

IEPE Low-Noise High-Sensitivity Uniaxial Accelerometer

DETAILS

The BXXB05 series are low-noise uniaxial IEPE accelerometers designed specifically for low-frequency, low-amplitude measurement applications. The high-sensitivity, compact sensing element and dedicated low-noise circuit provide a high signal-to-noise ratio at low frequencies. The laser-welded stainless steel housing provides high sealing integrity and mechanical strength. A 10-32/M5 threaded stud mount is provided on the base.

FEATURES

- Dedicated low-noise ASIC — optimized for low-frequency, low-amplitude measurements
- High sensitivity in a compact form factor
- Shear sensing element — stable and reliable output

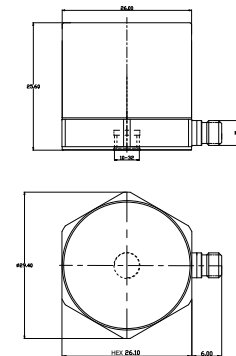
TYPICAL APPLICATIONS

- Low-frequency vibration measurements
- Bridge, building, and civil structural measurements

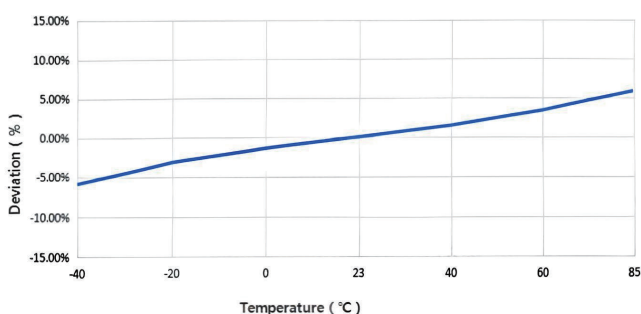
Fig_1 Picture of BXXB05



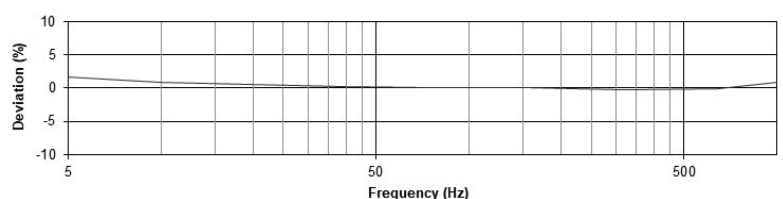
Fig_3 Dimensions of BXXB05



Fig_4 Typical Temperature Response



Fig_5 Typical Frequency Response



Specifications-BXXB05

MODEL NUMBER		UNIT	B10B05	B12B05
PERFORMANCE				
Sensitivity ¹		mV/g	1000	10000
		mV/(m/s²)	100	1000
Measurement Range		g	±5	±0.5
Broadband Resolution ²		g rms	0.000003	0.000004
Non-Linearity ³		%	1	
Frequency Range	± 5%	Hz	0.1-1k	0.7-700
	±10%		0.05-4k(±3dB)	0.5-900
Resonance Frequency ²		Hz	≥7k	≥7k
Discharge Time Constant ²		s	≥10	
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	0.3	0.5
	100Hz		0.1	0.1
	1000Hz		0.04	0.07
ENVIRONMENTAL				
Sinusoidal Vibration Limit ⁴		g rms	40	40
Shock Limit ⁴		g pk	100	100
Temperature Range		°C	-40~85	
		°F	-40~185	
Temperature Response ²		-	See typical curve	
PHYSICAL				
Sealing		-	Laser welding IP68	
Sensing Element		-	Piezoelectric ceramics	
Housing Material		-	Stainless steel	
Size		mm	HEX 26.1*25.6	
		in	HEX 1.028*1.008	
Electrical Connector		-	M5 Top (Opt.10-32)	
Mounting Thread		-	M5*4mm (Opt.10-32)	
Weight ²		g	144	144
		oz	5.079	5.079
Mounting Torque		N·m	3.0	
Recommended Accessories	Cable	-	K14AB02	
	Mounting Base	-	H02D08	
TEDS Model Number 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
5. Some products may have changes in size after adding TEDS

BXXB05

Supplied Accessories:

- Product Verification Report
- (10-32)*8 Mounting Screw

OPTIONALVERSIONS

- A: 10-32 Output Connector
- E: 10-32 Mounting Threads

COMPLIANCE WITH STANDARDS

