

P158

Refrigeration

Pressure Transducers



Typical Applications

- High and Low Side Pressure Measurements in Refrigeration Systems
- Product Refrigeration
- Refrigerant Recovery
- Transport Refrigeration
- Environmental Test Equipment

Standard Full Scale Pressure Ranges

0-100, 150, 300, 400, 500 and 750 PSIA, PSIS

Features

- SAE female Process Connection with Built-in Schrader Deflator
- Linear Amplified Output
- Temperature Compensated
- Superior Long Term Stability
- Excellent Repeatability/Hysteresis
- EMI/RFI Rejection
- Low Power Consumption
- Ten Million Cycle Life Expectancy
- Outstanding Shock & Vibration Performance
- Over Voltage, Reverse Polarity and Short Circuit Protection

Description

The model P158 is based on Kavlico's ceramic capacitive technology with a custom ASIC. The Brass housing surrounds a pressure transducer designed specifically for refrigeration applications. It can endure the high vibration, broad temperature ranges and humidity conditions found in refrigeration systems while withstanding high overpressures and pressure pulsations without damage or degradation.

The P158 package has a built-in Metri-Pack 150, electrical connector and supports male and female process connections. The P158 is offered with seal materials that are suitable for many of the latest refrigerants such as R134a, R22, R123, R12, including many of the proprietary blends, and associated lubricants.

Technical Specifications

Note: Performance Specifications with $5\text{V} \pm 0.002\text{Vdc}$ supply at 25°C

Pressure Ranges:	0 – 100 PSI through 0 – 1,000 PSI Absolute or Sealed Gage
Proof Pressure:	3x (FSO) (100 through 300 PSI) 2x (FSO) (400 through 750 PSI)
Burst Pressure:	5x (100 through 300 PSI) 2250 PSI (400 through 750 PSI)
Supply Voltage:	$5.0 \pm .5\text{V}$
Supply Current:	5 mA (Max)
Linearity Error:	$\pm 0.5\%$ of Full Span Max.
Response Time:	15ms Max to 63% of F.S. Pressure with Step Change on Input
Output Voltage	
Zero/Null Pressure:	$0.50 \pm 0.08\text{Vdc}$
Full Pressure:	$4.50 \pm 0.08\text{Vdc}$
Ratiometricity:	$\pm 0.51\%$ of Span
Total Error Band:	2.0% of Span (-20°C to $+100^\circ\text{C}$)
Output Impedance:	$< 100\ \Omega$
Operating Temperature:	-30°C to $+100^\circ\text{C}$
Storage Temperature:	-40°C to $+135^\circ\text{C}$
Service Life:	10 Million Full Pressure Cycles
Vibration:	10G's P-P Sinusoidal, from 10-2000 Hz
Ingress Protection:	IP67
Shock:	75 G's $\frac{1}{2}$ Sine Wave
Stability:	$\pm 0.5\%$ of Full Span over 1-Year
Weight:	100 grams (Max)
Electrical Termination:	Packard Electric Metri-Pack 150 Series
Pressure Connection:	See "How to Order"
Output Load:	$> 25\text{k}\ \Omega$
Over-Voltage Protection:	16 Vdc
Reverse Polarity Protection:	-5 Vdc
Main Housing Material:	CA3600 Brass



Before installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non-compliance can result in serious injury and/or damage to the equipment.

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How to Order

P158 Pressure Transducer

Pressure Range

100	0 - 100 PSI
150	0 - 150 PSI
300	0 - 300 PSI
400	0 - 400 PSI
500	0 - 500 PSI
750	0 - 750 PSI

Reference

A	Absolute
S	Sealed Gage

Seal Material

C	Neoprene	-40 to + 125° C
F	Ethylene Propylene	-40 to + 121° C
H	HNBR	-30 to + 135° C

Pressure Connection

1	1/4 - 18 NPT (External Threads)
2	1/4 SAE Female Flare w/Schrader Deflator (7/16 - 20 UNF Internal Threads)
4	1/8 - 27 NPT

Electrical Connection

A	With Mating Connector, w/12", 18 AWG Leads
C	Without Mating Connector

P158 - 500 - S - F - 1 - A

Example: P158 - 500 - S - F - 1 - A

Description: P158 Pressure Transducer, 0 - 500 PSIS (Sealed Gage), with Ethylene Propylene Seal Material, 1/4 - 18 NPT Pressure Connection, and Mating Connector

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