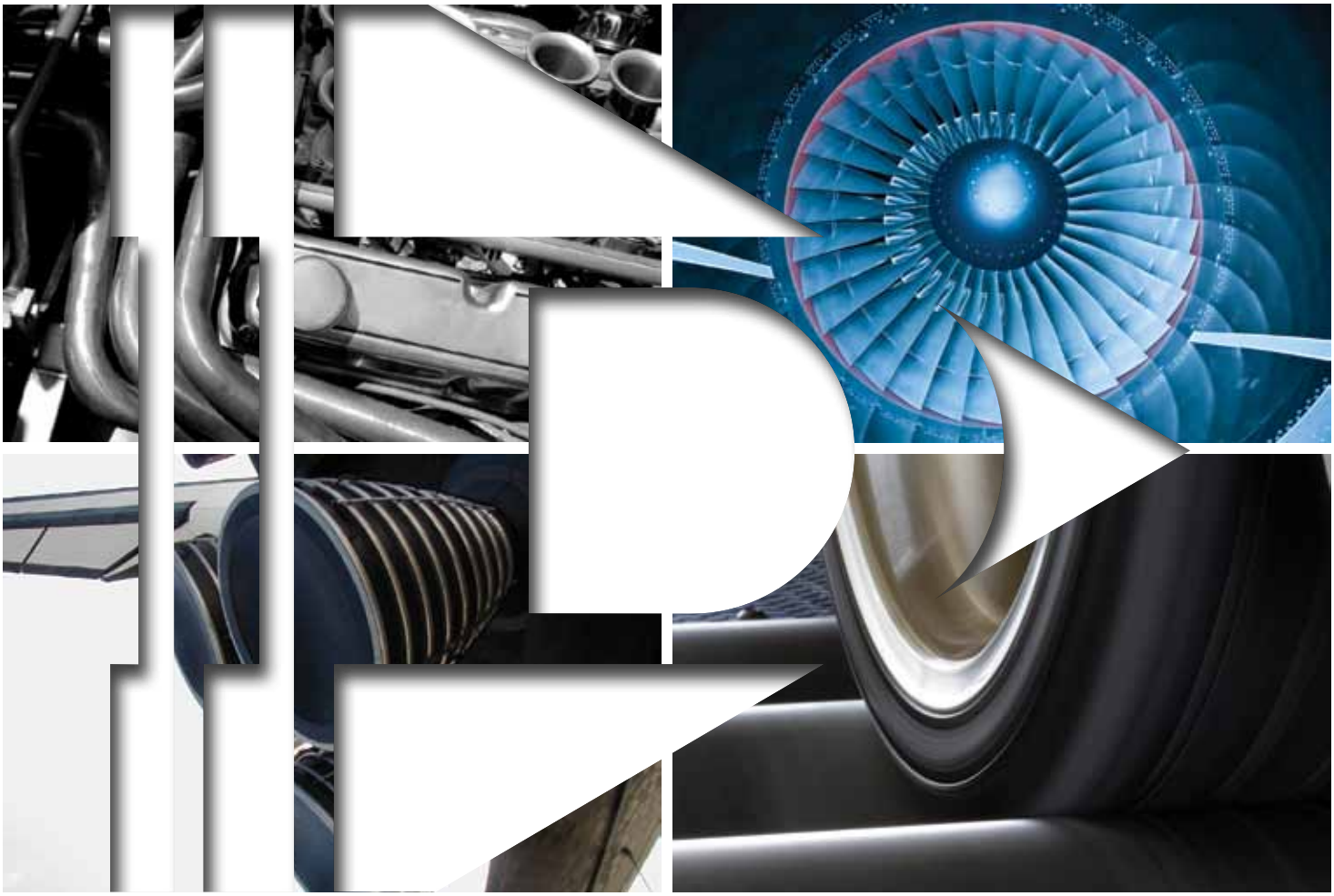
High-Temperature Accelerometers



PIEZOELECTRIC SENSORS FOR DYNAMIC MEASUREMENTS

DYTRAN INSTRUMENTS, INC.

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DYTRAN INSTRUMENTS, INC.

High-Temperature Accelerometers

PIEZOELECTRIC SENSORS FOR DYNAMIC MEASUREMENTS

3023AH

Miniature Triaxial Accelerometer

FEATURES:
- +320°F (+160°C) operation
- 10 mV/g
- 3 grams
- 4-pin connector
- Adhesive mount
- Hermetically sealed
- Titanium construction
- IEPE

BENEFITS:
- Lightweight
- Robust design
- Single cable
- Small footprint
- Excellent temperature stability

TYPICAL APPLICATIONS:
- HALT / HASS
- Noise Vibration Harshness (NVH)
- Environmental Stress Screening (ESS)
- High-temperature vibration measurements

3030B5H

Miniature/ESS Accelerometer

FEATURES:
- +325°F (+163°C) operation
- 10 mV/g
- 7 grams
- 10-32 connector
- 10-32 mounting stud
- Hermetically sealed
- Stainless steel construction
- IEPE

BENEFITS:
- Industry standard for ESS (control)
- Small size
- Robust design
- Excellent temperature stability

TYPICAL APPLICATIONS:
- Environmental Stress Screening (ESS)
- HALT / HASS
- Vibration control

3133A2

Ultra Miniature Triaxial Accelerometer

FEATURES:
- +300°F (+149°C) operation
- 2 to 5 mV/g
- 0.8 grams
- Integral cable
- Adhesive mount
- Titanium construction
- IEPE

BENEFITS:
- Minimal mass loading effects
- Ultra low-profile
- Ultra lightweight
- Light and flexible integral cable

TYPICAL APPLICATIONS:
- Environmental Stress Screening (ESS)
- PC board vibration measurements
- Product response testing
- Mechanical shock testing
- General purpose high-temperature vibration measurements across three orthogonal axes where space is at a premium

3311A

Miniature Through-Hole IEPE Accelerometer

FEATURES:
- +325°F (+163°C) operation
- 50 mV/g
- 2.5 grams
- 5-44 connector
- Through-hole mount (2-56 thread mounting screw)
- Hermetically sealed
- Base isolated
- IEPE

BENEFITS:
- Miniature design
- 360° connector orientation
- Excellent temperature stability
- Extended frequency response

TYPICAL APPLICATIONS:
- Aircraft vibration monitoring
- Automotive applications
- Environmental Stress Screening (ESS)
- General purpose high-temperature vibration measurements

DYTRAN INSTRUMENTS, INC.

High-Temperature Accelerometers

PIEZOELECTRIC SENSORS FOR DYNAMIC MEASUREMENTS

3224A2

Ultra Miniature Teardrop Accelerometer

FEATURES:

+300°F (+149°C) operation
2 to 5 mV/g
0.2 grams
Integral cable
Adhesive mount
Titanium construction
IEPE

BENEFITS:

Minimal mass loading effects
Ultra low-profile
Ultra lightweight
Lightweight and flexible integral cable
High natural frequency

TYPICAL APPLICATIONS:

Environmental Stress Screening (ESS)
PC board vibration measurements
Product response testing
General purpose vibration where space is at a premium
Mechanical shock testing

5334

Vibration Measurement System

FEATURES:

+900°F (+482°C) operation
10 mV/g
(others upon request)
150 grams
3-bolt pattern mount
Hermetically sealed
Case isolated
Stainless steel construction
IEPE

BENEFITS:

Integral hardline cable for ultra high-temperature operation
Easily powered by IEPE data acquisition systems
Industry standard tri-bolt mount
Low-profile

TYPICAL APPLICATIONS:

Aircraft turbine vibration measurements
Industrial turbine vibration measurements
Ultra high-temperature general purpose vibration measurements

3088C/3092C

Charge Mode Accelerometers

FEATURES:

+600°F (+316°C) operation (3088C)
+900°F (+482°C) operation (3092C)
10 pC/g (3088C)
3.5 pC/g (3092C)
42 grams
10-32 connector
10-32 mounting hole
Hermetically sealed
Stainless steel construction
Charge mode

BENEFITS:

No internal electronics required
Increased Mean Time Before Failure (MTBF)
Self-generating device

TYPICAL APPLICATIONS:

Automotive engine / exhaust analysis
Turbine engine vibration monitoring
General purpose high-temperature vibration monitoring

3218C

Vibration Measurement System

FEATURES:

+900°F (+482°C) operation
1.6 pC/g
157 grams
Integral hardline cable
3-bolt pattern mount
Stainless steel construction
Charge mode

BENEFITS:

Differential output
D38999 output connector
Industry standard tri-bolt mount

TYPICAL APPLICATIONS:

Turbine engine vibration monitoring
General purpose high-temperature vibration monitoring

High-Temperature Accelerometers

PIEZOELECTRIC SENSORS FOR DYNAMIC MEASUREMENTS

3221C

Through-Hole Charge Mode Accelerometer

FEATURES:

- +500°F (+260°C) operation
- 10 pC/g
- 11 grams
- 10-32 connector
- Through-hole mount (#6 screw)
- Hermetically sealed
- Base isolated
- Charge mode

BENEFITS:

- Miniature design
- 360° connector orientation
- High charge output
- Extended frequency response
- Low transverse sensitivity

TYPICAL APPLICATIONS:

- Engine vibration monitoring
- Environmental Stress Screening (ESS)
- Automotive testing
- General purpose vibration measurements

3225E

Miniature Teardrop Accelerometer

FEATURES:

- +350°F (+177°C) operation
- 1.6 pC/g
- 0.6 grams
- Adhesive mount
- Titanium construction
- Base isolated design available
- Charge mode

BENEFITS:

- Miniature design
- Minimal mass loading effects
- Lightweight
- Removable cable (also available with integral cable)
- Hermetically sealed (with connector)

TYPICAL APPLICATIONS:

- Environmental Stress Screening (ESS)
- Mechanical shock testing
- PC board vibration measurements
- Product response testing
- General purpose high-temperature vibration measurements where space is at a premium

3235C

Differential Accelerometers

FEATURES:

- +500°F (+260°C) operation
- Available sensitivities of 50, 100 and 200 pC/g
- 55 grams
- 2-pin connector
- 3-bolt pattern mount
- Inconel construction
- Charge mode

BENEFITS:

- Low-noise operation in differential mode
- Industry standard tri-bolt mount
- Continuous high-temperature operation
- Balanced differential output
- High charge sensitivity

TYPICAL APPLICATIONS:

- High-temperature turbine engine vibration measurements
- High-temperature industrial monitoring
- General purpose high-temperature vibration monitoring

3316C

Ultra-Miniature Accelerometer

FEATURES:

- +900°F (+482°C) operation
- 1 pC/g
- 5.7 grams
- 10-32 connector
- 5-40 mounting hole
- Inconel construction
- Hermetically sealed
- Charge mode

BENEFITS:

- Mates with Dytran 6894A hardline cable assembly
- High resonant frequency
- Small size

TYPICAL APPLICATIONS:

- Exhaust system analysis
- Engine analysis
- Environmental Stress Screening (ESS)

High-Temperature Accelerometers

PIEZOELECTRIC SENSORS FOR DYNAMIC MEASUREMENTS

3309A

Differential Through-Hole Accelerometer

FEATURES:

- +500°F (+260°C) operation
- 5 pC/g
- 38 grams
- Mighty Mouse 3-pin connector (800 series)
- Through-hole mount (#8 screw)
- Hermetically sealed
- Case isolated
- Stainless steel construction
- Charge mode

BENEFITS:

- Differential output
- 360° connector orientation
- Excellent temperature stability
- Low-profile
- High electrical isolation

TYPICAL APPLICATIONS:

- Aircraft vibration monitoring
- Engine vibration monitoring
- High-performance engine analysis

3310A

Miniature Teardrop Isolated Accelerometer

FEATURES:

- +500°F (+260°C) operation
- 1 pC/g
- 1 gram
- Adhesive mount
- Titanium construction
- Hermetically sealed
- Base isolated
- Charge mode

BENEFITS:

- Miniature design
- Minimal mass loading effects
- Lightweight
- Removable cable
- Electrical isolation
- High natural frequency

TYPICAL APPLICATIONS:

- Environmental Stress Screening (ESS)
- Mechanical shock testing
- PC board vibration measurements
- Product response testing
- General purpose high-temperature vibration measurements where space is at a premium

3323C

Triaxial Accelerometer

FEATURES:

- +500°F (+260°C) operation
- -15 pC/g
- 60 grams
- (3) 10-32 connectors
- 2-bolt mount
- Stainless steel construction
- Hermetically sealed
- Charge mode

BENEFITS:

- Triaxial design
- High charge output
- Small footprint

TYPICAL APPLICATIONS:

- Industrial vibration monitoring
- Automotive vibration measurements
- General purpose high-temperature triaxial vibration monitoring

Cable Assemblies

6013A

Low-Noise Cable Assembly

FEATURES:

- 10-32 to 10-32
- Standard and custom lengths available

6894A

Hardline Cable Assembly

FEATURES:

- For use up to +900°F (+482°C)
- 10-32 to 10-32
- Standard and custom lengths available

Trusted Expertise.

The team at Dytran Instruments has more than 30 years of experience in the successful design and manufacture of high-temperature piezoelectric sensing technologies, both IEPE and charge mode types, to support a variety of demanding customer applications and program requirements. Dytran carefully monitors each aspect of our in-house manufacturing processes, from the choice of sensing elements and housings, to connectors, soldering and cables, to ensure precision measurement accuracy of finished products within extreme environments.

All models are subjected to rigorous in-house quality assurance testing procedures and regular design reviews for continuous product improvements.

Typical applications for individual models of Dytran high-temperature accelerometers can be found within the charts presented in this brochure.

In addition to the models listed here, Dytran also offers custom manufacturing of high-temperature accelerometers to meet specific requirements.

For assistance in evaluating your application requirements, contact a member of the Dytran Technical Sales team at sales@dytran.com.

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