

# HED SERIES



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## Economy Duct Mounted Humidity Sensor

### Installer's Specifications

**Input Power:**

Input Power, Voltage Version	12-24 VDC or 24 VAC
Input Power, mA Version	12-24 VDC
AC Voltage Tolerance	±10%
AC Frequency	50-60 Hz
Max. Inrush Current After 1 msec (mA version)	25 mA

**Output Power:**

mA Output	4-20 mA, 2-wire, polarity insensitive
mA Max. Loop Resistance	500 Ω at 24 VDC input voltage; 250 Ω at 12 VDC input voltage
Voltage Output	0-5 V or 0-10 V (jumper selectable)
Voltage Min. Load Resistance	5 kΩ
Voltage Min. Sinking Current	0.2 mA

**Humidity:**

HS Element	Digitally profiled thin-film capacitive, non-removable
Accuracy	±2%, 3% or 5% (10-90% RH, 20° to 30°C)
Temperature Effect (Outside 20° to 30°C)	≤0.1% RH per °C
Response Time (to 90% change at 20°C)	110 sec
Annual Drift	≤1%
Output Scaling	0-100% RH

**Temperature:**

Active Output Accuracy	±0.5°C
Active Output Temperature Scaling	Type 1: -40° to 50°C (-40° to 122°F) Type 2: 0° to 50°C (32° to 122°F)
Resistive Temperature Accuracy	see thermistor table
Self-Heating Error (Resistive temperature only)	≤±0.5°C at 20° to 30°C; ≤±0.75°C outside of 20° to 30°C

**Operating Environment:**

Operating Temperature	-40° to 50°C
Operating Humidity	0-100% RH (non-condensing) (Unit will recover from saturation)

**Housing:**

Material	ABS plastic with UL V-0, 5VA Flame Class
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EMC Conformance: EN61000-6-3:2007 +A1:2011 Class B, EN61326-1:2006 Class B; EN61000-6-1:2007

Meets UL requirements for plenum rating.  
1-year limited warranty.

## NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- Read and understand the instructions before installing this product.
- Turn off all power supplying equipment before working on it.
- The installer is responsible for conformance to all applicable codes.

## PRODUCT IDENTIFICATION

**HED**

<b>Accuracy</b>	<b>Output</b>	<b>Temp.</b>
<input type="checkbox"/> 2 = 2% <input type="checkbox"/> 3 = 3% <input type="checkbox"/> 5 = 5%	<input type="checkbox"/> M = 4-20mA <input type="checkbox"/> V = 0-5V/0-10V	<input type="checkbox"/> S = Standard <input type="checkbox"/> T = Temp <input type="checkbox"/> X = No Temp (Stop here)

**OR**

<b>Sensor Type</b>	<b>Temp Range</b>	<b>Temp Cert</b>
<input type="checkbox"/> A = Temp. transmitter	<input type="checkbox"/> 1 = -40° to 50°C (-40° to 122°F) <input type="checkbox"/> 2 = 0° to 50°C (32° to 122°F)	<input type="checkbox"/> Blank = None <input type="checkbox"/> 1 = 1 pt cal <input type="checkbox"/> 2 = 2 pt cal

**OR**

<b>Sensor Type</b>	<b>Temp Cert</b>
<input type="checkbox"/> B = 100R Platinum, RTD <input type="checkbox"/> C = 1k Platinum, RTD <input type="checkbox"/> D = 10k T2, Thermistor <input type="checkbox"/> E = 2.2k, Thermistor <input type="checkbox"/> F = 3k, Thermistor <input type="checkbox"/> G = 10k CPC Thermistor <input type="checkbox"/> H = 10k T3, Thermistor <input type="checkbox"/> J = 10k Dale, Thermistor <input type="checkbox"/> K = 10k with 11k shunt, Thermistor <input type="checkbox"/> M = 20k NTC, Thermistor	<input type="checkbox"/> N = 1800 ohm TAC, Thermistor <input type="checkbox"/> R = 10k US, Thermistor <input type="checkbox"/> S = 10k 3A 221 Thermistor <input type="checkbox"/> T = 100k, Thermistor <input type="checkbox"/> U = 20k "D", Thermistor <input type="checkbox"/> W = 10k T2 high accuracy, Thermistor <input type="checkbox"/> Y = 10k T3 high accuracy, Thermistor <input type="checkbox"/> Z = 10k E1, Thermistor

## QUICK INSTALL



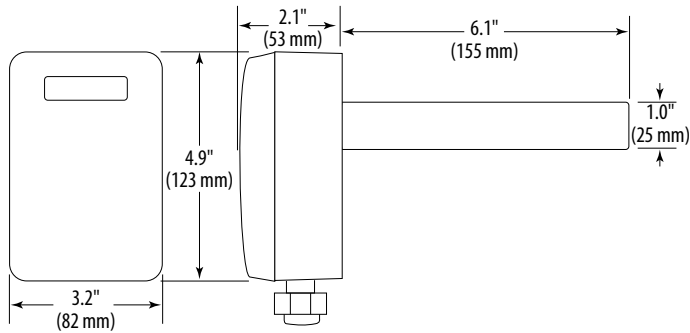
Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

1. Choose a location on the air duct.
2. Drill a 1" (25 mm) diameter hole for the sensor probe.
3. Mount HED housing to duct using self-tapping screws (included).
4. Wire unit (see Wiring section).

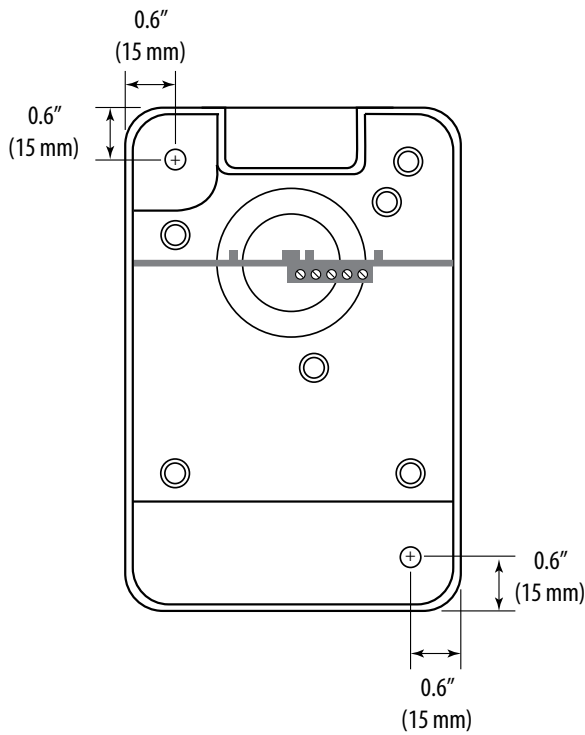
**OPERATION**

The HED series economy duct mount humidity sensors measure the levels of RH and temperature (if equipped) in the air inside a duct. HEDs are warranted to meet accuracy specifications for 1 year. To maintain accurate functionality, keep all pickup vents clear and free of dust, debris, etc.

**DIMENSIONS**



Mounting Holes



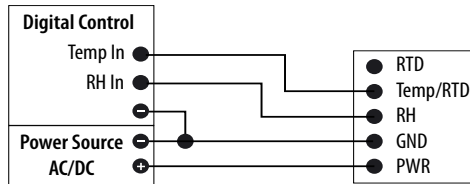
**INSTALLATION**



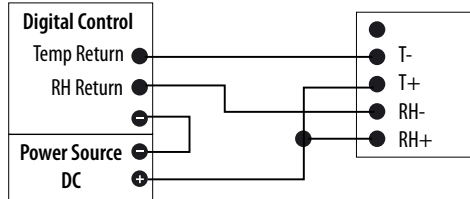
Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

1. Choose a location to mount the sensor.
2. Drill a 1" (25 mm) diameter hole in the duct.
3. Insert probe into hole. Mount HED housing to duct using self-tapping screws (included). Make sure that the gasket on the back of the housing is compressed between the housing and the duct for a secure fit.
4. Remove faceplate. Wire unit.

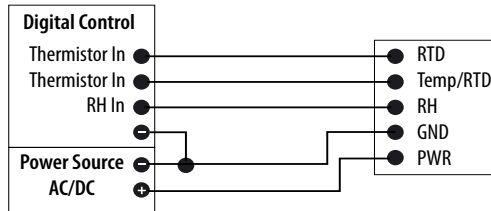
0–5V/0–10V Versions, No Thermistor



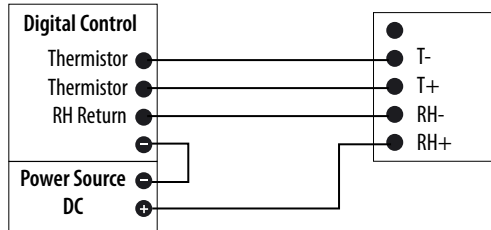
4–20mA Versions, No Thermistor



0–5V/0–10V Versions, Thermistor



4–20mA Versions, Thermistor



5. Replace faceplate.