MegaSig

V3.2 20260902

ACC 1831 三轴加速度计

产品规格书

ACC 1831 Triaxial Accelerometer

Product Specification

产品规格书-中文 1
Product introduction-EN 4

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产品简介



ACC 1831 三轴加速度计

ACC 1831 加速度计是压电式加速度传感器，它内部自带了电荷放大器，采用压电陶瓷材料制造的敏感元件使其具有良好的性能，能够长期使用中保持足够的稳定性。

使用 1/4-28 UNF 四芯接头的线缆转出三个带 BNC 接头的同轴电缆给此系列的传感器提供 2-10mA 的恒流电源。

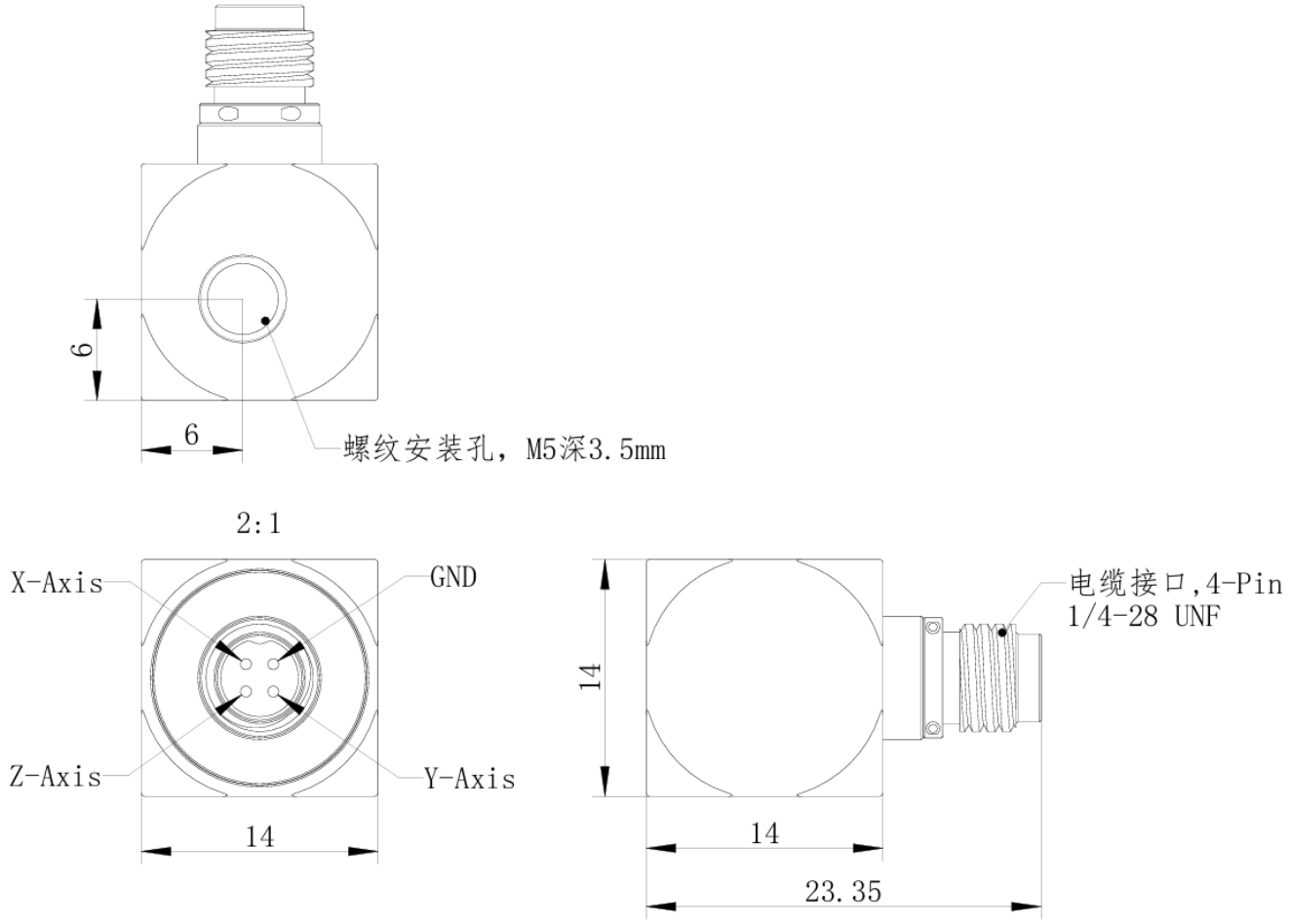
功能特点

- IEPE供电型三轴加速度计，整体采用钛合金材质，重量轻，体积小巧
- 整体采用剪切结构设计，高带宽，高稳定性
- 应用于通用型振动测量、汽车NVH测试、电机类产品下线检测、模态试验等场景

规格参数

ACC 1831		
灵敏度等级		S5
灵敏度		100mV/g（±10%）
测量范围		±50g
频率范围		0.5Hz - 10kHz（±5%） 0.3Hz - 10kHz（±10%）
横向灵敏度		≤5%
幅值线性度		≤1%
宽带分辨率		0.0005grms
安装谐振频率		＞40kHz
冲击抵抗		2000g
工作电压范围		+18 - ＋28V
工作电流范围		2mA - 10mA（典型4mA）
工作温度范围		-40℃ - 120℃
宽带噪声		550μg
频谱噪声	10Hz	57 (μg/√Hz)
	100Hz	18 (μg/√Hz)
	1000Hz	5.7 (μg/√Hz)
基座应变		0.002g/με
磁灵敏度		1.5g/T
敏感元件		压电陶瓷
壳体材料		钛合金
结构形式		剪切型
重量		＜9.8g
输出接口		1/4-28 四芯插头
输出接口位置		侧端出线
安装接口		底部M5内螺纹连接
附件		M5连接螺栓

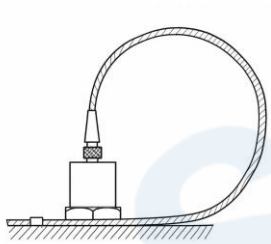
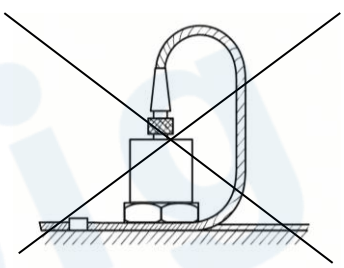
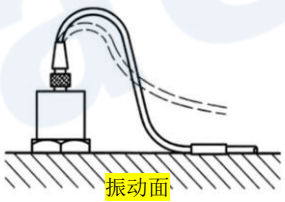
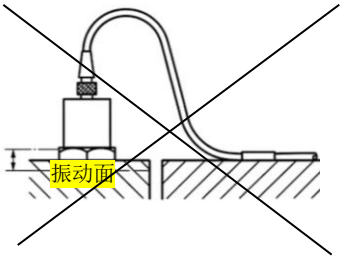
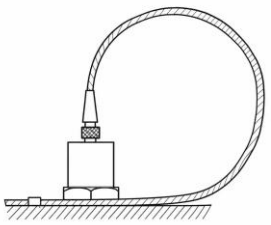
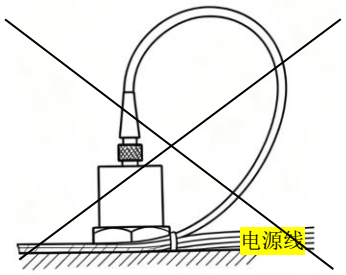
外形尺寸 unit(mm)



订购信息

PN号	型号	图片	说明
900015-12	ACC 1831		三轴加速度传感器
960034-01	PM 6183		数据采集卡
730015-030	403A030		1/4-28UNF接头转 3×BNC接头，长度3.0m
730015-060	403A060		1/4-28UNF接头转 3×BNC接头，长度6.0m
730015-090	403A 090		1/4-28UNF接头转 3×BNC接头，长度9.0m
730015-000	403A		1/4-28UNF接头转 3×BNC接头，可定制长度

安装使用注意事项

注意事项	正确	错误
安装接头处牢固连接，禁止硬折		
线缆的固定位置需要跟随振动面，避免振动对接线端子的拉扯		
线缆要远离强电干扰源，避免与电源线平行布线		

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深圳市美格信测控技术有限公司
0755.8950.8393
sale@megasig.com
中国, 深圳,光明
www.megasig.com

Product introduction



ACC 1831 Triaxial Accelerometer

The ACC 1831 is a piezoelectric accelerometer featuring a built-in charge amplifier. Its sensing element, manufactured from piezoelectric ceramic material, provides excellent performance and maintains sufficient stability over long-term use.

Power is supplied to this series of sensors via a cable with a 1/4-28 UNF four-pin connector, which branches out into three coaxial cables with BNC connectors, delivering a constant current power supply of 2-10 mA.

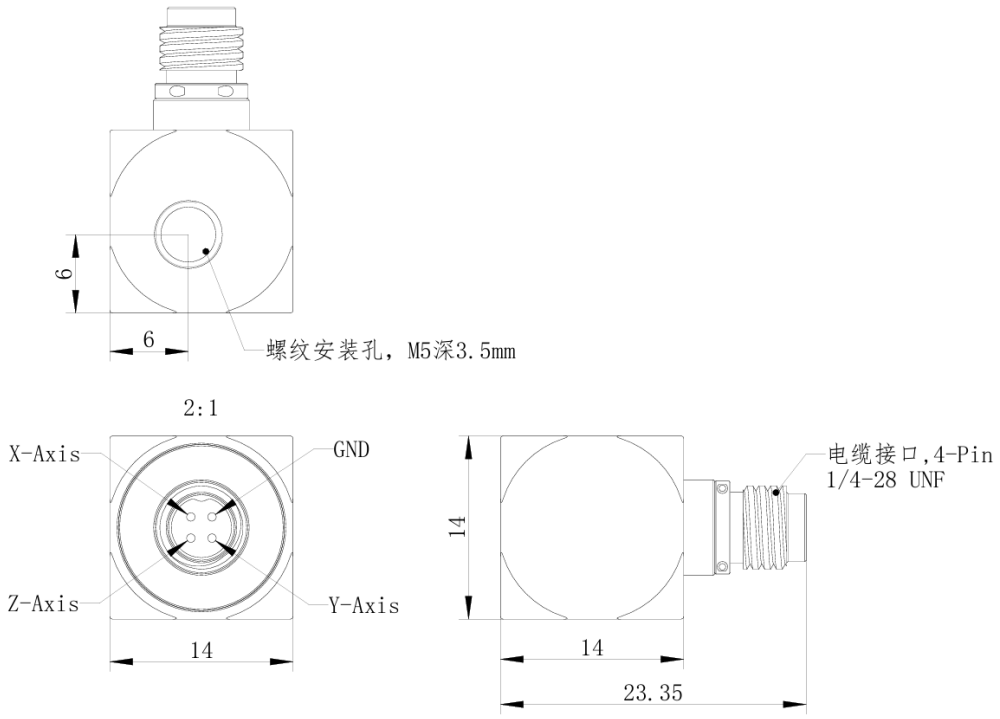
Features

- IEPE-powered Triaxial -axis accelerometer, featuring a lightweight and compact design made entirely of titanium alloy
- Utilizes a shear-type structural design throughout, offering high bandwidth and high stability
- Suitable for applications in general vibration measurement, automotive NVH testing, end-of-line testing for motor products, modal testing, and other similar scenarios

Specification parameters

ACC 1831		
Sensitivity class		S5
Sensitivity		100mV/g（±10%）
Measurement range		±50g
Frequency range		0.5Hz - 10kHz（±5%） 0.3Hz - 10kHz（±10%）
Transverse sensitivity		≤5%
Amplitude linearity		≤1%
Broadband resolution		0.0005grms
Mounted resonant frequency		＞40kHz
Shock survival		2000g
Operating voltage range		+18 ~ ＋28V
Operating current range		2mA ~ 10mA（typical 4mA）
Operating temperature range		-40℃~120℃
Broadband noise		550μg
Spectral noise	10Hz	57 (μg/√Hz)
	100Hz	18 (μg/√Hz)
	1000Hz	5.7 (μg/√Hz)
Base strain		0.002g/με
Magnetic sensitivity		1.5g/T
Sensing element		Piezoelectric ceramics
Housing material		Titanium
Construction type		Shear
Weight		＜9.8g
Output interface		1/4-28 4-Pin
Output interface location		Side
Mounting interface		M5 Female
Accessories		M5 Bolt

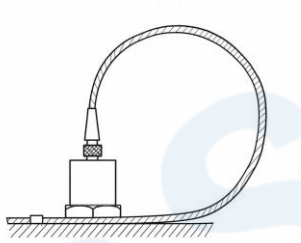
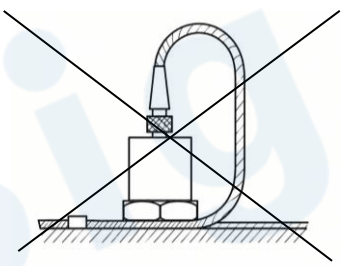
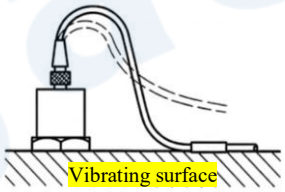
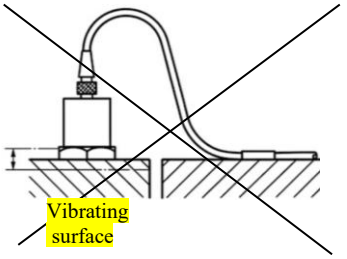
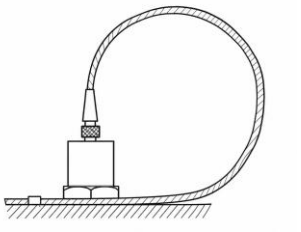
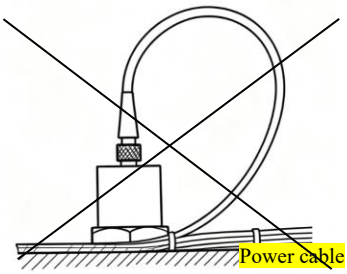
Mechanical structure



Ordering Information

PN	Model	Picture	Description
900015-12	ACC 1831		Triaxial Accelerometer
960034-01	PM 6183		Data Acquisition Card
730015-030	403A030		1/4-28UNF connector to 3×BNC connector , length 3.0m
730015-060	403A060		1/4-28UNF connector to 3×BNC connector , length 6.0m
730015-090	403A090		1/4-28UNF connector to 3×BNC connector , length 9.0m
730015-000	403A		1/4-28UNF connector to 3×BNC connector , customizable length.

Installation & Usage Precautions

Precautions	Correct	Incorrect
Securely connect the cable at the connector; no sharp bending		
The cable fixation point shall follow the vibrating surface to avoid vibration pulling on the cable terminal		
Keep the cable away from strong electrical interference sources and avoid parallel routing with power cables.		

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0755.8950.8393
sale@megasig.com
GuangMing, Shenzhen,China
www.megasig.com