

Linear Accelerometers

SA-107AIC, SA-107AIHPC

Columbia Models SA-107AIC and SA-107AIHPC Force Balance Accelerometers are designed with an output circuit configuration made for use in 4-20mA data transmission systems. The 4-20 mA system is used extensively in industrial installations in order to transmit data over long distances in environments where interference from nearby electrical power lines could be a problem. A single +15 volt supply powers both the sensor and 4-20 mA line driver.

Model SA-107AIC is a low cost device, while the SA-107AIHPC incorporates Columbia's patented HP torquer design providing improved accuracy and repeatability in adverse shock environments. Both configurations provide a convenient 6-pin electrical interface. Models SA-107BIC and SA-107BIHPC Accelerometers are similar configurations that provide voltage output in addition to current output. *Consult the factory for customized versions of these sensors.*

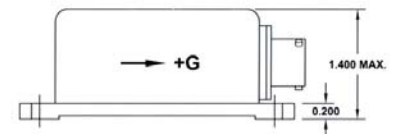
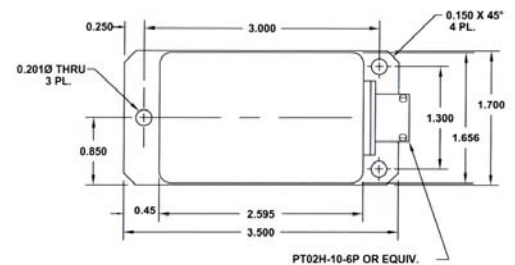
Note: Exports of accelerometers from the United States are subject to the licensing requirements of the Export Administration Regulations (EAR) and/or the International Traffic in Arms Regulations (ITAR).

- * 4-20 mA Output
- * +15 VDC Operation
- * Low Cost and High Performance



Specifications

	SA-107AIC	SA-107AIHPC
Operational		
Ranges Available	±1 G To ±10 G	±0.25 G To ±10 G
Current Output	4-20 mA Corresponding to F.S. Range into a Maximum Load of 600 Ohms	
Excitation	+15 ±1 VDC <50 mA	
Output Impedance	50 Megohm Typical	
Sensitive Axis Alignment	<0.5 Deg.	
Scale Factor Tolerance	±1%	
Scale Factor Temp Coefficient	±0.02% / Deg C	
Zero Bias	12 ±0.05 mA	
Null Temp Sensitivity	±0.002% F.R. / Deg C	±0.001% F.R. / Deg C
Frequency Response	DC To 50 Hz, ±5% Smooth Rolloff above 50 Hz	
Damping	0.7 ±0.2	
Cross Axis Sensitivity	0.002 G/G	
Non-Linearity	±0.1% F.R.	±0.05% F.R.
Hysteresis & Non-Repeatability	±0.1% F.R.	±0.05% F.R.
Threshold & Resolution	±0.01% F.R.	±0.001% F.R.



Environmental

Temperature, Operating	-40 To +85 Deg C	
Temperature, Storage	-40 To +85 Deg C	
Random Vibration (2 To 2,000 Hz)	5 G RMS, 0.25" Disp. D.A.	15 G RMS, 0.25" Disp. D.A.
Shock Survival	125 G, 5 mSec	1000 G, 1 mSec
Humidity	95% R.H.	

Physical

Weight	6 Oz (141.8 Gm)
Size	3.50 In L x 1.70 In W x 1.40 In H (88.9 cm L x 43.2 cm W x 35.6 cm H)
Case Material	Anodized Aluminum
Sealing	Environmental
Electrical Interface	Connector PT02H-10-6P of Equivalent
Mating Connector (Optional)	PT06A-10-6S(SR)

Cable Options: AFB04437

I/O Connector Pin Functions:

SA-107AIC and SA-107AIHPC			
Pin	Function	Pin	Function
A	+15 VDC	D	Current Return
B	Power Ground	E	Spare
C	Current Output	F	Spare

Ordering Information:

SA-107AIC (+/- X G)
SA-107AIHPC (+/- X G)
Standard Accelerometer
Range +/- X G (Required)

Optional Mating Connector

M
M



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