

# **Innalabs<sup>®</sup>**

## **Inertial Measurement Unit**

### **INN-302**

#### **Datasheet**

**November, 2009**

This document contains information proprietary to Innalabs<sup>®</sup>

The **Innalabs**<sup>®</sup> **INN-302 Inertial Measurement Unit (IMU)** is a tactical strap-down high accuracy avionics guidance systems based on Dynamically Tuned Gyroscopes (DTG). It can be easily integrated into wide variety of systems due to digital inputs and outputs.

This advanced IMU combines high accuracy, compact design and low cost which make the **INN-302** the best choice for flight control applications (target drones, unmanned aerial vehicles), stabilization and targeting (standoff weapons, smart munitions), and other motion compensation applications.

### Features

- Gyro Bias Stability of  $\leq 0.5$  deg/h
- Gyro Input Range of  $\pm 200$  deg/sec
- Compact design, Small package
- High reliability, long life
- Engineering Support

### Applications

- Camera Mapping
- Motion Compensation
- Tactical missile
- Guided weapons
- Unmanned Air vehicles & Target Drones
- Optronic systems stabilization and targeting
- Smart munitions



## SPECIFICATIONS

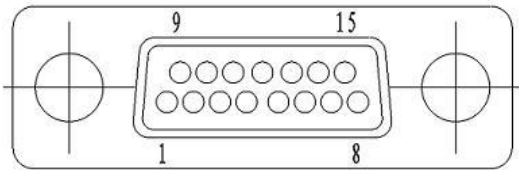
#	Parameter	Unit	Value
<b>1.</b>	<b>Gyro performance</b>		
1.1	Input Range	deg/sec	±200
1.2	Bias Stability (1σ), 1 hour, T = 25°C	deg/h	≤0.5
1.3	Scale Factor Stability, day-to-day	ppm	2000
1.4	Scale Factor Non-Linearity	%FS	<0.2 (±1°/s ~ ±120°/s)
<b>2.</b>	<b>Accelerometer performance</b>		
2.1	Input Range	g	±50
2.2	Bias stability (1σ) , 1 hour, T = 25°C	μg	≤150
<b>3.</b>	<b>Dynamic Characteristic</b>		
3.1	Turn-on Time	sec	10
3.2	Bandwidth	Hz	50
<b>4.</b>	<b>Environment</b>		
4.1	Operating Temperature	deg C	-40 ... +60
4.2	Storage Temperature	deg C	-45 ... +70
4.3	Vibration (random)	g <sup>2</sup> /Hz	0.04 g <sup>2</sup> /Hz, 10 ~ 2000 Hz
4.4	Shock	g, ms	40, 8 ~ 11
<b>5.</b>	<b>Electrical</b>		
5.1	Input Voltage	VDC	18 ~ 36
5.2	Input Current (static state)	mA	600
5.3	Power Consumption	W	17 (static state)
<b>6.</b>	<b>Physical</b>		
6.1	Dimensions (L*W*H)	mm	∅ 180 * 140
6.2	Weight	kg	≤6

Note. The INN-302 IMU is under redesign so the parameters are subjects to change

**Dimensions drawing (mm):**

*Under redesign*

**Connector pin description:**



PIN	Signal	PIN	Signal
1	Input power	9	NC
2	KGND	10	NC
3	PGND	11	NC
4	Gro TA	12	NC
5	Gro TB	13	NC
6	Acc TA	14	NC
7	Acc TB-	15	NC
8	NC		

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