

## HARDY Vibration Switch



### Vibration Protection in a Box



The Hardy Vibration Switch provides high-end vibration protection in a low profile, Class 1 Division 1 package. The vibration switch, which is mounted directly to rotating or reciprocating equipment, monitors equipment vibration and activates an on-board relay when a high level is reached. The Hardy Vibration Switch uses a piezoelectric crystal and state-of-the-art electronics to provide the highest degree of precision in this stand-alone monitoring system.

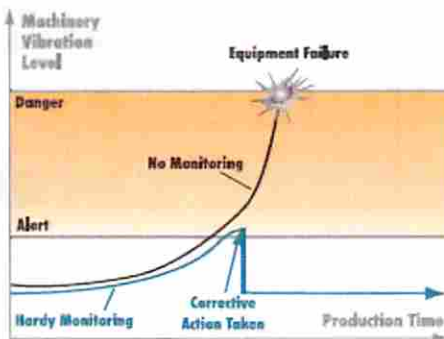
#### AS A STAND ALONE SWITCH

Both the vibration level and the alarm time delay can be set in the Hardy Vibration Switch via two adjustment ports on the front of the switch. The time delay will prevent nuisance alarms or shutdowns in the case of an inadvertent spike in vibration.

Alarm Indication is provided via a bright LED on the switch, and the reset can be performed either locally or remotely. A Power LED provides indication of proper switch operation.

#### AS A PREVENTIVE MAINTENANCE TOOL

The Hardy Vibration Switch also provides vibration trending information via an optional 4-20mA output. This output can be directed to an indicator, an engine control system, or the local PLC or DCS system. Trending of vibration levels provides the ability to plan equipment shutdowns and repairs, rather than reacting in an emergency mode after an equipment failure. The combination of the 4-20mA output and the switch provides trending along with the security have having local failsafe protection.



#### AS A FLEXIBLE SOLUTION

The Hardy Vibration Switch is available in a standard Class 1 Division 1 package for use in hazardous or non-hazardous locations. The standard conduit box hole pattern for the Hardy Vibration Switch also provides quick and easy installation in the field.

## HI 5800 Series

### Applications

Protect and monitor:

- Cooling towers
- Reciprocating compressors
- Reciprocating engines
- Industrial fans
- Centrifugal pumps
- Motors
- Gear boxes

### Features and Advantages

- **Reliable equipment protection:**
  - Adjustable vibration set point and time delay
  - Failsafe operation through on-board relay
- **Effective preventative maintenance tool:**
  - Optional 4-20 mA output for trending of equipment vibration
- **Ease of use**
  - Local LEDs for alarm and OK indication
  - Remote or local alarm reset
  - Trip bypass for equipment start-up
- **Suitable for many installation environments**
  - Class 1 Division 1 CSA Certification
  - Common box mount pattern for easy installation

**NEW  
PRODUCT  
INTRO**

**HARDY  
INSTRUMENTS**

## HARDY INSTRUMENTS CONDITION MONITORING PRODUCTS

### • HI 5701VT Vibration

#### Transmitters

For monitoring the health of rotating or reciprocating machinery via a PLC or DCS



### • HI 5500 Series Vibration Signal

#### Conditioners

Modular and versatile approach to monitoring and protecting rotating machinery



### • HI 3600 Machine Monitor

For critical machinery such as reciprocating compressors. Monitors vibration, impact, and rod drop for trending, alarm, and shutdown



### • HI 800 Series Portable Shakers

Used to verify the integrity and performance of sensors and vibration monitoring systems



### • Sensors, Cables and Connectors

Accelerometers, velocity sensors, and eddy current displacement probe systems



# HARDY INSTRUMENTS

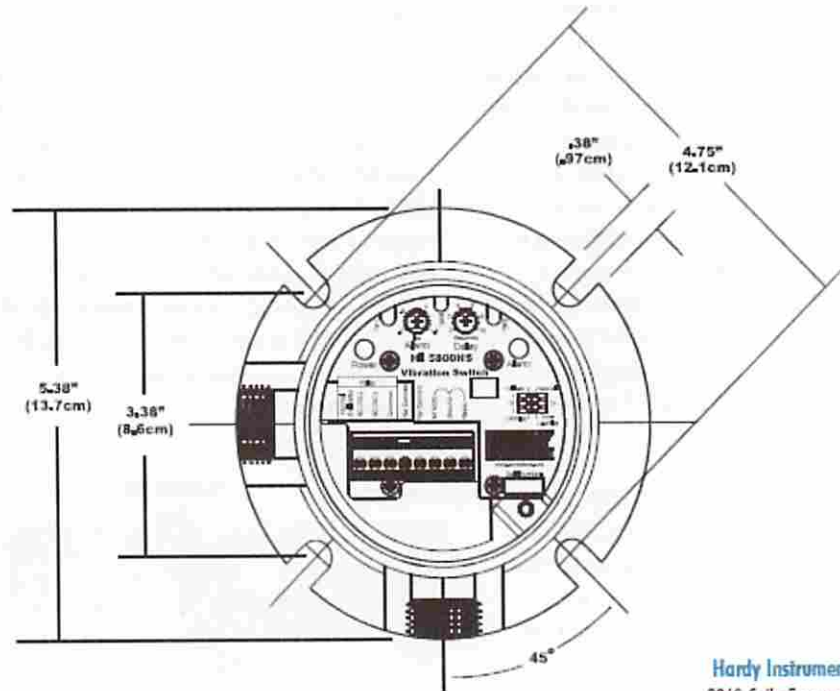
## SPECIFICATIONS

- **Environmental**
  - Temperature: -40° to +85°C.
  - Humidity: 0-95% non-condensing
  - Vibration: 15 g max @ 500Hz
- **External Power**
  - Supply voltage: 20 - 32 VDC
  - Supply current: 100mA max
- **Frequency Response**
  - 6 - 500 Hz, +/- 5%, on-board sensor version
  - 6 - 1,000 Hz, +/- 5%, external sensor version
- **4-20mA Output (analog option)**
  - Accuracy: ±5% of full scale at 1.5ips, 100Hz, 21 °C
  - 20 mA corresponds to 1.5 ips peak (factory set)
- **Alarm Level and Time Delay**
  - Potentiometer for field adjustable alarm level
  - Alarm level range of 0-1.5ips
  - Potentiometer for field adjustable time delay (0-10 sec)
- **Output Relay**
  - Normally-open and normally-closed outputs
  - Contacts rated for 60Vdc, 1A and 120Vac, 1A
  - Isolation voltage (contacts to signal ground): 500Vac
  - Latching / non-latching output selected by user
  - Failsafe or non-failsafe operation selected by user
- **LED Outputs**
  - Alarm LED output: LED illuminated solid while in alarm mode LED blinks if above setpoint but not yet alarmed
  - Power LED output: green LED, always illuminated when power is applied
- **Reset Input**
  - Activated by external N.O. relay or push-button contact
  - Reset activation time: 0.5 sec. minimum
  - Reset current < 10mA

## MODEL NUMBERS

**HI 5800HS:** standard Hardy vibration switch with on-board sensor, 1.5ips. Adjustable setpoint range and adjustable time delay from 0-10sec, and relay output.

- **AN option:** analog output, 4-20mA
- **E option:** external input from standard accelerometer
- **EC option:** external input from charge accelerometer



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**ISO 9001:2000  
CERTIFIED**

Since 1993

HI 5800