

Innalabs[®]

Inertial Navigation System

INN-500

Datasheet

November, 2009

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The **INN-500** series of Innalabs[®] Inertial Navigation Systems (INS) is a small size, high precision and simple power supply navigation system composed of an IMU, a navigation computer, an altimeter, a satellite navigation module (GPS, GLONASS) and an odometer. The **INN-500** sets north seeking, locating, and navigation in the one. The system outputs the navigation parameters such as course / pitch / roll angles, speed and position. It can be used for navigation of vehicles and airplanes.

Features

- FOG Gyro
- DC Input, Digital Output Operation
- Compact, Lightweight Design
- Internal Power Regulation
- High Reliability

Applications

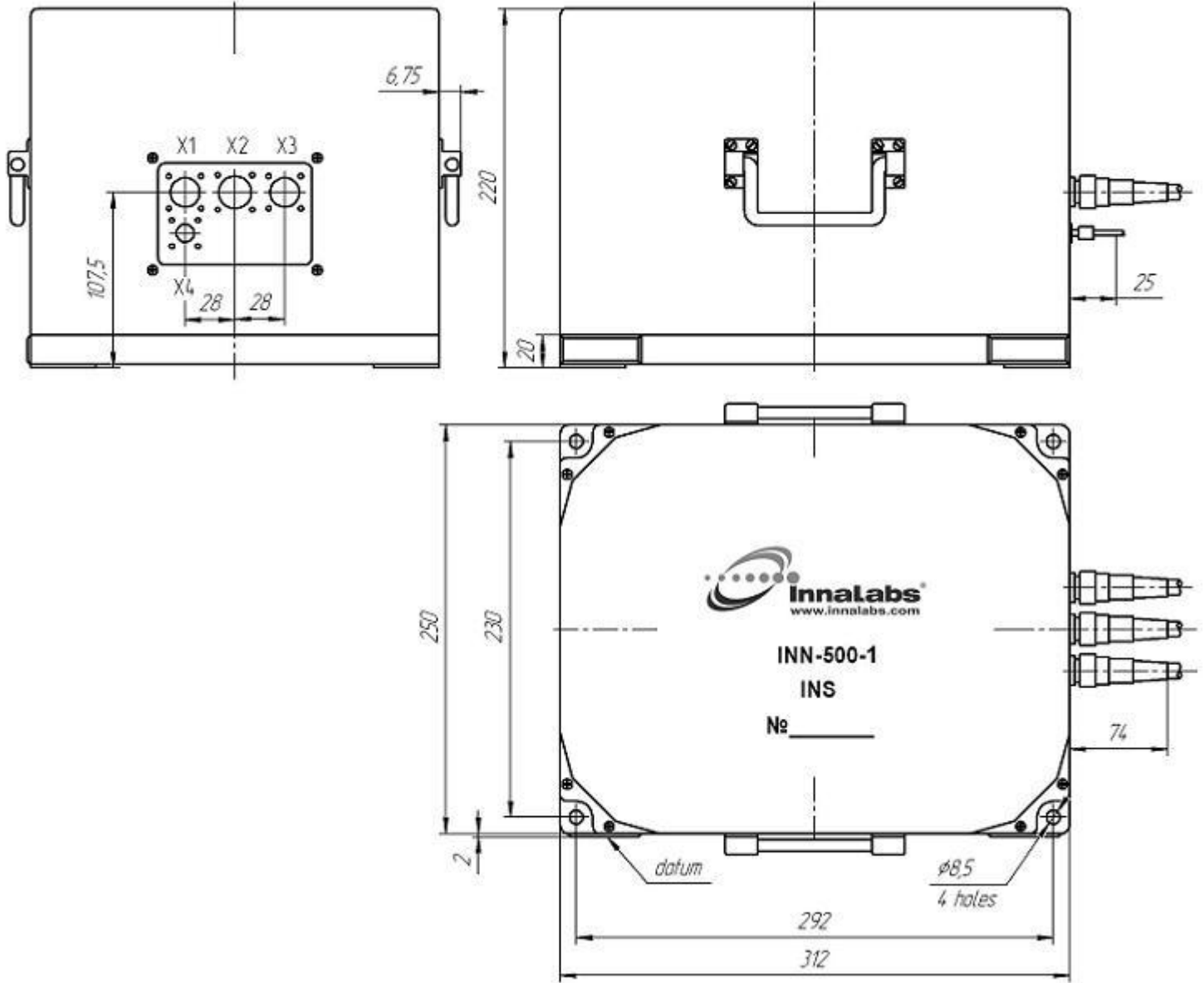
- Location and Directional Navigation
- Instrumentation



SPECIFICATIONS

#	Parameter	Unit	INN-500-1	INN-500-2
1.	Update Rate	Hz	<100	
2.	Startup Time	sec	< 1	
3.	Full Accuracy Data Time	sec	< 300	< 600
4.	Alignment Time	min	≤5	≤10
5.	Performance with GPS			
5.1	Position	m CEP	≤5	≤2
5.2	Velocity	m/s, 1σ	≤0.1	≤0.05
5.3	Heading	deg, 1σ	≤0.5	≤0.2
5.4	Pitch, Roll	deg, 1σ	≤0.1	≤0.05
6.	Performance after GPS outage (60 min)			
6.1	Position	voyage %	≤0.2	≤0.1
6.2	Velocity	m/s, 1σ	≤0.5	≤0.2
6.3	Heading	deg, 1σ	≤0.8	≤0.5
6.4	Pitch, Roll	deg, 1σ	≤0.3	≤0.2
7.	Performance without GPS			
7.1	Free Inertial Position	nm/h	2	1
8.	Operating Ranges			
8.1	Acceleration (All Axes)	g	±5 or ±10	
8.2	Attitude (All Axes)	deg	Unlimited	
8.3	Heading, Roll, Pitch, Rate	deg/s	±120	
9.	Environment			
9.1	Operating Temperature	deg C	-40 ~ +60	
9.2	Storage Temperature	deg C	-50 ~ +75	
9.3	Vibration (random)	g, RMS	2, 20 ~ 2000 Hz	
9.4	Shock	g	60, 8 – 11 ms	
10.	Electrical			
10.1	Input Voltage	VDC	27±9	
10.2	Operating Current	A	≤2	
10.3	Interface	RS-422 and RS-232 Ports with MIL-STD-1553B also ARINC 429 & Ethernet as Options		
11.	Physical			
11.1	Dimensions	mm	312 * 250 * 220	
11.2	Weight	kg	≤18	

Dimensions drawing (mm):



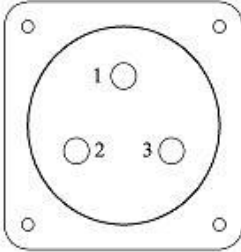
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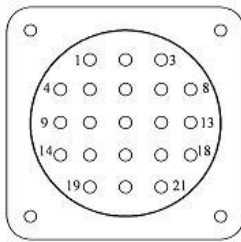
Website: www.innalabs.com

Connector pin description:



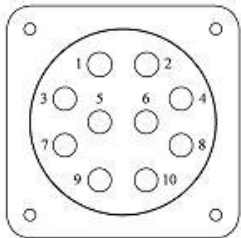
X1: Power connector

1	2	3
Shielded GND	DC +28V	DC GND



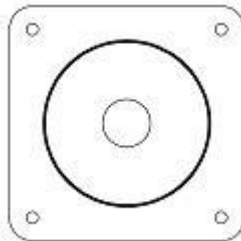
X2: Signal connector

1	2	3	4	5 ~ 21
TXDA	TXDB	RXDA	RXDB	NC



X3: Millimeter connector

1	2	3	4	5	6	7 ~ 10
DC+5V	DGND	LB-	LB+	LA-	LA+	NC



X4: GPS connector

For more information please contact us:

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