

MEMS Dual-Axis Cube Accelerometer

DETAILS

The AXXE2 dual-axis capacitive accelerometer uses variable-capacitance MEMS sensing elements. The mass deflects under acceleration, changing capacitance accordingly. The internal AC excitation and demodulation circuitry outputs a voltage signal proportional to acceleration. Enclosed in a titanium alloy housing with an integrated cable output; signal ground isolated from housing.

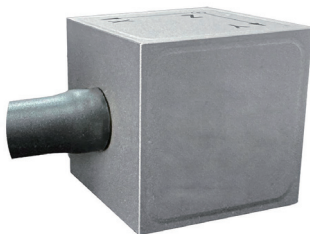
FEATURES

- Industry-leading capacitive DC-response MEMS chip
- Low power consumption, low noise, high resolution
- Titanium alloy housing, wide-bandwidth measurement range
- Dual-axis cube design, complete series, multiple ranges available

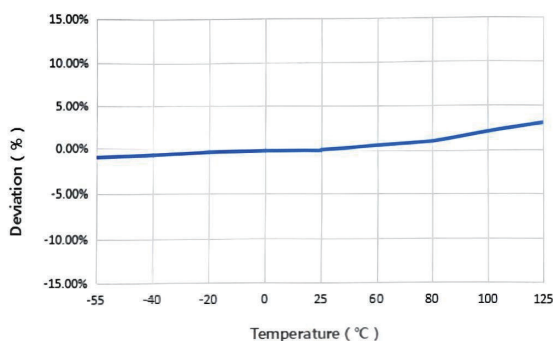
TYPICAL APPLICATIONS

- Road load data acquisition
- Overload testing
- Civil structural testing
- Low-frequency testing

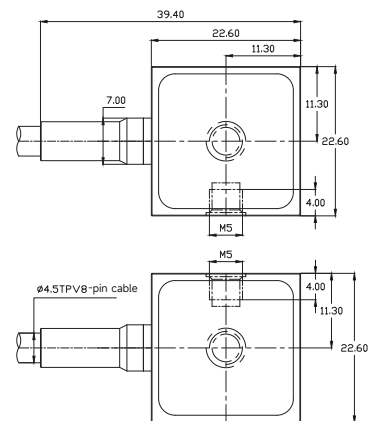
Fig_1 Picture



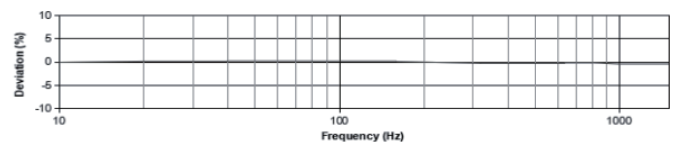
Fig_2 Typical Temperature Response



Fig_3 Dimensions



Fig_4 Typical Frequency Response



Specifications-AXXYE2

MODEL NUMBER		UNIT	A03YE2	A05YE2	A06YE2	A07YE2	A09YE2	A10YE2	A11YE2
PERFORMANCE									
Sensitivity ¹		mV/g	20	40	80	135	400	800	2000
		mV/(m/s²)	2	4	8	13.5	40	80	200
Measurement Range		g	±200	±100	±50	±30	±10	±5	±2
Broadband Resolution		mg rms	9.8	4.9	2.45	-	0.5	-	-
Non-Linearity (Typical) ²		%	0.1						
Non-Linearity (Max) ²		%	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%	Hz	-	-	-	-	-	-	-
Resonance Frequency ³		Hz	11k	8.5k	5.8k	4.2k	3.2k	1.9k	1.2k
Transverse Sensitivity		%	≤2						
Output Mode		-	Differential output						
ELECTRICAL									
Excitation Voltage		V DC	6-30						
Full Range Voltage		V	±4						
Output Impedance		Ω	≤90						
Noise 0-100 Hz, typ		µg/√Hz	678	339	169	101	34	17	7
ENVIRONMENTAL									
Sinusoidal Vibration Limit ⁴		g rms	5000	5000	5000	5000	5000	2000	2000
Shock Limit ⁴		g pk	5000	5000	5000	5000	5000	2000	2000
Temperature Range		°C	-55-125						
		°F	-67-257						
PHYSICAL									
Sealing		-	Laser Welding IP68						
Sensing Element		-	MEMS Chip						
Housing Material		-	Titanium alloy						
Size	mm	22.60 Cube							
	in	0.890 Cube							
Electrical Connector		-	Connected cable						
Mounting Thread		-	M5*4 (Opt.10-32)						
Weight ³	g	37							
	oz	1.305							
Mounting Torque		-	3.0N·m						
Recommended Accessories	Cable	-	BD						
	Mounting Base	-	H02B03/H02B25						

Additional Information

Note:

1. @ 160Hz, under the condition of 23 °C± 5 °C
2. JBT 6822-2018 7.12.1 Vibration Testing Method
3. Typical values
4. It refers to the mechanical structure of the sensor not being damaged in a non powered state, rather than in a working state

AXXYE2

Supplied Accessories:

- Product Verification Report
- M5*8 Mounting Screws

OPTIONALVERSIONS

-E: 10-32 Mounting Threads

COMPLIANCE WITH STANDARDS

