



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



Courtesy of Ifremer



Courtesy of Bluewater





PERFORMANCE

Position accuracy ⁽¹⁾	Three times better than USBL/LBL accuracy
With USBL/LBL	0.2% of traveled distance
With DVL	1.5 m/6 m
No aiding for 1 min/2 min	
Heading accuracy ⁽²⁾⁽³⁾	0.05 deg secant latitude
With GPS/USBL/LBL/DVL	
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

Depth rating (m)	Material	Weight in air/water [kg]	Housing 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

INTERFACES

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
Input/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