

Angular Accelerometers

SR-220RNP, SR-220RNC

The Columbia Models SR-220RNP and SR-220RNC are precision force balance angular accelerometers designed for applications where space is at a premium. The Columbia patented HP suspension system provides extreme ruggedness and excellent rejection of linear acceleration. The two designs differ only in their electrical interface. The SR-220RNP provides solder pins and the SR-220RNC incorporates a 4-pin connector.

These accelerometers do not depend on fluid damping or rotational inertia but are electrically damped. This results in exceptional high frequency characteristics for an angular accelerometer in its range of sensitivity. The servo loop design guarantees exceptional thermal stability of zero bias, scale factor and frequency characteristics. *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).

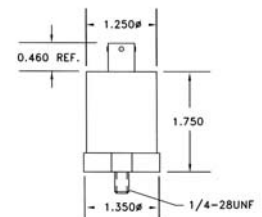
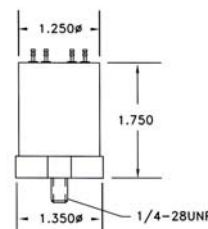
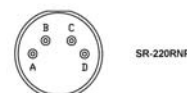
- * **Small Size / Lightweight**
- * **Electronic Damping**
- * **Rugged Construction**



SR-220RNP



SR-220RNC



Specifications

	SR-220RNP	SR-220RNC
Operational		
Ranges Available	$\pm 100, \pm 500, \pm 1000, \pm 5000$ Rad/Sec ²	
Output Voltage	± 5 Volts into 100K Load	
Excitation	± 15 VDC <20 mA	
Output Impedance	<500 Ohms	
Sensitive Axis Alignment	0.5 Deg	
Scale Factor Tolerance	$\pm 1\%$	
Scale Factor Temp Coefficient	0.05% / Deg C Max.	
Zero Bias	± 10 mV	
Null Temp Sensitivity	± 0.1 mV / Deg C	
Natural Frequency	50 To 200 Hz Dependent Upon Range	
Damping	0.7 \pm 0.2	
Linear Acceleration Sensitivity	0.3% F.R. / G	
Cross Axis Sensitivity	$\pm 2\%$	
Output Noise (DC To 400 Hz)	<0.02% F.R.	
Non-Linearity	$\pm 0.01\%$ F.R.	
Hysteresis & Non-Repeatability	$\pm 0.25\%$ F.R.	
Threshold & Resolution	0.005% F.R.	

Environmental

Temperature, Operating	-50 To +85 Deg C
Temperature, Storage	-55 To +95 Deg C
Vibration Survival (2 To 2,000 Hz)	10 G RMS, 0.5" Disp D.A.
Linear Acceleration Survival	100 G
Range ± 100 Rad/Sec ²	150 G
All Other Ranges	
Shock Survival	500 G, 1 mSec
Ambient Pressure	0 To 7 Atmospheres
Humidity	95% R.H.

Physical

Weight	4 Oz (113 Gms)	4.3 Oz (122 Gms)
Size (Excluding Stud Mount & I/O Termination)	1.35 In. Dia. x 1.75 In. H (3.4 cm Dia. x 4.5 cm H)	
Case Material	Stainless Steel	
Sealing	Environmental	
Connector	Solder Pins	PT1H-8-4P or Equiv.
Optional Mating Connector	N/A	PT06A-8-4S or Equiv.

I/O Pin Functions:

Model SR-220RNP	
Pin	Function
A	+15 VDC
B	Ground
C	-15 VDC
D	Eo (Voltage Out)

Model SR-220RNC	
Pin	Function
A	Sig & Pwr Grd
B	+15 VDC
C	-15 VDC
D	Signal Output

Ordering Information:

SR-220RNP (+/- X Rad/Sec²)

SR-220RNC (+/- X Rad/Sec²)

Standard Accelerometer

Range +/- X Rad/Sec² (Required)

Mating Connector Supplied (Optional)

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Columbia Research Laboratories, Inc. 1925 Mac Dade Blvd. Woodlyn, PA 19094 USA
Phone: 1.800.813.8471 / Fax: 610.872.3882 / email: sales@columbiaresearchlab.com