BXXY35 · BXXY36

IEPE Impact-Resistant High-Sensitivity Triaxial Accelerometer



B09Y35 | B10Y35 | B09Y36 | B10Y36

500 / 1000 mV/g · ±10 / ±5 g · 0.5 Hz … 8 kHz · 37 g · 19.7 mm cube · 1/4-28 4-pin

These triaxial IEPE accelerometers use a piezoelectric ceramic shear sensing element with a wide-bandwidth frequency response and a high-sensitivity, low-noise circuit optimized for measurements at low vibration amplitudes. The built-in low-impedance circuit provides good low-frequency response. Shape-memory alloy fasteners with a special structural design extend shock survivability beyond the rating of standard fasteners. The laser-welded titanium alloy housing has an M5 mounting thread on each axis and ships with insulated mounting hardware as standard.

FEATURES

- High-sensitivity design resolves low-amplitude vibration
- Optimized low-frequency response
- Enhanced shock survivability: shape-memory alloy fasteners with special structural design

TYPICAL APPLICATIONS

- Bridge, building and civil structural measurements

SPECIFICATIONS

MODEL	B09Y35	B10Y35	B09Y36	B10Y36	UNIT
PERFORMANCE					
Sensitivity (±5%) [1]	500	1000	500	1000	mV/g
	50	100	50	100	mV/(m/s²)
Measurement range	±10	±5	±10	±5	g
Frequency range, ±5%	0.5–5k	0.5–5k	0.5–8k	0.5–8k	Hz
Frequency range, ±10%	0.3–6k	0.3–6k	0.3–10k	0.3–10k	Hz
Resonance frequency [2]		≥32k			Hz
Broadband resolution [2]	0.00002	0.00001	0.00002	0.00001	g rms
Spectral noise [2] @ 10 Hz	3.8	4.2	3.8	4.2	µg/√Hz
@ 100 Hz	1.4	1.6	1.4	1.6	µg/√Hz
@ 1 kHz	0.6	0.8	0.6	0.8	µg/√Hz
Non-linearity [3]		≤1			%
Transverse sensitivity		≤5			%
Discharge time constant [2]		≥2			s

Specifications continued on next page

SPECIFICATIONS (CONTINUED)

MODEL	B09Y35	B10Y35	B09Y36	B10Y36	UNIT
ENVIRONMENTAL					
Sine vibration limit [4]	3000	400	3000	400	g rms
Shock limit [4]	5000	1000	5000	1000	g pk
Temperature range		-40 ~ 120			°C
		-40 ~ 248			°F
Temperature response [2]		See Fig. 4			—
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
PHYSICAL					
Sensing element		Piezoelectric ceramic, shear			—
Housing material		Titanium alloy			—
Size		19.7 cube			mm
		0.776 cube			in
Weight [2]		37			g
		1.305			oz
Electrical connector		1/4-28 4-pin			—
Mounting thread		M5 × 3 (Opt. 10-32)			—
Mounting torque		3.0			N·m
TEDS model number [5]	20935Y	21035Y	20936Y	21036Y	—

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.
5 Dimensions may change slightly with the TEDS option.
— Not specified.

TYPICAL RESPONSE

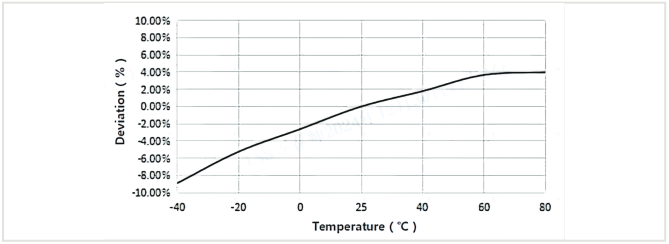


Fig. 4 — Typical temperature response

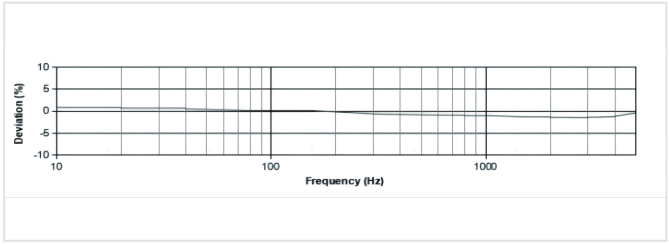


Fig. 5 — Typical frequency response

DIMENSIONS

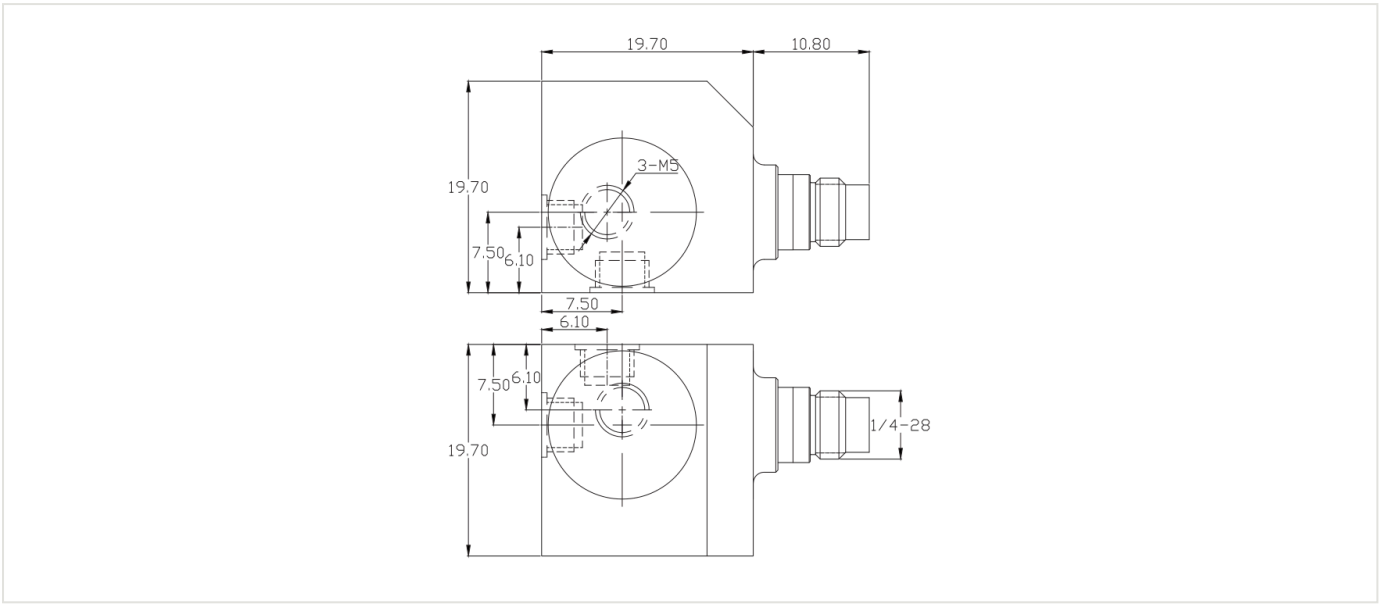


Fig. 3 — Dimensions, mm (all models) — 19.7 mm cube

WIRING

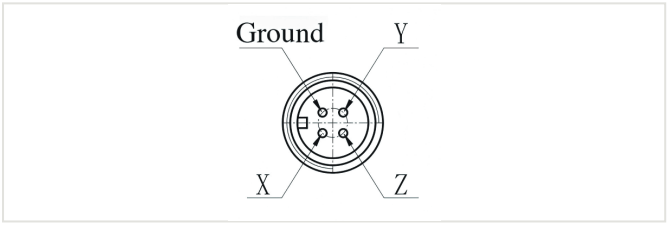


Fig. 2 — Wiring definition, 1/4-28 4-pin

OPTIONAL VERSIONS

-E 10-32 mounting thread

RECOMMENDED ACCESSORIES

Cable **K06BB72**

Mounting base **H02C10**

ORDERING INFORMATION

ORDER	SENSITIVITY	RANGE	FREQUENCY ±5%	SHOCK LIMIT
B09Y35	500 mV/g	±10 g	0.5–5k Hz	5000 g pk
B10Y35	1000 mV/g	±5 g	0.5–5k Hz	1000 g pk
B09Y36	500 mV/g	±10 g	0.5–8k Hz	5000 g pk
B10Y36	1000 mV/g	±5 g	0.5–8k Hz	1000 g pk

SUPPLIED ACCESSORIES

– Product calibration certificate
– 20.7 mm cube isolated mounting base H02C10
– M5 × 8 mounting screw

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.