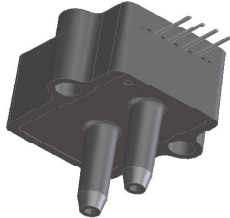


Millivolt Output Medium Pressure Sensors

Prime Grade
Pressure Sensors



Features

- 0 to 0.3 PSI to 0 to 100 PSI Pressure Ranges
- 0.25 % linearity...highest accuracy version
- Temperature Compensated
- Calibrated Zero and Span

Applications

- Medical Instrumentation
- Environmental Controls
- HVAC

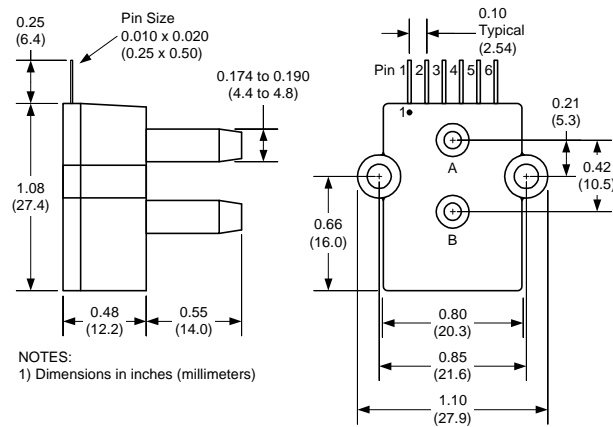
General Description

The Millivolt Output pressure sensors is based upon a proprietary packaging technology to reduce output offset or common mode errors. This model provides a calibrated millivolt output with excellent output offset characteristics. In addition the sensor utilizes a silicon, micromachined, stress concentration enhanced structure to provide a very linear output to measured pressure.

These calibrated and temperature compensated sensors give an accurate and stable output over a wide temperature range. This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like. The PRIME GRADE is the highest accuracy version of the millivolt output pressure sensors.

The output of the device is ratiometric to the supply voltage and operation from any D.C. supply voltage up to +16 V is acceptable.

Physical Dimensions



- pin 1: N/C
- pin 2: +V supply
- pin 3: +Voutput
- pin 4: -Vsupply
- pin 5: -Voutput
- pin 6: N/C

Pressure Sensor Characteristics Maximum Ratings

| | |
|--|---------|
| Supply Voltage VS | 16 Vdc |
| Common-mode pressure | 50 psig |
| Lead Temperature (soldering 2-4 sec.) | 250°C |

Environmental Specifications

| | |
|---------------------------|---------------------------------|
| Temperature Ranges | |
| Compensated | 0 to 70° C |
| Operating | -25 to 85° C |
| Storage | -40 to 125° C |
| Humidity Limits | 0 to 95% RH (non condensing) |

Standard Pressure Ranges

| Part Number | Operating Pressure | Nominal Span | Proof Pressure | Burst Pressure |
|--------------------|--------------------|--------------|----------------|----------------|
| 0.3 PSI-D-PRIME-MV | 0 - 0.3 PSI | 20mV | 5 PSI | 15 PSI |
| 1 PSI-D-PRIME-MV | 0 - 1 PSI | 18mV | 5 PSI | 15 PSI |
| 5 PSI-D-PRIME-MV | 0 - 5 PSI | 60mV | 10 PSI | 30 PSI |
| 15 PSI-D-PRIME-MV | 0 - 15 PSI | 90mV | 60 PSI | 120 PSI |
| 30 PSI-D-PRIME-MV | 0 - 30 PSI | 90mV | 90 PSI | 150 PSI |
| 100 PSI-D-PRIME-MV | 0 - 100 PSI | 100mV | 200 PSI | 250 PSI |
| 15 PSI-A-PRIME-MV | 0 - 15 PSIA | 60mV | 60 PSIA | 120 PSI |

Performance Characteristics for 0.3 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 0.3 | | PSI |
| Output Span, note 5 | 19.8 | 20.0 | 20.2 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.1 | 0.25 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |

Performance Characteristics for 1 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 1.0 | | PSI |
| Output Span, note 5 | 17.82 | 18.0 | 18.18 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.1 | 0.25 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |

Performance Characteristics for 5 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 5.0 | | PSI |
| Output Span, note 5 | 59.4 | 60.0 | 60.6 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.1 | 0.25 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |

Performance Characteristics for 15 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 15.0 | | PSI |
| Output Span, note 5 | 89.1 | 90.0 | 90.9 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.15 | 0.30 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |

Performance Characteristics for 30 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 30.0 | | PSI |
| Output Span, note 5 | 89.1 | 90.0 | 90.9 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.15 | 0.30 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |

Performance Characteristics for 100 PSI-D-PRIME-MV

| Parameter, note 1 | Minimum | Nominal | Maximum | Units |
|---|---------|---------|---------|-------|
| Operating Range, differential pressure | | 100.0 | | PSI |
| Output Span, note 5 | 99 | 100 | 101 | mV |
| Offset Voltage @ zero differential pressure | | | ±0.3 | mV |
| Offset Temperature Shift (0°C-70°C), note 2 | | | ±250 | uV |
| Linearity, hysteresis error, note 4 | | 0.15 | 0.30 | % fs |
| Span Shift (0°C-70°C), note 2 | | | ±1 | % fs |