

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.

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).

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

Accuracy **Output** **Temp.**

HED

2 = 2% M = 4-20mA S = Standard T = Temp

3 = 3% V = 0-5V/0-10V X = No Temp

5 = 5% (Stop here)

Sensor Type **Temp Range** **Temp Cert**

OR

= Temp. transmitter 1 = -40° to 50°C (-40° to 122°F) Blank = None

2 = 0° to 50°C (32° to 122°F) 1 = 1 pt cal

2 = 2 pt cal

Sensor Type **Temp Cert**

B = 100R Platinum, RTD N = 1800 ohm TAC, Thermistor Blank = None

C = 1k Platinum, RTD R = 10k US, Thermistor 1 = 1 pt cal

D = 10k T2, Thermistor S = 10k 3A 221 Thermistor 2 = 2 pt cal

E = 2.2k, Thermistor T = 100k, Thermistor

F = 3k, Thermistor U = 20k "D", Thermistor

G = 10k CPC Thermistor W = 10k T2 high accuracy, Thermistor

H = 10k T3, Thermistor Y = 10k T3 high accuracy, Thermistor

J = 10k Dale, Thermistor Z = 10k E1, Thermistor

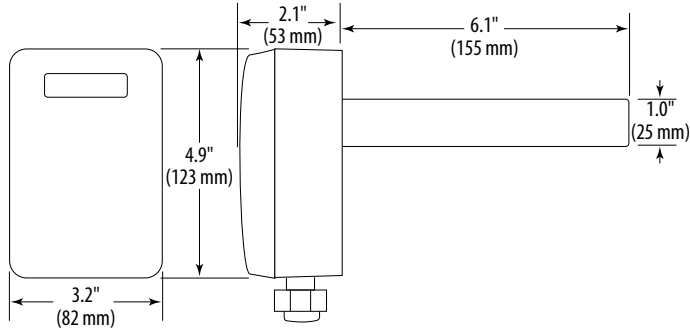
K = 10k with 11k shunt, Thermistor

M = 20k NTC, Thermistor

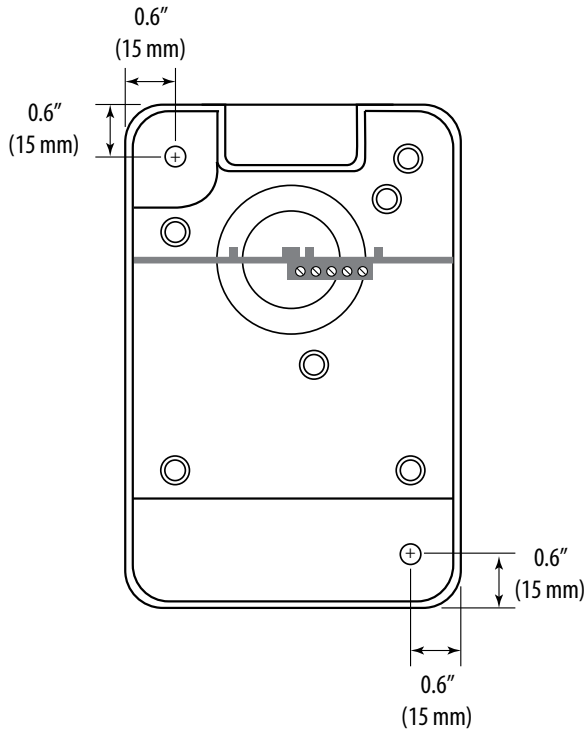
OPERATION

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



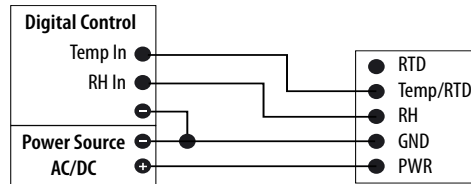
INSTALLATION



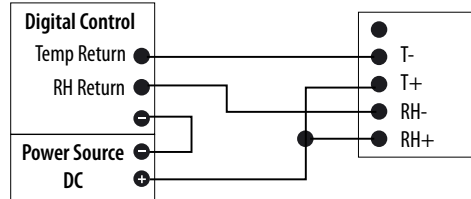
Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

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.

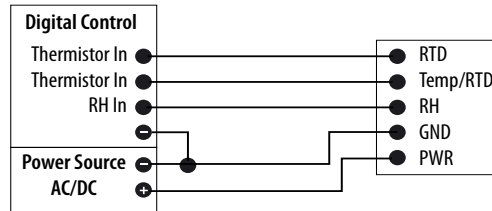
0–5V/0–10V Versions, No Thermistor



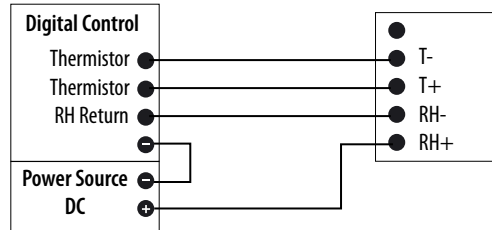
4–20mA Versions, No Thermistor



0–5V/0–10V Versions, Thermistor



4–20mA Versions, Thermistor



5. Replace faceplate.