The Series FDT Flush Diaphragm Transmitter is designed for highly cyclical conditions. This unit has a non-oil filled sensor element that provides resistance to temperature fluctuations. Manufactured from a solid piece of steel, the sensing diaphragm can withstand the most abrasive/cyclical applications. Unit performs well in high cyclical environments with the presence of water-hammering or spiking. Flush feature greatly reduces chance of leakage. Tough materials allow the unit to withstand hars process conditions. Advanced manufacturing techniques, extreme environmental burn-in, and thorough residual stress relieving procedures ensure unit will maintain its high performance standard over time.

**INSTALLATION**

**Location**
Select a location where the temperature of the transmitter will be between -40 and 200°F (-40 to 93°C). Distance from the receiver is limited only by total loop length, but long lengths will increase response time slightly.

**Position**
The transmitter is not position sensitive. However all standard models are originally calibrated with the unit in a position with the pressure connection downward. Although they can be used at other angles, for best accuracy it is recommended that units be installed in the position calibrated at the factory.

**Pressure Connection**
Use a small amount of plumbers tape, thread tape or other suitable sealants to use the housing or electrical termination for wrenching. The pressure cavities of FDT series unless otherwise specified are manufactured with 15-5 and 316 stainless steels and are suitable for use with all media compatible with those materials. Foreign objects should not be introduced into the pressure cavity. Units must be protected from exposure to transient pressure spikes and pressures over their rated proof pressure range.

**Note:** Wrench only on the wrench flats for mounting or removing the unit. Do not use the housing or electrical termination for wrenching. The pressure cavities of FDT series unless otherwise specified are manufactured with 15-5 and 316 stainless steel materials and are suitable for use with all media compatible with those materials. Foreign objects should not be introduced into the pressure cavity. Units must be protected from exposure to transient pressure spikes and pressures over their rated proof pressure range.

**CURRENT (4 to 20 mA) OUTPUT OPERATION**
An external power supply delivering 8 to 38 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. See Fig. A for connection of the power supply, transmitter and receiver. The range of appropriate receiver load电阻ance (RL) for the DC power supply voltage available is expressed by the formula:

\[ RL_{\text{Max}} = \frac{V_{\text{ps}} - 8}{20 \text{ mA DC}} \]

Shielded cable is recommended for control loop wiring.

**SPECIFICATIONS**

**Service:** Compatible liquids and gases, adhesives, slurries, materials that can harden, or where a pressure cavity is not desired.

**Wetted Materials:** 316 & 15-5 SST.

**Accuracy:** ±0.5% FSO (includes non-linearity, hysteresis, and repeatability).

**Stability:** ≤0.25% FSO per year.

**Temperature Limits:** -40 to 200°F (-40 to 93°C).

**Compensated Temperature Limits:** 0 to 170°F (-18 to 77°C).

**Pressure Limit:** 150% FS; Burst: 200% FS.

**Thermal Effect:** ±1.5% FSO over compensated range.

**Power Requirements:** 8 to 38 VDC.

**Output Signal:** FDT-A: 4 to 20 mA; FDT-V: 0 to 5 VDC.

**Response Time:** <1mS.

**Loop Resistance:** FDT-A: 0-1.5 Ω; FDT-V: ≤ 100 Ω.

**Electrical Connections:** Bendix 4 pin.

**Process Connection:** 7/16-20 UNF Male Flush Diaphragm. Optional 1/4” male NPT.

**Enclosure Rating:** NEMA 4x (IP66).

**Mounting Orientation:** Mount in any position.

**Weight:** 2 oz (57 g).

**Agency Approvals:** CE.

**STANDARD WIRING**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT</th>
<th>Power(+)</th>
<th>Power(-)</th>
<th>Signal(+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDT-V</td>
<td>0-5 VDC 3 Wire</td>
<td>Pin A</td>
<td>Pin B</td>
<td>Pin C</td>
</tr>
<tr>
<td>FDT-A</td>
<td>4-20 mA DC</td>
<td>Pin A</td>
<td>Pin B</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. A**

**MAINTENANCE**

After final installation of the pressure transmitter and its companion receiver, no routine maintenance is required. A periodic check of system calibration is suggested. The Series FDT transmitters are not field reparable 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.

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