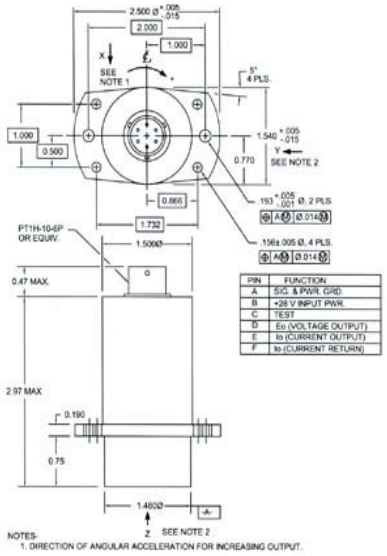
Angular Accelerometers

SR-107RFR, SR-207RFR

* **High Accuracy**
* **High Performance Fluid Rotor Design**

The Columbia Models SR-107RFR and SR-207RFR are precision force balance angular accelerometers. This design makes use of the fluid rotor concept of sensing angular acceleration and in conjunction with the Columbia patented HP suspension system provides the ultimate in reliability and ruggedness under severe environmental conditions. These accelerometers provide excellent bias stability and rejection of linear acceleration inputs.

The SR-107RFR operates from +/-15VDC power, and the SR-207RFR is designed to operate from unregulated +24 to +32 VDC aircraft power. Both units provide a high level low impedance output and require no additional signal conditioning. ***Consult the factory for customized versions of these sensors.***



Specifications

Operational	SR-107RFR	SR-207RFR
Ranges Available	±10 To ±500 Rad/Sec²	
Output Voltage	±5 Volts into 100K Load	0.2 To 4.8 VDC into 100K Load
Excitation	±15 VDC <20 mA	+24 To +32 VDC <25 mA
Output Impedance	<5,000 Ohms	
Sensitive Axis Alignment	0.5 Deg	
Scale Factor Tolerance	±1%	
Scale Factor Temp Coefficient	0.05% / Deg C Max.	
Zero Bias	±0.1% F.R.	2.5 ±0.01 VDC
Null Temp Sensitivity	±0.4 mV / Deg C	
Natural Frequency	10 To 100 Hz Dependent Upon Range	
Damping	0.7 ±0.2	
Linear Acceleration Sensitivity	0.1% F.R./G or 0.05 Rad / Sec² / G (greater value applies)	0.1% F.R./G or 0.01 Rad / Sec² / G (greater value applies)
Cross Axis Sensitivity	1% Max.	
Output Noise (DC To 400 Hz)	<2 mV RMS	<3 mV RMS
Non-Linearity	±0.05% F.R.	
Hysteresis & Non-Repeatability	±0.1% F.R.	
Threshold & Resolution	0.005% F.R.	

Environmental

Temperature, Operating	-40 To +85 Deg C
Temperature, Storage	-40 To +85 Deg C
Vibration Survival (2 To 2,000 Hz)	15 G RMS, 0.5" Disp D.A.
Linear Acceleration Survival	100 G
Shock Survival	1000 G, 1 mSec
Ambient Pressure	0 To 5 Atmospheres
Humidity	95% R.H.

Physical

Weight	10 Oz (283 Gms)
Size	1.5 In. Dia. (Excluding Mtg Flange) x 2.97 In. H (3.8 cm Dia. Excluding Mtg Flange x 7.6 cm H)
Case Material	Anodized Aluminum
Sealing	Environmental
Connector	PT1H-10-6P or Equiv.
Optional Mating Connector	PT06A-10-6S or Equiv.

R32305

I/O Connector Pin Functions:

SR-107RFR	
Pin	*Function*
A	+15 VDC
B	Ground *
C	-15 VDC
D	Eo (Voltage Out)
E	Factory Test *
F	Factory Test
*Note: Jumper Pins B & E for normal operation	

SR-207RFR	
Pin	*Function*
A	Sig & Pwr Grd
B	+28V Input
C	Test
D	Eo (Voltage Out)
E	Io (Current Out) *
F	Io (Current Ret) *
*Note: Jumper Pins E & F for normal operation	

Ordering Information:

SR-107RFR (+/- X Rad/Sec²)	**M**
SR-207RFR (+/- X Rad/Sec²)	**M**
Std Accelerometer w/Connector	
Range +/- **X** Rad/Sec² (Required)	
Mating Connector Supplied (Optional)	

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