

Model SW6040

The SW6040 switch is a versatile excessive vibration protection instrument. In the standard configuration, SW6040 is an economical single setpoint vibration switch in an industrial grade housing.

Fully configured, the model SW6040 provides for local machine control, real time remote operator interface via 4-20 mA and an external BNC for easy analyst access to the buffered dynamic vibration signal. Optional CE mark modification to meet electromagnetic compatibility requirements.

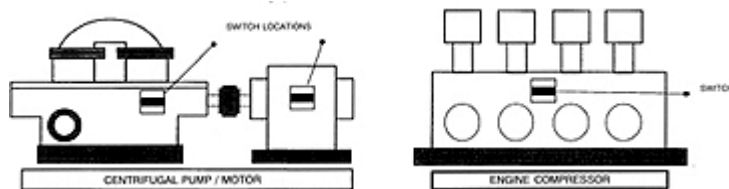
Features

- Low cost protection system
- Weatherproof environments
- Single or optional dual setpoint
- Velocity or displacement response
- Adjustable time delay
- Alarm test function
- Optional buffered, dynamic vibration signal output for analysis

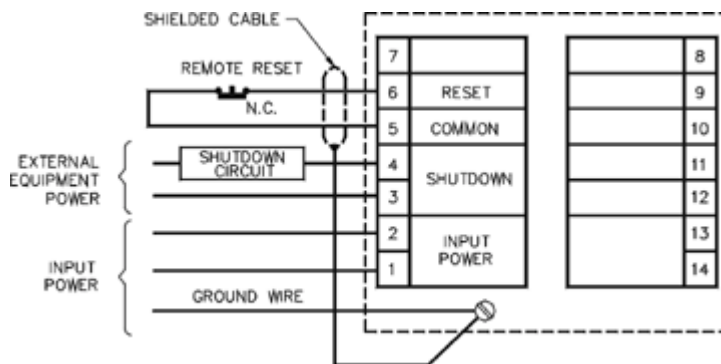
Applications

- Centrifugal Pumps
- Reciprocating Compressors
- Centrifuges
- Cooling Towers
- Industrial Fans
- Electric Motors
- Natural Gas/Diesel Engines

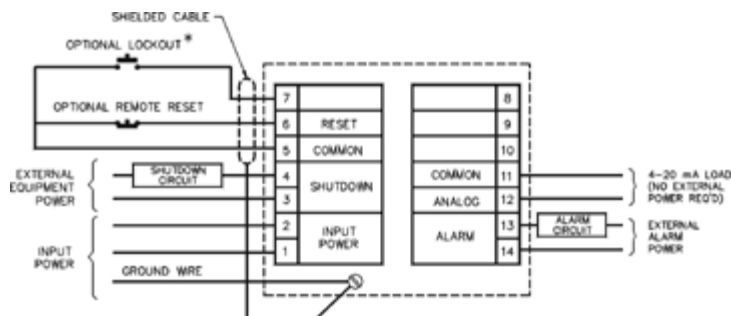
Typical Installations



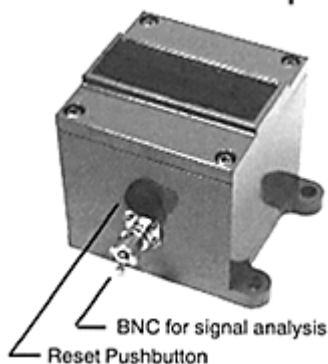
User Wiring Diagrams Standard



Fully Configured



View with external options



Note: If you require an external seismic sensor for frequency response, size or temperature considerations, see [SM Series models](#).

Specifications

Sensor:

Internal piezoelectric accelerometer.

Signal Conditioner:

Amplifier/integrator to obtain velocity

or displacement response.

Monitor Triac Outputs:

-Incl. when "A" = 1 or 2
 -140 VAC max. (280 VAC on 230 VAC powered units), 5A, optically isolated.

-N.C.(fail-safe) standard, N.O.field selectable.

Maximum Vibration Input:

0 to 490 m/sec (50 g), peak;
 0 to 100 mm/sec (4 in./sec), peak

Frequency Response:

2 Hz to 1000 Hz (acceleration response)

Adjustable Time Delay:

-Factory set @ 3 seconds.
 -Adjustable from 2-15 seconds.

Temperature Limits:

-30° to +60°C (-20° to +140°F)

Output Sensitivity vs Temperature

<.05%/°C (calibrated @ 25°C)

Cross Axis Response:

Less than 10%

Input Power (Nominal):

-For 115 VAC, 100 to 130, 50/60 Hz
 -For 230 VAC, 200 to 260, 50/60 Hz

-For 24 VDC, 22 to 28

Galvanic Isolation:

Power from circuit.

Field Wiring:

-Max. wire gauge: 12 AWG.
 -Wire clamp type screw terminals.
 -To 300 Vrms isolation circuit.

Housing:

-Cast aluminum.
 -Weatherproof.

Environmental Rating:

NEMA 4X, IP 65

Optional Certifications:

See How To Order "D"

Optional Analog Switch Output:

-Incl. when "A" = 3 or 4
 -Rating: 250 VAC or VDC, 170 mA
 -N.C.(fail-safe) is standard, N.O. field selectable

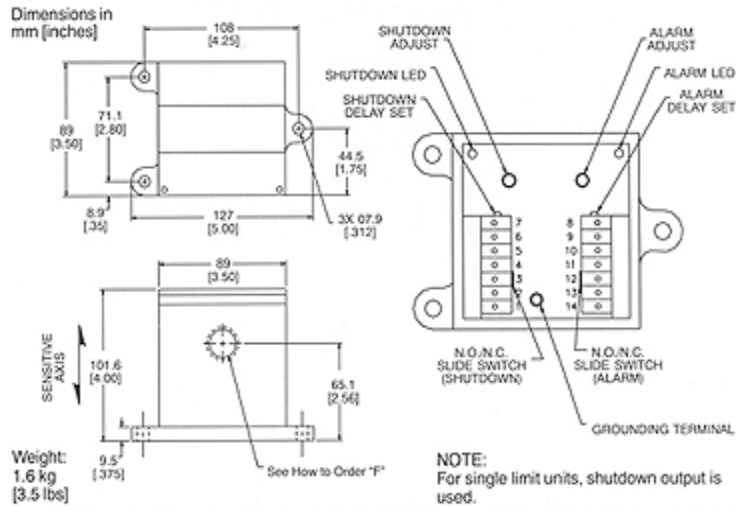
Optional 4-20 mA Source Output:

-Proportional between 4-20 mA with 20 mA set to 160% of shutdown setpoint.
 -Zero and Span calibrated ±10%.
 -Non-linearity < 2%.
 -450 ohms max. load.

System Block Diagram

SEISMIC MONITORING	SENSOR	SIGNAL CONDITIONER	ALARM MONITOR
THIS PRODUCT	ELECTRONIC VIBRATION SWITCH		
LOCATION	MACHINE CASE BEARING HOUSING		

Weight & Dimensions



How To Order...

MODEL	A	B	C	D	E	F
SW6040 -						
Standard:						
SW6040 -	1	0	1	1	0	0

A **Limits & Display**

- 1 = one limit, triac
- 2 = two limits, triacs
- 3 = one limit, analog switch
- 4 = two limits, analog switch

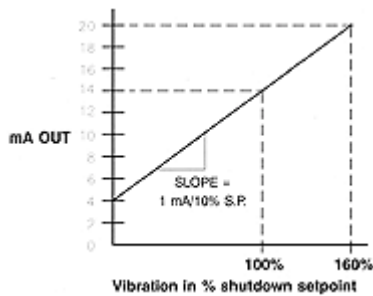
Application Note: Use triacs in motor starter circuits. Analog switch(es) recommended for PLC, AC or DC inputs.

B **Adjustable Shutdown Setpoint**
Velocity Response

- 0 1 = 0.1 - 1.5 ips, pk*
- 0 2 = 0.2 - 3.0 ips, pk*
- 0 3 = 3 - 40 mm/s, pk*
- 0 4 = 6 - 80 mm/s, pk*

Displacement Response

- 5 1 = 1 - 15 mils, pk-pk



Optional Buffered, Dynamic Signal Output:

- Sensitivity: 100 mV/g \pm 2% @ 25°C.
- Access: Via BNC connector
- Frequency Response: Acceleration: 2 to 1000 Hz.
- Non-linearity: < 1% of full scale (F.S.)

- 5 2 = 10 - 150 mils, pk-pk
- 5 3 = 30 - 400 microns, pk-pk
- 5 4 = 0.3 - 4 millimeter, pk-pk

*For true RMS velocity calibration add 30 to dash number, e.g. -01 becomes -31.

C Input Power

- 1 = 115 VAC, single phase, 50/60 Hz
- 2 = 230 VAC, single phase, 50/60 Hz
- 3 = 22 - 28 VDC

D Certifications & External Options

- 0 = None
- 1 = CE mark
- 2 = External BNC connector for analysis
- 3 = External reset button
- 4 = CSA, Class I, (C & D), Div. 2 hazardous areas
- 5 = Options 0, 1 & 2
- 6 = Options 0, 1 & 3
- 7 = Options 0, 2 & 3
- 8 = Options 0, 1, 2 & 3

E 4-20 mA Output

- 0 = None
- 1 = Proportional 4-20 mA; where 20 mA=160% of shutdown setpoint

F Conduit Entry

- 0 = 3/4" NPT
- 1 = M20 x 1.5



Accessory

Part Number	Name	Used With	Description
<input type="checkbox"/> 9070-001	Remote Indicator	Any SW6040 with 4-20mA ("E"=1)	Analog panel meter calibrated from 0 to 160% of danger setpoint. Panel cutout dim: 30.5 (1.20) w x 63.5 (2.50) h

Once you have chosen your model and accessories you may proceed.