Inertial Labs
a VIAVI Solutions company

TAG-304

THREE-AXIS GYROSCOPE



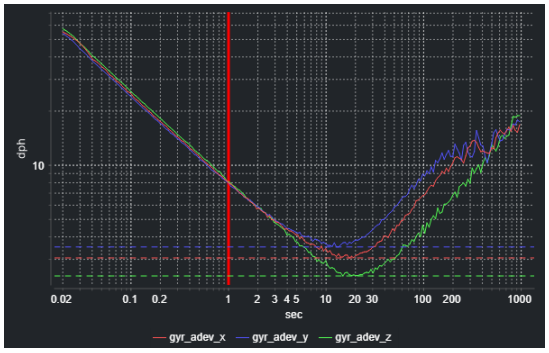
Datasheet

The **Inertial Labs** TAG-304 is a Three-axis Gyroscope, developed for different platforms Guidance & Navigation and also Electro-Optical Systems, Gimbals, Line-Of-Site and Pan & Tilt Platforms stabilization and pointing applications. TAG-304 utilizes advanced performance, tactical-grade MEMS gyroscopes, of which size, power consumption, reliability and performance are ideal for accomplishing complex tasks requiring accurate stabilization of assorted platforms. Robust technology with proven reliability in the field, Inertial Labs Gyroscope solutions consistently deliver performance in all environments.

Developed for use in particularly harsh environments, the TAG-304 gyroscopes can withstand extreme shock and vibration in accordance with MIL-STD-810 ground mobile use. Additionally, they are fully digitized (RS-422 interface), include Built-In-Test (BIT) functionalities and have no moving parts. Key advantages of the Inertial Labs TAG-304 Three-axis Gyroscope:



- Low Noise
- Low Latency
- Wide Bandwidth
- High Data Rate
- Low Bias Drift
- Low VRE
- High MTBF
- Affordable Price
- ITAR-free

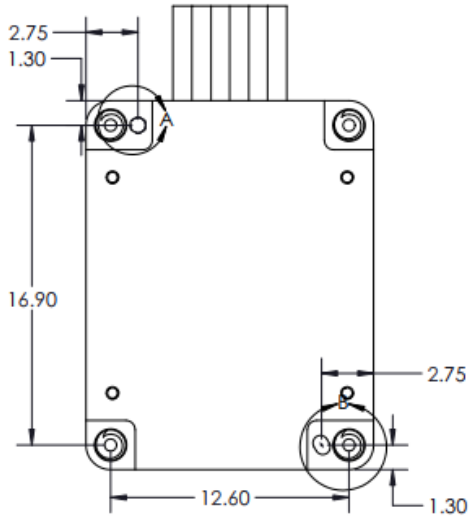


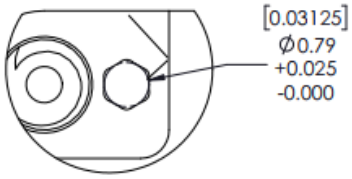
TAG-304 is factory calibrated over operational temperature range with very low non-orthogonality and misalignment between sensitive elements, QA/QC tested and supplied with individual Calibration and Acceptance Test Certificates.

PERFORMANCE SPECIFICATIONS

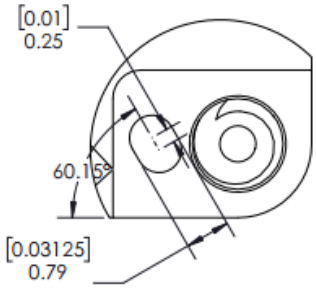
Parameter	Units	Value
Output signals		Angular rates, Temperature, Synchronization output
Available colors of enclosure		Aurum
Data update rate	Hz	4000
Start-up time	sec	< 1
Latency	msec	<0.5
Performance		
Number of Axis		3
Measurement range	deg/sec	±2000
Bandwidth (-3dB)	Hz	997
Data update rate	Hz	4000
Bias in-run stability (Allan Variance)	deg/hr	2
Bias instability & repeatability over temp. range,1σ	deg/hr	76
SF accuracy (over temperature range,1σ)	ppm	1000
Noise. Angular Random Walk (ARW)	deg/√hr	0.2
Non-linearity	ppm	200
Axis misalignment	mrad	0.25
Environment		
Mechanical shock & Vibration		MIL-STD-810F/514.5/I
Operating temperature	deg C	-40 to +85
Storage temperature	deg C	-50 to +90
MTBF (G_M @+65degC, operational)	hours	100,000
Sealing		IP-65
Electrical		
Supply voltage	V DC	4 to 5
Power consumption	Watts	0.25 (max)
Output Interface	-	RS-422
Output data format	-	Binary
EMC/EMI/ESD		MIL-STD-461G
Mechanical		
Size	mm	19.5 x 15.2 x 5.5
Weight	grams	10

MECHANICAL & ELECTRICAL INTERFACE DESCRIPTIONS (C2 VERSION)

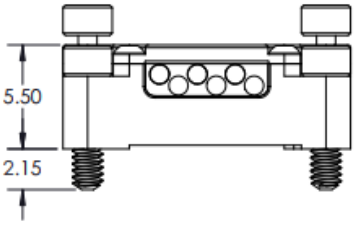


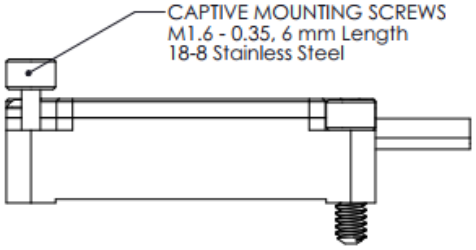


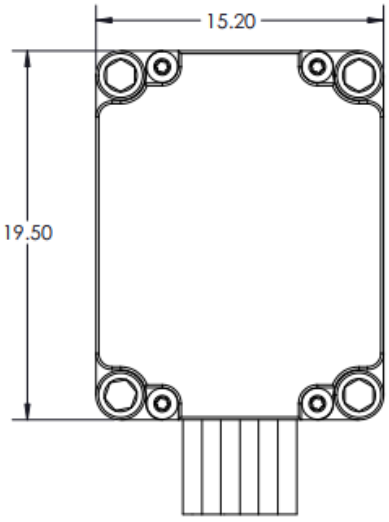
DETAIL A
SCALE 12 : 1

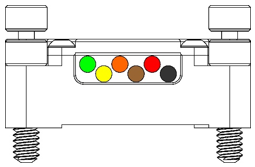


DETAIL B
SCALE 12 : 1



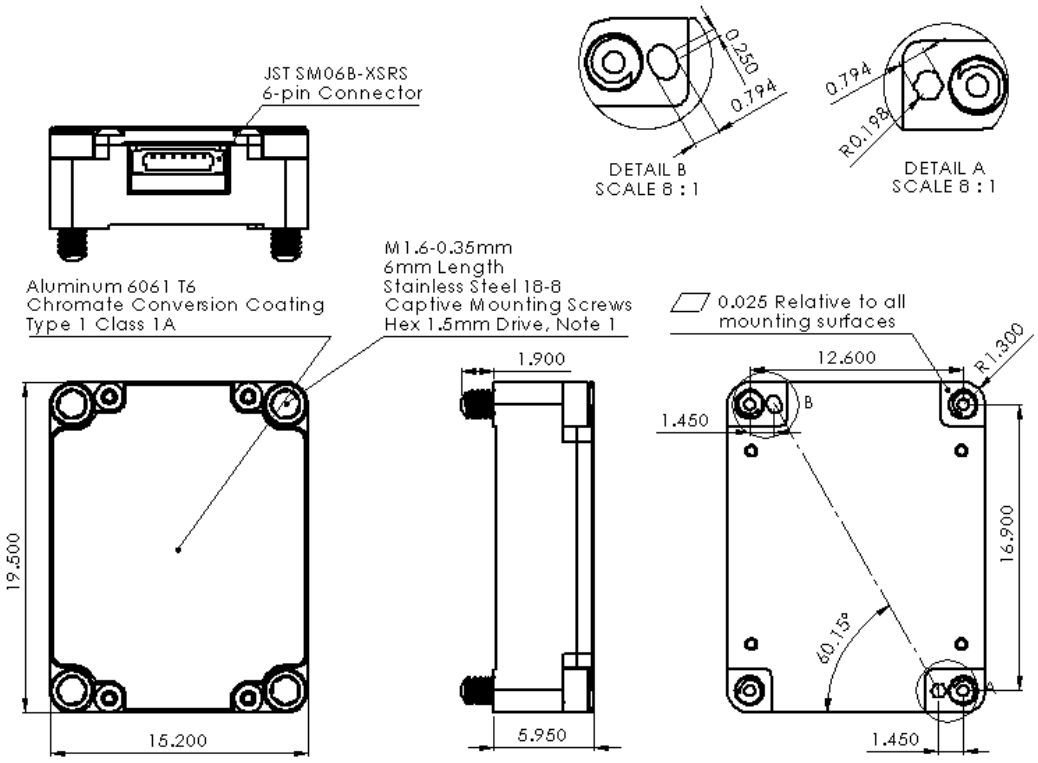






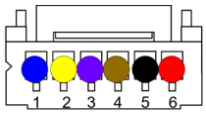
Pin	Signal	Color	Description
1	GROUND	BLACK	Power Supply Return
2	POWER	BROWN	Power Supply input
3	RS422 RCV A	RED	RS422 Non-Inverting Input
4	RS422 RCV B	ORANGE	RS422 Inverting Input
5	RS422 TX Y	YELLOW	RS422 Non-Inverting Output
6	RS422 TX Z	GREEN	RS422 Inverting Output

MECHANICAL & ELECTRICAL INTERFACE DESCRIPTIONS (C7 VERSION)



Note 1: Suggested Maximum Torque 6.0 N-cm

All Dimesions are in mm.



Pin	Signal	Color	Description
1	RS422 TX Z	BLUE	RS422 Inverting Output
2	RS422 TX Y	YELLOW	RS422 Non-Inverting Output
3	RS422 RCV B	VIOLET	RS422 Inverting Input
4	POWER	BROWN	Power Supply input
5	RS422 RCV A	BLACK	RS422 Non-Inverting Input
6	GROUND	RED	Power Supply Return

PRODUCT CODE STRUCTURE

Model	Gyroscope	Calibration	Enclosure	Color	Version	Interface
TAG-304	G2000	TG	C2	A	V3	2
			C7	S		

Product code details:

- TAG-304: Three Axis Gyroscope (IP-65 sealed version)
- G2000: Gyroscopes measurement range = ±2000 deg/sec
- TG: Gyroscopes are calibrated over temperature range
- C2: Aluminum Enclosure (IP-65)
- C7: Aluminum Enclosure, JST SMO6B-XSRS Connector (IP-65)
- A: Aurum color
- S: Silver color
- V3: Version 3
- VX.2: RS-422 interface

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