

5534/5544 VELOCITY SIGNAL CONDITIONER

Datasheet

OVERVIEW

The 5534 and 5544 velocity signal conditioners accept signals from machine casing mounted velocity sensors and produce a 4-20 mA output proportional to the measured variable. The detection circuit is responsive to true RMS vibration but the output may be scaled either to peak or RMS units. A green LED indicates sensor and cable integrity. In the event of sensor failure, the LED extinguishes and the output current is driven below 3.6 mA, thereby signaling a malfunction. A BNC connector gives access to the buffered input signal for local analysis. Optional features for either model include filters and galvanic isolation between input, output, and power supply.

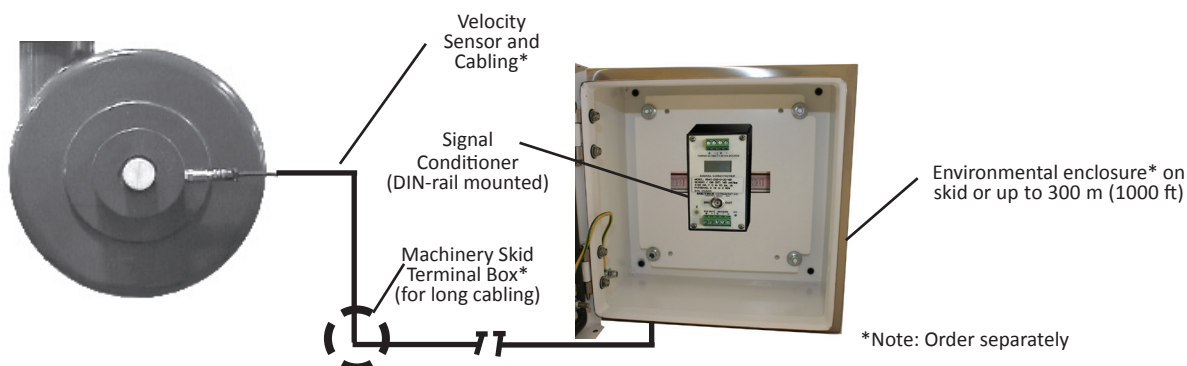
FEATURES

- Reduced cost alternatives to rack mount monitors
- Drives dynamic signals over long distances (300 m / 1000 ft)
- Interfaces a velocity sensor to a PLC, DCS, or other 4-20 mA input monitor
- Provides 4-20 mA output proportional to vibration level
- Sensor/cable input status light (Green LED)
- BNC connector for FFT analyzers and analysis of dynamic signal
- Optional indicator and/or galvanic isolation
- High, Low, and Band Pass Frequency Filters for specific machine conditions

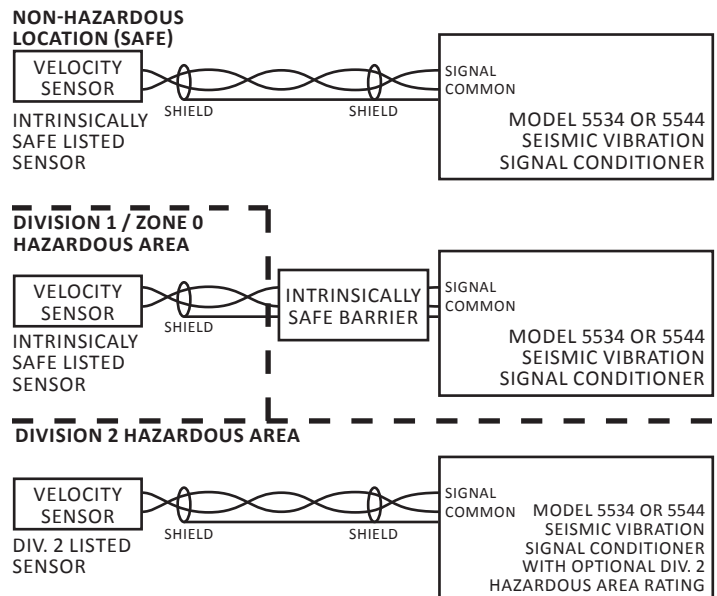
APPLICATIONS

- Industrial Fans
- Motors & Generators
- Process Pumps
- Centrifuges
- Natural Gas/Diesel Engines
- Gas Turbines

TYPICAL INSTALLATION DIAGRAM



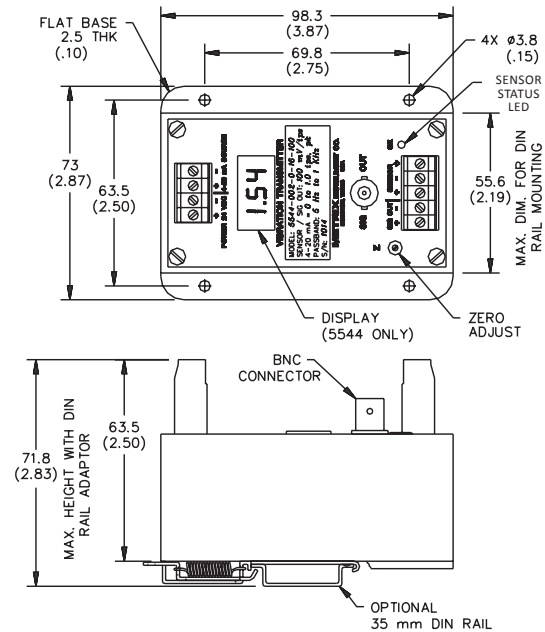
WIRING DIAGRAMS



SPECIFICATIONS

Input signal	100 to 500 mV/ips
Sensor Excitation Provided	Required only for piezo-velocity sensor input types: 19 VDC, 4 mA constant current standard; 19 VDC, 10 mA is field selectable via internal jumper.
Output	4-20 mA dc (source)
Vibration Range	See "Ordering Option B"
Maximum Load Resistance	600 Ω
Frequency Response	2 Hz to 2 kHz
Sensor Malfunction	Output current driven below 3.6 mA and sensor status green LED turns off when sensor/cable not OK
Dynamic Signal Output	Buffered input signal at BNC and terminal block
Filters	Optional low-pass and high-pass filters (36 db/octave). Filter section does not affect dynamic signal. See "Ordering Option D & E"
Vibration Indicator (for Model 5544)	3-digit LCD display of vibration level in engineering units
Isolation	500 Vrms, circuit to ground. Optional 600 V galvanic isolation between input, output and power. See "Ordering Option C"
Temperature Limits	5534: -40° to +66°C (-40° to +150°F) 5544: -10° to +66°C (+14° to +150°F)
Input Power	20 to 30 Vdc. Reverse polarity and electrical transient protection provided
Hazardous Area Certification	Available safety certification for CSA & NRTL/C Class I (A, B, C & D), Div. 2. See "Ordering Option G"
Electromagnetic Compatibility	CE mark
Housing	Polymer internally coated for RFI/EMI protection.

WEIGHT & DIMENSIONS



Weight: 0.5 kg
(1.1 lb)

Dimensions in
mm [inches]

ORDERING INFORMATION

5534/5544 SIGNAL CONDITIONER SENSORS							
MODEL 55 A 4 - B B B - C - D E - F F F - G							
55□4 - □□□-□-□□-□□□- S							
A			LCD Digital Indicator				
	3		None				
	4		Built-in 3-digit LCD display				
B			Sensor Input Type/Mounting Style/Range Code				
Input Velocity Sensor Type				Vibration Range (4-20 mA Output)		Output Measure	
E/M ¹ Types: Metrix Model 5485C		Piezo-Velocity: Metrix Model SV6300					
002	102	402	502	0 - 1.0 ips, pk		Velocity/ English System	
032	132	432	532	0 - 1.0 ips, rms			
003	103	403	503	0 - 2.0 ips, pk			
033	133	433	533	0 - 2.0 ips, rms			
005	105	405	505	0 - 10 mils, pk-pk		Displacement/ English System	
006	106	406	506	0 - 20 mils, pk-pk			
202	302	602	702	0 - 20 mm/s, pk		Velocity/ Metric System	
232	332	632	732	0 - 20 mm/s, rms			
203	303	603	703	0 - 50 mm/s, pk			
233	333	633	733	0 - 50 mm/s, rms			
205	305	605	705	0 - 200 um, pk-pk		Displacement/ Metric System	
206	306	606	706	0 - 500 um, pk-pk			
Base Plate	DIN rail	Base Plate	DIN rail				
Mounting Style							

C		Galvanic Isolation			
	0	None			
	1	Isolation between input, output and power			
D		Hi-Pass Filter ²			
	0	No filter			
	1	5 Hz			
	2	10 Hz			
	3	20 Hz			
	4	50 Hz			
	5	100 Hz			
	6	200 Hz			
	7	500 Hz			
	8	1 KHz			
E		Lo-Pass Filter ²			
	0	No filter			
	1	20 Hz			
	2	50 Hz			
	3	100 Hz			
	4	200 Hz			
	5	500 Hz			
	6	1 KHz			
F				Sensor Input in mV/ps	
	1	0	0	100 mV/ips (3.9 mV/mm/s)	SV6300A recommended
	1	0	5	105 mV/ips (4.1 mV/mm/s)	5485C recommended
	1	4	5	145 mV/ips (5.7mV/mm/s)	
	1	5	0	150 mV/ips (5.9 mV/mm/s)	
	2	0	0	200 mV/ips (7.9 mV/mm/s)	
	5	0	0	500 mV/ips (19.7 mV/mm/s)	
G				Hazard Area Certification	
	S			CSA & NRTL/C Class 1, Grps A,B,C,D, Div. 2 ³ Leave Blank for Ordinary Location (No hazard)	

NOTES:

1. E/M = Electro-Mechanical (self-generating)
2. Standard is D & E = 0 ; Small price adder for optional filters; D - E must be > 0 Hz; Filters affect 4-20 mA output but have no effect on dynamic output.
3. When connected & wired w/approved Metrix sensor. Request Application Wiring Drawing 9031 for details.

Ordering Example: 5534-102-0-00-200

No LCD digital indicator, DIN rail with 0-1.0 ips, pk range, no isolation, no filters, 200 mV/ips (7.9 mV/mm/s), no hazardous area certification.