

Triaxial In-Line Charge Converter

5812

The Columbia Series 5812 In-Line Charge Converters are specifically designed to convert the charge signals from a high impedance piezoelectric sensor into a voltage signal output with low output impedance, thereby eliminating the need for costly charge amplifiers in many applications. This device can be used with all Columbia non-integrated piezoelectric accelerometers and pressure sensors.

The advantage of this device is that it contains three active signal channels powered from a common external standard DC power supply. This makes it the perfect signal-conditioning match for any high impedance triaxial piezoelectric sensor. The converter is available in three factory setting of 0.1, 1.0 and 10.0 mV/pcmb. Sensor inputs utilize a #10-32 coaxial connector with the signal output presented on BNC connectors. Power is applied via the two binding posts.

Consult the factory for customized versions of these sensors.

- Choice of Three Conversion Gains
- 10-32 Coaxial Input
- Self Contained Signal Conditioners
- Utilizes Standard DC Power Supply



Specifications

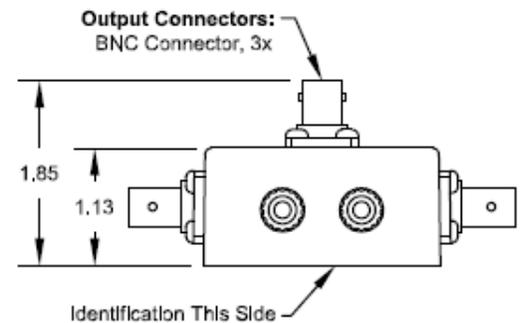
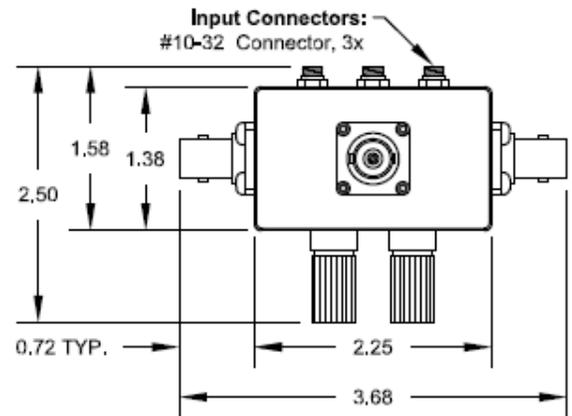
Electrical	5812
Input Source Resistance	10MΩ Min.
Input Source Capacitance	5000pF Max.
Output Impedance	<50Ω for Models 5812-01 and 5812-1 <200Ω for Model 5812-10
Output Load Capacitance	100nF Max for No Effect Gain Accuracy Below 10kHz
Output DC Bias	9-11 Volts Typical
Output Voltage Swing	10 Volts Min. @ +22VDC Power 15 Volts Min. Above +25VDC Power
Output Voltage Limiting	No Internal Limiting; Supply Voltage must be Limited to <40 Volts
Operating Voltage Range	+22 to +32 Volts
Gain Accuracy	± 3% Max.
Frequency Response	2Hz to 20,000Hz Min for <5% Gain Deviation
Residual Noise	150μV RMS Max. with Source Capacitance of 1000pF 1.0mV RMS Max. with Source Capacitance of 10nF
Gain Stability	2% Gain Change Max. from -40°C to +85°C; 0.2% Gain Change Max. from 5mA to 20mA Oper. Current
Total Harmonic Distortion	1% Max. @ Output Voltage of 10 volts P-P
Warm-up Time	30 Seconds Max

Environmental

Operating Temperature	-40°C to +85°C
Vibration	15G PK from 55Hz to 2000Hz
Shock	100G PK with 3.6mS Halfsine pulse
Humidity	95% R.H.

Physical

Weight	4.0 oz (113.4 gm) Typ
Size	3.68" L x 2.50" W x 1.85" H—Including Connector
Case Material	Aluminum
Electrical Interface	Output: (3) BNC Connectors Input: (3) #10-32 Microdot Connector Power: (2) Binding Posts 0.75 on Center
Case Isolation	Signal Ground connected to Case



Model 5812 Options	
Model	Gain
5812-01	0.1 mV/pcmb
5812-1	1.0 mV/pcmb
5812-10	10 mV/pcmb

Note: An optional mounting plate for permanent installation is available. Please consult factory for details.