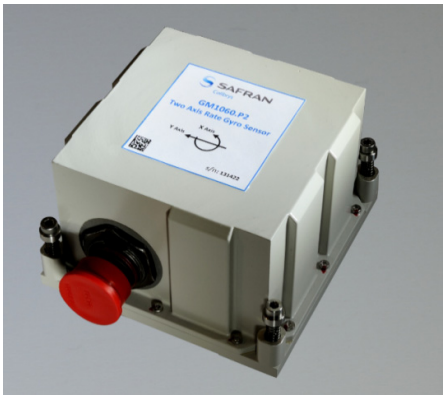
SAFRAN
Colibrys

DESIGNED FOR ACCURACY, BUILT FOR TRUST

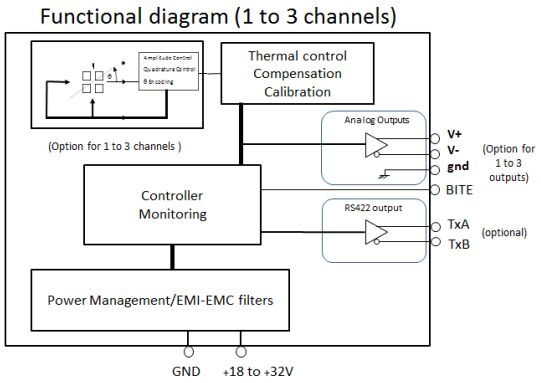
Colibrys **GYRO**
Gyrometer Module

GM1000Px - DATASHEET

GM1000Px Multi axis vibrating rate gyro package family:
GM1000Px is a unit family of Single (P1), Dual (P2) or Three (P3) axis vibrating gyro's housed in a common hermetic package. Each unit is factory calibrated and compensated for temperature effects to provide high accuracy differential analogue output voltages.
The units are powered by a single 0/18 to 32 Vdc supply and is equipped with EMI/EMC filters (according to Mil Std 1275E). On request, digital outputs can be offered.
The suited low cost alternative to FOG gyros in a compact package.



Functional Block Diagram



Key features

	GM1060Px	GM1100Px	GM1120Px	GM1180Px	GM1250Px	Units
Measurement Range[1]	**+/- 60**	**+/- 100**	**+/- 120**	**+/- 180**	**+/- 250**	**°/sec**
Scale factor (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]: Within 0,1 to 100Hz:	 0,005 0,015					 °/√h °/sec rms
Bandwidth	>100					Hz
Power supply	18 to 32					Vdc
Consumption	P1:<3W P2:<4W P3:<5W					W typical
Temperature (operating)	-50, +85					°C
Vibration (5, 2000Hz)	Mil Std 810 Method 514.6-II					
Shock	Mil Std 810 Method 516.6-I					

(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) control
Automotive testing
Tilting trains
Robotics

ColibrysGYRO
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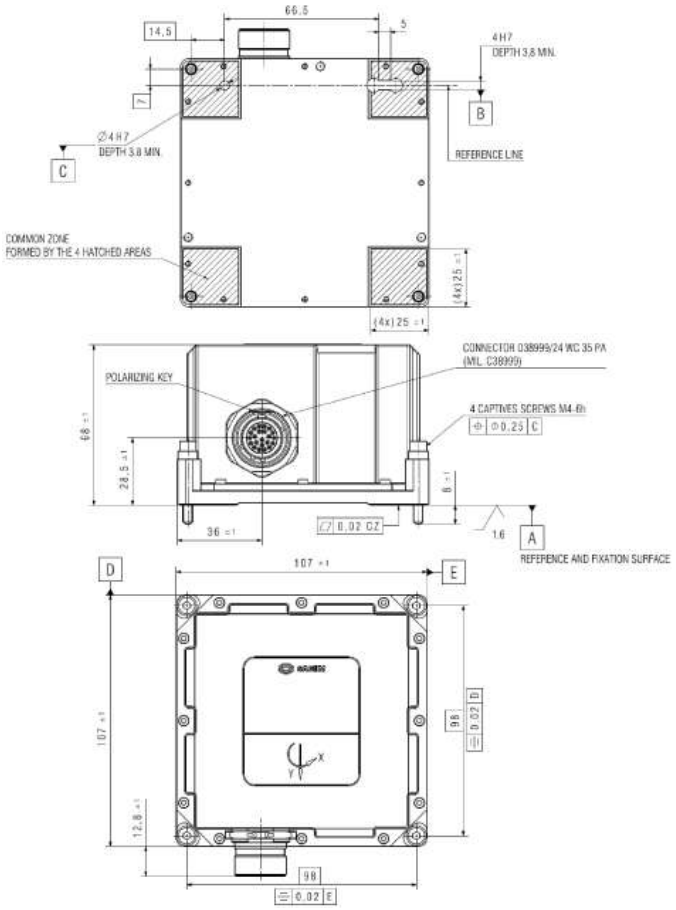
The all new GM1000Px Multi Axis Vibrating Rate gyro package represents Colibrys's breakthrough gyro technology enabling an ultra-low noise and exceptional Allan variance curve that has performance commensurable with much more expensive Fog gyros.

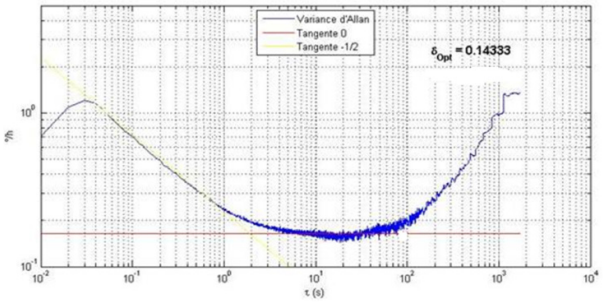
The unit is highly durable and can withstand environmental vibrations and shock typically associated with stabilisation and aerospace requirements. Its already proven operational MTBF reaches 1 000 000 hours.

The GM1000.Px is ideal when very low noise, excellent bias over temperature performance, low power consumption, light weight and rugged durability, low price are desired.

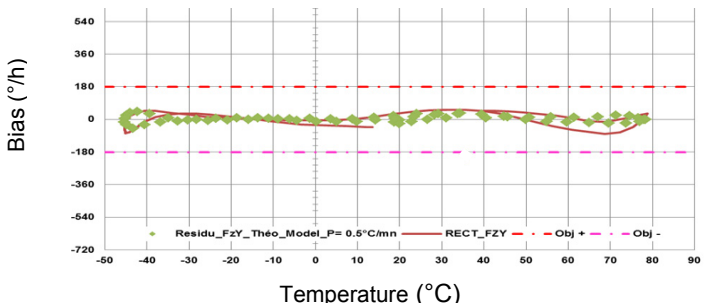
Mechanical Interface (mm)



Allan Variance Curve



Bias over temperature range



PIN	DESIGNATION
1	SUPPLY +18 to 32V
2	SUPPLY +18 to 32V
3	SUPPLY 0/(18 to 32V)
4	SUPPLY 0/(18 to 32V)
5	PRESENCE CHECK (option)
6	PRESENCE CHECK (option)
7	X-AXIS P (for GM1000.P1, P2 and P3)
8	X-AXIS N (for GM1000.P1, P2 and P3)
9	X AXIS SHIELD (connected to signal ground in the gyro)
10	Y-AXIS P (for GM1000.P2 and P3 only)
11	Y-AXIS N (for GM1000.P2 and P3 only)
12	Y AXIS SHIELD (connected to signal ground in the gyro)
13	NOT TO BE USED (SAGEM TEST)
14	GYRO OK (BITE)
15	NOT TO BE USED (SAGEM TEST)
16	SUPPLY SHIELD
17	MECHANICAL GROUND
18	GROUND REFERENCE FOR BITE (PIN14)
19	Z-AXIS P (for GM1000.P3 only)
20	Z-AXIS N (for GM1000.P3 only)
21	Y AXIS SHIELD (connected to signal ground in the gyro)
22	NOT TO BE USED (SAGEM TEST)

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