# BXXY94

## IEPE High-Temperature Triaxial Accelerometer

B01Y94 | B02Y94 | B05Y94 | B06Y94

±50 g … ±1000 g · 0.5 Hz … 10 kHz · 7 – 9.5 g · -50 to +160 °C

The BXXY94 series triaxial accelerometers use a piezoelectric ceramic shear structure with wide-band frequency response, low transverse sensitivity, and low thermal transient response. The built-in high-temperature low-impedance circuit provides low noise and stable sensitivity across temperature, with a maximum operating temperature of +160 °C. The lightweight titanium alloy housing is laser-welded. Each axis has a calibration hole for easy installation and calibration, and an insulated mounting assembly is supplied as standard.

### FEATURES

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

### TYPICAL APPLICATIONS

- Environmental testing
- Automotive NVH testing
- Modal structure analysis
- General vibration monitoring
- General triaxial vibration measurement

## SPECIFICATIONS

| MODEL | B01Y94 | B02Y94 | B05Y94 | B06Y94 | UNIT |
|---|---|---|---|---|---|
| **PERFORMANCE** | | | | | |
| Sensitivity [1] | 5 (±10%) | 10 (±10%) | 50 | 100 | mV/g |
| | 0.5 | 1 | 5 | 10 | mV/(m/s²) |
| Measurement range | ±1000 | ±500 | ±100 | ±50 | g |
| Frequency range, ±5% | 1–8k | | | | Hz |
| Frequency range, ±10% | 0.5–10k | | | | Hz |
| Resonance frequency [2] | ≥70k | ≥70k | ≥45k | ≥38k | Hz |
| Broadband resolution [2] | 0.002 | 0.001 | 0.0002 | 0.0001 | g rms |
| Spectral noise [2] @ 10 Hz | 120 | 60 | 12 | 6 | μg/√Hz |
| @ 100 Hz | 48 | 24 | 4.8 | 2.4 | μg/√Hz |
| @ 1 kHz | 32 | 16 | 3.2 | 1.6 | μg/√Hz |
| Non-linearity [3] | ≤1 | | | | % |
| Transverse sensitivity | ≤5 | | | | % |
| Discharge time constant [2] | 1 | | | | s |

Specifications continued on next page

## SPECIFICATIONS (CONTINUED)

| MODEL | B01Y94 | B02Y94 | B05Y94 | B06Y94 | UNIT |
|---|---|---|---|---|---|
| **ENVIRONMENTAL** | | | | | |
| Sine vibration limit [4] | 2500 | 2000 | 800 | 400 | g rms |
| Shock limit [4] | 8000 | 5000 | 2000 | 1000 | g pk |
| Temperature range | | -50 ~ 160 | | | °C |
| | | -58 ~ 320 | | | °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 – 14 | | | V |
| **PHYSICAL** | | | | | |
| Sensing element | | Piezoelectric ceramic, shear | | | — |
| Housing material | | Titanium alloy | | | — |
| Size | | 13.50 cube | | | mm |
| | | 0.531 cube | | | in |
| Weight [2] | 7.3 | 7 | 8.2 | 9.5 | g |
| | 0.258 | 0.247 | 0.289 | 0.335 | oz |
| Electrical connector | | 1/4-28 4-pin | | | — |
| Mounting thread | | M2.5 × 2.0 / adhesive | | | — |
| Mounting torque | | 0.4 | | | N·m |
| TEDS optional [5] | | No | | | — |

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

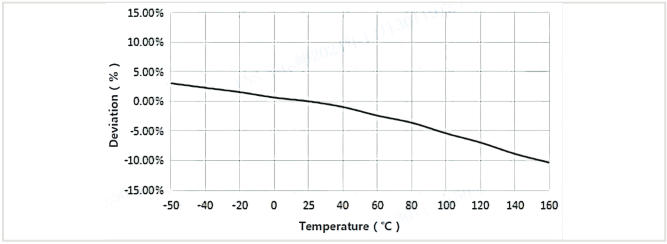


Fig. 4 — Typical temperature response

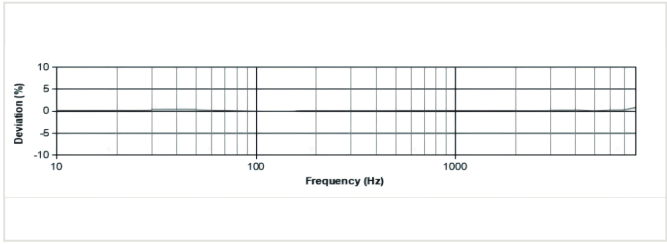


Fig. 5 — Typical frequency response

## DIMENSIONS

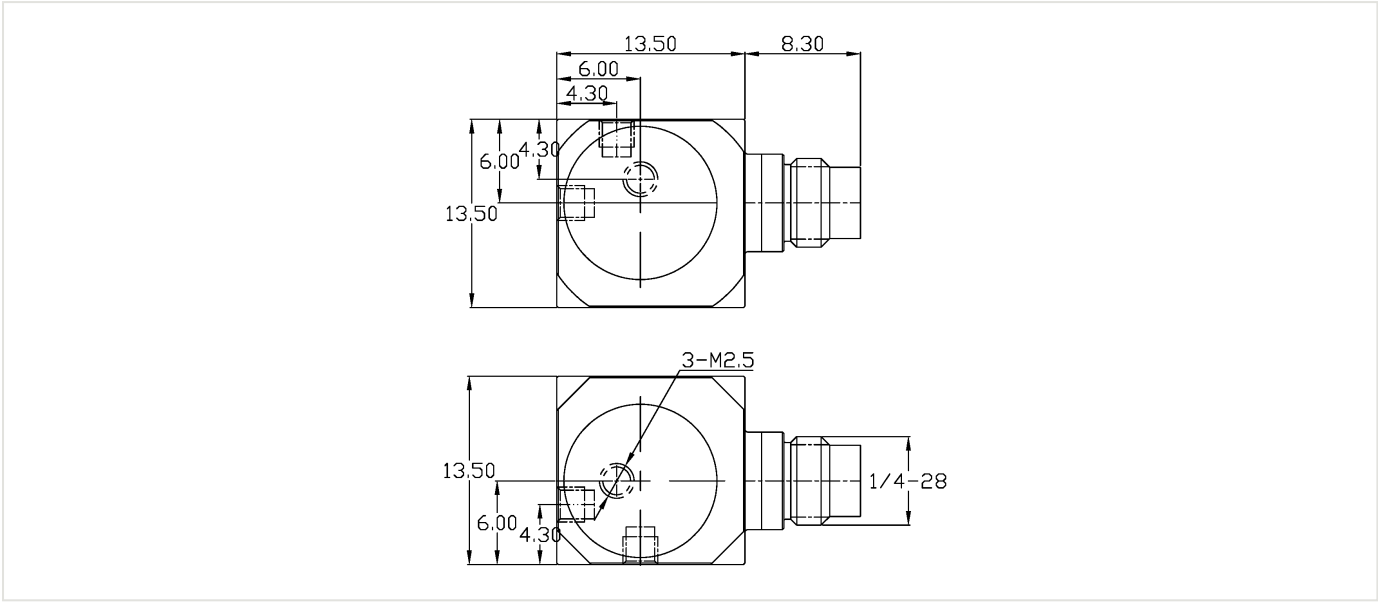


Fig. 3 — Dimensions, mm (all models)

## WIRING

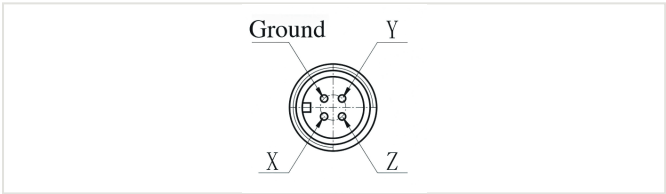


Fig. 2 — Wiring definition, 1/4-28 4-pin

### RECOMMENDED ACCESSORIES

Cable **K06BB72** · Mounting base **H02C09**

## ORDERING INFORMATION

| ORDER | SENSITIVITY | RANGE | FREQUENCY ±5% | SHOCK LIMIT |
|---|---|---|---|---|
| **B01Y94** | 5 mV/g | ±1000 g | 1–8k Hz | 8000 g pk |
| **B02Y94** | 10 mV/g | ±500 g | 1–8k Hz | 5000 g pk |
| **B05Y94** | 50 mV/g | ±100 g | 1–8k Hz | 2000 g pk |
| **B06Y94** | 100 mV/g | ±50 g | 1–8k Hz | 1000 g pk |

## SUPPLIED ACCESSORIES

– Product calibration certificate
– Mounting screw
– Isolated mounting base H02C09

## 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.