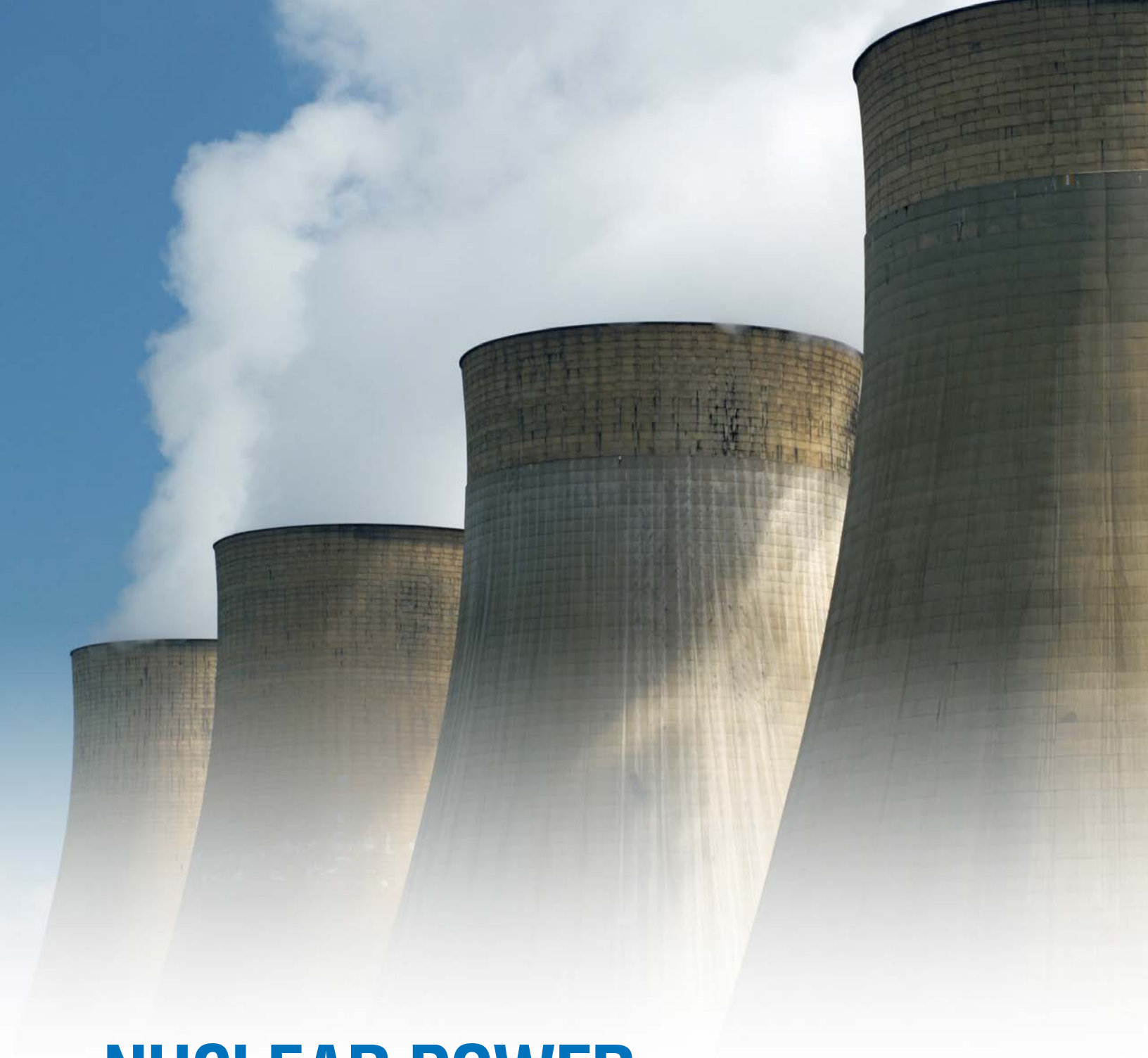


NUCLEAR POWER INSTRUMENTATION

IMI SENSORS
A PCB DIVISION

pcb.com/imi-sensors | 1 800 959 4464

NUCLEAR POWER INSTRUMENTATION

- Survive integrated gamma flux to 10^8 rads
- Survives integrated neutron flux to 10^{10} N/cm^2

PCB®'s charge accelerometers utilize piezo ceramic sensing elements to directly output an electrostatic charge signal that is proportional to applied acceleration. Charge accelerometers do not contain built-in signal conditioning electronics. As a result, external signal conditioning is required to interface their generated measurement signals to readout or recording instruments. The sensor's charge output signals can be conditioned with an in-line, fixed charge amplifier.

Since there are no electronics built into charge accelerometers, they can operate and survive exposure to very high temperatures (up to +1200 °F/+649 °C for some models). In addition, charge accelerometers are used for thermal cycling requirements or to take advantage of existing charge amplifier signal conditioning equipment. It is important to note that measurement resolution and low frequency response for charge acceleration sensing systems are dependent upon the noise floor and discharge time constant characteristics of the signal conditioning and readout devices used.

RADIATION HARDENED VERY HIGH TEMPERATURE SINGLE-ENDED CHARGE ACCELEROMETERS

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODEL 357A63

- Sensitivity: 0.53 pC/g
- Measurement Range: ±5000 g pk
- Connector: 10-32 coaxial jack

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODEL 357B61

- Sensitivity: 10 pC/g
- Measurement Range: ±1000 g pk
- Connector: 10-32 coaxial jack

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODEL 357B69

- Sensitivity: 3.5 pC/g
- Measurement Range: ±500 g pk
- Connector: 10-32 coaxial jack

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODEL EX356A73

- Sensitivity: 10 pC/g
- Measurement Range: ±1000 g pk
- Connector: 10-32 coaxial jack

HARDLINE CABLE, RADIATION HARDENED

10-32 COAXIAL PLUG
MODEL RP

COAXIAL HARDLINE CABLE
MODEL 023XXX

10-32 COAXIAL PLUG
MODEL RP

HARDLINE CABLE, RADIATION HARDENED

IN-LINE CHARGE AMPLIFIER
MODEL 422E65/A

- Sensitivity: (±2%) 1 mV/pC
- Voltage Output: ±5 V pk

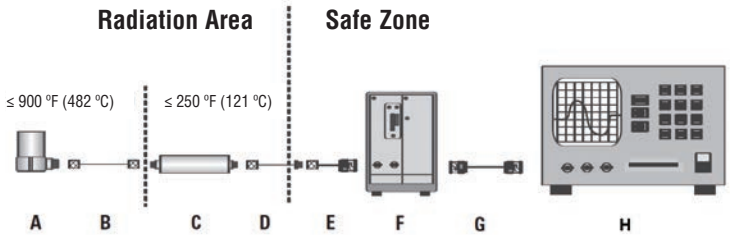
IN-LINE CHARGE AMPLIFIER
MODEL 422E66/A

- Sensitivity: (±2%) 10 mV/pC
- Voltage Output: ±5 V pk

IN-LINE CHARGE AMPLIFIERS, RADIATION HARDENED

A Model 357B63 or 357B61 or 357B69 – Charge accelerometer
B Model 023RPXXXRP – Cable with 10-32 plug to 10-32 plug
C Model 422E65/A or 422E66/A – In-line charge amplifier
D Model 023RPXXXGA – Cable with 10-32 plug to 10-32 jack
E Model 003C03 – Cable with 10-32 plug to BNC plug
F ICP® sensor signal conditioner
G Model 012A03 – Cable with BNC plug to BNC plug
H Readout, recording, or data acquisition device

XXX = Denote cable length, 010 = 10 feet (Metric lengths available)



RADIATION HARDENED VERY HIGH & EXTREME TEMPERATURE DIFFERENTIAL CHARGE ACCELEROMETERS

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER

MODEL 357A100

- Sensitivity: 5 pC/g
- Measurement Range: ±200 g pk
- Connector: 7/16-27 2-pin

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER

MODELS 357C7X

- Sensitivity: 10 pC/g (71), 50 pC/g (72), 100 pC/g (73)
- Measurement Range: ±1000 g pk (71) ±500 g pk (72) ±300 g pk (73)
- Connector: 7/16-27 2-pin

EXTREME TEMPERATURE CHARGE ACCELEROMETER

MODELS EX357A94 & EX357A95

- Sensitivity: 3.3 pC/g
- Measurement Range: ±1000 g pk
- Connector: 7/16-27 2-pin

HARDLINE CABLE, RADIATION HARDENED

2-SOCKET PLUG, 7/16-27 THD

MODEL GN

2-CONDUCTOR HARDLINE CABLE

MODEL 013XXX

2-PIN JACK, 7/16-27 THD

MODEL GP

PTFE JACKETED CABLE

PTFE JACKETED CABLE WITH 2-SOCKET PLUG, TO 2-SOCKET PLUG, MS3106 (25 FT CABLE)

045M19B CABLING

DIFFERENTIAL CHARGE AMPLIFIERS

DIFFERENTIAL CHARGE AMPLIFIER

MODEL 422M182

- Sensitivity: 4 mV/pC
- Voltage Output: ±5 V pk

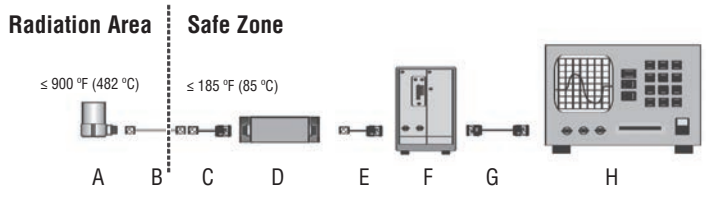
DIFFERENTIAL CHARGE AMPLIFIER

MODEL 422M196

- Sensitivity: 10 mV/pC
- Voltage Output: ±5 V pk

IN-LINE CHARGE AMPLIFIERS, RADIATION HARDENED

A Model 357A100 or 357C71 or 357C72 or 357C73 or EX357A9X – Charge accelerometer
B Model 013GNXXXGP – Cable with 2 socket plug to 2 pin jack
C Model 045M19B – Cable with PY connector to BP connector
D Model 422M183 or Model 422M196 – Charge amplifier
E Model 003D03 – Cable with BNC plug to BNC plug
F ICP® sensor signal conditioner
G Model 012A03 – Cable with BNC plug to BNC plug
H Readout, recording, or data acquisition device



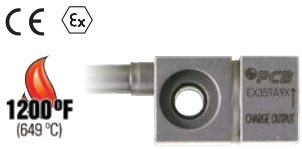
RADIATION HARDENED EXTREME TEMPERATURE SINGLED-ENDED CHARGE ACCELEROMETERS

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODEL 357A100

- Sensitivity: 5 pC/g
- Measurement Range: ±200 g pk
- Connector: 7/16-27 2-pin

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER
MODELS 357C7X

- Sensitivity: 10 pC/g
- Measurement Range: ±1000 g pk
- Connector: 7/16-27 2-pin



EXTREME TEMPERATURE CHARGE ACCELEROMETER
MODELS EX357A9X

- Sensitivity: 3.3 pC/g
- Measurement Range: ±1000 g pk
- Connector: 7/16-27 2-pin

HARDLINE CABLE, RADIATION HARDENED

2-SOCKET PLUG, 7/16-27 THD
MODEL GN

2-CONDUCTOR HARDLINE CABLE
MODEL 013XXX

2-PIN JACK, 7/16-27 THD
MODEL GP

PTFE JACKETED CABLE

PTFE JACKETED CABLE WITH 2-SOCKET PLUG, 7/16-27 THD TO PIGTAILS (25 FT CABLE)
045M21B CABLING

DIFFERENTIAL CHARGE AMPLIFIERS

DIFFERENTIAL CHARGE AMPLIFIER
MODEL 421B3X

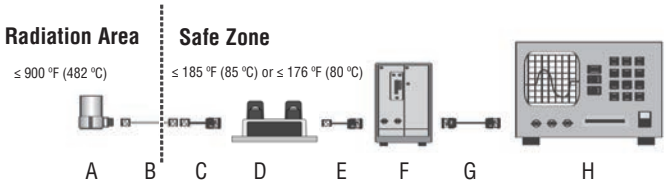
- Sensitivity: Configurable
- Voltage Output: ±5 V pk

DIFFERENTIAL CHARGE AMPLIFIER
MODEL EX682A40

- Sensitivity: 10 mV/pC
- Voltage Output: ± 2.5 V pk

IN-LINE CHARGE AMPLIFIERS, RADIATION HARDENED

A Model 357A100 or 357C71 or 357C72 or 357C73 or EX357A9X – Charge accelerometer
B Model 013GNXXXGP – Cable with 2 socket plug to 2 pin jack
C Model 045M21B – Cable with PY connector to pigtails
D Model 421B3X or Model EX682A40 – Charge amplifier
E Model 003ACXXXAD – Cable with pigtails to BNC plug
F ICP® sensor signal conditioner
G Model 012A03 – Cable with BNC plug to BNC plug
H Readout, recording, or data acquisition device
XXX = Denote cable length, 010 = 10 feet (Metric lengths available)



RADIATION HARDENED EXTREME TEMPERATURE SINGLED-ENDED CHARGE ACCELEROMETERS

EXTREME TEMPERATURE CHARGE ACCELEROMETER

EX357E9X SERIES

- Sensitivity: 5 pC/g (EX357E90 & EX357E91) 2.3 pC/g (EX357E92 & EX357E93)
- Measurement Range: ±1000 g pk

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER

MODEL 357A64

- Sensitivity: 5 pC/g
- Measurement Range: ±200 g pk
- Frequency Range: 5 kHz pk
- Electrical Connector: 7/16-27 2-pin

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER

MODEL 357M168

- Sensitivity: 10 pC/g (71), 50 pC/g (72), 100 pC/g (73)
- Measurement Range: ±1000 g pk (71) ±500 g pk (72) ±300 g pk (73)
- Frequency Range: 4 kHz pk (71) 2.5 kHz (72) 2kHz pk (73)
- Electrical Connector: 7/16-27 2-pin

VERY HIGH TEMPERATURE CHARGE ACCELEROMETER

MODEL EX611A00

- Sensitivity: 3.3 pC/g
- Measurement Range: ±1000 g pk
- Frequency Range: 3.0 kHz pk
- Electrical Connector: 7/16-27 2-pin

PTFE JACKETED CABLE

PTFE CABLE WITH 10-32 PLUG TO 10-32 PLUG

MODEL 003EBXXXEB

XXX = Denote cable length, 010 = 10 feet (Metric lengths available)

HARDLINE CABLE, RADIATION HARDENED

IN-LINE CHARGE AMPLIFIER

MODEL 422E35

- Sensitivity: 1 mV/pC
- Voltage Output: ±2.5 V pk

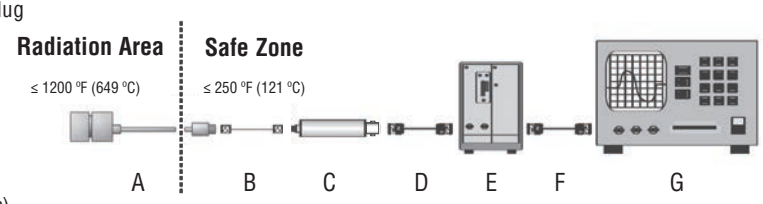
IN-LINE CHARGE AMPLIFIER

MODEL 422E36

- Sensitivity: 10 mV/pC
- Voltage Output: ±2.5 V pk

IN-LINE CHARGE AMPLIFIERS, RADIATION HARDENED

A Model EX357E90 or EX357E91 or EX357E92 or EX357E93 – Charge accelerometer
B Model 003EBXXXEB – Cable with 10-32 plug to 10-32 plug
C Model 422E35 or 422E36 – In-line charge amplifier
D 003DXX – Cable with BNC plug to BNC plug
E Model 003C03 – Cable with 10-32 plug to BNC plug
F ICP® sensor signal conditioner
G Model 012A03 – Cable with BNC plug to BNC plug
H Readout, recording, or data acquisition device
XXX = Denote cable length, 010 = 10 feet (Metric lengths available)



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