



ROVINS

FOG-BASED HIGH-PERFORMANCE INERTIAL NAVIGATION SYSTEM FOR SUBSEA VEHICLES

ROVINS is a combined survey-grade full featured inertial navigation system for water depths up to 3 000 m. Designed specifically for offshore survey and construction works, **ROVINS**, thanks to its advanced Kalman filter, improves the efficiency of all operations where accurate position, heading and attitude are key benefits. **ROVINS** is offered in stand alone, «DVL ready», and **ROVINS 154** (for OEM integration) versions.

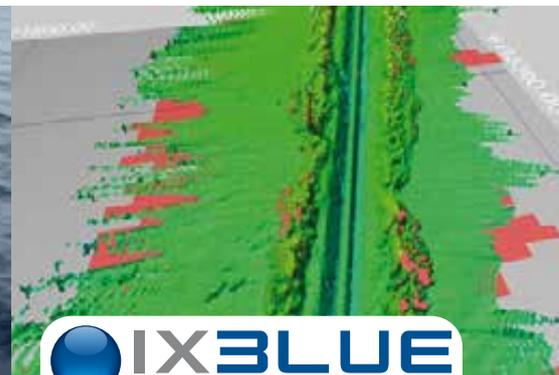
FEATURES

- All-in-one high-accuracy 3D positioning with heading, roll and pitch, ROT and 3D speeds
- Unique FOG strap-down technology
- Multiple interfaces (DVL, USBL, LBL, RAMSES, GPS, depth sensor)
- DVL Ready pre-calibrated option available
- RAMSES synthetic baseline positioning system (option)
- OCTANS footprint compatible
- Post-processing software option

BENEFITS

- Accurate georeferenced position and attitude at high frequency
- High reliability and low maintenance
- Flexible and scalable configuration for all deployment scenarios and mission sequences
- Immediate availability for all vehicles
- Ultimate sub-metric performance using sparse array
- Immediately compatible
- Outstanding image georeferencing

APPLICATIONS • ROV positioning • Multibeam sonar, Out-of-straightness • Subsea construction





PERFORMANCE

Position accuracy ⁽¹⁾	Three times better than USBL / LBL accuracy
With USBL / LBL	0.2%
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°C to 55°C / -40°C 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	
Robust to harsh environment, shock and vibration proof	

PHYSICAL CHARACTERISTICS

	Stand alone	«DVL ready»	ROVINS 154
Depth rating	3 000 m	3 000 m	N/A*
Material	Titanium	Titanium	Aluminium
Weight in air/water	15 / 6,2 kg	29.2-32.6 / 13.6-16.3 kg	4.7 kg / -
Dimensions	Ø 213 x 375 mm	Ø 225-298 x 629 mm	Ø 154 x 315 mm
Connector	5 x SEACON MI-CON	5 x SEACON MI-CON	5 x Micro SubD

* for OEM integration

INTERFACES

Serial RS232 / RS422 port	5 inputs / 5 outputs / 1 configuration port
Ethernet port	100 Mbits, UDP / TCP client / TCP server / web server (GUI)
Pulse port (PPS, Trigger) ⁽⁵⁾	3 inputs / 2 outputs
Sensors supported	GPS, USBL, RAMSES, LBL, DVL, DEPTH, CTD/SVP
Input / output formats	Industry standards: NMEA0183, ASCII, BINARY
Data output rate	0.1 Hz to 200 Hz
Power supply / consumption	24 VDC (20 - 32V) / < 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) Input of GPS PPS pulse for accurate time synchronization of ROVINS