



# IGNS

## IMU and GNSS System



### OVERVIEW

IGNS is a robust Inertial Measurement Unit (IMU) that is integrated with a GNSS receiver.

The modular architecture of the IGNS provides one inertial system with three different performance grades accompanied with a GNSS receiver that supports several types of constellations: GPS / GLONASS / Galileo / BeiDou / NavIC / QZSS.

The IGNSs flexibility, delivers the accuracy and price to precisely meet your application requirements.

The IGNS employs the latest closed-loop Fiber Optic Gyro (FOG) technology, providing fast, high precision, autonomous navigation. Cielo's IGNS system is ITAR-free and meets military standards (MIL-STD 810, MIL-STD 461, MIL-STD-1275. It has high MTBF (>20,000 hr.) and requires no periodic maintenance. The IGNS can be used for control and stabilization for various applications at land, air, and sea environments.

### SYSTEM HIGHLIGHTS

- Built-in GNSS receiver
- Closed loop FOG technology
- Maintenance free
- High MTBF
- Low power consumption
- ITAR free
- Excellent cost to performance ratio

#### Three different performance grades:

- Non-MTCR grade
- Tactical grade
- Gyro-compass/navigation performance grade

#### IGNS CV (Commercial Version [Non-MTCR](#))

IGNS CV is **Non-MTCR**, cost-effective and suitable for commercial applications .

#### IGNS STD (Tactical Grade)

IGNS STD uses high performance over temperature sensors: 0.5°/hr gyroscope and 0.3mg accelerometer with extremely low noise levels.

#### IGNS XP (Enhanced Performance)

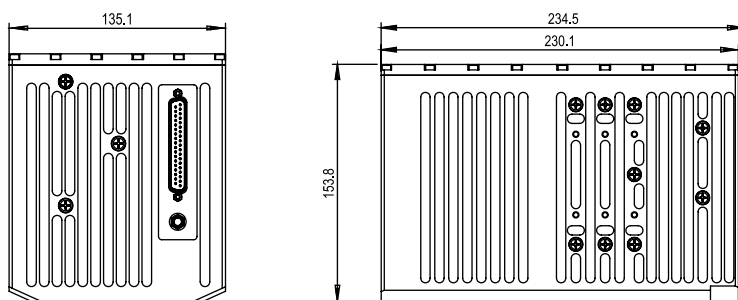
IGNS-XP has gyrocompassing and navigation grade capabilities.

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PARAMETER	IGNS-CV	IGNS-STD	IGNS-XP
<b>GYRO CHANNEL</b>			
Gyro Bias Short Term Over Temp. (1 sigma)	>1 °/hr	>0.5 °/hr	>0.1 °/hr
Gyro Angular Random Walk	0.07 °/√hr	0.02 °/√hr	0.008 °/√hr
Gyro Scale Factor Short Term Over Temp. (1 sigma)	<100 PPM	<100 PPM	<100 PPM
Gyro Dynamic Range	±1000 °/sec.	±1000 °/sec.	±1000 °/sec.
<b>ACCELEROMETER CHANNEL</b>			
Accelerometer Bias Short Term Over Temp. (1 sigma)	<2000 µg	<300 µg	<300 µg
Accelerometer Threshold	100 µg	10 µg	10 µg
Accelerometer Scale Factor Short Term Over Temp. (1 sigma)	1500 PPM	300 PPM	300 PPM
Accelerometer VRE	250 µg/g <sup>2</sup>	20 µg/g <sup>2</sup>	20 µg/g <sup>2</sup>
Accelerometer Range	±15 g	±30/±50 g	±30/±50 g
<b>GNSS RECEIVER</b>			
GPS L1 C/A		Standard	
GPS L1C, L2C, L2P, L5 and NavIC		Optional	
Glonass, Galileo, BeiDou, QZNSS, SBAS		Optional	
Position		1.2 m RMS	
Velocity		0.2 m/sec RMS	
Time		1 PPS	
<b>CHARACTERISTICS</b>			
Size	135 x 153 x 234 mm.		
Weight	5.5 Kg.		
Power	20 W		
Temperature	-40 to 71°C		
Power Input	28 VDC		
Interface	Fast Ethernet, SDLC, RS422		
Data Rates	100 to 4800 Hz		
Sync	External or Internal		



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