

Model 526

Submersible Pressure Transducer

Gauge, Absolute, Vacuum and Compound Pressure



Setra System's Model 526 General Purpose pressure transducer is designed with a thicker diaphragm for robust industrial and submersible applications that require exceptional stability and high accuracy.

The Model 526's CVD strain gauge design is resistant to aging and virtually insensitive to thermal transients and pressure cycling. The stability of this technology assures the user of high reliability, with less than 0.2% drift per year.

The 526 offers enclosures fabricated in 316 SS/17-4 PH SS, rated for NEMA 4/IP67 and IP68 operation, these units are fully protected against the penetration of dust, and submersion in water to a maximum depth of 200 meters.

All wetted parts are constructed of corrosion-resistant 17-4 PH stainless steel, which makes this unit ideal for use with corrosive media.

The Model 526 offers 0.25% FS accuracy (optional 0.15% FS), compensated temperature range of -5°F to +180°F (-20°C to 80°C), operating temperatures as low as -22°F to 260°F (-40°C to 15°C), and gauge, absolute, vacuum or compound pressure ranges from -14.7 psi up to 6000 psi.

The Model 526's modular design is offered in a wide choice of millivolt, voltage or current outputs over almost any pressure range and a variety of pressure and electrical connections, enabling this unit to be custom configured for your OEM application

Principle of Operation

Using the well proven Wheatstone Bridge principle, a chemical vapor is deposited in thin layers of silicon and silicon dioxide onto a stainless steel sensor to form a very sensitive and accurate polysilicon strain gauge. The elements of the strain gauge are fused together at the atomic level, assuring the strength and integrity of the bond, which exceeds the adhesives used in common bonded strain gauge pressure sensors. Using a custom designed ASIC to perform amplification and temperature calibration, each parameter can be fine tuned for optimal performance. This design offers the user the option of configurable output and pressure ranges, sets the zero and span tolerance and ensures interchangeability from unit to unit.

Applications

- Off-Highway
- Natural Gas Equipment
- Power Plants
- HVAC-Compressors
- Refrigeration
- Robotics

Benefits

- Superior Stability
Avoids Down Time
- $\pm 0.25\%$ FS Accuracy
 $\pm 0.15\%$ Accuracy (Optional)
- NEMA 4/IP67 and NEMA 6/IP68 Rated
- High Shock and Vibration Resistance
- Meets CE Conformance Standards

*When it comes to a product to rely on - choose the Model 526 .
When it comes to a company to trust - choose Setra.*

Visit Setra On-line:
<http://www.setra.com>

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800-257-3872

Model 526 Specifications

Performance Data

Accuracy RSS* (at constant temp)	±0.25% FS ±0.15% FS, Optional
Thermal Effects**	
Compensated Range °F (°C)	-5 to +180 (-20 to +80)
Zero Shift %FS/100°F (100°C)	0.8 (1.5)
Span Shift %FS/100°F (100°C)	0.8 (1.5)
Optional:	
Zero Shift %FS/100°F (100°C)	0.5 (1.0)
Span Shift %FS/100°F (100°C)	0.5 (1.0)
Long-Term Stability	0.2% FS/year
Response Time	0.5 ms
Proof Pressure	2 x FS (1.5 x FS for 400 Bar, >=5000 PSI)
Burst Pressure	>35 x FS <= 100 Psi (6 Bar) >20 X FS <= 1000 Psi (60 Bar) >5 X FS <= 6000 Psi (400 Bar)

*RSS of Non-Linearity, Non-Repeatability and Hysteresis.

**Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.

Physical Description

Case	316, 17-4 PH Stainless Steel
Ratings	IP65 for Elec Codes B3, B1 IP68 for Elec Codes U1 (Max. Depth 200 Meters H ₂ O) IP30 for Elec Code A2 w/Flying Leads
Wetted Parts	17-4 PH Stainless Steel

Specifications are subject to change without notice.

Physical Description (Cont'd)

Electrical Connection	10-6 Bayonet, Weatherproof Cable, IP68 Cable, 8-4 Bayonet
Pressure Fitting	See Ordering Information Below
Weight	3.5oz (100g)

Environmental Data

Temperature	
Operating* °F (°C)	
for Elec. Code B1, B3	-22 to +260 (-40 to +125)
for Elec. Code A2, E2	-5 to +180 (-20 to +80)
for Elec. Code U1	-5 to +125 (-20 to +50)
Storage °F (°C)	
for Elec. Code B1, B3	-22 to +260 (-40 to +125)
for Elec. Code A2, E2	-5 to +180 (-20 to +80)
for Elec. Code U1	-5 to +125 (-20 to +50)
Vibration	70g Peak to Peak Sinusoidal, 5 to 2000 Hz (Random)
Acceleration	100g Steady Acceleration in any Direction 0.32% F
Shock	20g, 11 ms, per MIL-STD-810E Method 516.4 Procedure

*Operating temperature limits of the connectors only.

Pressure media temperatures may be considerably higher or lower.

Pressure Media

Liquids or gases compatible with 316 and 17-4 PH Stainless Steel*

*Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel

Electrical Data (Millivolt)

Circuit	4-Wire (+Exc., -Out, +Out, -Exc)
Excitation	10VDC (15VDC Max.) Regulated
Output*	100 mV (10mV/V)
Bridge Resistance	2600-6000 Ohms
*Zero output is factory set to 1.0% of Full Scale	
*Span output is factory set 1.0% of Full Scale	

Electrical Data (Voltage)

Circuit	3-Wire (Exc, Out, Com)
Excitation	1.5 VDC Above Span to 35 VDC @ 6mA **
Output*	0 to 5VDC, 0 to 10VDC, 0.5 to 5.5VDC, 1 to 5VDC, 1 to 6VDC, 1 to 11VDC, 0.1 to 5.1VDC, 0.2 to 10.2VDC (FS output/2) Kohms Approx. 6 mA @ 7.5VDC output
Current Consumption	

*Zero output is factory set to 1.0% of Full Scale

*Span output is factory set 1.0% of Full Scale

**Temperatures >100°C/212°F supply is limited to 24VDC

Electrical Data (Current)

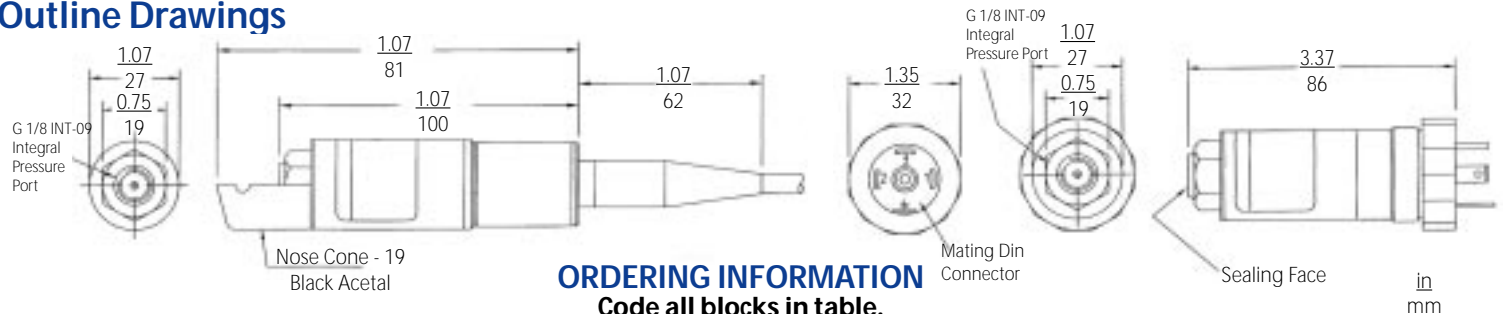
Circuit	2-Wire
Output*	4 to 20 mA**
Loop Supply Voltage	24VDC, (7-35 VDC)
Maximum Loop Resistance	(Vs-7) x 50 Ohms

*Zero output factory set to within ±0.16 mA

*Span output factory set to within ±0.16 mA

**Temperatures >100°C/212°F supply is limited to 24VDC

Outline Drawings



ORDERING INFORMATION

Code all blocks in table.

Example: Part No 5261030PG2M2BZL3 - For a Model 522 Pressure Transducer, 30 PSI, Gauge Pressure, 1/8-27 NPT Male Pressure Fitting, 4-20 mA Output, 4-Pin Mini Din, 0.25% Accuracy

Model	Range	Pressure	Pressure Fitting	Output	Elec. Termination	Accuracy	Option
5261 = 526	015P = 15 PSI 030P = 30 PSI 060P = 60 PSI 100P = 100 PSI 150P = 150 PSI 200P = 200 PSI 300P = 300 PSI 500P = 500 PSI 600P = 600 PSI 10CP = 1000 PSI 15CP = 1500 PSI 20CP = 2000 PSI 30CP = 3000 PSI 40CP = 4000 PSI 50CP = 5000 PSI 60CP = 6000 PSI	001B = 1 BAR 0R6B = 1.6 BAR 2R5B = 2.5 BAR 004B = 4 BAR 006B = 6 BAR 010B = 10 BAR 016B = 16 BAR 025B = 25 BAR 040B = 40 BAR 060B = 60 BAR 100B = 100 BAR 160B = 160 BAR 205B = 250 BAR 400B = 400 BAR 600B = 600 BAR	G = Gauge A = Absolute* C = Compound* 1M = 1/8-27 NPT Male 2M = 1/4-18 NPT Male SM = 1/4-NPT Male w/Stubber 2F = 1/4-NPT Female 4M = 1/2-14 NPT Male J6 = 9/16-18 UNF Female w/Seal cone J7 = 7/16-20 Male (SAE #4, J1926-2) J8 = 7/16-20 UNF Female w/Out Seal Cone J9 = 9/16-18 Male (SAE #6, J1926-2) <u>Submersible Units</u> W1 = Plastic Nose Cone W2 = Sink Weight Nose Cone	BP = 100 mV 11 = 4-20 mA 28 = 1-6 VDC 2R = 1-11 VDC 27 = 1-5 VDC 24 = 0.5-5.5 VDC 2B = 0-5 VDC 2C = 0-10 VDC 29 = 0.2-10.2 VDC 22 = 0.1-5.1 VDC	B3 = Fixed Plug Size 10-6 Bayonet Connector U1 = Molded Cable Immersible (up to 150 M Submersible Cable), 1 Meter Length B1 = Fixed Plug Size 8-4 Bayonet Connector A2 = Conduit Connector 1/2NPT Ext. 1M Flying Leads E2 = Large DIN Plug w/Mate	F = 0.25% FS S = 0.15% FS, Optional	A = Intrinsic Safe (ETL approved for Class 1, Div. 1, Groups C & D, hazardous areas.)

*Compound and absolute ranges available through 300psi only.

Please contact factory for configurations not shown.

While we provide application assistance on all Setra products, both personally and through our literature, it is the customer's responsibility to determine the suitability of the product in the application.

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