

Innalabs[®]

Fiber Optic Gyroscope

(Single-axis)

INN-104

Datasheet

October, 2009

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The **Innalabs**[®] **INN-104** is a single-axis high performance fiber optic gyro (FOG). Its closed-loop design provides excellent navigation grade Bias Stability and good Bias Repeatability as well as low noise level. It can be integrated into dual and three axis versions easily.

The **Innalabs**[®] **INN-104** sets a new standard of performance and price. High reliability, low cost and compact design make this sensor the best choice for low-cost inertial measurement units (IMU), inertial navigation systems (INS), and attitude & heading reference systems (AHRS).

Features

- Bias Stability of ≤ 0.03 deg/hour
- Low noise, ≤ 0.005 deg/vhr
- Solid state, high reliability, long life

Applications

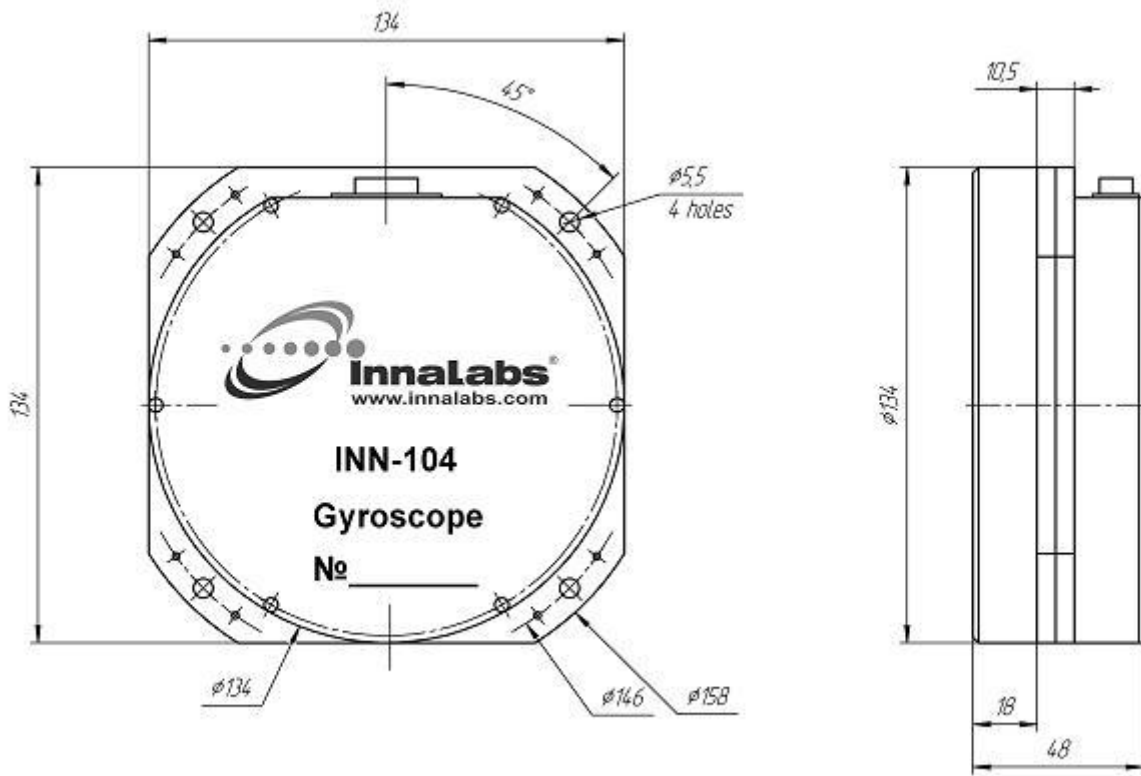
- Navigation
- Tactical guidance
- Precision gyrocompassing
- Line-of-sight tracking
- Beam stabilization
- Radar stabilization
- Precision pointing



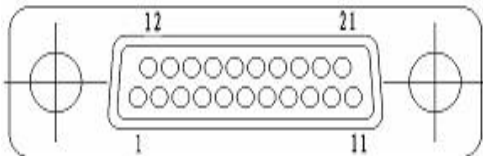
SPECIFICATIONS

#	Parameter	Unit	Value
1.	Performance		
1.1	Measurement range	deg/sec	±60
1.2	Bias stability (1 σ) (T=25°C), 10 sec averaging time	deg/hr	≤0.03
1.3	Bias repeatability (1 σ) (T=25°C)	deg/hr	≤0.1
1.4	Angle Random Walk	deg/vhr	≤0.005
1.5	Scale Factor nonlinearity	ppm	≤80
1.6	Scale Factor stability	ppm	≤50
1.7	Start up time	sec	<1
1.8	Bandwidth	Hz	≥100
2.	Environment		
2.1	Operating temperature	degC	-40...+60
2.2	Storage temperature	degC	-45...+70
2.3	Vibration	Hz, g ² /Hz	10 ~ 2000 Hz, 0.04 g ² /Hz
2.4	Shock	g, ms	50g, 11ms
3.	Electrical		
3.1	Data interface		RS-232 or RS-422 or pulse
3.2	Input Voltage	V	±15, ±5
3.3	Power Consumption	W	15
4	Physical		
4.1	Dimensions	mm	Ø 134 * 48
4.2	Mounting Ring	mm	134 * 134
4.3	Weight	kg	1.3

Dimensions drawing (mm):



Connector pin description:



PIN	Signal	PIN	Signal
1	TXD+	15	Ground
2	TXD-	16	NC
3 - 8	NC	17	+5VDC
9	Temperature sensor output (T)	18	-5VDC
10	Temperature sensor Ground (TGND)	19	Ground
11	Input Power (+5VDC)	20	-15VDC
12	Input Power (-5VDC)	21	+15VDC
13, 14	NC		

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