

[Click to Learn More! >](#)**High Temperature Sensors**

Instrumentation for High Temperature Environments

Accelerometers and Pressure Sensors for Demanding Measurement & Monitoring Requirements



Highlights

- Choice of charge, ICP®, and charge with integral ICP® amplifier sensors.
- Variety of sensitivities to accommodate a wide range of applications
- Broad bandwidth, high shock survivability, wide operating temperature range, high resolution, and large dynamic range options

Applications

- Commissioning of Nuclear Power Plants
- Machinery Protection in High Temperature Environments
- Power Generation Turbine Condition Monitoring

IMI Sensors is a global supplier of high temperature instrumentation. Often used in demanding industrial environments, these accelerometers and pressure sensors provide critical data that prevents failures and reduces downtime.

Our high temperature accelerometers with internal electronics (ICP®) have the best temperature capability of any design on the market today. The high temperature ICP® accelerometers are capable of withstanding continuous temperatures of 325 °F (162 °C). For applications that exceed those temperatures, IMI Sensors has a variety of charge accelerometers with integral ICP® amplifier that can operate at 900 °F (482 °C) and charge mode accelerometers that can operate at 1200 °F (649 °C).

Our high temperature pressure sensors are designed for operation at the highest temperatures. They detect and measure dynamic pressure phenomena in environments with a continuous temperature of 1200 °F (649 °C).

Our charge amplifiers are designed to convert the high impedance signal of a charge accelerometer or pressure sensor without integral signal conditioning circuits to a low-impedance voltage signal for transmission and data collection. Differential charge amplifiers should be paired with charge accelerometers and pressure sensors with a differential output (measurement output as a plus and minus signal) to convert the differential output into a single-ended output (measurement output as a signal and ground).



High Temperature Accelerometers

325 °F (162 °C) ICP® Accelerometers

- Sensitivity: 100 mV/g
- Measurement Range: ± 50 g pk
- Variety of connector and integral cable options with top or side exit versions
- Ideal for predictive maintenance on steel hot rolling machines



500 °F (260 °C) / 550 °F (288 °C) Charge Accelerometers

- Sensitivity: 20 pC/g (357B81), 50pC/g (357B82) or 100 pC/g (357B53, 357B54, 357B83 and EX615A42)
- Measurement Range: ± 150 g (357B53 and 357B54), 200 g (EX615A42) 500 g (357B83), 1000 g (357B82) or 2000 g (357B81) pk
- Hermetically welded construction
- Ideal for machinery protection in high temperature environments



900 °F (482 °C) Charge Accelerometers with Integral ICP® Amplifier

- Sensitivity: 10 mV/g (EX600B14) or 100 mV/g (EX600B13)
- Measurement Range: ± 50 g (EX600B13) or 500 g (EX600B14) pk
- One piece construction with charge sensor, integral charge amplifier and integral hardline cable
- Ideal for rotating machinery in very high temperature environments



900 °F (482 °C) Charge Accelerometers

- Sensitivity: 3.5 pC/g (357B69), 10 pC/g (357C71, EX357C71 and 357B61), 50 pC/g (357C72, EX357C72 and EX619A11) or 100 pC/g (357C73)
- Measurement Range: ± 300 g (357C73), 500 g (357C72, EX357C72, 357B69 and EX619A11) or 1000 g (357C71, EX357C71 and 357B61) pk
- Hermetically-sealed, Nickel 600 housing
- Ideal for turbine bearing health monitoring



1200 °F (649 °C) Charge Accelerometers

- Sensitivity: 2.3 pC/g (357D92 and 357D93), 5 pC/g (357D90 and 357D91) or 10 pC/g (EX611A00)
- Measurement Range: ± 200 g (EX611A00) or 1000 g (357D9X) pk
- Differential output for long term monitoring
- Ideal for monitoring gas turbines





High Temperature Pressure Sensors

500 °F (260 °C) Charge Pressure Sensor

- Sensitivity: 1,100 pC/psi
- Measurement Range: 10 psi pk
- Stainless steel housing with 2-pin MIL-C-5015 connector
- Ideal for close-coupled combustion instability monitoring



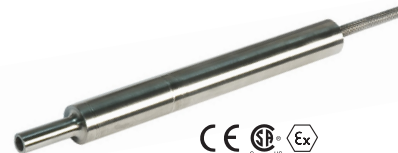
High Temperature Pressure Sensor
Model EX171M01

986 °F (530 °C) Charge Pressure Sensors

- Sensitivity: 17 pC/psi
- Measurement Range: 20 psi pk
- High frequency capabilities and differential output
- Ideal for on-turbine combustion instability monitoring



Very High Temperature Pressure Sensor
Series 176M0X



Very High Temperature Pressure Sensor
Series 176MXX

1200 °F (649 °C) Charge Pressure Sensor

- Sensitivity: 6 pC/psi
- Measurement Range: 725 psi pk
- All-welded super alloy housing with UHT-12™ element
- Ideal for on-turbine combustion instability monitoring



Extreme High Temperature Pressure Sensor
Model 176A02

High Temperature Accessories

Differential Charge Amplifier Model 422M182

- Sensitivity: 4 mV/pC
- Voltage Output: ± 5 V pk
- Temperature Range (Operating): -60 to +185 °F
- Aluminum housing with 2-pin MIL input and BNC output connectors



Differential Charge Amplifier Model 421A3X, Model EX682A40

- Sensitivity: Configurable (421A3X) or 10mV/pC (EX682A40)
- Voltage Output: ± 5 V pk (421A3X) or ± 2.5 V pk (EX682A40)
- Temperature Range (Operating): -22 to +185 °F (421A3X) or -40 to +176 °F (EX682A40)
- Housing with screw terminal input and output connectors



Inline Charge Amplifier Models 422E35, 422E36 and 422E55/D

- Sensitivity: 0.5 mV/pC (422E55/D), 1 mV/pC (422E35) or 10 mV/pC (422E36)
- Voltage Output: ± 2.5 V pk
- Temperature Range (Operating): -65 to +250 °F
- Stainless steel housing with input and output connectors



Inline Charge Amplifier for Radiation Hardened Sensors Model 422E65/A and 422E66/A

- Sensitivity: 1 mV/pC (422E65/A) or 10 mV/pC (422E66/A)
- Voltage Output: ± 5 V pk
- Temperature Range (Operating): -65 to +250 °F
- Stainless steel housing with 10-32 coaxial input and output connectors





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IMI SENSORS
A PCB PIEZOTRONICS DIV.

Corporate Headquarters 3425 Walden Avenue Depew, NY 14043-2495 USA

Toll-free in the USA 800-959-4464 ■ **24-hour SensorLineSM** 716-684-0003

Fax 716-684-3823 ■ **Email** imi@pcb.com ■ **Website** www.imi-sensors.com

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