

## Model 524

### Slimline Immersible Pressure Transducers

Gauge Pressure



Setra 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 NEMA 6/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
- NEMA 4/IP68 Rated
- Meets CE 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.*



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

# setra

800-257-3872

# Model 524 Specifications

## Performance Data

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

### Thermal Effects\*\*

Compensated Range °F (°C) -15 to +120 (-10 to +50)

Thermal Error  
(32° to 122°F/0 to 50°C) 0.5% Typical

Long-Term Stability 0.2% FS/Year

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\* °F (°C) -40 to +180 (-40 to +80)

Storage °F (°C) -40 to +180 (-40 to +80)

Vibration 35g Peak to Peak Sinusoidal,  
5 to 2000 Hz

Shock Withstands freefall to IEC 68-2-32  
Procedure 1

\*Operating temperature limits of the electronics only.

## Electrical Data (Millivolt)

Circuit 4 -Wire (+Exc. -Out, +Out, -Exc)

Excitation 10VDC (15VDC Max.) Regulated

Output\* 100 mV  $\pm 1$  mV

Bridge Resistance 3K5 + 20% @ 25°C

\*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 13 to 28VDC

Output\* 0 to 10VDC

Load Resistance (FS output/2) Kohms

Current Consumption 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.

## Electrical Data (Current)

Circuit 2-Wire

Output\* 4 to 20 mA\*\*

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

Maximum Loop Resistance (Vs-7) x 50 Ohms

\*Zero output factory set to within  $\pm 0.16$  mA.

\*Span output factory set to within  $\pm 0.16$  mA.

## 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

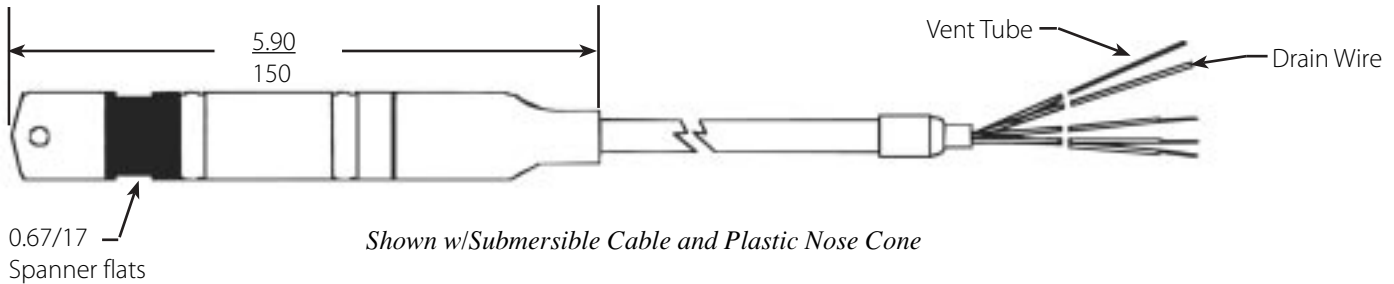
Weight 3.5oz (100g)

## 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 5241010WGD1M1120F - For a Model 524 Pressure Transducer, 10mWG (33 ft. WG, Gauge Pressure, Plastic Nose Cone, 4-20 mA Output, 20 ft. Submersible Cable, 0.25% Accuracy

<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> <p><b>Model</b> 5241 = 524</p>	<div style="border: 1px solid black; width: 80px; height: 20px; margin: 0 auto;"></div> <p><b>Range*</b> <b>100 mV Output Range</b> 010WD = 10mWG (33 ft. WG) 020WD = 20mWG (66 ft. WG) 050WD = 50mWG (164 ft. WG) 100WD = 100m WG (328 ft. WG) 200WD = 200m WG (656 ft. WG) *Range in 1 meter (3.28 ft.) increments</p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">G</div> <p><b>Pressure</b> G = Gauge</p>	<div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <p><b>Pressure Fitting</b> WI = Plastic Nose Cone</p>	<div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <p><b>Output</b> BP = 100 mV 11 = 4-20 mA 2C = 0-10 VDC</p>	<div style="border: 1px solid black; width: 40px; height: 30px; margin: 0 auto;"></div> <p><b>Elec. Termination</b> xxx = Submersible Cable ** ** Order from 1 meter (3.28 ft.) to 18.3 meters (60 ft.) (Additional charges apply over standard 1m (3.28 ft.) length.)</p>	<div style="border: 1px solid black; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">A</div> <p><b>Accuracy</b> F = 0.25% FS</p>
<p><b>4 to 20 mA &amp; 0 to 100 VDC Output Range</b> ZZZWD = 4m WG (13 ft. Wg) up to 200m WG (656 ft. WG)* *Range in 1 meter (3.28 ft.) increments from 004 (13 ft) to 200 meters (656 ft.)</p>						
<p><b>Please contact factory for configurations not shown.</b></p>						