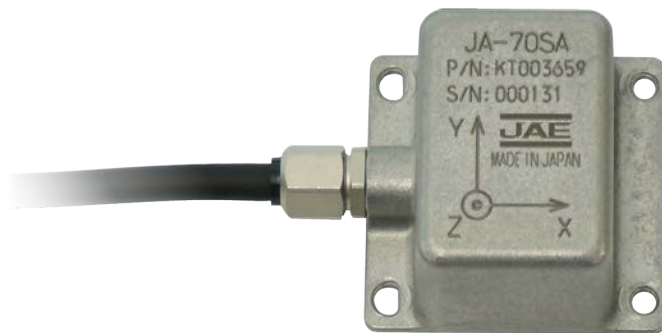


JA-70SA Accelerometer



Key features

- Ultra-low noise
- 3 axis high sensitivity accelerometer unit
- Low frequency operation
- -20 °C to +70 °C operating temperature
- Easy to install

JAE has used its wealth of knowledge to design a bespoke MEMS sensor that goes beyond the previously conceived boundaries for this technology. The JA-70SA accelerometer has been developed to provide a lower cost alternative to high accuracy quartz devices.

Applications

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

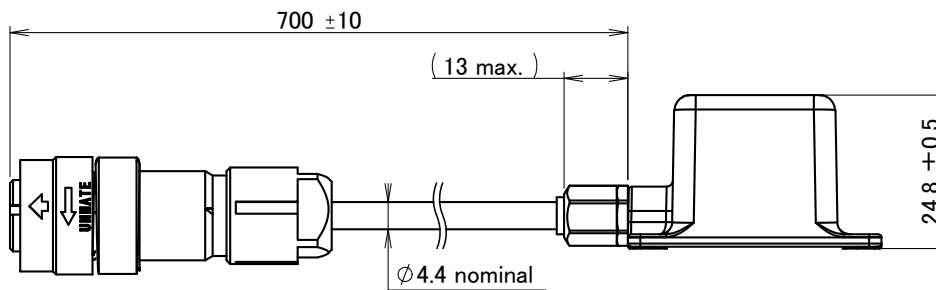
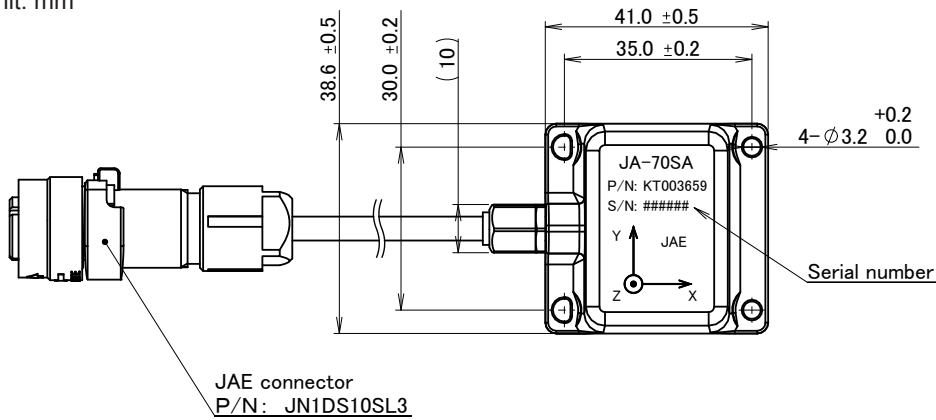
Designed initially for structural health monitoring, the compact and versatile accelerometer can be used in a number of other applications that require very sensitive measurements at low frequencies.

To be exported in accordance with all relevant regulations.

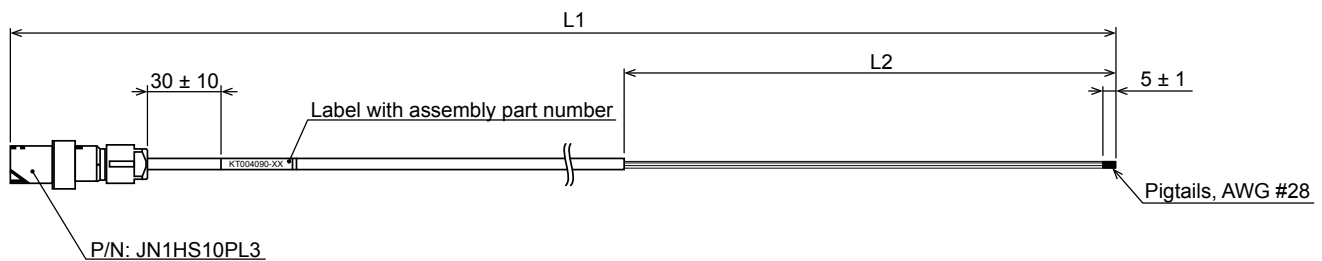
Dimensional drawings

JA-70SA

Unit: mm



Cable option with mating connector



Assembly part number	L1 (mm)	L2 (mm)
KT004090-01	1000 ±50	50 ±5
KT004090-02	2000 ±50	50 ±5
KT004090-05	5000 ±50	50 ±5
KT004090-10	10000 ±100	100 ±10
KT004090-20	20000 ±200	100 ±10
KT004090-30	30000 ±300	200 ±20

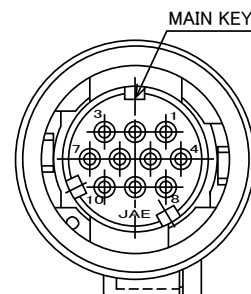
Technical data

Environmental			
Temperature	Operating	-20 °C to +70 °C	
	Non-operating	-40 °C to +80 °C	
Vibration (sine, 10 times/axis, 2 hours/each)	10 Hz to 60 Hz	0.75 mm	
	60 Hz to 500 Hz	10 G	
Shock (operating/non-operating)		100 G	
Electrical			
Input voltage		$\pm 5 V_{DC} \pm 0.5 V_{DC}$	
Input current (quiescent)		17 mA max.	
Mechanical			
Weight		100 grams max.	
Performance			
Measurement range	X, Y axis	± 2 G min.	
	Z axis	-1 G to +3 G	
Scale factor	Nominal (@ 25 °C)	2.000 V/G ± 5 %	
	Temperature coefficient (@ 25°C)	± 200 ppm/°C max.	
Bias	Nominal (@ 25 °C)	X, Y axis	± 100 mG max.
		Z axis	-1.0 G ± 0.1 G
	Temperature coefficient	± 200 μ G/°C max.	
Axis alignment	Nominal (@ 25 °C)	± 20 mrad max.	
Noise	1 Hz to 30 Hz	1×10^{-6} Grms/ $\sqrt{\text{Hz}}$ max.	
Linearity		± 2 % full scale max.	
Frequency response (bandwidth)		200 Hz min.	

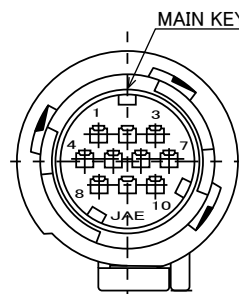
1 G = 9.80665 m/s²

Pin nr.	Function	Cable Colour	Notes
1	+5 V _{DC}	Red	+Power
2	-5 V _{DC}	Blue	-Power
3	GND	Black	Power GND
4	NC	NC	Not connected
5	Y out	Green	Signal output Y (Hi)
6	COM	White	Signal Low, Connect to Power GND internally
7	X out	Yellow	Signal output X (Hi)
8	Shield	Shield	Connect to Power GND internally
9	NC	NC	Not connected
10	Z out	Gray	Signal output Z (Hi)

JA-70SA connector
P/N: JN1DS10SL3



Mating connector
P/N: JN1HS10PL3



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

Europe

JAE Europe, Ltd.
Royal Pavilion, Tower 3
1st Floor Wellesley Road
Aldershot, Hampshire
GU11 1PZ
United Kingdom

T: +44 1252 551 100
E: support.aerospace@jae.co.uk

Japan and Rest of World

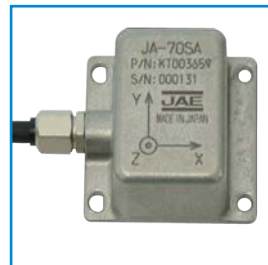
Japan Aviation Electronics
Industry, Ltd.
1-19, Aobadai 3-chome
Meguro-ku
Tokyo 153-8539
Japan

T: +81 3 3780 2925
E: aerinfo@jae.co.jp

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Document revision table

Document number	Issue	Revision date	Changes
VCL001-00018	01	01/07/2021	New document

JAE reserves the right to modify specifications without prior notice.