

P08 Series

Miniature Pressure Transducer

XRI's P08 series pressure transducer is a miniature, multi-function, high-precision pressure sensor, utilizing advanced micro-machined silicon MEMS technology, unique oil-filled sensing capsule, robust EMI and EMD anti-interference design, and stainless steel internal and external parts. All make P08 a pressure sensor with high precision, high reliability, and suitable for a variety of measurement applications. It's small, with selectable pressure range, and with strong over pressure protection capability. The sensor can provide a variety of different electrical output methods. Currently this series offers absolute and sealed gauge measurement modes.

About Us

- *XRI Innovation, Inc. (XRI) is a vertically integrated company aimed at reaching the pinnacle of sensing-with innovative and modern designs and manufacturing technologies.*
- *XRI is committed to offering high-end products with technology innovation, quality control and production efficiency.*
- *Portfolio includes pressure, temperature, flow, position, displacement, rotational speed, gas and others. The products are positioned for high-end applications, especially in aerospace, precision manufacturing, oil and gas and transportation vehicles.*
- *XRI adheres to the principle that company employees as a team are the most valuable asset, and focuses on building a company that values reliability, devotion and innovation.*
- *XRI firmly believes that 'Satisfying Customers' Wants is the Primary Mission of XRI.'*

Specifications

Physical properties

Item	Description
Range ¹	Absolute pressure: 0~70MPa selectable
	Sealed gauge pressure: 0~70MPa selectable
Over Pressure ²	2 x FS ⁵
Burst Pressure ³	3 x FS ⁵
Working Principle	Four arm full Wheatstone bridge MEMS sensor
Sensor Resonant Frequency	> 400KHz

Mechanical Properties

Item	Description
Pressure Connection	See configuration guide
Vibration Sensitivity	< 1ppmFS ⁵ / g
Vibration Resistance	20g Max 10-2500Hz; Shock <20ms
Exposed Material	316L with 17-4PH SS optional
Test Medium	All fluid compatible with 316L / 17-4PH SS
Weight	15g Max; Cable and connector weight extra

Temperature Properties⁴

Item	Description
Compensated Temperature Range	See configuration guide
Storage Temperature	-55°C~150°C
Accuracy (Combined best Fit Straight Line Nonlinearity, Repeatability and Hysteresis)	±0.1% FS ⁵ (Typical), ±0.5% FS ⁵ Max
Temperature Sensitivity	EB
	Zero Offset: ±1.5% FS ⁵ / 100°C (Typical)
	Full Scale: ±1.5% / 100°C (Typical)
ED	
	Total Error ⁶ : <0.5% FS ⁵ / 100°C

Electrical Performance

Excitation / Output Options	See configuration guide	
Warm Up Time	EB	< 1ms
	ED	< 200ms
Room Temperature Zero Offset	EB	±5mV
	ED	0.5±0.25V
Room temperature full scale output	EB	100±5mV
	ED	4.5±0.25V
Insulation Resistance	≥ 100MΩ @50VDC	
Dielectric Strength	Leakage current ≤ 5mA @50VAC RMS	
Input Impedance	EB	> 5000Ω
Max Input Current	ED	< 25mA
Output Impedance	EB	5000Ω (Typical)
	ED	< 150 Ω
Long Term Stability	Not exceeding 0.1% FS ⁵ / year	
Electrical Connection Options	See configuration guide	

Electrical Interface Description::

Electrical connector	Wire color	Function	
		EB	ED
E8	Red	Vin+	Vin+
	Green	Vout+	Vout+
	White	Vout-	
	Black	Vin-	Vin-

1:Also offers composite ranges such as from 5-100kPa Absolute Pressure .

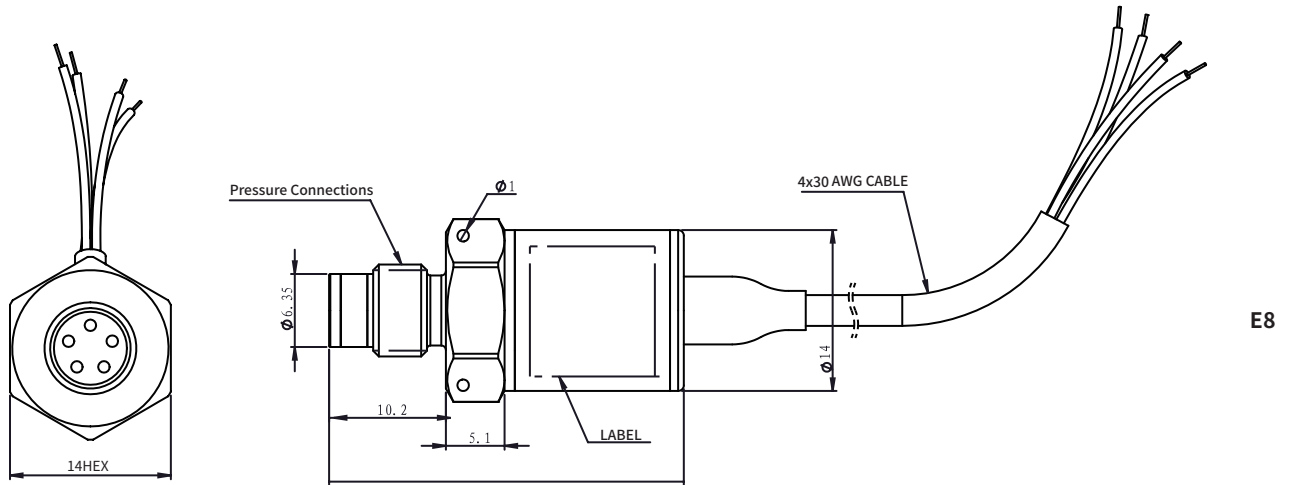
2: Pressure exposure not exceeding proof pressure does not affect transducer performance .

3: Burst Pressure is a safety upper limit. Over this value transducer may be permanently damaged .

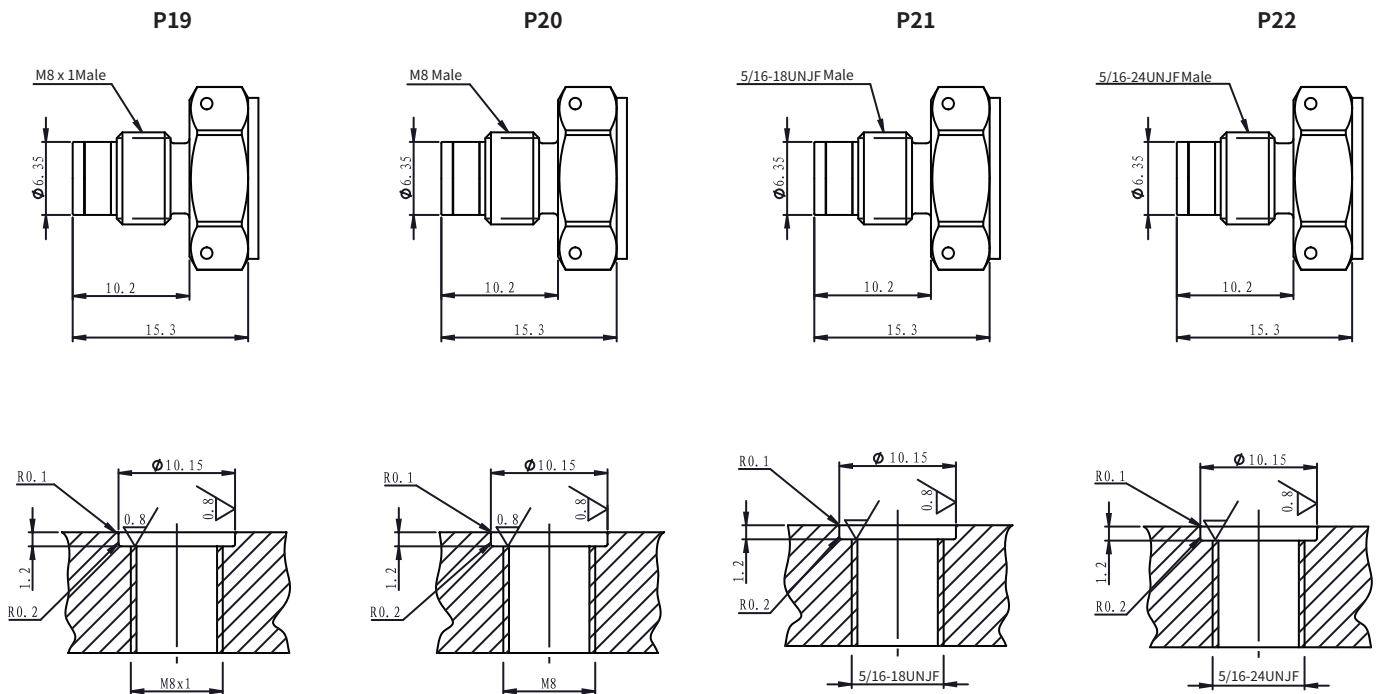
4: Temperature effects are related to sensor accuracy variations within the compensation temperature range.

5: FS= Fullscale

Outline Drawing (mm[inch]):



Pressure Connections & Installation Drawing:



O-RING Recommendation: $\varnothing 6.07 \times 1.63 \text{mm}$

INSTALLATION TORQUE: Pressure range $0-35 \text{MPa}$: 10 Nm

Pressure range >math>0-35 \text{MPa}</math>: 22 Nm

Configuration Guide

Base Model

P08

Electrical Properties

EB 0~100mV output, 8~16V supply, 4-wire, high-frequency response, output independent of supply voltage

ED 0.5~4.5V output, 8~32V power supply, high precision digital compensation, 3-wire

Electrical Connector

E8 4 conductor 30AWG Shielded Cable with Teflon Insulation (1m length)

Other choices available upon request

Pressure Connections

P19 M8X1 Male

P20 M8 Male

P21 5/16-18 UNJC Male

P22 5/16-24 UNJF Male

Other choices available upon request

Temperature Compensation

TA 25°C~80°C

TB -20°C~125°C

TC -40°C~125°C

(Full Scale Pressure Range) Pressure types

(0-70)MPa A Absolute

(0-70)MPa S Sealed Gage

Special requests

S Details in purchase order

Example: P08-EB-E8 -P19-TA -(0-20)MPa A -S

