

# AutoPSI-S™

## Combustion Pressure Sensors for OEM Applications

- **Fiber Optic - EMI/RFI-Free Construction**
- **Integrated Signal Conditioner in a Small Rugged Enclosure**
- **High Accuracy under Combustion Conditions**
- **Various Pressure Ranges**
- **Maximum Sensor Housing Operating Temperature 350°C**
- **OEM Sensor Packages**
- **Neither Water nor Air Cooling Needed**
- **Low-Cost, Long-Life**

Developed for industrial applications, the AutoPSI-S combustion pressure sensor delivers a low-cost and reliable solution for production engine monitoring and control applications. With a unique fiber optic construction, the sensor is able to operate at high levels of Electro-Magnetic/Radio Frequency Interference (EMI/RFI) fields and high temperature.

The opto-electronic circuitry is packaged in a small rugged enclosure, eliminating the need for a separate interface unit. The sensor can be easily powered and read by the Engine Control Units (ECU); or systems such as Combustion Analysis for Gasoline, Diesel and Natural Gas Engines, Prognostic and Condition-Based Maintenance, Parametric Emissions Monitoring, etc.

Optrand patented auto-referencing circuitry maintains sensor accuracy and drift-free operation over millions of pressure cycles. Sensor reliability is ensured by a health monitoring (diagnostic) output signal. AutoPSI-S sensors can be calibrated with static pressure calibrator or dead weight tester.

Sensors can be installed either directly or through an adapter into the cylinder head, in the indicator port/Kiene adapter or integrated with Optrand measuring spark plug, [PSIplug](#) or [CALplug](#).



## Specifications

<i>Pressure Range</i>	<b>0-7 bar (~100 psi), 0-14 bar (~200 psi), 0-70 bar (~1,000 psi), 0-100 bar (~1,500 psi), 0-200 bar (~3,000 psi), 0-700 bar (~10,000 psi)</b>
<i>Over Pressure</i>	<b>2 x Pressure Range (typical)</b>
<i>Non-Linearity &amp; Hysteresis</i>	<b>±1% FSO (combustion), ±0.5% FSO (non-combustion)</b>
<i>Diaphragm Resonant Frequency</i>	<b>≥120kHz</b>
<i>Frequency Range</i>	<b>0.1Hz to 15kHz (typical)</b>
<i>Sensor Housing Temperature Range</i>	<b>-40° to 350°C (~660°F)</b>
<i>Fibe Optic Cable Operating Temperature</i>	<b>-40° to 200°C (~400°F)</b>
<i>Fiber Optic Cable Length</i>	<b>2 m (6.5'); Custom Length Optional</b>
<i>Signal Conditioner</i>	<b>Integrated with Sensor; Metal Shell (length 3", dia. 1")</b>
<i>Output Impedance</i>	<b>250 Ohm</b>
<i>Sensor Operational Mode</i>	<b>Sealed Gauge</b>
<i>Fiber Optic Cable Minimum Bending Radius</i>	<b>5mm (3/16")</b>
<i>Sensor Output Signal</i>	<b>Analog, 0.5 to 5V</b>
<i>Diagnostic Output Signal</i>	<b>Analog, 0 to 3.6V</b>
<i>Power Supply</i>	<b>9V to 18V DC, 85mA; not included</b>
<i>Signal Conditioner Temperature Range</i>	<b>-20°C to 65°C (~150°F)</b>
<i>Pressure Media</i>	<b>Gaseous or Liquid</b>
<i>Vibration</i>	<b>100G</b>
<i>Guaranteed Lifetime</i>	<b>200 Million Pressure Cycles or 2 Years</b>