

## IEPE Accelerometer

### DETAILS

The model adopts piezoelectric ceramic shear structure, with wide band frequency response, resistant to large impact damage, high-quality piezoelectric ceramic with long-term stability can ensure years of accurate measurement. Built-in low impedance circuit, characterized by low noise, good low frequency response, small size and high sensitivity. The housing is made of titanium alloy with lower density and laser welding. Each of the three axial directions is equipped with calibration holes for easy calibration and installation, and an insulated mounting kit is standard.

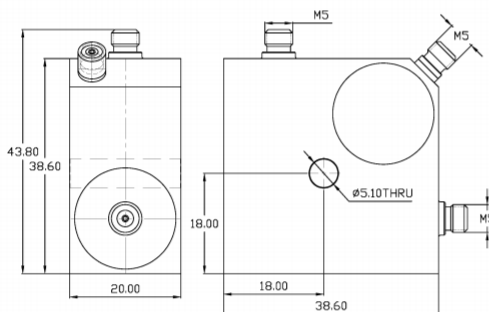
### FEATURES

- Integrated Microminiature Built-in
- One-point multi-axial measurement
- 360° mounting
- Insulated mounting base as standard

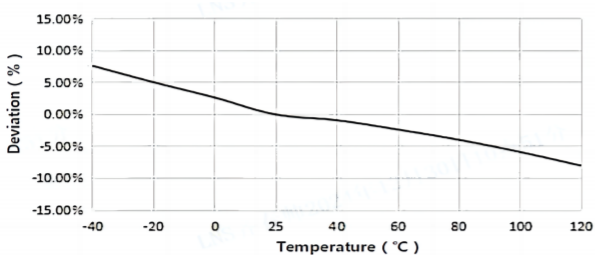
### TYPICAL APPLICATIONS

- Bridge structural testing
- Building structural testing

**Fig\_1** Dimensions of B10Y42

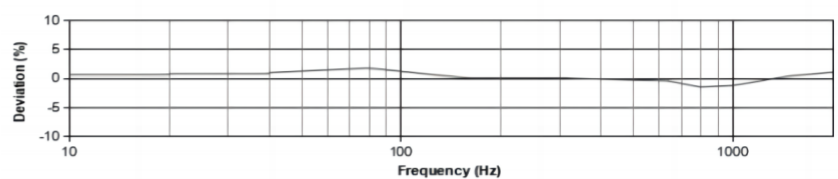


**Fig\_2** Typical Temperature Response



B10Y42

**Fig\_3** Typical Frequency Response



## Specifications-B10Y42

MODEL NUMBER	UNIT	B10Y42
<b>PERFORMANCE</b>		
Sensitivity <sup>1</sup>	mV/g	1000
	mV/(m/s <sup>2</sup> )	100
Measurement Range	g	±5
Broadband Resolution <sup>2</sup>	g rms	0.00001
Non-Linearity <sup>3</sup>	%	1
Frequency Range	± 5%(Hz)	0.1-2k
	±10%(Hz)	0.07-3k
Resonance Frequency <sup>2</sup>	Hz	≥13k
Discharge Time Constant <sup>2</sup>	s	≥10
Transverse Sensitivity	%	≤5
<b>ELECTRICAL</b>		
Excitation Voltage	VDC	20-30
Constant Current Excitation	mA	2-20
Output Impedance	Ω	≤100
Output Bias Voltage	V	8-12
Electrical Isolation	Ω	-
Spectral Noise <sup>2</sup>	μg/√Hz	0.6
		0.24
		0.16
<b>ENVIRONMENTAL</b>		
Sinusoidal Vibration Limit <sup>4</sup>	g	40
Shock Limit <sup>4</sup>	g	100
Temperature Range	°C	-40-120
	°F	-40-248
Temperature Response <sup>2</sup>	%/°C	-0.1
<b>PHYSICAL</b>		
Sealing	-	Laser welding IP68
Sensing Element	-	Piezoelectric ceramics
Housing Material	-	Titanium alloy
Size	mm	38.6×38.6×20
	in	1.520×1.520×0.787
Electrical Connector	-	M5×3
Mounting	-	φ5.1 THRU
Weight <sup>2</sup>	g	176
	oz	6.208
TEDS Optional <sup>5</sup>	-	Yes

## Additional Information

### Note:

- @ 160Hz, 24VDC, 4mA conditions
- Typical values
- JBT 6822-2018 7.12.1 Vibration Testing Method
- References the mechanical structure of the sensor not being damaged in a non powered state, rather than in a working state
- Some products may have changes in size after adding TEDS

### B10Y42

Supplied Accessories:

- Product Verification Report
- Install Screws

### OPTIONAL VERSIONS

-A: 10-32 Output Connector

### COMPLIANCE WITH STANDARDS



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