

# Linear Accelerometers

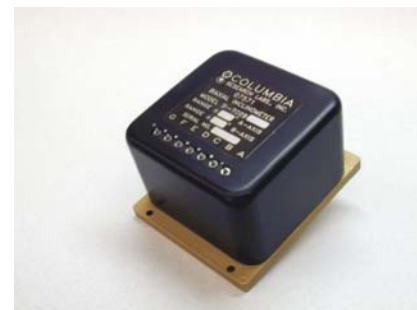
## SA-207B, SA-207BHP

The Columbia Models SA-207B and SA-207BHP are force balance accelerometers capable of measuring DC and low frequency acceleration simultaneously in two axes. These sensors are self-contained and provide a high level, low impedance output. No additional signal conditioning is required in most applications.

The Model SA-207B is a low cost design and is well suited for many OEM and general-purpose industrial applications. The Model SA-207BHP incorporates Columbia's patented "HP" torquer design providing improved accuracy and repeatability in adverse shock and vibration environments. **Consult the factory for customized versions of these sensors.**

Note: Exports of accelerometers from the United States are subject to the licensing requirements of the Export Administration Regulations (EAR) and/or the International Traffic in Arms Regulations (ITAR).

- \* **Biaxial Sensors**
- \* **+/-15 VDC Operation**
- \* **Low Cost and High Performance**



### Specifications

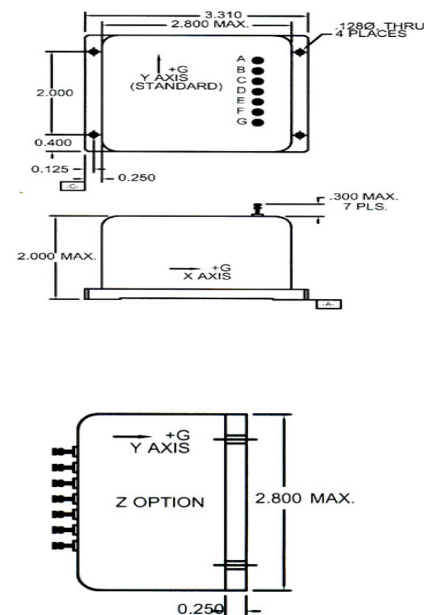
Operational	SA-207B	SA-207BHP
Ranges Available	$\pm 1$ G To $\pm 50$ G	$\pm 0.5$ G To $\pm 50$ G
Output Voltage	$\pm 7.5$ Volts into 100K Load	
Excitation	$\pm 15$ VDC <30 mA	
Output Impedance	<100 Ohms	
Sensitive Axis Alignment	Better Than 0.5 Deg	
Scale Factor Tolerance	$\pm 1\%$	
Scale Factor Temp Coefficient	0.02% / Deg C Max.	
Zero Bias	$\pm 0.1\%$ F.R.	$\pm 0.05\%$ F.R. or $3 \times 10^{-4}$ G
Null Temp Sensitivity	0.0005% F.R. / Deg C	
Natural Frequency	75 To 300 Hz Dependent Upon Range	
Damping	$0.7 \pm 0.2$	
Cross Axis Sensitivity	0.002 G/G Exclusive of Sensitive Axis Alignment	
Output Noise	<5 mV RMS	
Non-Linearity	$\pm 0.05\%$ F.R.	$\pm 0.03\%$ F.R.
Hysteresis & Non-Repeatability	$\pm 0.075\%$ F.R.	$\pm 0.05\%$ F.R.
Threshold & Resolution	0.001% F.R.	

### Environmental

Temperature, Operating	-50 To +85 Deg C	
Temperature, Storage	-60 To +100 Deg C	
Vibration Survival (2 To 2,000 Hz)	5 G RMS, 0.5" Disp D.A.	15 G RMS, 0.5" Disp D.A.
Shock Survival	125 G, 5 mSec	1000 G, 0.5 mSec
Ambient Pressure	0 To 5 Atmospheres	
Humidity	95% R.H.	

### Physical

Weight	7.7 Oz (219 Gms)
Size	3.31 In L x 3.31 In W x 2.00 In H (8.4 cm L x 8.4 cm W x 5.1 cm H)
Case Material	Anodized Aluminum
Sealing	Environmental
Electrical Interface	7 Terminal Pins



### Output Terminal Pin Functions:

Models SA-207B and SA-207BHP			
Pin	Function	Pin	Function
A	+15 VDC	E	Test X
B	Ground	F	E <sub>0</sub> Y
C	-15 VDC	G	Test Y
D	E <sub>0</sub> X		

### Ordering Information:

SA-207B (+/- X G )

SA-207BHP (+/- X G )

Standard Accelerometer  
Range +/- X G (Required)

1G Counterbias Option (Ranges  $\pm 1$ G & higher)

Z Option (See Above)

Y Z  
Y Z



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