



GYPRO[®] 4300

High performance
 ± 300 °/s MEMS gyroscope
with digital interface



Product overview

GYPRO4300 is a closed-loop MEMS gyroscope with digital interface that provides a low-SWaP and digital alternative to Fiber Optics Gyros (FOG). Combining high bias stability with exceptional vibration rejection, it is the perfect candidate for integration into high-performance IMU and INS for attitude control, stabilization and GNSS-aided positioning.

Key performances

- ± 300 °/s range, single-axis gyroscope
- Bias instability: 0.4 °/h
- ARW: 0.07 °/ $\sqrt{\text{h}}$
- Vibration rejection: 0.5 °/h/ g^2
- Latency: ≤ 1 ms
- Mean Time Between Failure (MTBF):
 > 1 000 000 hours
- 3 frequency configurations

Key features

- 24-bit digital SPI interface
- Initial and continuous self-test
- Factory-calibrated over temperature
- Hermetic ceramic SMD package
- Non classified under dual-use export control
- REACH and RoHS compliant

Applications

- GNSS-assisted positioning of ground vehicles & trains
- AHRS for UAV and e-VTOL
- MRU (Motion Reference Units)
- Back-up flight instruments
- Stabilization systems
- Drilling and mineral exploration





Parameter	Typ. value	Unit	Note
Range			
Input range	± 300	°/s	
Scale Factor			
Residual temperature error (1 σ)	160	ppm	Compensated
Nonlinearity	60	ppm	
Run to run repeatability	60	ppm	
Bias			
Instability (Allan Variance)	0.4	°/h	Maximum 2°/h (90% of production < 1°/h)
In-run stability	7	°/h	
Run to run repeatability	10	°/h	
Residual temperature error (1 σ)	40	°/h	Compensated
Vibration rectification error	0.5	°/h/g ²	Under 7.3 g rms (20 to 2000 Hz)
Bandwidth, noise and output signal			
Bandwidth	200	Hz	
Angular Random Walk (ARW)	0.07	°/√h	
RMS Noise	0.015	°/s	1 to 100 Hz
Data rate	1800	Hz	User-configurable
Latency	≤ 1	ms	
Operating Conditions			
Operational vibrations	7.3	g rms	Random (20 to 2 kHz)
Operational shock	50 6	g ms	Half-sine
Survival shock	2000 0.3	g ms	
Operating temperature range	-40 to +85	°C	
Power and supply			
Power supply	5	V	
Current consumption	25	mA	
Reliability			
Mean Time Between Failure (MTBF)	> 1 000 000	h	

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