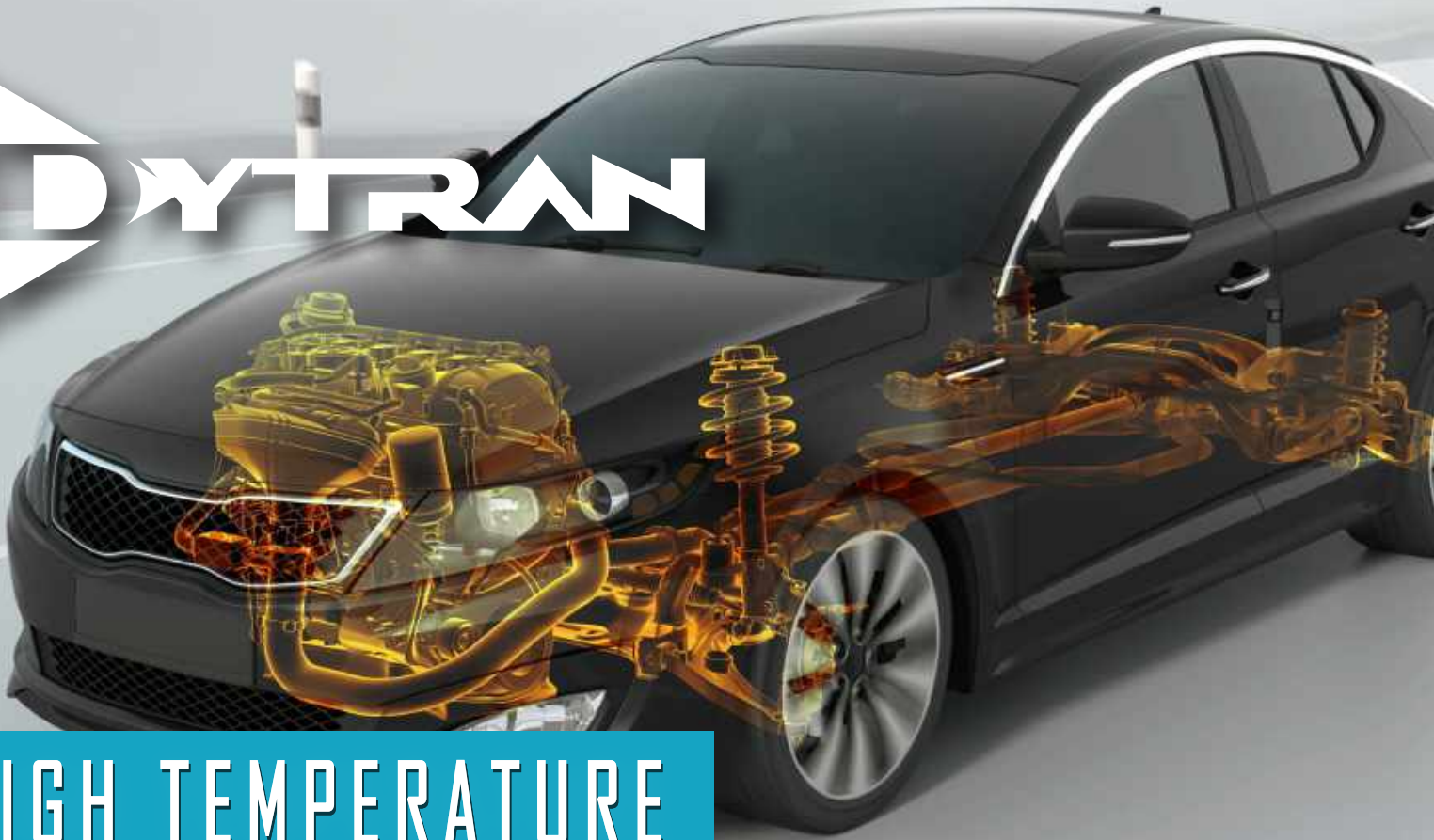
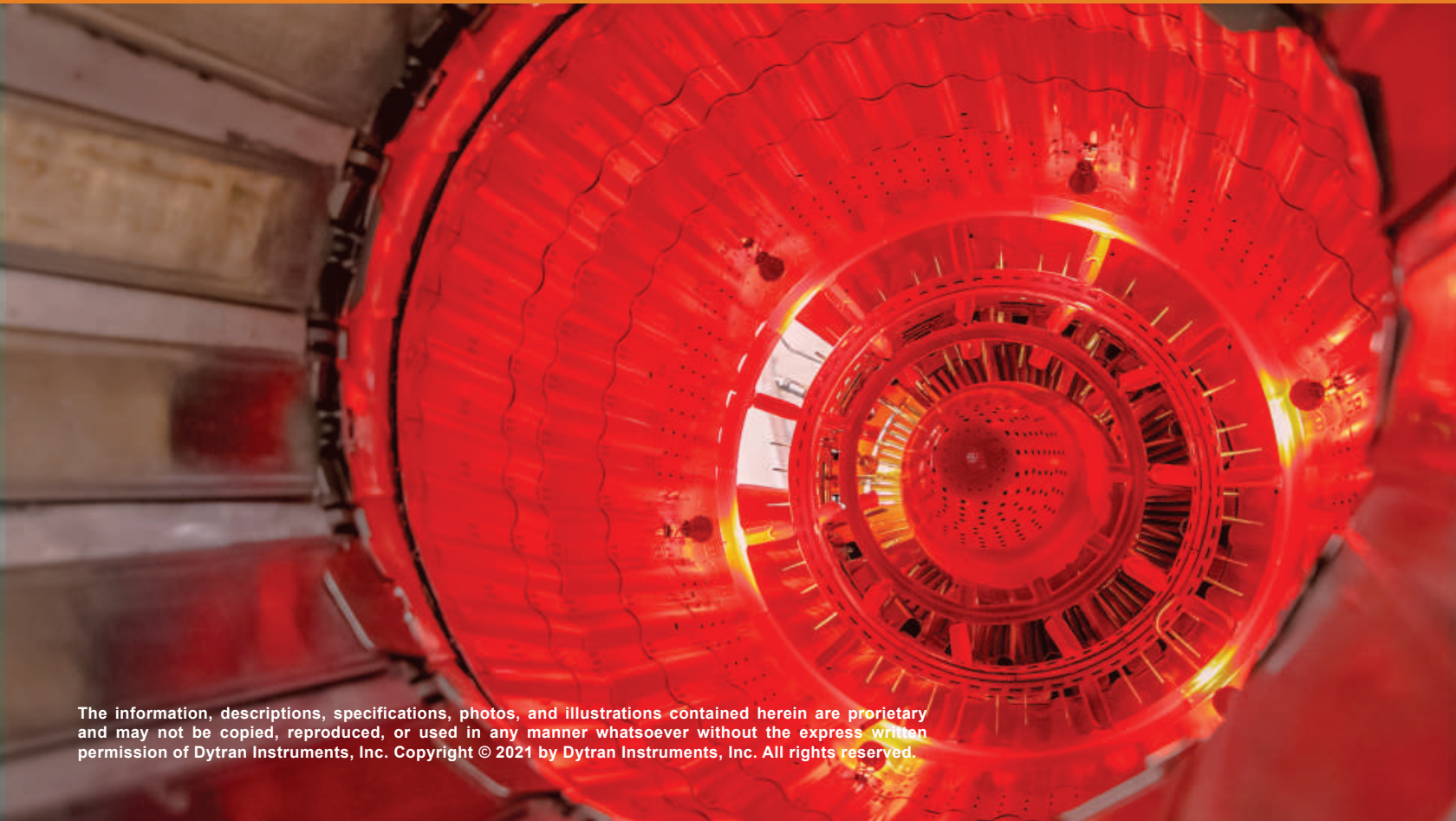




HIGH TEMPERATURE

ADVANCED SENSORS FOR A DYNAMIC WORLD



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HIGH TEMPERATURE ACCELEROMETERS

High temperature piezoelectric vibration sensors are essential to the design and development cycle of gas turbine engines, gearboxes, APUs and other components that are required to operate safely and efficiently in temperatures up to 1200°F in an engine test cell environment. The products in this section are also used to continually monitor the performance of engines in the field for HUMS and other machinery Condition Based Maintenance (CBM) programs. Many of these sensors are easily customizable with user-specified features such as mounting configuration, sensitivity, temperature range, and cable length.

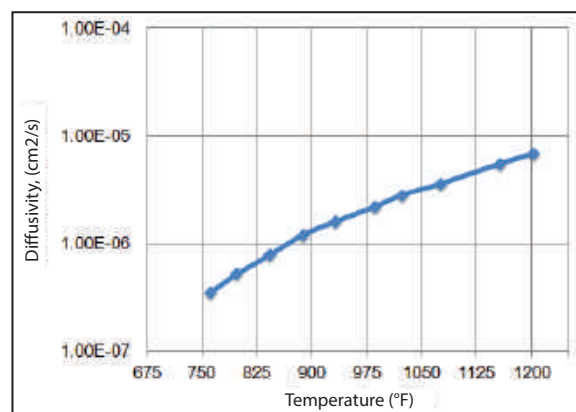
Silver Window™ Technology: The Dytran Advantage

When taking measurements in extreme temperatures, the factor of oxygen depletion affects all piezo-electric materials. Dytran Instruments developed the Silver Window™ to overcome such obstacles. This patented technology is used in our ultra-high temperature sensors: 3316 Series (1000°F), Model 3335C (1200°F) and 3262C Series (1200°F). The Silver Window™ allows a diffused oxygen molecule to pass through at high temperatures, replenishing oxygen to the crystal while also maintaining the hermetic seal integrity. With this innovation, the sensor is more robust to resist thermal shocks and provides excellent low-end frequency response measurements. The Silver Window™ is located on the top cover of the accelerometer housing (shown below).



Patented Dytran Technology

- Assures continuous high temperature operation with no loss of insulation resistance due to oxygen deprivation
- Can operate effectively in rapidly changing thermal environments by exhibiting high resistance to thermal shocks
- Internal components are made from high-temperature alloys that are “tuned” to a perfect match of thermal coefficients of expansion, stabilizing temperature response characteristics
- Sensing element is electrically isolated from the external case to avoid signal ground loop interference



Typical Diffusivity Rate of O₂ Through Silver



Models displaying this symbol feature Silver Window™ Technology

Ultra High Temperature Sensors for Extreme Environments



SW

Model 3262C

Tri-bolt Accelerometer

Applications: Turbine engine, helicopter exhaust, and aircraft testing

Features: Charge mode, differential output, integral hardline cable, alloy 600, hermetic

- +1200°F (+649°C) operation
- 2500 Hz upper frequency range ($\pm 5\%$)*
- 5 pC/g sensitivity
- 100 grams



SW

Model 3335C

Ultra High Temp. Accelerometer

Applications: Exhaust, turbine, rocket engine testing, ESS, and HALT/HASS

Features: Integral hardline cable, electrically isolated, charge mode, alloy 600, hermetic

- +1200°F (+649°C) operation
- 2500 Hz upper frequency range ($\pm 5\%$)*
- 1 to 2 pC/g sensitivity
- 35 grams



SW

Model 3316C2

Base Isolated Accelerometer

Applications: Aerospace, turbine, engine and exhaust system monitoring

Features: Low mass, charge mode, miniature design, integral isolated mounting base, Inconel™ housing, hermetic

- +1000°F (+538°C) operation
- 5000 Hz upper frequency range ($\pm 10\%$)*
- 1 to 2 pC/g sensitivity
- 13 grams



SW

Model 3316M3

Miniature Single Axis Accelerometer

Applications: Aerospace, turbine, engine and exhaust system monitoring

Features: Low mass, charge mode, miniature design, integral isolated mounting base, Inconel™ housing, hermetic

- +1000°F (+538°C) operation
- 10000 Hz upper frequency range ($\pm 10\%$)*
- 1 to 2 pC/g sensitivity
- 6 grams



Model 3683C

Ground Isolated Triaxial Accelerometer

Applications: Exhaust and turbine testing

Features: Center bolt mounting allows for perfect alignment of multi-directional cable exit to reduce spiking, charge mode, hermetic, alloy 600

- +1000°F (+538°C) operation
- 3000 Hz upper frequency range ($\pm 3\text{dB}$)*
- 1 to 2 pC/g sensitivity
- 65 grams



Model 3092C

General Purpose Charge Mode Accelerometer

Applications: Industrial and general purpose high temperature vibration measurements

Features: Consistent performance in harsh environments, low mass, stainless steel, hermetic

- +900°F (+482°C) operation
- 5000 Hz upper frequency range ($\pm 10\%$)*
- 3.5 pC/g sensitivity
- 42 grams

* Low frequency response and phase response are a function of the charge amplifier used.

HIGH TEMPERATURE ACCELEROMETERS

Multi-application High Temperature IEPE Sensors



Model 3030B5H

IEPE Miniature Accelerometer

Applications: ESS, HALT/HASS and vibration control

Features: Design ensures sensitivity stability during rapid, thermal transient conditions, hermetic, IEPE, stainless steel

- +325°F (+163°C) operation
- 5 to 10000 Hz frequency range ($\pm 5\%$)
- 10 mV/g sensitivity
- 7.2 grams



Model 3313AH

High Frequency Triaxial IEPE Accelerometer

Applications: Powertrain NVH: electric isolation for alternators, starters and EV drive train

Features: Eliminates the need for a charge amplifier in harsh environments, broad frequency response, low mass, titanium, hermetic

- +325°F (+163°C) operation
- 1.2 to 10000 Hz frequency range ($\pm 3\text{dB}$)
- Available in 3 sensitivities (mV/g): 1, 5, 10
- 4.1 grams



Model 3525A3

Miniature IEPE Accelerometer

Applications: ESS, HALT/HASS, and automotive hot zones

Features: Among the world's first IEPE accelerometers to operate at +392°F continuously, low mass, IEPE, stainless steel, hermetic

- +392°F (+200°C) operation
- 5 to 10,000 Hz frequency range ($\pm 5\%$)
- 10 mV/g sensitivity
- 6.8 grams



Model 3093M27

Case Isolated Triaxial IEPE Accelerometer

Applications: Powertrain NVH: electric isolation for alternators, starters and EV drive train

Features: Case isolated to prevent ground loop interference and the need for a charge amplifier, titanium, hermetic, TEDS available

- +320°F (+160°C) operation
- 1.1 to 10000 Hz frequency range ($\pm 3\text{dB}\%$)
- 10 mV/g sensitivity
- 15 grams



Model 3133A

Ultra Miniature Triaxial IEPE Accelerometer

Applications: Transmission testing, NVH: under hood bracket, powersteering, and valve cover

Features: Eliminates the need for a charge amplifier in harsh environments, reduces mass loading, adhesive mount, ideal low frequency response, 3 ft integral cable, titanium, hermetic

- +320°F (+160°C) operation
- 0.27 to 10000 Hz frequency range ($\pm 10\%$)
- Available in 5 sensitivities (mV/g): 0.2, 1, 2, 5, 10
- 0.8 grams



Models 3055D7 and 3056D12

High Temp. General Purpose Accelerometers

Applications: Engine NVH, brake testing, AGREE, HALT/HASS chambers, vibration controls and general purpose vibration monitoring

Features: Base isolated, ideal low frequency response, TEDS available, IEPE, titanium, hermetic, top or side connector options available

- +325°F (+163°C) operation
- 1 to 10000 Hz frequency range ($\pm 10\%$)
- 100 mV/g sensitivity
- 10 grams



Model 3311A

Thru-Hole Miniature IEPE Accelerometer

Applications: NVH, ESS, general purpose modal and automotive testing

Features: Base isolated to prevent ground loop and EMI interference, 360° cable orientation, titanium, hermetic

- +320°F (+160°C) operation
- 2 to 10000 Hz frequency range ($\pm 10\%$)
- 50 mV/g sensitivity
- 100 grams



Model 3543A

High Sensitivity Triaxial IEPE Accelerometer

Applications: Powertrain NVH: electric isolation for alternators, starters and EV drive train

Features: Case isolated to prevent ground loop and EMI interference, titanium, hermetic

- +320°F (+160°C) operation
- 2 to 2000 Hz frequency range ($\pm 5\%$)
- 100 mV/g sensitivity
- 15 grams



Model 3115AH

Thru-Hole Miniature IEPE Accelerometer

Applications: Embedded shock monitoring for drilling tools, OEM embedded applications

Features: Lightweight, high temperature operation, IEPE

- +392°F (+200°C) operation
- 25 to 10000 Hz frequency range ($\pm 3\text{dB}\%$)
- 10 mV/g sensitivity
- 2 grams

General Purpose Charge Mode Accelerometers



Models 3055C and 3056C

General Purpose Charge Mode Accelerometers

Applications: Modal and structural analysis, vibration control and general purpose vibration monitoring

Features: Base isolated to prevent ground loop and EMI interference, charge mode, low mass, titanium, hermetic, top or side connector options available

- +375°F (+190°C) operation
- 5000 Hz upper frequency range ($\pm 5\%$)*
- 15 pC/g sensitivity
- 10 grams



Model 3224C

Ultra Miniature High Frequency Accelerometer

Applications: Low mass test articles, NVH, underhood and fuel line vibrations

Features: Reduce mass loading, adhesive mount, charge mode, titanium, 3-foot integral cable

- +350°F (+177°C) operation
- 10000 Hz frequency range ($\pm 5\%$)*
- 0.25 to 0.45 pC/g sensitivity
- 0.2 grams

HIGH TEMPERATURE ACCELEROMETERS

General Purpose Charge Mode Accelerometers



Model 3225E

Ultra Miniature High Sensitivity Accelerometer

Applications: Small test articles, NVH, and mechanical shock

Features: Low mass prevents mass loading test article, teardrop design, negative polarity, adhesive mount, charge mode, titanium, 3 ft integral cable, low outgassing options

- +350°F (+177°C) operation
- 10000 Hz upper frequency range ($\pm 10\%$)*
- 1.8 pC/g sensitivity
- 0.6 grams



3221C Series

Thru-Hole Miniature Accelerometer

Applications: Aerospace and flight testing where space is limited

Features: Base isolated to prevent ground loop and EMI interference, 360° cable orientation, charge mode, titanium, hermetic

- +500°F (+260°C) operation
- 10000 Hz upper frequency range ($\pm 10\%$)*
- Available in 2 sensitivities (pC/g): 6, 10
- 9 grams



Model 3088C

General Purpose High Temperature Accelerometer

Applications: General industrial high temperature vibration monitoring, automotive engine/exhaust analysis

Features: Maintains durability in harsh environments, low mass, charge mode, stainless steel, hermetic

- +600°F (+316°C) operation
- 5000 Hz upper frequency range ($\pm 5\%$)*
- 10 pC/g sensitivity
- 42 grams



Model 3030C1

Charge Mode Single Axis Accelerometer

Applications: ESS, HALT/HASS and vibration control

Features: 360° cable orientation, stainless steel, hermetic, for use in system 5310M1 for vibration control

- +450°F (+232°C) operation
- 5000 Hz upper frequency range ($\pm 10\%$)*
- 0.40 pC/g sensitivity
- 7.2 grams



Model 3310C

Base Isolated Low Profile Ultra Miniature Sensor

Applications: ESS, HALT/HASS, and high temperatures with low mass test articles

Features: Base isolated to prevent ground loop and EMI interference, 3 ft integral cable, adhesive mount titanium, hermetic

- +500°F (+260°C) operation
- 20000 Hz upper frequency range ($\pm 3\text{dB}\%$)*
- 1.2 pC/g sensitivity
- 1.8 grams



Model 3443C

Miniature Charge Mode Triaxial Accelerometer

Applications: Transmission, engine and automotive vibration studies

Features: Thru-hole design, three robust in-line 10-32 connectors allow cables to point in a single direction for use in areas with limited vertical space, titanium, hermetic

- +500°F (+260°C) operation
- 10000 Hz upper frequency range ($\pm 10\%$)*
- 2.7 pC/g sensitivity
- 10 grams

Industry-Standard Tri-bolt Mount Accelerometers



Model 3085C

Case Isolated Accelerometer

Applications: HUMS applications and turbine engine vibration

Features: Design eliminates common mode noise, ground loop and EMI protection, charge mode, stainless steel, hermetic

- +600°F (+316°C) operation
- 2500 Hz upper frequency range ($\pm 5\%$)*
- 10 pC/g sensitivity
- 75 grams



3235C Series

High Sensitivity Accelerometer

Applications: HUMS, compressor and turbine balance/monitoring

Features: Case isolated to prevent ground loop interference and common mode noise, differential output, charge mode, stainless steel, hermetic

- +550°F (+287°C) operation
- 10000 Hz upper frequency range ($\pm 15\%$)*
- Available in 3 sensitivities (pC/g): 50, 100, 200
- 69-85 grams



Model 5334

High Temp. Integrated Charge Amplifier System

Applications: Industrial, turbine, and general purpose vibration monitoring

Features: Uniquely combines IEPE and charge output technology, case isolated, stainless steel, hermetic

- +900°F (+482°C) operation
- 660 Hz upper frequency range ($\pm 5\%$)
- 10 mV/g sensitivity
- 150 grams



Model 5335

High Temp. Hybrid Accelerometer System

Applications: Industrial, turbine, and general purpose vibration

Features: Uniquely combines IEPE and charge output technology, case isolated, stainless steel, hermetic

- +900°F (+482°C) operation
- 1400 Hz upper frequency range ($\pm 5\%$)
- 11 mV/g sensitivity
- 400 grams

Charge Amplifiers



Models 4753 and 4754

In-line Charge Amplifier

- +185°F (+85°C) operation
- 10-32 jack to BNC jack
- Compatible with 3335C, 3316C, 3316C2, 3092C, 3316M1, 3316M2, 3316M3, 3088C



Model 4775

Differential In-line Charge Amplifier

- +185°F (+85°C) operation
- 6-pin connector to 3-pin connector
- Compatible with 3262C

HIGH TEMPERATURE ACCELEROMETERS

Example of a High Temperature Single Axis System

Model 3316M3:
High Temperature Accelerometer



Model 60016:
Hardline Cable



Model 4753B:
In-line Charge Amplifier



Model 6998:
Mounting Base

Example of a High Temperature Triaxial System

High Temperature Accelerometers

Model 3316D1



Model 3316D2



Model 3316C2



Hardline Cables

Model 60016



Each of these models has a different output polarity allowing for an X, Y, Z configuration when used as a system.

Mounting Base and Studs

Model 6460



Assembled System



Compatible Cables for High Temperature Sensors

Dytran designs and manufactures a wide variety of cables for testing and monitoring applications. All cable assemblies are designed and manufactured in the USA. We offer a broad range of standard products as well as custom cables made to customer specifications.



60016A Series

Hardline Cable Assembly

Applications: Turbine engine, helicopter exhaust and aircraft testing

Features: Stainless steel jacket with insulating fiberglass sleeving

- +1100°F (+593°C) operation
- 10-32 plug to 10-32 plug
- Compatible with 3316C, 3316C2, 3092C, 3316M1, 3316M2, 3316M3, 3088C



60051 Series

Low Noise Cable Assembly

Applications: Exhaust, turbines, rocket engine testing, ESS, and HALT/HASS

Features: Coaxial, teflon jacket, low outgassing

- +500°F (+260°C) operation
- 10-32 plug to 10-32 plug
- Compatible with 3049D, 3049D1, 3055C, 3056C, 3122C



6999A Series

Stainless Steel Jacket Cable Assembly

Applications: Aerospace, turbines, engine and exhaust system monitoring

Features: Hardline, insulating fiberglass sleeving

- +1200°F (+648°C) operation
- 10-32 plug to 10-32 plug
- Compatible with 3316C, 3092C, 3316M1, 3316M2, 3088C



Model 60061A

Right Angle Cable Assembly

Applications: Aerospace, turbine, engine and exhaust system monitoring

Features: Hardline, stainless steel jacket with insulating fiberglass sleeving

- +1100°F (+594°C) operation
- 10-32 plug to 10-32 plug
- Compatible with 3316C, 3316C2, 3316M3



6967A Series

Low Noise Armored Cable Assembly

Applications: Exhaust and turbine testing

Features: Triaxial, four conductor, Teflon™ jacket

- +392°F (+200°C) sensor side of cable operation
- 4-pin plug (1/4-28) to (3) BNC plugs
- Compatible with 3543A, 3023AH, 3313A1H, 3093M27, 3023B9T



60136A Series

IEPE Cable Assembly

Applications: Industrial and general purpose high temperature vibration measurements

Features: Coaxial, Teflon™ jacket, white, low noise

- +392°F (+200°C) sensor side of cable operation
- 10-32 plug with hex flats for wrench tightening to BNC plug
- Compatible with 3316C, 3316C2, 3092C, 3316M1, 3316M2, 3316M3, 3088C

HIGH TEMPERATURE ACCELEROMETERS

Compatible Cables for High Temperature Sensors



6838A Series

Industrial Two Conductor Cable Assembly

Features: Teflon™ jacket, white, low noise

- +376°F (+191°C) operation
- 2-pin plug to cutoff
- Compatible with 3085C and 3235C



6333A Series

Triaxial Four Conductor Cable Assembly

Features: Four conductor, Teflon™ jacket, black

- +392°F (+200°C) sensor side of cable operation
- 4-pin plug (1/4-28) to 4-pin jack
- Compatible with 3316C, 3316C2, 3092C, 3316M1, 3316M2, 3316M3, 3088C



60157A Series

Low Noise Armored Cable Assembly

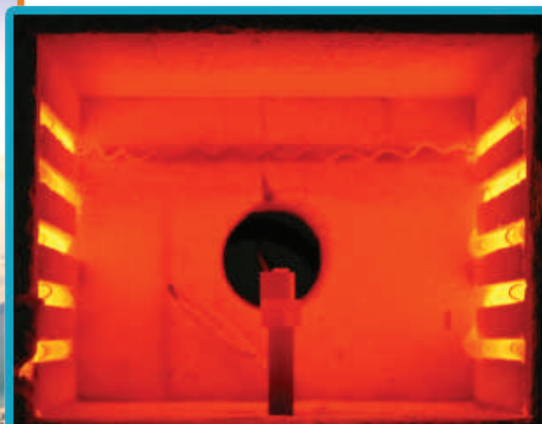
Features: Hardline, stainless steel jacket with insulating fiberglass sleeving

- +1100°F (+593°C) operation
- 10-32 plug to 10-32 plug
- Compatible with 3316C, 3316C2, 3092C, 3316M1, 3316M2, 3316M3, 3088C

Explore our cable offerings:



dytran.com/Cables



Mounting Bases



Model 6763

Isolated Tri-Mounting Base

- +1200°F (+649°C) operation
- 10-32 tapped hole
- Stainless steel
- Compatible with 3316C, 3316C1, 3316M1, 3316M3



Model 6998

Isolated Mounting Base

- +1200°F (+649°C) operation
- 10-32 tapped hole
- Stainless steel
- Compatible with 3316C, 3316C1, 3316M1, 3316M3

Mounting Blocks



Model 6759

Isolated Triaxial Mounting Block

- +1200°F (+649°C) operation
- 3 X 5-40 thru holes
- Mounting stud 1/4-28 UNF-2A X .380
- Titanium
- Compatible with 3316C, 3316C1, 3316M2



Model 6764

Isolated Triaxial Mounting Block

- +1200°F (+649°C) operation
- 3 X 10-32 thru holes
- Mounting stud 1/4-28 UNF-2A X .380
- Titanium
- Compatible with 3316M1, 3316M3

Accessories

Dytran is known for our innovative sensors and industry leading accessories that enable your sensors to perform better. Visit dytran.com/Accessories or scan the QR code below to view our extensive line of accessories.



Model 6196
Magnetic Mounting Base



Model 6552
Triaxial Mounting Block



Model 6213
Adhesive Mounting Base

Explore our
accessory offerings:

 dytran.com/Accessories





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Over **40** years
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Distribution in
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Missiles



Transportation



Marine



Energy



Aerospace



Space



Amusement
Parks



Environmental
Test Labs



Turbine Engines



Factory Floor

Customer Benefit Programs



Sensor Select™ Inventory Stocking Program & Lifetime Warranty

The program ensures availability & rapid delivery of our most popular selling models.



Sensor Exchange™ Qualified Sensor Trade-In Program

Customers are offered an additional 15% off the purchase of a new Dytran sensor to replace a qualifying competitor's model.



The Educational Sensor Donation Program

Engineering students & faculty members may obtain Dytran sensors for their thesis papers & research projects, free of charge.



5-2-1 Warranty Program

We guarantee our products to be free of defects in materials and workmanship as follows:

Standard Products: 5 years from date of shipment | Modified "M-Number" Products: 2 years from date of shipment | Cables and Accessories: 1 year from date of shipment

Learn more



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