

# SSI Technologies, Inc

## P61 Pressure/Temperature MediaSensor

### Product Overview

#### Product Description

The Pressure/Temperature MediaSensor™ (P61) family of bulk micro-machined, absolute and sealed pressure transducers and transmitters are for both harsh and benign media with the superior *zero/span error of +/- 0.5% full scale at room temperature and +/- 1.00% full scale and a temperature sensor accuracy is ±3° C over -40°C to 105°C.* These compact, robust sensors measure pressures from 100 PSI to 3,000 PSI and are well suited for a variety of automotive, industrial, and commercial applications.

#### Typical Applications

- Refrigeration
- Fuel Cells
- Pumps
- Hydraulics
- Pneumatics
- Agriculture
- Process Control
- HVAC

#### Standard Full Scale Pressure Ranges

- **Sealed** 100, 200, and 300, 500, 750, 1000, 1500, 2000, and 3000 PSIS
- **Absolute:** 100, 200, 300, 500, 750, 1000, 1500, 2000, and 3000 PSIA

- **Improved Accuracy**
- **Temperature and Pressure All In One**

**P61 MediaSensor™ with integrated signal conditioning and Temperature output (shown with and Integral Harness)**



#### Special Features

- **Superb Accuracy - <math>\leq \pm 0.5\%</math> (Includes Repeatability, Hysteresis and Linearity)**
- Robust Package - All laser-welded stainless steel design for optimal media isolation
- Maximum Flexibility - Custom ASIC provides signal conditioning for calibration and temperature compensation.
- Standard and custom options available
- Compact size, excellent price/performance ratio.

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#### Performance Specifications (all values at 22°C unless noted otherwise)

Output Type	0.5 to 4.5 Volts	4 – 20 mA	1 – 5 Volts (ratio metric)
Accuracy <sup>1</sup>	<± 0.5% FS	<± 0.5% FS	<± 0.5% FS
Temperature Error (-40°C to 105°C)	<± 1.0% FS	<± 1.0% FS	<± 1.0% FS
Total Error <sup>4</sup>	<± 2.0% FS	<± 2.0% FS	<± 2.0% FS
Stability (Typical)	< 0.25% FS / Year	< 0.25% FS / Year	< 0.25% FS / Year
Zero Pressure Offset <sup>2</sup>	0.5 V	4 mA	1.0 V
Full Scale Output (Output @ Pressure FS)	4.5 V	20mA	5.0 V
Operating Temperature	-40 to 105°C	-40 to 105°C	-40 to 105°C
Storage Temperature	-40 to 105°C	-40 to 105°C	-40 to 105°C
Proof Pressure	3 X FS	3 X FS	3 X FS
Burst Pressure	10X FS or 15,000psi max	10X FS or 15,000psi max	10X FS or 15,000psi max
Temperature Sensor Accuracy	+/- 3 Degree C	+/- 3 Degree C	+/- 3 Degree C
Temperature Sensor type	NTC Thermistor	NTC Thermistor	NTC Thermistor

#### Electrical Specifications

Output Type	0.5 to 4.5 Volts	4 – 20 mA	1 – 5 Volts (ratio metric)
Supply Voltage	5 +/- 0.5	8 to 30 Volts	8 to 30 Volts
Supply Current	< 6 mA	Not Applicable	< 3 mA
Output Current	0.45mA Max(Sink or Source)	Not Applicable	0.45mA Max (Sink or Source)
Response Time (pressure/Output)	< 1 ms	< 1 ms	< 1ms

#### Reliability and Environmental Performance

	Test Conditions	Value	Units
Pressure/Temperature Cycles <sup>3</sup>	2,500-3,000psi @ 7Hz; cycling -40° to 85°C	>10 x10 <sup>6</sup>	Cycles
Thermal Shock	85°C to -40°C, 0.5 hr soaks at Temp. (30s Transfer)	250	Cycles
Vibration	100 to 2Khz, 20g Sine, 3 Axes; cycling -40° to 85°C	4	Hours
EMC Compatibility <sup>5</sup>	10 Volts/meter per EN 61000-4-3		
Humidity	85°C and 85% R. H.	250	Hours
Weight	with A style port Stainless Port and flying lead	<.3	Pounds

<sup>1</sup>Includes hysteresis, repeatability, & non-linearity (BFSL)

<sup>2</sup>Transducer output @ 0 Psig,

<sup>3</sup>Pressure cycling performed at rated full scale pressure.

<sup>4</sup>Includes temperature error (-40° to 105°C) and accuracy.

<sup>5</sup>Higher levels of EMC Compatibility are available upon request.



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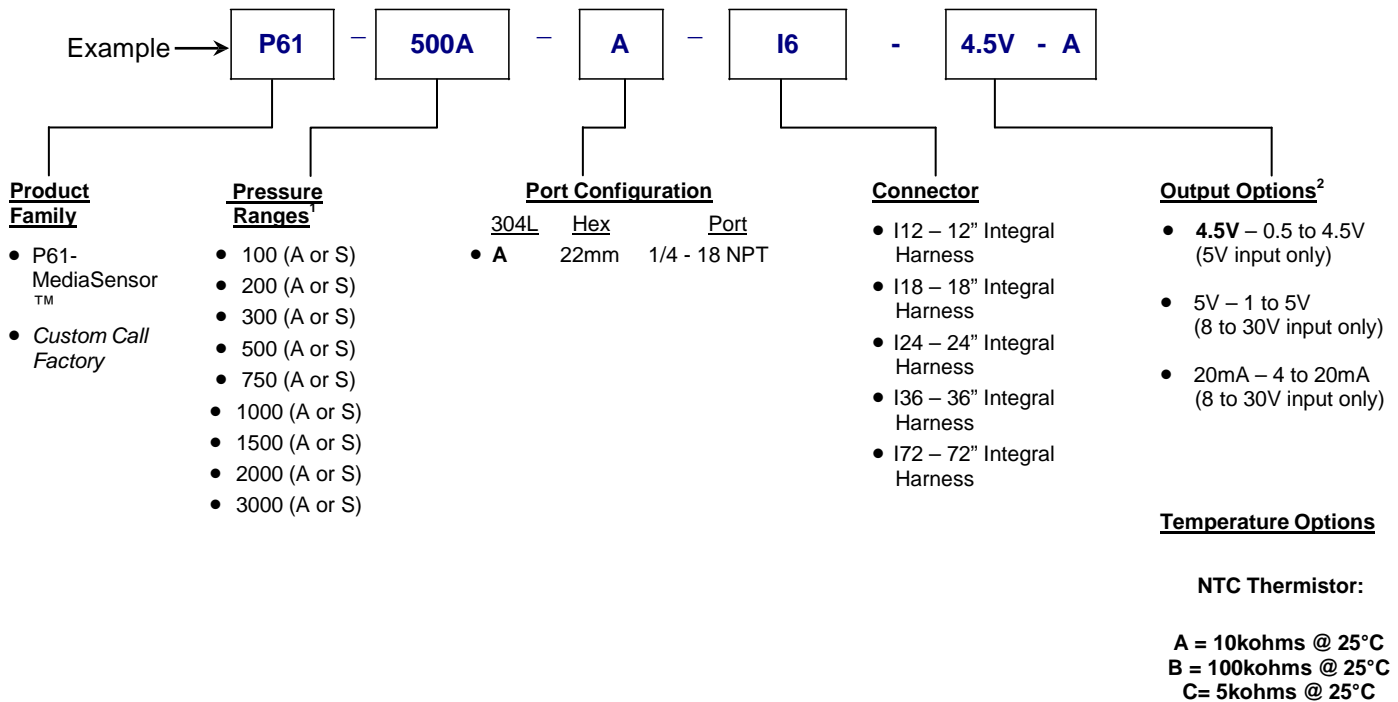
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#### Standard Packaging Options

#### Pressure Transducer Ordering System

The following explains SSI's pressure transducer order number sequence.



- Notes:**
- 1) A, or S designates Absolute, or Sealed Gage Pressure
  - 2) Calibration of the transducer is as follows:
    - a. Absolute Transducers are calibrated to have the 0.5 Vdc or 1 Vdc, respectively at 0 PSIA
    - b. Sealed Gage Transducers are calibrated to have 0.5 Vdc or 1 Vdc respectively at 14.5 PSIA or 0 PSIG
  - 3) Sealed Gauge Transducers are not vented to atmosphere, but are calibrated to resemble a gauge transducer output per the above note.



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#### MediaSensor™ Transmitter (4 -20mA) connections:

Red	Supply (+)
White	Output
Yellow	Thermistor
Blue	Thermistor

#### MediaSensor™ Transducer (Voltage Output) connections:

Red	Supply (+)
Black	Supply Ground
White	Output
Yellow	Thermistor
Blue	Thermistor

To place an order, or for custom orders or specifications not listed, call SSI toll-free at **(888) 477-4320**

#### Limited Warranty

All SSI products are warranted against defective materials and workmanship for a period of one (1) year from the date of delivery to the original purchaser. Any product that is found to be defective within the one year period will be replaced or repaired at the discretion of SSI. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, OR OTHERWISE. SSI is not an expert in the customer's technical field and therefore does not warrant the suitability of its products for the applications selected by the customer. SSI accepts no responsibility for misuse, misapplication or unauthorized modification of its products. SSI's obligation under this limited warranty is strictly and exclusively limited to the repair or replacement free of charge of such products as are to be found to be defective in material or workmanship on the condition that the purchaser gives prompt written notice to SSI of any claim to breach of warranty within the warranty period, and if requested, returns the defective product(s) to SSI. SSI will not assume any expenses or liability for repairs made to its products outside of its plant without its prior written consent. SSI reserves the right to satisfy its warranty obligation in full, with respect to defective products, by the payment to the purchaser of all sums paid by the purchaser to SSI for such products. IN NO EVENT SHALL SSI BE LIABLE FOR CLAIMS (BASED UPON BREACH OR EXPRESS OR IMPLIED WARRANTY, NEGLIGENCE OR OTHERWISE) FOR ANY DAMAGES, WHETHER DIRECT, IMMEDIATE, INCIDENTAL, FORSEEABLE, CONSEQUENTIAL, OR SPECIAL. SSI reserves the right to change its specifications at any time without notice.

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— CONTROLS DIVISION —

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