# MSP 340 Pressure Transducer

- **Low Cost OEM**
- **100% Leak Proof**
- **No O-Rings**
- **No Silicon Oil**
- **No Welds**

Shown with Packard Connector

## DESCRIPTION

The MSP 340 series pressure transducers from the Microfused™ line of MEAS, 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.

MEAS' 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 while providing an exceptionally stable sensor without the p-n junctions of conventional micromachined sensors.

This product is geared to the OEM customer who uses 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 10k psi or 700 Bar
- mV or Amplified Outputs
- Ultra Compact Construction
- Hermetically Isolated Sensor Technology

## APPLICATIONS

- Pumps and Compressors
- Hydraulic/Pneumatic Systems
- After Market Automotive
- Tank Pressure in Breathing Apparatuses
- Agriculture – Sprayers and Dusters
- Refrigeration – Freon and Ammonia Based

## STANDARD RANGES

| Range | psig | Range | Barg |
|---|---|---|---|
| 0 to 50 | • | 0 to 3 | • |
| 0 to 100 | • | 0 to 7 | • |
| 0 to 300 | • | 0 to 20 | • |
| 0 to 500 | • | 0 to 35 | • |
| 0 to 1k | • | 0 to 70 | • |
| 0 to 3k | • | 0 to 200 | • |
| 0 to 5k | • | 0 to 350 | • |
| 0 to 10k | • | 0 to 700 | • |

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## PERFORMANCE SPECIFICATIONS

**Supply Voltage: 5.0V, Ambient Temperature: 25°C (unless otherwise specified)**

| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|---|---|---|---|---|---|
| Span Setting | -2 | | 2 | %Span | 1 |
| Accuracy (combined non linearity, hysteresis, and repeatability) | -1 | | 1 | %Span | 2 |
| Temperature Error –Zero | -2 | | 2 | %Span | |
| Temperature Error –Span | -2 | | 2 | %Span | |
| Supply Current (0 – 100mV, 0.5 – 4.5V) | | | 10 | mA | |
| Supply Current (1 – 5V) | | | 15 | mA | |
| Long Term Stability (1 year) | 0.25 | | 0.25 | %Span | |
| Output Load | 100 | | | kΩ | |
| Compensated Temperature | 0 | | 55 | °C | |
| Operating Temperature | -20 | | +85 | °C | 3 |
| Storage Temperature | -40 | | +125 | °C | 3 |
| Burst Pressure | 5X | | | Rated | |
| Vibration | ±20 | | | g | 4 |
| Shock (11ms) | 50 | | | g | 5 |
| Pressure Cycles (Zero to Full Scale) | 10 | | | Million | |
| Pressure Overload | 2X | | | Rated | |
| Output Noise | | | 2 | mVRMS | |
| Bandwidth (-3dB) | 1 | | | kHz | |
| Weight | | | | grams | |
| Media Compatibility | All Materials Compatible with 17-4 Stainless Steel | | | | |

**For custom configurations, consult factory.**

**Notes**

1 Ratiometric to supply.
2 Best fit straight line.
3 Maximum temperature range for product with standard cable is -20°C to +105°C.
4 Per MIL-STD-810C, Procedure 514.2, Figure 514.2-2, Curve L.
5 1/2 sine per MIL-STD 202F Method 213B condition A.

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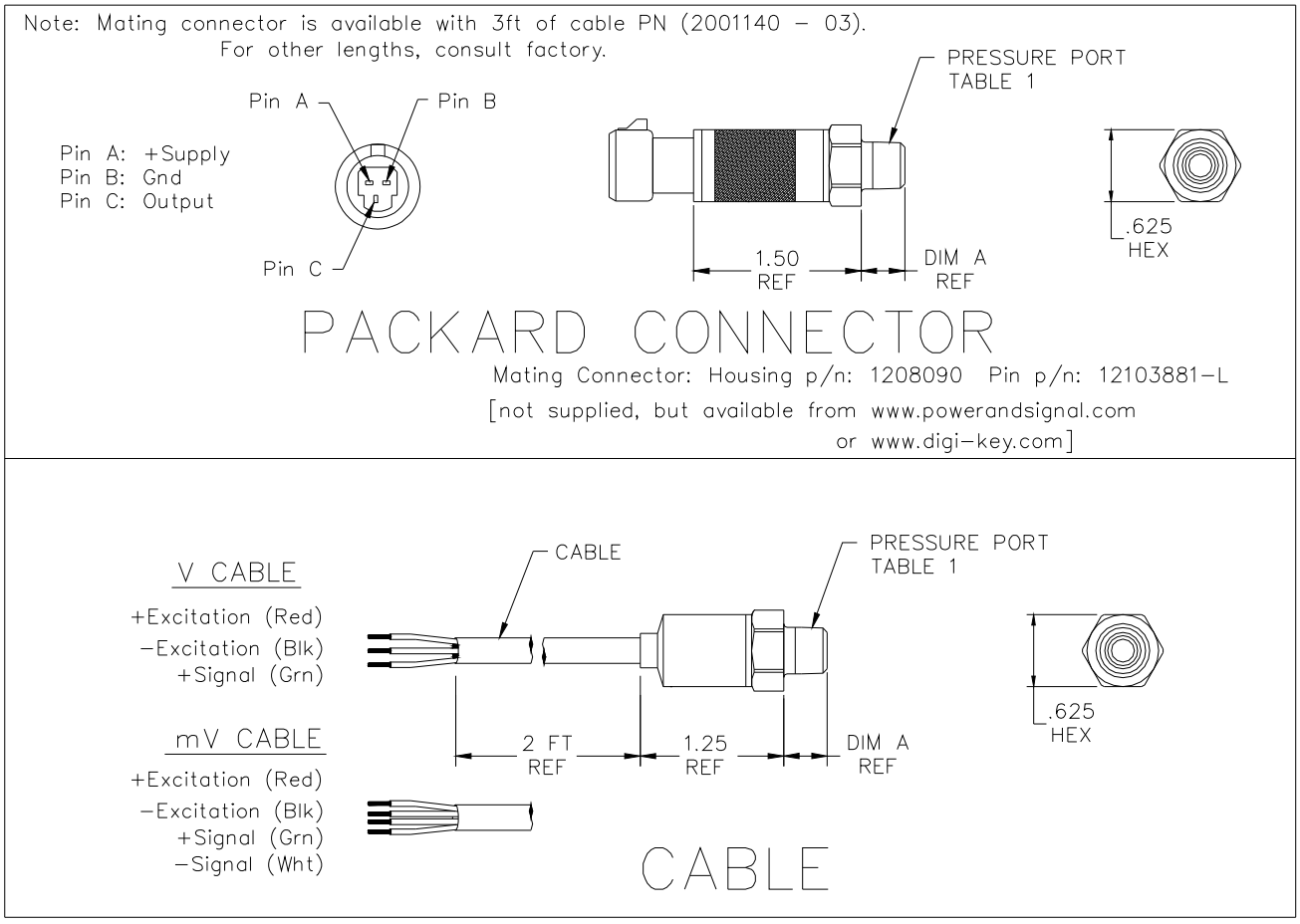
## DIMENSIONS




| TABLE 1 | | |
|---|---|---|
| PRESSURE PORT | | |
| CODE | PORT | DIM A |
| 2 | 1/4–19 BSP | 0.47 [11.94] |
| 3 | 1/8 BSP | TBD [TBD] |
| 4 | 7/16–20UNF MALE O–RING | 0.36 [9.14] |
| 5 | 1/4–18 NPT | 0.64 [16.26] |
| 6 | 1/8–27 NPT | 0.53 [13.46] |

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## OUTPUT OPTIONS

| | | Supply(V) | | |
|---|---|---|---|---|
| **Code** | **Output** | **MIN** | **TYP** | **MAX** |
| 2 | 0 – 100 mV (ratiometric) | 2.5 | 5 | 12 |
| 3 | 0.5 – 4.5 V (ratiometric) | 4.75 | 5 | 5.25 |
| 4 | 1 – 5 V | 8 | | 30 |

Packard connector not available with mV output.

Wiring Code

| **Code** | **Output** | **+Supply** | **-Supply** | **+Out** | **-Out** |
|---|---|---|---|---|---|
| 2 | 0 – 100 mV (ratiometric) | Red | Black | Green | White |
| 3 | 0.5 – 4.5 V (ratiometric) | Red/Pin A | Black/Pin B | White/Pin C | N/A |
| 4 | 1 – 5 V | Red/ Pin A | Black/ Pin B | White/Pin C | N/A |

## ORDERING INFORMATION

M3421-000002-050PG

Type (G = Gage)

Units (P = psi, B = Bar)

Pressure Range (050P = 50psi, 01KP = 1000psi, 10KP = 10,000psi)

Pressure Port (2 = 1/4-19BSP [G1/4], 3 = 1/8BSP [G1/8], 4 = 7/16-20UNF, 5 = 1/4-18NPT, 6 = 1/8-27NPT)

Specials (nnnnn = Custom Drawing)

Electrical Connection (1 = 2ft Cable, 4 = Integral Packard)

Output (2 = 0 - 100mV, 3 = .5 - 4.5V ratio, 4 = 1 - 5V)

Model


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