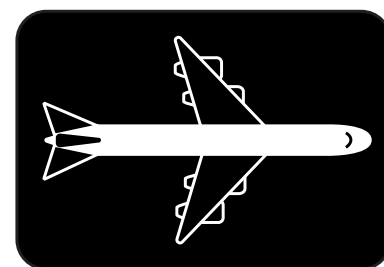


# JA-50GA accelerometer



## Key features

- $\pm 20$  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

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.

## Applications

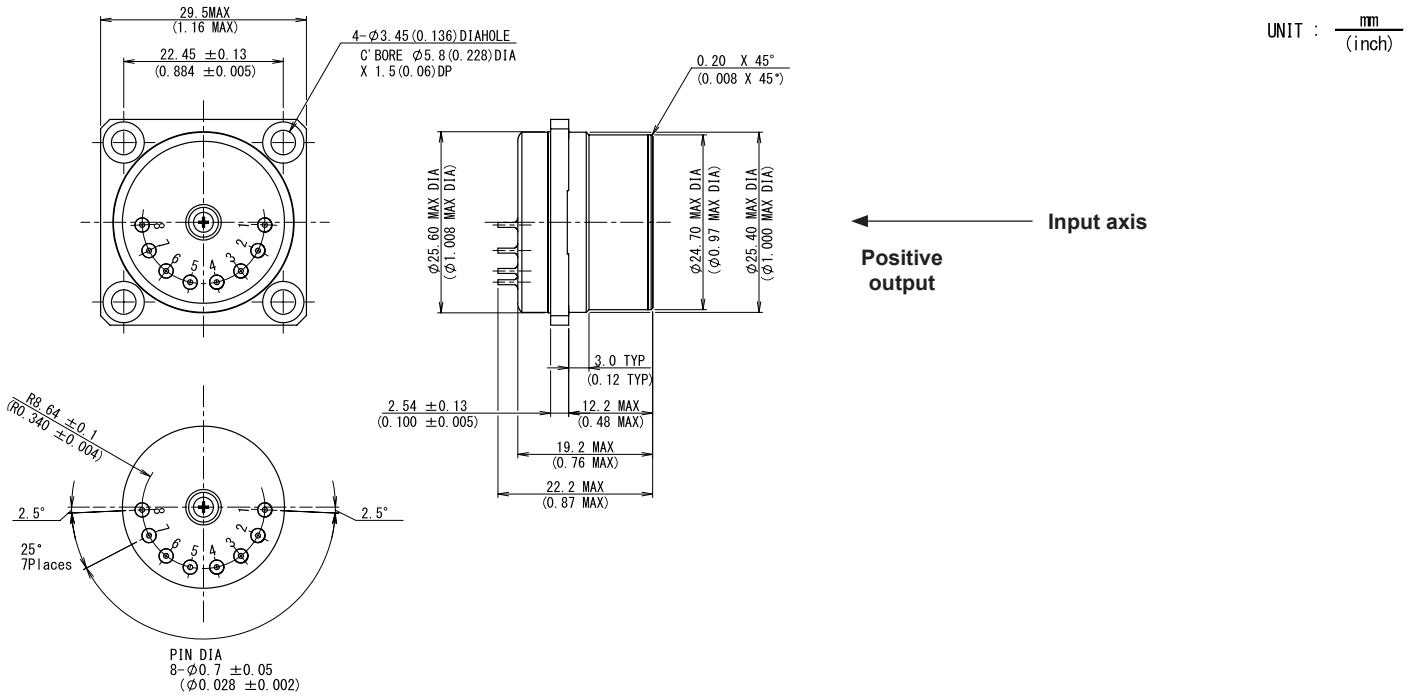
- Civil aviation

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.

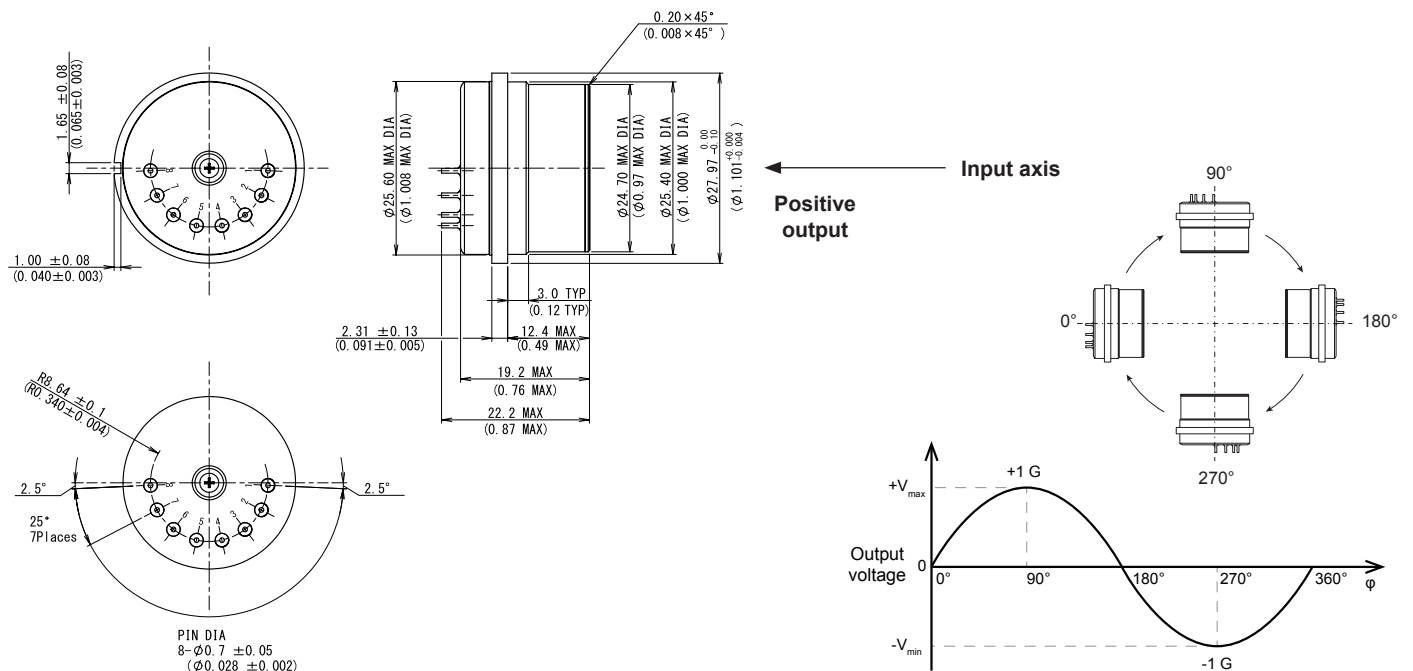
*Accelerometers must only be exported in accordance with all relevant regulations.*

## Dimensional drawings

### JA-50GA-01



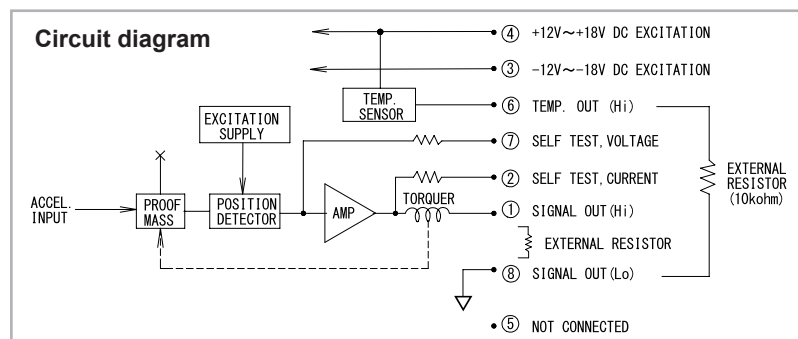
### JA-50GA-02



## 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		$\pm 12.0 V_{DC}$ to $\pm 18.0 V_{DC}$
Input current (quiescent)		5.0 mA max.
Insulation resistance (power return to case)		50 M $\Omega$ min. @ 50 $V_{DC}$
Mechanical		
Weight		50 grams max.
Material		Stainless steel (non-magnetic)
Performance		
Measurement range		$\pm 20$ G min.
Output voltage		$\pm 10.0 V_{DC}$ min. @ $\pm 15.0 V_{DC}$ excitation
Scale factor	Nominal (@ 25 °C)	1.33 mA/G $\pm 10$ %
	Temperature coefficient (@ 25°C)	$\pm 180$ ppm/°C max.
Bias	Nominal (@ 25 °C)	$\pm 8.0$ mG max.
	Temperature coefficient	$\pm 80$ $\mu$ G/°C max.
Axis alignment	Nominal (@ 25 °C)	$\pm 2.0$ mrad max.
	Temperature coefficient	$\pm 5$ $\mu$ rad/°C max.
Noise	0.1 Hz to 10 Hz	0.04 $\mu$ A rms
	10 Hz to 500 Hz	0.09 $\mu$ A rms
	500 Hz to 10 kHz	2.0 $\mu$ A rms
Resolution and Threshold		$\pm 1.0$ $\mu$ G max.
Linearity		$\pm 0.05$ % full scale max.
Frequency response (bandwidth)		300 Hz min.
Integral temperature sensor (AD590)		1 $\mu$ A/K (nominal)
Long term stability (1 year)	Scale factor	$\pm 1,200$ ppm max.
	Bias	$\pm 1.5$ mG max.
	Axis alignment	$\pm 400$ $\mu$ rad max.

1 G = 9.80665 m/s<sup>2</sup>



## Contact information

### North and South America

JAE Electronics, Inc.  
1100 W. Park One Drive  
Sugar Land  
TX 77478  
United States

T: +1 281 325 5760  
E: [support.aerospace@jae.com](mailto:support.aerospace@jae.com)

### Europe

JAE Europe, Ltd.  
200 Fowler Avenue  
Farnborough Business Park  
Hampshire  
GU14 7JP  
United Kingdom

T: +44 1252 55 11 00  
E: [support.aerospace@jae.co.uk](mailto:support.aerospace@jae.co.uk)

### Japan and Rest of World

Japan Aviation Electronics  
Industry, Ltd.  
1-19, Aobadai 3-chome  
Meguro-ku  
Tokyo 153-8539  
Japan

T: +81 3 3780 2925  
E: [aeroinfo@jae.co.jp](mailto:aeroinfo@jae.co.jp)

## More accelerometers from JAE



JA-5 series  
Φ25 mm



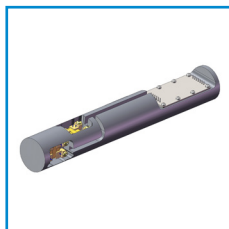
JA-25 series  
Φ19 mm



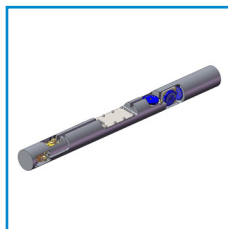
JA-35 series  
Φ15 mm

For more information on  
these products and other  
product ranges visit  
[www.jae.com/aero](http://www.jae.com/aero)

## More downhole products from JAE



Magnetometers



Directional Modules

## Document revision table

Document number	Issue	Revision date	Changes
JA-50GA_DS	01	01/03/2016	New document

JAE reserves the right to modify specifications without prior notice.