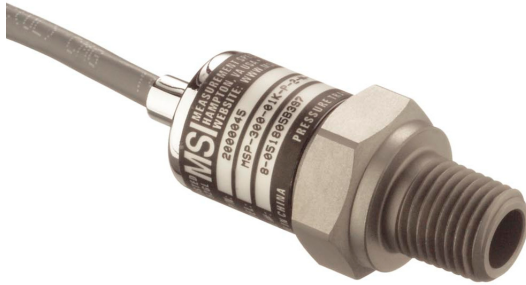


MSP 300 Pressure Transducer



- OEM and End User
- One Piece Pressure Port Construction
- No O-Rings
- No Silicon Oil
- No Welds

DESCRIPTION

The MSP 300 series pressure transducers from the Microfused™ line of MEAS, 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.

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 PN 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
- Excellent Accuracy
- Wide Operating Temperature Range

APPLICATIONS

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

STANDARD RANGES

| Range | psig | Range | Barg |
|-----------|------|----------|------|
| 0 to 100 | • | 0 to 7 | • |
| 0 to 250 | • | 0 to 17 | • |
| 0 to 500 | • | 0 to 35 | • |
| 0 to 1000 | • | 0 to 70 | • |
| 0 to 2500 | • | 0 to 175 | • |
| 0 to 5000 | • | 0 to 350 | • |
| 0 to 10k | • | 0 to 700 | • |

MSP 300 Pressure Transducer

PERFORMANCE SPECIFICATIONS

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

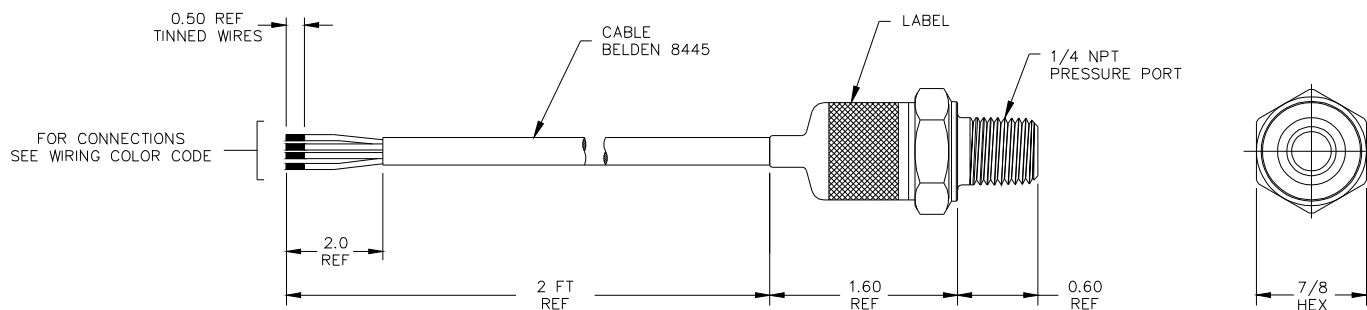
| PARAMETERS | MIN | TYP | MAX | UNITS | NOTES |
|--|--|-------|------|---------|-------|
| Span Setting | -2 | | 2 | %Span | 1 |
| Zero Pressure Output (0 – 100mV) | -3 | | 3 | %Span | 1 |
| Zero Pressure Output (Amplified) | -2 | | 2 | %Span | 1 |
| Accuracy (combined non linearity, hysteresis, and 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 | 3 |
| Pressure Overload | 2X | | | Rated | |
| Pressure Cycles (Zero to Full Scale) | 10 | | | Million | |
| Output Load | | | 1 | MΩ | |
| Compensated Temperature | 0 | | 55 | °C | |
| Operating Temperature | -20 | | +85 | °C | 4 |
| Storage Temperature | -40 | | +125 | °C | 4 |
| Burst Pressure | 5X | | | Rated | |
| Vibration | ±20 | | | g | 5 |
| Shock (11ms) | 50 | | | g | 6 |
| Output Noise | | | 2 | mVRMS | |
| Bandwidth (-3dB) | 1 | | | kHz | |
| Weight | | 82.55 | | 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. Long term stability over a one year period.
4. Maximum temperature range for product with standard cable is -20°C to +105°C.
5. Per MIL-STD-810C, Procedure 514.2, Figure 514.2-2, Curve L.
6. 1/2 sine per MIL-STD 202F Method 213B condition A.

DIMENSIONS



MSP 300 Pressure Transducer

OUTPUT OPTIONS

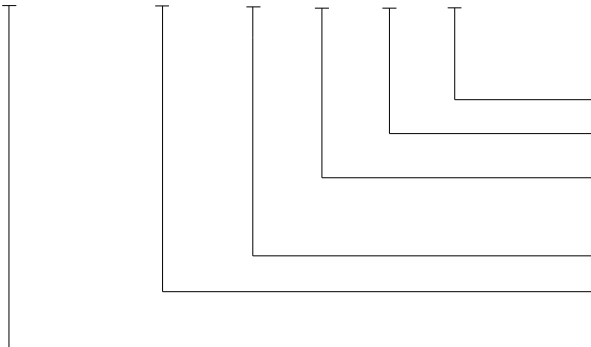
| Code | Output | MIN | Supply (V) | |
|------|---------------------------|------|------------|------|
| | | | TYP | MAX |
| 2 | 0 – 100 mV (ratiometric) | 2.5 | 5 | 12 |
| 3 | 0.5 – 4.5 V (ratiometric) | 4.75 | 5 | 5.25 |
| 4 | 1 – 5 V | 8 | | 30 |
| 5 | 4 – 20 mA | 9 | | 30 |

Wiring Color Code

| Code | Output | +Supply | -Supply | +Out | -Out |
|------|---------------------------|---------|---------|-------|-------|
| 2 | 0 – 100 mV (ratiometric) | Red | Black | Green | White |
| 3 | 0.5 – 4.5 V (ratiometric) | Red | Black | White | N/A |
| 4 | 1 – 5 V | Red | Black | White | N/A |
| 5 | 4 – 20 mA | Red | Black | N/A | N/A |

ORDERING INFORMATION

MSP300 - 100 - P - 2 - N - 1



Connection (1 = 2ft Cable)

Pressure Port (N = 1/4NPT)

Outputs (2 = 0 - 100mVdc, 3 = .5 - 4.5Vdc
4 = 1 - 5Vdc fixed, 5 = 4 - 20mA two wire)

Units (P = psi, B = Bar)

Pressure Range (100 - P = 100psi, 2K5 - P = 2500psi,
05K - P = 5000psi)

Model