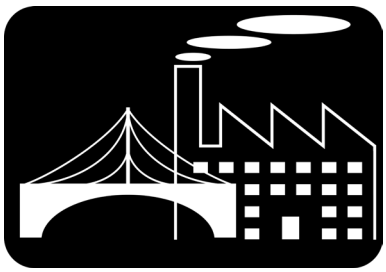
Technology to Inspire Innovation

JAE

JA-40GA accelerometer



Key features

- Ultra-low noise
- Excellent thermal stability
- Low frequency operation
- -20 °C to +70 °C operating temperature
- Easy to install

Applications

- Structural health monitoring
- Sway and tilt analysis
- Industrial vibration control
- Seismology

The JA-40GA is a high performance servo balanced quartz accelerometer which has been developed for measuring very low levels of vibration. The signal processing circuit has been optimized to provide very low output noise while maintaining excellent Scale factor and Bias stability over the whole operating temperature range.

The JA-40GA accelerometer is therefore ideal for use in structural health monitoring, active vibration control systems and earthquake observation where the slightest tremors are can be indicative of catastrophe.

Accelerometers must only be exported in accordance with all relevant regulations.

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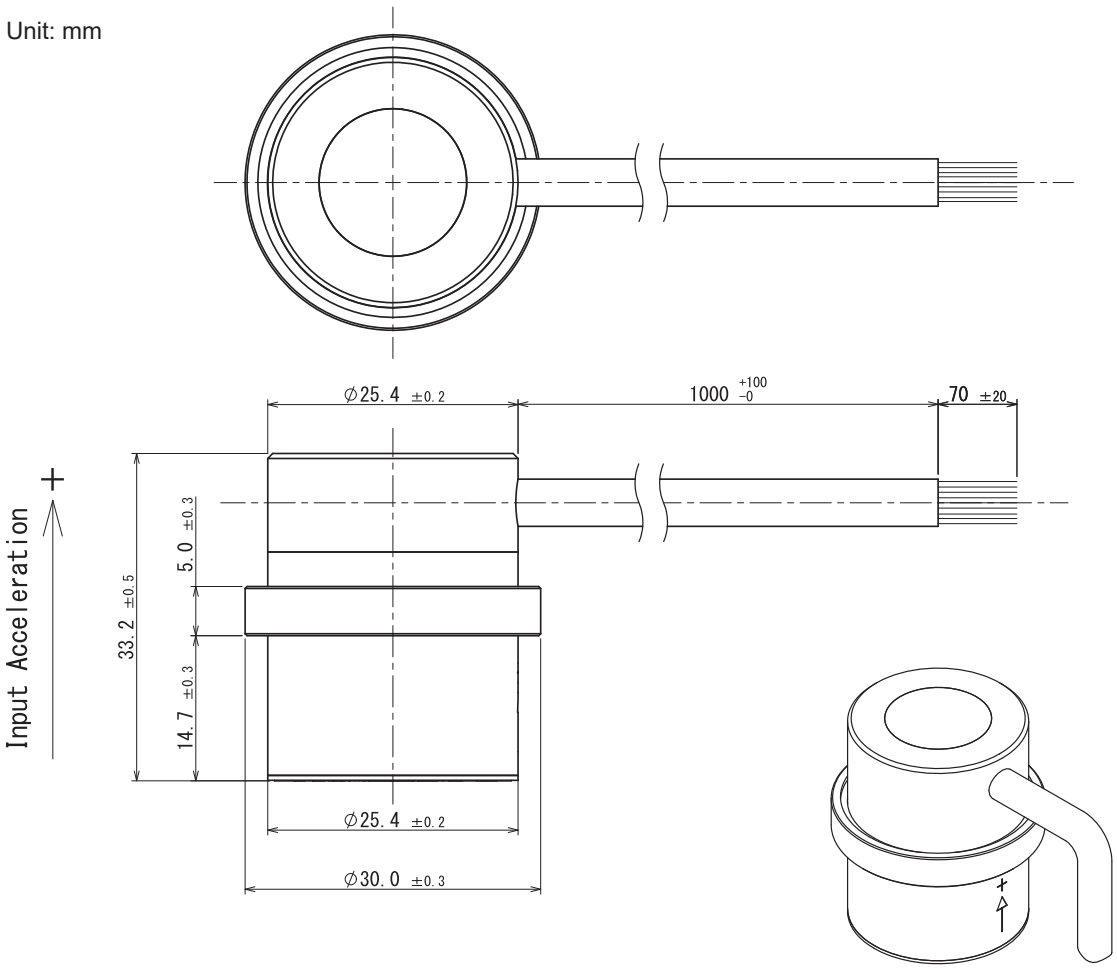
Dimensional drawings

JA-40GA

Unit: mm

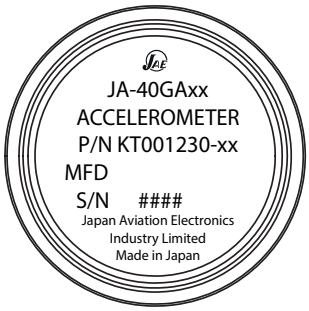


Wire assignment

Cable Colour	Notes
Yellow	Signal Output
White	Signal Return
Gray	Self Test Current (Hi)
Green	Self Test Current (Lo)
Red	+15 V_{DC} Power
Blue	-15 V_{DC} Power
Black	Power Return

Label

xx	Measurement range
02	±2 G min.
04	±4 G min.
08	±8 G min.



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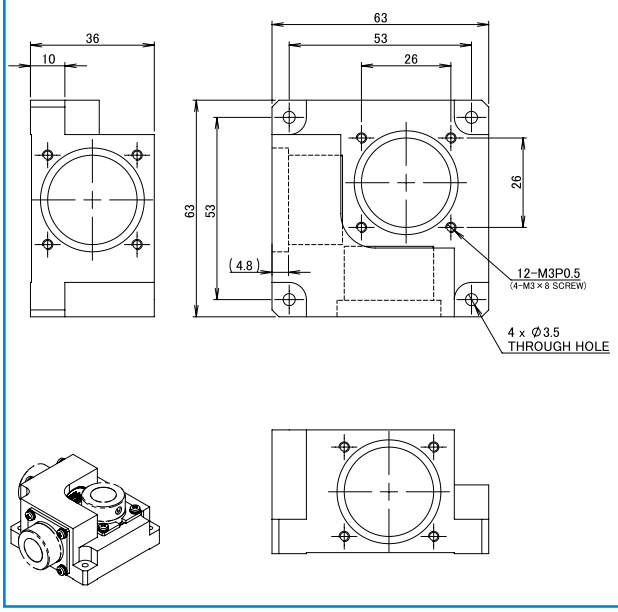
Technical data

Environmental				
Temperature	Operating	-20 °C to +70 °C		
	Non-operating	-40 °C to +85 °C		
Vibration	Sine	3.10 mm 0-peak, 20 Hz - 40 Hz		
		20 G 0-peak, 40 Hz - 2,000 Hz		
	Random	10 Grms, 20 Hz - 2,000 Hz		
Shock	Operating/Non-operating	100 G		
Electrical				
Input voltage		$\pm 14.5\ V_{DC}$ to $\pm 15.5\ V_{DC}$		
Input current (quiescent)		10 mA max.		
Mechanical				
Weight		115 grams max.		
Performance		**JA-40GA02**	**JA-40GA04**	**JA-40GA08**
Measurement range		±2 G min.	±4 G min.	±8 G min.
Scale factor	Nominal (@ 20 °C)	5.000 V/G ± 5 %	2.000 V/G ± 3 %	1.000 V/G ± 5 %
	Temperature coefficient	±400 ppm/°C max.	±400 ppm/°C max.	±400 ppm/°C max.
Bias	Nominal (@ 20 °C)	±10 mG max.		
	Temperature coefficient	±100 µG/°C max.		
Case alignment	Nominal (@ 20 °C)	±3.0 mrad		
Noise	1 Hz to 30 Hz	0.1×10^{-6} G/√Hz max.		
Linearity		±0.05 % full scale max.		
Frequency response (bandwidth)		200 Hz max.		

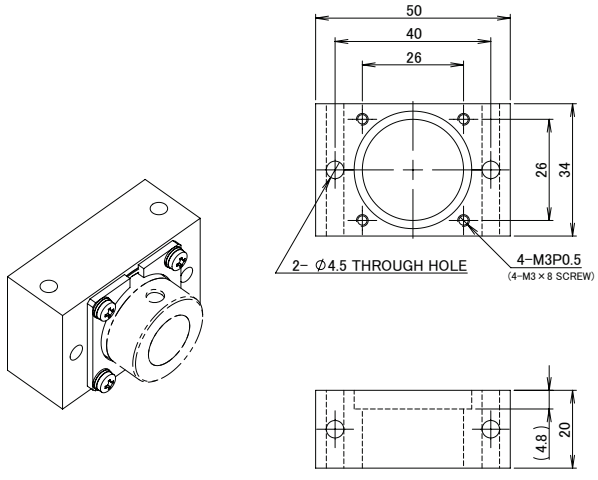
1 G = 9.80665 m/s²

Mounting block (Option)

■ 3 Axis Block Unit: mm



■ 1 Axis Block Unit: mm



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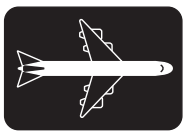
More accelerometers from JAE

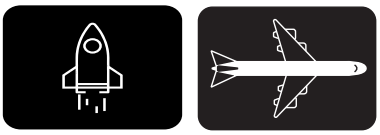
Railway

Civil Aviation



Oil & Gas Exploration

Aerospace



For more information on these products and other product ranges visit
https://www.jae.com/en/Motion_Sensor_Control/

Document revision table

Document number	Issue	Revision date	Changes
VCL002-000016	02	02/10/2023	Cosmetic updates only

JAE reserves the right to modify specifications without prior notice.

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