

Condor Pacific

Gyro Manufacture Repair Overhaul

MEMS Rate Sensors

Precision Instruments offers MEMS rate sensors configured to be FORM, FIT, and FUNCTION to replace legacy rate gyros for many applications.



Typical Specifications

Parameter	Performance
Full Scale Rate	10 to 350°/Sec
Full Scale Outputs	7 VRMS or 10VDC
Scale Factor Accuracy @ RT	±1%
Scale Factor Accuracy OTR	±3%
Bias at RT	±0.3% of Full Scale
Bias OTR	±0.5% of Full Scale
Bandwidth	5Hz to 75Hz
Noise (See Note 1)	Dependent on Bandwidth
Alan Variance	<15°/Hr
Damping Ratio OTR	0.6 to 0.8 of Critical
Linear Acceleration Sensitivity	±0.05°/Sec/g
Angular Acceleration Sensitivity	<0.05°/Sec/g ²
Shock Capability Survival	200g's 0.5 to 5msec
Vibration Capability Performance	2.5g's 5 – 500Hz
Vibration Capability Survival	15g's 5 – 2000Hz

These parameters are for reference only.
Submit requirements for specific performance capability.

Noise is dependent on Bandwidth.
Typical noise for a 25Hz Bandwidth unit is .25°/Sec
peak to peak 3 sigma.
Based on 1000 samples taken over a 10 second time period.

Higher performance units available upon request.

Example configurations

DC IN / DC OUT
5 to 28 VDC Input
Scale Factor to Customer Requirement

AC IN / AC OUT
15 to 115 VAC Input -
400 to 4000Hz
AC Output Phase
Referenced to AC Input
Scale Factor to Customer Requirement

AC IN / DC OUT
15 to 115 VAC Input -
400 to 4000Hz
DC Output - Rotation
Dependent Polarity
Scale Factor to Customer Requirement

Many Input / Output configurations and mounting requirements can be accommodated upon request

CAGE CODE: 5ZGZ4

Condor Pacific Industries, Inc.

905 Rancho Conejo Blvd, Newbury Park, CA 91320

Phone: 818-889-2150 FAX: 818-889-2160 E-mail: sales@condorpacific.com

Cage Code 4LSH0

Specifications

Range	±300o/sec	
Scale Factor	0.020 VAC/°/Sec ±5%	Over Temperature Range
Threshold	0.01o/sec	Over Temperature Range
Resolution	0.01o/sec	Over Temperature Range
Hysteresis	±0.5°/Sec	Over Temperature Range
In Phase Null	± 1.5°/Sec	Over Temperature Range
Linearity	0.5% To Half Scale, 2.0% to Full Scale	Over Temperature Range
Natural Frequency	47Hz Minimum	Over Temperature Range
Damping ratio	0.3 to 2.5 of Critical	Over Temperature Range
Linear Acceleration Sensitivity	0.1o/sec/g	Over Temperature Range
Cross Coupling	0.05°/Sec/°/Sec Cross Axis & Spin Axis	Over Temperature Range
Phase Shift	± 10°	Over Temperature Range
Voltage (AC)	26V, 800 Hz 2ø	
Starting Power	4.0 Watts	
Running Power	3.35 Watts	
Warmup Time	60 Seconds at Temperatures above -40°F 90 Seconds at Temperatures below -40°F	
Voltage (AC)	26V, 800Hz.	
Load Resistance	20KΩ ± 1%	
Output	Up to 6.6Volts, 800 Hz	
Phase Shift	± 10°	
Operating Temperatures	-65oF to +160°F, transient to 250°F for 10 Minutes	
Vibration	Max	Per MIL-STD-810
Shock	See 16ZC006A	Per MIL-STD-810
Acceleration	See 16ZC006A	Per MIL-STD-810
Other Environments	See 16ZC006A	Per MIL-STD-810
MTBF	12,000 hours	
Sealing	Hermetic	
Weight	150 grams	
Self-Test – Torquer Scale Factor	0.15°/Sec/mA, 150mA continuous, 600mA transient	
-- Spin Motor speed	Spin synchronous detection by monitor motor phase 2	

