

TRUERH™ Series

HE-67xx Surface-mount Duct Humidity/Temperature Sensors

Installation

IMPORTANT: The HE-67xx Series sensor is intended to provide an input to equipment under normal operating conditions. Where failure or malfunction of the HE-67xx could lead to an abnormal operating condition that could cause personal injury or damage to the equipment or other property, other devices (limit or safety controls) or systems (alarm or supervisory systems) intended to warn of, or protect against, failure or malfunction of the HE-67xx must be incorporated into and maintained as part of the control system.

IMPORTANT: To avoid damage to the sensor, do not mount the HE-67xx in a location that is exposed to rain, snow, or direct sunlight, or in a location where high concentrations of corrosive vapors are present.

Parts Included

- HE-6700 sensor

Tools Needed

- drill with 1/8 in. drill bit
- 1/4 in. nut driver

Location Considerations

- The sensor must be mounted inside a duct or economizer rooftop system.
- **Orientation:** The sensor must be mounted on a flat surface in a vertical, upright position.
- **Placement:** Mount the unit at least eight feet downstream from sources of heat or humidity and away from areas with no air flow.
- **Temperature Requirements:** -20 to 140°F (-29 to 60°C)

Mounting

To mount the HE-67xx:

1. Using the sensor as a template, mark the location of the two screws.
2. Use a drill with a 1/8 in. bit to drill two holes in the duct.
3. Attach the sensor to the duct using a 1/4 in. nut driver and two No. 6 sheet metal screws (not provided) as shown in Figure 1.

Note: Mount the sensor in an upright position.

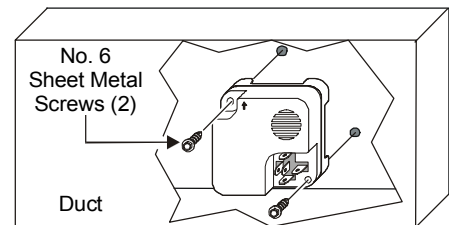


Figure 1: HE-6700 Mounting

Wiring



WARNING: Electrical Shock Hazard.
Disconnect the power supply before making wiring connections to prevent electrical shock or damage to the equipment.

IMPORTANT: All wiring connections must be made in accordance with the National Electrical Code and all local regulations.

To wire the HE-67xx:

1. Route the wires from the controller to the HE-67xx. We recommend you use No. 18 AWG wire.
2. Connect the wires to the appropriate terminals of the wiring block. (See Table 1, and refer to the appropriate controller documentation.)

Table 1: HE-6700 Terminal Designations

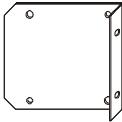
Sensor Terminal	Signal Designation
T	Temperature
T	Temperature
OUT	Relative Humidity Output
COM	Common
PWR	Power: 14 to 30 VDC or 20 to 30 VAC at 50/60 Hz

Checkout

After installation and wiring are complete, apply power and make an operational check as shown in the appropriate controller documentation.

Refer to Table 2 for accessories available, and contact the nearest Johnson Controls representative.

Table 2: Accessories

Product Code Number	Description
ACC-BRKT-100	Mounting Bracket for mounting the sensor perpendicular to the duct; 3.25 H x 3.62 W x 0.75 in. D (83 x 92 x 19 mm) 
ACC-CBL-100	Wiring Harness, 53 in. (1.3 m)

For specifications on the product, refer to Table 3.

Table 3: Specifications

Product	TRUERH Series HE-67xx Surface-mount Duct Humidity/Temperature Sensors
Power Requirements	14 to 30 VDC or 20 to 30 VAC at 50/60 Hz, Class 2
Current Draw	3 mA with no load; 25 mA maximum
Output Signal	0 to 5 VDC, 1k ohm maximum load
Humidity Transmitter	<p>Accuracy: HE-67x2: $\pm 2\%$ RH for 20 to 80% RH at 77°F (25°C) $\pm 4\%$ RH for 10 to 20% and 80 to 90% RH at 77°F (25°C)</p> <p>HE-67x3: $\pm 3\%$ RH for 20 to 80% RH at 77°F (25°C) $\pm 5\%$ RH for 10 to 20% and 80 to 90% RH at 77°F (25°C)</p> <p>Temperature Coefficient: -0.1 to 0.05% RH/C at 41°F (5°C) -0.07 to -0.21% RH/C at 149°F (65°C)</p>
Temperature Sensor Accuracy at 70°F (21°C)	<p>HE-67Nx-0N0GS: ± 0.34 F° (0.18C°); reference resistance of 1.0k ohms at 70°F (21°C) HE-67Tx-0N0GS: ± 0.9 F° (0.50C°); reference resistance of 2.25k ohms at 77°F (25°C) HE-67Yx-0N0GS: ± 0.36 F° (0.20C°); reference resistance of 10.0k ohms at 77°F (25°C) Note: HE-67Tx-0N0GS and HE-67Yx-0N0GS: Resistance change is nonlinear with a negative temperature coefficient.</p>
Ambient Operating Conditions	32 to 140°F (0 to 60°C) 0-100% RH, 85°F (29.4°C) maximum dew point
Survival Operating Conditions	-20 to 140°F (-29 to 60°C); 0 to 100% RH, 85°F (29.4°C) maximum dew point
Ambient Storage Conditions	-40 to 140°F (-40 to 60°C) 0-100% RH, 85°F (29.4°C) maximum dew point
Terminal Connections	1/4 in. (6.35 mm) male spade
Acceptable Wire Gauge	16 to 24 AWG wire (18 AWG wire recommended)
Dimensions (H x W x L)	3.00 x 3.00 x 1.23 in. (76 x 76 x 31 mm)
Shipping Weight	0.50 lb (0.23 kg)

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, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Notes



Controls Group
507 E. Michigan Street
P.O. Box 423
Milwaukee, WI 53201

www.johnsoncontrols.com
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