

Hydrins

A FOG-based navigation-grade INS designed for Hydrographic survey.

Hydrins is lightweight Inertial Navigation System (INS) which combines iXblue Fiber-Optic Gyroscopes (FOG), electronics and embedded processing design in one single unit. This offers the most compact position, orientation and direct georeferencing system.



FEATURES & BENEFITS

- High-accuracy 3D positioning with heading, roll and pitch.
- Uses any kind of GNSS receiver
- Simplified Integration with a single GNSS antenna setup
- Automatic GNSS drop-out / multipath management
- Smart Heave™
- Permanent quality data thanks to the associated iXblue post-processing software APPS
- 1 year warranty
- 24/7 Worldwide Technical assistance
- No ITAR component inside

APPLICATIONS

- Port and harbour maintenance
- Seafloor characterization
- Water depth mapping
- Offshore construction engineering

TECHNICAL SPECIFICATIONS

PERFORMANCE | IMU⁽¹⁾

Bias stability (deg/hr)	0.0065
ARW (deg/sqrt(hr))	0.003

PERFORMANCE | SEA APPLICATIONS⁽¹⁾

With GNSS⁽²⁾

Correction type	SPS Natural	SBAS	DGNSS	PPP*	RTK**	PPK***
Position Horizontal (X,Y) (m)	1.20	0.60	0.30	0.06	0.006 + 0.5 ppm	0.006 + 0.5 ppm
Position Vertical (Z) (m)	1.90	0.80	0.50	0.09	0.01 + 1 ppm	0.01 + 1 ppm
Heading ⁽³⁾ (deg)				0.01		
Roll & Pitch (deg)				0.01		
Heave / Smart Heave ⁽⁴⁾				5 cm or 5% / 2 cm or 2 %		

During GNSS outage⁽²⁾

Outage duration	RTK** 60 sec	PPK*** 60 sec
Horizontal (X,Y) (m)	0.30	0.20
Vertical (Z) (m)	0.30	0.20
Heading ⁽³⁾ (deg)	0.01	
Roll & Pitch (deg)	0.01	
Heave / Smart Heave ⁽⁴⁾	5 cm or 5% / 2 cm or 2%	

Characteristics

Weight	4.5 kg
Material	Aluminium
Size	180 mm x 180 mm x 160 mm
Power	24 VDC (20 - 32 V) / < 20 W
Operating temperature	-20°C to 55°C
Storage temperature	-40°C to 80°C
MTBF	Environmental 100,000 hours
IP Rating	IP 66

INTERFACES

Output refreshing rate	Up to 200 Hz
Latency	< 3 ms
Time tagging	PPS output
Ethernet	UDP / TCP Client / TCP server
Serial RS232 or RS422	5 inputs / 5 outputs / 1 configuration port
Input / Output formats	Industry standards: NMEA0183, ASCII, BINARY
Pulses	4 inputs and 2 outputs
Options & accessories	APPS (Post Processing Software) External GNSS Septentrio Receiver

(1) Typical RMS performance.

(2) Actual results depending on the quality of the GNSS system used, satellite configuration, atmospheric conditions and other environmental effects.

(3) Secant latitude = 1 / cosine latitude.

(4) 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.

*PPP: Precise Point Positioning (requires service subscription).

**RTK: real-time kinematic, up to 40km from base station.

***PPK: Post Processing Kinematic using Advanced Post-Processing Software (smart coupling of INS and GNSS in forward / backward).

All specifications subject to change without notice