



## PHINS 6000

### INERTIAL NAVIGATION SYSTEM

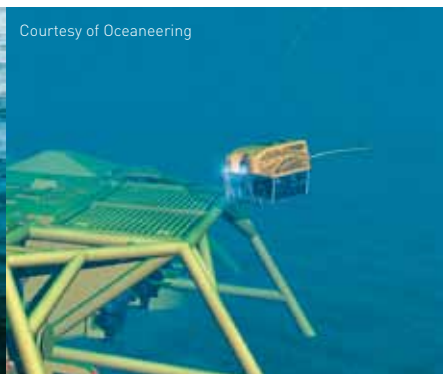
PHINS 6000 is a subsea inertial navigation system providing position, true heading, attitude, speed and heave. Its high-accuracy inertial measurement unit is coupled with an embedded digital signal processor that runs an advanced Kalman filter. PHINS DVL Ready is a pre-assembled and pre-calibrated with a Doppler Velocity Log version making the system easy to install and ready to use for more precise navigation.

### FEATURES

- All-in-one 3D positioning with heading, roll and pitch
- Fiber Optic Gyroscope (FOG), unique strap-down technology
- Multiple aiding options (DVL, USBL, LBL, RAMSES, GPS, depth sensor)
- DVL Ready option available
- RAMSES option available (tight coupled acoustic aiding)

### BENEFITS

- Accurate and georeferenced position + attitude at high frequency
- No spinning element hence maintenance free
- Flexible & 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



**APPLICATIONS** • ROV and AUV navigation • Towfish navigation • Metrology • Precise positioning  
• Out of straightness survey

# PHINS 6000

## TECHNICAL SPECIFICATIONS

### PERFORMANCE

**Position accuracy <sup>(1)</sup>**

With USBL/LBL

With DVL

No aiding for 1 min/2 min

Three times better than USBL/LBL accuracy

0.1% of travelled distance

0.8 m/ 3.2 m

**Heading accuracy <sup>(2)(3)</sup>**

With GPS

With DVL/USBL/LBL

Roll and Pitch accuracy <sup>(2)</sup>

Heave accuracy

0.01 deg secant latitude

0.02 deg secant latitude

0.01 deg

5cm or 5% (Whichever is greater)

**Operating / Storage Temperature**

Rotation rate dynamic range

Acceleration dynamic range

Heading / Roll / Pitch

MTBF (computed/observed)

No warm-up effects

Shock and Vibration proof

-20 to 55 °C / -40 to 80 °C

Up to 750 deg/s

± 15 g

0 to +360 deg / ±180 deg / ±90 deg

40,000/80,000 hours

Depth rating (m)	Material	Weight in air/water [kg]	Housing dimensions (Ø x H mm)	Connector	Mounting
6000	Titanium	24/14.1	255 x 227	1 x 21 pin 4 x 13 pin BURTON	6 Ø 6.6 holes
6000 «DVL Ready»	Titanium	55/48.5(WHN300K6,WHN600K6) 52.9/47 (WHN1200K6)	255 x 595	1 x 21 pin 4 x 13 pin BURTON	6 Ø 11 holes

### INTERFACES

RS 232/ RS 422

Pulse port <sup>(4)</sup>

Sensors supported

Input/Output formats

Baud rates

Data output rate

Power supply

Power consumption

6 inputs / 6 outputs / 1 configuration port

2 inputs

GPS, USBL, RAMSES, LBL, DVL, DEPTH, CTD/SVP

Industry standards: NMEA0183, ASCII, BINARY

600 bauds to 115.2 kbaud

0.1 Hz to 100 Hz

24 V DC

12 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) Input GPS PPS pulse for accurate time synchronization of PHINS6000

Specifications subject to change without notice