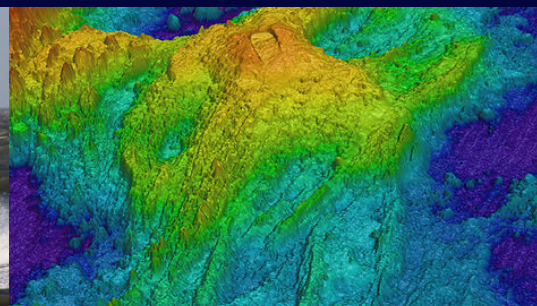
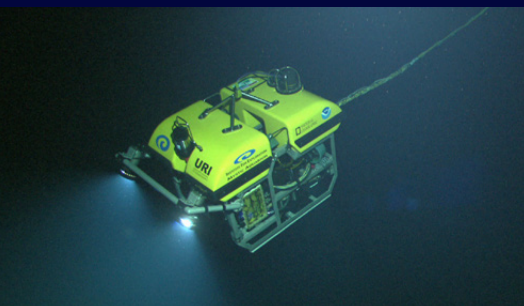


# Ekinox 2 Subsea Series

# NEW

## Motion Sensing & Subsea Navigation MRU & INS



**EKINOX 2 SERIES** R&D specialists usually compromise between high accuracy and price. The Ekinox 2 Series has been designed to bring robust and cost-effective MEMS solutions to the FOG technology's level of accuracy. Ekinox 2 Series opens a new world of opportunities.



# The Latest Technology for Cost-effective MRU/INS

The new Ekinox 2 Subsea Series integrates the latest MEMS sensors to offer robust, small-sized, low-power consumption, and cost-effective Motion Reference Unit (Ekinox2-M) and Inertial Navigation System (Ekinox2-U).

	Ekinox2-M	Ekinox2-U
Roll, Pitch	●	●
Heading	●	●
Heave	●	●
Navigation		●

OPTION: Depth Rating 200 m / 6,000 m

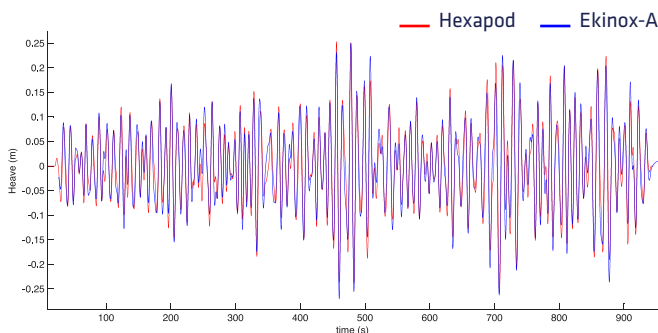


## High Performance

- » 0.02° Roll, Pitch, 0.05° GNSS Heading
- » 5 cm Real Time Auto-adjusting Heave
- » 2.5 cm Delayed Heave (< 40 sec wave period)
- » Navigation with GNSS and DVL
- » Compliant with IHO Standard
- » ITAR Free

## Highly Accurate & Consistent Heave

### REAL-TIME HEAVE TEST RESULT



Tested on a highly accurate hexapod simulating sea conditions, Ekinox real-time heave accuracy has been confirmed beyond specifications, as 2.3 cm RMS.

*Test conducted at the IFREMER Institute (France).  
Full test available on SBG Systems website.*

### ADVANCED REAL TIME HEAVE

No need to enter wave frequencies, Ekinox adjusts to the sea state to compute the best heave data and deliver it on up to four different locations.

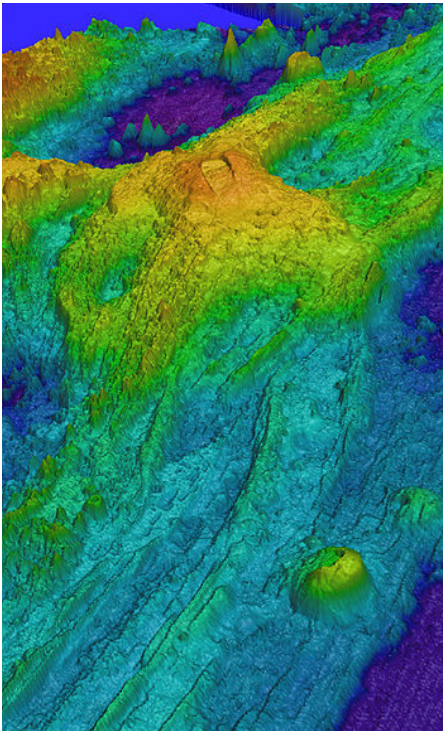
### HIGH ACCURACY DELAYED HEAVE

The delayed heave runs an internal zero phase filter which passes over the recorded heave data to increase its accuracy (< 2.5 cm). It is especially relevant in cases of long period swell, where real-time heave reaches its limits.





# Designed to Meet Marine Technical Needs



## READY-TO-USE PACKAGE FOR HYDROGRAPHY

This recommended package includes a 200 m depth Ekinox2-U (INS) with a 10 meters cable, and a SplitBox. The SplitBox allows easy connection with your GNSS receiver and various other equipment (compliant with all standard connectors). In option, the SplitBox integrates a tri-band GNSS receiver with two antennas, and accepts differential corrections such as RTK, TerraStar, Marinestar, etc.

### Long-term reliability

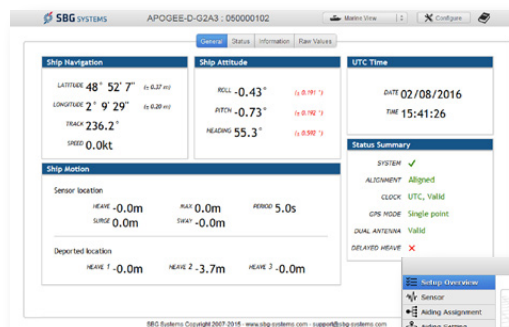
- » Long life Titanium enclosure
- » 2 years warranty
- » Solid State Sensors, Maintenance Free



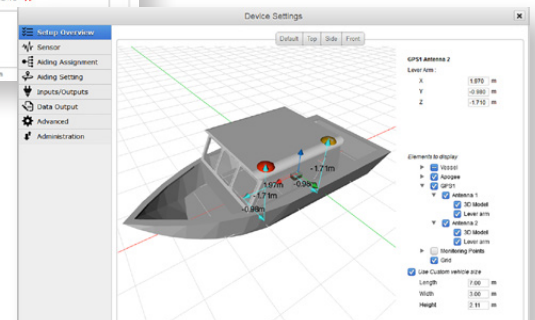
## Software

Configuration is made easy through our intuitive embedded web interface where all parameters can be quickly displayed and adjusted.

The sbgCenter offers all the tools for realtime visualization (200 Hz) and replay of the records stored in the internal data logger.



Embedded Web Interface for easy configuration



Full specifications can be found in the Ekinox 2 Subsea Hardware Manual, available upon request.

## 3D ORIENTATION

Roll, Pitch	0.02° RMS	RTK GNSS aided
Heading	0.05° RMS	External Dual Antenna GNSS (<4 m baseline)

## HEAVE

Real-time	5 cm or 5%	Whichever is greater, velocity aided
Wave period	0 to 20 s	Auto-adjusting
Delayed	2.5 cm or 2.5%	Whichever is greater, velocity aided
Wave period	0 to 40 s	

## POSITION (WITH SPLITBOX)

Single Point L1/L2/L5	1.2 m	
SBAS	0.6 m	
DGPS	0.4 m	
RTK (option)	1 cm + 1 ppm	
RTK 30s Outage	3 m	Marine conditions
RTK 60s Outage	0.2% TD 3 m	Marine conditions, DVL* aided Automotive mode - With odometer
PPK***	0.02 m	

OPTION: TerraStar, OmniSTAR, Marinestar, Veripos

## VELOCITY AIDED POSITIONING

DVL *	< 0.2% TD **	External Gyro-compass or GPS Heading
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## PHYSICAL CHARACTERISTICS

Specifications	Titanium 200 (EL)	Titanium 6,000 (ED)
Depth Rating	200m	6,000m
Weight in air	1.55 kg (3.4 lbs)	2.34 kg (5.2 lbs)
Weight in water	0.86 kg (1.9 lbs)	1.43 kg (3.2 lbs)
Diameter	8.7 cm (3.4")	9.2 cm (3.6")
Height	13.8 cm (5.4")	15.5 cm (6.1")
Power Consumption	< 3 W	
Supply Voltage	9 to 36 VDC	

\* Depends on DVL performance \*\* TD: Travelled Distance \*\*\* Post-processing Kinematic Typical RMS values. All specifications subject to change without notice.

## INTERFACE

Aiding Sensors	2x GPS, DVL, Gyro-compass
Protocols	Output: NMEA, ASCII, Binary, TSS, Simrad Input: NMEA, Trimble, Novatel, Septentrio, Hemisphere, Veripos, Fugro, PDO, PD6
Output Rate	1 to 200 Hz
Logging Capacity	8 GB = 48h @ 200 Hz
Serial RS-232/422	5 serial inputs / 3 serial outputs
Ethernet	5 virtual serial ports

## ENVIRONMENTAL SPECIFICATIONS

Operating Vibrations	3 g RMS - 20 Hz to 2 kHz as per MIL-STD-810G
Depth Rating	Titanium enclosure: 200 m or 6,000 m
Operating Temperature	-20 to 60°C / -4 to 140°F
MTBF	50,000 hours

## PRODUCT CODE

▪ standard product options

EKINOX2-#-G4A2-E#

MODEL  
M: MRU  
U: Underwater INS

ACCELEROMETERS  
2: 8 g

DEPTH RATING  
L: 200m  
D: 6,000m