Hydrins

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

Hydrins is lightweight Inertial Navigation System (INS) which combines iXblue Fiber-Optic Gyroscope (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 HeaveTM
- Permanent quality data thanks to the associated iXblue post processing software APPS.
- 1 year warranty
- 24/7 Worldwide Technical assistance
- ITAR Free

APPLICATIONS

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

TECHNICAL SPECIFICATIONS

PERFORMANCE | IMU[1]

Drift (deg/hr)	0.1
Noise (deg/sqrt(hr))	0.0015

(1) Typical RMS performance

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PERFORMANCE | SEA APPLICATIONS

With GNSS[2]

Correction type	SPS Natural	SBAS	DGNSS	PPP*	RTK**	PPK***
Position Horizontal (X,Y) (m)	1.200	0.600	0.300	0.060	0.006 + 0.500 ppm	0.006 + 0.500 ppm
Position Vertical (Z) (m)	1.900	0.800	0.500	0.090	0.010 + 1 ppm	0.010 + 1 ppm
Heading[3] (deg)	0.010					
Roll & Pitch (deg)	0.010					
Heave / Smart Heave[4]	5 cm or 5% / 2 cm or 2 %					

During GNSS outage[2]

Outage duration	RTK** 60sec	PPK*** 60sec
Horizontal (X,Y) (m)	0.300	0.200
Vertical (Z) (m)	0.300	0.200
Heading[3] (deg)	0.010	
Roll & Pitch (deg)	0.010	
Heave / Smart Heave[4]	5cm or 5% / 2cm or 2%	

Characteristics

Weight	4.5 kg
Material	Aluminium
Size	180 mm x 180 mm x 160 mm
Power	< 22 W, 12 to 33 VDC
Operating temperature	-20°C to 55°C
Storage temperature	-40°C to 80°C
Logging capacity	48 hours (INS and GNSS data)
MTBF	Environmental 100,000 hours
IP Rating	IP 66

INTERFACES

Output refreshing rate	Up to 200 Hz
Latency	< 3ms
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	External GNSS Septentrio Receiver APPS (post processing software)

(2) Typical RMS Performance
(3) Secant latitude = 1 / cosine latitude
(4) TD = Travelled Distance (CEP50), with DMI
** PPP: Precise Point positioning
*** RTK: Real-Time Kinematic, up to 40km from base stations
**** PPK: Post processing Kinematic using Advanced Post-Processing Software (smart coupling of INS with GNSS in forward/backward)

All specifications subject to change without notice

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