

DESIGNED FOR ACCURACY, BUILT FOR TRUST

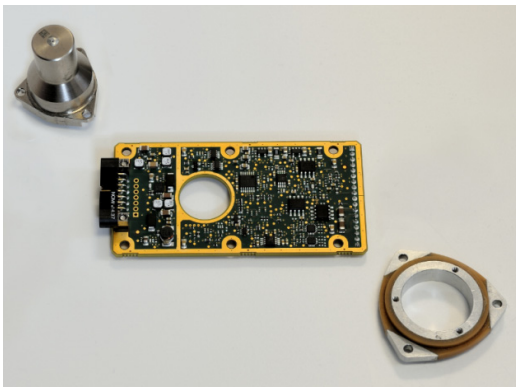
GS1000 - DATASHEET

GS1000 Single Axis vibrating angular rate gyro family:

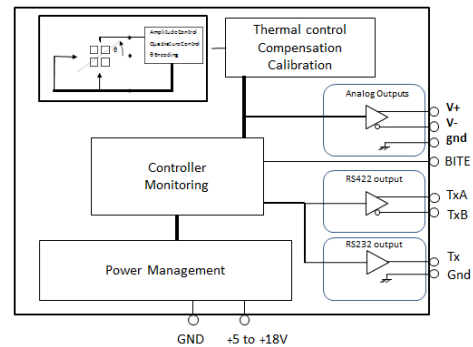
GS1000 is a family of vibrating gyro delivered with its associated servo-loop board. Each gyro is factory calibrated and compensated for temperature effects to provide high accuracy differential analogue output voltage, as well as a Plug and Play high-level RS422 and RS 232 digital outputs.

The unit is powered by a single 5 to 18Vdc supply.

The suited low cost alternative to FOG gyros.



Functional Block Diagram



Key features

	GS1060	GS1100	GS1120	GS1180	GS1250	Units
Measurement Range ⁽¹⁾	+/- 60	+/- 100	+/- 120	+/- 180	+/- 250	°/sec
Scale factor:						
Digital output (RS422 and RS232, 500 or 1kHz):	24	24	24	24	24	Bits rms
Analogue output (differential):	+/- 0,166	+/- 0,100	+/- 0,083	+/- 0,055	+/- 0,040	V/°/sec
Scale factor sensitivity (- 50°C to 85°C)	2500					ppm, 1σ
Bias stability (Allan variance method) ⁽²⁾	0,15					°/h
Noise:						
Random walk ⁽²⁾ :	0,005					°/h
Within 0,1 to 100Hz:	0,015					°/sec rms
Bandwidth	>100					Hz
Power supply	5 to 18					Vdc
Consumption	2					W typical
Temperature (operating)	-50, +85					°C
Vibration (5, 2000Hz)	Mil Std 810 Method 514.6-II					
Shock	Mil Std 810 Method 516.6-1					

(1) Any other value available on request from 30 to 250°/sec.

(2) Analogue output, 2σ.

Featured Applications (non-exhaustive)

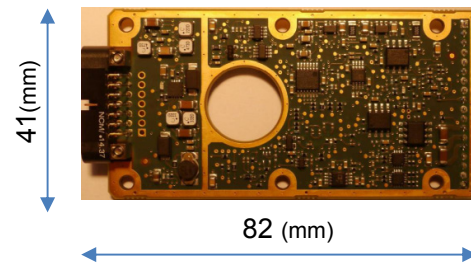
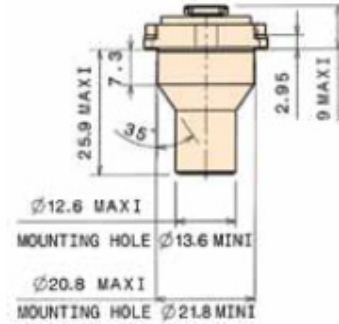
Aircraft Flight Control
Fire control Systems
Tactical Training Simulators
Sights, optical and infrared line of sight
Gyro-stabilized gimbals
Naval and Land remote weapon systems
Antenna stabilization
Sonars stabilization
Ship anti-roll systems

Naval and Land weapon platforms
Unmanned Aerial vehicles (UAV's) control
Autonomous underwater vehicles (AUV's)
Automotive testing
Tilting trains
Robotics

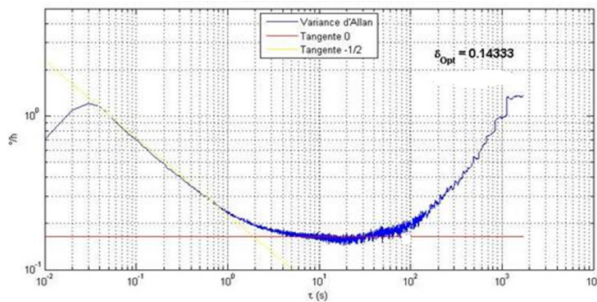
The all new GS1000 Single Axis Vibrating Rate gyro represents Colibrys's breakthrough gyro technology enabling an ultra-low noise and exceptional Allan variance curve that has performance commensurable with much more expensive Fog gyros.

The unit is highly durable and can withstand environmental vibrations and shock typically associated with stabilisation and aerospace requirements. Its already proven operational MTBF reaches 1 000 000 hours.

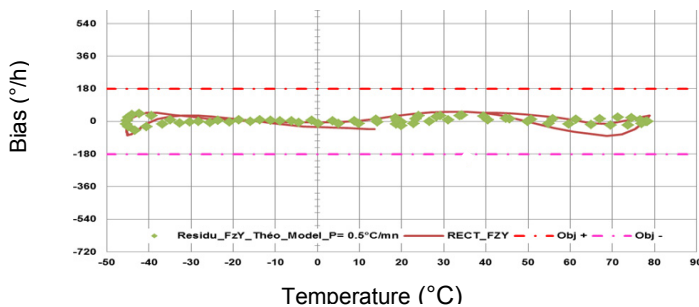
The GS1000 is ideal when very low noise, excellent bias over temperature performance, low power consumption, light weight and rugged durability, low price are desired.



Allan Variance Curve



Bias over temperature range



N°	Designation	Remarks
1	DC SUPPLY	5Vdc (+10%) < Power Supply (+) <18Vdc (+10%)
2	DC SUPPLY GND	Power Supply(-) ground
3	Mechanical ground	Connected to case ground (usable for cable shielding)
4	Analogue ground (reference for pin 5 & 8)	Analogue outputs reference
5	Analogue output (+)	Differential output V+ [-5 to +5V]
6	Analogue output (-)	Differential output V- [+5 to -5 V]
7	GND	Internally connected to pin 2
8	BITE	Built In Test, internal monitoring, referenced to GND TTL output (low in case of failure)
9	Not to be used	Reserved
10	Not to be used	Reserved
11	TxB (RS422)	RS422 output
12	TxA (RS422)	RS422 output
13	Not to be used	Reserved
14	Tx (RS232)	RS232 Tx is referenced to GND (Pin 7 or 2)

Connector reference: Nicomatic 221V14F26

