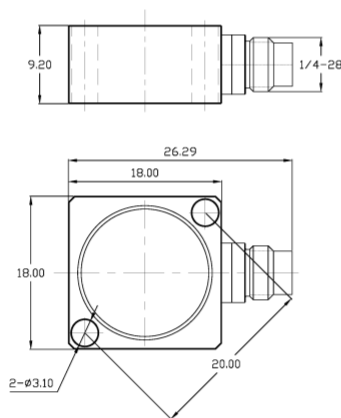


## Universal Testing Type Accelerometer

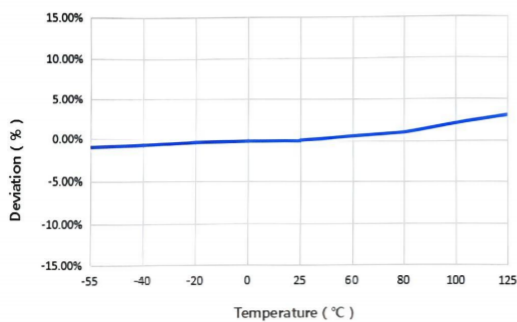
### DETAILS

The single-axis capacitive acceleration sensor type AXXD02/AXXE02 utilizes a variable capacitive MEMS sensitive element. The AC excitation and modulation-demodulation circuitry contained within the internal internal circuitry of the sensor outputs an analog output voltage signal proportional to the acceleration. The sensitive components and circuitry are encapsulated within a titanium alloy housing, with a 1/4-28 four-prong connector output and signal ground isolated from the housing. Equipped with two through-hole mounting for a more secure and reliable installation.

**Fig\_1** Dimensions of AXXD02/AXXE02



**Fig\_2** Typical Temperature Response



### FEATURES

- Zero frequency voltage output type
- Low power consumption, low noise, high resolution
- Customizable connected cable output
- Broadband response

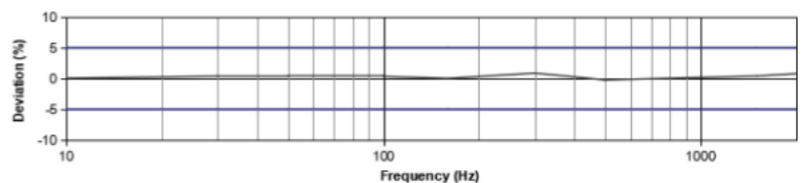
### TYPICAL APPLICATIONS

- Road spectrum testing
- Overload testing
- Low frequency testing
- Foundation building structure testing



AXXD02/AXXE02

**Fig\_3** Typical Frequency Response



## Specifications-AXXD02/AXXE02

## Additional Information

| MODEL NUMBER                            | UNIT                   | A03D02/<br>A03E02         | A05D02/<br>A05E02 | A06D02/<br>A06E02 | A07D02/<br>A07E02 | A09D02/<br>A09E02 | A10D02/<br>A10E02 | A11D02/<br>A11E02 |        |
|---|------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|
| <b>PERFORMANCE</b>                      |                        |                           |                   |                   |                   |                   |                   |                   |        |
| Sensitivity <sup>1</sup>                | mV/g                   | 20                        | 40                | 80                | 135               | 400               | 800               | 2000              |        |
|   | mV/(m/s <sup>2</sup> ) | 2                         | 4                 | 8                 | 13.5              | 40                | 80                | 200               |        |
| Input Range                             | g                      | ±200                      | ±100              | ±50               | ±30               | ±10               | ±5                | ±2                |        |
| Non-Linearity (typ) <sup>2</sup>        | %                      | 0.1                       |                   |                   |                   |                   |                   |                   |        |
| Non-Linearity (max) <sup>2</sup>        | %                      | 0.3                       |                   |                   |                   |                   |                   |                   |        |
| Frequency Range                         | ± 5%                   | Hz                        | 0-2k              | 0-1.5k            | 0-1.5k            | 0-1.5k            | 0-1k              | 0-0.7k            | 0-0.5k |
|   | ±10%                   |                           | -                 | -                 | -                 | -                 | -                 | -                 | -      |
| Resonance Frequency <sup>3</sup>        | Hz                     | 11k                       | 8.5k              | 5.8k              | 4.2k              | 3.2k              | 1.9k              | 1.2k              |        |
| Transverse Sensitivity                  | %                      | ≤0.2                      |                   |                   |                   |                   |                   |                   |        |
| Output Mode                             | -                      | Single-ended/Differential |                   |                   |                   |                   |                   |                   |        |
| <b>ELECTRICAL</b>                       |                        |                           |                   |                   |                   |                   |                   |                   |        |
| Excitation Voltage                      | V DC                   | 6-30                      |                   |                   |                   |                   |                   |                   |        |
| Full Range Voltage                      | V                      | ±4                        |                   |                   |                   |                   |                   |                   |        |
| Output Impedance                        | Ω                      | ≤90                       |                   |                   |                   |                   |                   |                   |        |
| <b>ENVIRONMENTAL</b>                    |                        |                           |                   |                   |                   |                   |                   |                   |        |
| Sinusoidal Vibration Limit <sup>4</sup> | g rms                  | 5000                      | 5000              | 5000              | 5000              | 5000              | 2000              | 2000              |        |
| Shock Limit <sup>4</sup>                | g pk                   | 5000                      | 5000              | 5000              | 5000              | 5000              | 2000              | 2000              |        |
| Temperature Range                       | °C                     | -55-125                   |                   |                   |                   |                   |                   |                   |        |
|   | °F                     | -67-257                   |                   |                   |                   |                   |                   |                   |        |
| <b>PHYSICAL</b>                         |                        |                           |                   |                   |                   |                   |                   |                   |        |
| Sealing                                 | -                      | Laser welding IP68        |                   |                   |                   |                   |                   |                   |        |
| Sensing Element                         | -                      | MEMS Chip                 |                   |                   |                   |                   |                   |                   |        |
| Housing Material                        | -                      | Titanium alloy            |                   |                   |                   |                   |                   |                   |        |
| Size                                    | mm                     | 18.00×18.00×9.20          |                   |                   |                   |                   |                   |                   |        |
|   | in                     | 0.709×0.709×0.362         |                   |                   |                   |                   |                   |                   |        |
| Electrical Connector                    | -                      | 1/4-28 4-pin Side         |                   |                   |                   |                   |                   |                   |        |
| Mounting Thread                         | -                      | M3 Through Hole           |                   |                   |                   |                   |                   |                   |        |
| Weight <sup>5</sup>                     | g                      | 8.7                       |                   |                   |                   |                   |                   |                   |        |
|   | oz                     | 0.307                     |                   |                   |                   |                   |                   |                   |        |

### Note:

- @ 160Hz, under the condition of 23 °C± 5 °C
- JBT 6822-2018 7.12.1 Vibration Testing Method
- Typical values
- It refers to the mechanical structure of the sensor not being damaged in a non powered state, rather than in a working state

## AXXD02/AXXE02

Supplied Accessories:

- Product Verification Report
- Install screws

### COMPLIANCE WITH STANDARDS



### LNS Intelligent Technology Co., Ltd

N0.3 Building  
Qilu High-Tech District, Qihe, Dezhou  
Shandong Province, China 251100  
+86-534-2150417

International:  
9620 NE Tanasbourne Dr Ste 300  
Hillsboro, OR, USA 97124  
+1-503-208-5512  
info@lnsdynamics.com