

Model 528

High Temperature Pressure Transducers

Absolute, Gauge and Compound Pressure



Setra System's Model 528 high performance pressure transducer is designed for robust industrial and submersible applications that require high performance in extreme environments.

The Model 528'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.

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 528 offers 0.1% FS accuracy, compensated temperature range of -20°F to +212°F (-30°C to 100°C), and gauge, absolute, vacuum or compound pressure ranges from -14.7 psi up to 6000 psi.

The Model 528's modular design is offered in a wide range of voltage or current outputs, and a variety of pressure and electrical connections, enabling this unit to be custom configured for your OEM application.

Depending upon the electrical connection selected, when coupled with the Model 528 enclosure, which is fabricated in 316 SS/17-4 PH SS, this unit is rated for IP40, IP65, IP66 or IP68 operation.

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. A custom designed ASIC performs signal amplification and temperature compensation. This technology 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
- Semiconductor Processing
- Power Plants
- Heating, Ventilating & Air-Conditioning
- Refrigeration
- Robotics

Benefits

- Superior Stability Avoids Down Time
- ±0.1% FS Accuracy
- NEMA 4/IP65 and NEMA 6/IP67 Environmental Protection
- High Shock Resistance
- Meets CE Conformance Standards

**New!
Option**



Model 299 Dri-Sense Termination Enclosure

*When it comes to a product to rely on - choose the Model 528 .
When it comes to a company to trust - choose Setra.*



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

setra

800-257-3872

Model 528 Specifications

Performance Data

Accuracy RSS* (at constant temp)	±0.1% Full Scale
Thermal Effects**	
Compensated Range °F (°C)	-20 to +212 (-30 to +100)
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
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)

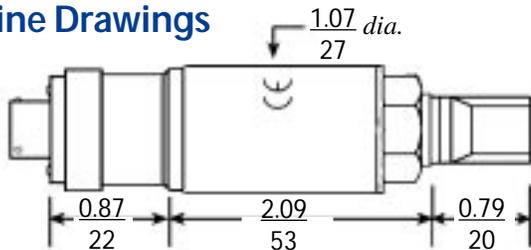
*RSS of Non-Linearity, Non-Repeatability and Hysteresis.
**Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.

Physical Description

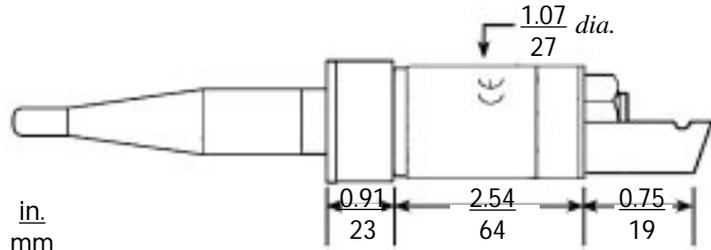
Case	316 Stainless Steel, 17-4 Stainless Steel
Ratings	IP40 for Elec Code B3 and Gauge Unit IP66 for Elec Code VA and Absolute Unit IP68 for Elec. Code UA
Wetted Parts	17-4 PH Stainless Steel

Specifications subject to change without notice.

Outline Drawings



Shown w/10-6 Bayonet Connector and 1/4-18 NPT Pressure Port



Shown w/Molded Immersible Cable and Plastic Nose Cone

Physical Description (Cont'd)

Electrical Connection	10-6 Bayonet IP66 Weatherproof Cable Molded Cable Immersible (1 Meter Length)
Pressure Fitting	See Ordering Information Below
Weight	3.5oz (100g)

Environmental Data

Temperature	
Operating* °F (°C)	for Elec Codes B1, B3, VA -40 to +260 (-40 to +125) for Elec. Codes UA -5 to +125 (-20 to +50)
Storage °F (°C)	for Elec Codes B1, B3, VA -40 to +260 (-40 to +125) for Elec. Codes UA -5 to +125 (-20 to +50)
Vibration	35g peak sinusoidal, 5 to 2000 Hz
Shock	Withstands Free Fall to IEC 68-2-32 Procedure 1

*Operating/Storage temperature limits of the electrical connectors only. Pressure media temperatures may be considerably higher or lower.

Pressure Media

Liquids or gases compatible with 17-4 PH Stainless Steel.*
*Note: Hydrogen not recommended for use with 17-4 PH Stainless Steel.

Electrical Data (Voltage)

Circuit	3-Wire (Exc, Out, Com)
Output*	0 to 5VDC, 0 to 10VDC, 0.5 to 5.5 VDC, 1 to 5 VDC, 1 to 6 VDC, 1 to 11VDC
Excitation	1.5 VDC Above Span to 35 VDC @ 6mA**

*Zero output is factory set to <1.0% of Full Scale.
*Span output is factory set to <1.0% of Full Scale.
**Temperatures >100°C/212°F supply is limited to 24 VDC.

Electrical Data (Current)

Circuit	2-Wire
Output*	4 to 20 mA
Loop Supply Voltage	24 VDC, (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 24 VDC.

Accessory: Model 299 Dri-Sense Termination Enclosure

Designed to eliminate failure in the field caused by humidity seeping into the transducer through the cable, the Model 299 has a desiccating cover to adsorb moisture and a visible desiccant status indicator that changes from blue (dry) to pink (saturated).

ORDERING INFORMATION

Code all blocks in table.

Example: Part No 5281060PG1M11B3T - For a Model 528 Pressure Transducer, 60 PSI, Gauge Pressure, 1/8-27 NPT Male Pressure Fitting, 4-20 mA Output, 10-6 Bayonet, 0.1% Accuracy

Model	Range	Pressure	Pressure Fitting	Output	Elec. Termination	Accuracy	
5281 = 528	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 000P = -14.7 to 0 PSI 015P = -14.7 to 15 PSI 045P = -14.7 to 45 PSI 085P = -14.7 to 85 PSI 135P = -14.7 to 135 PSI 185P = -14.7 to 185 PSI 285P = -14.7 to 285 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 250B = 250 BAR 400B = 400 BAR 600B = 600 BAR 690B = 690 BAR	G = Gauge A = Absolute* C = Compound* <i>*Compound and absolute ranges available through 300psi only.</i>	1M = 1/8-27 NPT Male G2 = G1/4 Male 2M = 1/4-18 NPT Male J7 = 7/16-20 UNF Male SAE #4 (J1926-2) W1 = Plastic Nose Cone	11 = 4-20mA 2B = 0-5 VDC 2C = 0-10 VDC 24 = 0.5 - 5.5 VDC 27 = 1 - 5 VDC 28 = 1 - 6 VDC 2R = 1-11 VDC	B3 = 10-6 Bayonet Connector VA = IP66 Weatherproof Cable UA = Molded Immersible Cable (up to 200 Meters [656ft.])	T = 0.1% FS

Please contact factory for configurations not shown.