

Innalabs[®]

Fiber Optic Gyroscope **(Single-axis)**

INN-101

Datasheet

October, 2009

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The **Innalabs**[®] **INN-101 Fiber Optic Gyro** is a small, medium performance, closed-loop single axis fiber optic gyro (FOG). It employs the SLD module with temperature control circuit that keeps the core of SLD temperature at 25°C even the outside temperature change from -40°C to 60°C. The Bias is temperature compensated.

The **Innalabs**[®] **INN-101 FOG Gyro** 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

- Drift stability of ≤ 5 °/hour
- High angular rate capability, ± 400 °/sec
- Small package
- Solid state, high reliability, long life

Applications

- Precision Camera Stabilization
- Gun Turret
- Antenna Axes Stabilization
- Line-of-Sight Tracking
- Radar Stabilization

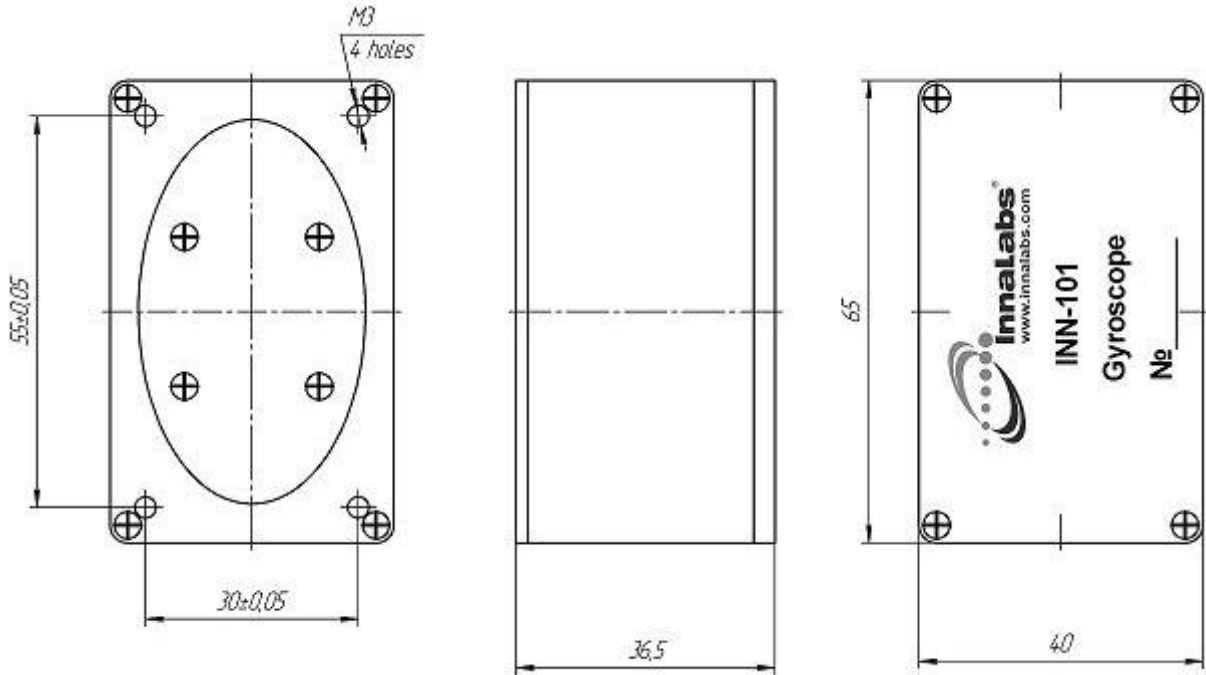
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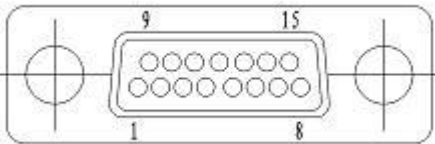
SPECIFICATIONS

| # | Parameter | Unit | Value |
|-----------|---|------------------------|------------------|
| 1. | Performance | | |
| 1.1 | Measurement range | deg/sec | ±400 |
| 1.2 | Bias stability (1 σ) (T=25°C), 10 sec averaging time | deg/h | ≤5 |
| 1.3 | Bias repeatability (1 σ) (T=25°C), 10 sec averaging time | deg/h | ≤10 |
| 1.4 | Bias repeatability over temperature range (-40 ~ +60°C) | deg/h | ≤40 |
| 1.5 | Angle Random Walk | deg/Vh | ≤1 |
| 1.6 | Scale Factor nonlinearity | ppm | ≤500 |
| 1.7 | Scale Factor stability | ppm | ≤600 |
| 2. | Dynamic Characteristic | | |
| 2.1 | Start up time | sec | <1 |
| 2.2 | Bandwidth | Hz | >200 |
| 3. | Environment | | |
| 3.1 | Operating temperature | degC | -40...+60 |
| 3.2 | Storage temperature | degC | -45...+70 |
| 3.3 | Vibration | Hz, g ² /Hz | 10~2000,0.04 |
| 3.4 | Shock | g, ms | 50g, 11ms |
| 4. | Electrical | | |
| 4.1 | Data interface | | RS-232 or RS-422 |
| 4.2 | Input Voltages | V | ±5 |
| 4.3 | Power Consumption (At Ultimate Temperature) | W | 15 |
| 5. | Physical | | |
| 5.1 | Dimensions (L*W*H) | mm | 65*40*36.5 |
| 5.2 | Weight | grams | 180 |

Dimensions drawing (mm):



Connector pin description:



| PIN | Signal | PIN | Signal | PIN | Signal |
|-----|-------------------|-----|----------|-----|----------|
| 1 | +5V _{dc} | 6 | Ground | 11 | ※FHC30-3 |
| 2 | +5V _{dc} | 7 | TXD+ | 12 | ※FHD30-1 |
| 3 | -5V _{dc} | 8 | TXD- | 13 | ※FHD30-2 |
| 4 | -5V _{dc} | 9 | ※FHC30-1 | 14 | ※FHD30-3 |
| 5 | Ground | 10 | ※FHC30-2 | 15 | Ground |

※ FHC30/FHD30 are Transistors

For more information please contact us:

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