

# 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**

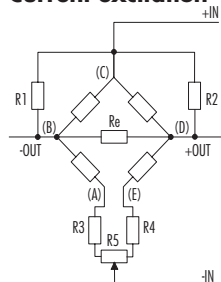
**Pressure media compatibility**

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

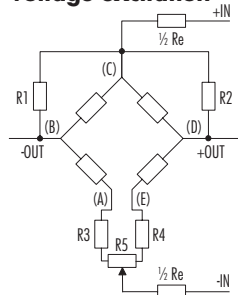
**Recommended excitation**

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:

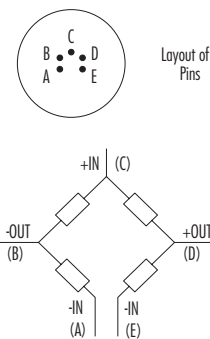
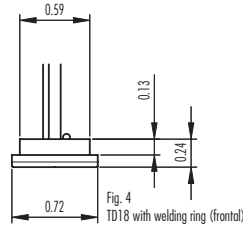
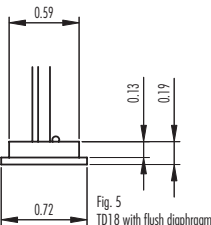
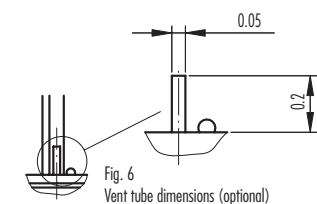
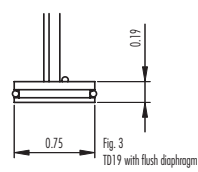
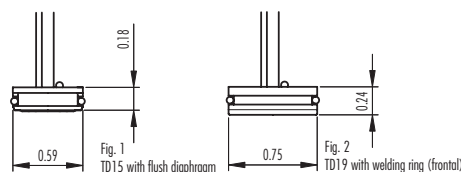
- 1) Model number - TD 10
- 2) Construction
  - 60 - ∅ 0.59" flush diaphragm (fig. 1)
  - 63 - ∅ 0.75" welding ring (fig. 2)
  - 64 - ∅ 0.75" flush diaphragm (fig. 3)
  - 67 - ∅ 0.72" welding ring (fig. 4)
  - 68 - ∅ 0.72" flush diaphragm (fig. 5)
- 3) Pressure range, type
- 4) Accuracy
- 5) Any special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