# 536A

## Isolated tri-axial IEPE accelerometer


## Description

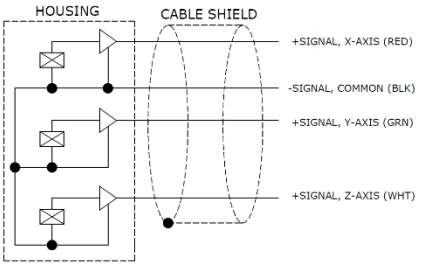
Model 536A is an IEPE triaxial accelerometer designed for industrial applications. The accelerometer uses shear piezo electronical element which provides a wide operating frequency range. The IEPE sensor combines outstanding crystals and low noise integral microelectronics to achieve very low sensitivity variation over the operating temperature range, compared to other sensing element designs. The shear element technology also ensures high immunity to base strain errors. The accelerometer uses a housing isolated construction and integral cable assembly for lower mass and wider frequency operation. Excellent frequency response, both amplitude and phase, provide the user with a triaxial accelerometer ideally suited for structural and machine monitoring, drop tests and general laboratory vibration work. The thin configuration of this accelerometer enables the test engineer or technician to measure the accelerations of three orthogonal axes of vibration simultaneously on compact structures. All variations provide reliable measurements and long-term stability.

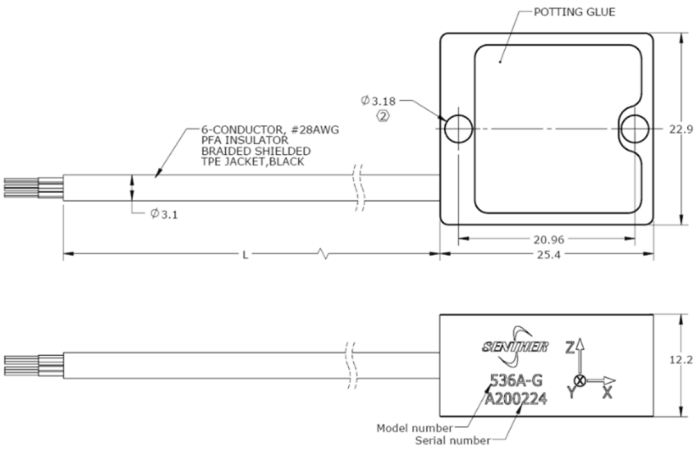
## Features

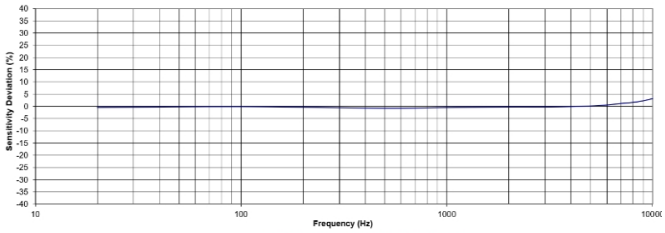
- Tri-axial measurement
- Flexible cable exit
- Adhesive or screw mounting
- Hermetic sealed
- Annular shear mode
- Wide frequency response
- Mounting ground isolated

## Application

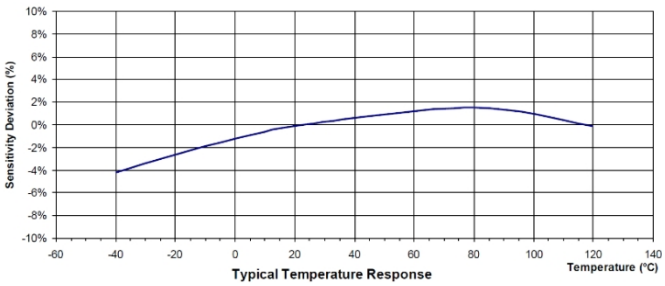
- Embedded monitoring
- Shock recorder
- Modal analysis
- Machine monitoring




Typical Frequency Response




Typical Temperature Response

## Specification

Typical at +24°C (+75°F), 24Vdc, 4 mA and 100Hz, unless otherwise stated.

| Part Number | 536A-10 | 536A-20 | 536A-50 | 536A-100 | 536A-200 | 536A-250 | 536A-500 | |
|---|---|---|---|---|---|---|---|---|
| **Measurement Range** | 10 | 20 | 50 | 100 | 200 | 250 | 500 | g |
| **Sensitivity, ±10%** | 500 | 250 | 100 | 50 | 25 | 20 | 10 | mV/g |
| **Frequency Response, ±10%** | 5-5000 | 2.5-6000 | 1-7000 | 1-8000 | 1-8000 | 1-8000 | 1-9000 | Hz |
| **Frequency Response, ±3dB** | 3-7000 | 2-8000 | 0.4-10000 | 0.4-11000 | 0.4-11000 | 0.4-11000 | 0.4-12000 | Hz |
| **Resonant Frequency** | 38 | 38 | 38 | 38 | 38 | 38 | 38 | kHz |
| **Transverse Sensitivity** | <5 | <5 | <5 | <5 | <5 | <5 | <5 | % |
| **Temperature Response, -55 to +125°C** | ±10 | ±10 | ±10 | ±10 | ±10 | ±10 | ±10 | % |
| **Non-Linearity** | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | %FSO |
| **Residual Noise (2 Hz to 30 KHz)** | 0.0002 | 0.0003 | 0.0004 | 0.0005 | 0.0005 | 0.0005 | 0.0012 | Equiv. g RMS |
| **Shock Limit** | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | g |

| Parameters | Value | Units |
|---|---|---|
| **Bias Voltage (Room Temperature)** | 8 to 12 | Vdc |
| **Bias Voltage (-55°C To 125°C)** | 6 to 13 | Vdc |
| **Output Impedance** | <100 | Ω |
| **Full Scale Output Voltage** | ±5 | V |
| **Insulation Resistance (@100Vdc)** | >100 | MΩ |
| **Supply (Compliance) Voltage** | 18 to 30 | Vdc |
| **Supply Current** | 2 to 10 | mA |
| **Operating & Storage Temperature** | -40 to +125°C | °C |
| **Humidity** | Epoxy Sealed | |
| **Case Material** | Black Anodized Aluminum Alloy | |
| **Sensing Element** | Piezo Ceramic | |
| **Weight** | 20 | Grams |
| **Mounting Torque** | 6 (0.7) | lb-in (N-m) |

## Accessories

Calibration certificate included.

| Part Number | Description | Availability |
|---|---|---|
| **PM0361** | M3x16.0 cup socket head screw and washer | 2pcs included |
| **PM0225** | #4-40x 5/8" cup socket head screw and washer | Optional |
| **MB0024** | Magnet mounting adaptor | Optional |
| **IN-03** | 3 channels IEPE signal conditioner | Optional |
| **IN-91** | Portable vibration analyzer | Optional |
| **IN-3062** | 8 channels data acquisition system | Optional |

## Measurement configuration

| Sensor | Signal conditioner | BNC cable | Data acquisition | Computer |
|---|---|---|---|---|
|  |  |  |  |  |

## Ordering information

| **536** | **A** | **-** | **50** | **-** | **2C1** |
|---|---|---|---|---|---|
| **Model** | Output signal | - | Range | - | Cable length / Connector |
| **536** | A=IEPE output | - | 20=20g<br>50=50g<br>100=100g<br>500=500g | - | 2=2meter<br>C1=Split to 3x BNC connector<br>C2=Split to 3x BNC connector and shield wire |