ROVINS

Inertial Navigation System for Subsea Vehicles

Rovins is a combined survey-grade full featured Inertial Navigation System (INS) for water depths up to 3,000m. Designed specifically for offshore survey and construction works, Rovins improves the efficiency of all operations where accurate position, heading, 3D speeds and attitude are key benefits.

FEATURES

- ✓ All-in-one 3D positioning with heading, roll, pitch and heave
- ✓ Fiber-Optic Gyroscope (FOG), unique strap-down technology
- ✓ Multiple aiding options (DVL, USBL, LBL, RAMSES, GPS, depth sensor)
- ✓ DVL Ready option available
- ✓ RAMSES Synthetic Baseline Positioning System option available
- ✓ OCTANS footprint compatible

BENEFITS

- ✓ Accurate georeferenced position and attitude for all subsea vehicles at high frequency
- ✓ No spinning element hence maintenance free
- ✓ Flexible and scalable configuration for all deployment scenarios
- ✓ Immediate availability and performance for all vehicles
- ✓ Ultimate sub-metric performance using sparse array transponders and on-the-fly calibration
- ✓ Immediately compatible

APPLICATIONS • ROV/AUV positioning • Multibeam sonar motion reference • Subsea construction

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ROVINS

Technical Specifications

Performance

Position accuracy (1)	
With USBL/LBL	Three times better than USBL/LBL accuracy
With DVL	0.2% of traveled distance
No aiding for 1 min/2 min	1.5 m/6 m
Heading accuracy (2)(3)	
With GPS/USBL/LBL/DVL	0.05 deg secant latitude
Roll and Pitch accuracy (2)	0.01 deg
Heave accuracy (4)	2,5 cm or 2,5% (whichever is greater)

Operating Range / Environment

Operating/Storage Temperature	-20 to 55 °C / -40 to 80 °C
Rotation rate dynamic range	Up to 750 deg/s
Acceleration dynamic range	± 15 g
Heading/Roll/Pitch	0 to +360 deg / ±180 deg / ±90 deg
MTBF (computed/observed)	40,000 hours/80,000 hours
No warm-up effects	
Shock and Vibration proof	

Physical Characteristics

Dept rating(m)	Material	Weight in air/water (kg)	Dimensions (ø x H mm)	Connector	Mounting
3000	Titanium	15/6,2	213 x 375	5 x SEACON MI-CON	6 Ø 6.6 holes
3000 «DVL Ready»	Titanium	32.6/16.3 (WHN300K3,WHN600K3) 29.2/13.6 (WHN1200K3)	225/298 x 629	5 x SEACON MI-CON	6 Ø 11 holes

Interfacers

Serial RS232/RS422 port	5 inputs / 5 outputs / 1 configuration port
Ethernet port (5)	UDP / TCP Client / TCP server
Pulse port (6)	3 inputs / 2 outputs
Sensors supported	GPS, USBL, RAMSES, LBL, DVL, DEPTH, CTD/SVP
Intput/Output formats	Industry standards: NMEA0183, ASCII, BINARY
Baud rates	600 bauds to 115.2 kbaud
Data output rate	0.1 Hz to 200 Hz
Power supply	24 VDC
Power consumption	< 20 W

(1) CEP: 50 % circular Error Probability. DVL aiding position accuracy is dependent on DVL performances.
(2) RMS values
(3) Secant latitude = 1 / cosine latitude
(4) Smart Heave ™
(5) All input /output serial ports are available and can be duplicated on Ethernet ports
(6) Input of GPS PPS pulse for accurate time synchronization of ROVINS
Specifications subject to change without notice