

OEM PIEZORESISTIVE PRESSURE TRANSDUCER TD



10

Features

- Hysteresis and repeatability 0.02% typ.
- Full scale ranges from 1 to 15,000 psi
- Gauge, absolute or sealed gauge
- Operating temperature: -40 to 300°F
- O-ring seal or weldable version
- Current or voltage excitation

Product overview and applications

The TD series 10 is a precision pressure transducer offering high performance for OEM users in a wide range of industrial applications.

The transducer is based on STS piezoresistive sensor technology with 20 years proven history.

Extremely good hysteresis and repeatability provide the user with the opportunity of transducer compensation to a very high level of total accuracy.

Examples of applications include:

- Calibration instruments
- Long term monitoring instruments
- Environmental monitoring instruments
- Oceanographic
- Gas flow

Specification

Measurement

Pressure ranges

Any range from 1 to 15,000 psi FS available

Absolute from 0 - 2 to 0 - 360 psia FS
 Gauge from 0 - 1 to 0 - 360 psig FS
 Sealed from 0 - 150 to 0 - 15,000 psig FS
 Compound ranges from -15 to 360 psig FS*
 Neg. ranges from 0 to -1 to 0 to -15 psig FS*
 *Consult factory

Proof pressure

FS up to 15 psi: 45 psi
 FS > 15 psi up to 4000 psi: 3 x FS
 FS > 4000 psi up to 9000 psi: 12,000 psi
 FS > 9000: 22,000 psi
 Consult factory for higher proof pressure

Burst pressure

FS up to 350 psi: > 3000 psi
 FS up to 9000 psi: > 12,000 psi
 FS > 9000 psi: > 22,000 psi
 Consult factory for higher burst pressure

Operating temperature range

(process media)
 -40 to 300°F (standard)
 -65 to 300°F (option)

Compensated temperature range

32 to 160°F (standard)
 -15 to 185°F (option)
 -40 to 185°F (option)

Temperature effects

< 0.018%/°F for zero and span
 of ranges > 30 psi FS
 Prorated for ranges below < 30 psi FS

Performance

Accuracy

Based on supplied component values to achieve ±0.25% or ±0.5%, ±0.1% on request
 Typical hysteresis and repeatability is ±0.02%

Typical long term stability

0.1% FS/yr for pressure ranges > 30 psi FS
 Prorated for ranges below 30 psi FS
 Under standard conditions

Specification continued

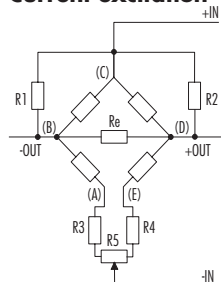
Pressure media compatibility

Stainless steel 316L, Viton seals
 Titanium and other seal material available

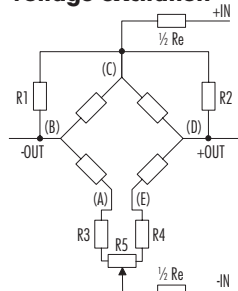
Recommended excitation

Current: 1 mA DC
 Voltage: 10 VDC (range 1 to 15 VDC)

Current excitation



Voltage excitation



Compensation

Resistor R1, R2
 Used to set the zero output. Either R1 or R2 (not both) to be inserted into the circuit. An R1 or R2 value is provided.

Resistor R3, R4
 Zero-compensation resistors. Either R3 or R4 is used (not both), with the other replaced by a jumper (0 Ohm resistor).

Resistor RE
 Resistor used for span setting and compensation.

Resistor R5
 Potentiometer (if used) for the zero-adjustment (recommended value: 50 Ohm).

Specification continued

Output signal

From 25 to 200 mV at nominal pressure, with 1 mA excitation
 (FS signal depends on pressure range)

Bridge resistance

3 kOhm typically

Insulation resistance

> 50 megohms @ 500 VDC (@ 68°F)

Frequency range

0 to > 10 kHz

Vibration

> 30 g

Electrical connection

5 gold plated pins

Ordering information

Please specify the following:

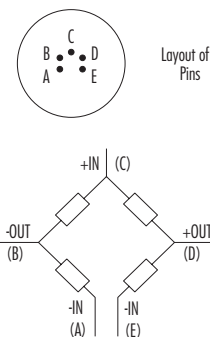
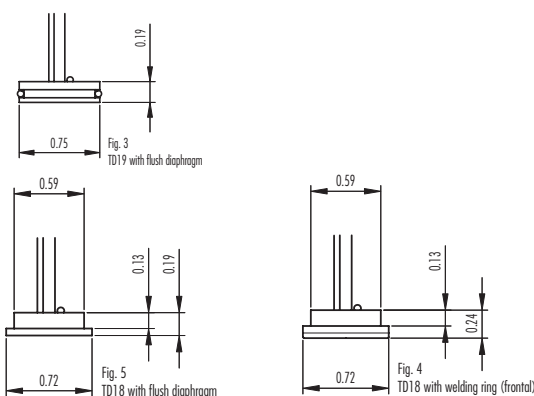
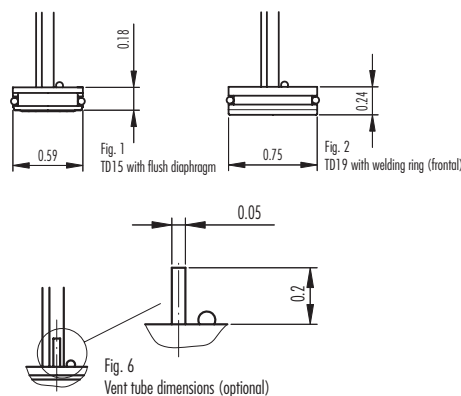
- 1) Model number - TD 10
- 2) Construction
 - 60 - ∅ 0.59" flush diaphragm (fig. 1)
 - 63 - ∅ 0.75" welding ring (fig. 2)
 - 64 - ∅ 0.75" flush diaphragm (fig. 3)
 - 67 - ∅ 0.72" welding ring (fig. 4)
 - 68 - ∅ 0.72" flush diaphragm (fig. 5)
- 3) Pressure range, type
- 4) Accuracy
- 5) Any special features: i.e. vent tube

Example ordering format:
 TD 10. 63 - 500 psig - 0.1% - with vent tube

Other Products

STS offers a wide range of complete transducers and transmitters with many features including 4 to 20 mA 2 wire configuration, 0 to 5 VDC 3 wire configuration and digital outputs (RS485, CANopen etc). Please consult the factory for any special requirements.

Dimensions (inches)



Specifications may change without notice.

STS is registered ISO 9001-2000

10.00.0203C - 802



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