

EVS1105 Electronic vibration switch



Overview

EVS1105 is a programmable electronic vibration switch, which is general-purpose rotating mechanical vibration protection device. The product applies a piezoelectric accelerometer vibration signal; the output is proportional to the vibration velocity, displacement, or acceleration of the analog signal. Three keys set alarm value, chain value, will trigger the corresponding relay flip, signal contact output; EVS1105 also provides three reset modes; remote reset, menu reset, and magnetic rod external reset. Measurement parameters programmable settings, full range scale can also be arbitrarily set. Products are widely used in centrifugal pumps, reciprocating compressors, centrifugal separators, cooling towers, industrial fans, electric motors, internal combustion engines, diesel engines and so on.

Product features

- OLED Display
- DC & AC Power Supply Relatively connection
- Dual Alarm Configuration
- 3 Keys Setting
- Remote Reset, menu reset, and magnetic rod reset
- Anti-interfere technology
- Mounting Thread option available
- USB Programmable
- Spectrum display
- Dynamic buffer Signal available
- HART communication protocol, support HART V7.0 and above

Applications

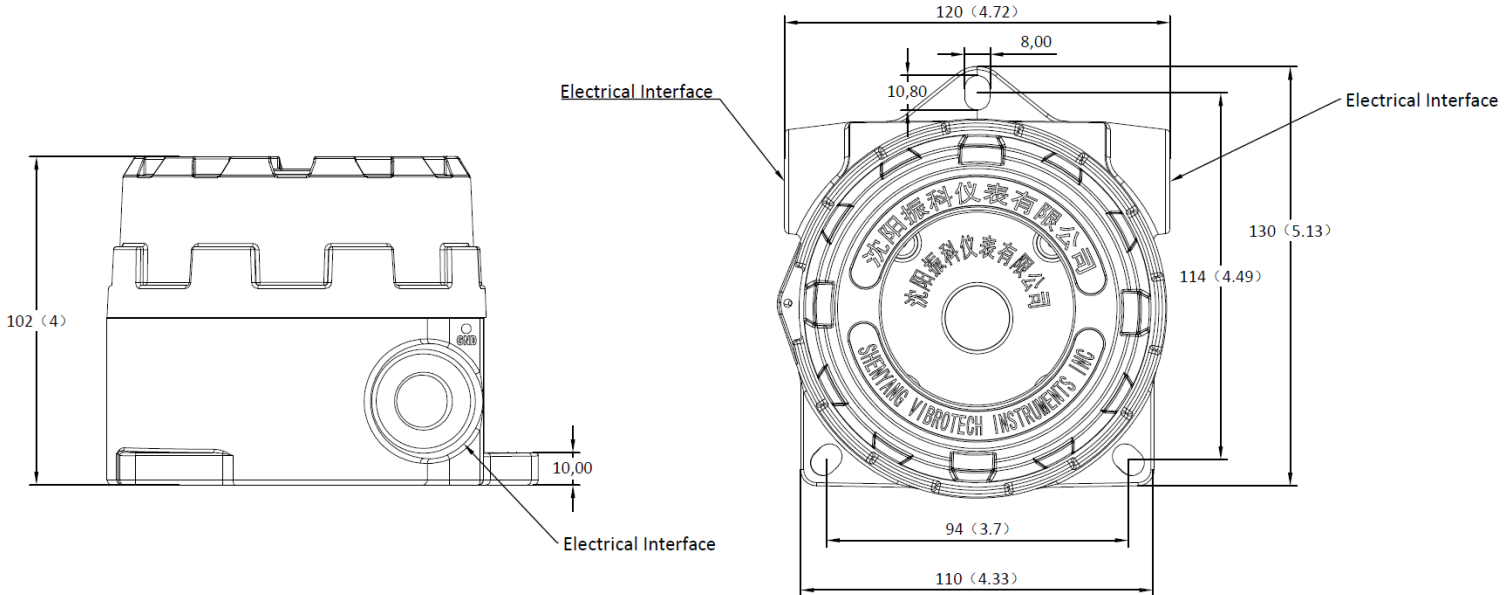
- Centrifugal Pump, Reciprocating Compressor, Cooling Tower,
- Centrifugal Separation Machine
- Motor, Industrial Fans
- Internal Combustion Engine, Diesel engine



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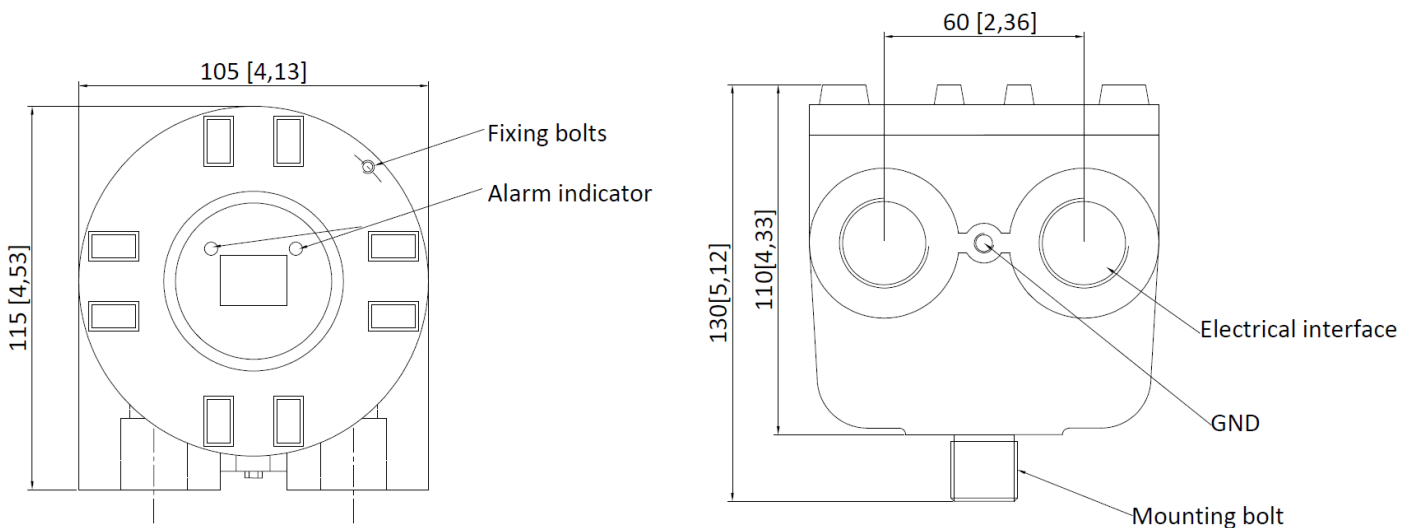
Dimension Diagram

Base Mount



Weight: 1.75kg

Mounting Thread



Weight: 1.5kg

Unit: mm [in]

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Technical Specification

Environment

Operation Temperature: $-40^{\circ}\text{C}\sim 70^{\circ}\text{C}$

Storage Temperature: $-40^{\circ}\text{C}\sim 80^{\circ}\text{C}$

All instructions are in the 25°C

Input Power

Maximum Voltage: 3W

DC Power: 18-30VDC

AC Power: 110-275VAC, 50/60Hz

Isolation: Power to Circuit 500Vrms

Sensor Parameter

Maximum Vibration acceleration: 20g, pk

Cross axis Response: <1%

Temperature Drift: <0.05%/°C

Linearity: $\pm 0.5\%$

Output Parameter

Current Range: 4-20mA

Accuracy: $\pm 1\%$

Linearity: 0.02%

Output Source: 100-1000Ω

Response Time: 8.3ms

Isolation: 500Vrms

Transmission Distance: 2000m

Frequency Response: 2-500Hz ($\pm 3\text{dB}$)

Electrical isolation: Amp Signal 500Vrms

Case Signal 500Vrms

Field Wiring: min 20AWG

Max 16AWG

Display

Resolution: 128×64

Display: OLED

Dimension: 1.3in

Display: 5 Digitals

Program

USB programmable

3 keys setting

Dynamic Signal

Sensitivity: 100mV/g ($\pm 5\%$)

Resistance: <10Ω

Frequency Response: 0.5-11KHz ($\pm 3\text{dB}$)

Reset

Remote Reset: Reset wire Connection

Magnetic Rod Reset: Contact with magnetic rod

Manual Reset: Push Reset Button

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Technical Specification

Single Relay

Contact Type: Triac

Contact material: Silver Alloy

Max Load: 5A@250VAC

3A@30VDC

Max Current: 5A

Max Voltage: 250VAC, 30VDC

Contact Impedance: 100mΩ (5VDC, 1Amp)

Operation Temperature: >10ms

Release time: >10ms

Isolation: <1000MΩ (500VDC Ohm
measurement)

Dielectric strength: Between Contact 750VAC,
50/60Hz, 1min

Impact resistance: 1000m/s² Destroy
100m/s² Fault

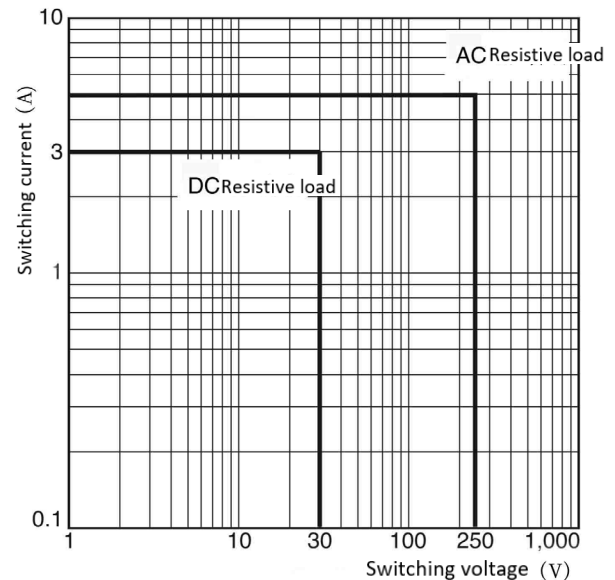
Life: 5000000min (Mechanical)

100000min, 250VAC, 5A (Elect)

200000min, 30VDC, 3A (Elect)

Rated load 1800 Time/Hour

Alarm delay: Factory Default 3 second, 0-15second
can be adjust



Maximum switching capacity

Enclosure

Enclosure Material: Alloy Aluminum ADC12

Enclosure Rating: IP66

Hazardous Rating: NEPSI/CMExC/IECEX/ATEX, ExdIIC

T6 Gb

Order Guide EVS1105A-BBB-CDE

A: Mounting

S Mounting Thread

S1 1/2"NPT	Mounting Stud
3/4"NPT	Conduit Entries
S2 M20×1.5	Mounting Stud
M20×1.5	Conduit Entries

E Base Mount

E1 1/2"NPT	Conduit Entries
E2 M20×1.5	Conduit Entries

Acceleration Peak

121	2g, pk
122	5g, pk
123	8g, pk

Acceleration RMS

141	2g, rms
142	5g, rms
143	8g, rms

BBB: 4-20 mA Full Scale Range

Velocity Peak

100	12.7mm/s, pk
101	25.4mm/s, pk
102	50mm/s, pk
105	32mm/s, pk
106	20mm/s, pk

Velocity RMS

130	12.7mm/s, rms
131	25.4mm/s, rms
132	50mm/s, rms
135	32mm/s, rms
136	20mm/s, rms

Displacement

151	100 μm, pk-pk
152	125 μm, pk-pk
153	150 μm, pk-pk
154	200 μm, pk-pk

C: Input Power

1	110-275VAC, Single Phase, 50/60Hz
2	18-30VDC

D: Hazardous Rating

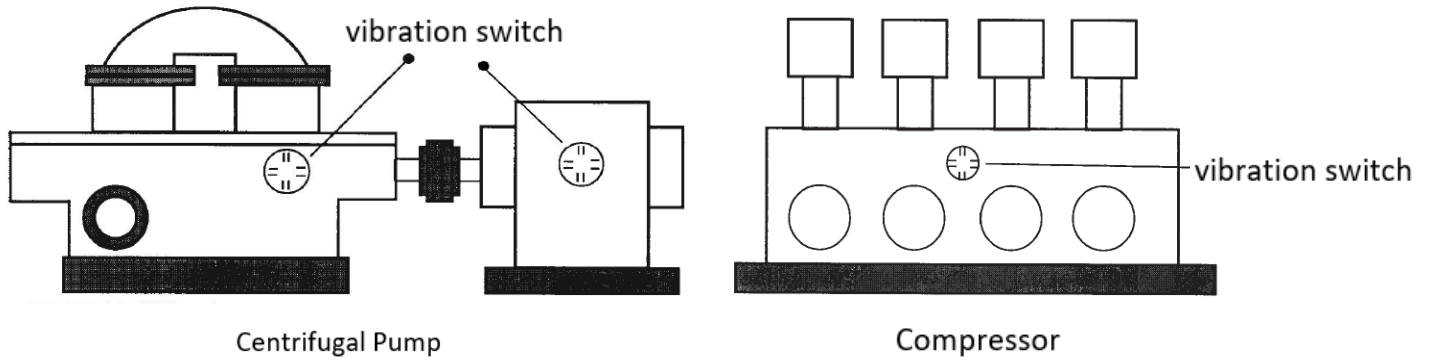
0	None
1	NEPSI/CMExC, Exd IIC T6 Gb, IP66
2	IECEX, Exdb IIC T6 Gb, IP66
3	ATEX, Exdb IIC T6 Gb, IP66

E: Dynamic buffer Signal

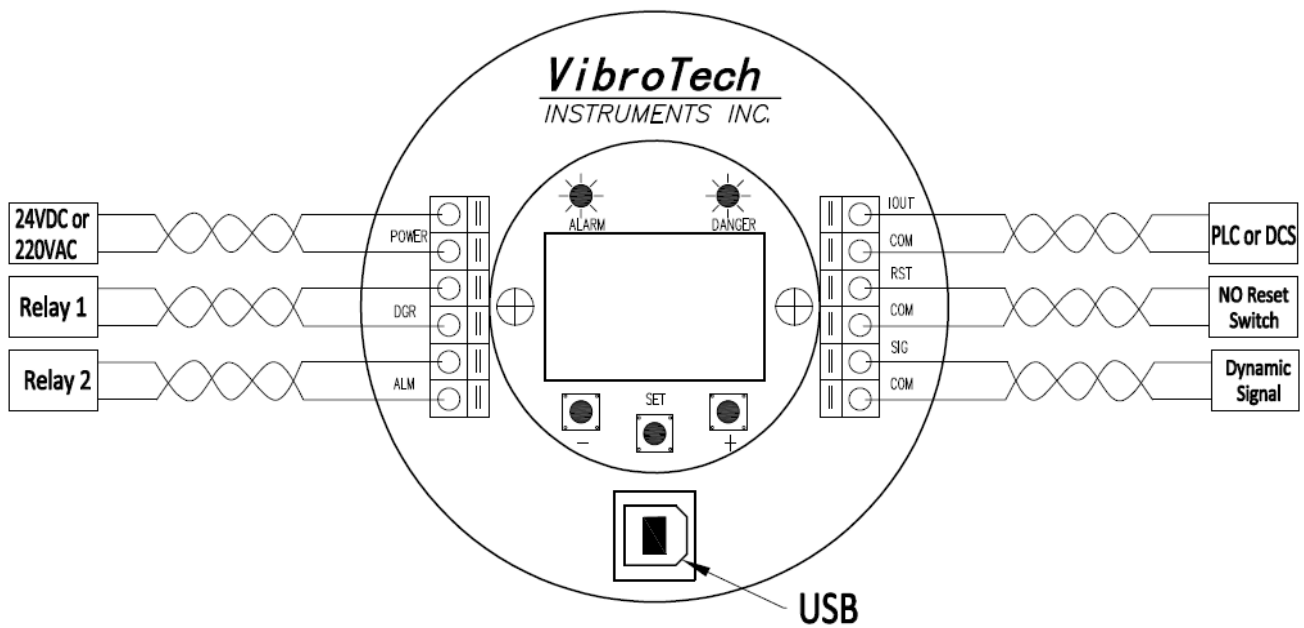
0	No buffer signal (Blank)
1	Dynamic Buffer Signal

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Mounting Diagram



Application Wiring Diagram



Wiring requirements: When bare wires are connected, the wire diameter range is 0.25~1.5 mm².

When wiring with cold-pressed terminals, the wire diameter range is 0.25~0.75mm².