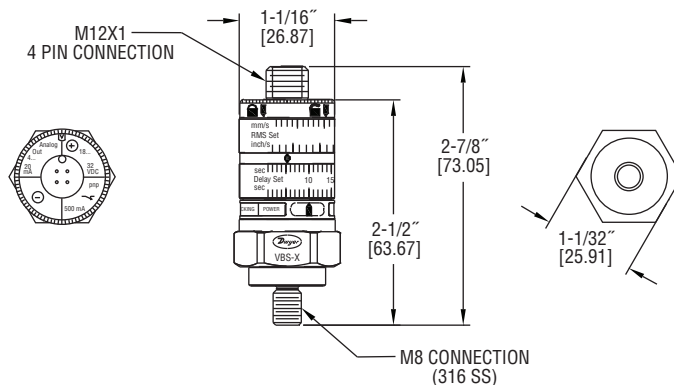




Series VBS Vibration Switch

Specifications - Installation and Operating Instructions



The Series VBS Vibration Switch is small, compact, and uses two easy set up dials that adjust the maximum RMS velocity set point and false trip time delay. The Series VBS is intended to continuously monitor the changes in a machine's vibration level. The VBS takes real-time RMS vibration input and provides an analog output of velocity, as well as a switching output when an alarm value is exceeded.

SAFETY INSTRUCTIONS

- Please read the product description prior to setup of the unit. Ensure that the product is suitable for your applications without any restrictions.
- The unit conforms to the relevant regulations and EC directives.
- Improper or unintended use may lead to malfunctions of the unit or to unwanted effects in your application.
- Installation, electrical connection, setup, operation and maintenance of the unit must only be carried out by qualified personnel authorized by the machine operator.

INSTALLATION

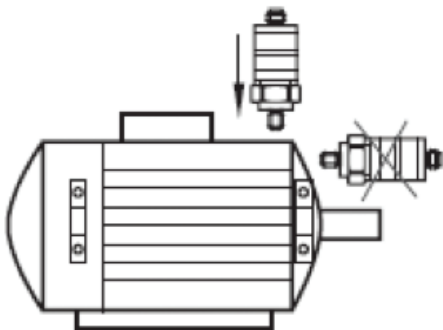


Figure 1

1. Mount only in a thick housing wall.
2. Ensure a safe vibration transmission and the signal direction is correct, and allow no elastic intermediate layers. See Figure 1.
3. Tighten the sensor with a tightening torque of 15 Nm.

SPECIFICATIONS

Housing Material: PBT, PC, FPM, and 316 SS.

Temperature Limit: -22 to 221°F (-30 to 105°C).

Accuracy: < ±3%.

Measuring Range: 0 to 50 mm/s.

Connections: M12 connector.

Enclosure Rating: NEMA 6 (IP67).

Electrical Rating: 18 to 32 VDC.

Mounting Orientation: All.

Nonlinearity: < ±0.25% of span.

Switch Output Range: VBS-1: 0 to 25 mm/s Vrms;
VBS-2: 0 to 50 mm/s Vrms.

Analog Output Range: 10 to 1000 Hz.

Output Signal: 4 to 20 mA.

Switch Time Delay: 1 to 60 seconds.

Switch Type: PNP normally open (500 mA max).

Repeatability: < 0.5%.

Weight: 0.25 lb (0.114 kg).

Agency Approval: CE.

OPERATION AND DISPLAY

1. Locking ring
 2. Setting rings (manually adjustable after unlocking)
 3. LED green: voltage supply
 4. M8 process connection
 5. LED yellow: lights when switching threshold and time delay exceeded.
- See Figure 2.

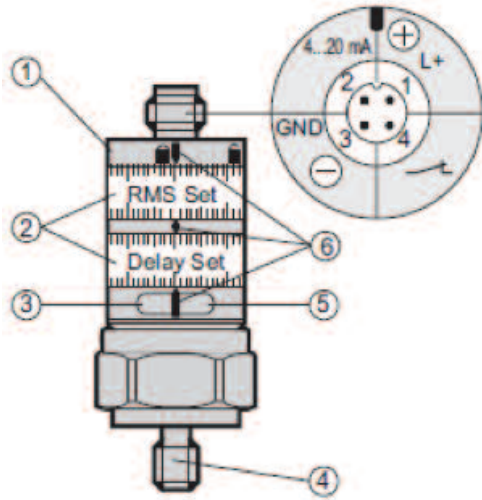


Figure 2

WIRING

The unit must be connected by a qualified electrician. The national and international regulations for the installation of electrical equipment must be adhered to. See Figure 3.

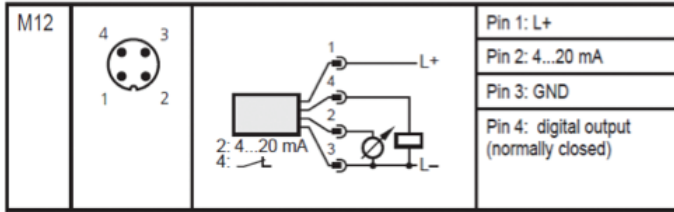


Figure 3

RMS Set

Effective value of the switching threshold, defining the limit value of the vibration velocity.

Delay Set

Time in seconds during which the limit value must be effectively above the switching threshold (RMS Set) to activate the switching output (normally closed pin 4).

Output Behavior

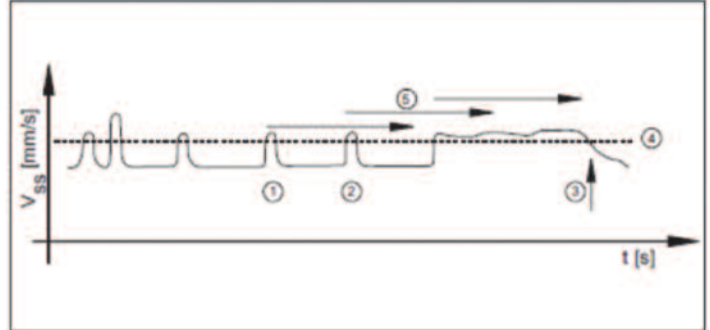


Figure 3

1. Time delay after the switching threshold has been exceeded
2. Time delay after the switching threshold has been exceeded
3. Switch-off
4. Switching threshold
5. Delay

V_{ss} = Vibration velocity
t = time

Implementation of the Time Delays

The time delay starts when the defined switching threshold is exceeded (1) / (2). The time delay is cancelled when the value falls below the switching threshold (without switch-off). The switch-off is triggered when the switching threshold is exceeded during a full time delay (3).

MAINTENANCE/REPAIR

Upon final installation of the Series VBS no routine maintenance is required. The Series VBS is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.