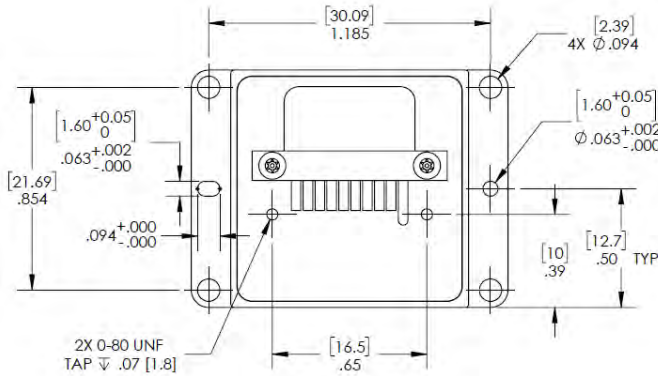
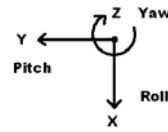


G300D Digital Triaxial Gyro



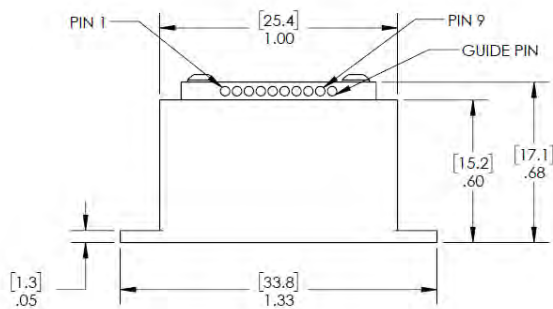
Axes (Top View)
Right Hand Rule



G300D Gyro

G300D-250-100
G300D-490-100

Specification



Pin No.	Assignment
1	RS-422/485 A (+) (Twisted Pair)
2	RS-422/485 B (-) (Twisted Pair)
3	Power Ground
4	N C
5	+3.8V to +5.5V Max Input Power
6	External Sync Input (up to 6.5kHz)
7	Signal Ground
8	Self Test Input (3.3V logic)
9	Case

If pin 6 is not used, connect it to pin 8.

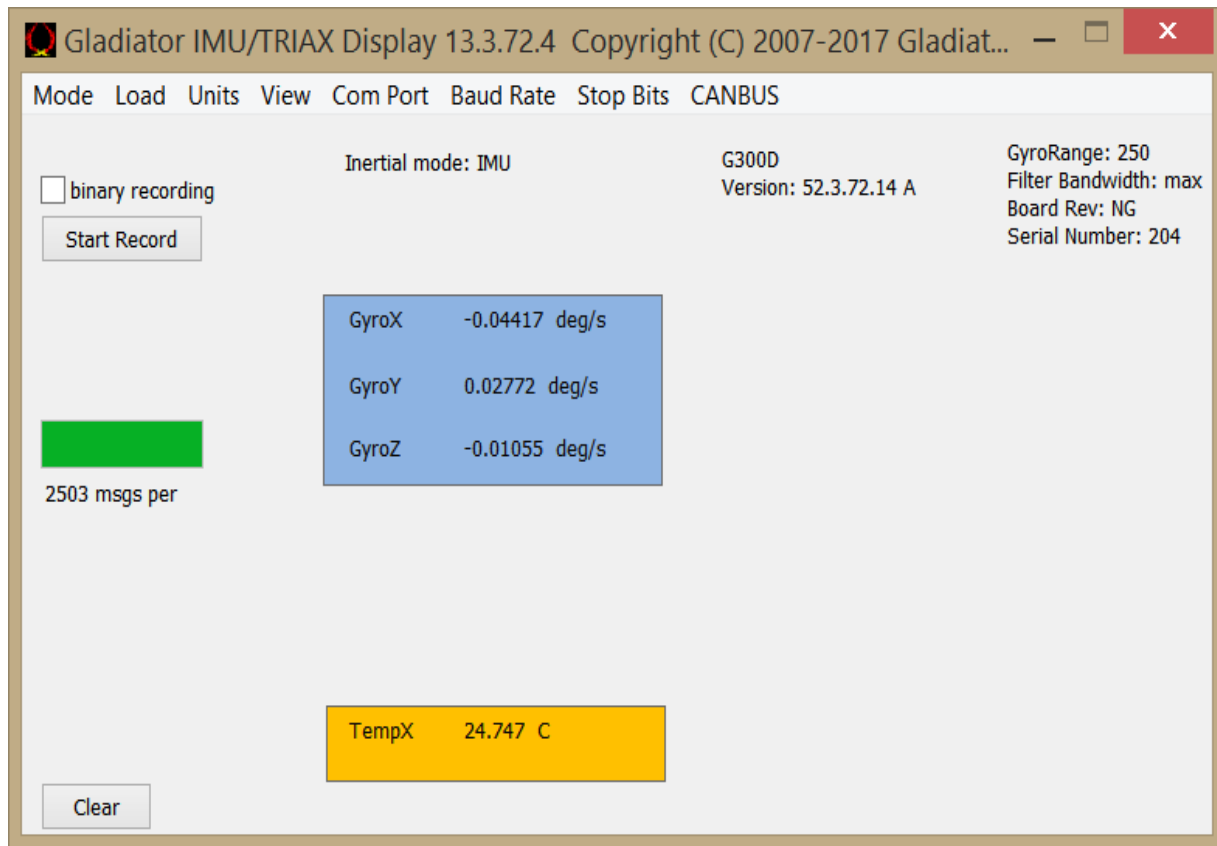
Outputs	Serial Sequence at 1kHz
1	Roll Gyro (X)
2	Pitch Gyro (Y)
3	Yaw Gyro (Z)
4	Temperature $\pm 0.5^\circ \text{C}$ typical

PARAMETER	RATE AXES	
Range	$\pm 250^\circ/\text{sec}$	$\pm 490^\circ/\text{sec}$
Angle Random Walk	0.0028°	0.003°
	/sec/ $\sqrt{\text{Hz}}$ 1σ	
Bias In-Run Stability	0.12°	0.127°
	/ $\sqrt{\text{hour}}$ 1σ	
Bias Over Temp.	$5^\circ/\text{hour}$	$5^\circ/\text{hour}$
	1σ	
Scale Factor Error %	$< 0.05^\circ/\text{sec}$	
Scale Factor Error %	$< 0.05^\circ/\text{sec}$	
Scale Factor Error %	1σ	
Scale Factor Error %	$\leq 0.03\%$ (over temperature) 1σ	
Sensor Resolution	$0.0014^\circ/\text{sec}$	$0.0015^\circ/\text{sec}$
Alignment	$0.5 \text{ mrad } 1\sigma$	
G-Sensitivity	$< 0.001^\circ/\text{sec/g } 1\sigma$	
Shock	600g's $\frac{1}{2}$ sine 1 msec	
Vibration	8gRMS (20Hz to 2KHz)	
Output Data Rate	6.5k Hz (user selectable)	
Bandwidth	250 hz	
Temp Range	Operating: -40°C to $+85^\circ \text{C}$ Non-Operating: -55°C to $+85^\circ \text{C}$	
Start-up Time	$< 0.150 \text{ sec}$	
Input Power	+3.8V to +5.5V Max. Input (single sided)	
Power Consumption	300 mW at 5V Typical 375 mW at 5V Maximum	
Weight	$17.5 \pm 0.5 \text{ grams}$	
Size	U.S.:	$1.0 \times 1.0 \times 0.6 = 0.6 \text{ in}^3$
Size	Metric:	$2.54 \times 2.54 \times 1.52 = 9.8 \text{ cm}^3$
Mounting	4ea No. 2-56 Screws	
MTBF	93,636 hrs (per MIL-STD-217F, Notice 2 and ANSI/VITA 51.1-2008 with environment: AC1 at 40°C Ambient)	

Specification subject to change without notice

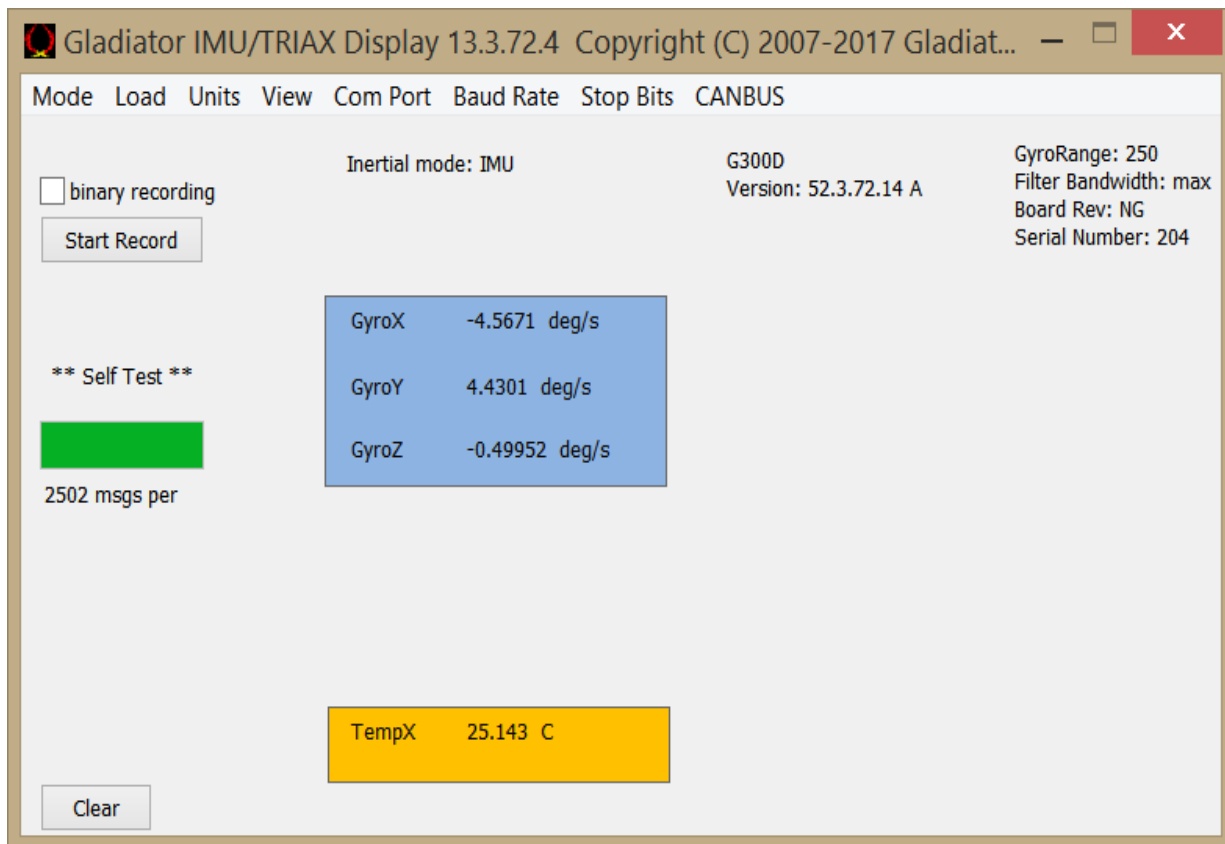


Rev. 17Sep13
SN: 500



Initial Bench Readout (above)

Self Test (below)



Test	gyroX	gyroY	gyroZ	temp X
PX	143.9362	0.062369	-0.00526	2420.347
NX	-143.949	-0.06341	-0.00011	2421.146
Diff/2	143.9424	0.062889	-0.00257	-0.3995
Ave	-0.00616	-0.00052	-0.00269	2420.747
PY	-0.01066	143.9561	-0.01662	2413.734
NY	-0.00159	-143.954	0.011643	2413.933
Diff/2	-0.00453	143.9551	-0.01413	-0.0995
Ave	-0.00613	0.001017	-0.00249	2413.834
PZ	-0.01658	-0.01582	143.9578	2403.451
NZ	0.002572	0.021889	-143.963	2404.362
Diff/2	-0.00958	-0.01886	143.9606	-0.4555
Ave	-0.007	0.003033	-0.00285	2403.907
RSF Norm	0.9996	0.999688	0.999727	Temp °C 24.13

Gyro
Mis-Align
deg/sec

x		-0.0045	-0.0096
y	0.0629		-0.0189
z	-0.0026	-0.0141	

Gyro
Mis-align
mrad

x		-0.032	-0.067
y	0.437		-0.131
z	-0.018	-0.098	



Accepted by:



G300D-250-100
Accelerometer Tumble Test

SN204 ATP

9/25/2017

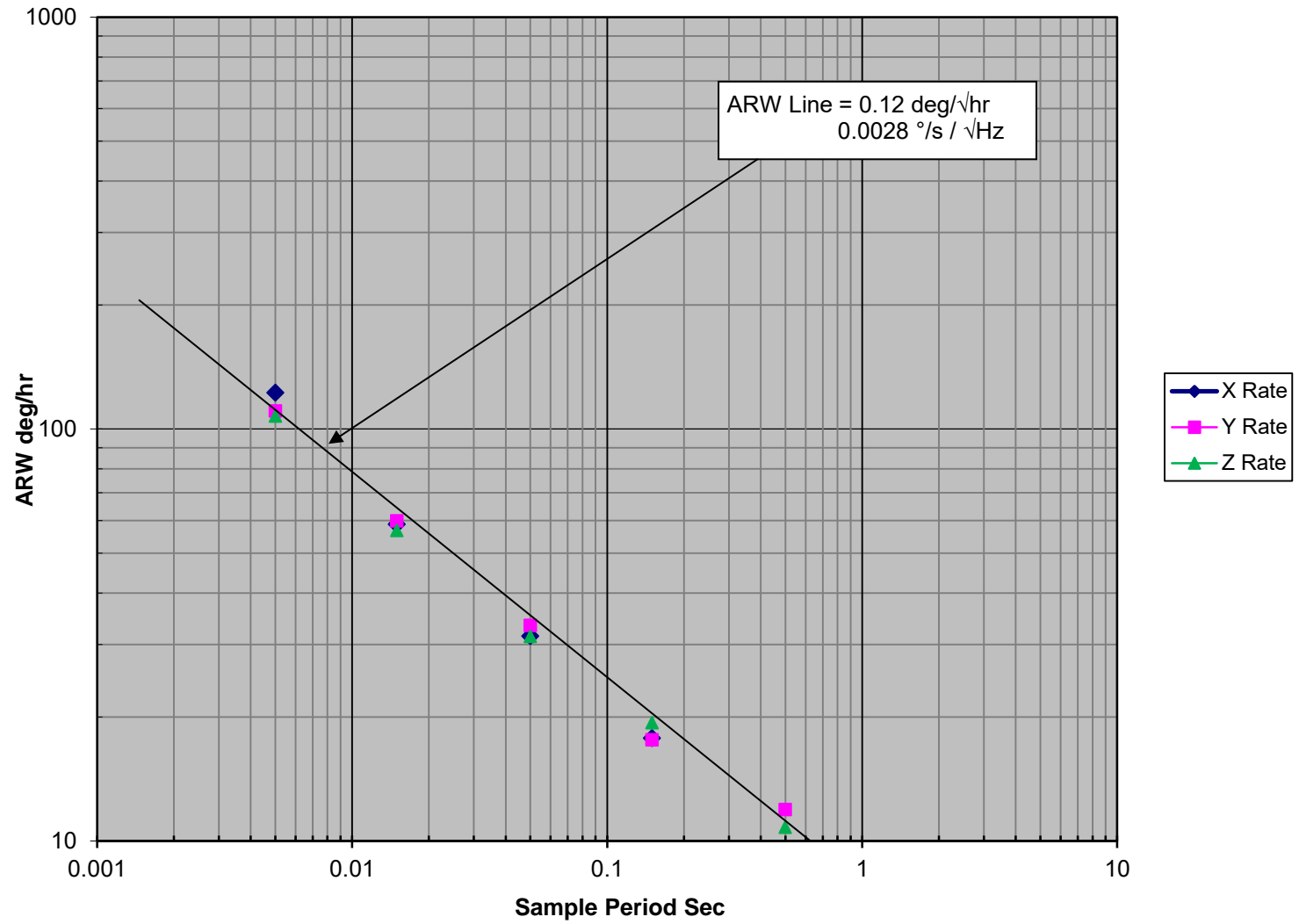
Test	gyroX	gyroY	gyroZ	temp X
PX	-0.00287	0.000562	-0.00359	2413.728
NX	-0.00566	-0.0015	-0.00379	2413.486
Diff/2	0.001396	0.001033	9.85E-05	0.121
Ave	-0.00426	-0.00047	-0.00369	2413.607
PY	-0.00172	0.000826	-0.0002	2417.787
NY	-0.00717	-0.00349	0.001518	2419.387
Diff/2	0.002725	0.00216	-0.00086	-0.8
Ave	-0.00445	-0.00133	0.000658	2418.587
PZ	-0.00369	0.000284	0.000558	2418.682
NZ	-0.00413	0.000687	0.000133	2416.849
Diff/2	0.000215	-0.0002	0.000213	0.9165
Ave	-0.00391	0.000486	0.000346	2417.766
Bias %s,mg	-0.0042	-0.0004	-0.0009	24.17
ASF Norm				Temp °C

Input g =

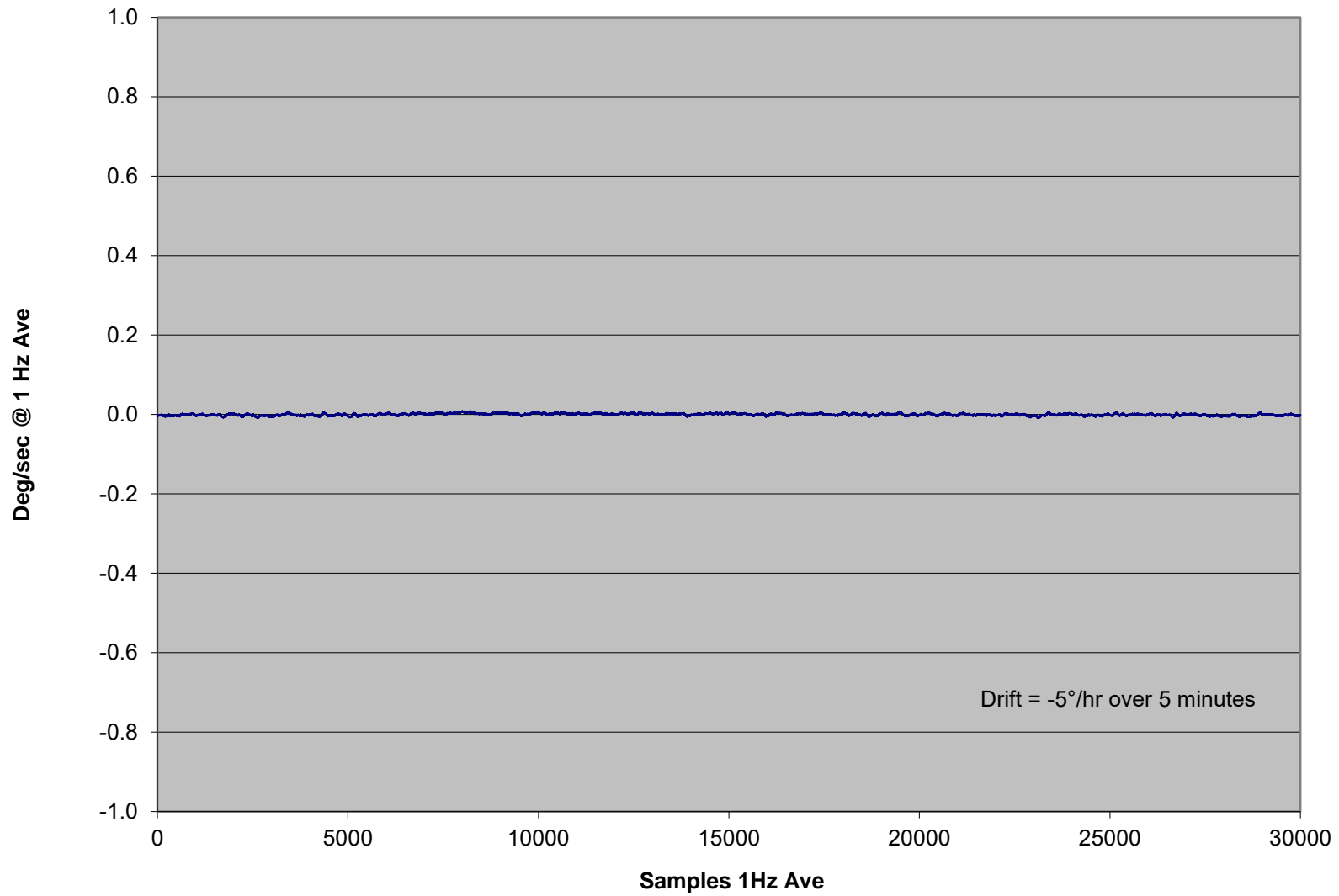
Gyro %s /g	x	y	z
	0.0014	0.0027	0.0002
	0.0010	0.0022	-0.0002
	0.0001	-0.0009	0.0002



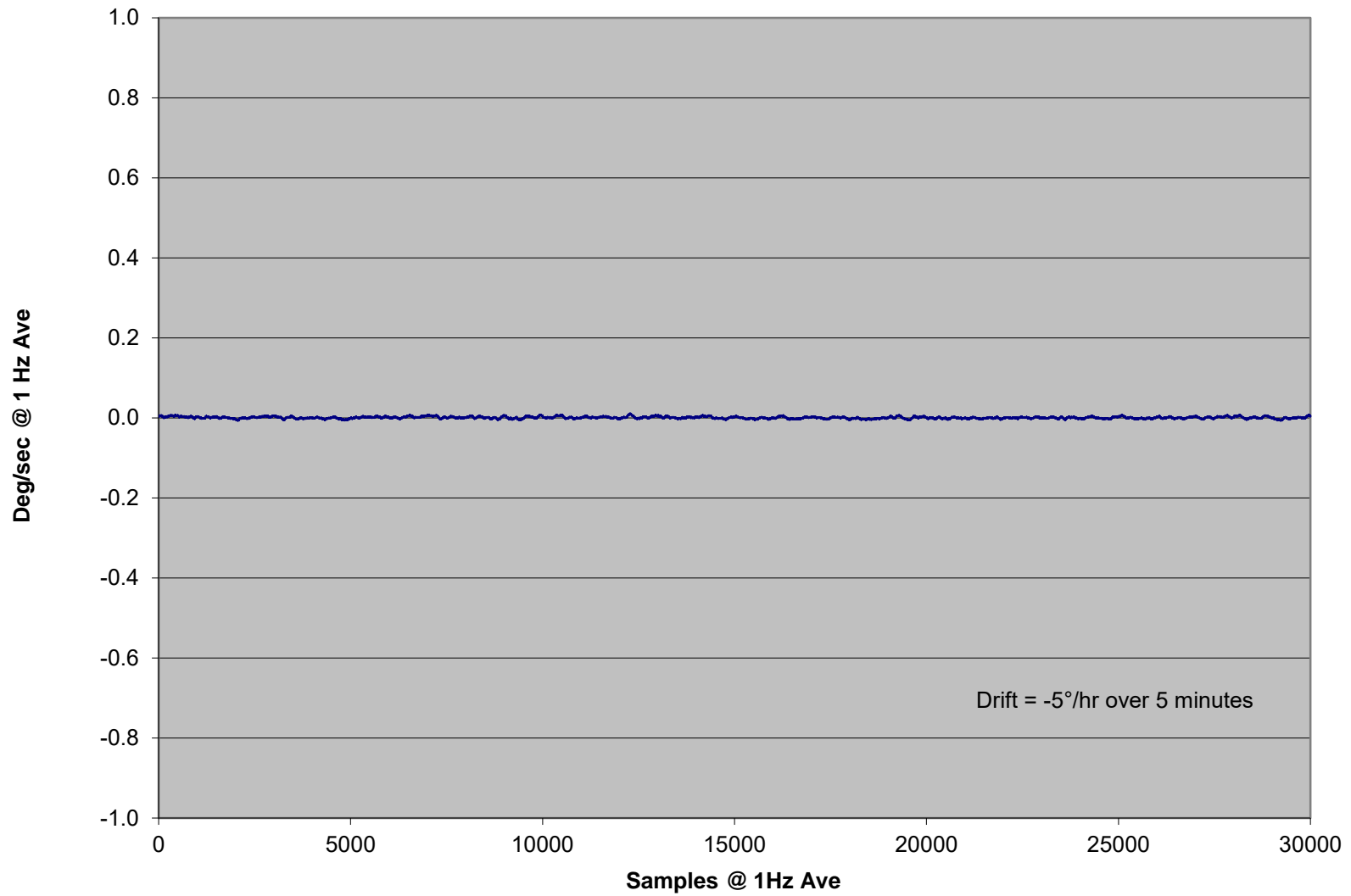
Accepted by:



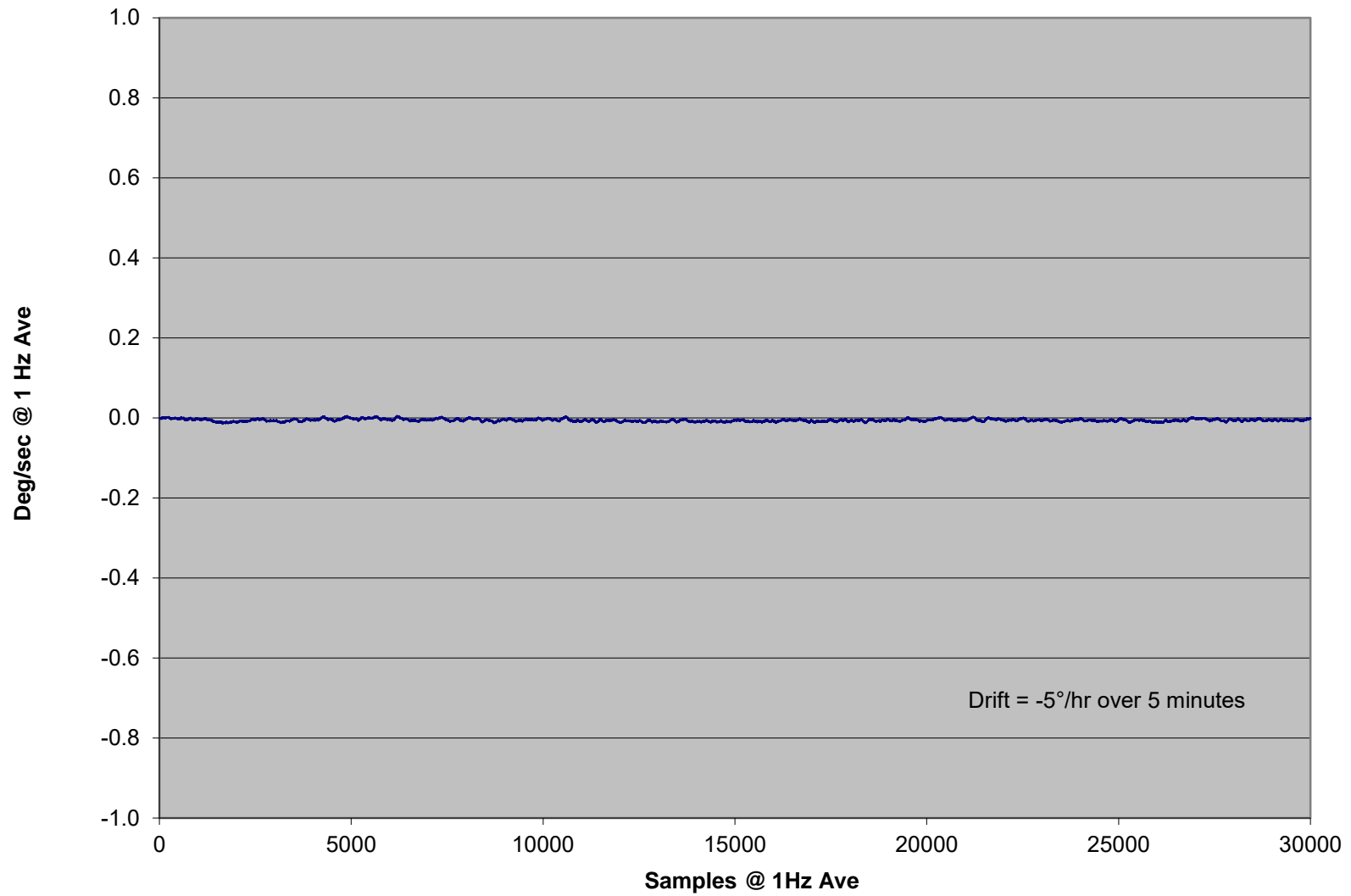
X Gyro In-Run Bias



Y Gyro In-Run Bias



Z Gyro In-Run Bias



Drift = -5°/hr over 5 minutes