



#### ENVIRONMENTAL TEST LAB APPLICATIONS

## Advanced sensors for a dynamic world

Dytran by HBK accelerometers are distinguished by their sensitivity, minimal noise levels, and a broad frequency range. Dytran's extensive portfolio of test lab sensors offers excellent high and low frequency response, great thermal stability, and rugged reliability.



# Environmental Test Lab Sensors

Sensors in this category are characterized by high sensitivity, low noise, and a wide frequency range. Dytran test lab sensors offer excellent high and low frequency response, good thermal stability, and rugged reliability.

## SHAKER CONTROL AND HALT/HASS

Models 3055F and 3056F can be used for modal and structural analysis, vibration control, and general purpose, high-temperature vibration monitoring.

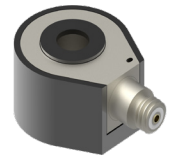
### 3055F and 3056F Series: IEPE Accelerometers

- Ranges ( $\pm$ ): 1,000, 500, 250, 100, 50, 25, 10 g pk
- Sensitivities ( $\pm 5\%$ ): 5, 10, 20, 50, 100, 200, 500 mV/g
- Frequency ranges ( $\pm 10\%$ ): 1-10,000 Hz
- Weight: 10.0 grams



### 3215B Series: Based Isolated Accelerometers with TEDS

- Sensitivity ( $\pm 5\%$ ): 5, 10 mV/g
- Ranges ( $\pm$ ): 500, 1,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 1.1 to 10,000 Hz
- Weight: 8.7 grams



### 3525A Series: High-temperature IEPE Accelerometers

- Sensitivities ( $\pm 15\%$ ): 1, 10 mV/g
- Ranges ( $\pm$ ): 500, 5,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 3.3 to 10,000 Hz
- Weight: 6.8 grams



### 3030B Series: Miniature Quartz Accelerometers

- Sensitivity ( $\pm 5\%$ ): 10 mV/g
- Range ( $\pm$ ): 500 g
- Frequency ranges ( $\pm 10\%$ ): 5 to 10,000 Hz
- Weight: 7.2 grams



### 3713A Series: Shaker Control Sensor

- Sensitivities ( $\pm 20\%$ ): 0.5, 1, 5, 10 mV/g
- Ranges ( $\pm$ ): 500, 1,000, 5,000, 10,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.4 – 4,000 Hz to 1.1 – 4,000 Hz
- Weight: 52 grams



### Model 5310M1: High-temperature Vibration Measurement System

- Sensitivities ( $\pm 10\%$ ): 10 mV/g
- Range ( $\pm$ ): 500 g pk
- Frequency ranges ( $\pm 5\%$ ): 10 to 10,000 Hz
- Weight: 7 grams (Sensor)



## PRODUCT RESPONSE

Sensors used for test article response under vibration, shock, or other excitation must be very lightweight so as not to “mass load” the test article and alter its dynamic behavior, and they must be physically small enough in size in order to fit into tight spaces or critical locations. This is especially important when dealing with today’s consumer products such as mobile phones, tablets, wearables, and other miniature electronics.

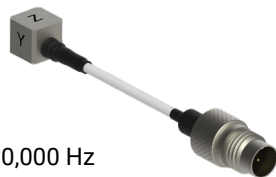
### 3035B Series: Miniature Accelerometer

- Sensitivities ( $\pm 10\%$ ): 10, 50, 100 mV/g
- Range ( $\pm$ ): 500, 100, 50 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.34 – 10,000 Hz
- Weight: 2.5 grams



### 3133A Series: Ultra Miniature Triaxial IEPE Accelerometers

- Sensitivities ( $\pm 15\%$ ): 10, 2, 5, 0.7, 0.2 mV/g
- Ranges ( $\pm$ ): 500, 2,500, 1,000, 5,000, 20,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.27 – 10,000 Hz to 0.66 – 10,000 Hz
- Weight: 0.8 grams



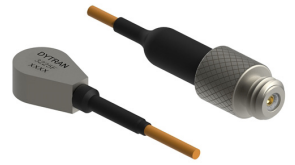
### 3224A Series: Ultra Miniature Accelerometers

- Sensitivities: 0.2, 1, 2 - 5, 5 - 10, 9 - 14 mV/g
- Ranges ( $\pm$ ): 500, 1,000, 2,500, 5,000, 25,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.2 to 20,000 Hz
- 0.2 grams



### Model 3225F1: High Sensitivity Miniature Accelerometer

- Sensitivity ( $\pm 10\%$ ): 10 mV/g
- Range ( $\pm$ ): 500 g pk
- Frequency ranges ( $\pm 10\%$ ): 1.6 – 10,000 Hz
- Weight: 0.6 grams



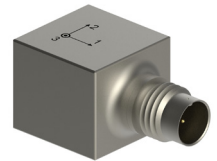
### Model 3310C: High Temperature Low Profile Accelerometer

- +500°F (+260°C) operation
- Sensitivity: 1.0 – 1.3 pC/g
- Upper-frequency range ( $\pm 3\text{dB}\%$ ): 20,000 Hz\*
- Weight: 1.8 grams



### 3263A Series: High Sensitivity Triaxial Accelerometers

- Sensitivities ( $\pm 10\%$ ): 10, 100, 50 mV/g
- Range ( $\pm$ ): 500, 50, 100 g pk
- Frequency ranges ( $-10\%$  +15%): 0.3 – 10,000 Hz
- Weight: 5.6 grams



### 3273A Series: Ultra Low Noise Triaxial Accelerometers

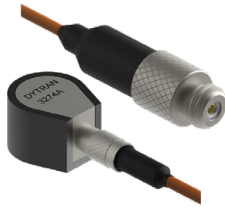
- Sensitivities ( $\pm 10\%$ ): 10, 100, 50 mV/g
- Ranges ( $\pm$ ): 500, 50, 100g pk
- Frequency ranges: ( $\pm 15\%$ ) 0.3 - 10,000 Hz
- Weight: 2.7 grams



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

### 3274A Series: Miniature Accelerometer

- Sensitivities (mV/g):  
5, 10
- Frequency ranges ( $\pm 10\%$ ):  
1.0 – 10,000 Hz
- -40 to +185°F (-40 to +85°C)
- Weight: 2 grams



### 3023B Series: Triaxial Miniature Accelerometers

- Sensitivity ( $-10\%/+15\%$ ): 1, 5, 10 mV/g
- Ranges ( $\pm$ ): 5,000, 1,000, 500 g pk
- Frequency ranges ( $\pm 15\%$ ):  
1.29 – 10,000 Hz
- Weight: 3 grams



## GENERAL PURPOSE

Products in this section are suited for day-to-day use in the test lab. They are compatible with IEPE power supplies available in data acquisition cards, shaker control systems, or with any IEPE power supply available in the lab.

### 3313A Series: Triaxial Accelerometers

- 1 mV/g sensitivity
- 5,000g range
- 4-pin 1/4-28 radial connector
- -60 to +250°F Operation
- Weight: 4.1 grams



### Model 3334A2: Cryogenic Accelerometers

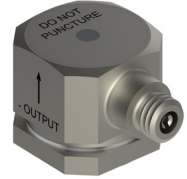
- Sensitivity ( $\pm 10\%$ ): 10 mV/g
- Range ( $\pm$ ): 500 g pk
- Frequency ranges ( $\pm 5\%$ ):  
1–10,000 Hz; 1.2 – 6,000 Hz
- Weight: 2 – 4 grams



## HIGH TEMPERATURE SENSORS

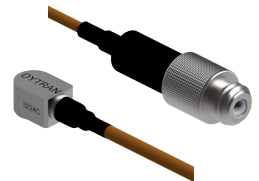
### Model 3316C2: Base Isolated Accelerometer

- +1000°F (+538°C) operation
- Upper-frequency range ( $\pm 10\%$ ):  
5,000 Hz\*
- 1 to 2 pC/g sensitivity
- 13 grams



### 3224C Series: Ultra Miniature High Frequency Accelerometers

- +350°F (+177°C) operation
- Sensitivity: 0.25 to 0.45 pC/g
- Upper-frequency range  
( $\pm 10\%$ )\*: 10,000 Hz
- Weight: 0.2 grams



### Model 3316M3: Miniature Single Axis Accelerometer

- +1000°F (+538°C) operation
- Sensitivity: 1 to 2 pC/g
- Upper-frequency range ( $\pm 10\%$ )\*:  
10,000 Hz
- Weight: 6 grams



## DROP SHOCK TESTING

### 3425A1-XX: IEPE Accelerometer

- Range ( $\pm$ ): 35,000 g pk
- Sensitivity: 0.05 – 0.14 mV/g
- Frequency ranges ( $\pm 10\%$ ): 1 – 20,000 Hz
- Weight: 0.65 grams



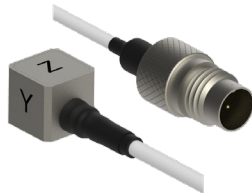
### 3200B Series: General Purpose Accelerometers

- Sensitivities ( $\pm 10\%$ ): 0.05, 0.1, 0.25, 0.5, 1.0, 2.0 mV/g
- Ranges ( $\pm$ ): 70,000, 50,000, 20,000, 10,000, 5,000, 2,500 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.33 – 20,000 Hz
- Weight: 6 grams



### Model 3133A5: Miniature Triaxial Case Isolated Accelerometer

- Sensitivity ( $\pm 25\%$ ): 0.2 mV/g
- Range ( $\pm$ ): 20,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.66 – 10,000 Hz
- Weight: 0.8 grams



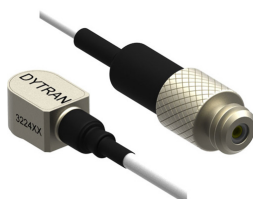
### 3099A Series: Mechanically and Electrically Filtered Accelerometers

- Sensitivities ( $\pm 20\%$ ): 0.05, 0.1, 0.2 mV/g
- Ranges: 100,000, 50,000, 25,000 g pk
- Frequency ranges ( $\pm 3\text{dB}$ ): 10 - 10,000 Hz
- Weight: 8 grams



### Model 3224A6: Ultra Miniature High Frequency IEPE Accelerometer

- Sensitivity ( $\pm 25\%$ ): 0.2 mV/g
- Range ( $\pm$ ): 25,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.2 – 20,000 Hz
- Weight: 0.2 grams



### 3284A Series: Ultra High Range Shock Accelerometers

- Sensitivity: 0.05 – 0.14 mV/g
- Range ( $\pm$ ): 35,000 g pk
- Frequency ranges ( $\pm 10\%$ ): 0.66-20,000 Hz
- Weight: 0.2 grams



## IMPULSE HAMMERS

### 5800B Series: Dynapulse™ Impulse Hammers

- Ranges: 50, 100, 500, 1,000 lbf
- Sensitivities ( $\pm 10\%$ ): 100, 50, 10, 5 m/V/lbf
- Head weight: 3.5 oz (100 grams)



### Model 5800SL: Ultra Miniature Impulse Hammer

- Range: 50 lbf
- Sensitivity ( $\pm 10\%$ ): 100 mV/lbf
- Head weight: 3.0 oz (85.05 grams)



## ACCESSORIES

We are known for designing and manufacturing industry-leading accessories that enhance the performance of your sensors.

### Model 6677: Rotational Mounting Base



### Model 6223: Isolated Mounting Base



### Model 6552: Triaxial Mounting Block



### Model 6998: Isolation Base

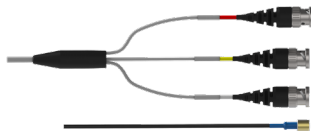


## CABLE ASSEMBLIES

Dytran designs and manufactures a wide variety of cables for your testing and monitoring requirements. We offer a broad range of standard products as well as custom cables made to customer specifications.

### 6811A Series: General Purpose Triaxial Cables

- Four conductor
- 28 4-pin connector to (3) BNC plugs
- Teflon™ jacket
- -67 to +275°F (-55 to +135°C) operation
- BNC: -148°F - 392°F (-100°C - +200°C)



### 6011A Series: Low Noise Cables

- Coaxial
- 10 – 32 plug to BNC plug
- Teflon™ jacket
- BNC: -148°F - 392°F (-100°C - +200°C)



### 6019A Series: Low Noise Cables

- Coaxial
- 10 – 32 plug to BNC plug
- Teflon™ jacket
- BNC: -148°F - 392°F (-100°C - +200°C)



### 60033A Series: Splash Proof Triaxial Cables

- Four conductor
- IP64 rated 1/4 – 28 4-pin connector to (3) BNC plugs
- Teflon™ jacket
- -67 to +275°F (-55 to +135°C) operation



## PORTABLE VIBRATION RECORDERS

Our line of portable vibration recorders offer an innovative cost-effective solution for capturing critical vibration data in real-world applications!

Offered in various configurations, these compact, and lightweight units include easily installed user-configurable software that optimizes data collection. Internal accelerometers eliminate the need for external cable runs and complex signal conditioning.

Robust anti-aliasing filters ensure data integrity. Test data is stored on a convenient removable memory SD card that plugs directly into your laptop. All VibraCorder™ products feature internal rechargeable batteries and remote power options for short and long duration tests. RoHS and CE certification pending.

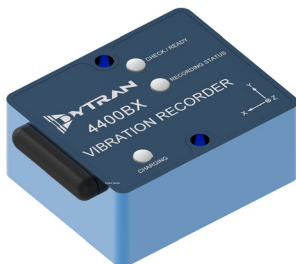
### VibraCorder™: Model 4600A

- 3 channels of IEPE data acquisition using standard 10 – 32 coaxial connectors
- Environmentally sealed
- Ruggedized aluminum package
- Battery: 1,400 mAh (rechargeable)
- Sampling Rates: 100, 500, 1,000, 5,000, 10,000, 25,000
- IP64 rated
- Weight: 150 grams



### VibraCorder™: 4400B Series Vibration Recorder

- Built-in triaxial MEMS accelerometer
- Synchronization capabilities
- Triggered data acquisition,
- Ranges ( $\pm$ ): 2g, 19g, 200g
- Battery life: 15 hrs
- Sampling rates: 100, 500, 1,000, 5,000, 10,000 samples/sec
- IP 64 rated



### VibraCorder™ II: 4401A Series

- Captures 6DoF, static, and dynamic acceleration measurements
- Software controlled relay for the operation of external components such as cameras and indicator lights
- Ranges ( $\pm$ ): 5g, 16g
- Battery life: 24 hrs
- Sampling rates: 250, 1,200, 4,280 samples/sec
- IP 65 rated



### VibraCorder™ III: 4404A Series

- Captures 6DoF data for whole-body vibration measurements in extreme environments
- 3% transverse sensitivity
- Remote triggering capabilities
- Ranges ( $\pm$ ): 10g
- Battery life: 24 hrs
- Sampling rates: 120, 250, 256, 500, 512, 720, 1,024, 1,200 samples/sec
- IP 67 rated

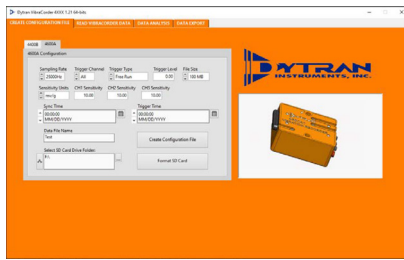


### VibraCorder™: Model 4601A With Display

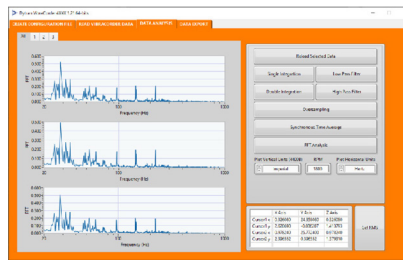
- Compact, multi-channel data logger designed for use with IEPE Sensors
- Micro-SDHC card compatible
- Dual mounting configurations
- Integrated anti-aliasing filters
- Battery life: 8 hrs
- Sampling rates: 100, 500, 1000, 5000, 10,000, 25,000 samples/sec



## Setup Menu



## Data Analysis



## Data Selection



**We provide exceptional sensing and insights to create solutions for a cleaner, healthier and more productive world**

## CONTACT US



## SERVICES

Dytran by HBK provides comprehensive support for customised and dedicated solutions, specifically tailored to meet our customers' unique needs.

Our commitment extends to customer training, whether conducted remotely, at our facilities, or on-site. We ensure that customers become proficient in deploying and utilising our cutting-edge technology.

Additionally, our specialised engineering team manages installation and project coordination for bespoke projects, drawing upon extensive experience and relevant certifications for offshore or elevated works.

