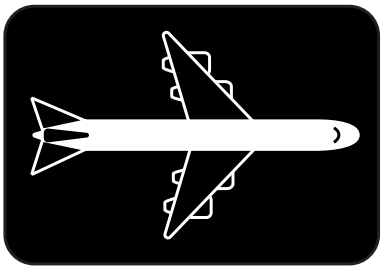
Technology to Inspire Innovation

JAE

JA-50GA Accelerometer



Key features

- ±20 G measurement range
- -55 °C to +96 °C operating temperature
- Integral temperature sensor
- High accuracy with long term stability
- Low noise
- Ultimate reliability
- Easy to integrate

Applications

- Civil aviation

The JA-50GA accelerometer has been developed to provide reliable measurements long term within civil aviation applications. JAE has used its wealth of knowledge of supplying parts to the aviation industry to develop this accelerometer to operate at a range of temperatures without compromising performance.

These high performance servo balanced quartz accelerometers have been designed specifically for -55 °C to +96 °C operation whilst providing low noise and long term stability. The proven rugged design provides ultimate long term reliability.

To be exported in accordance with all relevant regulations.

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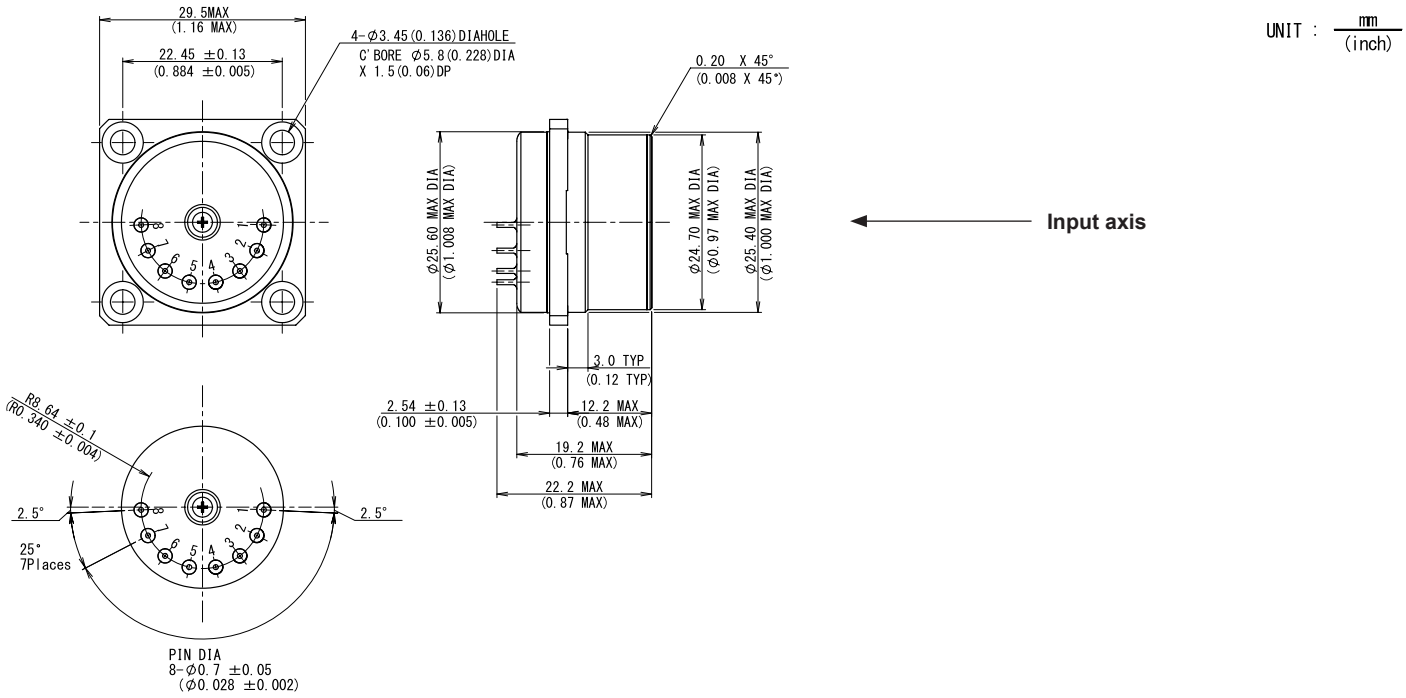
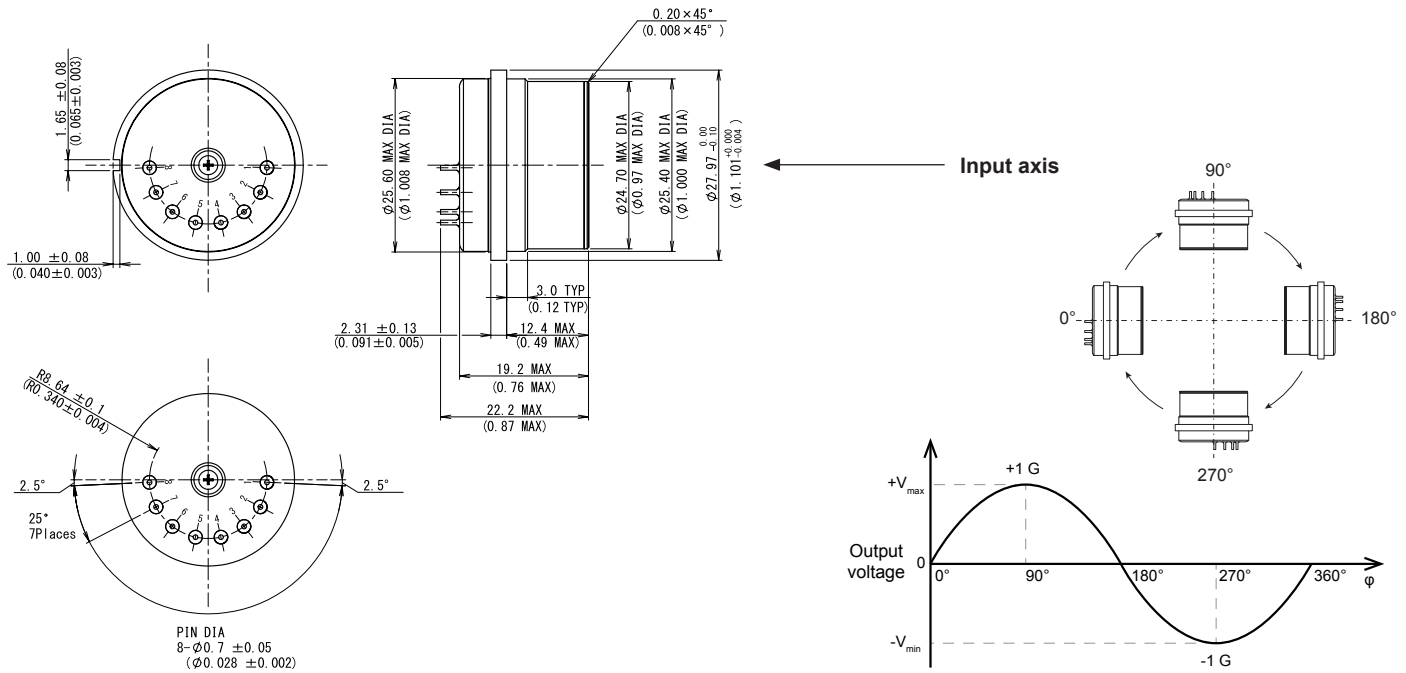
Dimensional drawings

JA-50GA-01



JA-50GA-02

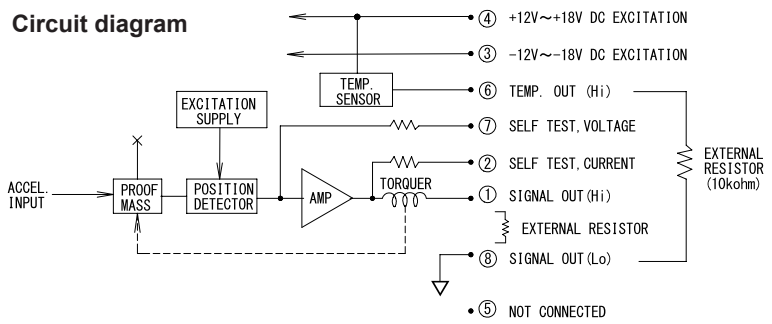


Technical data

Environmental		
Temperature (operating/non-operating)		-55 °C to +96 °C
Vibration (sine)		20 G 0-peak, 30 Hz - 2000 Hz
Shock (operating/non-operating)		100 G
Electrical		
Input voltage		±12.0 V_{DC} to ±18.0 V_{DC}
Input current (quiescent)		5.0 mA max.
Insulation resistance (power return to case)		50 MΩ min. @ 50 V_{DC}
Mechanical		
Weight		50 grams max.
Material		Stainless steel (non-magnetic)
Performance		
Measurement range		±20 G min.
Output voltage		±10.0 V_{DC} min. @ ±15.0 V_{DC} excitation
Scale factor	Nominal (@ 25 °C)	1.33 mA/G ± 10 %
	Temperature coefficient (@ 25°C)	±180 ppm/°C max.
Bias	Nominal (@ 25 °C)	±8.0 mG max.
	Temperature coefficient	±80 µG/°C max.
Axis alignment	Nominal (@ 25 °C)	±2.0 mrad max.
	Temperature coefficient	±5 µrad/°C max.
Noise	0.1 Hz to 10 Hz	0.04 µA rms
	10 Hz to 500 Hz	0.09 µA rms
	500 Hz to 10 kHz	2.0 µA rms
Resolution and Threshold		1 µG max.
Linearity		±0.05 % full scale max.
Frequency response (bandwidth)		300 Hz min.
Integral temperature sensor (AD590)		1 µA/K (nominal)
Long term stability (1 year)	Scale factor	±1,200 ppm max.
	Bias	±1.5 mG max.
	Axis alignment	±400 µrad max.

1 G = 9.80665 m/s²

Circuit diagram



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More accelerometers from JAE

Industrial Vibration Control

Structural Health Monitoring

Oil and Gas Exploration

Civil Aviation

Document revision table

Document number	Issue	Revision date	Changes
VCL001-000015	01	01/07/2021	New document

JAE reserves the right to modify specifications without prior notice.