

Linear Accelerometer

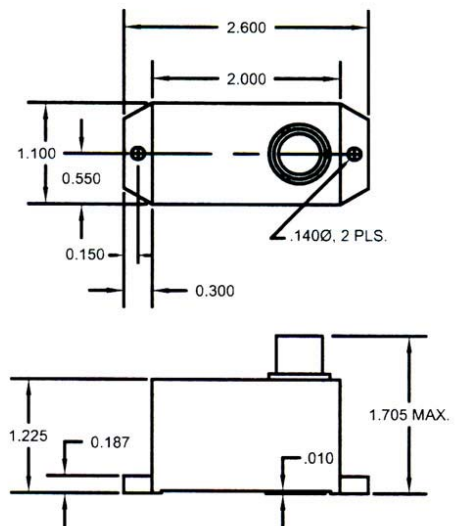
SA-101HP

The Columbia Model SA-101HP is an extremely rugged, compact premium-performance accelerometer. The SA-101HP accelerometer design has exceptional versatility allowing for performance and packaging adaptations to optimize the cost vs. performance ratio.

This device incorporates Columbia's patented HP torquer system, which provides exceptional performance and reliability in severe vibration and shock environments. The accuracy of Model SA-101HP is the best obtainable with the pendulous force balance design. *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).

- * **High Performance**
- * **+/-15 VDC Operation**
- * **Compact & Rugged**



Specifications

	SA-101HP
Operational	
Ranges Available	± 0.5 G To ± 100 G
Output Voltage	± 7.5 Volts into 100K Load
Excitation	± 15 VDC <15 mA
Output Impedance	5000 Ohms Max.
Sensitive Axis Alignment	Better Than 0.25 Deg
Scale Factor Tolerance	$\pm 1\%$
Scale Factor Temp Coefficient	0.02% / Deg C Max.
Zero Bias	$\pm 0.05\%$ F.R.
Null Temp Sensitivity	0.0006% F.R./ Deg C
Natural Frequency	50 To 300 Hz Dependent Upon Range
Damping	0.8 ± 0.2
Cross Axis Sensitivity	0.002 G/G Exclusive of Sensitive Axis Alignment
Output Noise	<5 mV RMS
Non-Linearity	$\pm 0.1\%$ F.R.
Hysteresis & Non-Repeatability	$\pm 0.02\%$ F.R.
Threshold & Resolution	0.0005% F.R.

Environmental

Temperature, Operating	-50 To +90 Deg C
Temperature, Storage	-60 To +100 Deg C
Vibration Survival (2 To 2,000 Hz)	20 G RMS, 1.0" Disp D.A.
Shock Survival	250 G, 5 mSec
Ambient Pressure	0 To 5 Atmospheres
Humidity	95% R.H.

Physical

Weight	4 Oz (114 Gms)
Size	2.6 In L x 1.1 In W x 1.2 In H (6.6 cm L x 2.8 cm W x 3.1 cm H)
Case Material	Nickel-Plated Aluminum
Sealing	Environmental
Connector	PT1H-10-6P or Equiv.
Mating Connector	PT06A-10-6S(SR) or Equiv.

Output Connector Pin Functions:

Pin	Function	Pin	Function
A	+15 VDC	D	Eo (Voltage Out)
B	Ground	E	Io (Current Out) *
C	-15 VDC	F	Self Test

* Pin E Shorted to Pin B for Normal Operation

Ordering Information:

SA-101HP (+/- X G)

Std Accelerometer w/Connector
Range +/- X G (Required)

Mating Connector Supplied (Optional)

1G Counterbias Option (Ranges ± 1 G & higher)

M Y



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