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## MSP-600

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

ISO  
9001

- 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.

■ 1% Total  
Error Band

■ No Leaks

■ No Welds

■ No "O" Rings

■ No Silicone Oil

NEW  
DIGITALLY  
COMPENSATED  
DESIGN

## SPECIFICATIONS

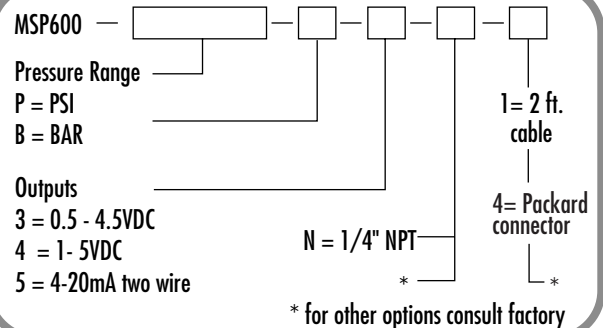
### Performance at 25°C (77°F):

|                                                                                      |                                                                                                                    |                                                    |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Pressure range                                                                       | 0-25, 50, 75, 100, 250, 500, 1000, 2500, 5000, 7500, 10000 PSI<br>(0-3, 6, 7, 17, 35, 70, 175, 350, 525, 700 BAR)  |                                                    |
| <b>Accuracy, % of FS Span<br/>(combined linearity, hysteresis and repeatability)</b> | ± 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)                                                         | ± 0.25% FS Span (Typical)                                                                                          |                                                    |
| <b>Electrical:</b>                                                                   | <b>Ratiometric</b>                                                                                                 | <b>Non-Ratiometric</b>                             |
| Supply voltage                                                                       | 4.75 to 5.25VDC                                                                                                    | 10 - 30VDC                                         |
| Supply current                                                                       | <10mA                                                                                                              | <25mA                                              |
| Output                                                                               | 0.5 to 4.5V, at 5V (3)                                                                                             | 1 - 5V, three wires (4)<br>4 - 20mA, two wires (5) |
| Load impedance                                                                       | > 100k Ohms for quoted performance<br>for 4 - 20mA; 0.05(Vsupply-10)k Ohms (maximum)                               |                                                    |
| Bandwidth                                                                            | DC to 1KHz (Typical)                                                                                               |                                                    |
| Standard connector options                                                           | Packard connector - Metri-pack 150, 3 pins<br>Cable - 24" length<br>(Additional connectors available upon request) |                                                    |

## ENVIRONMENTAL

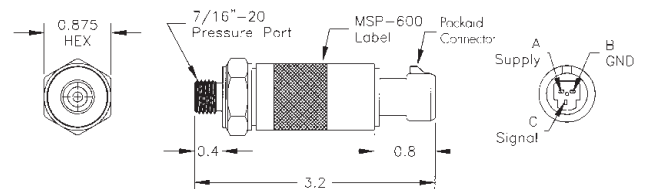
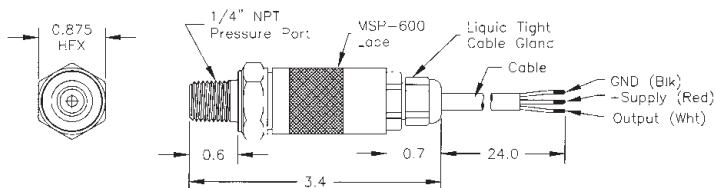
|                                                                  |                                                                                   |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Operating temperature range                                      | -40° to 100°C (125°C available, consult factory)                                  |
| Compensated temperature range                                    | -20° to 85°C (125°C available, consult factory)                                   |
| <b>Total error band<br/>(over compensated temperature range)</b> | < ± 1% of FS (75-10,000 PSI)<br>< ± 1.5% of FS (25-50 PSI)                        |
| Storage temperature range                                        | -45° to 100°C                                                                     |
| Shock                                                            | 50g, 11 msec 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<br>EN 50082-2 (10V/M, 26-1000MHz)<br>EN 61326 (Effective July 1, 2001) |
| Humidity                                                         | 95% RH, condensing                                                                |

## ORDERING



### Electrical Connections:

|                 |            |          |
|-----------------|------------|----------|
| <b>Outputs:</b> | <b>3/4</b> | <b>5</b> |
| Red             | +Supply    | Red      |
| Black           | Ground     | Black    |
| White           | Output     | Output   |



Dimensions In Inches And Are Reference Only

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MEASUREMENT  
SPECIALTIES