# Innalabs®

## Fiber Optic Gyroscope

## (Single-axis)

# INN-103

**Datasheet**

**October, 2009**

The **Innalabs®** **INN-103** **FOG** is a small, medium performance, closed-loop single axis fiber optic gyroscope. It can be integrated to dual and three axis versions easily.

The **Innalabs®** **INN-103** 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

- High reliability FOG technology
- Bias Stability of ≤0.3 deg/hour
- High angular rate capability, ±350 deg/sec
- Small package, Compact Design
- Long operation life

## Applications

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





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## SPECIFICATIONS

| | Parameter | Unit | Value |
|---|---|---|---|
| **1.** | **Performance** | | |
| 1.1 | Measurement range | deg/sec | ±350 |
| 1.2 | Bias stability (1σ) (T=25°C), 10 sec averaging time | deg/h | ≤0.3 |
| 1.3 | Bias repeatability (1σ) (T=25°C), 10 sec averaging time | deg/h | ≤1 |
| 1.4 | Bias stability (1σ) over temp. range, 10 sec averaging time | deg/h | ≤3 |
| 1.5 | Angle Random Walk | deg/√h | ≤0.03 |
| 1.6 | Scale Factor nonlinearity | ppm | ≤100 |
| 1.7 | Scale Factor stability, 1 day | ppm | ≤100 |
| 1.8 | Scale Factor temp. sensitivity | ppm / °C | ≤10 |
| 1.9 | Start up time | sec | <1 |
| 1.10 | Bandwidth | Hz | ≥100 |
| **2.** | **Environment** | | |
| 2.1 | Operating temperature | °C | -40…+60 |
| 2.2 | Storage temperature | °C | -45…+70 |
| 2.3 | Vibration | Hz, $g^2$/Hz | 10～2000, 0.04 |
| 2.4 | Shock | g, ms | 50g, 11ms |
| **3.** | **Electrical** | | |
| 3.1 | Data interface | | RS-232 or RS-422 |
| 3.2 | Input Voltages | V | ±5 |
| 3.3 | Power Consumption (At Ultimate Temperature) | W | 15W |
| **4.** | **Physical** | | |
| 4.1 | Dimensions (L*W*H) | mm | Ø 84 *45 |
| 4.2 | Mounting Ring | mm | 84 * 84 |
| 4.3 | Weight | grams | 350 |





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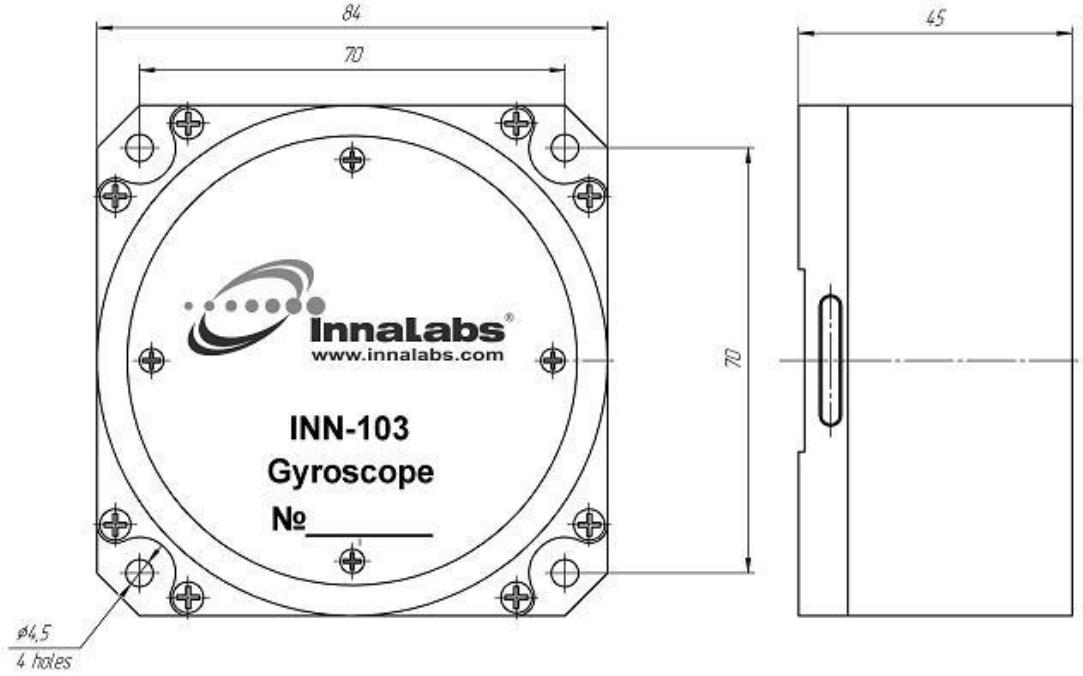
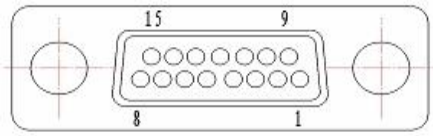
## Dimensions drawing (mm):




## Connector pin description:




| PIN | Signal | PIN | Signal | PIN | Signal |
|---|---|---|---|---|---|
| 1 | NC | 6 | Ground | 11 | TXD+ |
| 2 | NC | 7 | NC | 12 | TXD- |
| 3 | NC | 8 | NC | 13 | +5Vdc |
| 4 | +5Vdc | 9 | NC | 14 | -5Vdc |
| 5 | -5Vdc | 10 | NC | 15 | Ground |

## For more information please contact us:

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