

Universal Testing Type Accelerometer

DETAILS

BXXY91 series triaxial acceleration sensors use a piezoelectric ceramic shear structure, providing wide-band frequency response, low transverse sensitivity, and excellent resistance to thermal transients. The built-in high-temperature, low-impedance circuit ensures low noise and stable sensitivity across temperature variations, with an operating range up to +160°C. The titanium alloy housing, featuring low density and precision laser welding, offers strength and durability. Each axis includes calibration holes for easy alignment and verification, and the sensor comes standard with insulated mounting components for reliable installation.

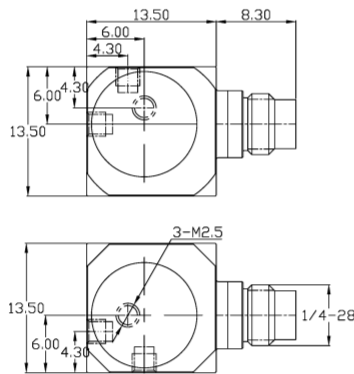
FEATURES

- Built-in high temperature circuit
- One-point multi-axial measurement
- Shear structure, stable and reliable
- Insulated mounting base as standard

TYPICAL APPLICATIONS

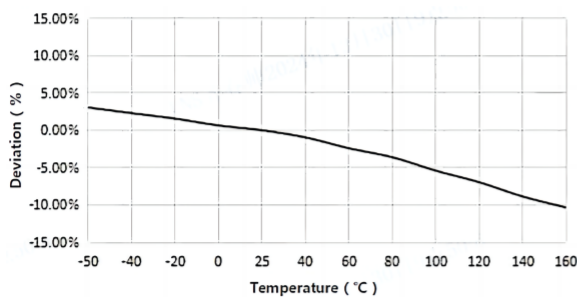
- Powertrain NVH
- HASS/HALT
- Modal structure and analysis

Fig_1 Dimensions of BXXY91

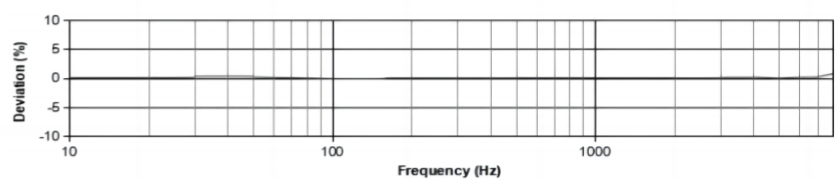


BXXY91

Fig_2 Typical Temperature Response



Fig_3 Typical Frequency Response



Specifications-BXXY91

MODEL NUMBER		UNIT	B01Y91	B02Y91	B05Y91	B06Y91
PERFORMANCE						
Sensitivity ¹		mV/g	5(±10%)	10(±10%)	50	100
		mV/(m/s²)	0.5	1	5	10
Measurement Range		g	±1000	±500	±100	±50
Broadband Resolution ²		g rms	0.002	0.001	0.0002	0.0001
Non-Linearity ³		%	1			
Frequency Range	± 5%	Hz	1-8k	1-8k	1-8k	1-8k
	±10%		0.5-10k	0.5-10k	0.5-10k	0.5-10k
Resonance Frequency ²		Hz	≥70k	≥70k	≥45k	≥38k
Discharge Time Constant ²		s	≤1			
Transverse Sensitivity		%	≤5			
ELECTRICAL						
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 ²	10Hz	μg/√Hz	120	60	12	6
	100Hz		48	24	4.8	2.4
	1000Hz		32	16	3.2	1.6
ENVIRONMENTAL						
Sinusoidal Vibration Limit ⁴		g rms	2500	2000	800	400
Shock Limit ⁴		g pk	8000	5000	2000	1000
Temperature Range		°C	-50~160			
		°F	-58~320			
Temperature Response ²		%/°C	-0.07			-0.08
PHYSICAL						
Sealing		-	Laser welding IP68			
Sensing Element		-	Piezoelectric ceramics			
Housing Material		-	Titanium Alloy			
Size	mm	13.50 Cube				
	in	0.531 Cube				
Electrical Connector		-	1/4-28 4-pin Side			
Mounting Thread		-	M2.5/Adhesive			
Weight ²	g	7	9	9	9.5	
	oz	0.247	0.317	0.317	0.335	
TEDS Optional ⁵		-	No			

Additional Information

Note:

1. @ 160Hz, 24VDC, 4mA conditions
2. Typical values
3. JBT 6822-2018 7.12.1 Vibration Testing Method
4. References the mechanical structure of the sensor not being damaged in a non powered state, rather than in a working state

BXXY91

Supplied Accessories:

- Product Verification Report
- Install Screws

COMPLIANCE WITH STANDARDS



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