

Help protect mechanical equipment
From damage with the Vibration Switch

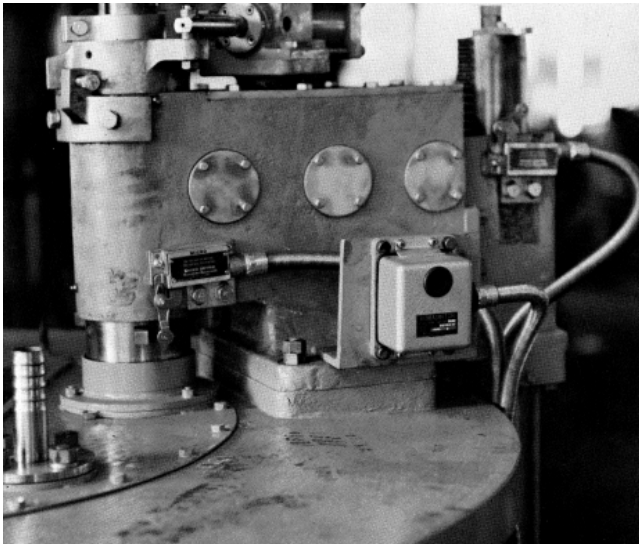
Vibration Detector

VD-10

OVERVIEW

The Vibration Detector is a safety device, which quickly detects abnormalities in mechanical equipment in order to help prevent breakdown.

The reliable performance of the Vibration Switch is time proven - it has received very favorable user response from the time it was first marketed over 30 years ago.



DETECTOR

Detectors used with the Vibration Detector are installed directly on the pump, motor and fan of the piece of equipment to be monitored in order to detect abnormal vibration due to a mechanical failure of these units in terms of acceleration.

Generally, if a breakdown occurs in mechanical equipment driven by an electric motor or internal combustion engine, such phenomena as temperature rise, increased noise and excessive current will occur. In addition, "Abnormal Vibration" always occurs along with these phenomena.

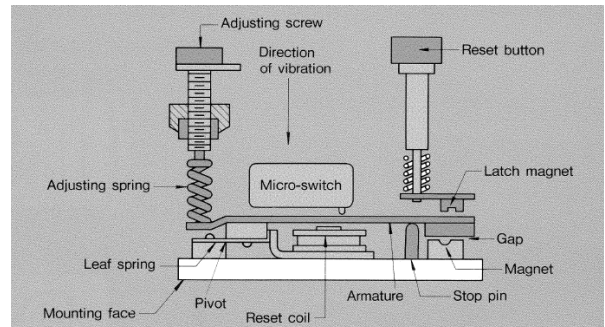
This abnormal vibration consists of 2 elements; abnormal frequency (number of vibrations per second) and abnormal amplitude.

Consequently, when safeguarding a piece of equipment by the method of detecting abnormal vibration, it is not sufficient to detect only one of these elements.

For example, if the amplitude of the vibration is measured using an amplitude meter, it will not be possible to detect a frequency abnormality. Also an abnormal amplitude resulting from eccentricity of a piece of rotating machinery will not show up in the vibration frequency.

A Vibration Detector detects abnormal vibration by means of acceleration, which is common to both amplitude and frequency.

Construction of DETECTOR



If the detector is subjected to vibration acceleration in the "Direction of vibration", a moment will be set up around the spring joint of the armature, tending to separate the armature from magnet below it. Similarly, the adjusting spring will also generate a moment around the spring joint, tending to separate the armature from the magnet. When the sum of these moments is larger than the moment acting around the spring joint due to the magnet attracting the armature, the armature will come away from the stop pin below. As the result of the motion of the armature, a micro-switch will be actuated, triggering an alarm signal.

Type of DETECTOR

The Vibration Detector is available in a weather-resistant version.



VD-10 (Weather-resistant type)

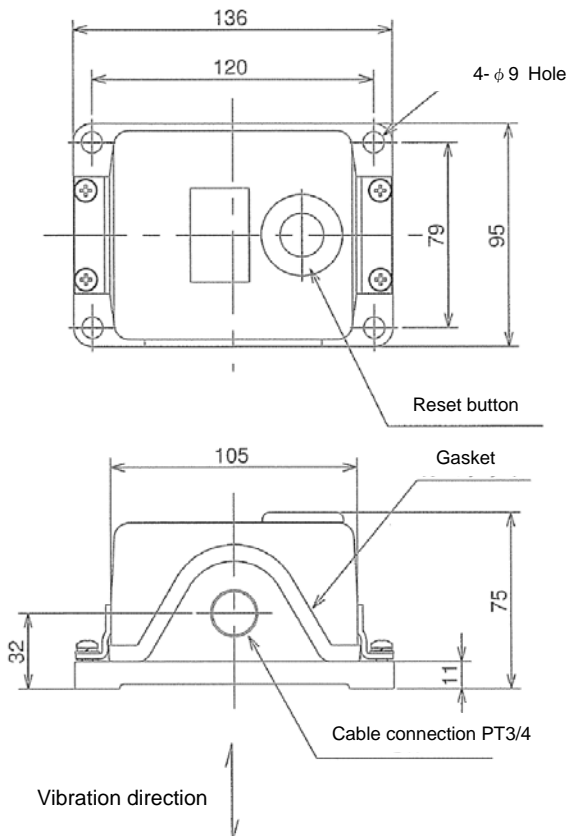
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Specification

Type		Standard
Model		VD-10
Range	Setting range	0 ~ 44.1m/s ² (0 ~ 4.5G)
	Recommended range	4.9 ~ 44.1m/s ² (0.5 ~ 4.5G)
	Resolution	0.98m/s ² (0.1G)
Frequency range		0 ~ 300Hz
Accuracy		+/- 2.21m/s ²
Output	Form	Relay output
	Contact form	S.P.D.T.
	Capacity	125/250V AC (3A) 48V DC (1A) 125V DC (0.5A) 250V DC (0.25A)
Reset	Operation	Manual reset : Reset button operation Remote reset: Remote reset by power supply
	Reset power	100 ~ 125V AC/DC (50/60Hz in AC power)
	Coil rating	100V AC/DC (5min) 110V AC/DC (3min) 115V AC/DC (2.5min) 125V AC/DC (2min)
		Rated current 0.23A
Power consumption		25VA
Environmental Condition	Temperature	-20C deg ~ +80C deg
	Humidity	10 ~ 95% RH (non-condensation)
Construction	Protection degree	IPX4 (JIS C 0920)
	Ex-approval	Not approved
Cable connection		Rc3/4 (PT3/4)
Case material	Mount	Aluminum casting (AC4C)
	Cover	Aluminum alloy plate (A5052)
Color		Hammer tone Baked (N7)
Mass		Approx. 0.9Kg

Dimensions

VD-10



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