SensorsX

SX-MAPLA Series

Low-Frequency Piezoelectric Accelerometer



±10 g Measurement Range	**500 mV/g** Sensitivity	**1%** Nonlinearity
2 – Pin MIL-C-5015 Connector	**−40 to +120 °C** Operating Temperature	**SUS 316L** Housing Material

■ OVERVIEW

The SX-MAPLA Series is a low-frequency piezoelectric accelerometer with a shear-mode ceramic sensing element. It provides a nominal sensitivity of 500 mV/g and a measurement range of ±10 g, with a frequency response of 0.1–10,000 Hz at ±3 dB. The sensor uses a two-pin MIL-C-5015 connection for constant-current excitation and vibration signal output. Its laser-welded 316L stainless steel housing provides IP67 protection, with a specified housing-to-circuit dielectric withstand of 4,000 V AC for one minute.



■ KEY FEATURES

◆ ±10 g Measurement Range with 500 mV/g Sensitivity (±5%)	◆ Frequency Response: 0.6–4,000 Hz (±5%); 0.1–10,000 Hz (±3 dB)
◆ Housing-to-Circuit Dielectric Withstand: 4,000 V AC for 1 Minute	◆ Laser-Welded 316L Stainless Steel Housing

Specifications are subject to change without notice. Confirm the final configuration at time of order.

■ TYPICAL APPLICATIONS

- Low-Speed Machinery Vibration Monitoring
- Industrial Fan and Pump Condition Monitoring
- Low-Frequency Structural Vibration Measurement
- Electrical Equipment Vibration Monitoring

■ SPECIFICATION LIST

Test Conditions: 25 °C, 24 V DC, 4 mA at 160 Hz

■ VIBRATION PERFORMANCE

Parameter	Specification
Measurement Range	±10 g
Sensitivity, ±5%	500 mV/g
Frequency Response, ±5%	0.6~4,000 Hz
Frequency Response, ±10%	0.3~5,000 Hz
Frequency Response, ±3 dB	0.1~10,000 Hz
Mounted Resonant Frequency	≥15,000 Hz
Maximum Transverse Sensitivity	≤5%
Temperature Response, -40~+85 °C	≤10%
Nonlinearity	≤1%
Broadband Noise	≤100μV

■ OPERATING ENVIRONMENT

Parameter	Specification
Operating Temperature	-40~+120°C
Shock Limit (peak)	3,000 g
Degree of Protection	IP67

■ ELECTRICAL CHARACTERISTICS

Parameter	Specification
Excitation Voltage	18~30 V DC
Constant-Current Excitation	2~10 (typical 4) mA
Output Bias Voltage	10~14 V DC
Output Impedance	<100Ω
Insulation Resistance at 100 V DC	≥100MΩ

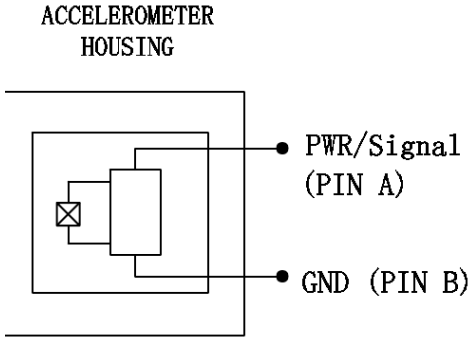
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Power-Frequency Dielectric Withstand Voltage, Housing to Circuit	4,000 V AC for 1 min; voltage rise time: 30 s; leakage current ≤5 mA; no flashover or breakdown.

■ PHYSICAL CHARACTERISTICS

Parameter	Specification
Housing Material	Stainless steel 316L
Sealing Method	Laser welding
Sensing Material and Type	Piezoelectric ceramic, shear mode
Electrical Output	2-pin MIL-C-5015
Shielding and Isolation	Internally shielded and isolated
Mounting Torque	2.7~6.8 N·m
Weight	≤85 g

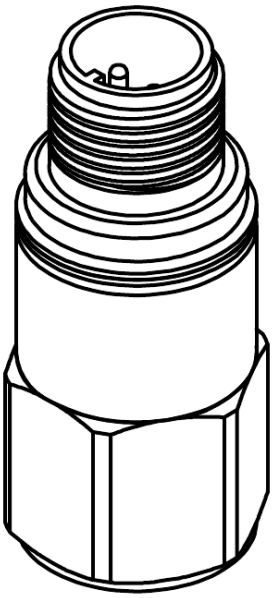
■ INTERNAL WIRING



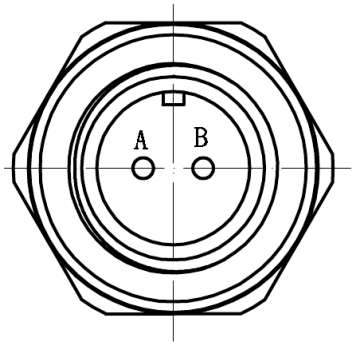
Accelerometer Housing: PWR/Signal (PIN A), GND (PIN B)

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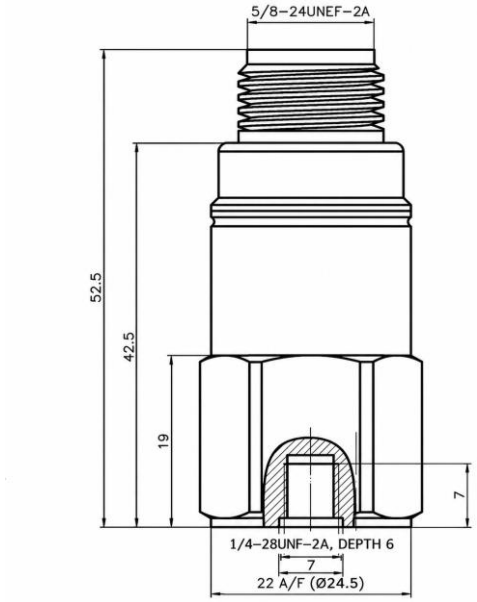
■ MECHANICAL DIMENSIONS



Product Configuration



2-Pin Terminal View: PIN A / PIN B



Mechanical Dimensions



1/4-28 to M6 Adapter

Parameter	Specification
Overall Height	52.5 mm
Height to Upper Shoulder	42.5 mm
Hex Section Height	19 mm
Electrical Connector Thread	5/8-24 UNEF-2A
Mounting Thread	1/4-28 UNF-2A, depth 6
Across Flats	22 (Ø24.5) mm

Specifications are subject to change without notice. Confirm the final configuration at time of order.

■ ORDERING INFORMATION

SX-MAPLA Series

Complete model number example: SX-MAPLA-211212

Measurement Range	
2	±10 g
Nonlinearity Accuracy	
1	1%
Connection	
1	MIL-C-5015, 2-pin
Sensitivity (Output)	
2	500 mV/g
Electrical Connection	
1	5/8-24 UNEF-Male
Housing Material	
2	316L Stainless Steel
Customization Options	
D	Custom Configuration — Specify Requirements When Ordering

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