Innalabs®

Dynamically Tuned Gyroscope

Dual-axis

INN-102

Datasheet

November, 2009

The **Innalabs®** **INN-102** **Gyro** is dual-axis Dynamically Tuned Gyroscope (DTG) combined with an electronic circuit board. It is designed for strapdown use in tactical situations.

Features

- Bias stability of ≤1.8 deg/h
- Analog Output
- Compact & Lightweight Design
- High Reliability
- Low Cost
- Fast Start-Up

Applications

- Tactical missile, smart munitions, standoff weapons
- Unmanned vehicles
- Gimbals and platform stabilization
- Camera and radar stabilization
- Antenna Stabilization Systems
- Downhole mapping

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SPECIFICATIONS

#	Parameter	Unit	Value
1	**Performance**		
1.1	Measurement range	deg/sec	±90
1.2	Transient servo range	deg/sec	±160
1.3	Continuous servo range	deg/sec	±130
1.4	Bias Stability (1σ) at constant temp. +25°C, 40 sec averaging time	deg/h	≤1.8
1.5	Bias Repeatability (1σ) at constant temp. +25°C, 40 sec averaging time	deg/h	≤2
1.6	Bias Stability (peak to peak) over Temperature Range -20 … +50°C	deg/h	≤80
1.7	G-insensitive drift at +20°C (initial adjustment)	deg/h	≤±30
1.8	In Phase G-sensitive drift	deg/h/g	≤±15
1.9	Quadrature G-sensitive drift	deg/h/g	≤±15
1.10	Spin G-sensitive drift	deg/h/g	≤±15
1.11	Non-Linearity	%FS	≤0.1
1.12	Scale Factor stability over Temperature Range	ppm/degC	200
1.13	Angle Random Walk	deg/√h	0.1
1.14	Input axes alignment	arc min	≤±30
2.	**Dynamic Characteristic**		
2.1	Start up time	sec	10
2.2	Bandwidth	Hz	60
3.	**Environment**		
3.1	Operating temperature	degC	-40…+80
3.2	Storage temperature	degC	-45…+85
3.3	Vibration	Hz,g^2/Hz	10 ~ 2000, 0.4
3.4	Shock	g, ms	100g, 8 ~ 11ms
4.	**Electrical**		
4.1	Input Voltage	V	±15
4.2	Power	W	10 (static state)
4.3	Interface		Analog
5.	**Physical**		
5.1	Dimensions (sensor)	mm	Ø 29 * 50
5.2	Weight (sensor)	grams	≤ 140

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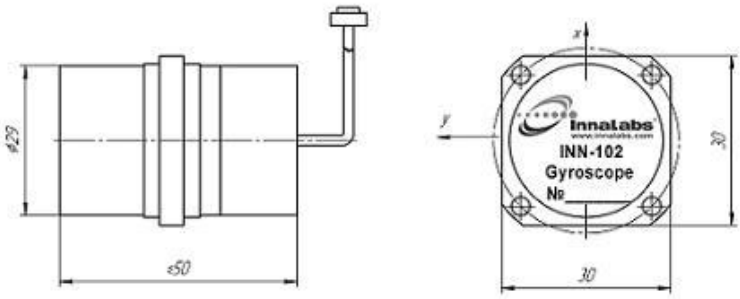
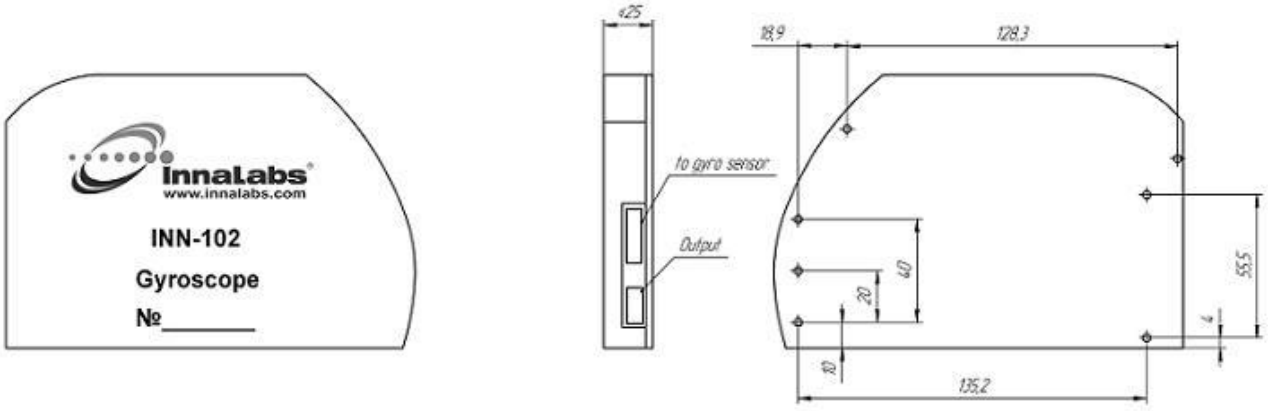
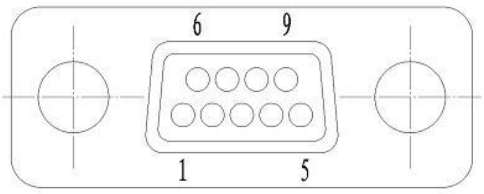
Dimensions drawing (mm):





Connector pin description:



PIN	Signal	PIN	Signal
1	15V	6	NC
2	-15V	7	Y rate output
3	PGND	8	NC
4	PGND	9	X rate output
5	SGND	—	—

For more information please contact us:

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