



BXXBM9

IEPE Single-Axis Modal Testing Accelerometer

- B02BM9
- B05BM9
- B06BM9

±50 g ... ±500 g · 0.5 Hz ... 18 kHz · 1.8 - 2.2 g

The BXXBM9 series of miniature accelerometers incorporates a built-in micro-impedance converter that transforms charge signals generated during vibration into voltage signals. These sensors exhibit exceptional long-term stability and repeatability. Featuring a laser-welded titanium alloy housing, they offer compact dimensions and lightweight construction.

FEATURES

- Micro-miniature built-in integrated circuits
- Compact size, lightweight
- High frequency response characteristics
- Side-exit 5-44 connector, 5-40 stud mount

TYPICAL APPLICATIONS

- PC board testing
- ESS
- Space-constrained vibration measurements
- Modal testing of small structures

SPECIFICATIONS

MODEL	B02BM9	B05BM9	B06BM9	UNIT
PERFORMANCE				
Sensitivity ¹	10	50	100	mV/g
	1	5	10	mV/(m/s ²)
Measurement range	±500	±100	±50	g pk
Frequency range, ±5%	1-10k	1-10k	1-9k	Hz
Frequency range, ±10%	0.5-18k	0.5-11k	0.5-10k	Hz
Resonance frequency ²	≥50k	≥38k	≥35k	Hz
Broadband resolution ²	0.001	0.0002	0.0001	g rms
Spectral noise ² @ 10 Hz	150	—	15	µg/√Hz
	@ 100 Hz	40	4	µg/√Hz
	@ 1 kHz	20	2	µg/√Hz
Non-linearity ³		≤1		%
Transverse sensitivity		≤5		%
Discharge time constant ²	1	≤1	1	s

MODEL	B02BM9	B05BM9	B06BM9	UNIT
ENVIRONMENTAL				
Sinusoidal vibration limit ⁴	2000	800	400	g rms
Shock limit ⁴	5000	2000	1000	g pk
Temperature range		-50 ~ 120		°C
		-58 ~ 248		°F
Temperature response ²	See Fig. 2	-0.07 %/°C	See Fig. 2	—
Sealing		Laser welded, IP68		—
ELECTRICAL				
Excitation voltage		20 - 30		VDC
Constant current excitation		2 - 20		mA
Output impedance		≤100		Ω
Output bias voltage		8 - 12		V
Full-scale output	—	±5	—	V
Maximum overrange output	—	±6	—	V
Electrical isolation		—		Ω
PHYSICAL				
Sensing element		Piezoelectric ceramic, shear		—
Housing material		Titanium alloy		—
Size (hex × hex × length)	7.9×8.3×13.9	8.1×8.3×14.1	8.3×8.3×14.3	mm
	0.311×0.327×0.547	0.319×0.327×0.555	0.327×0.327×0.563	in
Weight ²	1.8	2.2	2.0	g
	0.063	0.078	0.071	oz
Electrical connector		5-44, side exit		—
Mounting thread		5-40 male stud		—
Mounting torque		0.6		N·m
TEDS option		Not available		—

1 Measured at 160 Hz, 24 VDC, 4 mA excitation.

2 Typical value.

3 Per JB/T 6822-2018 §7.12.1 vibration testing method.

4 Limit of the mechanical structure in a non-powered state, not a working limit.

— Not specified in source data.

TYPICAL RESPONSE

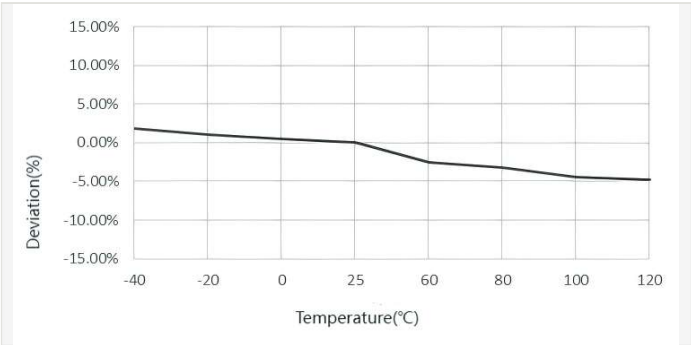


Fig. 2 – Typical temperature response

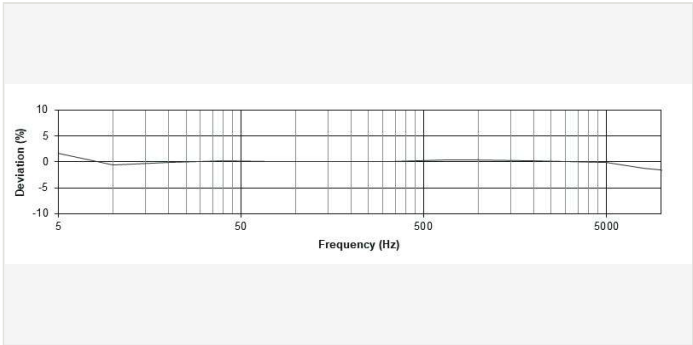


Fig. 3 – Typical frequency response

DIMENSIONS

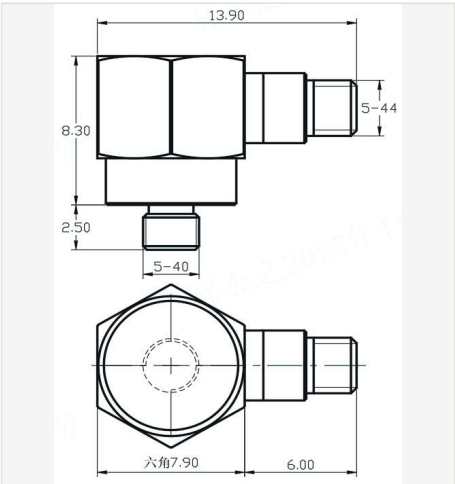


Fig. 1a – B02BM9, mm

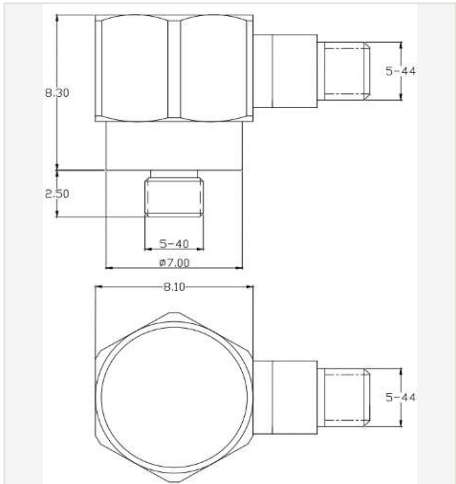


Fig. 1b – B05BM9, mm

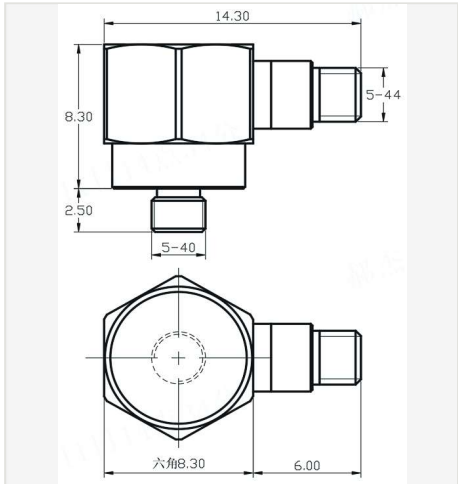


Fig. 1c – B06BM9, mm

ORDERING INFORMATION

ORDER	SENSITIVITY	RANGE	FREQUENCY ±10%	WEIGHT
B02BM9	10 mV/g	±500 g	0.5-18k Hz	1.8 g
B05BM9	50 mV/g	±100 g	0.5-11k Hz	2.2 g
B06BM9	100 mV/g	±50 g	0.5-10k Hz	2.0 g

SUPPLIED ACCESSORIES

- Product calibration certificate
- Installation screws
- User manual

CALIBRATION & COMPLIANCE

Every sensor is calibrated at 160 Hz (24 VDC, 4 mA) before shipment and ships with a product calibration certificate documenting measured sensitivity.

Vibration testing per JB/T 6822-2018. LNS Intelligent Technology is an ISO 9001:2015 certified manufacturer.



In the interest of continuous product improvement, LNS reserves the right to change specifications without notice. Values shown are typical unless stated otherwise.