

MSP-600

New High Accuracy, Digitally Compensated EMI/RFI Protected Stainless Steel Isolated Pressure Transducer

- High Accuracy
- Low Cost OEM
- 100% Leak Proof

Features

High Accuracy
Digitally Compensated
One-piece Stainless Steel Construction
Ranges up to 10,000 PSI or 700 BAR
Amplified Outputs
Wide Operating Temperature Range
Low Pressure Configuration

Applications

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



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.

**NEW
DIGITALLY
COMPENSATED
DESIGN**

SPECIFICATIONS

Performance at 25°C (77°F):

Pressure range 0-25, 50, 75, 100, 250, 500, 1000, 2500, 5000, 7500, 10000 PSI
(0-3, 6, 7, 17, 35, 70, 175, 350, 525, 700 BAR)

Accuracy, % of FS Span (combined linearity, hysteresis and repeatability) $\pm 0.25\%$ BSL, max (per ISA S37.2)

Media compatibility 17-4 PH stainless steel (optional 316L stainless)

Pressure cycles 10 million, minimum

Pressure overload 2 times rated pressure

Burst pressure 4 times full scale or 20,000 PSI, whichever is less

Long term stability (1 year) $\pm 0.25\%$ FS Span (Typical)

Electrical:

Supply voltage 4.75 to 5.25VDC

Supply current <10mA

Output 0.5 to 4.5V, at 5V (3)

Load impedance > 100k Ohms for quoted performance

for 4 - 20mA; $0.05(V_{\text{supply}} - 10)k$ Ohms (maximum)

Bandwidth DC to 1KHz (Typical)

Standard connector options Packard connector - Metri-pack 150, 3 pins

Cable - 24" length

(Additional connectors available upon request)

Non-Ratiometric

10 - 30VDC

<25mA

1 - 5V, three wires (4)

4 - 20mA, two wires (5)

ENVIRONMENTAL

Operating temperature range -40° to 100°C (125°C available, consult factory)

Compensated temperature range -20° to 85°C (125°C available, consult factory)

Total error band (over compensated temperature range) < $\pm 1\%$ of FS (75-10,000 PSI)
< $\pm 1.5\%$ of FS (25-50 PSI)

Storage temperature range -45° to 100°C

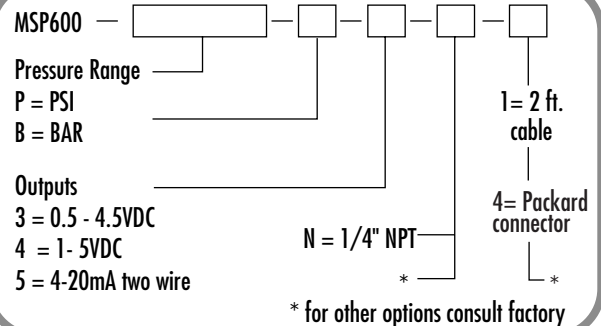
Shock 50g, 11msec half sine shock per MIL standard 202F, method 213B, condition A

Vibration $\pm 20g$ 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)

Humidity 95% RH, condensing

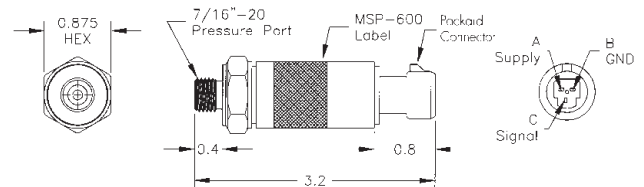
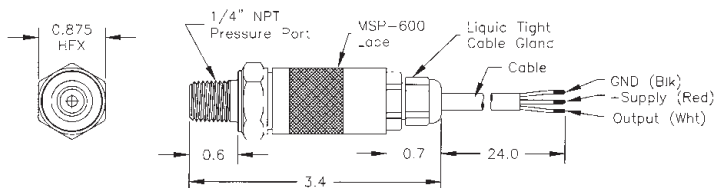
ORDERING



Electrical Connections:

Outputs: 3/4 5

Red +Supply Red +Supply
Black Ground Black Output
White Output



Dimensions In Inches And Are Reference Only

UNITED STATES
Measurement Specialties, Inc.
PO Box 799
Valley Forge, PA 19482
Tel: (610) 650-1500 Fax: (610) 650-1509
Email: sensors@msiusa.com
Web site: www.msiusa.com

P/N: 2001317 10/00

M
MEASUREMENT
SPECIALTIES