



TEL-TRU MANUFACTURING CO.

P523 Differential Pressure Transmitter

High Line/Low Differential Pressure Measurement Certified for Hazardous Locations

Designed for High Static/Low DP applications

The P523 differential pressure transmitter is designed for End Users and OEMs where extreme overpressure protection (1000 psi), high performance, and reliability are required at a competitive price. This product is modular and is configurable to meet our customers' exact needs.

Manufactured for extended life cycle

Every P523 is built using advanced manufacturing techniques to ensure symmetry between the HI and LO ports. Symmetry, along with automated welding procedures and extreme environmental burn-in, give Tel-Tru's differential pressure products excellent performance and reliability over time and at high elevated line pressure.

Entirely welded 316L SST pressure cavities

The P523 pressure port's all welded 316 SST 'O'-Ring free design makes it ideal for high cyclical applications, capillary filled systems, or applications where a guaranteed leak free system is needed.

Certified for Hazardous Locations

The P523 is CSA/CUS certified Explosion Proof to Class I Div 1 and Class I Div 2 Groups A, B, C, D.

NIST

Each P523 Transmitter is shipped with a NIST traceable calibration certificate.



Fast Response

Wet/Wet

Alternate Materials Available

Standard Features

- Ranges from 5" H₂O
- High overpressure protection
- ≤ ±0.25% FSO/YR Stability

Available Options

- ≤ ±0.1% FSO Static Accuracy
- Alternate Wetted Materials
- 316L SST Process Flanges



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P523 Differential Pressure Transmitter

0-5" H₂O through 0-5000 psi
High Line & Overpressure Protection

Product Specifications

Electrical

Excitation

P523C	2-15 Vdc
P523A and P523B	8-38 Vdc*

Output

P523C	1-2 mV/V
P523B	0-5 Vdc*
P523A	0-20 mA _{dc}

Zero Balance	≤ ±1% FSO
FSO Setting	≤ ±1% FSO
Resolution	Infinite (±.001% FSO usable)
Response Time	< 10 mS
Insulation Resistance	1000 MΩ @ 50 Vdc
Reverse Polarity	Protected
Warm-up	50 < mS
Power Supply Effect	≤ ±.002% FSO per V input
EMI/RFI	Internal Filtering
Short Circuit Protected	Up to 40 Vdc

Performance

Static Accuracy	≤ ±0.25% FSO* (BFSL, RSS) <small>(combined effects of non-linearity, hysteresis & repeatability)</small>
Static Pressure Effect	
On zero	≤ ±0.25% FSO per 1,000 psi
On span	≤ ±0.5% of reading per 1,000 psi
Repeatability	≤ ±0.1% FSO
Temperature Effects	≤ ±1.5% FSO over comp range <small>(combined effects of Zero & FSO with reference at 70°F)</small>
Mounting Effects	Zero shifts up to 1" H ₂ O depending on orientation
Long Term Stability	≤ ±0.25% FSO per year

Certifications

CSA/CUS Explosion Proof Class I Div 1 Groups A, B, C, D
CSA/CUS Explosion Proof Class I Div 2 Groups A, B, C, D
Master Contract Number: 236039
Certificate Number: 1815757

Mechanical

Pressure Ranges 0-5" H₂O through 0-10,000 psid
(Customer may specify any range/eng. unit FOC)

Pressure Ranges

Range a:	0-5" H ₂ O through 0-30 psi
Range b:	0-30 through 0-200 psid
Range c:	0-300 through 0-1k psid
Range d:	0-2k through 0-5 k psid

(Customer may specify any range/eng. unit FOC)

Line Pressure

Range a:	1,000 psi
Range b:	1,000 psi
Range c:	3,000 psi
Range d:	5,000 psi

Proof Pressure

Range a:	1000 psi
All other:	3X Full Scale either side (7k psi max)*

Burst Pressure

Range a:	Minimum 3k psi
Range b:	Minimum 5k psi
Range c:	Minimum 10k psi
Range d:	Minimum 12k psi

Materials

Wetted Parts	316L SS
Non-wetted Parts	316L SS plus electrical connector
Pressure Port*	¼"-NPT Female
Electrical Connector*	NEMA 4X cable exit with 24" cable
Dimensions	per outline O-EXD-001
Weight	18 oz nominal

Environmental

Compensated Temp Range	0 to 170°F
Operating Temp Range	-20 to 200°F
Storage Temp Range	-40 to 250°F

*** Options Available**

Standard Wiring:

Model	Output	+ Power	- Power	+ Signal	- Signal
P523C	mV/V dc 4 wire	Red/Pin 1/Pin A	Black/Pin2/PinB	Green/Pin 3/Pin C	White/Pin 4/Pin D
P523B	0-5 (10) Vdc 3 Wire	Red/Pin 1/Pin A	Black/Pin2/PinB	Green/Pin 3/Pin C	+ Sig ref to - Power
P523A	4-20 mA _{dc} 2 Wire	Red/Pin 1/Pin A		Black/Pin2/PinB	

Tel-Tru Manufacturing Co. reserves the right to change specifications without prior notification. Please contact the factory for the latest revision.

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