

AKA-300-SC Series

0-5Vdc Output Low-Cost Triaxial MEMS Analog Accelerometer



Making Sense out of Motion...

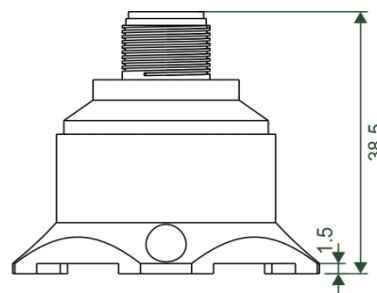
Jewell Instruments AKA Series Accelerometers are an excellent choice for cost to performance trade off. The AKA is based on silicon micro-machined MEMS Capacitive Accelerometer technology and designed for low power and high stability.



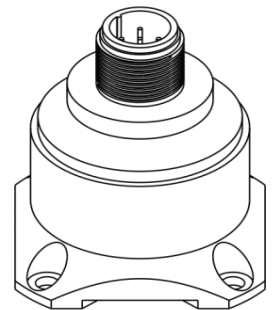
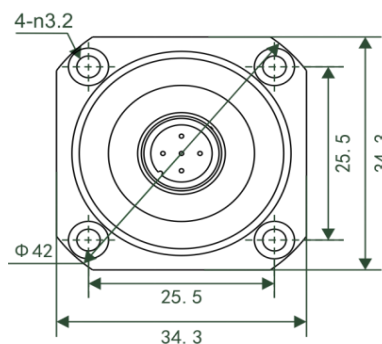
Outline Diagram

Features

- Triaxial Configuration
- Measuring ranges of $\pm 2G$ thru $\pm 40G$
- 100g shock protection
- Up to 1000 Hz bandwidth
- Ruggedized for harsh environment operation
- IP67 rating
- High Sensitivity with 1mg resolution
- 0-5V output
- 9-36Vdc input voltage
- 2 meter cable whip (Included)
- M12 connector



Size: 34.3*34.3*38.5mm



Applications

- Tower Cranes
- Wind Power Monitoring
- Robotics
- Traffic System Analysis
- Low Frequency Vibration Measurement
- Medical Equipment testing
- Automatic Control Systems
- Large Machinery Monitoring
- Vehicle Testing

Pin Out



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Performance Specifications

STATIC/DYNAMIC

Measurement Range, (g) ¹	±2	±4	±8	±10	±20	±40
Output Signal (Vdc) ²	0-5					
Calibration Deviation (mg)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Measuring Axis	X, Y, & Z (3-axis)					
Bias Temp Coefficient (%/°C)	0.01	0.01	0.01	0.05	0.05	0.05
0° Output Error (mV)	<0.01	<0.01	<0.01	<0.008	<0.008	<0.008
Cross Axis Sensitivity (%)	1.0	1.0	1.0	1.0	1.0	1.0
Resolution (mg, max)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nonlinearity (% of Full Scale, Max.)	<0.5	<0.5	<0.8	<1.0	<1.0	<1.0
Sensitivity (±10%, mV/g)	1250.0	625.0	312.5	250.0	125.0	62.5
Frequency Response (Hz)	500	500	500	500	500	500
Bandwidth (Hz, 3db)	1000	1000	1000	1000	1000	1000
Noise Spectral Density (µg/√Hz)	21.0	21.0	21.0	86.6	86.6	86.6

ELECTRICAL AND ENVIRONMENTAL

Input Voltage (Vdc)	9 to 36 Vdc
Operating Current	<60mA at 12Vdc
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Shock Resistance	100g (11msec ½ sine)
Vibration (grms random 20 to 2,000 Hz)	20

MECHANICAL

Enclosure Dimensions	34.3mm (L) x 34.3mm (W) x 38.5mm (H)
Weight (grams)	73.5
Seal	IP67
Connector	Standard M12

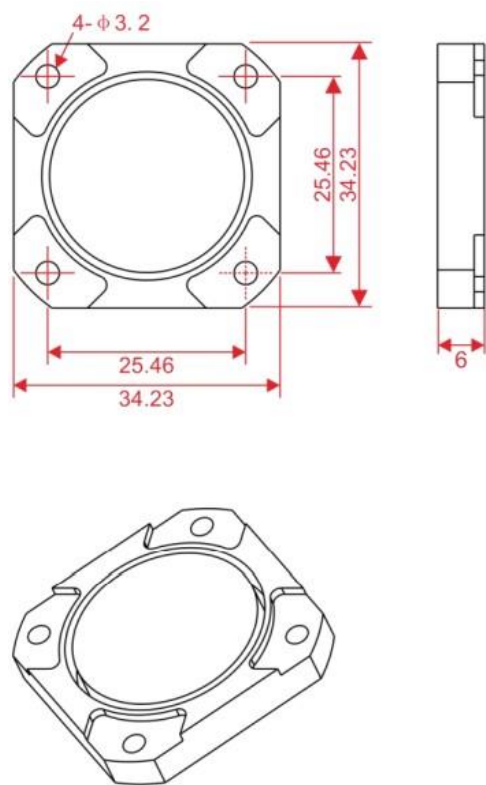
Notes: 1 - Intermediate ranges available, please see model number structure below. Custom ranges available on request.

2 - Output voltage 0.5-4.5 Vdc (- Full Scale to + Full Scale, Zero g = 2.5Vdc)

*Specifications subject to change without notice due to continued product development

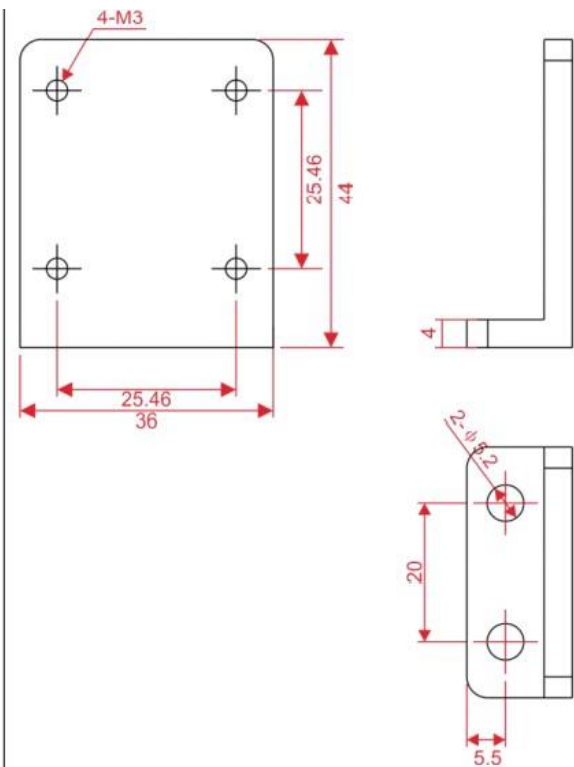
AKA and DKA Series Accessories

Magnetic Base



PN: TBD

L-Style Mounting Bracket



PN: TBD

HOW TO ORDER:

<u>AKA</u>	-	<u>300</u>	-	<u>SC</u>	-	<u>XX</u>
↓		↓		↓		↓
Analog		Tri-axis		S: 0-5Vdc		Range
Series		(X, Y, X)		Output		02 - ±2g
				↓		04 - ±4g
				C: M12		08 - ±8g
				Connector		10 - ±10g
						20 - ±20g
						40 - ±40g

Model: **AKA-300-SC-20**
Description: AKA series, triaxial configuration, ±5Vdc output, ±20g range, and M12 Connector with standard mounting and 2M long mating connector/cable.