

322ATM2-10-LF

Dual-axis Acceleration Sensor (Ultra-Low Frequency Lightning Protection)

Datasheet

*August 16, 2024
CN Rev.v1.0.1*

322ATM2-10-LF is a lightning-protected IEPE dual-axis acceleration sensor for industrial vibration measurement. It uses ring shear mode ceramic crystals as the sensing element, providing stable output over long-term operation. The internal circuit provides constant current excitation and transmits low-impedance voltage output signals over the same two-wire IEPE system. The signal ground is internally shielded and isolated from the housing. The signal amplification circuit includes reverse polarity protection. A standard M12 glass-isolated connector ensures stable output in various environments. The 322ATM2-10-LF acceleration sensor supports both adhesive mounting and secure through-hole mounting with M5 screws. With low-frequency response and high shock resistance, it is suitable for vibration monitoring of high-rise structures in occasional shock environments.

Main Features

- Low-frequency response
- Dual-axis output
- High sensitivity
- Hermetically sealed by metal welding
- Lightning protection
- EMI/RFI shielding
- Optional temperature output available



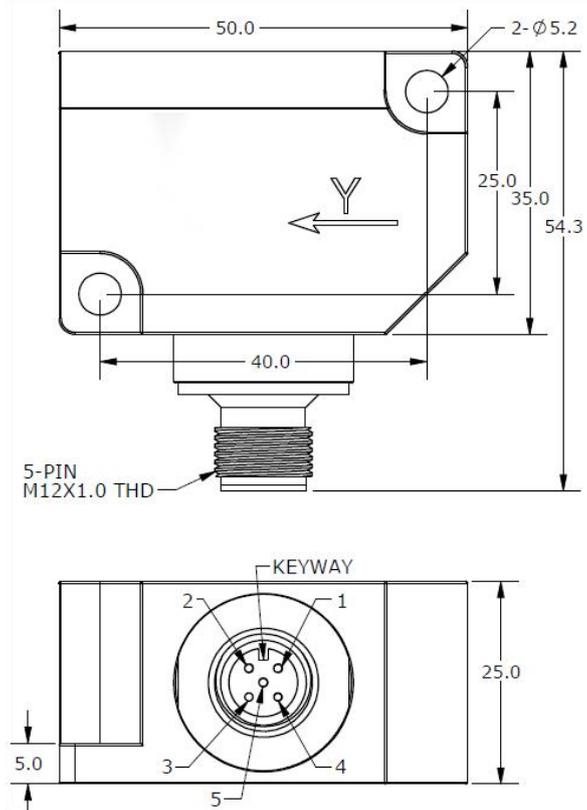
Page 1 of 3

Specifications

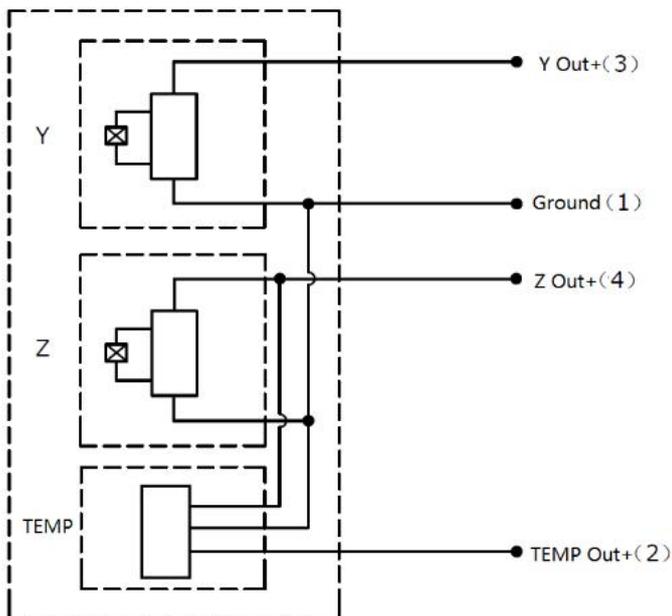
Product model	322ATM2-10-LF
Range	±10g
Sensitivity ±10%	500 mV/g
Frequency response ±5%	0.3-4000 Hz
Frequency response ±3dB	0.1-6000 Hz
Bias voltage	10-14 Vdc
Constant current excitation voltage	18-30 Vdc
Constant current excitation	2-10 mA
Residual noise	0.0002 g RMS
Shock limit	2000 g
Transverse sensitivity	< 5 %
Nonlinearity (BFSL)	±1 %FSO
Temperature Response (-55 to +125 °C)	±10 %
Output impedance	< 100 Ω
Power-on time	< 5 Second
Operating temperature range	-55 ~ +125 °C
Withstand voltage (between PIN and housing)	4000 VAC
Protection	IP68
Insulation resistance (@500 Vdc)	>200 MΩ
Withstand voltage (@4000 VAC)	>60 Second
Temperature sensor parameters	
Sensitivity	10 mV/°C
Temperature output @ 0°C	500 mV
General parameters	±1 °C
Measuring range	-40 ~ +125 °C

Product Dimensions & Wiring Diagram

Dimensional drawing:



Cable connection:



Wire definition	
1	Brown
2	White
3	Blue
4	Black
5	Gray

HL-V-100 Single-axis Acceleration Sensor (Pass Frequency)

HL-V-500 Single-axis Acceleration Sensor (Low Frequency)

Datasheet

Product Overview

*October 11, 2023
CN Rev.v1.0*

HL-V-100 and HL-V-500 are IEPE acceleration sensors for industrial vibration measurement. They employ ring-shear ceramic crystals as sensing elements, providing long-term stable output. The internal circuit of the acceleration sensor provides constant current excitation and transmits low-impedance voltage output signals simultaneously over the IEPE 2-wire system. Signal ground is internally shielded and isolated from the housing. The signal amplification circuit is designed with reverse polarity protection. The housing is sealed by laser welding to ensure hermetic integrity. The output connector uses a standard MIL-C-5015 glass-insulated connector for stable output in various environments. The sensor can be mounted with adhesive or securely installed via a 1/4-28 threaded hole.

Main Features

- Rugged and durable
- Housing isolation
- Corrosion-resistant package
- Hermetically sealed by metal welding
- EMI/RFI shielding
- Shock protection



Page 1 of 3

Technical Parameters

Product model	HL-V-500	HL-V-100
Measuring range	±10 g, peak	±80 g, peak
Sensitivity ±10%	500 mV/g	100 mV/g
Frequency response ±5%	0.3-4000 Hz	1-7000 Hz
Frequency response ±3dB	0.1-10000 Hz	0.3-15000 Hz
Resonant frequency	20 kHz	32 kHz
Transverse sensitivity	<5 %	<5 %
Temperature response (-55 to +125 °C)	±10 %	±10 %
Nonlinear	±1 %FSO	±1 %FSO
Residual noise	0.0002 g RMS	0.0005 g RMS
Shock limit	2000 g	5000 g
Power-on time	<5 second	<2 second
Weight	87 Gram	80 Gram
Bias voltage	10-14 Vdc	
Constant current excitation voltage	18-30 Vdc	
Constant current excitation	2-10 mA	
Output impedance	<100 Ω	
Insulation resistance (@100 Vdc)	>100 MΩ	
Operating temperature range	-55 ~ +125 °C	
Protection	Hermetically sealed by laser welding	
Housing material	Stainless steel 316L	
Sensitive element	Piezoceramic	
Connector	2 Pin MIL-C-5015 connector	

Product Dimension Diagram

Dimensional drawing:

