

Wiring & Termination

BAPI recommends using twisted pair of at least 22AWG and sealant filled connectors for all wire connections. Larger gauge wire may be required for long runs. All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run this device's wiring in the same conduit as high or low voltage AC power wiring. BAPI's tests show that inaccurate signal levels are possible when AC power wiring is present in the same conduit as the sensor wires.

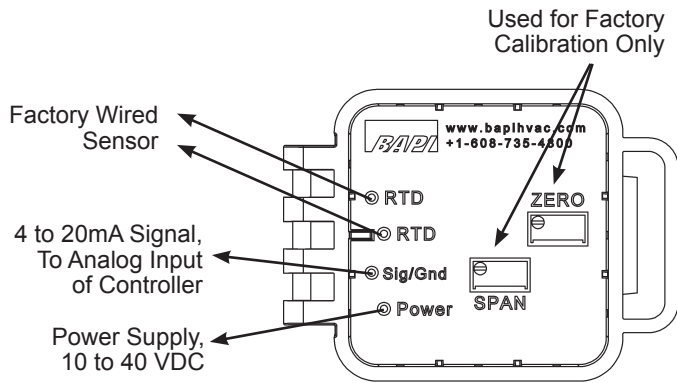


Fig. 5: Transmitter with Flying Leads

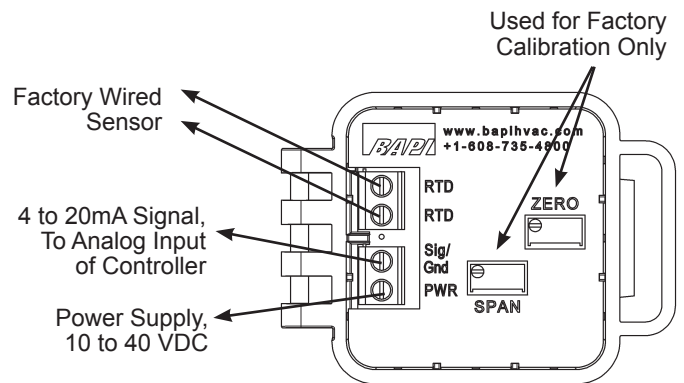


Fig. 6: Transmitter with Terminals

Note: Green LED on cover face will light when power is applied.

Diagnostics

Possible Problems:

Green power LED is not on.

Possible Solutions:

- Measure the power supply voltage by placing a multi-meter across the transmitter's "Power" and "Sig/Gnd" leads or terminals. Make sure that the power is 10 to 40 VDC.
- Make sure that the "Power" and "Signal/Gnd" wires are not open or shorted together and are terminated correctly to the controller.

The reading is incorrect in the controller.

- Determine if the input is set up correctly in the BAS and controller's software.
- Compare the transmitted current to the actual temperature measurement at the sensor location. Measure the physical temperature at the temperature sensor's location using an accurate temperature standard. Measure the transmitter current by placing an ammeter in series with the controller input. The current should read according to the "4 to 20mA Temperature Equation" shown below. If the measured resistance is different from the temperature table by more than 5% call BAPI technical support.

4 to 20mA Temperature Equation

$$T = \frac{T_{Low} + (A - 4) \times (T_{Span})}{16}$$

- T = Temperature at sensor
- T_{Low} = Low temperature of span
- T_{High} = High temperature of span
- T_{Span} = T_{High} - T_{Low}
- A = Signal reading in mA

Specifications subject to change without notice.



Submersible Duct Temperature Transmitters in the BAPI-Box Crossover Enclosure

Installation & Operations

37723_ins_subduct_active_bbx

rev. 03/23/18

Specifications

RTD Transmitter

Power Required: 10 to 40VDC
Output: 4 to 20mA, 850Ω@24VDC
Output Wiring: 2 wire loop
Output Limits: <1mA (short), <22.35mA (open)
Span: Min. 30°F (17°C), Max 1,000°F, (555°C)
Zero: Min. -148°F (-100°C), Max 900°F (482°C)
Zero & Span Adjust:..... 10% of span
Accuracy: ±0.065% of span
Linearity: ±0.125% of span
Power Output Shift: ±0.009% of span
RTD Sensor: 2 wire Platinum (Pt), 385 curve
Transmitter Ambient..... -4 to 158°F(-20 to 70°C)
0 to 95% RH, Non-condensing)

RTD Sensor: Resistance Temp Device (Bare Sensor)

Platinum (Pt): 1KΩ @0°C, 385 curve
Pt Accuracy (Std): 0.12% @Ref, or ±0.55°F, (±0.3°C)
Pt Accuracy (High): 0.06% @Ref, or ±0.277°F, (±0.15°C), **[A]**option
Pt Stability: ±0.25°F, (±0.14°C)
Pt Self Heating: 0.4 °C/mW @0°C
Pt Probe Range: -40° to 221°F, (-40 to 105°C)

Lead Wire: 22AWG stranded

Insulation: Etched Teflon, Plenum rated

Probe: Stainless Steel, Sheath 0.25" OD, probe 0.125

Probe Length: 12" to 48" per order

Duct Gasket: 1/4" Closed cell foam (impervious to mold)

Mounting: Extension tabs (ears), 3/16" holes

BAPI-Box Crossover Enclosure Ratings:

IP10, NEMA 1
IP44 with knockout plug installed in the open port

BAPI-Box Crossover Enclosure Material:

UV-resistant polycarbonate & Nylon, UL94V-0

Environmental Operating Range:

-40 to 185°F (-40 to 85°C)
0 to 100% RH, Non-condensing

Agency:

RoHS
PT= DIN43760, IEC Pub 751-1983,
JIS C1604-1989

Specifications subject to change without notice.