



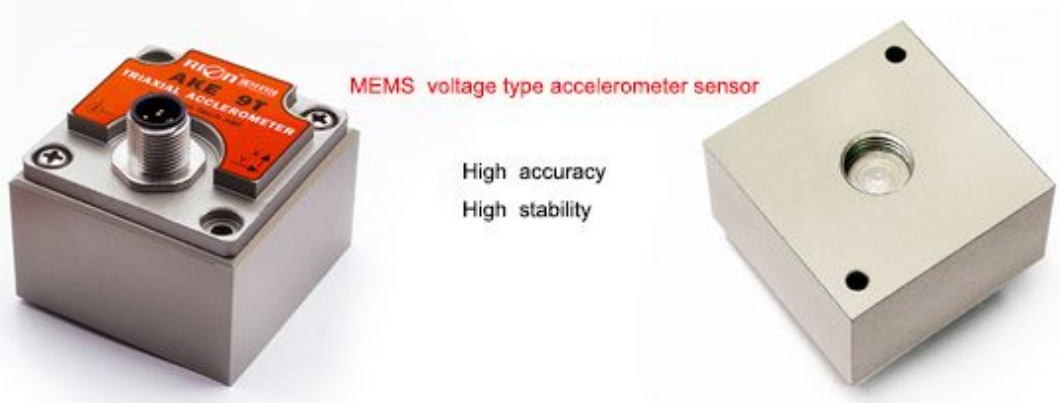
SPECIFICATIONS

Item No.: AKE398B

Description: MEMS Current Type Accelerometer

Production implementation standard reference

- Enterprise quality system standards: ISO9001: 2008 standard (certification number: 128101)
- Tilt sensor production standards: GB / T 191 SJ 20873-2003 inclinometer general specification of Level
- The Academy of metrology and quality inspection Calibrated in accordance to: JJF1119-2004 Electronic Level calibration Specification
- Gyro accelerometer test standard: QJ 2318-92 Gyro accelerometer test methods
- Software development reference standard: GJB 2786A-2009 military software development General requirements
- Product environmental testing standards: GJB150
- Electromagnetic anti-interference test standards: GB / T 17626
- Version|:ver.07
 - Revision Date:2014.4.29



General Description

AKE398B current type accelerometer sensor series products is RION company imported the Switzerland patented technology to produce for using widely, suitable for vibration testing, impact testing and more fields. This series products with firm structure, low power consumption, excellent deviation stability .etc characteristics to guarantee the reliability of outstanding output .

AKE398B is a monocrystalline silicon capacitive sensor, composed by a silicon chip of micro-mechanical treatment, low power ASIC for the signal adjustment, a microprocessor for storing compensation value and a temperature sensor. The product with low power consumption, after calibration, firm structure, stable output . New electronic configuration reset to provide a solid-state power, to provide comprehensive protection for over current. Scale factor in the full range of long-term stability and the deviation is typically less than 0.1%. For AKE398B, the deviation temperature coefficient typical value is $100\mu\text{g} / ^\circ\text{C}$, the scale factor temperature coefficient is $100\text{ ppm} / ^\circ\text{C}$

Key Features

- Three axis measurement optional (X、Y、Z)
- Voltage supply: 9-36V
- Measuring range optional: $\pm 01\text{G}$; $\pm 02\text{G}$; $\pm 04\text{G}$; $\pm 08\text{G}$; $\pm 16\text{G}$; $\pm 32\text{G}$; $\pm 40\text{G}$
- Excellent deviation stability
- Good environment performance shock, vibration and temperature)
- Size: L50×W50×H38mm
- Working temperature: -40°C to $+85^\circ\text{C}$
- Output signal: 4-20mA
- Shock resistance: 2000G
- Weight: 100g
- Storage temperature: -55°C to $+100^\circ\text{C}$

Application

- Crash records, fatigue monitoring and forecasting
- The shipboard satellite tracking system
- Traffic system monitoring, the roadbed analysis and high-speed railway fault detection
- Military and civilian flight simulator
- Low frequency vibration and automatic monitoring



Technical Data

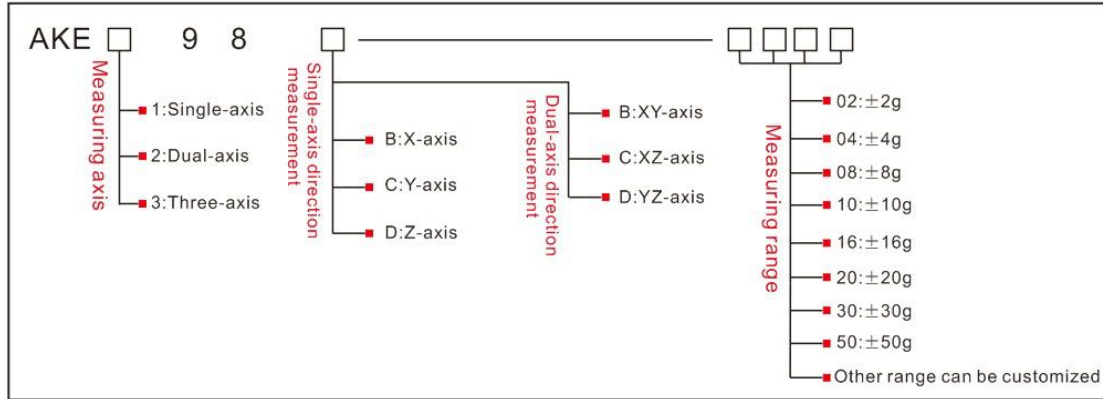
AKE398B Three-Axis accelerometer				
	AKE398B	AKE398B-08	AKE398B-40	Unit
	-02			
Measuring range	±2	±08	±40	g
Deviation calibration	<10	<50	<150	mg
48h deviation stability	0.5	<1	<2	mg Typical value
Measuring Axis	X,Y,Z	X,Y,Z	X,Y,Z	Axis
Annual deviation stability[2]	1.5 (<5)	7.5 (<25)	22 (<75)	mg Typical value(Maximum value)
Power on/off repeatability	<2	<10	<20	mg(Maximum value)
Deviation temperature coefficient[3]	0.1	0.5	1.5	mg/°C Typical value
	±0.4	±2	±6	mg/°C maximum value
Annual scale factor stability	300 (<1000)	300 (<1000)	300 (<1000)	ppm Typical value
Scale factor temperature coefficient	100	100	100	ppm/°C (Typical value)
	-50 / 250	-50 / 250	-50 / 250	(Minimum/Maximum value)
Resolution/threshold (@ 1Hz)	< 1	< 5	< 15	mg(Maximum value)
Nonlinearity	<0.1	<0.5	<0.6	% FS (Maximum value)
	<0.02	<0.09	<0.27	g(Maximum value)
Bandwidth[4]	1~≥400	1~≥400	1~≥400	Hz
Resonance frequency	1.6	6.7	6.7	kHz
Operating temperature	-40°C to +85°C			
Reliability	MIL-HDBK-217, Grade two			
Shock resistance	100g@11ms、3Times/Axis(half sinusoid)			
Recovery time	<1ms(1000g, 1/2 sin 1ms, impact in I shaft)			
Vibration	20g rms,20~2000Hz (Random noise, o ,p,l each shaft effect 30 minutes)			
LCC sealed	Meet MIL-STD-883-E			
Input (VDD_VSS)	9-36 VDC.			
Output current range	4-20mA @12VDC Input voltage (%FS)			
Operating current consumption	<3mA @ 12 VDC no load			
Output resistance/load	Maximum 1kΩ@24V power			
Weight	Typical value: 100g			
Size	Typical value : L50×W50×H38mm,			

Unless other specified, all the parameter values were tested under ±20°C (±68°F) and 12VDC conditions.

Mechanical Parameters

- Connectors: waterproof air-plug
- Protection class: IP67
- Enclosure material: Aluminum Oxide
- Installation: 2XM4 screws or M16*1.5 bottom screws installation

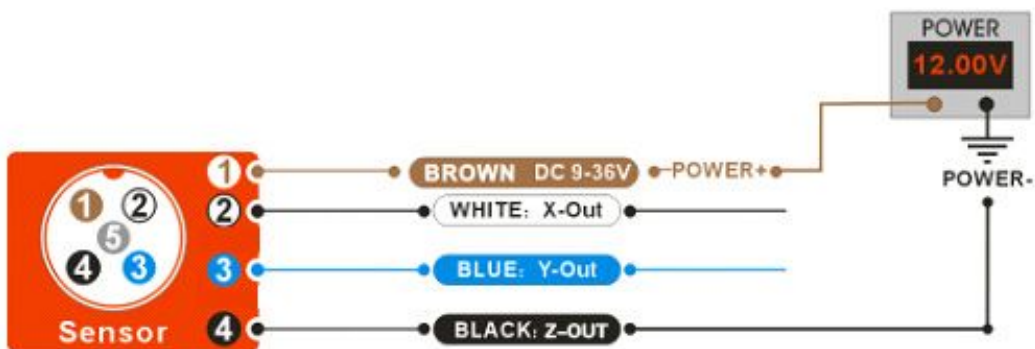
Ordering Information



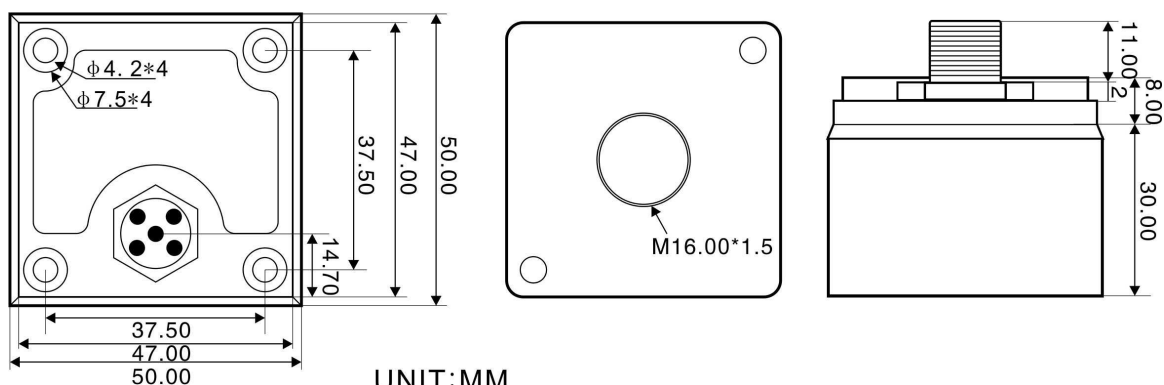
- E.g: AKE198B-02: single-axis、X Axis direction measurement、+/-2g selection
 AKE298B-02: dual-axis、XY Axis directions measurement、+/-2g selection
 AKE398B-02: three-axis、XYZ Axis directions measurement、+/-2g selection

Electrical Connection

4cables socket pin	5cables socket pin	Cable color	Single-axis accelerometer	Dual-axis accelerometer	Three-axis accelerometer
1	1	Brown	Power positive	Power positive	Power positive
2	2	White	X Axis current signal	X Axis current signal	X Axis current signal
3	3	Blue	Y Axis current signal	Y Axis current signal	Y Axis current signal
4	4	Black	Power GND	Power GND	Power GND
	5	Gray	Z Axis current signal	Z Axis current signal	Z Axis current signal



Dimension



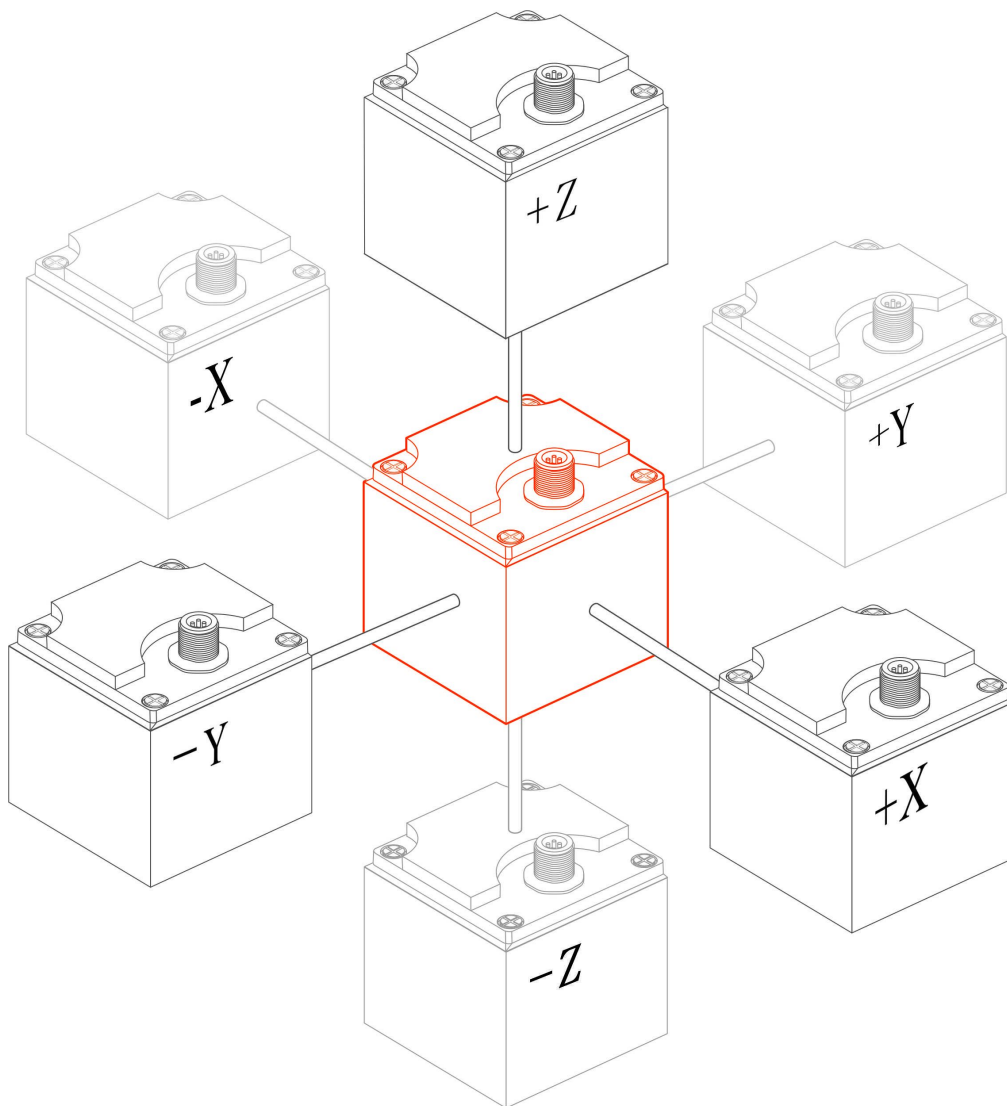
TOP VIEW

BACK VIEW

SIDE VIEW

Size:50*50*49mm

Products measuring directions



※ More information please visit Rion's company website: www.rion-tech.net



深圳市瑞芬科技有限公司
CHINA SHENZHEN RION TECHNOLOGY CO.,LTD.

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T: 0755-29657137 / 29761269 F: 0755-29123494
W: www.rion-tech.net E: sales@rion-tech.net
A: 中国·深圳市宝安区82区华丰科技园 五期3F

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