MSP-400
EMI/RFI Protected Stainless Steel Isolated Pressure Transducer

ISO 9002

- **Low Cost OEM**
- **100% Leak Proof**

Features

One-piece Stainless Steel Construction
Ranges up to 10,000 PSI or 700 BAR
Amplified Outputs
Excellent Accuracy
Wide Operating Temperature Range

Applications

Pumps and Compressors
Hydraulic/Pneumatic Systems
Off Road
Energy and Water Management
Pressure Instrumentation
Refrigeration Equipment
Agriculture Equipment
Train Braking Systems

- No Leaks
- No Welds
- No "O" Rings
- No Silicone Oil

UL LISTED   **CE**

Description

The MSP series pressure transducers set a new price-performance standard for low cost, high volume, commercial and industrial applications. This series is suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam, and mildly corrosive fluids or gases.

The transducer pressure cavity is machined from a solid piece of 17-4 PH stainless steel. The standard version includes a $1/4$ NPT pipe thread allowing a leak-proof, all metal sealed system. There are no o-rings, welds or organics exposed to the pressure media. The durability is excellent.

Measurement Specialties proprietary Microfused technology, derived from demanding aerospace applications, employs micromachined silicon piezoresistive strain gages, fused with high temperature glass to a stainless steel diaphragm. This approach achieves media compatibility simply and elegantly providing an exceptionally stable sensor without the p-n junctions of conventional micromachined sensors.

This product is geared to the OEM customer using medium to high volumes. The standard version is suitable for many applications, but the dedicated design team at our Transducer Engineering Center stands ready to provide a semi-custom design where the volume and application warrants.

Performance at 77°F (25°C):

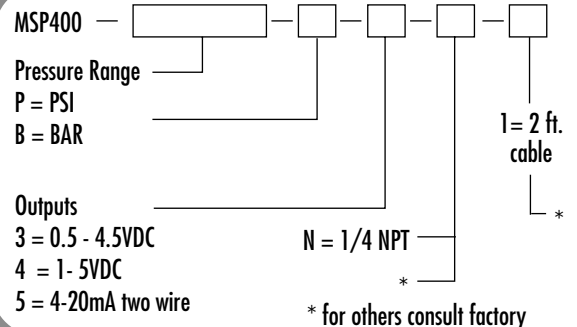|		
Pressure range	0 to 100, 250, 500, 1000, 2500, 5000, 10000 PSI (consult factory for compound ranges) (0 to 7, 17, 35, 70, 175, 350, 700 BAR)	
Accuracy (combined linearity, hysteresis and repeatability)	± .5% of FS Span (for higher accuracy consult factory)	
Media compatibility	17-4 PH stainless steel (for other material consult factory)	
Pressure ports	1/4" NPT (for other ports consult factory)	
Pressure cycles	$>10^8$ full pressure cycles	
Pressure overload	2X rated pressure	
Burst pressure	5X or 20000PSI whichever is less	
Long term stability (1 year)	± 0.25% FS Span (typical)	

Electrical:

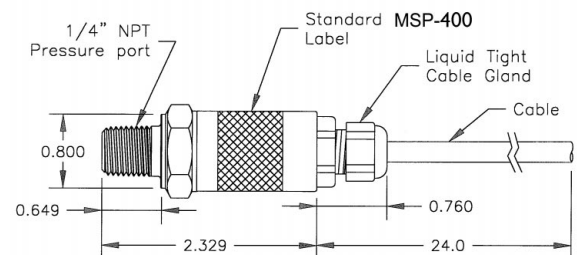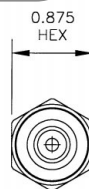|		
Supply voltage	5VDC	10-30VDC
Supply current	<10mA	<15mA
Outputs		1-5VDC, fixed (4)
	0.5 - 4.5VDC, ratiometric to supply (3)	4-20mA two wire (5)
Interface	2 ft PVC jacketed cable (for other options consult factory)	
Zero offset	± 2% of FS Span (for tighter tolerances consult factory)	
Span tolerance	± 2% of FS Span (for tighter tolerances consult factory)	
Output load	5K Ohm (min) for high level voltage	
	0 Ohms @ 10V (1100 Ohms @ 32V) for 4-20mA	
Noise	< 2mVRMS	
Bandwidth (-3dB)	DC to 1KHz (Typical)	

ENVIRONMENTAL

Operating temperature range	-40° to 185°F (-40 to 85°C), (For other temperature ranges consult factory)
Compensated temperature range	30 to 158°F (0 to 70°C)
Zero thermal error	< ± 1.5% of FS Span
Span thermal error	< ± 1.5% of FS Span
Storage temperature range	-40 to 212°F (-40 to 100°C)
Shock	50g, 11msec half sine shock per MIL standard 202F, method 213B, condition A
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514.2-2, curve L
EMI/RFI Immunity	EN 50081-2 EN 50082-2 (10V/M, 26-1000MHz) EN 61326 (Effective July 1, 2001)

ORDERING

MSP400 — ☐ — ☐ — ☐ — ☐

Pressure Range
P = PSI
B = BAR

Outputs
3 = 0.5 - 4.5VDC
4 = 1- 5VDC
5 = 4-20mA two wire

N = 1/4 NPT

1= 2 ft. cable

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* for others consult factory

Electrical Connections:

Outputs:	3/4		5	
	Red	+Supply	Red	+Supply
	Black	Ground	Black	Output
	White	Output		

0.875 HEX

1/4" NPT Pressure port

Standard Label MSP-400

Liquid Tight Cable Gland

Cable

0.800

0.649

0.760

2.329

24.0

DIMENSIONS IN INCHES AND ARE REFERENCE ONLY.

MEASUREMENT *SPECIALTIES*