

Vibration Signal Conditioner

MODEL 5005

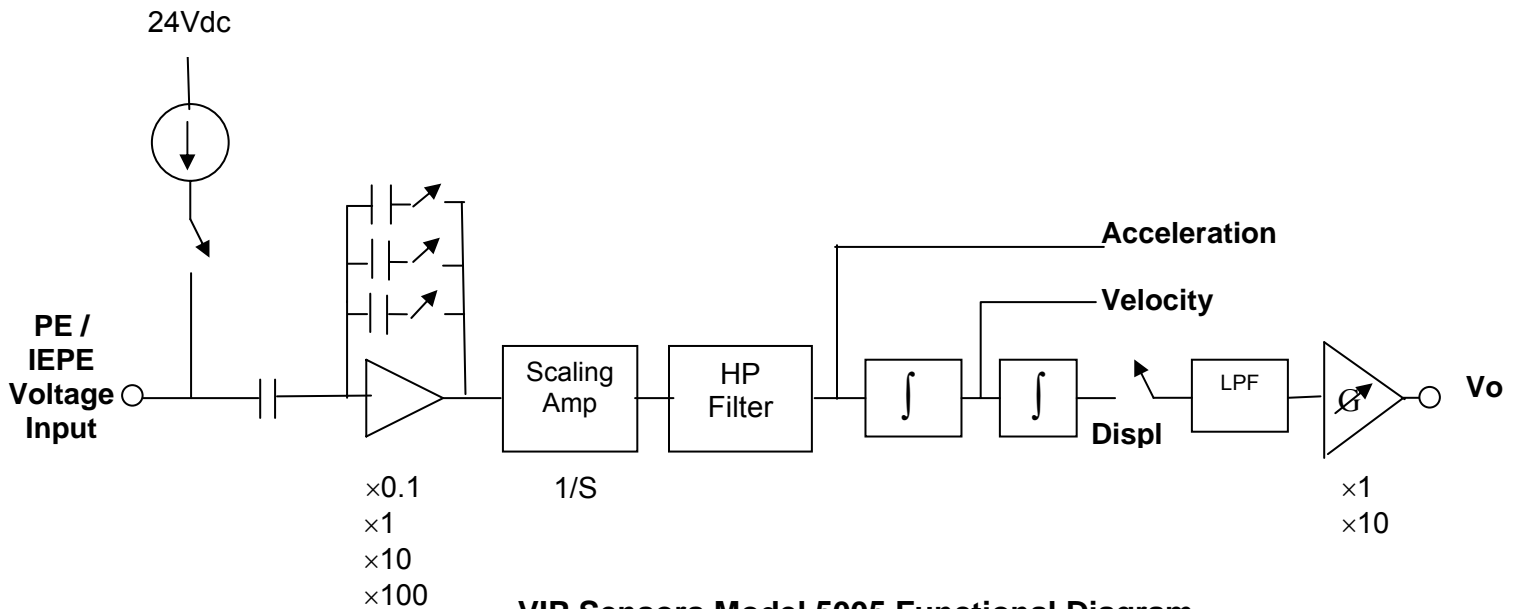
- 3-Channel Low Noise Signal Conditioner
- Transducer Types:
 - Piezoelectric (PE)
 - Integral Electronic PE (IEPE)
 - Voltage Output
- Acceleration, Velocity and Displacement Output
- Wide Bandwidth: 100 kHz



Description:

The VIP Sensors Signal Conditioner Model 5005 accepts three channels of Piezoelectric, Piezoelectric with Integral Electronic (IEPE) and Voltage transducers types. The input signals are processed through low-noise amplifiers with programmable gains for different sensitivities and full scale settings. Low pass and high pass filters with programmable corners suppress spurious signals.

A double integration stage allows the output voltage to be proportional to Acceleration, Velocity or Displacement. The Model 5005 is also capable of reading the Transducer Electronic Data Sheet (TEDS) provided by a IEPE transducer that is compliant to IEEE 1451.4.



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SPECIFICATIONS

The following performance specifications are at +75°F (+24°C) and 100 Hz, unless otherwise noted.

	UNITS	
INPUTS		
Number of Channels		3
Charge Input	pC	± 10 ⁶ maximum
Voltage Input	V	± 10 maximum
IEPE Input		
Compliance Voltage	V	24
Constant Current Excitation	mA	2
TEDS		TEDS Compatible (IEEE 1451.4)
Transducer Sensitivity		
Piezoelectric Transducer	pC/ms ⁻²	0.01 to 999
Voltage Transducer	mV/mV	0.01 to 999
IEPE Transducer	mV/ms ⁻²	0.01 to 999
Programming Mode		Digital programming
Gain		
Acceleration	mV/ms ⁻²	0.0001 to 100,000
Velocity	mV/mms ⁻¹	0.00001 to 10,000
Displacement	mV/μm	0.0001 to 100,000
OUTPUTS		
Linear Output	V	± 10 maximum
Output Current	mA	5
Display	bits	6
Connector		BNC Type
TRANSFER CHARACTERISTICS		
Measurement Modes		Acceleration, Velocity and Displacement
Accuracy		
Acceleration	%	± 1 maximum
Velocity	%	± 3 maximum
Displacement	%	± 3 maximum
Noise	μV	≤ 5 (with maximum gain and rti)
FREQUENCY RANGE		
Acceleration	Hz	0.3 to 100,000
Velocity	Hz	10 to 100,000
Displacement	Hz	10 to 1,000
HPF characteristics	Hz	0.3, 3, 30 or 300 Programmable (-6dB/Octave roll off)
LPF characteristics	kHz	0.1, 1, 10 or 100 Programmable (-12dB/Octave roll off)
Display	bits	6
Output	V	± 10 at 5 mA
Power source	V	Standard 110 ±10% at 60Hz Optional 220 ±10% at 50Hz (Model 5005V)