

Phins

FOG-based high-performance inertial navigation system

Phins is an inertial navigation system providing position, true heading, attitude, speed, depth and heave. Its high-accuracy inertial measurement unit is based on iXblue's fiber-optic gyroscope technology coupled with an embedded digital signal processor that runs an advanced Kalman filter.



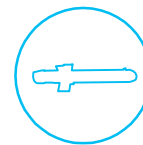
FEATURES & BENEFITS

- IMO Certified navigation Gyro
- All-in-one high-accuracy 3D positioning with heading, roll and pitch
- Compact, light and reliable
- FOG, unique strap-down technology
- Multiple aiding available: (DVL, EM log, GPS, USBL, LBL and depth sensor)
- Ethernet, web server (GUI)
- NTP synchro capability
- IMU option for high accuracy platform stabilization
- Low latency
- Static and dynamic alignment modes, with and without GNSS
- 4Gb embedded data logger
- Versatile I/O options for an easy integration
- High Reliability and maintenance free
- No ITAR component inside
- 24/7 Worldwide Technical assistance

APPLICATIONS



Highly demanding civil or defense surface vessels



Autonomous underwater vehicles

TECHNICAL SPECIFICATIONS

Performance

Heading ⁽¹⁾ (°)	0.01
Roll & Pitch ⁽²⁾ (°)	0.01
Heave / Smart Heave ⁽³⁾	5 cm or 5% / 2 cm or 2%
Position accuracy	
With GPS	Three times better than GPS
With USBL / LBL (subsea applications)	Three times better than USBL / LBL
With DVL	0.1% of traveled distance (CEP 50)
No aiding for 2 min / 5 min	3 m / 20 m (CEP 50)
Pure inertial mode	0.6 nm / hour (CEP 50)

Operating Range / Environment

Operating / storage temperature	-20 °C to +55 °C / -40 °C to +80 °C
Rotation rate dynamic range	Up to 750 deg/s
Acceleration dynamic range	±15 g
MTBF	150,000 hours (System observed) 500,000 hours (FOG + Accelerometers)
Heading / roll / pitch	0 to +360 deg / ±180 deg / ±90 deg
Shocks	27g / 15ms damper shocks

Physical characteristics

Dimensions (L x W x H)	180 x 180 x 162 mm
Weight in air	5.4 kg
Material	Aluminum

Interfaces

Serial	RS422 or RS232
Ethernet	100 Mbit - UDP / TCP server / TCP client / web server (GUI) / NTP synchro
Pulses	PPS input for < 100µs time synchronization
Inputs / outputs	Configurable 7i / 5o - Pulses 4i / 2o - Configuration port
Baud rates	Up to 460 kbaud
Data output rate	0.1 Hz to 200 Hz real measurements
Power supply / consumption	24 VDC (20-32 V) / 20 W typ. @24V/23°C (unloaded)

(1) Secant latitude = 1/cosine(latitude)

(2) Typical RMS performance.

(3) Whichever is greater for wave periods up to 30 seconds. Smart Heave is delayed by 100 s fixed value. Real-time heave accuracy is 5 cm or 5% whichever is greater for period up to 25s.

All specifications subject to change without notice