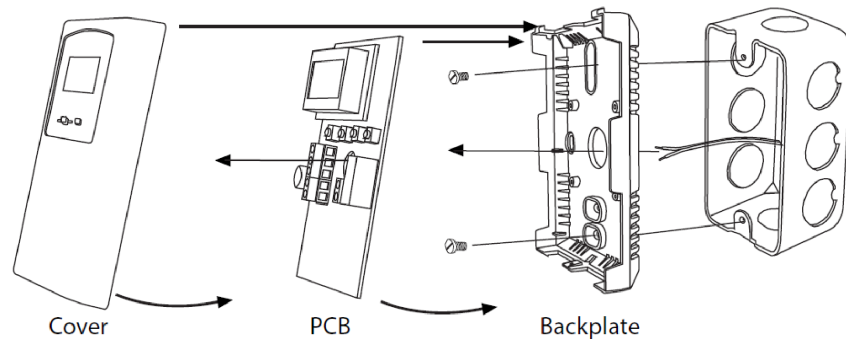
## HT-6902NW-0, HT-6903NW-0 Wall Mount RH Transmitters

For further installation and wiring details, refer to the *HT-6902NW-0, HT-6903NW-0 Wall Mount RH Transmitters Installation Guide (Part No. 24-11025-48)*. Mount the HRC series directly to a single gang electrical box or directly to a wall. See Figure 4. Connect to a variety of electrical boxes through one of the multiple holes. A terminal block connection is provided for the Building Automation System. See Figure 5.

**Figure 4: Connector layout**



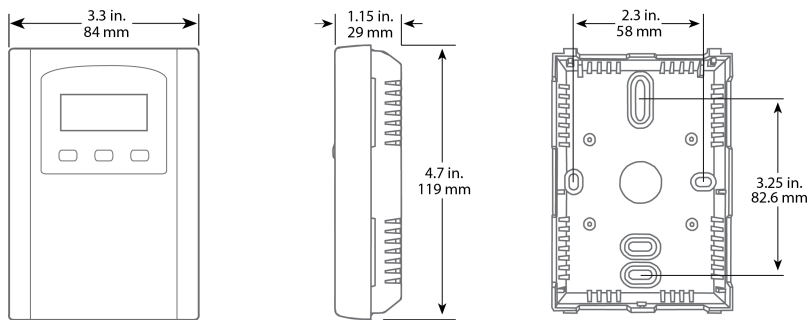
**Figure 5: Assembly of the HT-69 RH Transmitter**



### Wall Mount RH Transmitter dimensions

See the following figure for the dimensions of the Wall Mount RH Transmitter.

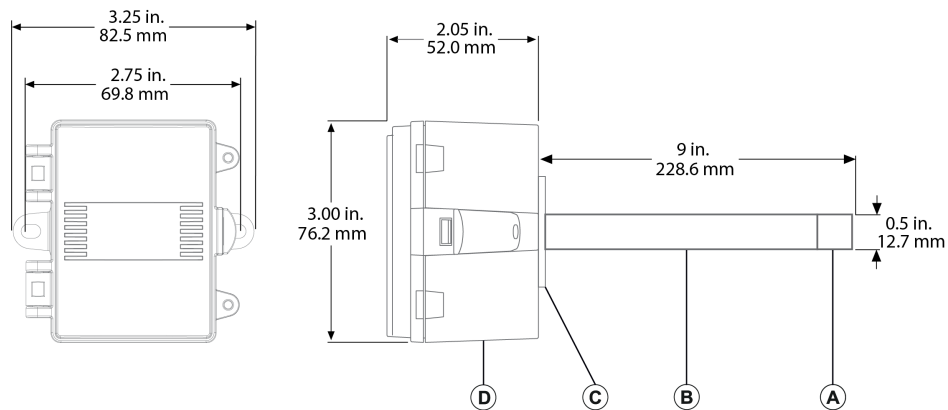
**Figure 6: HT-69020NW-0, HT-69030NW-0 Wall Mount RH Transmitter dimensions**



### Duct Probe RH Transmitter dimensions

See the following figure for the dimensions of the Duct Probe RH Transmitter.

**Figure 7: HT-69020NP-0, HT-69030NP-0 Duct Probe RH Transmitter dimensions**



Callout	Description
A	60 micron HDPE filter
B	304 series S/S probe

Callout	Description
C	Foam gasket
D	0.5 in. (12.7 mm) NPT

## Ordering information

See Table 1 for product codes and information about the available models of the HT-690x RH Transmitters.

**Table 1: HT-690x RH Transmitters selection chart**

Code number	Description	RH accuracy
HT-69020NP-0	Duct probe	2%
HT-69020NW-0	Wall mount	2%
HT-69030NP-0	Duct probe	3%
HT-69030NW-0	Wall mount	3%

## Technical specifications

**Table 2: HT-690x RH Transmitters technical specifications**

Specification	Description	
Sensor type	Thermoset polymer based capacitive	
Accuracy	±2% RH or 3% RH from 5% RH to 95% RH	
Measurement range	0% RH to 100% RH noncondensing	
Temperature dependence	±0.05% RH/°C	
Hysteresis	±3% RH	
Repeatability	±0.5% RH	
Response time	15 seconds	
Stability	±1.2% RH at 50% RH in 5 years	
Power supply	<b>HT-69020NW-0, HT-69030NW-0</b>	<b>HT-69020NP-0, HT-69030NP-0</b>
	24 VAC/DC ±10%; non-isolated half-wave rectified	24 VAC/DC ~ ±10%; 28 VAC/DC maximum
Consumption at 24 VDC	20 mA	22 mA maximum
Input voltage effect	Negligible over specified operating range	
Output signal	4 mA to 20 mA current loop, 0 VDC to 5 VDC or 0 VDC to 10 VDC; jumper selectable	
Output drive at 24 VDC	Current: 550 ohm maximum Voltage: 10K ohm minimum	
Internal adjustments	ZERO and SPAN pot	
Protection circuitry	Reverse voltage protected and output limited	
Ambient operating range	<b>HT-69020NW-0, HT-69030NW-0</b>	<b>HT-69020NP-0, HT-69030NP-0</b>
	32°F to 122°F (0°C to 50°C)	-40°F to 122°F (-40°C to 50°C)
Operating humidity	5% RH to 95% RH noncondensing	
Storage temperature	-22°F to 158°F (-30°C to 70°C)	
Enclosure	<b>HT-69020NW-0, HT-69030NW-0</b>	<b>HT-69020NP-0, HT-69030NP-0</b>
	White ABS - IP30 (NEMA 1)	A: ABS, UL94-V0, IP65 (NEMA 4X) E: Same as A, with thread adapter (0.5 in. NPT to M15) and cable gland fitting
Dimensions (H x W x D)	4.7 in. x 3.3 in. x 1.15 in. (119 mm x 84 mm x 29 mm)	3.00 in. x 3.24 in. x 2.05 in. (76.2 mm x 82.5 mm x 52.0 mm)
Probe (L x D)	N/A	9 in. x 0.5 in. (230 mm x 12.7 mm), 304SS with porous filter
Wiring connections	Screw terminal block (14 AWG to 22 AWG)	
Optional temperature sensor	Thermistors or RTD as 2 wire resistive output	

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.

## Product warranty

This product is covered by a limited warranty, details of which can be found at [www.johnsoncontrols.com/buildingswarranty](http://www.johnsoncontrols.com/buildingswarranty).

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## Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS C/O CONTROLS PRODUCT MANAGEMENT NO. 32 CHANGJIJANG RD NEW DISTRICT WUXI JIANGSU PROVINCE 214028 CHINA	JOHNSON CONTROLS WESTENDHOF 3 45143 ESSEN GERMANY	JOHNSON CONTROLS 507 E MICHIGAN ST MILWAUKEE WI 53202 USA

## Contact information

Contact your local branch office: [www.johnsoncontrols.com/locations](http://www.johnsoncontrols.com/locations)

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