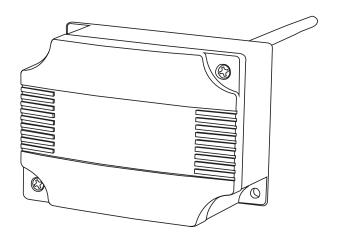
# **Rigid Duct Average Temperature Transmitter**

**HATXDRA Series - Installation Instructions** 



#### INTRODUCTION

The multi-point rigid duct average temperature transmitter incorporates numerous high accuracy platinum RTD's at equal distances and encapsulated in a 6.35 mm (0.25") OD, 304 series stainless steel probe. Several probe lengths are available. All probes provide excellent heat transfer, fast response and resist moisture penetration. A transmitter that provides a high accuracy signal with excellent long term stability, low hysteresis and fast response is available with various ranges.

#### **BEFORE INSTALLATION**

Read these instructions carefully before installing and commissioning the temperature sensor. Failure to follow these instructions may result in product damage. Do not use in an explosive or hazardous environment, with combustible or flammable gases, as a safety or emergency stop device or in any other application where failure of the product could result in personal injury. Do not exceed the device ratings.

The sensor installs directly into any air duct with several lengths available for a wide range of duct widths/diameters. Select a suitable installation area in the middle of the duct wall. To achieve the best reading, do not place in an area where air stratification may be present. Mount the sensor at least 1.5 m (5') in either direction from elbows, dampers, filters or other duct restrictions. Avoid areas where the sensor is exposed to vibrations or rapid temperature changes.

Once a suitable spot is selected, drill a 9.5 - 12 mm (3/8" - 1/2") hole for the probe.

Slide the probe in the drilled hole until the enclosure is flush against the duct. The airflow direction is not important. Secure the enclosure to the duct with #10 x 25 mm (1") self tapping screws (not provided). Tighten screws until the enclosure is tight against the duct and that there is no movement of the enclosure as shown in Figure 1.

A foam gasket is provided on the back of the enclosure that provides a tight seal against any air leaks.

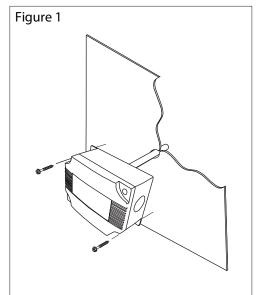
Using a Phillips screwdriver, remove the (2) screws, as shown in Figure 2. Remove cover and set aside with screws for re-installing after wiring and set up.

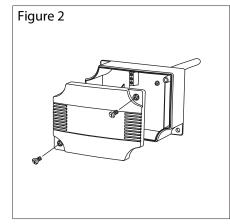
Two 21 mm (0.8125") holes are provided for connection of either 12.77mm (0.5") EMT or a cable gland style connector as shown in Figure 3. Insert the EMT or cable gland connector through the hole and securely fasten using a locknut. If only one connection hole is required, use the included hole cap to cap off the unused one as shown in Figure 4. Special care must be taken not to damage any internal components during installation.

Make wire connections as per the "Wiring" illustrations on Page 2.

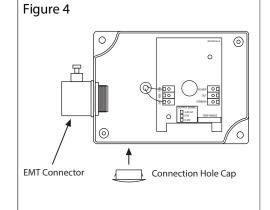
Once wiring and set up are complete, re-install cover and tighten the (2) screws using a Phillips screwdriver.

Figure 3



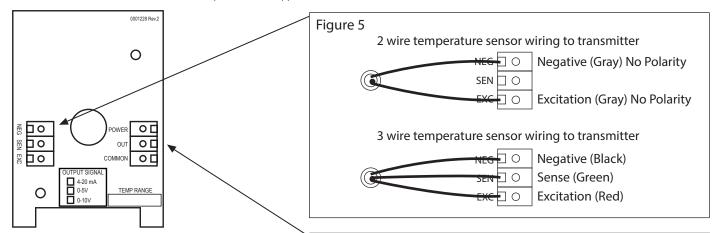


**EMT/Cable Gland Connection Holes** 



### WIRING

- Deactivate the 24 Vac/dc power supply until all connections are made to the device to prevent electrical shock or equipment damage.
- Use 14-22 AWG shielded wiring for all connections and do not locate the device wires in the same conduit with wiring used to supply inductive loads such as motors. Make all connections in accordance with national and local codes.
- The temperature transmitter comes with the temperature sensor pre-wired to the transmitter board. If removal is required for installation then it may be rewired as shown in Figure 5.
- Pull at least six inches of control wire into the enclosure, then complete the wiring connection according to the wire diagram for the applicable power supply and output signal type as shown in Figure 6.
- Connect the DC positive or the AC voltage hot side to the PWR terminal. For voltage output or AC power, the supply Common is connected to the COM terminal. The device is reverse voltage protected and will not operate if connected backwards. It has a half-wave power supply so the supply Common is the same as the signal Common. See Figure 6.
- The analog output is available on the OUT terminal. Check the controller Analog Input to determine the proper connection before applying power as shown in Figure 6.
- Once all connections are made and checked, power can be applied.

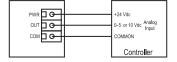


# **SPECIFICATIONS:**

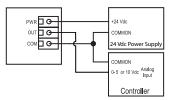
Sensor:1000 ohm Plati	num RTD
Accuracy:RTD Class A: ±	0.15°C @ 0°C
RTD 1/3 DIN: ±	:0.1°C @ 0°C
RTD 1/10 DIN:	
Probe Sensing Range:20 to 105°C (-4	to 221°F)
Wire Material:PVC insulated,	
Probe Material:304 Series Stair	nless Steel
Probe Diameter:6.35 mm (0.25"	)
Probe Length:450, 600, or 900	) mm
(18", 24", or 36")	
Order Specific	
Custom length	s are available
Output Signal:4-20 mA currer	it loop, 0-5 Vdc, or
0-10 Vdc (facto	
Transmitter Accuracy:±0.1% or span,	
4-20 mA loop power supply:15-35 Vdc or 22	-32 Vac
Minimum Current Loop:2 mA nominal	occurs with shorted sensor)
Maximum Current Loop:22.5 mA nomir	al (occurs with open sensor)
0-5 Vdc Power Supply:10-35 Vdc or 10	-32 Vac
0-10 Vdc Power Supply:15-35 Vdc or 15	-32 Vac
5 mA nominal	
Maximum Output (Voltage):Limited to <5.5	
Input Voltage Effect:Negligible over	
RFI Rejection:Good RFI reject	
Protection Circuitry:Reverse voltage	
Ambient Operating Range:40 to 85°C (-40	
Enclosure:ABS, UL94-V0,	
Wiring Connections:Screw terminal	block (14 to 22 AWG)
Country of Origin:Canada	

#### Transmitter Wiring to Controller Figure 6

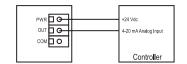
Wiring for 0-5 or 0-10 Vdc output signal and 24 Vdc power from controller



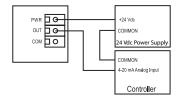
Wiring for 0-5 or 0-10 Vdc output signal and with external 24 Vdc power supply



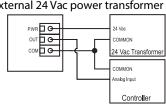
Wiring for 4-20 mA loop-powered output and external 24 Vdc power from controller



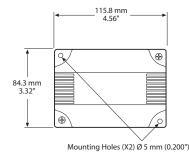
Wiring for 4-20 mA loop-powered output and external 24 Vdc power supply

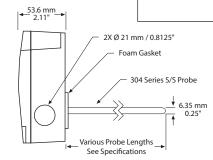


Wiring for all output signals with external 24 Vac power transformer



## **DIMENSIONS**





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