

Linear Accelerometers

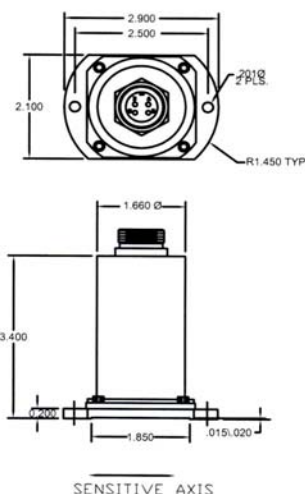
SA-107WPBI, SA-107WPBIHP

The Columbia Models SA-107WPBI and SA-107WPBIHP are waterproof versions of Columbia's popular Models SA-107BI and SA-107BIHP. These waterproof sensors are designed with an output circuit configuration made for use with 4-20 mA data transmission systems used extensively in industrial installations in order to transmit data over long distances in rough environments.

The Models SA-107WPBI and SA-107WPBIHP contain special desensitization circuitry to provide accurate static acceleration data while in substantial vibration environments. The incorporation of Columbia's patented HP suspension system into Model SA-107WPBIHP provides added accuracy and ruggedness. A single +15 volt supply powers both the sensor and 4-20 mA line driver. **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).

- * Waterproof
- * 4 To 20 mA Output
- * Low Cost and High Performance



Specifications

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

Environmental

Temperature, Operating	-40 To +85 Deg C	
Temperature, Storage	-40 To +85 Deg C	
Vibration Survival (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
Ambient Pressure	65 psig	
Waterproof Depth	150 Ft Depth Max.	

Physical

Weight	18 Oz (510.3 Gm)
Size	2.90 In x 2.10 In x 3.95 (7.37 cm. x 5.34 cm x 10.04 cm)
Case Material	316L Stainless Steel
Sealing	TIG Welded & O Ring Static Seals
Electrical Interface	Waterproof Connector #RSF-40-693
Optional Cable Assemblies	WC-(x) & EC-(x) - See Ordering Info IP68 & NEMA 6P Ratings

Output Connector Pin Functions:

Models SA-107WPBI and SA-107WPBIHP	
Pin	Function
A	Power Ground
B	+15 VDC
C	Current Output
D	Current Return

Ordering Information:

SA-107WPBI (+/- X G)

SA-107WPBIHP (+/- X G)

Standard Accelerometer
Range +/- X G (Required)

Optional Cable Assemblies:
(Separate Purchase)

Interface Cable, P/N WC - (X)

X = Cable Length in Meters, Maximum 20 Meters

Extension Cable, P/N EC - (X)

X = Cable Length in Meters, Maximum 10 Meters

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