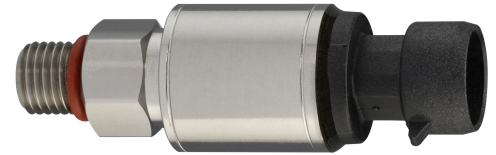




P51 Pressure Sensor

Product Overview

The MediaSensor™ (P51) family of bulk micromachined, absolute, sealed and gauge pressure sensors are for both harsh and benign media with superior accuracy over operating temperature. These compact, robust sensors are well suited for a variety of automotive, industrial and commercial applications.



Typical Applications

- Refrigeration
- HVAC
- Fuel Cells
- Process Controls
- Pumps
- Agriculture
- Hydraulics
- Pneumatics
- Compressors
- Spray Systems
- Flow
- Robotics

Technical Specifications

Maximum Pressure

7,500 PSI

Accuracy

< ± 1.00% FS

Maximum Operating Temp.

125 °C

| Output Type | 0.5 - 4.5 V | 1 - 5 V | 4 - 20 mA |
|--|----------------------|----------------------|----------------------|
| Accuracy 15-50 or 751-5,000 PSI (at 22 °C) | < ± 1.00% FS | < ± 1.00% FS | < ± 1.00% FS |
| Accuracy 51-750 PSI (at 22 °C) | < ± 0.50% FS | < ± 0.50% FS | < ± 0.50% FS |
| Temp Error 15-50 or 751-5,000 PSI (-40 °C to 105 °C) | < ± 1.00% FS | < ± 1.00% FS | < ± 1.00% FS |
| Temp Error 51-750 PSI (-40 °C to 105 °C) | < ± 0.50% FS | < ± 0.50% FS | < ± 0.50% FS |
| Zero Pressure Offset | 0.50 V | 1.0 V | 4.0 mA |
| Full Scale Output (at Pressure FS) | 4.50 V | 5.0 V | 20.0 mA |
| Operating Temperature | -40 °C to 125 °C | -40 °C to 125 °C | -40 °C to 125 °C |
| Storage Temperature | -40 °C to 125 °C | -40 °C to 125 °C | -40 °C to 125 °C |
| Operating Temp. (Harnessed Sensor) | -40 °C to 105 °C | -40 °C to 105 °C | -40 °C to 105 °C |
| Storage Temp. (Harnessed Sensor) | -40 °C to 105 °C | -40 °C to 105 °C | -40 °C to 105 °C |
| Proof Pressure | 2X FS | 2X FS | 3X FS |
| Burst Pressure - ABS/Sealed Gauge (lesser of two) | 10X FS or 15,000 PSI | 10X FS or 15,000 PSI | 10X FS or 15,000 PSI |
| Burst Pressure - Gauge | 3X FS | 3X FS | 3X FS |
| Reverse Voltage (± 16 V over 5 min.) | Available | Available | Available |
| Overvoltage (± 16 V over 5 min.) | Available | Not Available | Not Available |

| Output Type | 0.5 - 4.5 V | 1 - 5 V | 4 - 20 mA |
|---------------------------------|------------------------------|------------------------------|----------------|
| Supply Voltage | 5 ± 0.5 Volts | 8 to 30 Volts | 8 to 30 Volts |
| Current Draw | < 6 mA | < 3 mA | Not Applicable |
| Output Type | 0.45 mA max (sink or source) | 0.45 mA max (sink or source) | 4 - 20 mA |
| Response Time (Pressure/Output) | < 1 ms | < 1 ms | < 1 ms |

| Parameter | Value | Units |
|-----------------------------|------------|--------|
| Pressure/Temperature Cycles | > 1.8 x 10 | Cycles |
| Thermal Shock | 250 | Cycles |
| Vibration | 144 | Hours |
| EMC Compatibility | 150 | V/m |
| Humidity | 250 | Hours |
| Weight | ≤ 85 | Grams |

Chemical Compatibilities

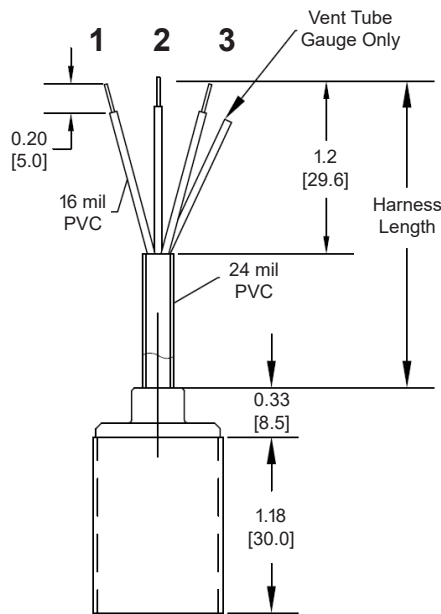
Any gas or liquid compatible with 304L and 316L stainless steel. (Including but not limited to motor oil, diesel, hydraulic fluid, brake fluid, water, wastewater, hydrogen, nitrogen, and air.) Designed to be used in media isolated mediums.

Agency Approvals & Certifications

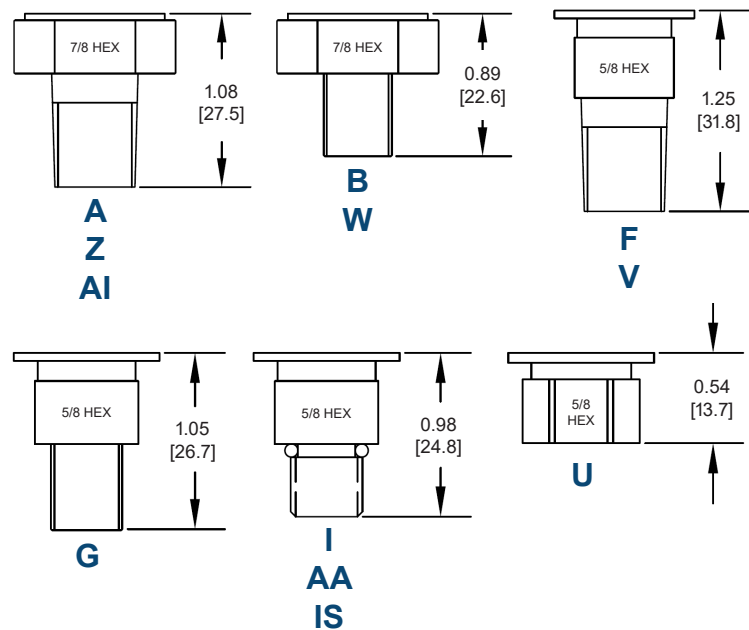


Dimensional Drawings

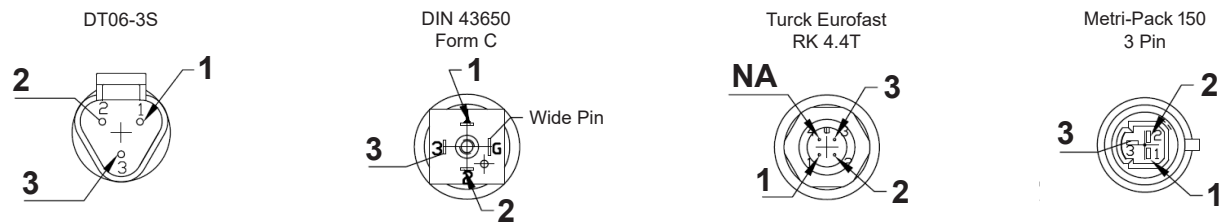
Harness



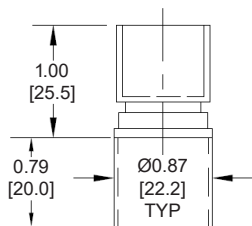
Ports



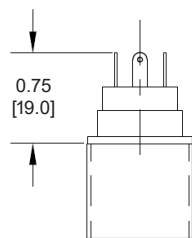
Connectors



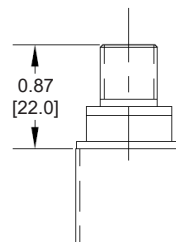
Deutsch



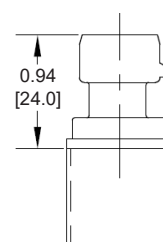
DIN 43650



M12



Packard



| Pin | Color | 1-5 V | 0.5-4.5 V | 20 mA |
|-----|-------|-----------------|--------------------|-----------------|
| 1 | Red | V_{in} (8-30) | V_{in} (5+/-0.1) | V_{in} (8-30) |
| 2 | Black | GND | GND | NA |
| 3 | White | V_{out} | V_{out} | GND |
| | Tube | Gauge | Gauge | Gauge |

| Measurement Units | | |
|-------------------|---|-------------|
| 0.00 | = | Inches |
| [00.0] | = | Millimeters |

P51 MediaSensor™ Ordering System

P51 - 50 - A - A - I6 - 4.5 V - 000 - 000

Family _____

Full Scale _____
Pressure (15 - 7,500 PSI)

Pressure Type _____
A = Absolute (15 - 7,500 PSI)
G = Gauge (25 - 300 PSI)
S = Sealed Gauge (15 - 7,500 PSI)

Port Configuration _____

| 304L | 316L | Hex | Port |
|-------|------|------|---------------------|
| A, AI | Z | 7/8" | 1/4 NPT |
| B | W | 7/8" | 1/8 NPT |
| F, V | | 5/8" | 1/4 NPT |
| G | | 5/8" | 1/8 NPT |
| I | AA | 5/8" | 7/16 - 20 |
| U | | 5/8" | 7/16 - 20 (Female) |
| IS | | 5/8" | 7/16 - 20 (Snubber) |

Connector / Harness _____

D = Deutsch
P = Packard
MD = DIN 43650 micro-mini connector with 90° mating connector
M12 = 4 pin micro connector

24 Gauge Harness (Inner PVC: 16 mil)
• I6 = 6"
• I12 = 12"
• I18 = 18"
• I24 = 24"
• I36 = 36"
• I72 = 72"

18 Gauge Harness (Inner PVC: 9 mil)
• X6 = 6"
• X12 = 12"
• X18 = 18"

Output Options _____

4.5 V = 0.5 - 4.5 V (5 V input only)
4.5 OVP = 0.5 - 4.5 V (5 V input only) Includes over voltage protection
5 V = 1 - 5 V (8 to 30 V input only)
20 mA = 4 - 20 mA (8 to 30 V input only)
MOV = Option for 5 V and 20 mA for voltage spike protection

Placeholder

*Other port configurations may be available. Consult factory. MOQ's apply.

*Other harness lengths available - contact factory. MOQ's will apply.

Harness Information

- Stranded Copper: Tinned
- Outer Jacket PVC: 24 mil
- Vent Tube: 1.57 mil Diameter (Gauge Only)

Contact

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SSI Technologies, LLC is an Amphenol Advanced Sensors company.



SSI Technologies, LLC
— an Amphenol Company —

Warranty

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Note: Specs are subject to change without notice.