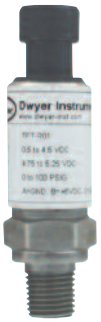
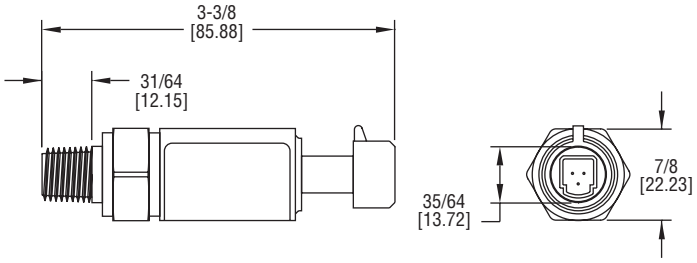
Series TPT Pressure Transmitter

Specifications - Installation and Operating Instructions





The Series TPT Pressure Transmitter is the ideal choice for all types of industrial pressure applications. Machined from a solid piece of 17-4PH SS, the TPT provides a leak proof, all metal system without O-rings, welds, or organics exposed to the pressure media. Its design allows for stable operation when subject to shock and vibration. Utilizing piezoresistive technology with digital compensation and temperature correction, the TPT gives high accuracy and stability under harsh environmental conditions. Available in ratiometric and 4 to 20 mA outputs.

FEATURES
- Robust construction to withstand high vibration
- 17-4PH SS wetted material
- Standard packard connector

APPLICATIONS
- Process automation and control
- Test and measurement equipment
- Factory automation
- Energy management

SPECIFICATIONS
Service: Compatible liquids and gases.
Wetted Materials: 17-4PH SS.
Accuracy: ±1% FS (RMS).
Stability: < ±0.25% FS per year.
Temperature Limits: -13° to 185°F (-20° to 85°C).
Compensated Temperature Range: -13° to 185°F (-20 to 85°C).
Pressure Limits: Proof pressure: 2x FS; Burst pressure: 3x FS.
Thermal Effect: Zero shift: ±0.01% FS per 1°C; Span error: ±0.02% FS per 1°C.
Power Requirements: See table.
Output Signal: See table.
Loop Resistance: < 100Ω.
Electrical Connection: Packard connector.
Process Connections: 1/4″-18 male NPT.
Shock: ±20 g.
Vibration: 50 g @ 20 to 2000 Hz.
Weight: 0.20 lb (0.09 kg).
Enclosure Rating: IP65.

⚠ CAUTION Do not exceed specified supply voltage ratings. Permanent damage not covered by warranty will result. This device is not designed for 120 or 240 volt AC operation. Use only 4.75 to 5.25 volts DC for ratiometric outputs and 9 to 30 volts DC for 4 to 20 mA outputs.

Pressure Ranges		
Pressure Range	**Maximum Pressure**	**Burst Pressure**
0 to 100 psig	200 psig	300 psig
0 to 250 psig	500 psig	750 psig
0 to 500 psig	1000 psig	1500 psig
0 to 1000 psig	2000 psig	3000 psig
0 to 2500 psig	5000 psig	7500 psig
0 to 5000 psig	10000 psig	15000 psig

Model	Range psi (bar)	Power Requirements (VDC)	Output Signal
TPT-R01	100 (6.89)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-R02	250 (17.24)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-R03	500 (34.47)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-R04	1000 (68.95)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-R05	2500 (172.37)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-R06	5000 (344.74)	4.75 to 5.25	0.5 to 4.5 VDC
TPT-C01	100 (6.89)	9 to 30	4 to 20 mA
TPT-C02	250 (17.24)	9 to 30	4 to 20 mA
TPT-C03	500 (34.47)	9 to 30	4 to 20 mA
TPT-C04	1000 (68.95)	9 to 30	4 to 20 mA
TPT-C05	2500 (172.37)	9 to 30	4 to 20 mA

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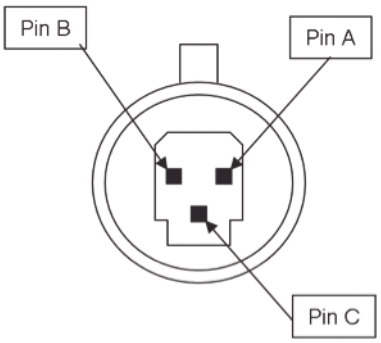
Installation

1. Location: Select a location where temperatures will not exceed recommended limits. Distance from the receiver is limited only by the total loop resistance. Longer wiring distances will slightly increase response time.

2. Position and Connection: The transmitter is not position sensitive. When installing pressure connection, use a small amount of sealant tape or other suitable sealant to prevent leaks. Make sure that male and female threads are clean and free of any debris and ensure that the pressure passage inside the port is not blocked.

3. Electrical Connections: The maximum length of wire connecting the transmitter and receiver is a function of the wire size and receiver resistance to total loop resistance. Wiring should not contribute more than 10% of the receiver resistance to total loop resistance. For extremely long runs (over 1000 feet), choose receivers with higher resistance to minimize the size and cost of connecting leads.



	Ratiometric	4 to 20 mA
Pin A	+5 VDC	Supply+
Pin B	Ground	Ground
Pin C	Output	Unused

CURRENT (4 to 20 mA) OUTPUT OPERATION

An external power supply delivering 9 to 30 VDC with minimum current capability of 40 mA DC (per transmitter) is required to power the control loop. See Fig. B for connection of the power supply, transmitter and receiver. The range of appropriate receiver load resistance (RL) for the DC power supply voltage available is expressed by the formula:

$$RL\ Max = \frac{Vps - 10V}{20\ mA\ DC}$$

Shielded cable is recommended for control loop wiring.

Current Output

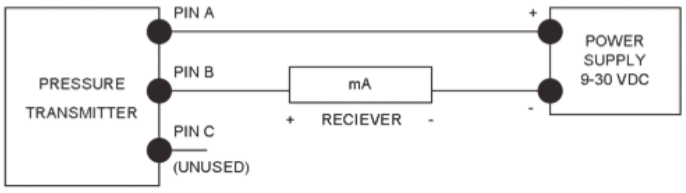


Figure B: Current Output Connection

RATIOMETRIC (0.5 to 4.5 VDC) OUTPUT OPERATION

See Fig. C for connection of the power supply, transmitter and receiver.

Ratiometric Output

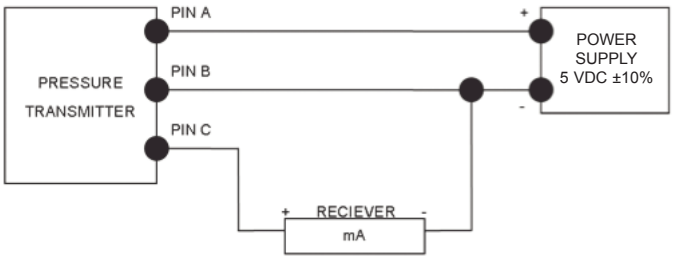


Figure C: Ratiometric Output Connection

MAINTENANCE/REPAIR

Upon final installation of the Series TPT no routine maintenance is required. The Series TPT is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to “Terms and Conditions of Sales” in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.

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