



# 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. (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	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

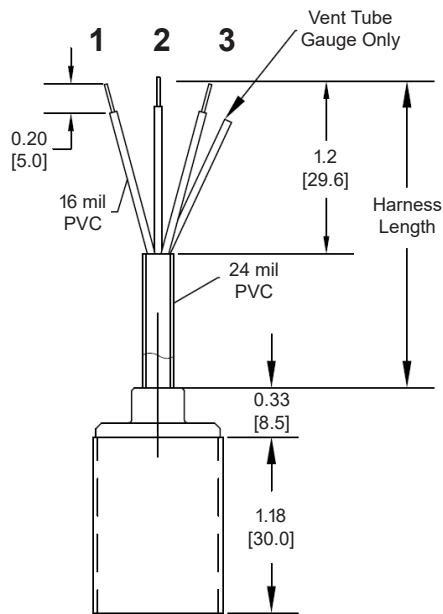
Any gas or liquid compatible with 304L and 316L stainless steel. (Including but not limited to motor oil, diesel, hydraulic fluid, brake fluid, water, wastewater, hydrogen, nitrogen, and air.) Designed to be used in media isolated mediums.

## Agency Approvals & Certifications

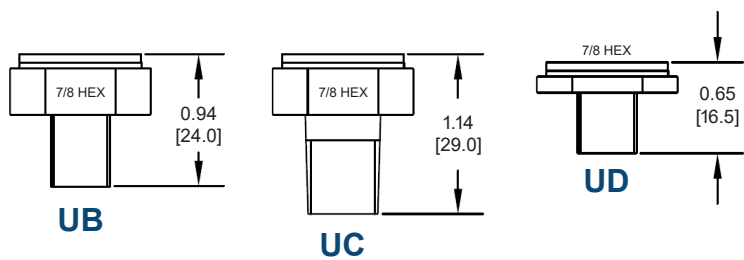


# Dimensional Drawings

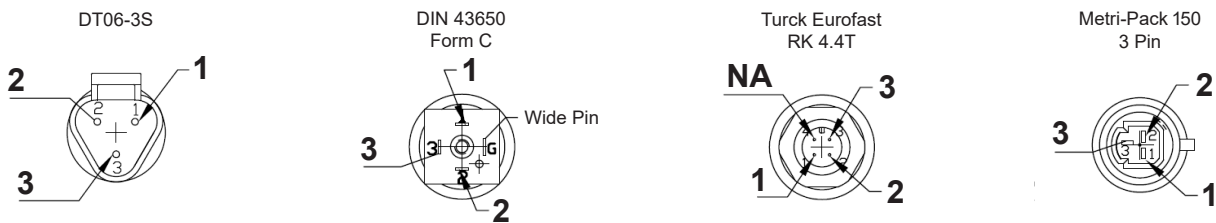
## Harness



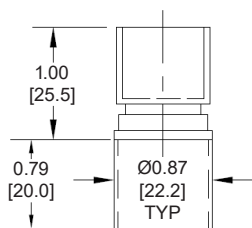
## Ports



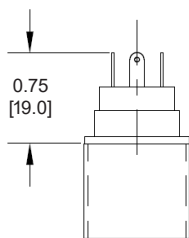
## Connectors



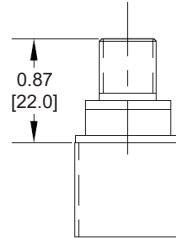
## Deutsch



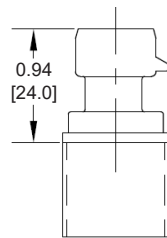
## DIN 43650



## 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													
<b>Family</b>	P51												
<b>Full Scale</b> Pressure (5 - 15 PSI)	05												
<b>Pressure Type</b> G = Gauge (5 - 15 PSI)	G												
<b>Port Configuration</b>	UA												
<table border="1"> <thead> <tr> <th>304L</th> <th>Hex</th> <th>Port</th> </tr> </thead> <tbody> <tr> <td>UB</td> <td>7/8"</td> <td>1/8 NPT</td> </tr> <tr> <td>UC</td> <td>7/8"</td> <td>1/4 NPT</td> </tr> <tr> <td>UD</td> <td>7/8"</td> <td>1/8 NPT</td> </tr> </tbody> </table>	304L	Hex	Port	UB	7/8"	1/8 NPT	UC	7/8"	1/4 NPT	UD	7/8"	1/8 NPT	Placeholder
304L	Hex	Port											
UB	7/8"	1/8 NPT											
UC	7/8"	1/4 NPT											
UD	7/8"	1/8 NPT											
<b>Connector / Harness</b>	P												
<p>D = Deutsch</p> <p>P = Packard</p> <p>MD = DIN 43650 micro-mini connector with 90° mating connector</p> <p>M12 = 4 pin micro connector</p> <p><b>24 Gauge Harness</b> (Inner PVC: 16 mil)</p> <ul style="list-style-type: none"> <li>I6 = 6"</li> <li>I12 = 12"</li> <li>I18 = 18"</li> <li>I24 = 24"</li> <li>I36 = 36"</li> <li>I72 = 72"</li> </ul> <p><b>18 Gauge Harness</b> (Inner PVC: 9 mil)</p> <ul style="list-style-type: none"> <li>X6 = 6"</li> <li>X12 = 12"</li> <li>X18 = 18"</li> </ul>	<p>*Other port configurations may be available. Consult factory. MOQ's apply.</p> <p>*Other harness lengths available - contact factory. MOQ's will apply.</p> <p><b><u>Harness Information</u></b></p> <ul style="list-style-type: none"> <li>Stranded Copper: Tinned</li> <li>Outer Jacket PVC: 24 mil</li> <li>Vent Tube: 1.57 mil Diameter (Gauge Only)</li> </ul>												
<b>Output Options</b>	4.5 V												
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



SSI Technologies, LLC is an Amphenol Advanced Sensors company.



*SSI Technologies, LLC*  
— an Amphenol Company —

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**Note:** Specs are subject to change without notice.

# Mouser Electronics

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[P51-05-G-UB-I36-4.5V-000-000](#) [P51-05-G-UC-I36-20MA-000-000](#) [P51-10-G-UC-I36-4.5V-000-000](#) [P51-15-G-UC-I36-20MA-000-000](#) [P51-15-G-UC-I36-4.5V-000-000](#) [P51-05-G-UB-I36-20MA-000-000](#)