TRERICE

QUALITY CONTROL PRODUCTS

SALES@QCP-LLC.COM 504-392-9464

Industrial Pressure Transmitters

220 Series — Standard Pressure Transmitters for General Industrial Use

230 Series — Precision Programmable Transmitters provide 4 to 1 turndown as well as adjustable zero-point & span

260 Series — Submersible Level Transmitters for direct immersion in Tanks, Basins and Lakes. Precision electronics are programmable and provide 4 to 1 turndown and adjustable zero-point & span

Trerice Pressure Transmitters are the ideal choice for demanding industrial, test & measurement and process control applications. The modular design of Trerice Pressure Transmitters allows for a wide variety of electrical connections, output signals and process connections to be specified to meet any application

12950 W. Eight Mile Road • Oak Park • MI 48237-3288

Tel: 1.888.TRERICE • Fax: 1.248.399.7246

Website: www.TRERICE.com E-mail: sales@TRERICE.com

Model 220TST

Standard Pressure Transmitter

INDUSTRIAL TRANSMITTERS

Model 220TST

Applications

- **Industrial Environments**
- **Fire Protection**
- **Hydraulic Systems**
- **Commercial / HVAC**
- **Process Automation**
- **Pump System Control**
- **Testing Technologies**

Features

- **Ranges from 30" Hg to 0 thru 0 to 15,000 psi**
- **4-20mA and 0-10Vdc Standard Industrial Output Signals**
- **Fully welded "Dry Measuring Cell", requires no internal transmission fluid or seals**
- **17-4 PH stainless steel wetted parts**
- **304 stainless steel body**
- **Industry standard electrical connections including DIN 175301-803A, Shielded Cable and M12 (S7243) 4 pin**
- **Highly flexible modular design**
- **Rated for Fire Protection Equipment**

The **TRERICE 220TST** Pressure Transmitter is the ideal choice for demanding industrial, test & measurement, process control and fire protection applications. Thanks to the stainless steel/thin-film sensor element being directly welded to the process connection, the 220TST requires no internal transmission media or seals insuring a high degree of reliability and stability. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 220TST Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model — **220TST • Standard Transmitter**

Sensor Element — Thin film resistors directly deposited on a Stainless Steel Diaphragm

Process Connection — 1/4 or 1/2 NPT male

Materials of Construction

Housing:	304 stainless steel
Wetted Parts:	17-4 PH stainless steel

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges

Medium:	-40/+257°F (-40/+125°C)
Ambient:	-40/+221°F (-40/+105°C)

Temperature Error Band
Temperature compensated to within 1% between -4°F to 185°F (-20 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
Shielded Cable (3 Feet Standard)
M12 (S7243) 4 pin Circular Connector

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

Ranges ≤ 5000 psi at least:)	1.5 x FS
burst pressure at least:	2.9 x FS
10,000-15,000 psi at least:	1.2 x FS
burst pressure at least:	1.5 x FS

Response Time (10-90%) < 1 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable and M12 4 pin: IP67 / NEMA 6

Approximate Shipping Weight 0.3 lbs (0.14kg)

HOW TO ORDER

Sample Order Number: **220TST 02 C A 0/100 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
220TST	**02** 1/4 NPT* **04** 1/2 NPT	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std" **E3** Shielded Cable (3 Ft Std) **E9** M12 (S723) 4 pin	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available, Please consult factory.
* Maximum pressure 14,500 psi

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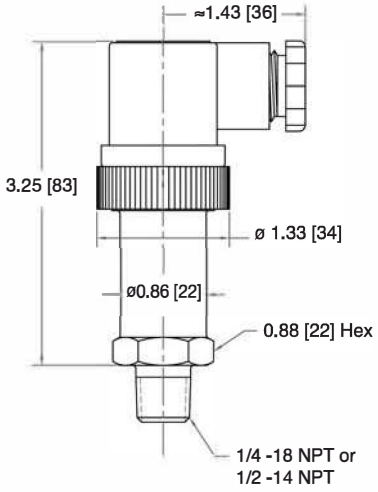
Model 220TST

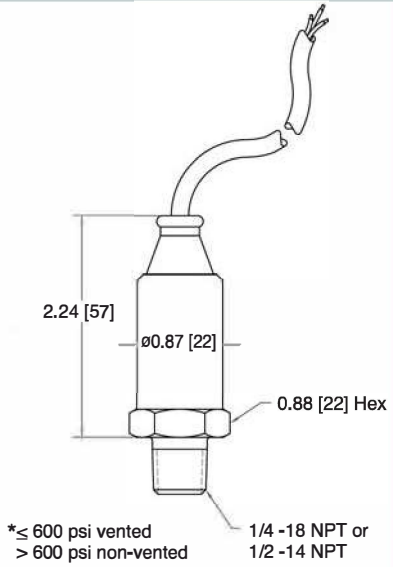
Standard Pressure Transmitter

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

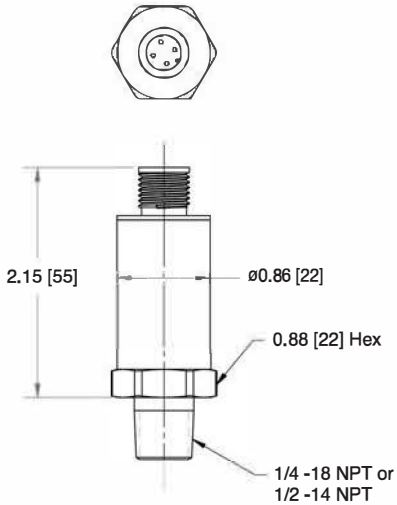
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



E3 Shielded Cable*
(3 Feet Standard)



E9 M12 (S723) 4 pin



Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
30/0	30"Hg to 0	23 psi	44 psi
30/15	30"Hg to 15 psi	45 psi	87 psi
30/30	30"Hg to 30 psi	68 psi	131 psi
30/60	30"Hg to 60 psi	113 psi	218 psi
30/100	30"Hg to 100 psi	173 psi	334 psi
30/150	30"Hg to 150 psi	248 psi	479 psi
30/300	30"Hg to 300 psi	473 psi	914 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/500	0 to 500 psi	750 psi	1450 psi
0/600	0 to 600 psi	900 psi	1740 psi
0/1000	0 to 1000 psi	1500 psi	2900 psi
0/1500	0 to 1500 psi	2250 psi	4350 psi
0/2000	0 to 2000 psi	3000 psi	5800 psi
0/3000	0 to 3000 psi	4500 psi	8700 psi
0/5000	0 to 5000 psi	7500 psi	14,500 psi
0/10000	0 to 10,000 psi	12,000 psi	15,000 psi
0/15000	0 to 15,000 psi	18,000 psi	22,500 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application see: ASTM F2070-00.

Classifications and Standards:

- UL® Classified and Listed to NSF/ANSI Standard 61 & 372 of "Safe Drinking Water Act"
- UL® Classified and Listed to IEC 61010-1 / CSA C22.2 NO. 61010-1-12
  "Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use"
- Meets FM Approvals® for Class Number 1321/1323 Clause 5.9 (1-8)
  "Controllers for Electric Motor Driven and Diesel Engine Driven Fire Pumps"

Model 222THP

High Pressure Transmitter

INDUSTRIAL TRANSMITTERS

Model 222THP

Applications

- Industrial Environments
- Hydraulic Systems
- Pneumatics
- Hydro-Power
- Diesel Engine Technologies
- Test Stands

Features

- Ranges from 0 to 20,000 psi thru 0 to 60,000 psi
- 4-20mA and 0-10Vdc Standard Industrial Output Signals
- Fully welded "Dry Measuring Cell", requires no internal transmission fluid or seals
- 17-4 PH stainless steel wetted parts
- 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, C and Shielded Cable
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable Connection IP67/NEMA 6)

The **TRERICE 222THP** "High-Pressure" Transmitter is the ideal choice for measurement of high pressures (up to 60,000 psi) in industrial, test & measurement and process control applications. Thanks to the stainless steel/thin-film sensor element being directly welded to the process connection, the 222THP requires no internal transmission media or seals insuring a high degree of reliability and stability. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 222THP Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

* For ranges over 30,000 psi
Thick film resistors fused into Sapphire glass on a Titanium Diaphragm

Specifications

Model 227THP • High Pressure Transmitter

Sensor Element Thin film resistors directly deposited on a Stainless Steel Diaphragm*

Process Connection
9/16"-18 UNF-2B female port. For use with coned and threaded high pressure tubing (reference "Autoclave® F-250-C")

Materials of Construction
Housing: 304 stainless steel
Wetted Parts: 17-4 PH stainless steel, over 30,000 psi Titanium

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

For ranges >30,000 psi see "High Range Accuracy"

Operating Temperature Ranges
Medium: -40/+257°F (-40/+125°C)
Ambient: -40/+221°F (-40/+105°C)

Temperature Error Band
Temperature compensated to within 1% between -4°F to 185°F (-20 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
90° Angle "Mini" Connector / DIN 175301-803 (C)
Shielded Cable (3 Feet Standard)

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit
at least: 1.2 x FS
burst pressure at least: 1.5 x FS

Response Time (10-90%) < 1 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable: IP67 / NEMA 6

Approximate Shipping Weight 0.3 lbs (0.14kg)

HOW TO ORDER

Sample Order Number: **222THP 08 C A 0/30000 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
222THP	**08** 9/16"-18 UNF-2B female port**	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std" **E2** DIN 175301-803 (C) "mini" **E3** Shielded Cable (3 Ft Std)	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

**For use with coned and threaded 1/4" O.D. high pressure tubing (reference "Autoclave® F-250-C")
Multiple electrical connections, output signals and process connections are available, Please consult factory.

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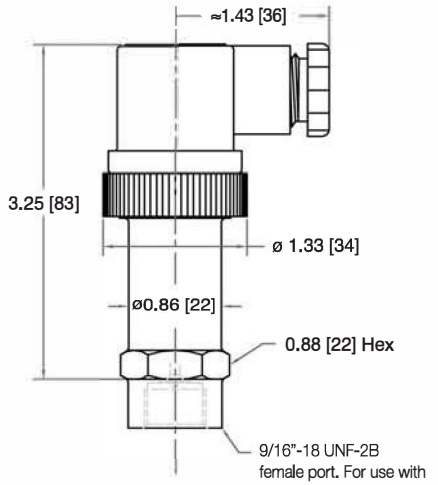
Model 222THP

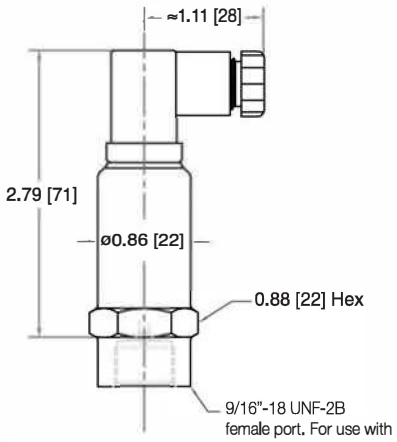
High Pressure Transmitter

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

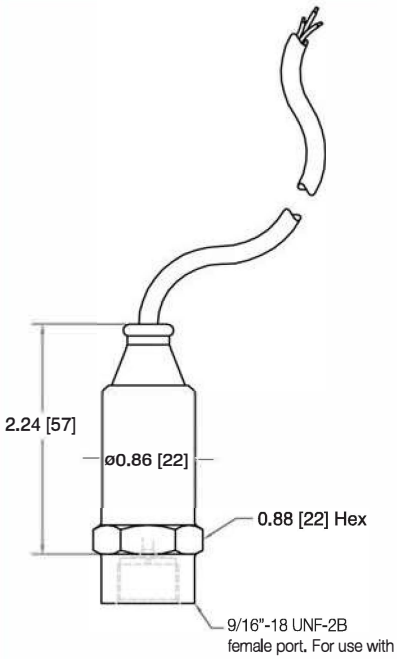
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



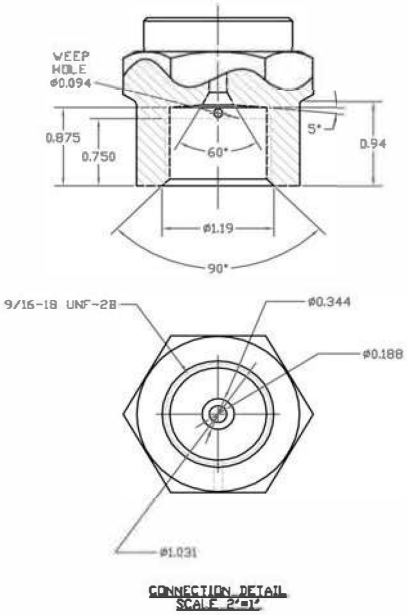
E2 90° Angle "mini" Connector
DIN 175301-803 **(C)**



E3 Shielded Cable*
(3 Feet Standard)



* ≤ 600 psi vented
> 600 psi non-vented



High Range Accuracy (>30,000 psi)	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.60%	1.00%
Non-Linearity:	0.40%	0.80%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
0/20000	0 to 20,000 psi	24,000 psi	30,000 psi
0/25000	0 to 25,000 psi	30,000 psi	37,500 psi
0/30000	0 to 30,000 psi	36,000 psi	45,000 psi
0/40000	0 to 40,000 psi	48,000 psi	60,000 psi
0/50000	0 to 50,000 psi	60,000 psi	75,000 psi
0/60000	0 to 60,000 psi	72,000 psi	90,000 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 225TLP

Low Pressure Transmitter

INDUSTRIAL TRANSMITTERS

Model 225TLP

Applications

- Pneumatics
- Commercial / HVAC
- Process Automation
- Testing Technologies
- Environmental Engineering

Features

- Ranges from -4 in H_2O to 0 thru 0 to 10 psi
- 4-20mA and 0-10Vdc Standard Industrial Output Signals
- 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, C and Shielded Cable
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable Connection IP67/NEMA 6)

The **TRERICE 225LTP** "Low-Pressure" Transmitter is the ideal choice for measurement of low pressure dry gases. The silicone chip/thin-film sensor element of the 225TLP is directly attached to the process connection, so no internal transmission media is required insuring a high degree of reliability and stability.

In addition, the modular design of the 225TLP Low-Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 225TLP • Low Pressure Transmitter

Sensor Element Thin film resistors on a Silicon Membrane

Process Connection 1/4 or 1/2 NPT male

Materials of Construction

Housing:	304 stainless steel
Wetted Parts:	304 stainless steel, Silicon Chip, Glass
Seal:	NBR

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.60%	1.00%
Non-Linearity:	0.40%	0.80%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges

Medium:	-13/+185°F (-25/+85°C)
Ambient:	-13/+185°F (-25/+85°C)

Temperature Error Band
Temperature compensated to within 1% between 14°F to 158°F (-10 to +70 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
90° Angle "Mini" Connector / DIN 175301-803 (C)
Shielded Cable (3 Feet Standard)

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

At least:	2.5 x FS
burst pressure at least:	6 x FS (10 psi 4.5 x FS)

Response Time (10-90%) < 1 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable: IP67 / NEMA 6

Approximate Shipping Weight 0.3 lbs (0.14kg)

HOW TO ORDER

Sample Order Number: **225TLP 02 D U 0/60 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
225TLP	**02** 1/4 NPT **04** 1/2 NPT	**D** 1.0% FS (0.60% BFSL)	**U** in H_2O **A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std" **E2** DIN 175301-803 (C) "mini" **E3** Shielded Cable (3 Ft Std)	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available, Please consult factory.

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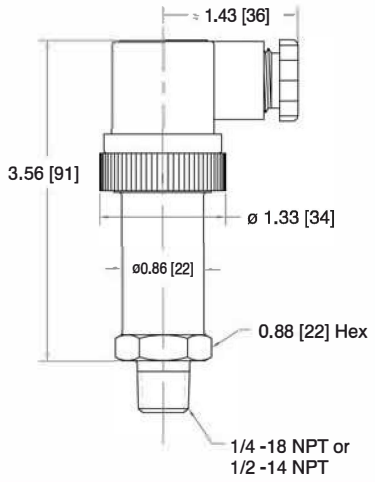
Model 225TLP

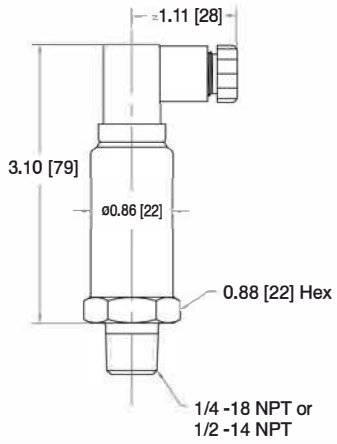
Low Pressure Transmitter

All dimensions are nominal.
Dimensions in [ ] are in millimeters

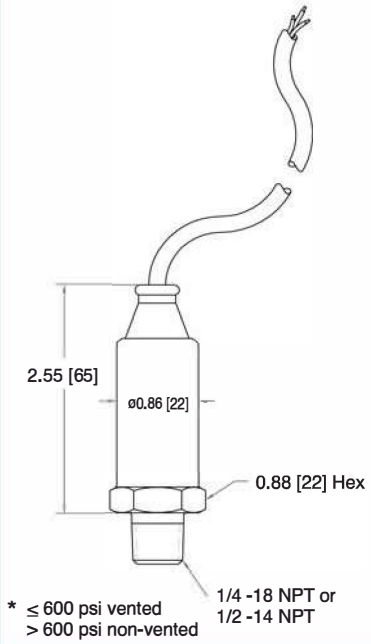
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



E2 90° Angle "mini" Connector
DIN 175301-803 **(C)**



E3 Shielded Cable*
(3 Feet Standard)



* ≤ 600 psi vented
> 600 psi non-vented

Standard Ranges

in. H_2O Ranges (U)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
Pressure			
0/4	0/4 in. H_2O	10 in. H_2O	24 in. H_2O
0/10	0/10 in. H_2O	25 in. H_2O	60 in. H_2O
0/15	0/15 in. H_2O	38 in. H_2O	90 in. H_2O
0/30	0/30 in. H_2O	75 in. H_2O	180 in. H_2O
0/40	0/40 in. H_2O	100 in. H_2O	240 in. H_2O
0/60	0/60 in. H_2O	150 in. H_2O	360 in. H_2O
0/100	0/100 in. H_2O	250 in. H_2O	600 in. H_2O
0/160	0/160 in. H_2O	400 in. H_2O	960 in. H_2O
0/200	0/200 in. H_2O	500 in. H_2O	1200 in. H_2O
0/300	0/300 in. H_2O	750 in. H_2O	1800 in. H_2O
Vacuum			
4/0	4/0 in. H_2O	10 in. H_2O	24 in. H_2O
10/0	10/0 in. H_2O	25 in. H_2O	60 in. H_2O
15/0	15/0 in. H_2O	38 in. H_2O	90 in. H_2O
30/0	30/0 in. H_2Oi	75 in. H_2O	180 in. H_2O
60/0	60/0 in. H_2O	150 in. H_2O	360 in. H_2O
100/0	100/0 in. H_2O	250 in. H_2O	600 in. H_2O
200/0	200/0 in. H_2O	500 in. H_2O	1200 in. H_2O

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
0/3	0 to 3 psi	8 psi	18 psi
0/5	0 to 5 psi	13 psi	30 psi
0/10	0 to 10 psi	25 psi	45 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 227THT

High Temperature Pressure Transmitter

Model 227THT

Applications

- Industrial Environments
- Hydraulic Systems
- Commercial / HVAC
- Process Automation
- Pump System Control
- Testing Technologies

Features

- Continuous Process temperatures up to 320°F/160°C (356°F/180°C allowed for 15 minutes)
- Ranges from 30" Hg to 0 thru 0 to 15,000 psi
- 4-20mA and 0-10Vdc Standard Industrial Output Signals
- Fully welded "Dry Measuring Cell", requires no internal transmission fluid or seals
- 17-4 PH stainless steel wetted parts
- 304 stainless steel body
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable Connection IP67/NEMA 6)

The **TRERICE 227THT** "High-Temperature" Pressure Transmitter is the ideal choice for pressure measurement of high temperature process media. The integrated cooling tower allows the 227THT to consistently provide pressure measurement of high temperature (up to 320°F/160°C) processes. The stainless steel/thin-film sensor element of the 227THT is directly welded to the process connection, so no internal transmission media or seals are required, insuring a high degree of reliability and stability. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 227THT Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 227THT • High Temperature Transmitter

Sensor Element Thin film resistors directly deposited on a Stainless Steel Diaphragm

Process Connection 1/4 or 1/2 NPT male

Materials of Construction

Housing:	304 stainless steel
Wetted Parts:	17-4 PH stainless steel

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges

Medium:	-40/+320°F (-40/+160°C)
Ambient:	-40/+221°F (-40/+105°C)

Temperature Error Band
Temperature compensated to within 1% between -4°F to 185°F (-20 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
90° Angle "Mini" Connector / DIN 175301-803 (C)
Shielded Cable (3 Feet Standard)

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

Ranges ≤ 5000 psi at least:)	1.5 x FS
burst pressure at least:	2.9 x FS
10,000-15,000 psi at least:	1.2 x FS
burst pressure at least:	1.5 x FS

Response Time (10-90%) < 1 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable: IP67 / NEMA 6

Approximate Shipping Weight 0.4 lbs (0.19kg)

HOW TO ORDER

Sample Order Number: **227THT 02 C A 0/100 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
227THT	**02** 1/4 NPT*	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std"	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire)
	04 1/2 NPT				**E2** DIN 175301-803 (C) "mini"		**2** 0-10 Vdc (3-wire)
					E3 Shielded Cable (3 Ft Std)		

Multiple electrical connections, output signals and process connections are available, Please consult factory. *Maximum pressure 14,500 psi

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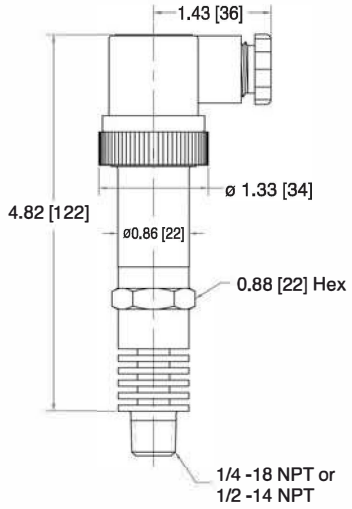
Model 227THT

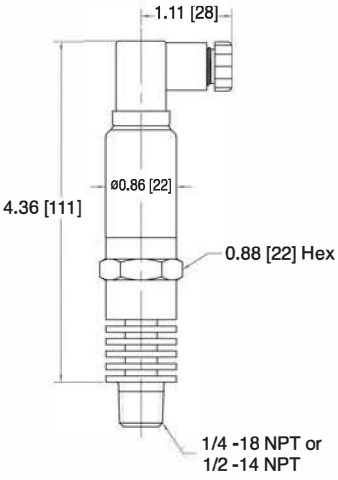
High Temperature Pressure Transmitter

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

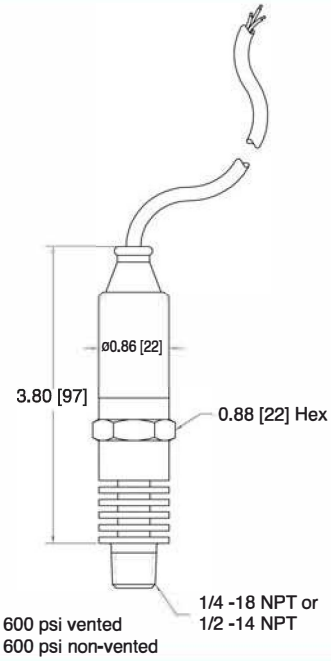
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



E2 90° Angle "mini" Connector
DIN 175301-803 **(C)**



E3 Shielded Cable*
(3 Feet Standard)



* ≤ 600 psi vented
> 600 psi non-vented

Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
30/0	30"Hg to 0	23 psi	44 psi
30/15	30"Hg to 15 psi	45 psi	87 psi
30/30	30"Hg to 30 psi	68 psi	131 psi
30/60	30"Hg to 60 psi	113 psi	218 psi
30/100	30"Hg to 100 psi	173 psi	334 psi
30/150	30"Hg to 150 psi	248 psi	479 psi
30/300	30"Hg to 300 psi	473 psi	914 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/600	0 to 600 psi	900 psi	1740 psi
0/1000	0 to 1000 psi	1500 psi	2900 psi
0/1500	0 to 1500 psi	2250 psi	4350 psi
0/2000	0 to 2000 psi	3000 psi	5800 psi
0/3000	0 to 3000 psi	4500 psi	8700 psi
0/5000	0 to 5000 psi	7500 psi	14,500 psi
0/10000	0 to 10,000 psi	12,000 psi	15,000 psi
0/15000	0 to 15,000 psi	18,000 psi	22,500 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 230TPP

Precision Programmable Transmitter

Model 230TPP

Applications

- Industrial Environments
- Hydraulic Systems
- Pneumatics
- Food & Beverage Industry
- Water Treatment
- Pharmaceutical Industry
- Test Equipment

Features

- Ranges from 30" Hg to 0 thru 0 to 15,000 psi*
- 4:1 Turndown with optional programming tool
- Zero Point adjustment can made using permanent magnet
- 4–20mA and 0–10Vdc Standard Industrial Output Signals
- Fully welded "Dry Measuring Cell", requires no internal transmission fluid or seals
- 17-4 PH stainless steel wetted parts
- 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, Shielded Cable and M12 (S7243) 4 pin
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable and M12 4 pin Connections – IP67/NEMA 6)

*Ranges up to 60,000 psi are available and require special "High-Pressure" fittings. Please consult factory

The **TRERICE 230TPP** "High-Precision" Digital Programmable Pressure Transmitter is the ideal choice for demanding industrial, test & measurement and process control applications. By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure. The stainless steel/thin-film sensor element is directly welded to the process connection, so no internal transmission media or seals are required insuring a high degree of reliability and stability. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 230TPP Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 230TPP • Precision Programmable Transmitter

Sensor Element Thin film resistors directly deposited on a Stainless Steel Diaphragm

Process Connection
1/4 or 1/2 NPT male (ASME B1.20.1)
G 1/4 B or G 1/2 B (EN 837-1)

Materials of Construction
Housing: 304 stainless steel
Wetted Parts: 17-4 PH stainless steel

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges
Medium: -40/+257°F (-40/+125°C)
Ambient: -40/+185°F (-40/+85°C)

Temperature Error Band
Temperature compensated to within 1% between -4°F to 185°F (-20 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
Shielded Cable (3 Feet Standard)
M12 (S723) 4 pin Circular Connector

Output Signal 4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

Ranges ≤ 5000 psi at least:	1.5 x FS
burst pressure at least:	2.9 x FS
10,000-15,000 psi at least:	1.2 x FS
burst pressure at least:	1.5 x FS

Response Time (10-90%) < 10 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable and M12 4 pin: IP67 / NEMA 6

Approximate Shipping Weight 0.4 lbs (0.20kg)

HOW TO ORDER

Sample Order Number: **230TPP 02 B A 0/600 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
230TPP	**02** 1/4" NPT* **04** 1/2" NPT **42** G 1/4 B* **44** G 1/2 B	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** 90° Angle DIN 175301-803 (A) **E3** Shielded Cable (3 Ft Std) **E9** M12 (S723) 4 pin	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available, Please consult factory.

* Maximum pressure 14,500 psi

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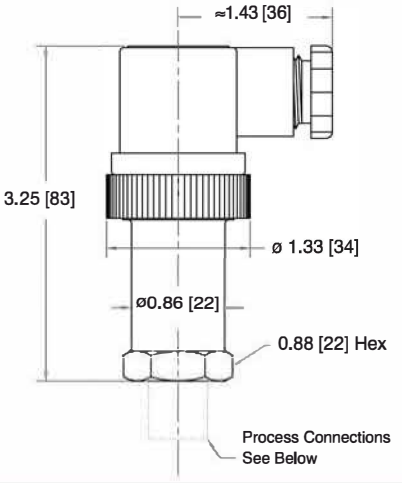
TRERICE

Model 230TPP

Precision Programmable Transmitter

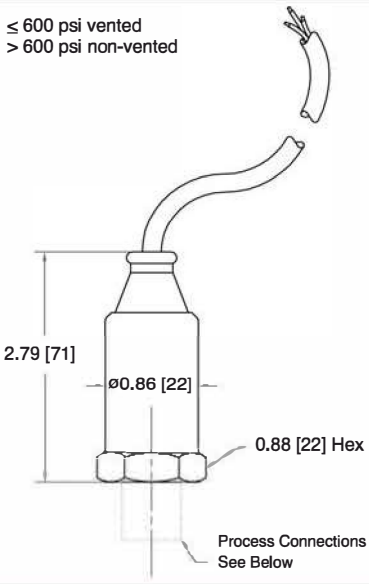
All dimensions are nominal.
Dimensions in [ ] are in millimeters.

E1 90° Angle "std" Connector
DIN 175301-803 **(A)**

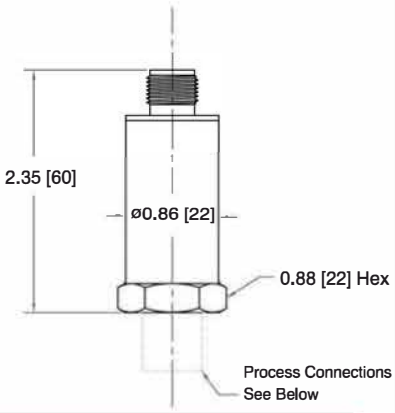


E3 Shielded Cable*
(3 Feet Standard)

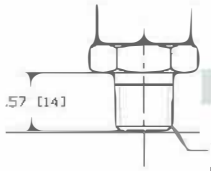
* ≤ 600 psi vented
> 600 psi non-vented



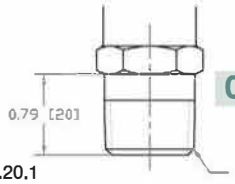
E9 M12 (S723) 4 pin



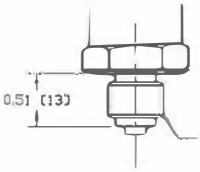
PROCESS CONNECTIONS



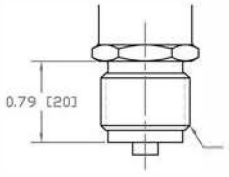
02
1/4-18 NPT
per ASME B1.20.1
Max pressure 14,500 psi



04
1/2-14 NPT
per ASME B1.20.1



42
G 1/4 B
per EN 837-1
Max pressure 14,500 psi



44
G 1/2 B
per EN 837-1

Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
30/0	30"Hg to 0	23 psi	44 psi
30/15	30"Hg to 15 psi	45 psi	87 psi
30/30	30"Hg to 30 psi	68 psi	131 psi
30/60	30"Hg to 60 psi	113 psi	218 psi
30/100	30"Hg to 100 psi	173 psi	334 psi
30/150	30"Hg to 150 psi	248 psi	479 psi
30/300	30"Hg to 300 psi	473 psi	914 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/600	0 to 600 psi	900 psi	1740 psi
0/1000	0 to 1000 psi	1500 psi	2900 psi
0/1500	0 to 1500 psi	2250 psi	4350 psi
0/2000	0 to 2000 psi	3000 psi	5800 psi
0/3000	0 to 3000 psi	4500 psi	8700 psi
0/5000	0 to 5000 psi	7500 psi	14,500 psi
0/10000	0 to 10,000 psi	12,000 psi	15,000 psi
0/15000	0 to 15,000 psi	18,000 psi	22,500 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 235TFC

High Precision Transmitter–Flush Connection

Applications

- Hydraulic Systems
- Pneumatics
- Industrial Environments
- Mobile Hydraulics
- Food & Beverage Industry
- Water Treatment
- Pharmaceutical Industry

Model 235TFC

Features

- Ranges from 0 to 10 psi thru 0 to 800 psi
- 4:1 Turndown with optional programming tool
- Zero Point adjustment can made using permanent magnet
- 4–20mA and 0–10Vdc Standard Industrial Output Signals
- 316L stainless steel wetted parts
- 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, C and Shielded Cable
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable and M12 4 pin Connections IP67/NEMA 6)

The **TRERICE 235TFC** "Flush-Connection" Digital-Programmable, Pressure Transmitter is the ideal choice for demanding chemical, sanitary and food process applications. By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure. The stainless membrane is completely vacuum-sealed, extremely burst resistant and is applicable for use with a variety of process mediums. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 235TFC Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 235TFC • Flush Connection Transmitter

Sensor Element Capsule Type - Thin film resistors on a Silicon Membrane, Oil-Filled, Stainless Steel Diaphragm

Process Connection G 1/2 A, G 3/4 A, G 1 A
Type E (per ISO 1179-2)

Materials of Construction
Housing: 304 stainless steel
Wetted Parts: 316L stainless steel, Viton®
Pressure Transmission Liquid: Silicone Oil

	BFSL	Full Scale
Accuracy at 77˚ F (25˚C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges
Medium: -4/+257°F (-20/+125°C)
Ambient: -4/+185°F (-20/+85°C)

Temperature Error Band
Temperature compensated to within
1% between 41˚F to 185°F (5 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
Shielded Cable (3 Feet Standard)
M12 (S723) 4 pin Circular Connector

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit
at least: 1.5 x FS
burst pressure at least: 2.9 x FS

Response Time (10-90%) < 10 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable and M12 4 pin: IP67 / NEMA 6

Approximate Shipping Weight 0.4 lbs (0.20kg)

HOW TO ORDER

Sample Order Number: **235TFC 32 C A 0/1000 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
235TFC	**32** G 1/2 A **33** G 3/4 A **34** G 1 A	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std" **E3** Shielded Cable (3 Ft Std) **E9** M12 (S723) 4 pin	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available. Please consult factory.

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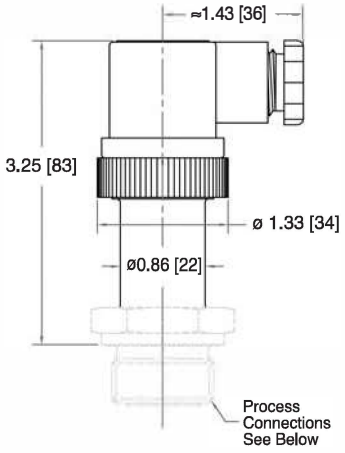
TRERICE

Model 235TFC

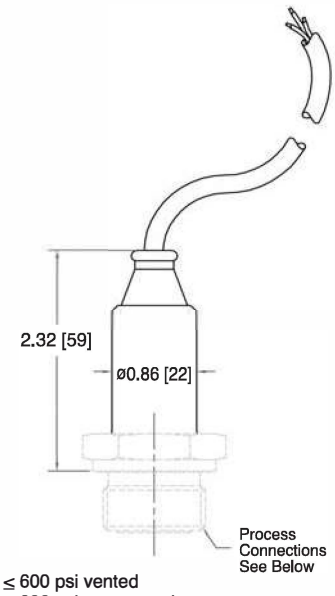
High Precision Transmitter–Flush Connection

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

E1 90° Angle "std" Connector
DIN 175301-803 **(A)**

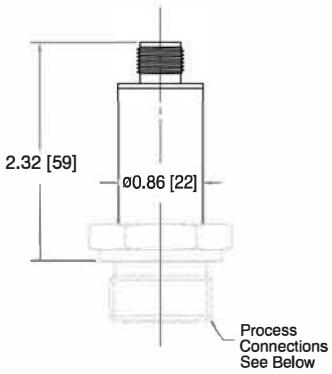


E3 Shielded Cable*
(3 Feet Standard)

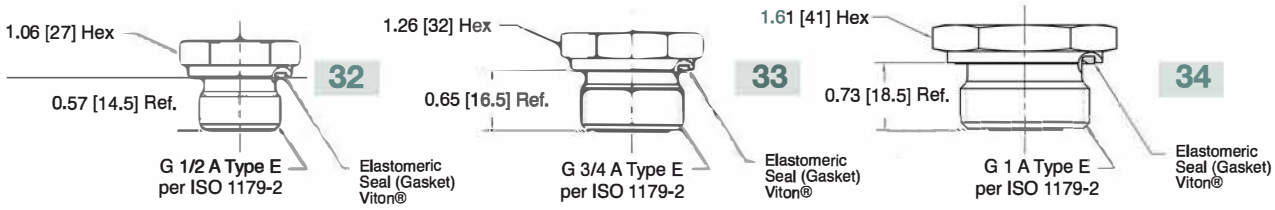


* ≤ 600 psi vented
> 600 psi non-vented

E9 M12 (S723) 4 pin



235TFC FLUSH CONNECTIONS



Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
0/10	0 to 10 psi	15 psi	29 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/600	0 to 600 psi	900 psi	1740 psi
0/800	0 to 800 psi	1200 psi	2320 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 236TFS

High Precision Transmitter–Flush Socket Connection

Applications

- Pneumatics / Hydraulics
- Industrial Environments
- Mobile Hydraulics
- Food & Beverage Industry
- Water Treatment
- Pharmaceutical Industry
- Fracking

Model 236TFS

Features

- Ranges from 0 to 10 psi thru 0 to 800 psi
- 4:1 Turndown with optional programming tool
- Zero Point adjustment can made using permanent magnet
- 4–20mA and 0–10Vdc Standard Industrial Output Signals
- 316L stainless steel wetted parts
- 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, C and Shielded Cable
- Highly flexible modular design
- Protection Class IP65/NEMA 4X (Shielded Cable and M2 4 pin Connections IP67/NEMA 6)

The **TRERICE 236TFS** "Flush-Socket Connection" Digital-Programmable, Pressure Transmitter is the ideal choice for demanding chemical, sanitary and semiconductor process applications. By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure. The stainless membrane is completely vacuum-sealed, extremely burst resistant and is applicable for use with a variety of process mediums. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 236TFS Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 236TFS • Flush Socket Transmitter

Sensor Element Capsule Type - Thin film resistors on a Silicon Membrane, Oil-Filled, Stainless Steel Diaphragm

Process Connection
Modified ISO 1179-2 G 1/2 A Type E with O-ring

Materials of Construction

Housing:	304 stainless steel
Wetted Parts:	316L stainless steel, Viton®
Seal:	Viton®
Transmission Fluid:	Silicone Oil

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges

Medium:	-40/+257°F (-40/+125°C)
Ambient:	-40/+185°F (-40/+85°C)

Temperature Error Band
Temperature compensated to within
1% between -4°F to 185°F (-20 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
Shielded Cable (3 Feet Standard)
M12 (S723) 4 pin Circular Connector

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

at least:	1.5 x FS
burst pressure at least:	2.9 x FS

Response Time (10-90%) < 10 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
Shielded Cable and M12 4 pin: IP67 / NEMA 6

Approximate Shipping Weight 0.4 lbs (0.20kg)

HOW TO ORDER

Sample Order Number: **236TFS 36 C A 0/200 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
236TFS	**36** G 1/2 A	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std" **E3** Shielded Cable (3 Ft Std) **E9** M12 (S723) 4 pin	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available, Please consult factory.

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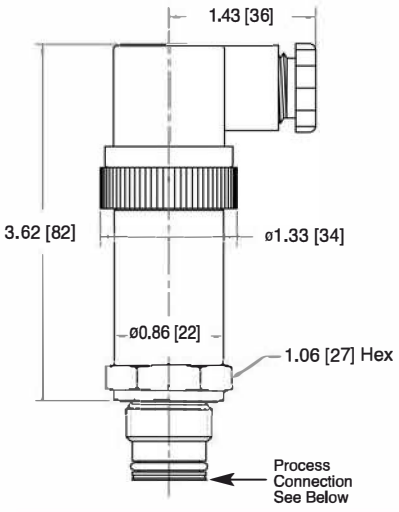
Model 236TFS

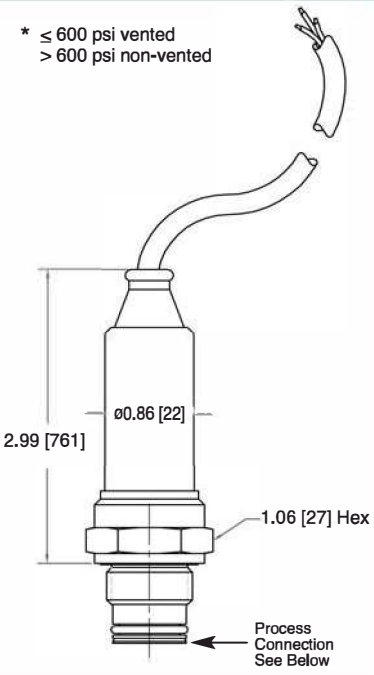
High Precision Transmitter–Flush Socket Connection

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

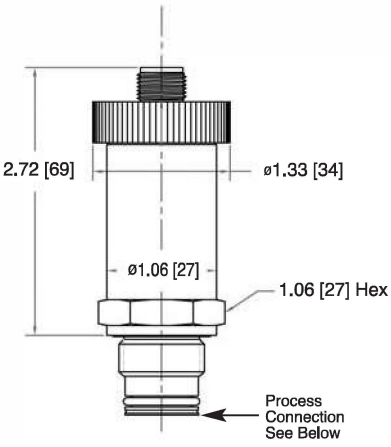
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



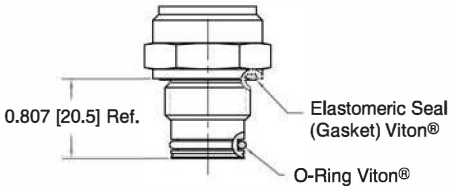
E3 Shielded Cable*
(3 Feet Standard)



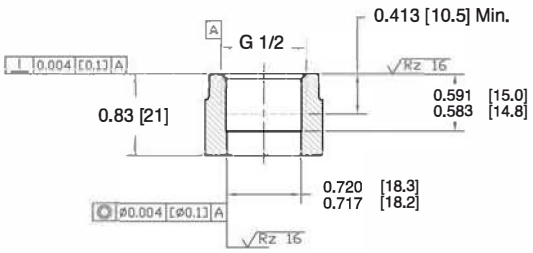
E9 M12 (S723) 4 pin



236TFS Flush Socket Fitting
Modified from an ISO 1179-2 G 1/2 A Type E



User Supplied Socket



Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
0/10	0 to 10 psi	15 psi	29 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/600	0 to 600 psi	900 psi	1740 psi
0/800	0 to 800 psi	1200 psi	2320 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 238TSC

High Precision Transmitter–Sanitary Style Connection

Applications

- Sanitary Applications
- Food & Beverage Industry
- Pharmaceutical Industry
- Water Treatment
- Industrial Environments
- Automotive Paint Systems

Model 238TSC

Features

- Ranges from 0 to 10 psi thru 0 to 600 psi
- FDA Approved Fill Fluid
- 4:1 Turndown with optional programming tool
- Zero Point adjustment can made using permaent magnet
- 4–20mA and 0–10Vdc Standard Industrial Output Signals
- 316L stainless steel wetted parts / 304 stainless steel body
- Industry standard electrical connections including DIN 175301-803A, C and Shielded Cable
- Highly flexible modular design
- Protection Class IP65/NEMA 4X, PUR Cable Connection IP68/NEMA 6P, M12 4 pin IP67 NEMA 6

The **TRERICE 238TSC** "Sanitary Connection" Digital-Programmable, Pressure Transmitter is the ideal choice for demanding pharmaceutical, food & beverage, water treatment and chemical applications. By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure. The stainless membrane is completely vacuum-sealed, extremely burst resistant and is applicable for use with a variety of process mediums. Stainless steel wetted parts provide long-term durability even in the harshest environments.

In addition, the modular design of the 238TSC Pressure Transmitter allows for a wide variety of electrical connections, output signals and process connections to be specified to meet the requirements of any application.

Specifications

Model 238TSC • Sanitary Connection Transmitter

Sensor Element Capsule Type - Thin film resistors on a Silicon Membrane, Oil-Filled, Stainless Steel Diaphragm

Process Connection
1 1/2" or 2" Tri-Clamp Sanitary Style Connection

Materials of Construction
Housing: 304 stainless steel
Wetted Parts: 316L stainless steel
Pressure Transmission Liquid: FDA Approved Oil
Diaphragm Surface Finish (Ra): <30 µin

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges
Medium: 14/+257°F (-10/+125°C)
Ambient: 14/+185°F (-10/+85°C)

Temperature Error Band
Temperature compensated to within
1% between 41°F to 185°F (5 to +85 °C)

Humidity
95% RH Non-condensing
100% RH with Shielded Cable Connection (E3)

Electronic Connection
90° Angle "Standard" Connector / DIN 175301-803 (A)
PUR (Polyurethane) Cable (3 Feet Standard)
M12 (S723) 4 pin Circular Connector

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit
at least: 1.5 x FS
burst pressure at least: 2.9 x FS

Response Time (10-90%) < 10 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 k0hm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating
90° Angle Connector: IP65 / NEMA 4X
PUR Cable: IP68 / NEMA 6P, M12 4 pin IP67/NEMA 6

Approximate Shipping Weight 0.4 lbs (0.20kg)

HOW TO ORDER

Sample Order Number: **238TSC 15 C A 0/60 E1 3**

Model	Process Connection	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length (omit if none)	Output Signal
238TSC	**15** 1 1/2" Tri-Clamp*	**C** 0.5% FS (0.35% BFSL)	**A** psi	See Standard Ranges	**E1** DIN 175301-803 (A) "std"	Specify Length in Feet (ie., 3 Ft=003)	**3** 4-20mA (2-wire)
	20 2" Tri-Clamp				**E4** PUR Cable (3 Ft Std)		**2** 0-10 Vdc (3-wire)
					E9 M12 (S723) 4 pin		

* Use for 1" clamp connection.

Multiple electrical connections, output signals and process connections are available, Please consult factory.

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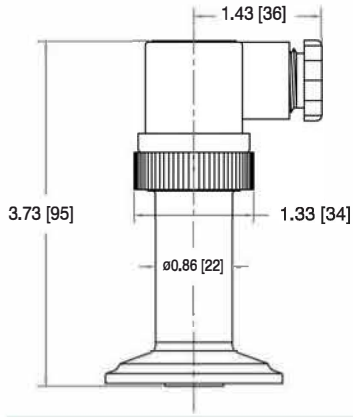
Model 238TSC

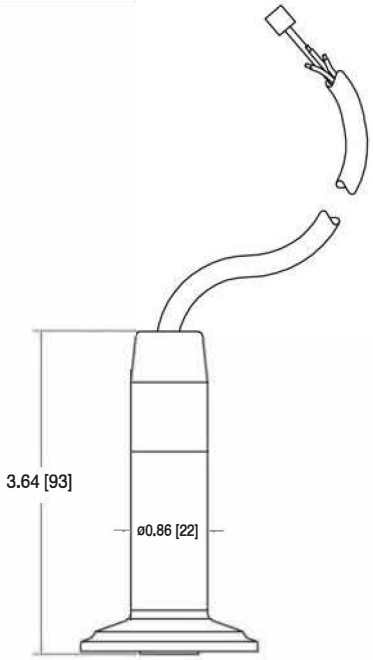
High Precision Transmitter–Sanitary Style Connection

All dimensions are nominal.
Dimensions in [ ] are in millimeters.

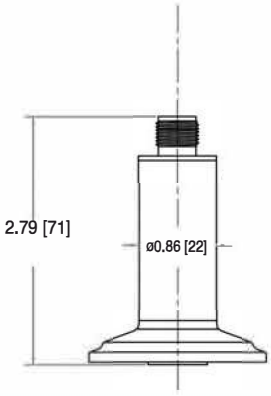
E1 90° Angle "std" Connector
DIN 175301-803 **(A)**



E4 PUR Cable
(3 Feet Standard)

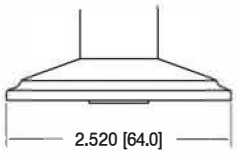


E9 M12 (S723) 4 pin

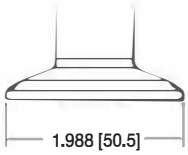


Clamps, gaskets and ferrules are not supplied by Trerice

Clamp Connections • ISO 2852



2" Clamp Connection



1" & 1 1/2" Clamp Connection

Standard Ranges

psi Ranges (A)			
Range Code	**Specific Range**	**Overpressure Limit**	**Burst Pressure**
0/10	0 to 10 psi	15 psi	29 psi
0/15	0 to 15 psi	23 psi	44 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi
0/400	0 to 400 psi	600 psi	1160 psi
0/600	0 to 600 psi	900 psi	1740 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Classification; UL® Classified and Listed to NSF/ANSI Standard 61 & 372 of "Safe Drinking Water Act"

Model 260TSB

Submersible Level Transmitter

Model 260TSB

Applications

- Tanks
- Vessels
- Basins
- Waste Water
- Rivers and Lakes
- Salt Water

Features

- Ranges from 0-40 in. H_2O thru 0 to 300 psi
- 4-20mA and 0-10Vdc Standard Industrial Output Signals
- Zero Point adjustment can be made using permanent magnet
- 4:1 Turndown with optional programming tool
- PUR-cable has integral capillary tube for relative pressure balancing (includes GORE-TEX® filter)
- Stainless steel wetted parts with plastic cap (316L available)
- 316L stainless steel body
- Protection Class IP68 / NEMA 6P

The **TRERICE 260TSB** "Submersible Transmitter" provides level measurement of tanks, basins and cisterns. By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure.

The stainless membrane is completely vacuum-sealed, extremely burst resistant and is applicable for use with a variety of process mediums. Stainless steel wetted parts provide long-term durability even in the harshest environments.

Specifications

Model 260TSB • Submersible Level Transmitter

Sensor Element Capsule Type - Thin film resistors on a Silicon Membrane, Oil-Filled, Stainless Steel Diaphragm

Process Connection Direct Submersion
No Process Attachment

Materials of Construction
Housing: 316L stainless steel
Wetted Parts: 316L stainless steel,
Plastic Sensor Cover (316L Cover Optional)
Polyurethane (PUR) Cable

Pressure Transmission Liquid Silicone Oil

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges
Medium: +14/+158°F (-10/+70°C)
Ambient: +14/+158°F (-10/+70°C)

Temperature Error Band
Temperature compensated to within 1% between 14°F to 158°F (-10 to +70°C)

Humidity Fully Submersible

Electronic Connection
PUR (Polyurethane) Cable
FEP (Flourinated-Ethylene-Propylene) Cable

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit
Ranges ≤ 3 psi at least: 2.5 x FS
burst pressure at least: 6 x FS
5-300 psi at least: 1.5 x FS
burst pressure at least: 2.9 x FS

Response Time (10-90%) < 4 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating IP68 / NEMA 6P

Approximate Shipping Weight 0.5 lbs (0.23kg)

HOW TO ORDER

Sample Order Number: **260TSB C U 0/300 E4 100 3**

Model	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length	Output Signal
260TSB	**C** 0.5% FS (0.35% BFSL)	**U** in H_2O **A** psi	See Standard Ranges	**E4** PUR Cable **E6** FEP Cable	Specify Length in Feet (ie., 600 ft. max)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available. Please consult factory.

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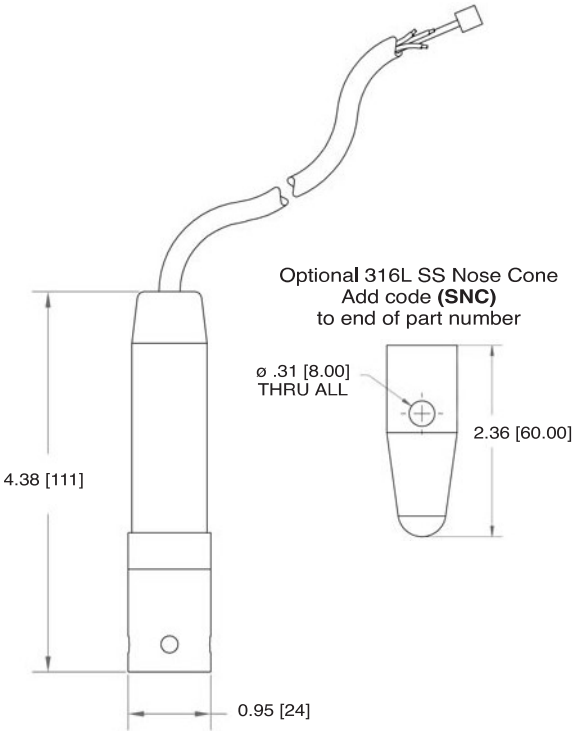
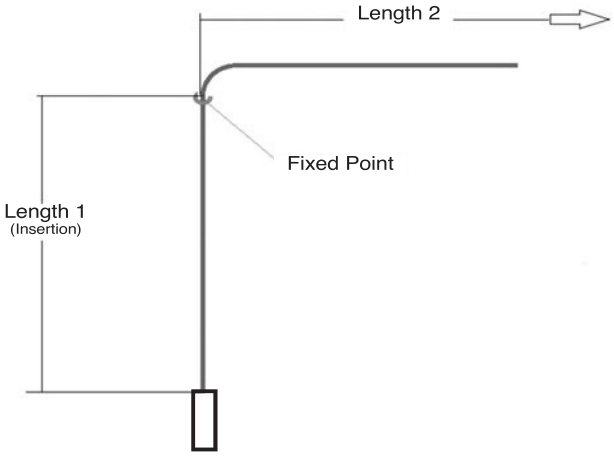
Model 260TSB

Submersible Level Transmitter

All dimensions are nominal.
Dimensions in [ ] are in millimeters.





Maximum Cable Lengths

Code	Cable Material	Max. Cable (length 1)	Max. Cable (length 2)
E4	PUR (Polyurethane)	65 feet (20 m)	535 feet (165 m)
E6	FEP (Flourinated-Ethylene-Propylene)	100 feet (30 m)	500 feet (150 m)

Standard Ranges

in. H_2O Ranges (U)			
Range Code	Specific Range	Overpressure Limit	Burst Pressure
0/40	0 to 40 in. H_2O	100 in. H_2O	240 in. H_2O
0/60	0 to 60 in. H_2O	150 in. H_2O	360 in. H_2O
0/100	0 to 100 in. H_2O	250 in. H_2O	600 in. H_2O
0/160	0 to 160 in. H_2O	400 in. H_2O	960 in. H_2O
0/200	0 to 200 in. H_2O	500 in. H_2O	1200 in. H_2O
0/300	0 to 300 in. H_2O	750 in. H_2O	1800 in. H_2O

psi Ranges (A)			
Range Code	Specific Range	Overpressure Limit	Burst Pressure
0/3	0 to 3 psi	8 psi	18 psi
0/5	0 to 5 psi	7 psi	14 psi
010	0 to 10 psi	15 psi	29 psi
0/15	0 to 15 psi	22 psi	43 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi

Actual working pressures should never exceed the “Specific Range” or the maximum process connection rating. “Overpressure Limits” and “Burst Pressures” shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Model 261TSG

Submersible Level Transmitter *with* Sensor-Guard

INDUSTRIAL TRANSMITTERS

Applications

- Lift Stations
- Storage Tanks
- Waste Water Systems
- Process Sludge
- Rivers and Lakes
- Wet Wells

Model 261TSG

Features

- **Ranges from 0-40 in. H_2O thru 0 to 300 psi**
- **Diaphragm has large 4.5 in^2 Sensing Area for increased sensitivity**
- **4-20mA and 0-10Vdc Standard Industrial Output Signals**
- **Zero Point adjustment can be made using permanent magnet**
- **4:1 Turndown with optional programming tool**
- **Barrier plate helps protect diaphragm providing years of clog-free operation**
- **PUR-cable has integral capillary tube for relative pressure balancing (includes GORE-TEX® filter)**
- **316L Stainless steel wetted parts**

The **TRERICE 261TSG** "Submersible Transmitter with Sensor Guard" provides accurate measurement of sludge levels, pump lift stations and other viscous applications where clogging of the sensor is a common problem. The flush diaphragm has 4.5 in^2 of surface area providing increased sensitivity, while the 316L barrier plate and cage assembly help eliminate the buildup of debris, grease and bio-solids.

By use of the optional programming tool this transmitter provides 4 to 1 turn down and adjustable zero-point & span, allowing for multiple units of measure. The stainless membrane is completely vacuum-sealed, extremely burst resistant and is applicable for use with a variety of process mediums. Stainless steel wetted parts provide long-term durability even in the harshest environments.

Specifications

Model **261TSG • Submersible Level Transmitter**

Sensor Element Capsule Type - Thin film resistors on a Silicon Membrane, Oil-Filled, Stainless Steel Diaphragm

Process Connection Direct Submersion with Sensor-Guard

Materials of Construction
Wetted Parts: 316L stainless steel, Polyurethane (PUR) Cable

Pressure Transmission Liquid Silicone Oil

	BFSL	Full Scale
Accuracy at 77° F (25°C)	0.35%	0.50%
Non-Linearity:	0.15%	0.30%
Hysteresis:	0.10%	0.10%
Repeatability:	0.10%	0.10%

Operating Temperature Ranges
Medium: +14/+158°F (-10/+70°C)
Ambient: +14/+158°F (-10/+70°C)

Temperature Error Band
Temperature compensated to within 1% between 14°F to 158°F (-10 to +70°C)

Humidity Fully Submersible

Electronic Connection
PUR (Polyurethane) Cable
FEP (Flourinated-Ethylene-Propylene) Cable

Output Signal
4-20mA (2 wire) and 0-10Vdc (3 wire)

Overpressure Limit

Ranges ≤ 3 psi at least:	2.5 x FS
burst pressure at least:	6 x FS
5-300 psi at least:	1.5 x FS
burst pressure at least:	2.9 x FS

Response Time (10-90%) < 4 ms

Power Supply

Output Signal:	Minimum	Maximum	Recommended
4-20mA:	10Vdc	32Vdc	24Vdc
0-10Vdc:	12Vdc	32Vdc	24Vdc

Load Resistance 4-20mA: $\leq \frac{V_{SUPPLY} - 10\ Vdc}{0.02\ A}$
0-10 Vdc: > 5 kOhm

Circuit Protection
Protected against reverse polarity and short circuits

CE Conformity RoHS2 Directive 2011/65/EU
EMC Directive: 2014/30/EU - PED Directive: 2014/68/EU
Applied standards: EN 61326-1:2013, EN 61326-2-3:2013

Ingress Protection Rating IP68 / NEMA 6P

Approximate Shipping Weight 4.0lbs (1.80kg)
Cable only: .02 lbs (0.009kg) per foot

HOW TO ORDER

Sample Order Number: **261TSG C U 0/300 E4 100 3**

Model	Accuracy	Units of Measure	Range Code	Electrical Connection	Cable Length	Output Signal
261TSG	**C** 0.5% FS (0.35% BFSL)	**U** in H_2O **A** psi	See Standard Ranges	**E4** PUR Cable **E6** FEP Cable	Specify Length in Feet (ie., 600 ft. max)	**3** 4-20mA (2-wire) **2** 0-10 Vdc (3-wire)

Multiple electrical connections, output signals and process connections are available. Please consult factory.

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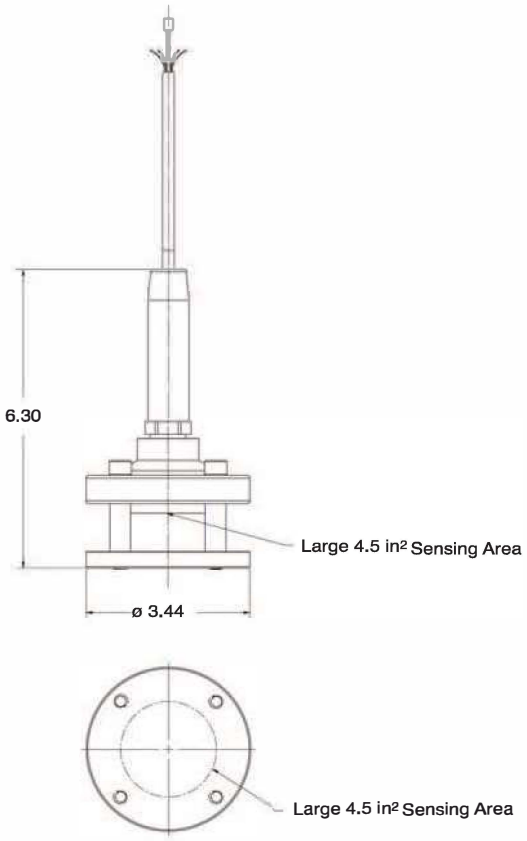
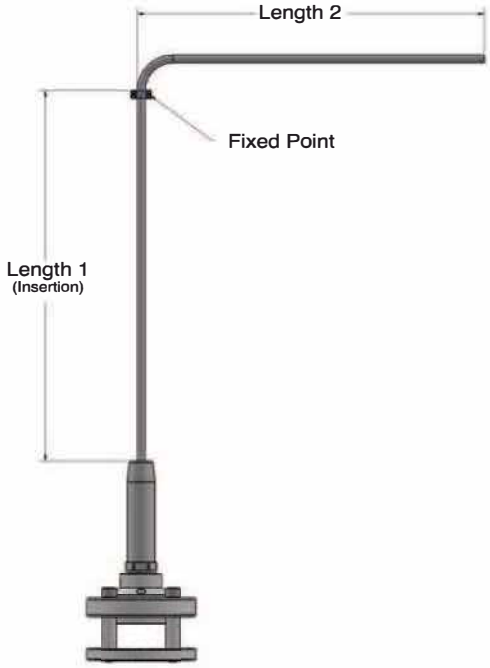
TRERICE

Model 261TSG

Submersible Level Transmitter *with* Sensor-Guard

All dimensions are nominal.
Dimensions in [ ] are in millimeters.





Maximum Cable Lengths

Code	Cable Material	Max. Cable (length 1)	Max. Cable (length 2)
E4	PUR (Polyurethane)	65 feet (20 m)	535 feet (165 m)
E6	FEP (Flourinated-Ethylene-Propylene)	100 feet (30 m)	500 feet (150 m)

Standard Ranges

in. H_2O Ranges (U)			
Range Code	Specific Range	Overpressure Limit	Burst Pressure
0/40	0 to 40 in. H_2O	100 in. H_2O	240 in. H_2O
0/60	0 to 60 in. H_2O	150 in. H_2O	360 in. H_2O
0/100	0 to 100 in. H_2O	250 in. H_2O	600 in. H_2O
0/160	0 to 160 in. H_2O	400 in. H_2O	960 in. H_2O
0/200	0 to 200 in. H_2O	500 in. H_2O	1200 in. H_2O
0/300	0 to 300 in. H_2O	750 in. H_2O	1800 in. H_2O

psi Ranges (A)			
Range Code	Specific Range	Overpressure Limit	Burst Pressure
0/3	0 to 3 psi	8 psi	18 psi
0/5	0 to 5 psi	7 psi	14 psi
010	0 to 10 psi	15 psi	29 psi
0/15	0 to 15 psi	22 psi	43 psi
0/30	0 to 30 psi	45 psi	87 psi
0/60	0 to 60 psi	90 psi	174 psi
0/100	0 to 100 psi	150 psi	290 psi
0/160	0 to 160 psi	240 psi	464 psi
0/200	0 to 200 psi	300 psi	580 psi
0/300	0 to 300 psi	450 psi	870 psi

Actual working pressures should never exceed the "Specific Range" or the maximum process connection rating. "Overpressure Limits" and "Burst Pressures" shown refer to the sensor or body of the transmitter and are for reference purposes only. For correct use and application See: ASTM F2070-00.

Junction Box for Submersible Level Transmitter

Part Number: 201-0002

Application

For use with the 260TSB or 261TSG Submersible Level Transmitter, this surface-mountable Junction Box features an IP65 enclosure to protect the reference hose of the transmitter against the intrusion of dust or water, as well as an internal terminal block and pressure compensation port with filter element.

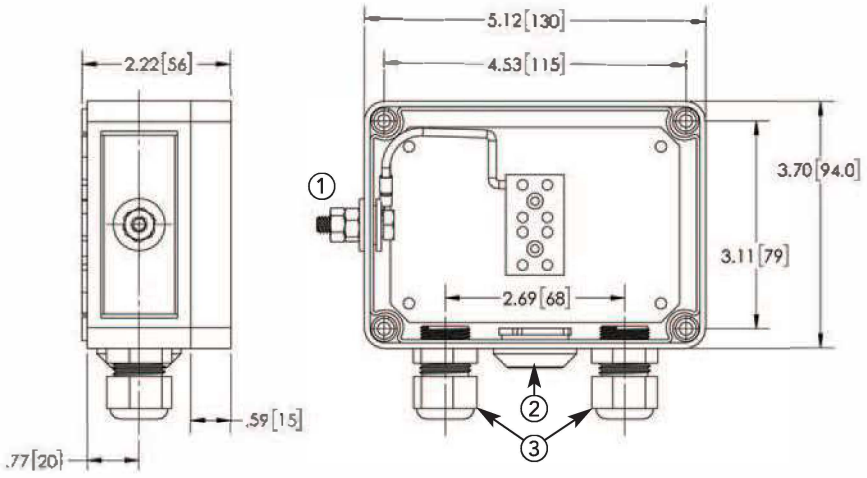
Technical Data

Enclosure Material:	**Polystyrene**	**Working Temperature:**	**-40 to 158F (-40 to 70C)**
Gasket Material:	**Polyurethane**	**Approximate Shipping Weight:**	**0.7 lbs [0.32 kg]**
Mounting:	**Surface Mount w/4 screws**		
Cable Connection:	**(2) PG 11 Cable Glands**		
Protection:	**IP65 (NEMA 4X)**		

Dimensions

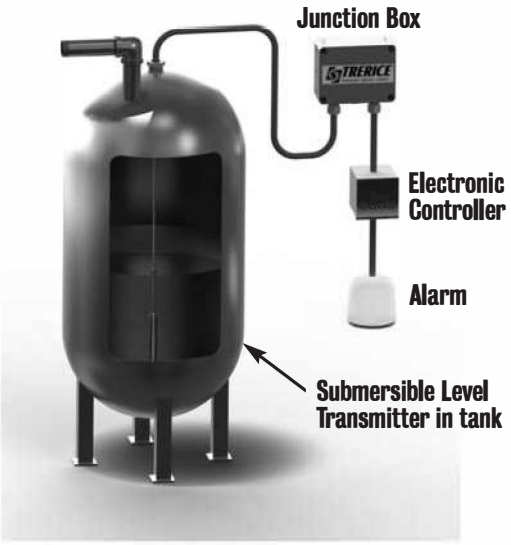
All dimensions are nominal. Dimensions in [ ] are in millimeters.

Junction Box with Pressure Compensation Port



① Ground ② Pressure Compensation Port ③ Cable Glands (PG11)

Typical Installation



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TRERICE

LED Digital Indicator Module

Part Number: 201-0004

Applications

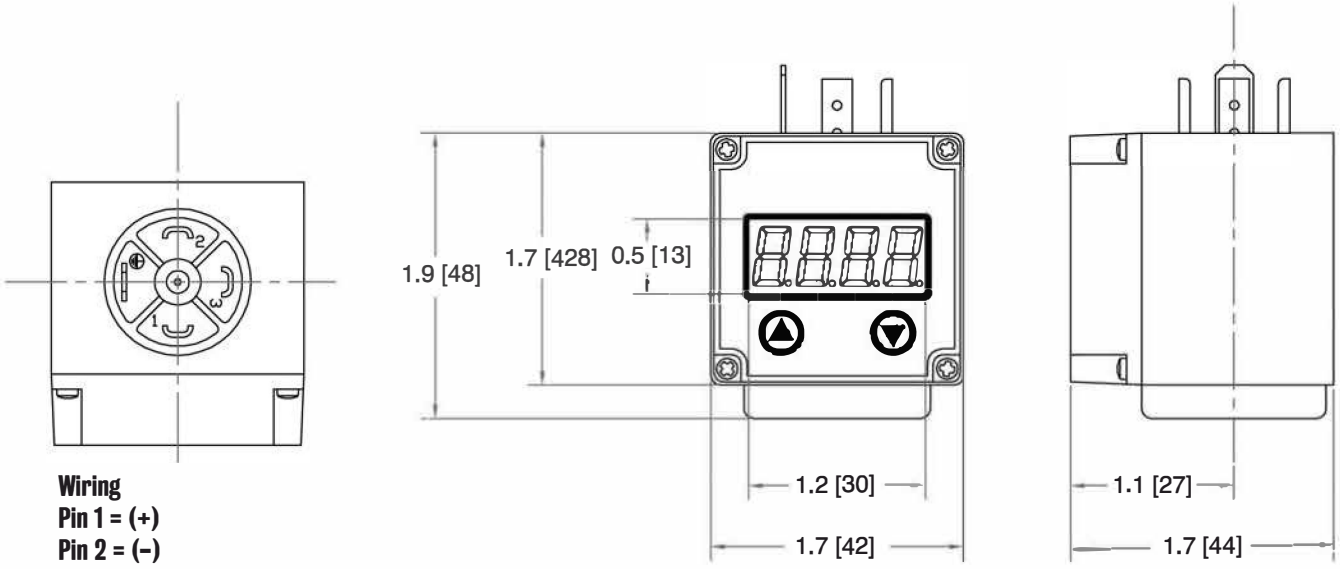
- Plug in digital indicator for use with transmitters having 4-20mA output and E1 (DIN 175301-803 A) electrical connection
- Indicator face plate can be turned in 90° steps for multiple viewing angles
- Requires no external power
- 4 Digit LED display

Technical Data

Power supply :	**Loop-powered**	**Circuit Protection:**	**Protected against reverse polarity and short circuits**
Integrated ADC:	**16 bit**		
Display:	**-1999 to 9999**	**Working Temperature:**	**-4 to 158°F (-20 to 70° C)**
Input:	**4-20mA**	**Stock Temperature:**	**-22 to 185°F (-30 to 85° C)**
Output:	**4-20mA**	**Protection:**	**IP 67**
		Approximate Shipping Weight:	**0.15 lbs [0.07 kg]**

Dimensions

All dimensions are nominal. Dimensions in [ ] are in millimeters.



Wiring
Pin 1 = (+)
Pin 2 = (-)

Industrial Pressure Transmitters

INSTALLATION AND OPERATION INSTRUCTIONS

Authorized Personnel

Installation and set up of pressure transmitters should only be done by individuals that are familiar with the applicable national regulations (such as NFPA) and have the appropriate qualifications. Depending on the application conditions, it is necessary that personnel have appropriate knowledge, e.g. concerning corrosive products or high pressure.

Product Application

- When installing and placing the pressure transmitter into operation, please observe the accident prevention regulations as defined by qualified organizations (such as NFPA).
- Trerice Pressure transmitters are suited for measuring pressure in applications with gaseous and liquid media.
- Please observe the pressure, force and temperature limits as defined in these Installation & Operating Instructions or in the technical specification sheets.
- Ambient conditions (temperature, air pressure, humidity, etc.) should always be considered.
- Never expose the product to heavy vibrations or physical impact.
- Use the pressure transmitter in its original state only. Do not tamper with the product. There are no serviceable components and the device does not require maintenance.
- Prior to installation remove all protective packaging materials (e.g. film, caps, cardboard etc.)
- Packaging materials should be responsibly recycled.

Operating Conditions

- Deviations from the operating conditions specified in the technical data sheet (i.e. “Operating Temperature Ranges”) may result in damage to the pressure transmitter.
- Protection class IP65/IP67 may not apply to all operating conditions. This protection class applies only when the transmitter’s electrical connection is properly attached to the mating plug with gaskets in place. It is the user’s responsibility to verify that the connection corresponds with all applicable regulations and provisions.
- The values quoted in the technical data sheet for “Overpressure Limits” refer to the wetted parts of the transmitter that are directly exposed to the process medium.

How to Install the Pressure Transmitter

- Use the appropriate wrench to install the pressure transmitter into the respective pressure connection. The torque is approximately 25 Nm.
- For connections that require the use of a sealing ring, verify the respective dimensions of the ring prior to use.
- All wiring must meet local regulations and must be performed by qualified personnel only. Use cable that is appropriate to the installation environment. DO NOT CRUSH CABLE. Electrical power must be connected in accordance with the respective connection diagram; otherwise damage/destruction may occur.
- All seals must be positioned and assembled appropriately for the IP protection class to apply.

How to Remove the Pressure Transmitter

- Please observe applicable safety regulations when removing the pressure
- Prior to removing transmitter from application, system MUST be depressurized. Failure to do so may result in damage or personal injury.

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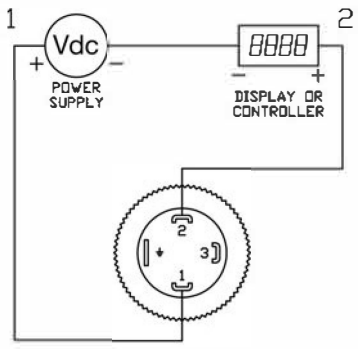
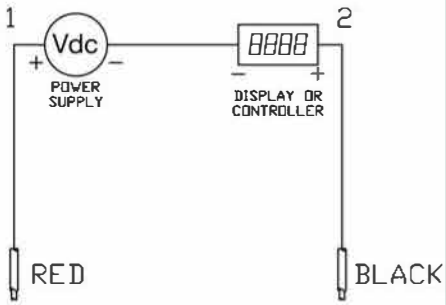
Electrical Connections Wiring Diagram

2- Wire Circuits (4 20mA)

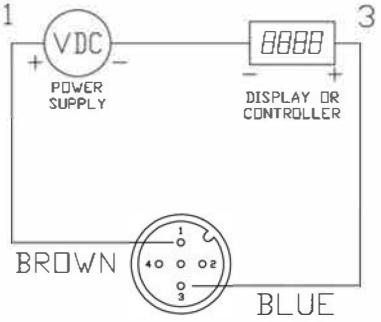
DIN 175301-803 (A)



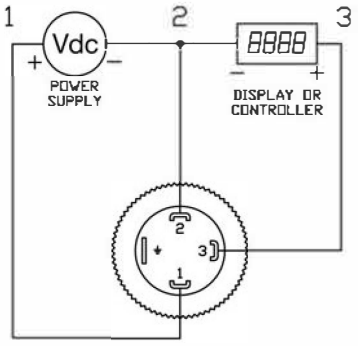
Shielded Cable

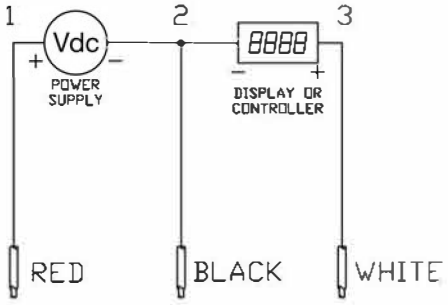


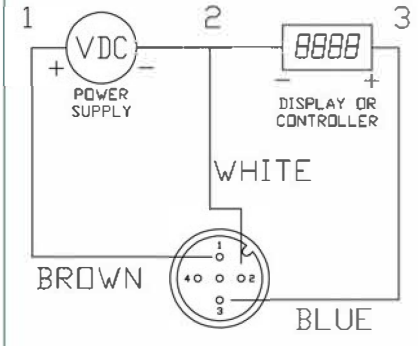
M12 (S7243) 4 pin



3- Wire Circuits (0-10Vdc)







Miscellaneous Information

Warranty

The H. O. Trerice Co. warrants products of its manufacture to be free from defects in workmanship and material for a period of one year from the date of shipment to the original purchaser. Trerice will repair or replace such product (F.O.B. Factory) should our internal examination reveal it to be defective. Product used in conjunction with non-Trerice product, or in any way modified or altered, may not be covered under the terms of this warranty. Trerice assumes no other responsibility or liability.

Trademarks

The following trademarks are not owned by Trerice and are the property of their respective owners:

Tri-Clamp®
Teflon®
Viton®

Organizations

The H. O. Trerice Co. recognizes the following organizations: Fluid Controls Institute (FCI), Valve Manufacturers Association of America (VMA) and the International Society of Automation (ISA). These nonprofit associations work with manufacturers and other organizations to develop standards and exchange statistical and technical knowledge.

Caution

All Trerice products should be carefully selected to meet the demands of the particular application. The information contained in this catalog is offered only as a guide to assist in making the proper selection. Selection of the proper product, as well as its installation and use, is the sole responsibility of the user. Improper application or product misuse may cause failure of the product, resulting in possible personal injury or property damage. For correct use and application of all Trerice products, please refer to the proper standard set forth by ASME. These documents may be obtained from the American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990.

A word about this catalog

The information contained in this catalog was correct at the time of printing. Due to the Trerice commitment of continuous development and improvement, these specifications are subject to change without notice. Any information contained within this catalog should not be interpreted as a contractual agreement by Trerice. All orders are subject to the approval of the H.O. Trerice Co., Oak Park, Michigan.

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Notes

Pressure Transmitters

H.O. TRERICE

From its start in 1923 in Detroit, the **H.O. Trerice Company** has remained true to the commitment of its founder - **QUALITY** in both PRODUCT and SERVICE. This commitment has solidly established Trerice as a worldwide leader in the manufacture of specialized engineered products for industrial temperature and pressure measurement and control.

When your requirements demand quality instrumentation and controls, the broad line of Trerice products are ready for your application. Contact us today for detailed information on your particular areas of interest.

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