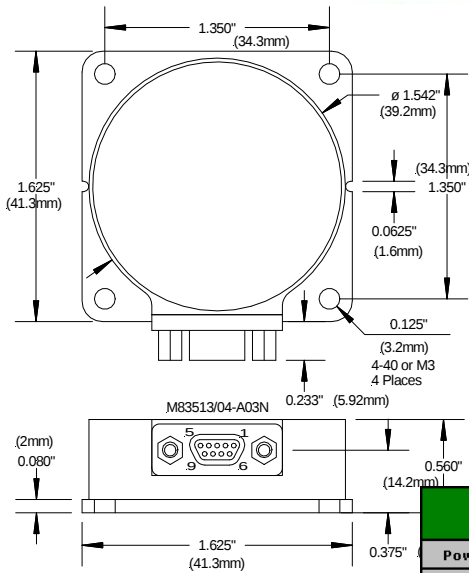
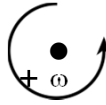


G50Z Gyro



Axes (Top View) Right Hand Rule



G50Z "LN Series" Configuration Options

Part Number	Bandwidth	Output
G50Z-XXX-320	140Hz	Single Sided
G50Z-XXX-420	140Hz	Bipolar "VSG"

Specification

Mating Connector: M83513/01-AN

Pin No.	-3XX Assignment
1	Gyro Rate Output Voltage +2.5V Nominal*
2	Gyro Temperature +2.5V @ 20°C*
3	Power Ground
4	Gyro +2.5V Reference Voltage*
5	+4.75V to +5.25V DC Input
6	Signal Ground
7	Self Test Input
8	BIT Output
9	Case

For -3XX: Rate output is Pin 1 with respect to Pin 4.
Pin 4 Vref has 1.25k Ohm Source Impedance

Pin No.	-4XX Assignment (VSG Signal)
1	Gyro Rate Output Voltage 0V Nominal*
2	Gyro Temperature +2.5V @ 20°C*
3	Power Ground
4	Gyro +2.5V Reference Voltage*
5	+4.75V to +5.25V DC Input
6	Signal Ground
7	Self Test Input
8	BIT Output
9	Case

For -4XX: Rate output is Pin 1 with respect to Pin 6.

BIT Conditions	Self Test	BIT
Normal	0 or open	1
Fail (during operation)	0 or open	0
Fail (during Self Test)	1	1
Pass	1	0

Temperature is Pin 2 with respect to Pin 6. Self Test On is 4V to 5V on Pin 7. Self Test Off is open or 0V to 1V.
*Loads: RL>5K Gyro:<100pf Vref & Temp: <500pf

PARAMETER		"LN Series" MILSPEC Connector				
		G50Z-025-XXX	G50Z-050-XXX	G50Z-100-XXX	G50Z-175-XXX	G50Z-350-XXX
Power Requirements						
Input Voltage		+5V DC (±5%)				
Input Current <i>Typical (Max)</i>		50mA (60mA)				
Performance						
Standard Full Scale Ranges		±25°/sec	±50°/sec	±100°/sec	±175°/sec	±350°/sec
Full Scale Output (<i>Nominal</i>) -320		+2.5V ±2.2V DC				
Full Scale Output (<i>Nominal</i>) -420		0V ±5.0V DC				
Scale Factor <i>Nominal</i> -320		80mV/°/sec	40mV/°/sec	20mV/°/sec	12mV/°/sec	6mV/°/sec
Scale Factor <i>Nominal</i> -420		180mV/°/sec	90mV/°/sec	45mV/°/sec	27mV/°/sec	13.5mV/°/sec
Scale Factor Over Temperature		±5%				
Temperature Sensor		2.5V ±0.05V DC Nominal at 20°C				
Temperature Sensor Scale Factor		8.4mV/°C Nominal				
Bias Factory Set <i>2σ</i>		≤0.1°/sec	≤0.1°/sec	≤0.1°/sec	≤0.1°/sec	≤0.2°/sec
Bias Variation Over Temperature <i>1σ</i>		≤0.05°/sec	≤0.07°/sec	≤0.1°/sec	≤0.15°/sec	≤0.25°/sec
Short Term Bias Stability <i>1σ</i> (150 sec at constant temp.)		°/sec	≤0.002°/sec	≤0.002°/sec	≤0.003°/sec	≤0.004°/sec
		°/hr	7°/hr	8°/hr	10°/hr	14°/hr
Long Term Bias Stability (1 Year)			≤0.1°/sec	≤0.1°/sec	≤0.1°/sec	≤0.1°/sec
G-Sensitivity <i>2σ</i>			≤0.005°/sec/g	≤0.01°/sec/g	≤0.02°/sec/g	≤0.04°/sec/g
Axis Alignment (<i>Typical</i>)			<4mrad			
Start-Up Time			<0.05 sec			
Bandwidth (-3 dB)			140 Hz			
Non-Linearity (<i>of Full Range</i>)			≤0.5%			
Threshold/Resolution			≤0.002°/sec	≤0.002°/sec	≤0.002°/sec	≤0.0025°/sec
Output Noise (<i>Typical</i>)			0.005°/sec/√Hz	0.0055°/sec/√Hz	0.006°/sec/√Hz	0.008°/sec/√Hz
MTBF			81,000 hrs (per MIL-STD-217F, Notice 2 based on AIC environment with ambient temperature at 40°C)			
Environments						
Operating Temperature			-40°C to +85°C			
Storage Temperature			-55°C to +100°C			
Vibration Operating			6 gRMS (20Hz to 2KHz)			
Shock			500g, any axis 30msec 1/2 sine			
Weight			< 34 grams			

Specification subject to change without notice



Gladiator Technologies
High Performance Inertial MEMS

Rev. 14Feb21
SN: 145

Bias SF Over Temp

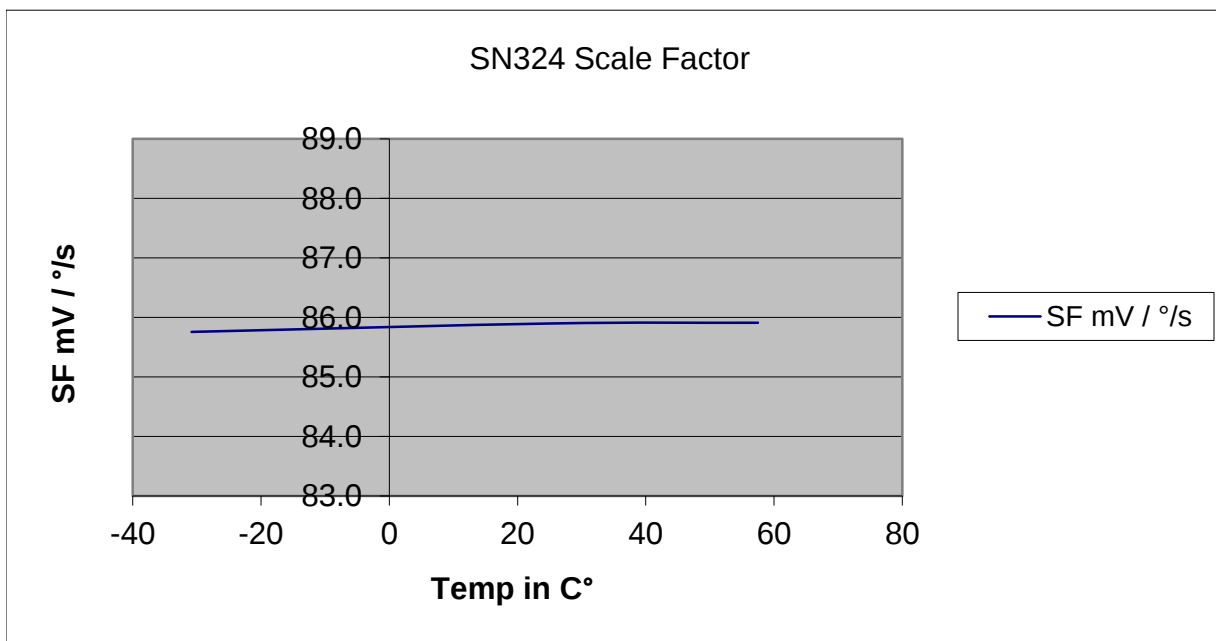
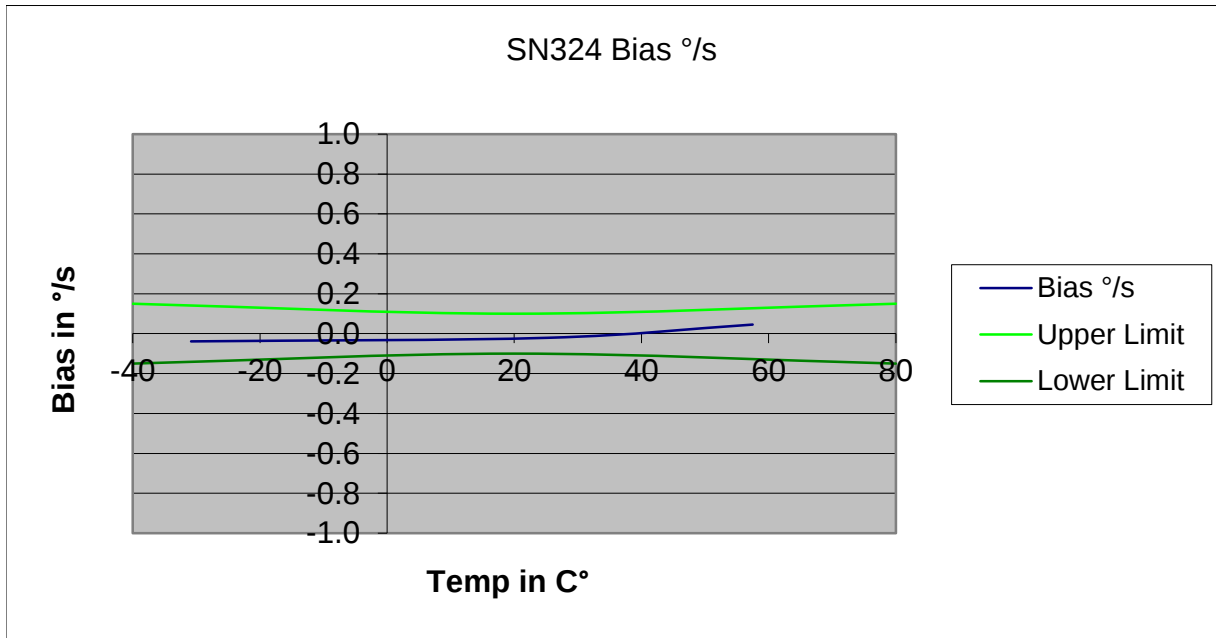
Temp C°	Bias %/s	SF mV / °/s	Temp V
57.5	0.05	85.91	2.7654
25.2	-0.02	85.90	2.4826
-30.8	-0.04	85.76	2.0573

Mis-Alignment mrad	
-1.6	Connector
1.3	Cross

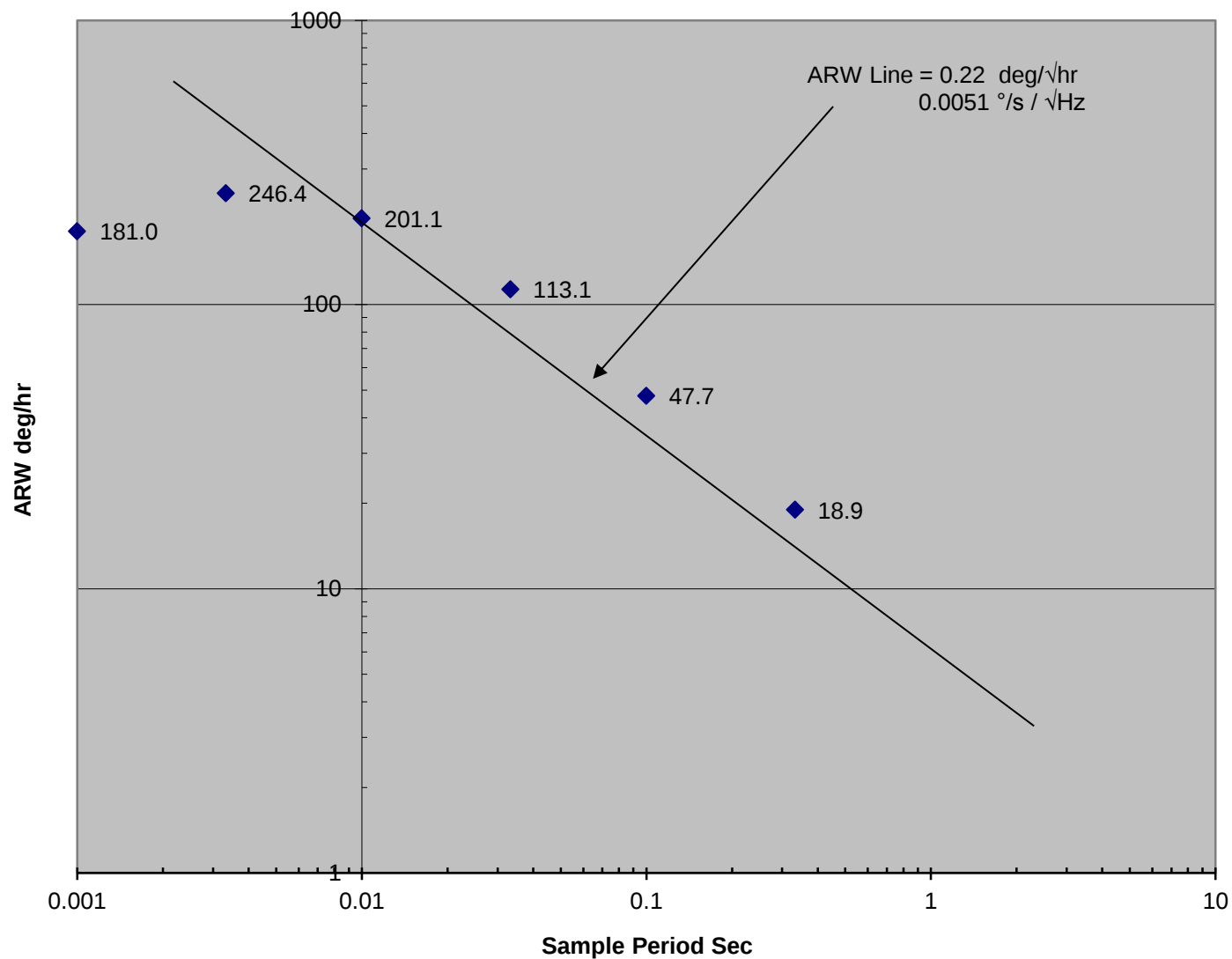
Bias TC =	0.0010	SF TC =	20	Temp SF=	8.017
	%/s/ C°		ppm/C°		mV/°C

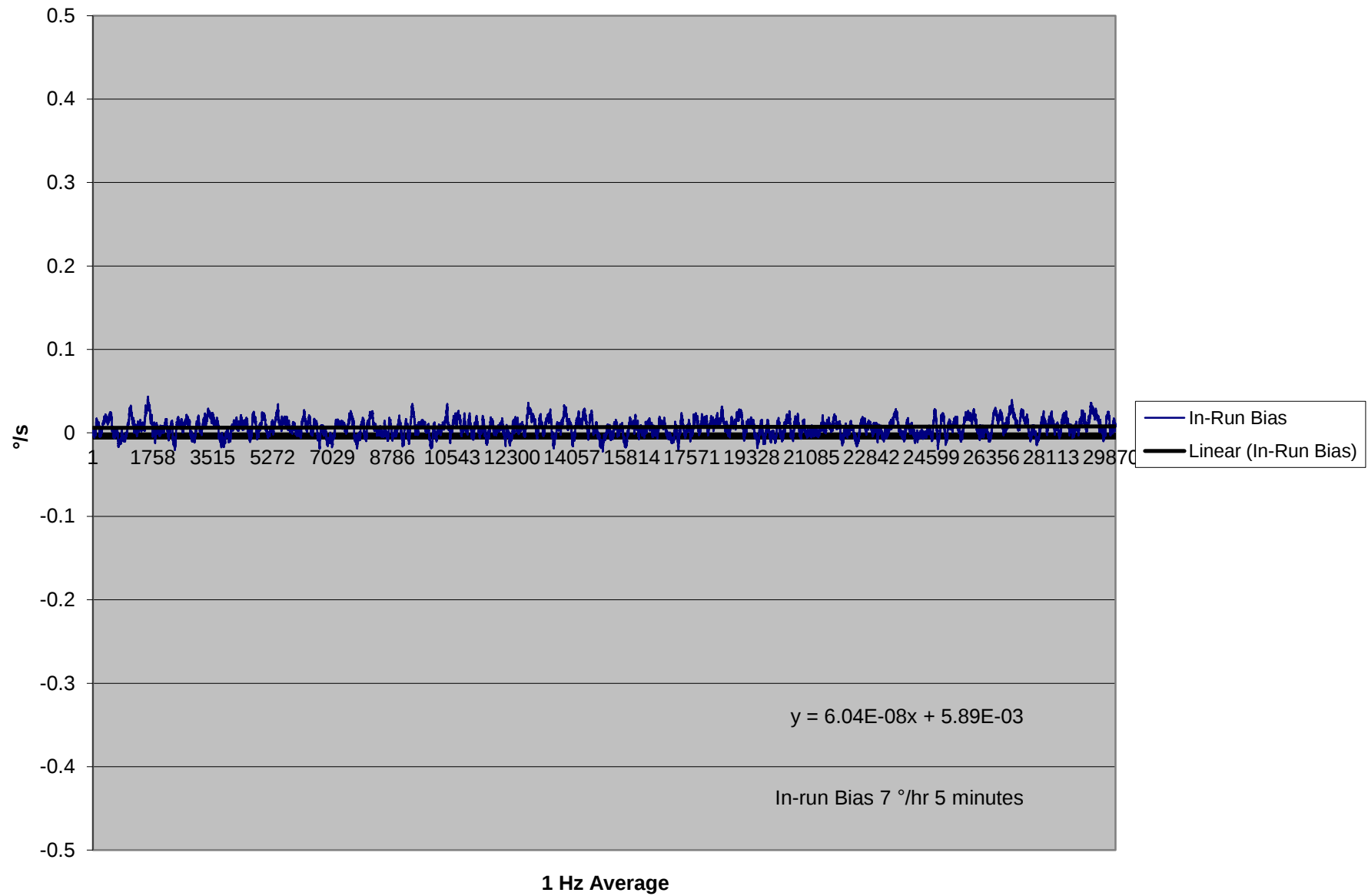
G-Sensitivity %/s / g	
0.006	Connector
0.009	Cross
0.000	Input
0.006	RSS

Temp Bias
@ 20°C= 2.4409 Volts



Z Rate Allan Variance





SN324 Power Supply Sensitivity

