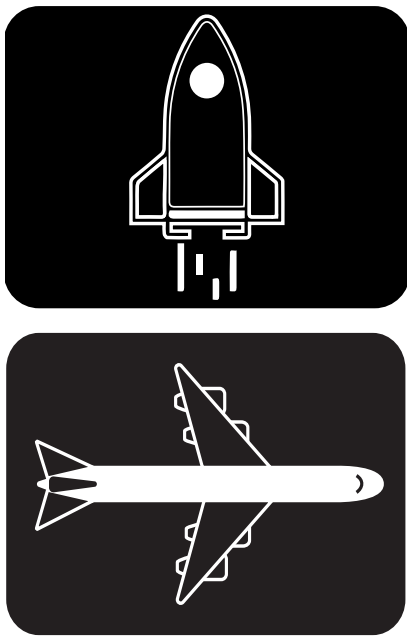
JA-5 Type III Accelerometer



Key features

- Excellent long term bias stability
- Small bias and temperature coefficient
- Self test capability
- Integral temperature sensor for thermal compensation
- Hermetically sealed
- Superior reliability
- 3 Point precision mounting
- Analog outputs

Applications

- Aerospace navigation systems
- Seismic detection
- Structural integrity monitoring

The JA-5 Type III is the highest grade inertial navigation servo balanced quartz accelerometer made by JAE. It provides excellent bias stability over the long term as well as having a small bias temperature coefficient.

JAE quartz accelerometers are used in a variety of applications including seismic monitoring, inertial navigation and guidance systems for aviation/space.

To be exported in accordance with all relevant regulations

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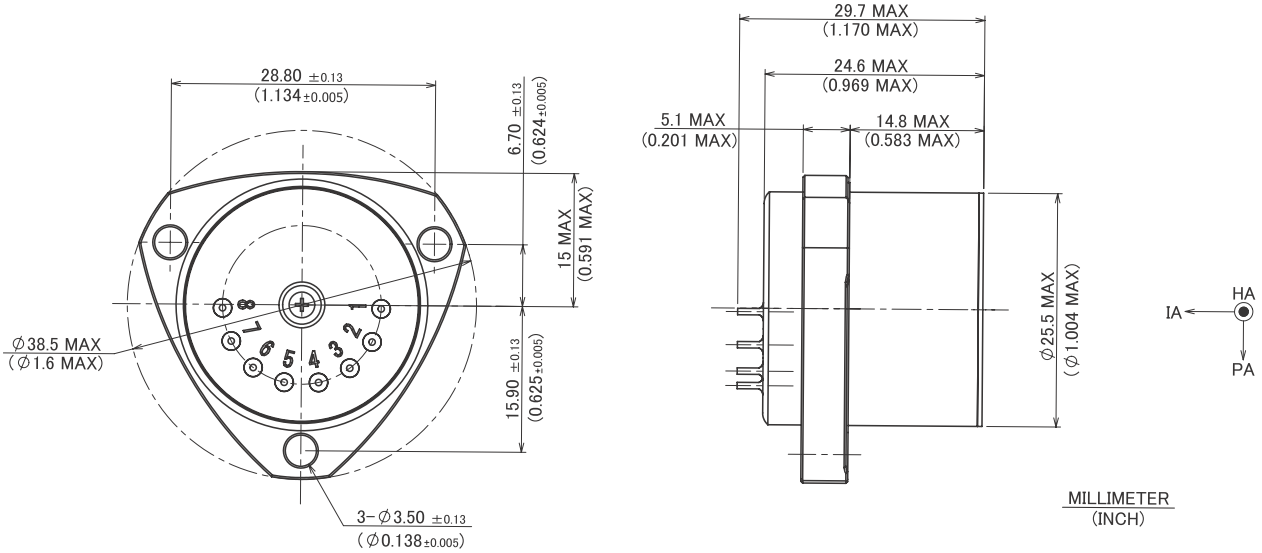
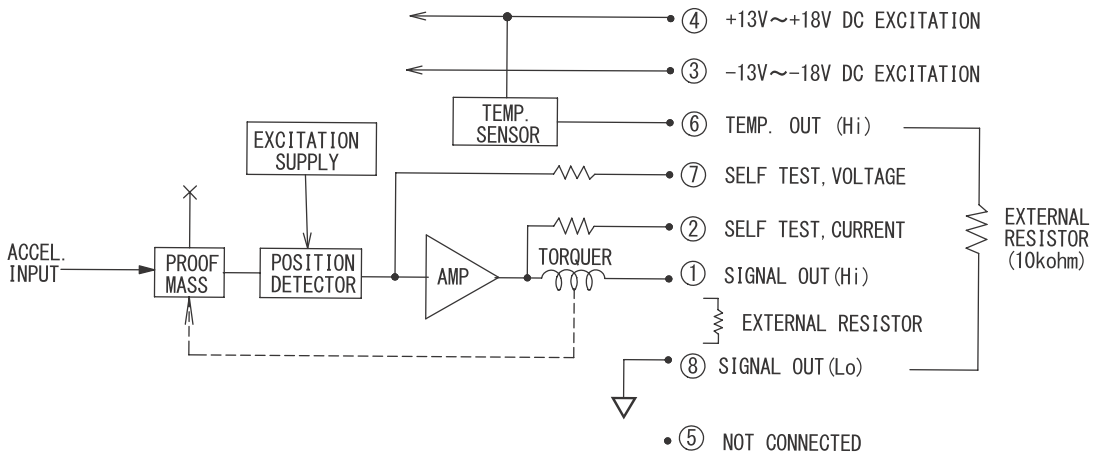
Dimensional drawings



Circuit diagram



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Technical data

Environmental		
Temperature	Operating	-54 °C to +96 °C
	Non-operating	-62 °C to +96 °C
Vibration (sine)		20 G 0-peak, 20 Hz - 2,000 Hz
Shock (11 ms, half sine)	Operating	25 G
	Non-operating	100 G
Electrical		
Input voltage		±15.0 VDC ±5%
Input current (quiescent)		5.0 mA max.
Insulation resistance (power return to case)		20 MΩ min. @ 50 VDC
Mechanical		
Weight		80 grams max.
Material		Stainless steel (non-magnetic)
Performance		
Measurement range		±20 G min.
Scale factor	Nominal (@ 25 °C)	1.33 mA/G ± 10 %
	Temperature coefficient (@ 25°C)	±180 ppm/°C max.
	Linearity	50 ppm at 1 G, 100 ppm at 5 G, 200 ppm at 10 G, 400 ppm at 20 G
Bias	Nominal (@ 25 °C)	±4.0 mG max.
	Temperature coefficient	See Classification
Axis alignment	Nominal (@ 25 °C)	4 mrad max.
Resolution and Threshold		1 µG max.
Frequency response (bandwidth)		300 Hz min.
Integral temperature sensor (AD590 or Equivalent)		1 µA/K (nominal)
Long term stability (1 year)	Scale factor	±400 ppm max.
	Bias	See Classification
	Axis alignment	±120 µrad max.

Classification

Model No.	Bias Temp. Coeff.		Bias Stability		
	10 µG/°C	30 µG/°C	100 µG	200 µG	500 µG
JA-5 III - A	O		O		
- B	O			O	
- C	O				O
- D		O	O		
- E		O		O	
- F		O			O

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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
VCL002-000006	02	02/10/2023	Cosmetic updates only

JAE reserves the right to modify specifications without prior notice.

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