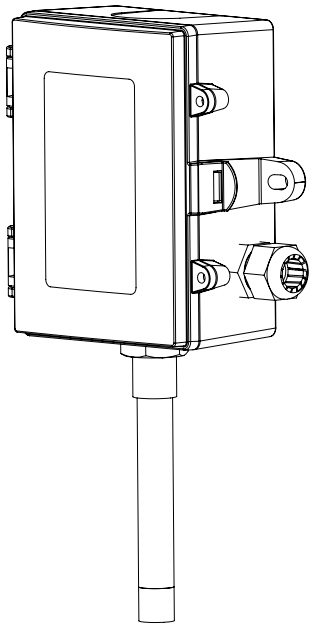
HTX3 Series

HTX3 Series – Installation Instructions



INTRODUCTION

The HTX3 High-Accuracy Humidity and Temperature Transmitter in environmental monitoring and control systems that require high accuracy and stability. The state-of-the-art design combines digital linearization and temperature compensation. A highly accurate and reliable Thermoset polymer-based capacitance sensor chip and a Class A resistance temperature detector (RTD) provides reliability and accuracy in the most critical applications. The HTX3 Series Transmitters has two measurement variables for relative humidity (RH) and dry-bulb temperature. The selected variables are available as analog signals (2X) to provide the most efficient monitoring and control solution. A weatherproof polycarbonate enclosure protects the electronics. The hinged and gasketed cover provides ease of installation.

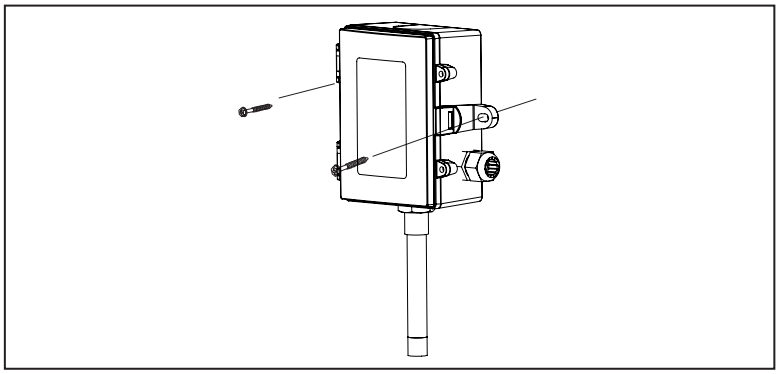
WARNING

Read these installation instructions carefully before commissioning the humidity/temperature transmitter. 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 safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Use electrostatic discharge precautions during installation and do not exceed the device ratings.

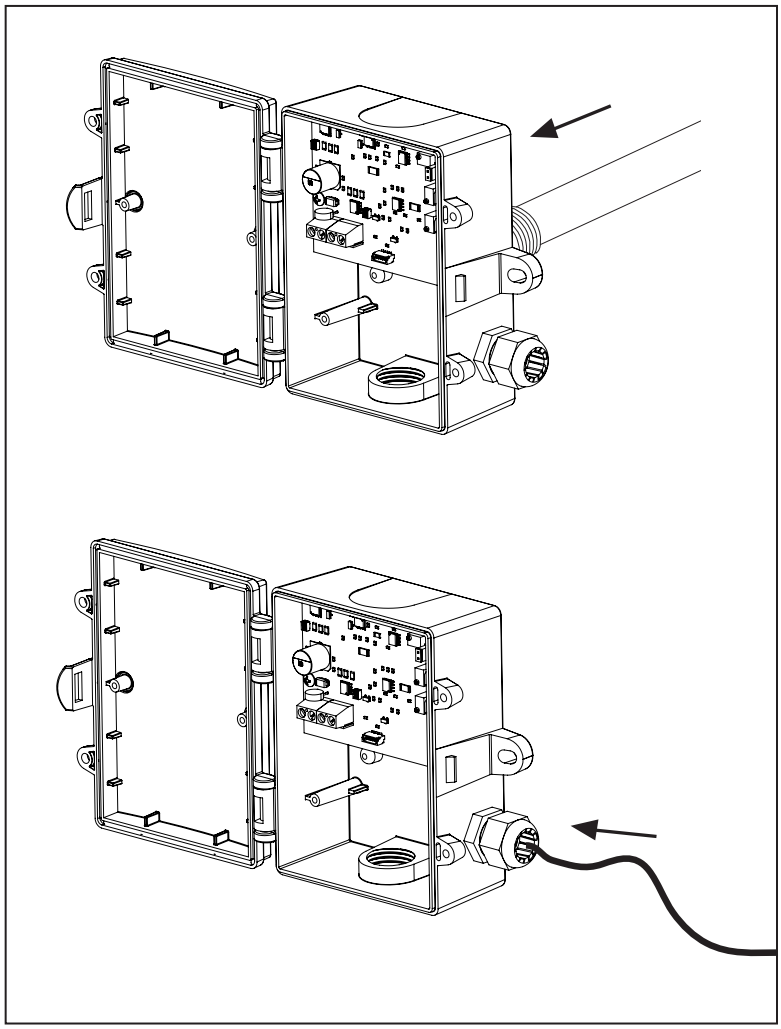
Do not mount the sensor near opening windows, supply exhaust air louvres or other known air disturbances. Avoid areas where the sensor is exposed to vibrations or rapid temperature changes.

MOUNTING

The humidity/temperature transmitter installs directly on a smooth surface using the two integrated mounting holes provided on the enclosure. The two mounting holes will facilitate a #10 size screw (not supplied).



The enclosure has a hinged cover with a latch. Open the cover by pulling slightly on the latch on the right side of the enclosure. At the same time pulling on the cover



For model using conduit, Feed conduit through the provided hole in the back of enclosure and secure with a lock nut. For model using cable gland, feed control wiring through cable gland and tighten nut.

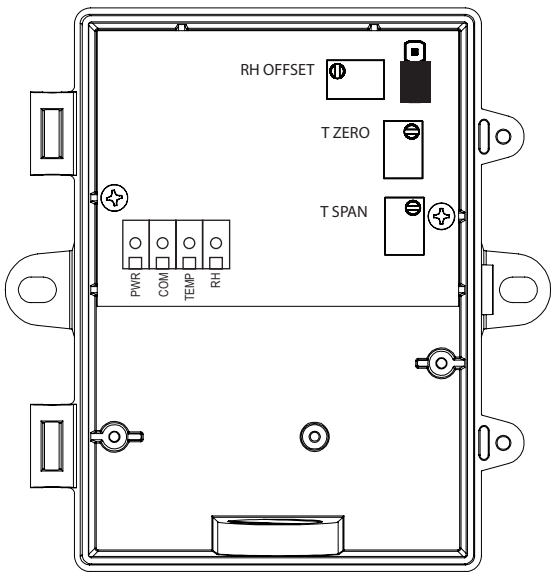
WIRING

IMPORTANT

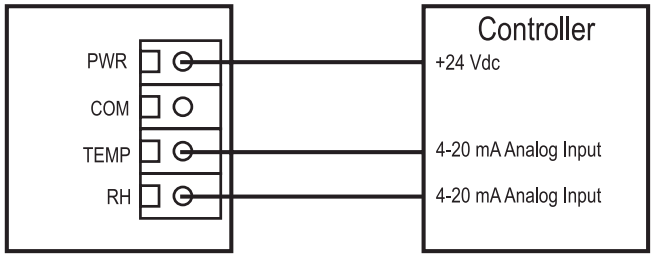
Deactivate the power supply until all connections are made to the device to prevent electrical shock or equipment damage. Use 14-22 AWG shielded wire for all connections (only ground the shield at the controller end) and do not locate the device wires in the same conduit with wiring used to supply inductive loads such as motors. Pull at least six inches of wire into the enclosure and complete the wiring connection according to the wiring diagram. 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. Several devices may be connected to one power supply and the output signals all share the same common. Use caution when grounding the secondary of a transformer or when wiring multiple devices to ensure the ground point is the same on all devices and the controller.

Connect the plus DC 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.

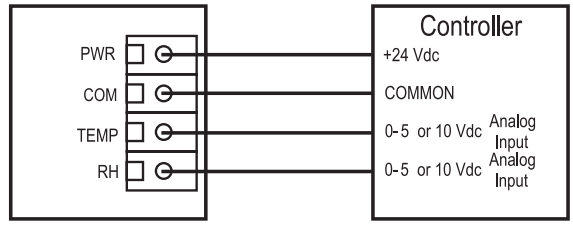
The analog outputs are designated as TEMP and RH by each terminal. Check the controller Analog Input to determine the proper connection before applying power.



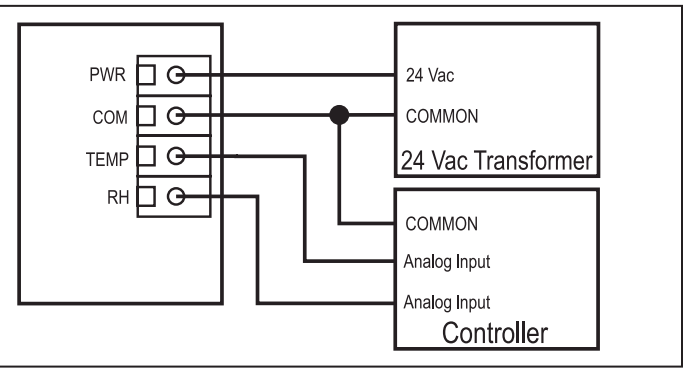
Wiring for a 4-20 mA loop-powered output signals and 24 Vdc from controller



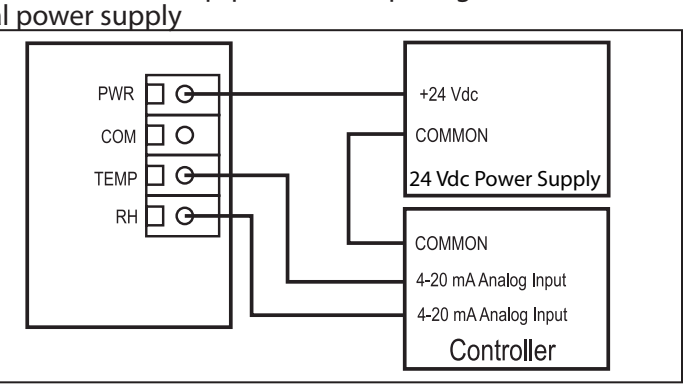
Wiring for Voltage Output signal and 24 Vdc power from controller



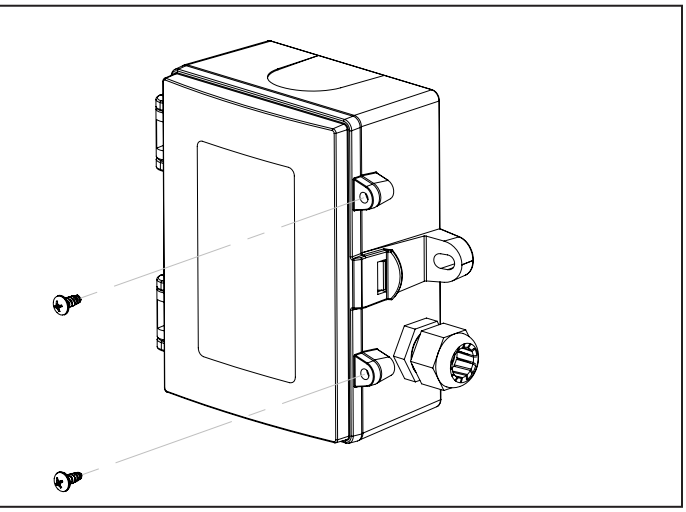
Wiring for all output signals and external 24 Vac power transformer



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

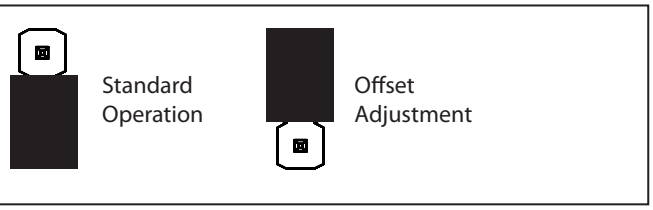


Swing door closed until securely latched. For added security, two screws are provided that may be installed in the integrated screw tabs.

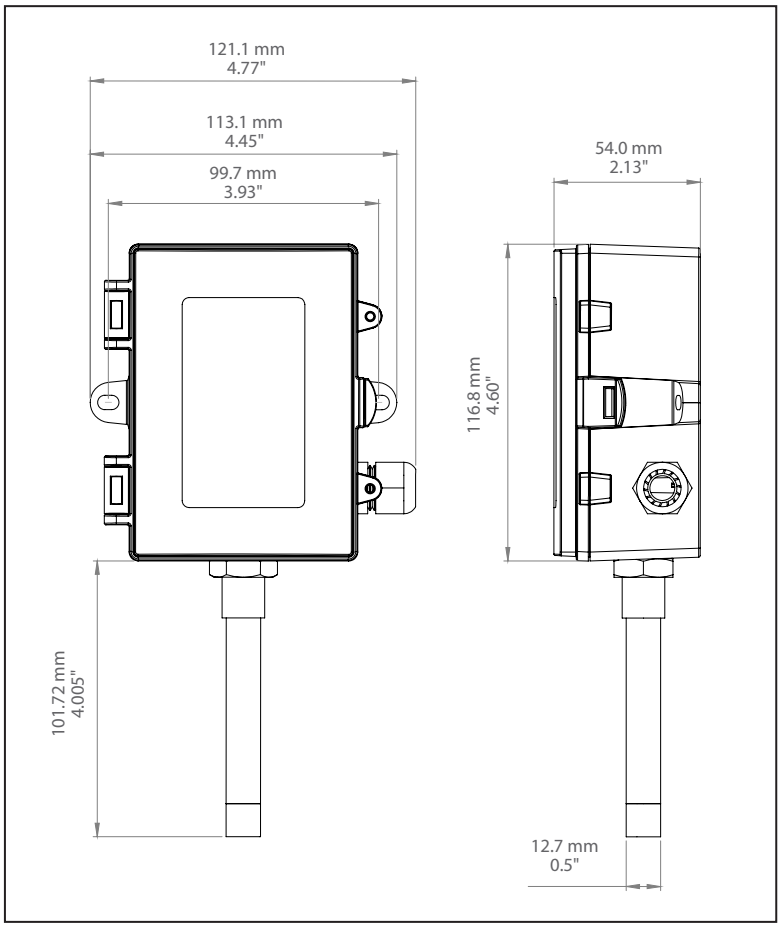


RH OFFSET

To adjust RH reading jumper should be placed in OFFSET position (top two pins of JP1). Adjust POT P3 to adjust RH output. When done with adjustment, place jumper on bottom two pins of JP1.



DIMENSIONS



SPECIFICATIONS

HUMIDITY

Sensor Type: Thermoset polymer-based capacitance sensor chip
Range: 0-100% RH
Accuracy: ±1% RH, 20% to 70% RH @ 25°CTypical
±1.5% RH, 0% to 20% RH and 70 % to 90% RH @ 25°C Typical
Hysteresis: ±0.8 %RH maximum
Repeatability: ±0.8 %RH maximum
Calibration: -10 to 10%RH Offset, Resolution = 1% RH

TEMPERATURE

Sensor Type: 1K ohm platinum, IEC751, 385 Alpha, thin film, Class A
Range: -40°C to 60°C (-40°F to 140°F) or 0°C to 60°C (32°F to 140°F)
Accuracy: ±0.15°C (±0.27°F) @ 0°C (32°F)
Calibration: ZERO and SPAN pots

POWER SUPPLY

Power Source UL: 24Vac/dc ±10% typical, SELV (Class 2) supply
Consumption: 22 mA max @ 24 Vdc, 70 mA @ 24 Vac
Input Voltage effect: Negligible over specified operating range
Protection circuitry: Reverse voltage protected and output limited

OUTPUT

Outputs (2x): 4-20mA loop-powered or 0-5 / 0-10 Vdc
Output drive at 24 VDC: Current: 550 Ω
Max Voltage: 10,000Ω Min
Outputs: Limited Energy, < 15W

ENCLOSURE

Enclosure Material: Grey Polycarbonate, UL94-V0, IP65 (NEMA 4X)
Enclosure Rating: IP65 (NEMA 4X)
Wiring Access: Rear: 0.895" hole for EMT connection or Side: M16 x 1.5 Cable gland
Dimensions: 116.5mm W x 112.5mm H x 54.0mm (4.58" x 4.43" x 2.125")
Probe: 304 S/S, 104.1 mm x 12.7 mm (4.1 in. x 0.5 in.)
Filter: 20 Micron porous PTFE filter

GENERAL

Operating Conditions: -40 to 60°C (-40 to 140°F), 0 to 95 %RH non-condensing
Storage Conditions: -40 to 70°C (-40 to 158°F), 0 to 95 %RH non-condensing
Response Time: < 8 seconds
Protection Class: III
Purpose of Control: Operating Control
Type of Action: Type 1
Impulse Voltage: 330V
Pollution Degree: 2
Wiring: Screw terminal block (14 to 22 AWG)
Country of Origin: Canada

CONFORMITY / CERTIFICATION

EU Conformity: CE, UKCA
UL Model: MRHLWMXHT
Certification: UL 60730 & CSA, E60730, (UL E539555 file#)