

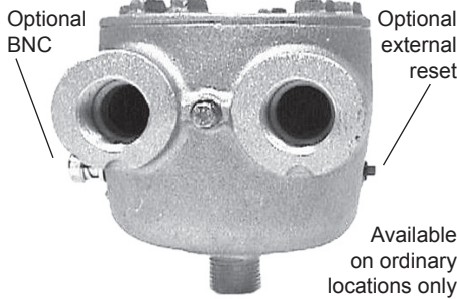
Monitor

SM6100 Vibration Monitor w/ EP Housing

Shown
w/optional
display



Typical sensor
(Not included)



Optional
BNC

Optional
external
reset

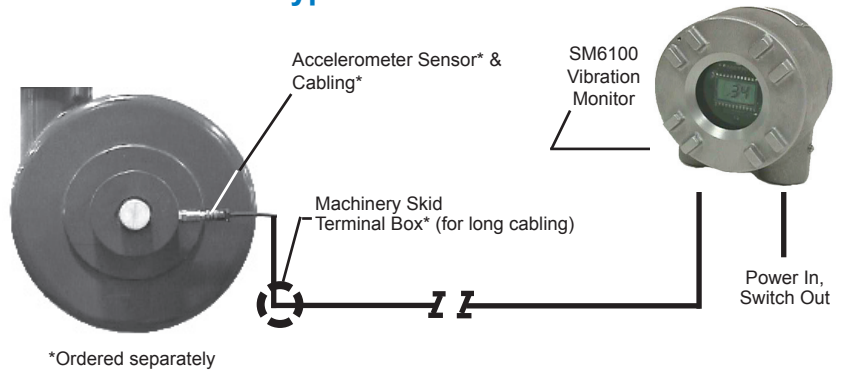
Available
on ordinary
locations only

Single Channel Monitor Explosion-proof Housing with Optional Display

This single channel vibration monitor is a versatile instrument for protection against excessive vibration. In its standard configuration, the SM6100 is an economical single set point vibration monitor loaded with standard features and packaged in an industrial grade housing.

Fully configured, the SM6100 provides dual setpoint for machine protection with optional LCD readout, real time remote operator interface via 4-20 mA and an external BNC (weather-proof only) for easy analyst access to the buffered dynamic vibration signal. Optional hazardous area certifications.

Typical Installations



MONITORS

Features

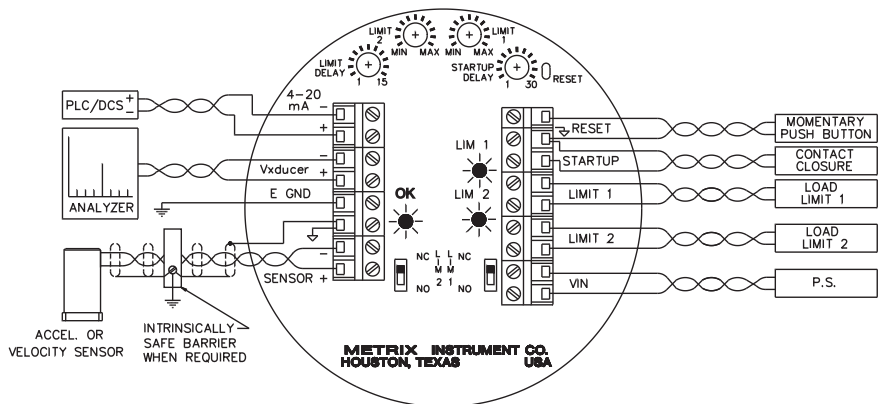
- Low cost protection system
- Weatherproof/optional explosion-proof rated
- Single or optional dual setpoint
- Velocity or displacement units
- Adjustable trip delay
- Setpoint test feature
- Buffered, dynamic vibration signal output for analysis option

Applications

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

User Wiring Diagrams

Fully Optioned
(LCD not shown)



Note:

For additional savings, see SW Series electronic switches (pg 4.07) with integral sensors for monitored points with temp <70 °C.

Specifications

Sensor Input: See How To Select "G"

Signal Conditioner: Amplifier/integrator to obtain velocity or displacement units.

Triac Outputs: "A" = 1, 2, 5, or 6, 250 VAC, 1A, optically isolated; standard is N.C. (fail-safe), N.O. field selectable.

Maximum Vibration Input:

0 to 490 m/sec² (50 g), peak

0 to 100 mm/sec (4 in./sec), peak

Frequency Response:

Velocity: 2 Hz to 3000 Hz

Displacement: 2 Hz to 200 Hz

Adjustable Trip Delay: Factory set at 1 sec.; 1-15 sec adjustable

Temperature Limits: No Display: -40°C to +85°C (-40°F to +185°F); W/Display:

-10°C to +70°C (-14°F to +158°F)

Output Sensitivity vs Temperature:

Less than .05%/°C (calibrated at 25°C)

Input Power:

Nom. 115 VAC, 95 to 125, 50/60 Hz

Nom. 230 VAC, 190 to 250, 50/60 Hz

Nom. 24 VDC, 20 to 28

Galvanic Isolation: 500 VDC or peak from power to circuit

Buffered, Dynamic Signal Output:

Sensitivity: Output identical to the sensor input.

Field Wiring:

Maximum wire gauge: 14 AWG, Wire clamp type screw terminal block 500 Vrms isolation from circuit

Housing: Cast aluminum. Weatherproof.

Environmental Rating: NEMA 4, IP 65

Electromagnetic Compatibility: Optional, CE marked

Optional Hazard Rating: See How To Select "D"

Optional Display: 2½ digit LCD

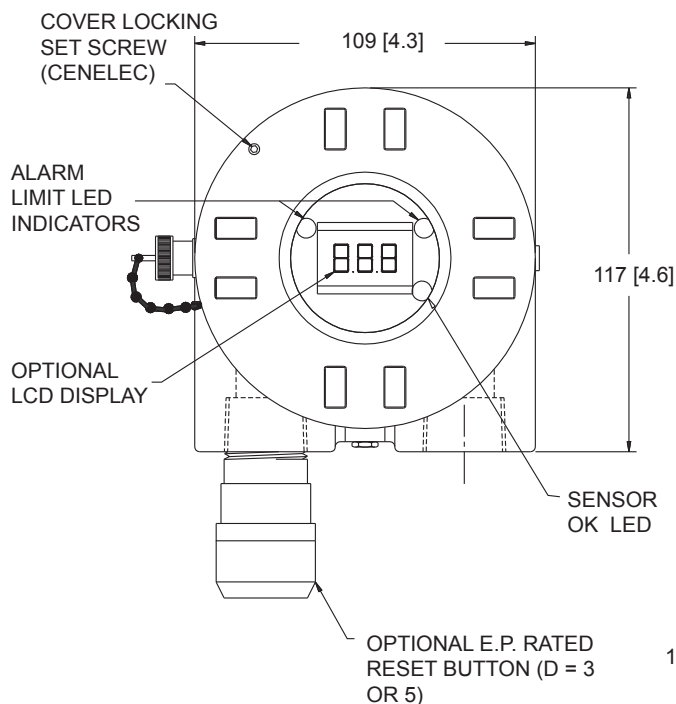
Optional FET Transistor Output: 50 VDC, 0.5A, N.C. (fail-safe) standard, N.O. field selectable

Optional 4-20 mA Source Output:

Proportional between 4-20 mA with 20 mA set to full scale. Zero and Span calibrated ±2%. Non-linearity < 2%. 600 ohms maximum load resistance.

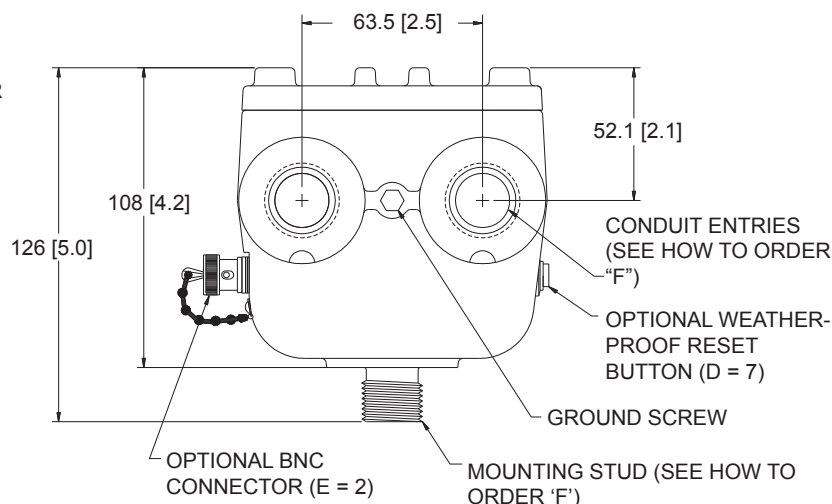
Maximum Distance: From sensor to monitor is 300 m (1000 ft)

SM6100 Weight & Dimensions



Weight: 2.2 kg [4.4 lbs]

Dimensions in mm [inches]



Monitor

SM6100 Vibration Monitor w/ EP Housing

How To Select

SM6100 - - -

A Limits & Display

WITHOUT DISPLAY

1	= one limit, triac
2	= two limits, triacs
3	= one limit, FET
4	= two limits, FETs

WITH DISPLAY

5	= one limit, triac
6	= two limits, triacs
7	= one limit, FET
8	= two limits, FETs

Note: Use triacs in motor starter circuits. FET transistor output(s) recommended for DC inputs.

B Full Scale Range

VELOCITY RESPONSE

0 1	= 1 ips, pk*
0 2	= 2 ips, pk*
0 3	= 20 mm/sec, pk*
0 4	= 50 mm/sec, pk*

DISPLACEMENT RESPONSE

5 1	= 20 mils, pk-pk
5 2	= 50 mils, pk-pk
6 1	= 200 microns, pk
6 2	= 500 microns, 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	= 20 - 28 VDC

D Certifications / Local Reset Options

2	= CSA, NRTL/C, Class I, (B, C & D), Div 1
3	= CSA, NRTL/C, Class I, (B, C & D), Div 1
4	= CE & ATEX EEx d IIB + H ₂ T4
5	= CE & ATEX EEx d IIB + H ₂ T4
6	= Ordinary locations
7	= Ordinary locations w/external reset

E Input/Output Options

0	= No options
1	= 4-20 mA proportional to fullscale range
2	= External BNC for dynamic signal access*
3	= Separate startup and monitor time delays
4	= Options 1 & 2*
5	= Options 1 & 3
6	= Options 2 & 3*
7	= Options 1, 2 & 3*

* D = 6 or 7 only

F Mounting/Conduit Entries

0	= 1/2" NPT stud mount / 3/4" NPT conduit entries
1	= M20 x 1.5 stud mount / M20 x 1.5 conduit entries

G Remote Sensor Type

1	= Accelerometer
2	= Electro-mechanical Velocity Sensor
3	= Piezo-electric Velocity Sensor



H Input (mV) Sensor Sensitivity

FOR AN ACCELEROMETER (G = 1)

0 1 0	= 10 mV/g
1 0 0	= 100 mV/g



FOR A VELOCITY SENSOR (G = 2 OR 3)

1 0 0	= 100 mV/ips
1 0 5	= 105 mV/ips
1 4 5	= 145 mV/ips
1 5 0	= 150 mV/ips
2 0 0	= 200 mV/ips
5 0 0	= 500 mV/ips



MONITORS

Accessory

Part Number	Name	Used With	Description
7084-001	Flange Mounting Adapter	Any SM6100 with 1/2" NPT stud ("F"= 0)	S.S. adapter for surface mount of SM6100. 1/2" NPT center hole. 3 equally spaced 6.6 (.26) dia. mount holes on 38 (1.50) dia. circle.

