

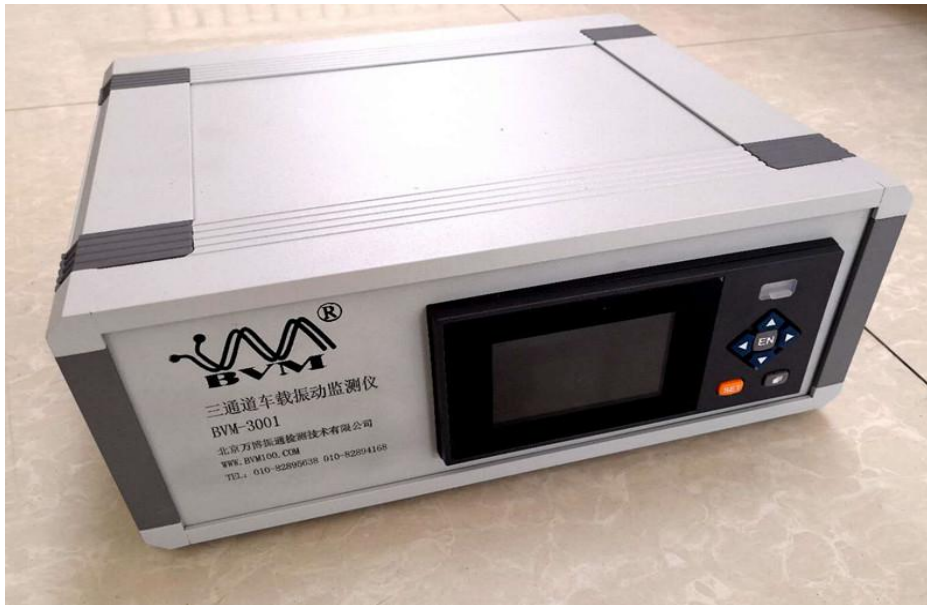


BVM-3001 多通道车载振动监测仪

BVM-3001 multichannel vibration monitor for vehicle

BVM-3001 多通道车载振动监测仪，是由智能化数据采集记录系统、振动变送器、和传感器组成，适合测量各种机械设备、电子设备的振动,特别为车载振动测试设计。传感器根据现场的情况选择不同作用的传感器。

BVM-3001 multichannel vibration monitor for vehicle is composed of intelligent data acquisition, recording system, vibration transmitter and sensor. It is suitable for measuring vibration of various mechanical equipment and electronic equipment, especially **design** for vehicle vibration test. According to the field conditions, sensors with different functions are selected.



一、功能介绍:

一、Introduction of Instrument Function:

1、智能化数据采集记录系统:

1、Intelligent data acquisition and recording system:

与各类传感器变送器连接，可作为振动记录仪、温度记录仪、湿度记录仪、温湿度记录仪、电流记录仪、电压记录仪、频率记录仪、转速记录仪、流量记录仪、液位记录仪、功率记录仪等使用。用于振动、温湿度、压力、电流、电压、液位等数据记录，可显示测量数值、曲线、棒形图，并将记录数据转换成文本表



格等形式导出。

It can be used as vibration recorder, temperature recorder, humidity recorder, current recorder, voltage recorder, frequency recorder, speed recorder, flow recorder, liquid level recorder, power recorder, etc. It is used for data recording of vibration, temperature, humidity, pressure, current, voltage, liquid level, etc. It can display the measured value, curve, bar chart, and convert the recorded data into text table for export.

1)、5.6英寸TFT液晶彩色屏；

1)、5.6-inch TFT LCD color screen;

2)、全隔离万能输入，无需跳线器通过按键输入选择。直流电流：(4~20) mA, (0~10) mA, (0~20) mA；直流电压：(1~5) V, (0~5) V；热电阻：Pt100, Cu100, Cu50, BA1, BA2, G53；热电偶：K, S, R, B, N, E, J, T；及远传压力表。(其它输入信号或分度号需在订货时注明)；

2)、Fully isolated universal input selected by key, no any jumper. current: (4-20) mA, (0-10) mA, (0-20) mA; DC voltage: (1-5) V, (0-5) V; thermal resistance: PT100, cu100, cu50, BA1, Ba2, g53; thermocouple: K, s, R, B, N, e, J, t; and remote pressure gauge. (Other input signals shall be indicated when ordering);

3)、1~18通道万能输入，基本误差±0.2%、16位A/D转换器

3)、1-18 channels universal input, basic error ± 0.2%, 16-bit a / D converter.

4)、4GMB记录内存，0.1秒~60分记录间隔；

4)、4GMB recording memory, 0.1s-60min recording interval;

5)、U盘转储接口，将记录数据通过U盘，考入计算机进行分析处理。

5)、USB interface to copy the recorded data to USB disk for the computer for analysis and processing.

2、振动或温度等参数变送功能：

2、Signal transmission function for vibration or temperature:

BVM-3001内置BVM-210型振动变送器，主要用于检测大型运输车运行过程中的振动，旋转机械的绝对振动如机壳振动轴瓦振动机械振动等。监测由于动、静设备的损坏等引起的振动变化。适用于不同类型的振动传感器，如：压电型加



速度计、磁电型振动速度传感器、涡流式振动位移传感器变送器输出振动的速度真有效值（两线制 4-20mA 电流信号）和振动速度的动态波形。特别适合恶劣环境的长期状态监测。可用于单回路多回路的仪表检测、报警。也可用于 PLC、DCS 等大型工业生产和设备的连续监测与控制系统。

BVM-3001 has built-in BVM-210 vibration transmitter, which is mainly used to detect the vibration during the operation of large transport vehicles, and the absolute vibration of rotating machinery, such as the shell vibration, bearing shell vibration, etc. Monitor the vibration change caused by the damage of dynamic and static equipment. It is suitable for different types of vibration sensors, such as piezoelectric accelerometer, magneto-electric velocity transducer, eddy current displacement transducer, which transmits to output true effective value of vibration velocity (two-wire system 4-20mA current signal) and its waveform. It is especially suitable for online condition monitoring in harsh environment. It can be used for single-loop and multi-loop instrument detection and alarm. It can also be used in the continuous monitoring and control system of PLC, DCS and other large-scale industrial production and equipment.

- 1)、测量范围： 振动速度幅值 (mm/s) :0—200
振动位移峰峰值(mm):0—2000
振动加速度幅值(m/s²):0—200

1) 、 Measurement range: vibration velocity amplitude: 0-200 mm / s

Peak-peak value of vibration displacement : 0-2000 mm

Vibration acceleration amplitude: 0-200 m/s²

- 2)、输出：两线制对应 4~20mA,量程可调。
2)、 Output: two-wire system corresponds to 4 ~ 20mA, with adjustable range.
- 3)、频率响应：5—11000Hz。

- 3) Frequency response: 5-11000Hz.
- 4) 、工作温度: -30~80°C。
- 4) Operating temperature: - 30-80°C.
- 5) 、测试精度: 5%
- 5) Measurement accuracy: 5%
- 6) 、输出负载: <50W
- 6) Output load: < 50W
- 7) 、供电: DC20~30V
- 7).Power supply: DC20 ~ 30V

二、BVM-IC-100 压电加速度传感器

二、BVM-IC-100 piezoelectric acceleration sensor



BVM-IC-100 压电加速度传感器按照 CTC102 进行设计制造，完全可以替代电荷式加速度传感器使用。无活动部件， $\pm 4\%$ 灵敏度的误差，可用于工业监控，抗干扰能力强，并且内置 IEPE 芯片，国际通用，100、500mV/g,为工业通用。

BVM-IC-100 piezoelectric acceleration sensor is designed and manufactured according to CTC102, which can completely replace the charge type acceleration sensor. It has no moving parts and $\pm 4\%$ sensitivity error. It can be used for industrial monitoring. It has strong anti-interference ability. And it has IEPE function with the sensitivity 100mV/g, 500mV/g, which is industrial general.



型号	单位	BVM-IC-100
灵敏度	mV/g	100 (±10%)
频率响应	Hz	2.5~7000
共振频率	Hz	>10kHz
横向灵敏度	%Max	<5%
动态量程	g	50
激励电压	VDC/mA	18-30/2-10
偏置电压	VDC	12-14
温度范围	°C	-55~120
冲击极限	g	2000
重量	Gram	84
敏感元件	/	PZT ceramics
工作模式	/	Shear mode
安装孔	/	1/4-28
壳体材料	/	316L
连接器	/	2Pin-5015c-MIL
安装扭矩	N.m	3~5

三、BVM-IC-100-3 三向传感器:

三、 BVM-IC-100-3 three-axial sensor:



传感器特点:

Sensor features:

1. 剪切设计减少环境对信号的影响
1. Shear design reduces the impact of environment on signal
2. 采用宽温度系数的陶瓷材料
2. Ceramic materials with wide temperature coefficient

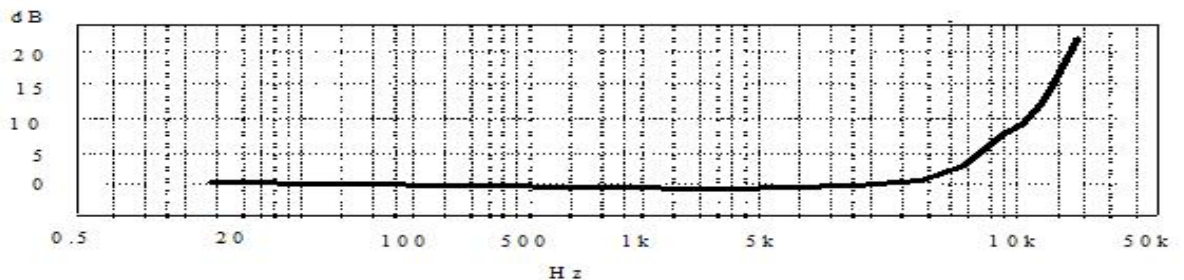


3. 高分辨率、低噪声
- 3.High resolution and low noise
4. 高性价比
- 4.High function and low cost performance

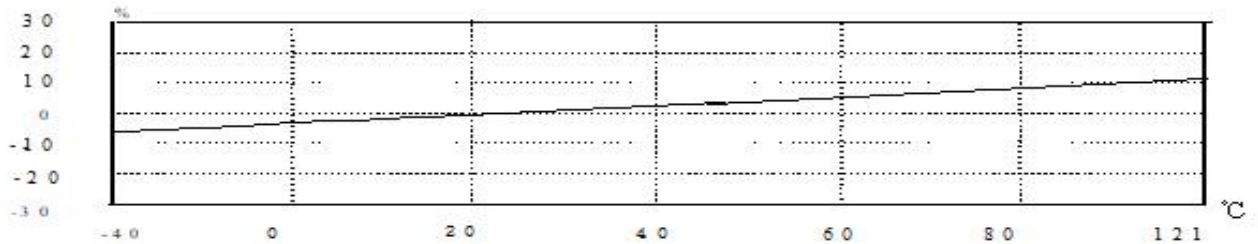
传感器性能:

灵敏度 ($\pm 10\%$)	100mV/g	测量范围	$\pm 50g$	分辨率	0.05mg
频率范围 ($\pm 10\%$)	0.3-3000Hz	安装谐振频率	~ 10 kHz	横向灵敏度	$\leq 5\%$
冲击极限 (不供电)	$\pm 1000g$	激励电压	+18-+28 VDC	激励电流	2 - 10 mA
工作温度范围	-40 \sim +121 $^{\circ}C$	输出阻抗	$< 100 \Omega$	输出偏置电压	11 \pm 1VDC
敏感件	陶瓷、剪切	重量	~ 50 克	安装方式	M5
输出方式	3-M5	外壳材料	不锈钢		

频响特性:



温度特性:



四：功能简介

四： Function

1、该仪器可以帮助用户快速建立设备监测系统，用户通电安放传感器，在无纸记录仪显示数值，通过 U 盘转储到电脑上，简单设置即可完成历史曲线



和数据报表的监控工作。

1、 The instrument can help the user to establish the equipment monitoring system quickly. It is a paperless recorder, and transfer data to computer with USB disk. The monitoring of historical curve and data report can be completed by simple setup.

2、 双通道振动输入端口。

2、 Two-channel vibration input ports.

3、 计算机显示生动灵活。

3、 The computer display is flexible.

4、 历史记录长时间保存随意调用。

4、 The history is saved for a long time.

5、 可以扩展通道数。

5. The number of channels can be expanded.

五、主要技术指标

五、 Main specifications

1、 工作电源：24VDC。

1、 Power supply: 24VDC

2、 振动范围（加速度）：0—200m/s²。

2. Vibration range (acceleration): 0-200m/s.

3、 系统精度：振动 5%。

3. Error: 5%.

4、 信号输出：4—20mA。

4、 Signal output: 4-20mA.

5、 测量通道：双通道振动。可根据现场具体情况确定，一般可以有 4*n 通道，如特殊需求可以进一步扩展。

5、 Measurement channel: two-channel vibration. It can be determined according to the specific situation of the site. Generally, there can be 4 * N channels, which can be further expanded in case of special needs.

6、 额定功率：3W

6、 Rated power: 3W