



■ VIB-5B-PEAK :: VIB-5B-EFF

■ Amplifier for piezoelectrical Accelerometer

- Interfaces to common transducers with constant current excitation
- High level Voltage outputs
- Built-in constant current excitation source
- Frequency range 20 Hz...20 kHz
- Galvanical isolation between voltage supply, sensor signal and analog output

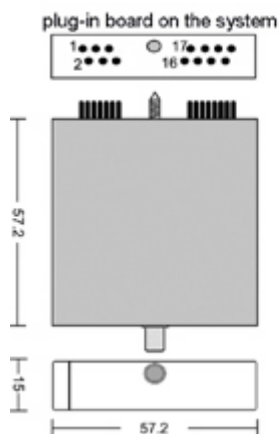
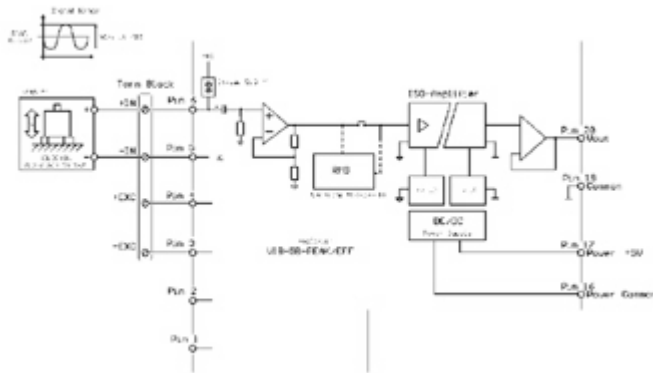
Models **VIB-5B-PEAK** and **VIB-5B-EFF** provide a cost-effective method for interfacing common transducers with constant current excitation to DATAQ Instruments' wide range of data acquisition products. These transducers, such as piezoelectric accelerometers and microphones, feature built-in signal conditioning and low impedance outputs, but do require an external excitation power supply. This must be provided as a current-mode source, since the transducer's output resistance changes as a function of applied force or acceleration. Constant current excitation transforms this variable resistance to a variable voltage that is directly proportional to the measured phenomena.

The constant current source of VIB-5B amplifiers yields 5.3 mA DC excitation with a compliance voltage of 8...12 VDC. The amplifiers feature AC coupling to remove the DC component of the transducer's signal so that only dynamic waveform information is passed through the amplifier. Gain for both amplifier models is fixed to 1, although many of DATAQ Instruments data acquisition products feature programmable gain per channel. This feature may be applied to yield greater sensitivities when required.

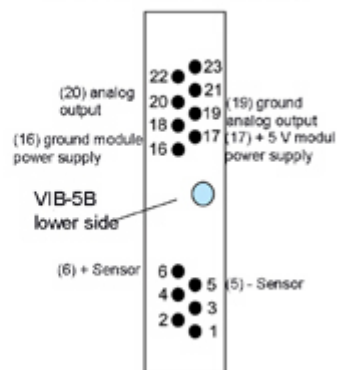
Specification:

5B-Modul	VIB-5B-PEAK	VIB-5B-EFF
Type of Amplifier	Pass-through Voltage	True rms
Input Range		±5 V
Input Resistance		
Normal		330 nF / 470 kOhm
Power off		330 nF / 470 kOhm
Overload		n/a
Gain		0 dB
Signal Input Protection		
Continuous		26 V DC or PEAK AC
Transient		n/a
Excitation		
Mode		constant current
Magnitude		5,3 mA
Compliance Voltage		8...12 Vdc
CMV, Input to Output		
Continuous		1000 V DC or PEAK AC
Transient		n/a
CMR (50 Hz to 60 Hz)		120 dB
NMR		95 dB @ 60 Hz, 90 dB @ 50 Hz
Accuracy (10 Hz to 1 kHz)	±0,5 % v. Mb.	
Accuracy (20 Hz to 15 kHz, sinusoidal)		±1 % v. Mb.
Nonlinearity	±0,25 % o.R.	n/a
Stability	±50 ppm/K	n/a
Output Noise		1,5 mV rms
Bandwidth, -3dB		20 Hz...20 kHz
Response Time, 90% of Span		n/a
Rise Time, 10 to 90% of Span	0,015 ms	

Settling Time to 0,1%		0,05 ms
Analog output	±5 V	0...3,535 V
Output Resistance		> 2 kOhm
Output Protection		continuous short to ground
Output Current Limit		20 mA
Voltage Supply		5 Vdc
Power Supply Current		
In-rush		250 mA
Steady State		150 mA
Power Supply Sensitivity		±5%
Dimensions		57,2 x 57,2 x 15 mm (2.26 x 2.26 x 0.60 inches)
Environmental		
Operating Temperature		0...+70°C
Storage Temperature		-40...+85°C
Relative Humidity		0...95%, non-condensing
RFI Susceptability		n/a



VIB-5B Termination



Our policy is to improve specification of our products continuously, so technical and production details can be changed without any notice.
Copyright© by ALTHEN GmbH Mess- und Sensortechnik, 29.09.2006

ALTHEN GmbH Mess- und Sensortechnik

Frankfurter Strasse 150-152
65779 Kelkheim/Germany

phone +49 6195 70060
fax +49 6195 70066

<http://www.althensensors.com>
info@althensensors.com

