

**Honeywell**



## **LASEREF™ MARINE INERTIAL NAVIGATION SYSTEM**

PROVEN HIGH ACCURACY POSITIONING IN GPS DENIED ENVIRONMENTS.

POSSIBILITIES OF NAVIGATION. *MADE EASY*

# HG2170 Laseref™ Marine Inertial Navigation System

## Product Description

Honeywell's Laseref™ Marine Inertial Navigation System (INS) is a self-contained reference system that provides high-accuracy position, heading, pitch, roll, rates, and heave data. This system utilizes a Hybrid Kalman filter to seamlessly integrate inertial measurements with position aiding sources from up to two GNSS and an Acoustic System to provide a robust and reliable position. The system also allows operators to maintain highly accurate positioning, even while aiding sources are temporarily lost or interrupted.

The Laseref™ Marine INS is based on the highly successful commercial aviation Laseref™ product family, with over 300 million operating hours and 60,000 deliveries. This system provides long running navigation using Honeywell's high accuracy Ring Laser Gyros and Quartz Accelerometers. With a mean time between failures of over 60,000 hours, the Laseref Marine INS has one of the highest expected lifetime of any marine system available today.

## Key Attributes

- **Demonstrated Reliability** – 3-4 times longer lifetime than competing systems
- **Hybrid Kalman Filter** – Optimizes position and attitude performance over independent sensors
  - **Low Drift Rates** – Even after all aiding sources (GNSS/Acoustics) are lost, drifts only 12 meters in 10 minutes
  - **Proprietary Algorithms** – Improves performance through GNSS/Acoustic interference or interruptions
- **Operator-Free Alignment in Motion Feature** – Minimizes crew workload and operational delays
- **Commercially Exportable Components** – Available for purchase nearly anywhere in the world
- **Web Interface** – Allows for simple installation and controls
- **Small Size and Weight** – Ideal for virtually all marine applications
- **Position Aiding** – can interface to two GNSS and an acoustic system
- **NMEA over Ethernet** – Common interface for simple connectivity
- **Self-Calibrating GNSS Lever Arm** - improves performance and reduces installation cost

## Performance

True heading (GPS Aided).....0.05 deg (1 $\sigma$ )  
Pitch/Roll.....0.01 deg (1 $\sigma$ )  
Heave.....5 cm or 5% (Whichever is Greater)

## Physical Characteristics

Size.....6.4H x 6.5W x 6.4L  
Weight.....9.1 lbs

## Honeywell

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[aerospace.honeywell.com/marine](http://aerospace.honeywell.com/marine)

## Applications

- Dynamic Positioning
- Multibeam Survey
- Pipe & Cable Laying
- Dredging
- Platform Stabilization
- Offshore Construction
- Commercial & Naval Ship Navigation



## Power

Power (Typical).....18 Watts

## Environmental

Temperature Operating (Min).....40° C  
Temperature Operating (Max).....70° C

## Operation

Alignment Time.....4 Min  
MTBF.....> 60,000 hrs  
Vibration.....2.2 g sine

## Interfaces

I/O Hardware.....Ethernet  
I/O Protocols.....NMEA + Others

## Certification

IMO.....Testing Completed(Waiting on Final Approval)

## Technology

Gyro Technology.....Digital RLG  
Accel Technology.....Quartz