Model 524 Slimline Immersible Pressure Transducers

Gauge Pressure



etra System's Model 524 new slim-line, fully immersible pressure transducers are ideal for industrial and residential water level applications that require exceptional long-term stability, immersibility, and high accuracy.

Immersible to 200mwg, the Model 524 is rated for IP68 operation. Its custom hermetic header is triple sealed and guaranteed to eliminate the potential of water intrusion in the transducer even if the cable sheath is damaged.

All wetted parts are constructed of corrosion resistant 316 Stainless Steel, Polyurethane, and Acetal, which makes the sensor resistant to the effects of condensation caused by a high humidity environment, assuring long-term stability and service.

The Model 524 offers 0.25% FS accuracy, compensated temperature range of -15°F to +120°F (-10°C to 50°C), operating temperatures as low as -40°F to 180°F (-40°C to 80°C), and gauge pressure ranges from 33 ft.WG (10m WG) up to 656 ft.WG (200m WG).

The Model 524'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

Micro-Electro-Mechanical Systems (MEMS) brings together silicon-based microelectronics with micromachining technology. The electronics are fabricated using integrated circuit process sequences (e.g., CMOS, Bipolar, or BICMOS process,) and mechanical elements, such as strain gauge sensors are fabricated using compatible micromachining processes that etch away part of the silicon wafer or add new layers to form the mechanical and electromechanical devices, providing a complete system-on-a chip.

Applications

- Ground Water Table Levels
- Liquid Level
- Industrial and Municipal Wells

Benefits

- Superior Stability Avoids Down Time
- Small 3/4 inch Diameter FootPrint
- ±0.25% FS Accuracy
- Millivolt, Voltage, or Current Outputs
- Less than 10ms Switch On/Setting Period
- Triple Sealed to ensure Long-Term Immersibility
- IP68 Rated
- Meets **C** Conformance Standards

When it comes to a product to rely on - choose the Model 524. When it comes to a company to trust - choose Setra.



Performance Data

Accuracy RSS* (at constant temp) $\pm 0.25\%$ Full Scale

Thermal Effects^{*}

Compensated Range $\mathcal{F}(\mathcal{C})$ -15 to +120(-10 to +50)

Thermal Error

 $\begin{array}{ll} \text{(32°to 122} \text{ F/O to 50°C)} & \text{0.5\% Typical} \\ \text{Long-Term Stability} & \text{0.2\% FS/Year} \end{array}$

Proof Pressure 1.5 x FS Nominal Range

Burst Pressure 3 x FS
Response Time <10 ms
*RSS of Non-Linearity, Non-Repeatability and Hysteresis.

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

this datum.

Environmental Data

Temperature

Operating $^{\circ}$ $^{\circ}$

5 to 2000 Hz

Shock Withstands freefall to IEC 68-2-32

Procedure 1

Model 524 Specifications

Electrical Data (Millivolt)

Circuit 4 - Wire (+ Exc. - Out, + Out, - Exc) Excitation 10 VDC (15 VDC Max.) Regulated

Output* $100 \text{ mV} \pm 1 \text{ mV}$ Bridge Resistance 3K5 + 20% @ 25%*Zero output is factory set to 1.0% of Full Scale.

Electrical Data (Voltage)

Circuit 3 - Wire (Exc, Out, Com)
Excitation 13 to 28VDC
Output 0 to 10VDC
Load Resistance (FS output/2) Kohms

Approximately 6 mA @ 8VDC

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

Current Consumption

Electrical Data (Current)

 Circuit
 2-Wire

 Output*
 4 to 20 mA**

 Loop Supply Voltage
 24 VDC, (8-28 VDC)

 Maximum Loop Resistance
 (Vs-7) x 50 Ohms

Physical Description

Case 316 Stainless Steel Ratings IP68 to 200m WG

Wetted Parts 316 Stainless Steel, Polyurethane, Acetal

Electrical Connection Polyurethane Cable

Pressure Fitting G1/4" AT Fitting, Fitted with Nose Cone

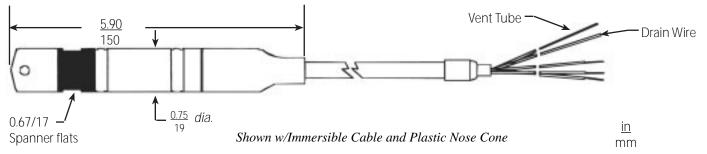
Weight 3.5oz (100g)

Pressure Media

Liquids or gases compatible with 316 Stainless Steel, Polyurethane, and Acetal

Specifications subject to change without notice.

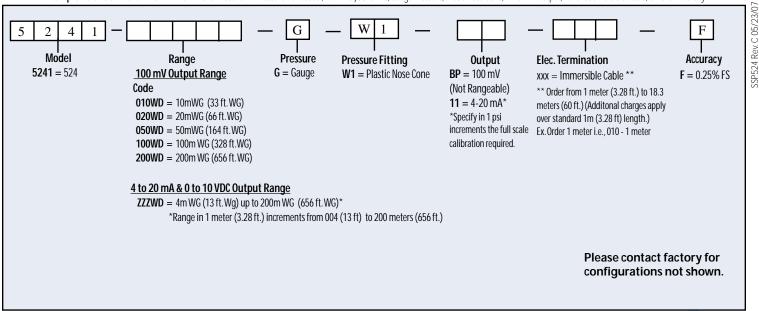
Outline Drawings



ORDERING INFORMATION

Code all blocks in table.

.Example: Part No 5241010WDG1M1120F - For a Model 524 Pressure Transducer, 10mWG) 33 ft.WG, Gauge Pressure, Platic Nose Cone, 4-20 mA Output, 20 ft. Submersible Cable, 0.25% Accuracy



^{*}Operating temperature limits of the electronics only.

^{*}Span output is factory set 1.0% of Full Scale.

^{*}Zero output factory set to within ±0.16 mA. *Span output factory set to within ±0.16 mA.