



Model: KHD-2-DSB Duct relative humidity transmitter

DESCRIPTION

The **Model KHD Duct Relative Humidity Transmitter** monitors relative humidity in an air duct and generates an output proportional to the humidity.

The transmitter uses a thin film capacitive polymer sensor protected from dust and dirt by a porous filter. Standard output is 4 to 20 mA (0 to 100% RH). A conformal coating protects sensitive sensor circuits and components from condensation.

The **Model KHD** enclosure incorporates an electrical junction box with a 6" aluminum probe. The junction box accommodates 1/2" conduit and mounts from the outside of the duct.

FIGURE 1-1: MODEL KHD

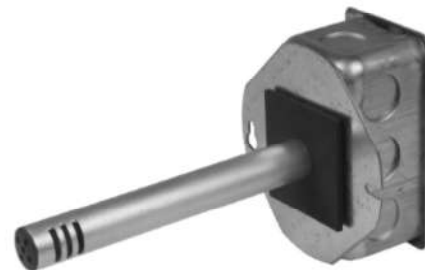


Table 1-1:
Specifications

GENERAL	
Accuracy	±2% (includes hysteresis, stability, and linearity)
Hysteresis	±1% of RH, 10 to 90 to 10% RH
Stability	±2% of RH over 24 months typical
Linearity	±1% of RH typical
Sensing element	Thin-film capacitive polymer with porous filter
Temperature dependence	Negligible between 32°F and 122°F (0° and 50°C)
Time constant	45 second in moving air (500fpm)
ELECTRICAL	
Power requirement 4 to 20 mA	12 (min) to 28 (max) VDC @ 4 to 20 mA
Signal output current	4 to 20 mA loop current, 2-wire powered DC; maximum load resistance at 12 VDC is 100Ω, at 28 VDC is 900Ω
HUMIDITY	
Range	0 to 100% RH
PHYSICAL	
Dimensions	See outline drawing
Weight	1.2 lbs.
ENVIRONMENTAL	
Operating temperature	-20° to 158°F (-29 to 70°C)
Operating humidity	0 to 95% RH non-condensing
Storage temperature	-4° to 140°F (-20° to 60°C)
Storage humidity	0 to 95% RH non-condensing

INSTALLATION

Mounting

Sensor should be at least 8-12 feet downstream and further than the design steam absorption distance. Select a sensor location on the duct wall away from heat and cold sources.

Remove cover from the enclosure. Cut a 7/8" (23 mm) hole in the duct wall. Insert the probe into the duct. Secure the enclosure to the duct wall with self-tapping screws with large heads.

Connecting

Connect the power and RH signal return from the building system per the wiring diagram.

FIGURE 2-1: DIMENSIONS

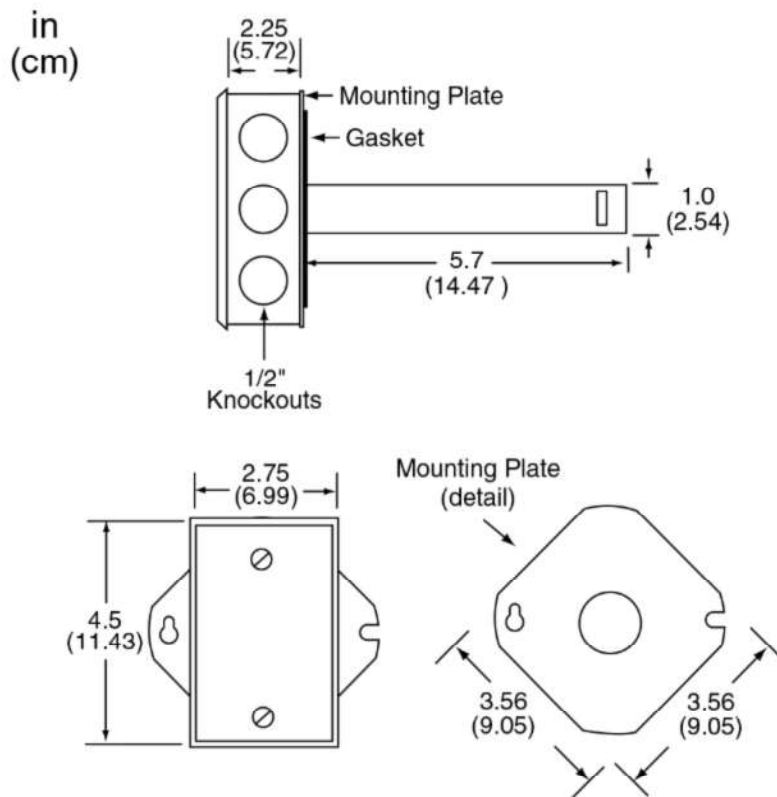
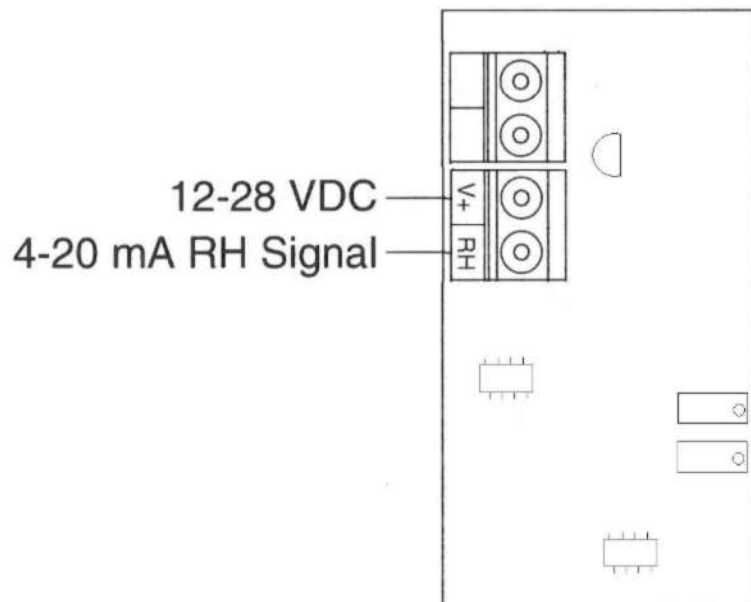


FIGURE 2-2: WIRING - KHD



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