

MSP 300

Stainless Steel Isolated Pressure Transducer



Low Cost OEM; 100% Leak Proof

No "O" Rings, No Silicon Oil, No Welds

The MSP 300 series pressure transducers from the Microfused™ line of MSI Sensors, a division of Measurement Specialties Inc., 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.

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.

MSI Sensors 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 while 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.



FEATURES

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

APPLICATIONS

- ◆ Pumps and Compressors
- ◆ Hydraulic/Pneumatic Systems
- ◆ Automotive Test Systems
- ◆ Energy and Water Management
- ◆ Pressure Instrumentation
- ◆ Refrigeration - Freon and Ammonia Based
- ◆ Agriculture - Sprayers and Dusters

Environmental Performance

Operating temperature range	-4 to 185°F (-20 to 85°C), (For other temperature ranges consult factory)
Compensated temperature range	30 to 130°F (0 to 55°C)
Zero thermal error	<±2% of FS
Span thermal error	<±2% of FS
Storage temperature range	-40 to 185°F (-40 to 85°C)
Shock	50g, 11msec half sine shock per MIL standard 202F, method 213 B, condition A
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514.2-2, curve L



Schaevitz
IC Sensors
Microfused
Piezo Film

mechanical specifications

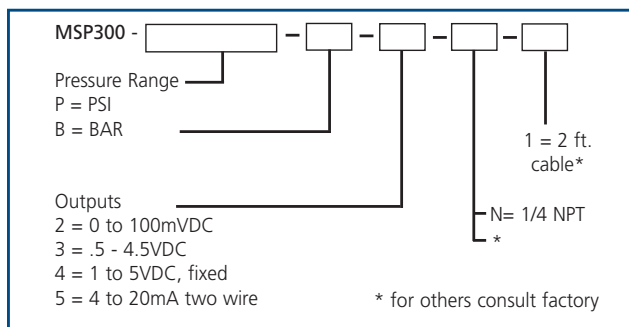
Performance at 77° F (25° C)

Pressure range	0 to 100, 250, 500, 1000, 2500, 5000, 10000 PSI (0 to 7, 17, 35, 70, 175, 350, 700 BAR) (For additional ranges consult factory)	
Accuracy (combined linearity, hysteresis and repeatability)	<1% of FS (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 20000 PSI whichever is less	
Long term stability (1 year)	±0.25% FS (Typical)	

Electrical:

Supply voltage	5VDC	10-30VDC
Supply current	<10mA	<15mA
Outputs	0-100mVDC, ratiometric to supply (2)	1-5VDC, fixed (4)
	0.5-4.5VDC, ratiometric to supply (3)	4-20mA, two wire (5)
Interface	2 ft. of PVC jacketed cable (for other options consult factory)	
Zero offset	±3% of FS for 0-100mV/±2% for amplified (for tighter tolerances consult factory)	
Span tolerance	±2% of FS (for tighter tolerances consult factory)	
Output load	1M Ohm for millivolt output/ 5K Ohm min for high level voltage	
	0 Ohms @ 10V (1000 ohms @ 30V) for 4-20mA	
Noise	<2mVRMS - for amplified	
Bandwith (-3dB)	DC to 1KHz - for amplified	

ordering information



Electrical Connections:

Outputs: 2	3/4	5
Red +Supply	Red +Supply	Red +Supply
Black -Supply	Black Ground	Black Return
White -Output	White Output	
Green +Output		

mechanical dimensions

