



P51 Ultra Low 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

- Pneumatics
- Agriculture
- Fluid Depth
- Process Controls
- Pumps

Technical Specifications

Maximum Pressure

15 PSI

Accuracy

< ± 1.00% FS

Maximum Operating Temp.

125 °C

Output Type	0.5 - 4.5 V	1 - 5 V	4 - 20 mA
Accuracy	< ± 1.00% FS	< ± 1.00% FS	< ± 1.00% FS
Temperature Error (-40 °C to 105 °C)	< ± 1.00% FS	< ± 1.00% FS	< ± 1.00% 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. (Harnesssed Sensor)	-40 °C to 105 °C	-40 °C to 105 °C	-40 °C to 105 °C
Storage Temp. (Harnesssed Sensor)	-40 °C to 105 °C	-40 °C to 105 °C	-40 °C to 105 °C
Proof Pressure	3X FS	3X FS	3X FS
Burst Pressure	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

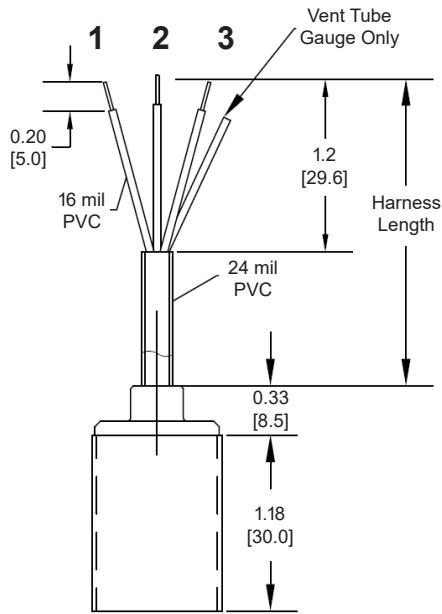
Any gas or liquid compatible with 304L and 316L stainless steel. (Including but not limited to motor oil, diesel, hydraulic fluid, brake fluid, water, wastewater, hydrogen, nitrogen, and air.) Designed to be used in media isolated mediums.

Agency Approvals & Certifications

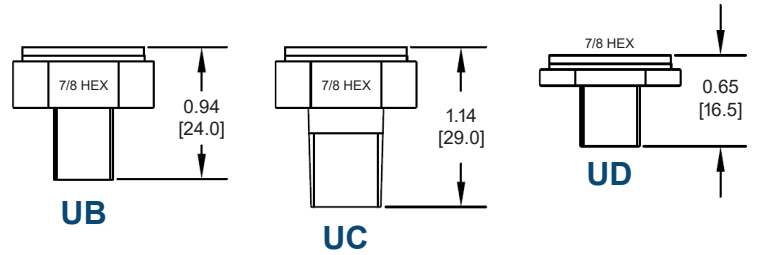


Dimensional Drawings

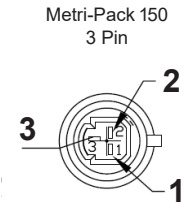
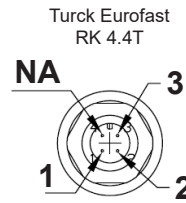
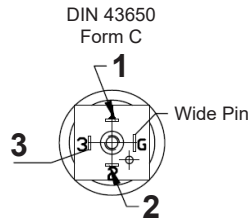
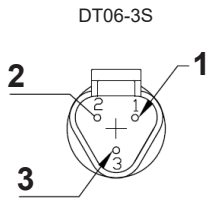
Harness



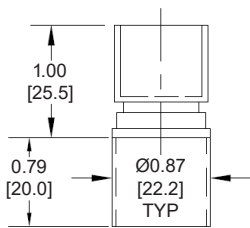
Ports



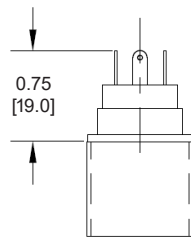
Connectors



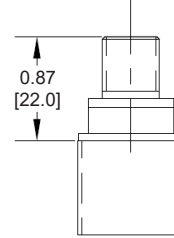
Deutsch



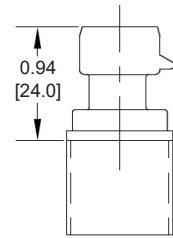
DIN 43650



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 Ultra Low Pressure MediaSensor™ Ordering System

P51 - 05 - G - UA - P - 4.5 V - 000 - 000

Family	P51		05		G		UA		P		4.5 V		000 - 000 Placeholder	
Full Scale Pressure (5 - 15 PSI)														
Pressure Type G = Gauge (5 - 15 PSI)														
Port Configuration														
	<u>304L</u>	<u>Hex</u>	<u>Port</u>											
	UB	7/8"	1/8 NPT										*Other port configurations may be available. Consult factory. MOQ's apply.	
	UC	7/8"	1/4 NPT											
	UD	7/8"	1/8 NPT											
Connector / Harness														
D = Deutsch														
P = Packard														
MD = DIN 43650 micro-mini connector with 90° mating connector													*Other harness lengths available - contact factory. MOQ's will apply.	
M12 = 4 pin micro connector														
24 Gauge Harness (Inner PVC: 16 mil)													<u>Harness Information</u> <ul style="list-style-type: none"> • Stranded Copper: Tinned • Outer Jacket PVC: 24 mil • Vent Tube: 1.57 mil Diameter (Gauge Only) 	
• 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														

Contact

SSI Technologies, LLC

3200 Palmer Drive, Janesville, WI 53546

ssi-sensors.com

1 (608) 757-2000



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