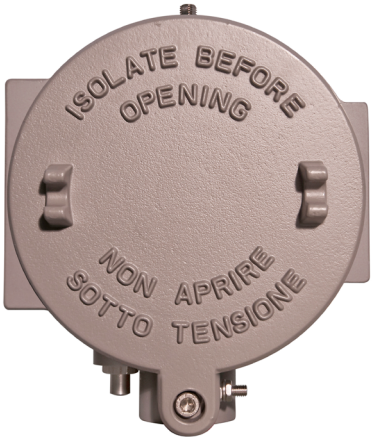
Compact vibration switch, flameproof enclosure Ex D
Model VBS

for further approvals see page 4

Applications

- Monitor excess of vibrations in machinery equipments
- Safety-critical applications in chemical and petrochemical industries, oil and gas, power generation, including nuclear power plants, water/wastewater, mining
- Ventilation / Air conditioning
- Pumps & compressors, turbines
- Engines, motors & generators



Model VBS

Special features

- Robust switch enclosure from aluminium alloy
- Frequency sensitivity up to 60 Hz (< 3600 RPM)
- SPDT contacts, up to AC 380 Vac, 15 A
- Calibration: up to 5 g with outer calibration screw

Description

The Vibration switches have been developed to protect the rotating equipments against increase in vibration due to operating anomalies or failures that could damage the entire machinery.
The high quality of the products and manufacturing in accordance with ISO 9001 ensure reliable monitoring of your machine. During the production phase the switches are 100% calibrated and tested.

The switches are of mechanical type. The robust switch enclosure from aluminium alloy can withstand the rough and corrosive operating conditions of the process industry.

To adjust the set point simply open the access cover plate. The access to the terminal block for the electrical connection is protected by a screw-on lid, which is secured with a screw-type lock against unauthorised intervention.
The vibration switches have a fequence sensitivity up to 60Hz and can be calibrated up to 5g acceleration directly in field.

Vibrations Switches contain a spring inside the body.
The excessive vibration, beyond a defined range, causes the movement of the spring, which consequently activates the switch through magnetic attraction.
The position of the magnet in relation to the spring can be changed to match the desired threshold value.
Disengaging the magnet from the spring will reset the Vibration Switch.

In order to ensure operation as flexible as possible, the Vibration switches are fitted with micro switches which enable the switching of an electrical load of up to AC 380V 15A directly.

Data sheets showing similar products and accessories:

Battery-operated signal converter; model FLC-406; see data sheet FL 20.08
Signal converter; model FLC-608; see data sheet FL 20.05
Flow meter; model FLC-2300; see data sheet FL 20.06

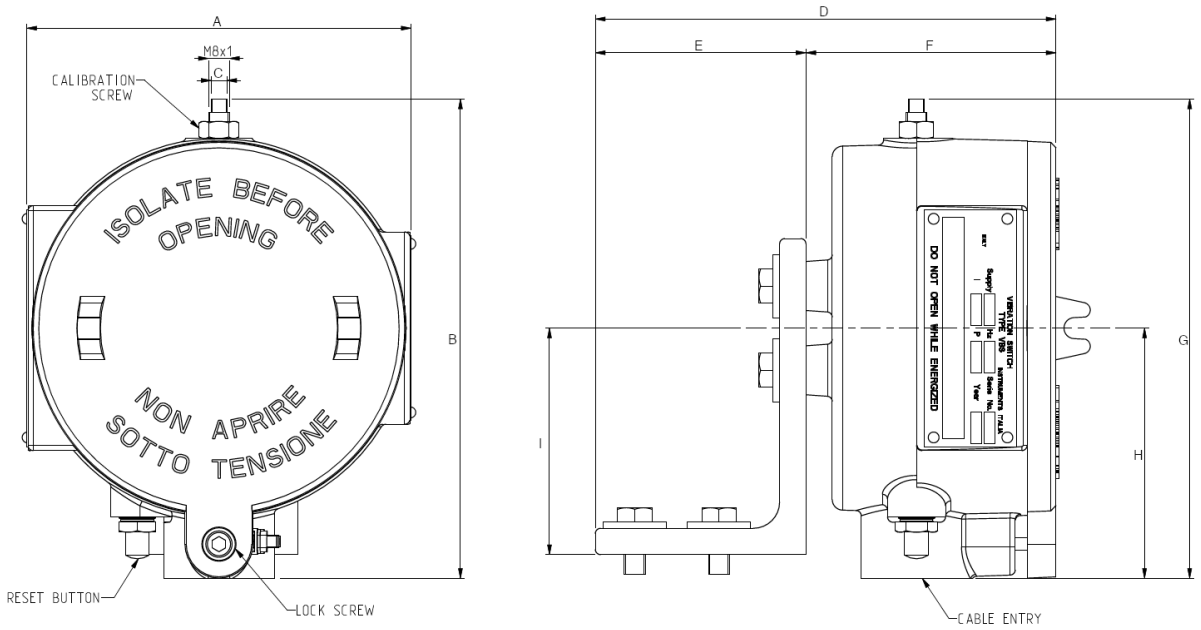
Specifications

Specifications	
Enclosure material	High resistance aluminium alloy. Max copper content: 1%
Ignition protection	CESI Flameproof, Ex d IIC T6 or T5 Gb
Switch enclosure	Epoxy resin coated and tamper-proof junction box and terminal box provided together with the equipment
Peak vibration range	5 g
Calibration	0 to 5g with outer calibration screw [1]
Frequency sensitivity	0 to 60 Hz (0 ÷ 3600 RPM)
Mechanical protection	IP 65 & CE mark
Working axes	2 Axis only (A-B see picture)
Ambient Temperature	■ -20°C +40°C for temperature class T6 ■ -20°C +55°C for temperature class T5
Capacity of contacts	SPDT 15A @ 0÷380 Vac
Start-up delay	Optional reset coil required [2]
Reset	■ Local reset is provided as standard ■ Electrical Remote Reset can be supplied as optional
Weight	3 kg (including bracket and fixing screws)
Earth screws	Internal and external
Terminal box	Suitable for cable up to 2,5 mm^2
Installation	With fixing base or bracket. The vibration sensitive axle is perpendicular or axial to the switch fixing base
Label	Laser-engraved stainless steel nameplate fixed to the body, containing the following information: ■ Manufacturer name ■ Model ■ Serial Number ■ Range ■ Purchase Order number ■ Tag number
Reset coil	■ None ■ 115/120 Vac ■ 220/230 Vac ■ 24 Vdc
Electrical connection	■ M20 X 1,5 ■ ¾" NPT-F ■ 1/2" NPT-F
Switch contacts	SPDT

[1] The vibration switches are provided with a standard pre-set factory set-point. The set-point of the instrument strongly depends on the intensity of the natural vibration produced by the equipment during the normal operation. The final calibration of the vibration switch must be done on field according to the peculiarity of machinery on which the device is installed. For this reasons, due to the huge variables that depend on the equipment and application, WIKA does not provide any customized set-point or any calibration certificate of the instrument.

[2] Apply voltage to the reset coil to stop bounces for at least 20 seconds after the machine has started

Dimensions



Dimensions in mm [in]								
A	B	C	D	E	F	G	H	I
146 [5.75]	182 [7.16]	6 [0.24]	175 [6.89]	80 [3.15]	95 [3.74]	182 [7.16]	95 [3.74]	86 [3.38]

Single Switch Connection Electrical Diagram