

# P250R/P251R

Sealed Industrial Pressure Sensors with Internal Regulator



## Description

The P250R/P251R sealed industrial pressure sensors with internal regulator are based upon Kavlico's oil-filled piezo-resistive (PRT) sensing technology with the latest state-of-the-art ASIC. Rugged by design, these highly reliable sensors have a 304L welded stainless steel housing and isolation diaphragm. They are well suited for a broad range of media including air, fluids, and gases that are stainless steel compatible.

The sensors may be specified with a 0.5 to 4.5 Vdc, 0 to 5 Vdc, or 0 to 10 Vdc regulated output to accommodate the end-use requirement.

The P250R/P251R package design has a wide variety of both electrical and process connector options to suit application-specific requirements. The sensors have an extremely high overpressure capability.

The P250R/P251R sensors deliver a cost-effective solution without compromising on performance or reliability.

## Features

- Regulated Output
- Wet & Dry Media
- Excellent Long Term Stability
- One Million Cycle Life Expectancy
- Welded Stainless Steel Construction
- High Overpressure Capability
- Temperature Compensated
- Superior EMI/RFI Rejection



## Applications

- Refrigerant Control & Recovery
- Pumps & Compressors
- Process Controls
- Water Management
- Autoclaves
- Hydraulic Systems
- Test & Monitoring Equipment

## Standard Full Scale Pressure Ranges

Low Pressure:

**P250R:** 0-6, 0-7, 0-10, 0-16, 0-25, 0-40 and 0-50 BAR

**P251R:** 0-100, 0-150, 0-200, 0-250, 0-300, 0-500 and 0-600 PSI

High Pressure:

**P250R:** 0-100, 0-200, 0-250 and 0-400 BAR

**P251R:** 0-1,500, 0-3,000, 4,000 and 0-5,000 PSI

## Technical Specifications

Note: Performance Specifications with  $5v \pm 0.002$  Vdc supply at 25°C

Pressure Ranges:	0-100 through 0-5,000 PSI Absolute or Sealed Gage 0-6 through 0-400 BAR
Proof Pressure:	2x Full Scale Output (FSO)
Burst Pressure:	258 BAR for Low BAR Pressure Ranges 1,034 BAR for High BAR Pressure Ranges 3,750 PSI for Low PSI Pressure Ranges 15,000 PSI for High PSI Pressure Ranges
Supply Voltage:	9-32 Vdc
Supply Current:	5mA Max.
Output Voltage:	0.5 to 4.5 Vdc, 0 to 5 Vdc, or 0 to 10 Vdc
Linearity Error:	$\pm 0.5\%$ of Span
Total Error Band (TEB):	$\pm 2\%$ of Span (-15°C to +85°C)
Output Impedance:	<100 $\Omega$

Operating Temperature:	-15°C to +125°C
Storage Temperature:	-40°C to +125°C
Service Life:	10 Million Full Scale Pressure Cycles
Vibration:	10G Sinusoidal from 10 to 2000 Hz
Shock:	75 G's ½ Sine Wave
Response Time:	<2mS
Housing Material:	304L Stainless Steel (Main Body)
Weight:	80 grams Max.
Electrical Termination:	See "How to Order"
Pressure Connection:	See "How to Order"
Recommended Interface Impedance:	Min. Load 25 k $\Omega$
Over-Voltage Protection:	36V
Reverse Polarity Protection:	-32V



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### How to Order

P250R		P251R	
Pressure Ranges		Pressure Ranges	
6	0-6 BAR	100	0-100 PSI
7	0-7 BAR	150	0-150 PSI
10	0-10 BAR	200	0-200 PSI
16	0-16 BAR	250	0-250 PSI
25	0-25 BAR	300	0-300 PSI
40	0-40 BAR	500	0-500 PSI
50	0-50 BAR	600	0-600 PSI
100	0-100 BAR	1500	0-1,500 PSI
200	0-200 BAR	3000	0-3,000 PSI
250	0-250 BAR	4000	0-4,000 PSI
400	0-400 BAR	5000	0-5,000 PSI
Reference			
A	Absolute		
S	Gage		
Output Voltage			
1	0.5 to 4.5 Vdc		
2	0 to 5 Vdc		
3	0 to 10 Vdc		
External O-Ring (Supplied for Straight Thread Only)			
B	Nitrile Butadiene (NBR)		
D	Fluorocarbon (FPM)		
X	None		
Pressure Connection (Port)			
1	Stud End 1/4" -18 NPT		
2	Port 7/16-20 UNF-2A with Schrader Deflator (1/4" SAE Female Flare)		
3	Stud End 7/16-20 UNF-2A (SAE J1926-2)		
4	Stud End 1/8-27 NPT		
5	Port G 1/4"		
6	Stud End G 1/4"		
7	Stud End M10x1		
8	Stud End M12x1.5		
9	Stud End M14x1.5		
10	Port M10x1.25 with Schrader Deflator		
Built-in Electrical Connector			
A	Packard Connector with Mating Connector and 35cm Leads		
C	Packard Connector		
D	M12 with Mating Connector, Straight		
E	M12 with Mating Connector, Right Angle		
F	M12 Connector Kit, Right Angle, w/o Wires		
G	M12 Connector Kit, Straight, w/ Wires		
H	M12 without Mating Connector		
J	9.4mm, DIN EN 175301-803 Micro-mini with Mating Connector		
K	9.4mm, DIN EN 175301-803 Micro-mini without Mating Connector		
L	18mm, DIN EN 175301-803 w/ Mating Connector		
M	18mm, DIN EN 175301-803		
N	2.5 Meter Cable Connector Assy, 3 Lead Wires, 18 AWG		

P250R 400 A 1 B 1 A

Example: P250R-400A-1B1A

Contact Kavlico for accuracy options, custom packaging, alternative pressure ranges, pressure connections or other OEM or application specific requirements.

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Kavlico warrants that its products will be free from defective materials and workmanship for a period of one (1) year from date of delivery to the original purchaser and that its products will conform to Kavlico's specifications or standards. Any product found to be defective will be replaced or repaired at the sole option of Kavlico.

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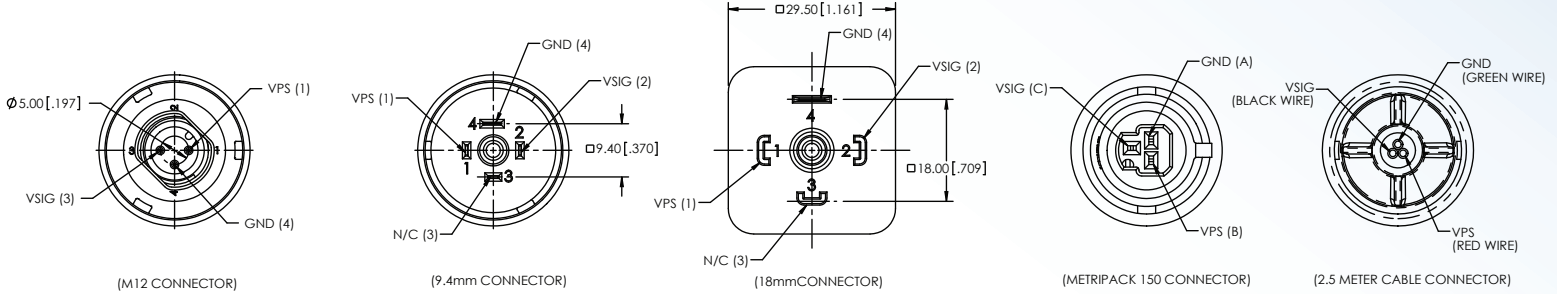
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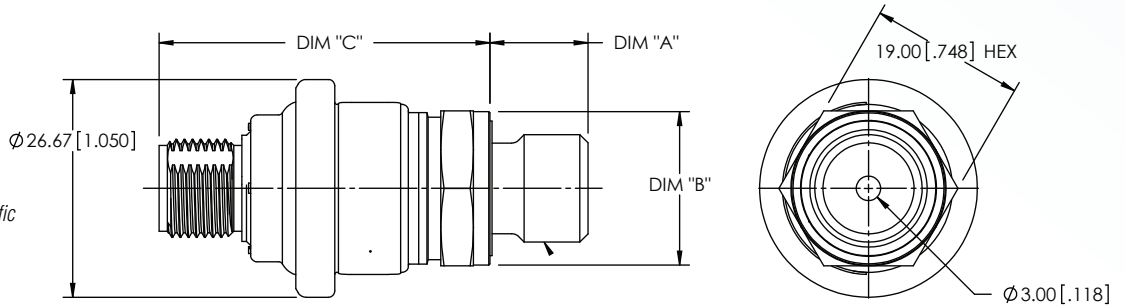
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### Outline Drawings



Dimension "A" = 15.8 mm (Max)  
 Dimension "B" = 50.4 mm (Max)  
 Dimension "C" = 18.8 mm  
 (Please consult factory for dimensions of specific configurations.)



LOW PRESSURE, M12 CONNECTOR SHOWN

### Mating Connectors *(Mating Connector Kits not Shown)*

