

Linear Accelerometers

SA-130

The Columbia Model SA-130 is a precision force balance accelerometer developed for the severe shock and vibration environments associated with aircraft and missile flights. This sensor incorporates hi-rel electronic components ensuring long-term stability and superior reliability over a wide temperature range.

The Model SA-130 is light weight and hermetically sealed. Additionally, this unit features a self-test capability requiring an input current range of 0.2 to 3.0 mA/G depending on selected operating range. *Consult the factory for customized versions of this sensor.*

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).

- * Premium Performance
- * +/-15 VDC Operation
- * Compact, Rugged Design
- * Hermetically Sealed



Specifications

	SA-130
Operational	
Ranges Available	± 1 G To ± 50 G
Output Voltage	± 5 VDC into 100K Load
Excitation	± 15 VDC <20 mA
Output Impedance	<2000 Ohms
Sensitive Axis Alignment	Better Than 0.25 Deg
Scale Factor Tolerance	$\pm 0.5\%$
Scale Factor Temp Coefficient	0.018% / Deg C Max.
Zero Bias	± 5 mV or ± 6 mG (Lower Value Applies)
Null Temp Sensitivity	0.00015% F.R. / Deg C
Natural Frequency	75 To 300 Hz Dependent Upon Range
Damping	0.7 \pm 0.2
Cross Axis Sensitivity	<0.005 G/G
Output Noise	<2 mV RMS
Non-Linearity	$\pm 0.05\%$ F.R.
Hysteresis & Non-Repeatability	$\pm 0.05\%$ F.R.
Threshold & Resolution	$\pm 0.001\%$ F.R.

Environmental

Temperature, Operating	-50 To +125 Deg C
Temperature, Storage	-60 To +125 Deg C
Vibration Survival (2 To 2,000 Hz)	25 G RMS, 0.5" Disp D.A.
Shock Survival	1,500 G, 0.5 mSec
Ambient Pressure	0 To 5 Atmospheres
Humidity	100% R.H.

Physical

Weight	<1.5 Oz (42.5 Gm)
Size	
Standard Square Flange	1.15 In Sq x 1.17 In H (2.92 cm Sq x 2.97 cm H)
Optional Triangular Flange	1.43 In L x 1.34 In W x 1.17 In H (3.63 cm L x 3.40 cm W x 2.97 cm H)
Case Material	Nickel-Plated Aluminum
Sealing	Hermetic (Solder Sealed)
Electrical Interface	6 Terminal Pins

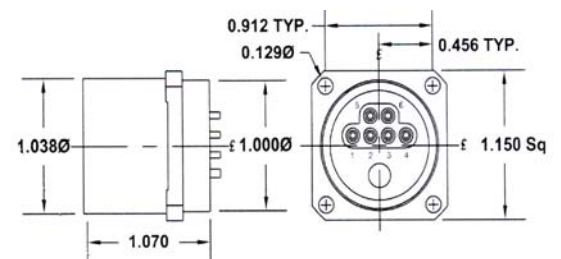
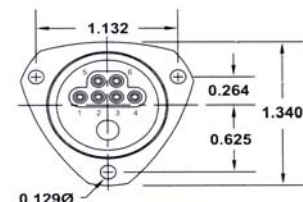


Figure 1 – Optional Triangular Flange



Output Terminal Pin Functions:

SA-130			
Pin	Function	Pin	Function
A	+15 VDC	D	Output
B	Ground	E	Test
C	-15 VDC	F	Test

Ordering Information:

SA-130 (+/- X G)

Standard Accelerometer
Range +/- X G (Required)

Optional Triangular Flange
(See Fig. 1 Above)

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