

## Model 567

### Industrial Pressure Transducer

Gauge and Absolute Pressure



Setra's Model 567 high performance pressure transducer offers customer accessible down-ranging capabilities, making this unit ideal for high overpressure applications. The 5:1 turndown is easily accessed via a switch and potentiometer.

The Model 567'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 excellent reliability with less than 0.15% 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 567 offers 0.15% FS accuracy, compensated temperature range of 15°F to +120°F (-10°C to 50°C) for 0.5% of maximum span, and -4°F to 176°F (-20 to 80°C) for 1% of maximum span. Operating media temperatures as low as -22°F to 212°F (-20°C to 50°C), and gauge, and absolute pressure ranges from 15 psi up to 6000 psi.

The Model 567'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 567 enclosure, which is fabricated in 321 SS, 17-4 PH SS, and Polyester, this unit is rated for IP40, IP65, 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 diaphragm 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 calibration. 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
- Power Plants
- Heating, Ventilating & Air-Conditioning
- Refrigeration
- Robotics

## Benefits

- Superior Stability Avoids Down Time
- ±0.15% FS Accuracy
- 5:1 Turndown for High Pressure Applications
- IP40, IP65, and IP68 Rated
- Intrinsic Safe Option
- Choice of Enclosure
- Meets CE Conformance Standards

# Model 567 Specifications

## Performance Data

|                                  |   |
|----------------------------------|---|
| Accuracy RSS* (at constant temp) | ±0.15% FS   |
| <b>Thermal Effects**</b>         |   |
| Compensated Range °F (°C)        | +15 to +120 (-10 to +50)  |
| Zero Shift %FS/100°F (100°C)     | 0.25 (0.5)  |
| Span Shift %FS/100°F (100°C)     | 0.25 (0.5)  |
| Compensated Range °F (°C)        | -4 to +176 (-20 to ±80)   |
| Zero Shift %FS/100°F (100°C)     | 0.5 (1.0)   |
| Span Shift %FS/100°F (100°C)     | 0.5 (1.0)   |
| Zero Adjustment                  | ±10% by Potentiometer   |
| Span Adjustment                  | 17% to 100% of Span by Potentiometer/Switches   |
| Acceleration                     | 100g steady acceleration in any direction***  |
| Long-Term Stability              | 0.15% FS/1 year   |
| Proof Pressure                   | 2 x Full Scale<br>(1.5 x FS for 400 Bar, ≥ 5000 psi)  |
| Ranges                           | 0.2 to 4 Bar  |
| Ranges                           | 3.00 to 6000 Psi  |
| Burst Pressure                   | >35 X FS <= 100 Psi (6 Bar)<br>>20 X FS <= 1000 Psi (60 Bar)<br>>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.

\*\*\*0.036% Fs/g for 0.75 Bar (10 PSI) range decreasing logarithmically to 0.0007% FS/g for 400 BAR (6000 PSI) Range.

## Environmental Data

|                               |   |
|-------------------------------|---|
| Temperature                   |   |
| Operating °F (°C)             | for/DIN & 10-6 Bayonet Conn.* -4 to +185 (-20 to +85)<br>for/IP 67 Cable* -4 to +122 (-20 to +50) |
| Process /Media                | -22 to +212 (-30 to 100)  |
| Storage °F (°C)               |   |
| for/DIN & 10-6 Bayonet Conn.* | -4 to +185 (-20 to +85)   |
| for/IP 67 Cable*              | -4 to +122 (-20 to +50)   |
| Process /Media                | -22 to +212 (-30 to 100)  |
| Vibration                     | 35g peak sinusoidal,<br>5 to 2000 Hz  |
| Shock                         | Withstands Free Fall to<br>IEC 68-2-32 Proc 1   |

\*Operating/Storage temperature limits of the connector only.

## Physical Description

|         |  |
|---------|--|
| Case    | 321 Stainless Steel, 17-4 PH and Glass Filled Polyester  |
| Ratings | IP40 w/10-6 Bayonet Gauge Conn.<br>IP65 w/10-6 Bayonet, Absolute Unit<br>IP65 w/DIN #43650 Conn.<br>IP68 w/ IP67 Molded Immersible Cable |

## Physical Description (Cont'd)

|                       |   |
|-----------------------|---|
| Wetted Parts          | 17-4 PH Stainless Steel                                 |
| Electrical Connection | 10-6 Bayonet, Large DIN Conn.,<br>IP67 Immersible Cable |
| Pressure Fitting      | See Ordering Information Below                          |
| Weight                | 8.8oz (250g)  |

## Electrical Data (Current)

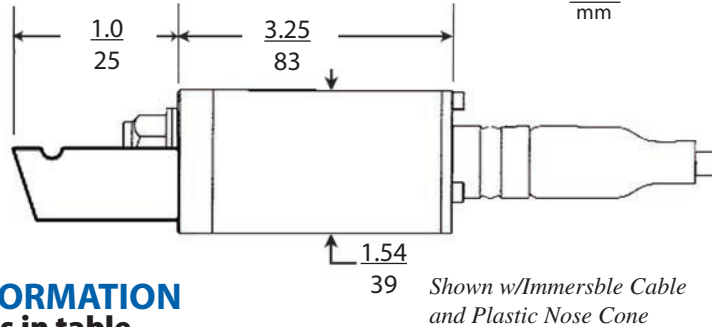
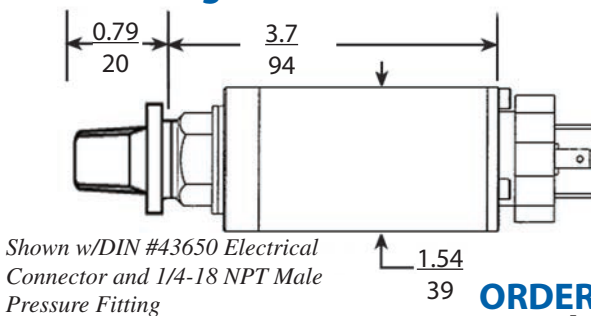
|   |                  |
|---|------------------|
| Circuit                                     | 2-Wire           |
| Output*                                     | 4 to 20 mA       |
| Loop Supply Voltage                         | 8 to 40 VDC      |
| Maximum Loop Resistance                     | (Vs-8) x 50 Ohms |
| *Zero output factory set to within ±0.16 mA |                  |
| *Span output factory set to within ±0.16 mA |                  |

## Pressure Media

Liquids or gases compatible with 321 Stainless Steel, 17-4 PH Stainless Steel, and Glass Filled Polyester

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

## Outline Drawings



## ORDERING INFORMATION

Code all blocks in table.

**Example:** Part No 5671030PGG311B3S - For a Model 567 Pressure Transducer, 30 PSI, Gauge Pressure, G 1/4 Female Pressure Fitting, 4-20 mA, Undamped Output, 10-6 Bayonet, 0.15% Accuracy

| Model      | Range   | Pressure   | Pressure Fitting                                    | Output   | Elec. Termination   | Accuracy  | Option  |
|------------|---|--|---|--|---|---|---|
| 5671 = 567 | 015P = 15 PSI<br>030P = 30 PSI<br>060P = 60 PSI<br>100P = 100 PSI<br>150P = 150 PSI<br>200P = 200 PSI<br>300P = 300 PSI<br>500P = 500 PSI<br>600P = 600 PSI<br>10CP = 1000 PSI<br>15CP = 1500 PSI<br>30CP = 3000 PSI<br>40CP = 4000 PSI<br>50CP = 5000 PSI<br>60CP = 6000 PSI | 001B = 1 BAR<br>0R6B = 1.6 BAR<br>2R5B = 2.5 BAR<br>004B = 4 BAR<br>006B = 6 BAR<br>010B = 10 BAR<br>016B = 16 BAR<br>025B = 25 BAR<br>040B = 40 BAR<br>060B = 60 BAR<br>100B = 100 BAR<br>160B = 160 BAR<br>250B = 250 BAR<br>400B = 400 BAR<br>500M = 500 Millibar/hPa | G = Gauge<br>A = Absolute<br>(15 PSI up to 300 PSI) | J7 = 7/16-20 UNF Male<br>SAE #4 (J1926-2)<br>G3 = G 1/4 Female<br>G4 = G1/2 Male<br>2M = 1/4-18 NPT Male<br>4M = 1/2-14 NPT Male | 11 = 4 to 20 mA, Undamped<br>1U = 4 to 20 mA, Damped<br>3 Second Response | B3 = 10-6 Bayonet Connector<br>E2 = Large DIN #43650 Connector w/Mating Plug<br>UA = Molded Immersible Cable (Up to 200 Meters [656 ft.]) | S = 0.15% FS<br>B = Intrinsic Safe, Zener*<br>G = Intrinsic Safe, Galvanic*<br>*CENELEC approved intrinsically safe EEXIA IIC T4. |

**Immersible Sensors**  
W1 = Plastic Nose Cone  
W2 = Stainless Steel Nose Cone Sink Weight  
W3 = Plastic Nose Cone w/Restrictor

**Please contact factory for configurations not shown.**

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