AKM Series

Accéléromètre MEMS triaxe | ±2 à ±40g | Low cost | Sortie analogique ou digitale | Conn. radial

- Accéléromètre MEMS 3 axes
- étendues de mesure: ±2; ±4; ±8 ; ±10 ; ±20 ; ±40g
- **Connecteur radial**
- Non-linéarité : 0.5% à 1% de la pleine échelle
- Réponse en fréquence : 0-500 Hz
- Signal de sortie: 0-5V, 4-20mA, RS-232, RS-485, TTL
- Boîtier IP67
- Tension d'alimentation : 9-36 VDC
- Température de fonctionnement: -40°C à + 85°C
- Masse : 116 grammes
- Dimensions : L36 × W32 × H24mm

Caractéristiques

Le modèle AKM39 est un accéléromètre MEMS capacitif triaxe conçu pour les applications recherchant une solution compacte et robuste à prix modéré.
Les étendues de mesure sont comprises entre ±2g et ± 40g sur chaque axe x, y, z.
La mesure est faite en simultané, indépendamment.
La réponse fréquentielle inclut les composantes de 0 (continu) à 500 Hz.
La précision est de l'ordre de 1 %, de l'étendue de mesure, et la résolution de l'ordre du mg

Nombreuses options de sortie : La série AKM offre plusieurs options de sortie analogiques 0-5V (AKM390), 4-20mA (AKM398) ou numériques, dont RS485, RS232, TTL (AKM392) facilitant son intégration dans divers systèmes industriels et garantissant une transmission fiable des données.

Applications

- Vibrations basses fréquences
- Génie civile
- Montoring d'éolienne
- Surveillance de pont
- Suivi traffic routier

Spécifications

Version 4-20mA

AKM398	PARAMETER						UNIT
Measure range	±2	±4	±8	±10	±20	±40	g
Deviation calibration	<1	<1	<1	<1	<1	<1	mg
Measure axis	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	Axis
Repeatability of power-on/off	<2	<2	<2	<2	<2	<2	mg(max)
Sensitivity (± 10%)	4	2	1	0.8	0.4	0.2	mA/g
Temp. coefficient of deviation	0.01	0.01	0.01	0.05	0.05	0.05	%/℃
Resolution/Threshold (@ 1Hz)	< 1	< 1	< 1	< 1	< 1	< 1	mg(max)
Nonlinearity	<1	<1	<1	<1	<1	<1	% FS (max)
Response frequency	500	500	500	500	500	500	Hz
Bandwidth (3DB)	1000	1000	1000	1000	1000	1000	Hz
Cross-axis sensitivity	1	1	1	2	2	2	%
Lateral Vibration Sensitivity Ratio	1	1	2	5	5	5	%
Resonant frequency	2.4	2.4	2.4	5.5	5.5	5.5	kHz
Noise density	21	21	21	86.6	86.6	86.6	μg/√Hz
0 g output 12 mA	<0.005	<0.005	<0.005	<0.003	<0.003	<0.003	mA
Output current	4~20mA						
Input (VDD _ VSS)	9-36 VDC						
Operating current consumption	<60mA @ 12 VDC						
protection	IP67						
Material	aerospace aluminum						
Weight	Product net weight: ≤116g, magnetic base: ≤50g						
Size	Product size: L36 × W32 × H24mm Size of magnetic adsorption base plate: L36 × W32 × H8.1mm						

Version 0-5V

AKM390	Parameter						Unit
Measure range	±2	±4	±8	±10	±20	±40	g
Deviation calibration	<1	<1	<1	<1	<1	<1	mg
Measure axis	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	axis
Power on/off repeatability	<2	<2	<2	<2	<2	<2	mg(max)
Sensitivity (±10%)	1250	625	312.5	250	125	62.5	mv/g
Temp. coefficient of deviation	0.01	0.01	0.01	0.05	0.05	0.05	%/℃
Resolution/Threshold (@ 1Hz)	< 1	< 1	< 1	< 1	< 1	< 1	mg(max)
Nonlinearity	<1	<1	<1	<1	<1	<1	% FS(max)
Response frequency	500	500	500	500	500	500	Hz
Bandwidth (3DB)	1000	1000	1000	1000	1000	1000	Hz
Cross-axis sensitivity	1	1	1	2	2	2	%
Lateral Vibration Sensitivity Ratio	1	1	2	5	5	5	%
Resonant frequency	2.4	2.4	2.4	5.5	5.5	5.5	kHz
Noise density	21	21	21	86.6	86.6	86.6	μg/√Hz
0 G Output 2.5V	<0.01	<0.01	<0.01	<0.008	<0.008	<0.008	mV
Output voltage	0~5V						
Input (VDD _ VSS)	9-36 VDC						
Operating current consumption	<60mA @ 12 VDC						
Protection	IP67						
Material	aerospace aluminum						
Weight	Product net weight: ≤116g, magnetic base: ≤50g						
Size	Product size: L36 × W32 × H24mm Size of magnetic adsorption base plate: L36 × W32 × H8.1mm						

PM Instrumentation - 47 Avenue de l'Europe - 92400 Courbevoie - France
www.pm-instrumentation.com | contact@pm-instrumentation.com | 0146919332

AKM Series

Accéléromètre MEMS triaxe | ±2 à ±40g | Low cost | Sortie analogique ou digitale | Conn. radial

Spécifications

Version RS-232/485/TTL

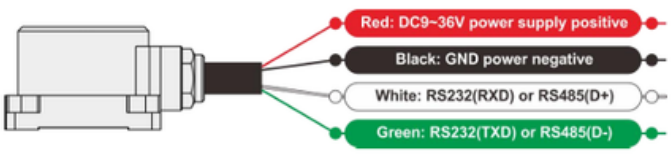
AKM392	PARAMETER						UNIT
Measure range	±2	±4	±8	±10	±20	±40	g
Deviation calibration	<1	<1	<1	<1	<1	<1	mg
Measure axis	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	X,Y,Z	Axis
Power on/off repeatability	<2	<2	<2	<2	<2	<2	Mg (Max)
Temp. coefficient of deviation	0.01	0.01	0.01	0.01	0.01	0.01	%/℃ (typical)
Resolution/Threshold (@ 1Hz)	< 1	< 1	< 1	< 1	< 1	< 1	Mg (Max)
Nonlinearity	<1	<1	<1	<1	<1	<1	% FS (Max)
Bandwidth (3DB)	500	500	500	500	500	500	Hz
Cross-axis sensitivity	1	1	1	2	2	2	%
Transverse vibration sensitivity ratio	1	1	2	5	5	5	%
Noise density	21	21	21	86.6	86.6	86.6	μg/√Hz
Resonant frequency	2.4	2.4	2.4	5.5	5.5	5.5	kHz
Automatic output rate of 68 protocol	5Hz、10Hz、25Hz、50Hz、100Hz、200Hz、500Hz、1000Hz						
MODBUS automatic output rate	10Hz、25Hz、50Hz						
Output interface	RS232/RS485/TTL						
Communication protocol	Reifen 68 protocol and MODBUS RTU protocol						
Input (VDD _ VSS)	9-36 VDC						
Operating current consumption	<60mA @ 12 VDC						
Protection	IP67						
Material	aerospace aluminum						
Weight	Product net weight: ≤116g, magnetic base: ≤50g						
Size	Product size: L36 × W32 × H24mm Size of magnetic adsorption base plate: L36 × W32 × H7mm						

Spécifications électriques

Version RS-232/485/TTL

▸ ELECTRICAL CONNECTION

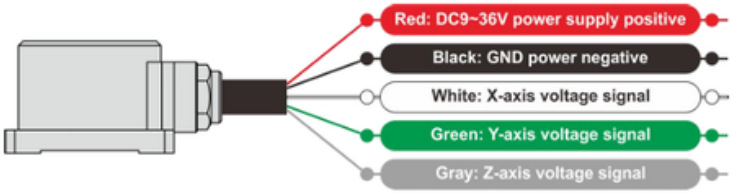
Color Function	RED	BLACK	WHITE	GREEN
	DC9 ~ 36V Positive pole of power supply	GND Negative pole of power supply	RS232(RXD) Or RS485 (D +)	RS232(TXD) Or RS485 (D-)



Version analogique

▸ ELECTRICAL CONNECTION

THREAD COLOR FUNCTION	RED	BLACK	WHITE	GREEN	GRAY
	DC9 ~ 36V Positive pole of power supply	GND	X-axis voltage signal	Y-axis voltage signal	Z-axis voltage signal



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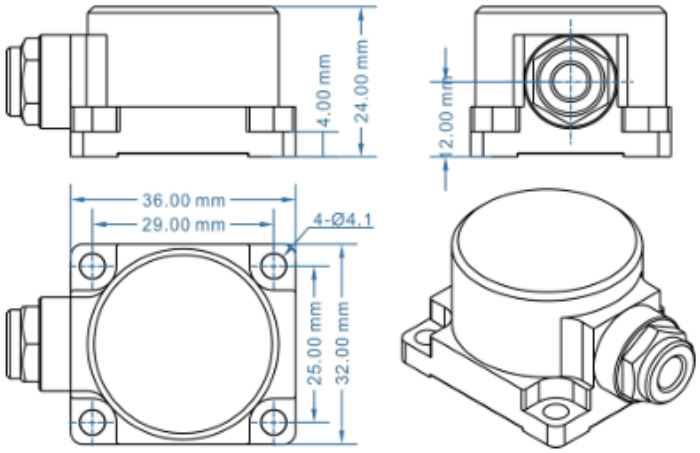
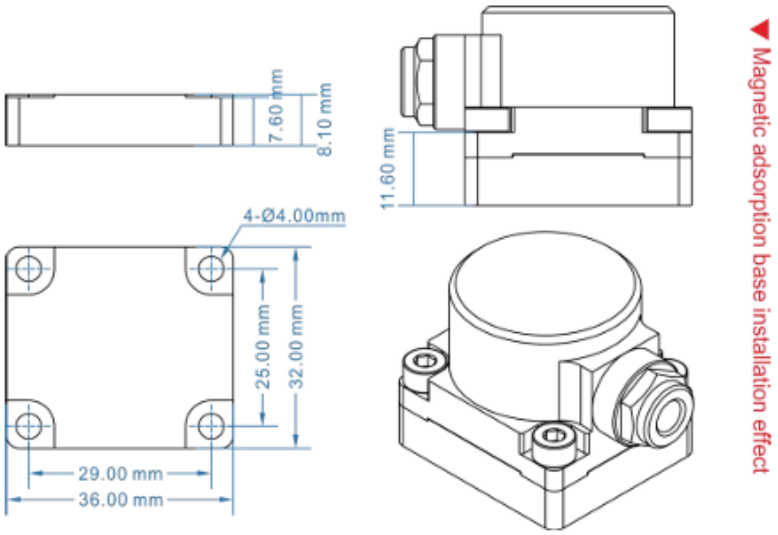
Dimensions

▸ PRODUCT DIMENSION DRAWING



Shell size: L36 × W32 × H24mm
Installation size: L29 × W25 × H4mm
Mounting screws: 4 M4 screws

▸ DIMENSIONS OF MOUNTING ACCESSORIES



Magnetic bottom plate size: L36 × W32 × H11.6mm
Installation size: L29 × W25 × H8.1mm
Installation method: strong magnetic adsorption

AKM Series

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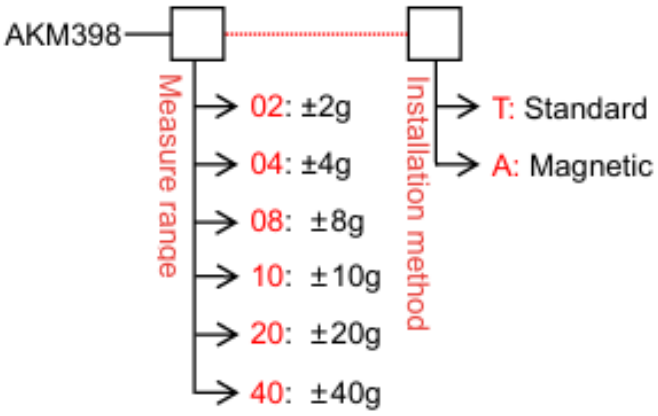
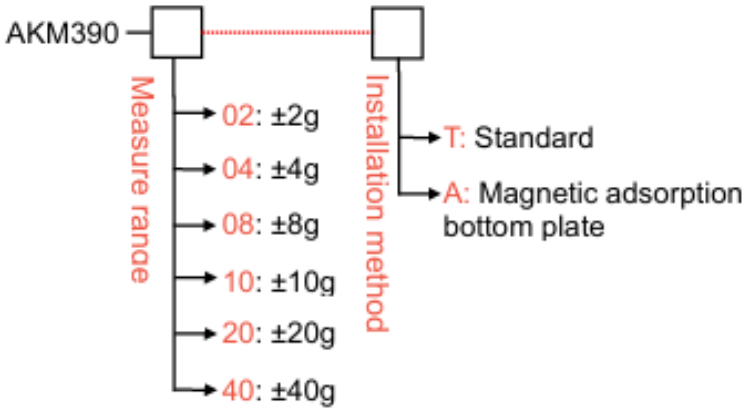
Configuration et options

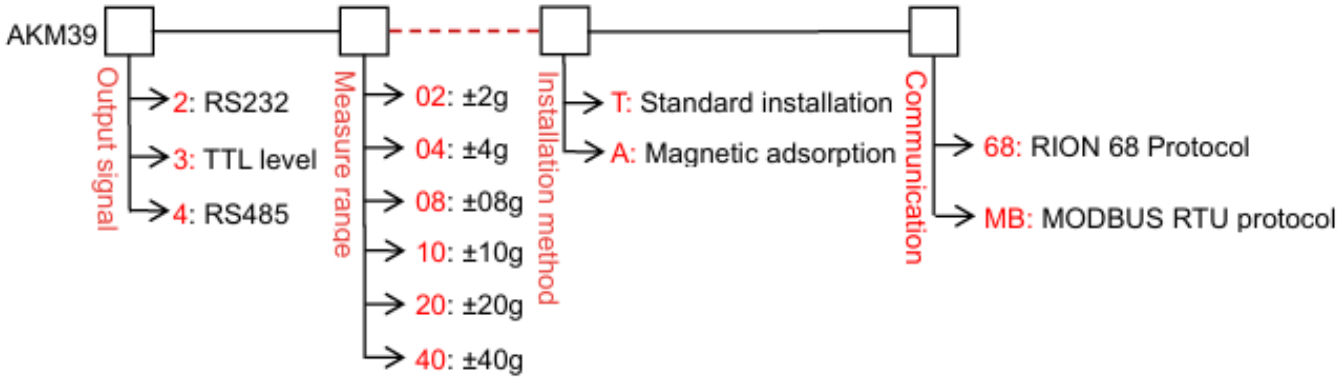
Version 4-20mA



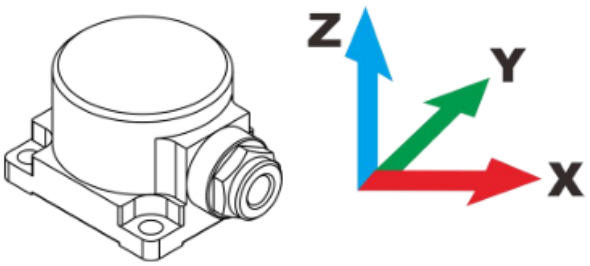
Version 0-5V



Version RS-232/485/TTL



▸ **PRODUCT MEASUREMENT DIRECTION**



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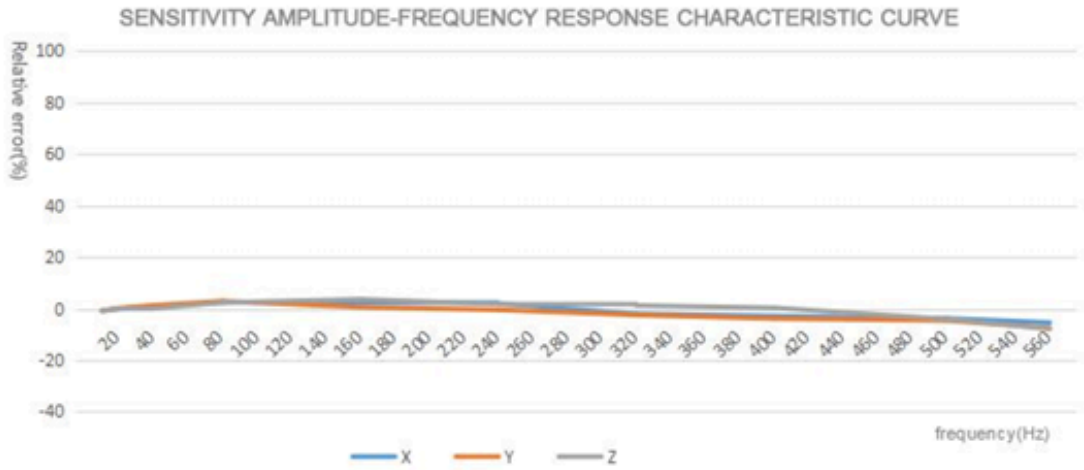
Performance

▸ SENSITIVITY AMPLITUDE-FREQUENCY RESPONSE CHARACTERISTIC CURVE (reference condition: f=20.000Hz, a=2.000G)



Reference diagram of measuring range ±8G

▸ SENSITIVITY LINEARITY GRAPH