

# 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.



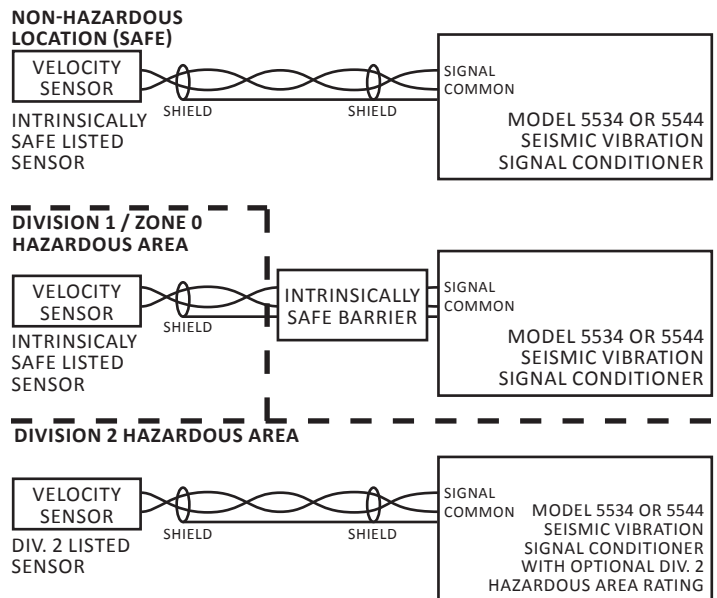
### FEATURES

- 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

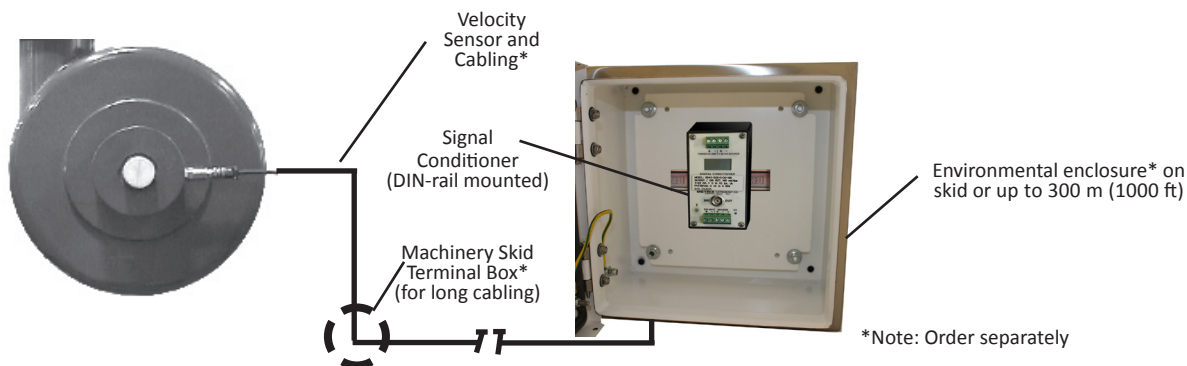
### APPLICATIONS

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

### WIRING DIAGRAMS



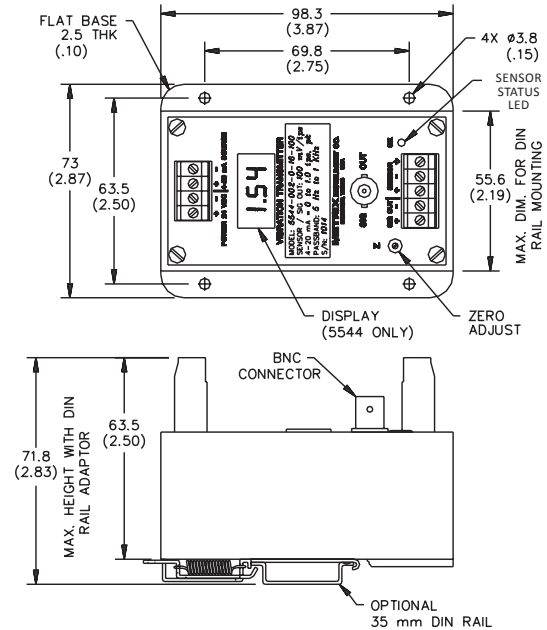
### TYPICAL INSTALLATION DIAGRAM



## SPECIFICATIONS

<b>Input signal</b>	100 to 500 mV/ips
<b>Sensor Excitation Provided</b>	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.
<b>Output</b>	4-20 mA dc (source)
<b>Vibration Range</b>	See "Ordering Option B"
<b>Maximum Load Resistance</b>	600 $\Omega$
<b>Frequency Response</b>	2 Hz to 2 kHz
<b>Sensor Malfunction</b>	Output current driven below 3.6 mA and sensor status green LED turns off when sensor/cable not OK
<b>Dynamic Signal Output</b>	Buffered input signal at BNC and terminal block
<b>Filters</b>	Optional low-pass and high-pass filters (36 db/octave). Filter section does not affect dynamic signal. See "Ordering Option D & E"
<b>Vibration Indicator (for Model 5544)</b>	3-digit LCD display of vibration level in engineering units
<b>Isolation</b>	500 Vrms, circuit to ground. Optional 600 V galvanic isolation between input, output and power. See "Ordering Option C"
<b>Temperature Limits</b>	5534: -40° to +66°C (-40° to +150°F) 5544: -10° to +66°C (+14° to +150°F)
<b>Input Power</b>	20 to 30 Vdc. Reverse polarity and electrical transient protection provided
<b>Hazardous Area Certification</b>	Available safety certification for CSA & NRTL/C Class I (A, B, C & D), Div. 2. See "Ordering Option G"
<b>Electromagnetic Compatibility</b>	Yes
<b>Housing</b>	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					
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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 <sup>1</sup> 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	

**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.

C		Galvanic Isolation	
0		None	
1		Isolation between input, output and power	
D		Hi-Pass Filter <sup>2</sup>	
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 <sup>2</sup>	
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)
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	
0		No Hazardous Area Certification	
S		CSA & NRTL/C Class 1, Grps A,B,C,D, Div. 2 <sup>3</sup> , CE	
T		CSA & NRTL/C Class 1, Grps A,B,C,D, Div. 2 <sup>3</sup>	