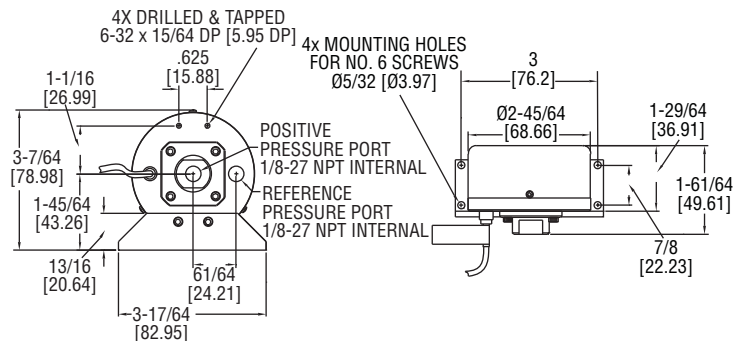




## Series HATX High Accuracy Pressure Transmitter

## Specifications - Installation and Operating Instructions



The Series HATX transmitter has been carefully calibrated before shipment to you, and it should be handled with the same care given any precision instrument. Pressure range and dimensions are reported on the specifications bulletin for the transmitter.

**Ambient Conditions**

Do not use in ambient conditions corrosive to anodized aluminum, or submerge in liquids, subject to spray or vibration environment.

**Electrical Connections:**

Function	Standard "Belden" Cable Lead (#8723 Grey Cable)
Positive Excitation	Red
Positive Output	Green
Negative Output	White
Negative Excitation	Black
Case	Shield

**Electrical**

The electrical circuit is equivalent to a 4-terminal network which can be grounded at only one point, either at the negative excitation or the negative signal output lead, but must not be commoned or grounded at more than one point.

The unit must be operated with the case connected either to the negative excitation terminal or to the negative output terminal. Failure to do this may result in damage to, or unsatisfactory operation of the unit. This connection may be made by connecting shield and black (negative excitation) leads or alternatively by connecting the shield and negative output signal leads together. Best shielding against noise will be obtained by connecting the shield and negative excitation leads. Circuit is reversed voltage protected for at least 5 minutes. Internal transient suppression network is provided for short duration transients to 150 volts.

In some instances, use of long cables (several hundred feet long), may introduce enough cable capacitance into the output circuit to cause output oscillation. If encountered, this oscillation may be eliminated by connecting a 100 ohm resistor (1/8 watt or larger) in series in each of the output leads at the end of the 2 ft transducer cable. These series resistors of course add to the output resistance.

**SPECIFICATIONS**

**Service:** Non-conducting air/gas.

**Wetted Materials:** Anodized aluminum, alumina ceramics, gold, fluorocarbon elastomer sealant & Buna-N O-ring.

**Accuracy:**  $\leq \pm 0.05\%$  FS.

**Stability:**  $\leq \pm 0.1\%$  FS over 6 months @ 70°F.

**Pressure Limits:**

Barometric Ranges: 800 to 1100 hPa/mb;

600 to 1100 hPa/mb: 20 psia.

Absolute and Gage Ranges: 1.5x of std range.

**Temperature Limits:**

Operating: 0 to 175°F (-18 to 71°C);

Storage: -65 to 250°F (-53 to 121°C).

**Compensated Temperature Range:** 30 to 120°F (-1 to 49°C).

**Thermal Effect:**

Barometric Ranges:  $\leq \pm 0.2\%$  FS / 100°F;

PSIG and PSIA Ranges:  $\leq \pm 0.1\%$  FS / 100°F.

**Power Requirements:** 22 to 32 VDC.

**Output Signal:** 0 to 5 VDC.

**Zero and Span Output:**

Zero output: Factory set to within  $\pm 5$  mV;

Span (FS) output: Factory set to within  $\pm 5$  mV.

**Zero and Span Adjustments:** None.

**Response Time:**  $< 10$  msec.

**Current Consumption:**  $< 10$  mA.

**Electrical Connections:** 2 ft multi-conductor cable.

**Process Connections:** 1/8"-27 NPT internal.

**Mounting Orientation:** Pressure port 90° parallel to ground.

**Weight:** 9 oz (255 g).

**Agency Approval:** CE.

**Adjustments** (with cover removed)

**CAUTION**

1. Before making any adjustments, determine which circuit board diagram on page 2 matches the circuit board in your transmitter.
2. Turn off excitation power during cover removal or replacement.
3. Touching any adjustments other than zero or span may necessitate recalibration and voids the warranty.

**ZERO OUTPUT**

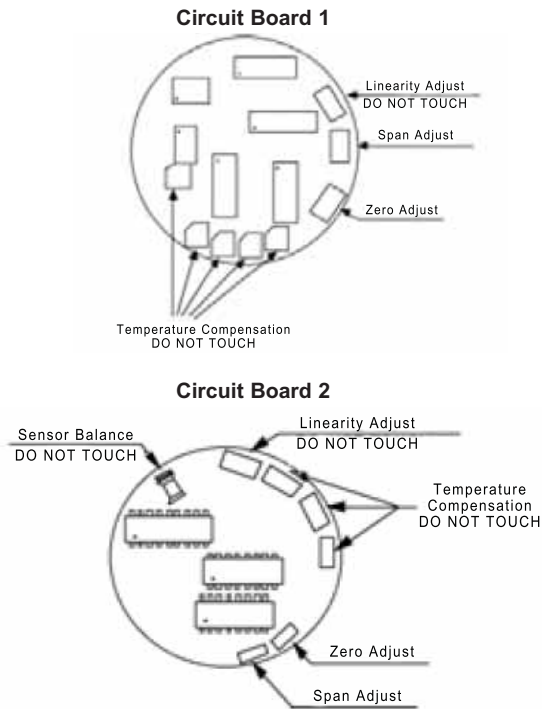
Output can be adjusted to zero by potentiometer as shown in diagram. Unit factory adjusted to 0.00 VDC output ( $\pm 5$  mV).

**SPAN**

Can be adjusted by potentiometer as shown in diagram. Unit factory adjusted to 5.00 VDC FS output ( $\pm 5$  mV).

**LINEARITY - DO NOT TOUCH**

Factory adjusted for best linearity.

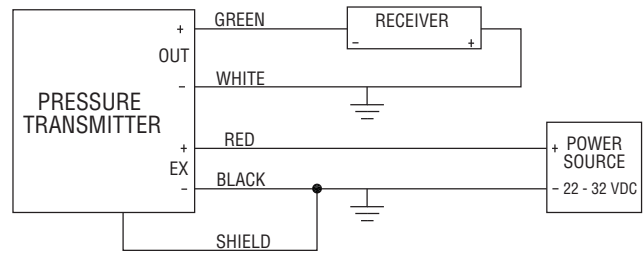


**NOTE:** When circuit cover is removed, a zero shift can be noticed. The zero will return by the same amount when the cover is replaced. This displacement of the output should be taken into account when making adjustments or during recalibration.

\*Adjustments: Due to the high accuracy of this transmitter, adjustments to zero and span should only be made with the use of primary pressure standards of known accuracy higher than that of the Series HATX.

**INSTALLATION INSTRUCTIONS FOR HOOK-UP OF 4-WIRE PRESSURE TRANSMITTERS**

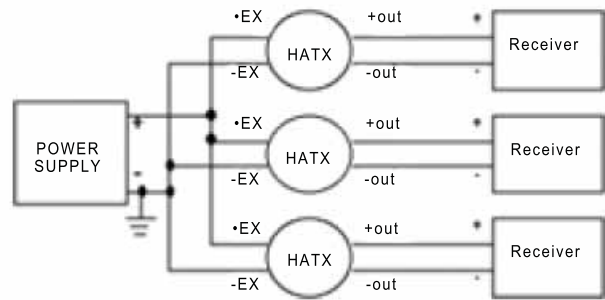
**Single Power Supply, Single Output**



NOTE: GROUND 1 & 2 MUST BE ELECTRONICALLY ISOLATED

Power Supply (Nominal 24 VDC)  
HATX - Pressure Transmitter (4 Wire Circuit)  
Receiver - Digital Volt Meter or Data Acquisition System

**Single Power Supply, Multiple Outputs**



**NOTE:** The shield is internally commoned to the case and pressure port of the transmitter. When the shield is connected to ground the case and pressure port of the transmitter will also be commoned to that ground.

**MAINTENANCE**

Upon final installation of the Series HATX High Accuracy Pressure Transmitter, no routine maintenance is required. A periodic check of system calibration is recommended. The Series HATX is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.