

Linear Accelerometers

SA-520RNP

Columbia Model SA-520RNP Force Balance Accelerometer is an extremely rugged, high performance accelerometer available with choice of operating ranges from +/-1G through +/-50G. It is completely self-contained and requires no additional signal conditioning.

The sensor incorporates Columbia's patented HP torquer system and provides exceptional performance and reliability in severe vibration and shock environments. Its small size and superior accuracy and repeatability make it the preferred sensor for applications where space is limited. Model SA-520RNP is designed to operate in temperatures up to +125 degrees C. Refer to Columbia Models SA-132RHT and SA-528RHT for extreme high temperature applications. *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).

- * High Performance
- * +/-15 VDC Operation
- * Small Size
- * Environmentally Rugged



Specifications

	SA-520RNP
Operational	
Ranges Available	± 1 G To ± 50 G
Output Voltage	± 5 Volts into 100K Load
Excitation	± 15 VDC <20 mA
Output Impedance	<5000 Ohms
Sensitive Axis Alignment	Better Than 0.25 Deg
Scale Factor Tolerance	$\pm 1\%$
Scale Factor Temp Coefficient	0.025% / Deg C Max.
Zero Bias	$\pm 0.05\%$ F.R.
Null Temp Sensitivity	0.001% F.R./ Deg C
Natural Frequency	50 To 300 Hz Dependent Upon Range
Damping	0.7 ± 0.2
Cross Axis Sensitivity	0.005 G/G
Output Noise	<0.02% F.R.
Non-Linearity	$\pm 0.025\%$ 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 +150 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 12 Shocks per Axis
Ambient Pressure	0 To 5 Atmospheres
Humidity	95% R.H.

Physical

Weight	1.5 Oz (42.5 Gm)
Size	
Standard Square Flange	1.16 In Sq x 0.73 In H (2.95 cm Sq x 1.46 cm H)
Optional Triangular Flange	1.49 In Dia. x 0.73 In H (3.78 cm Dia. x 1.86 cm H)
Case Material	Nickel-Plated Aluminum
Sealing	Environmental
Electrical Interface	4 Terminal Pins

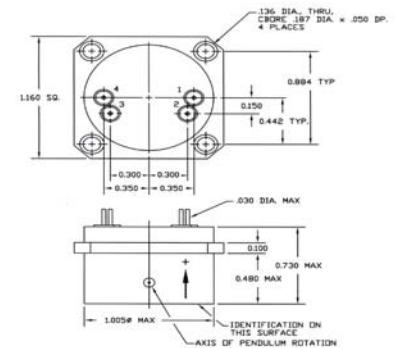
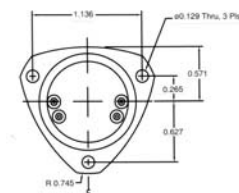


Figure 1 – Optional Triangular Flange



Output Terminal Pin Functions:

Pin	Function
A	+15 VDC
B	Ground
C	-15 VDC
D	Output

Ordering Information:

SA-520RNP (+/- X G)

Standard Accelerometer
Range +/- X G (Required)

Optional Triangular Flange (See Fig. 1)

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