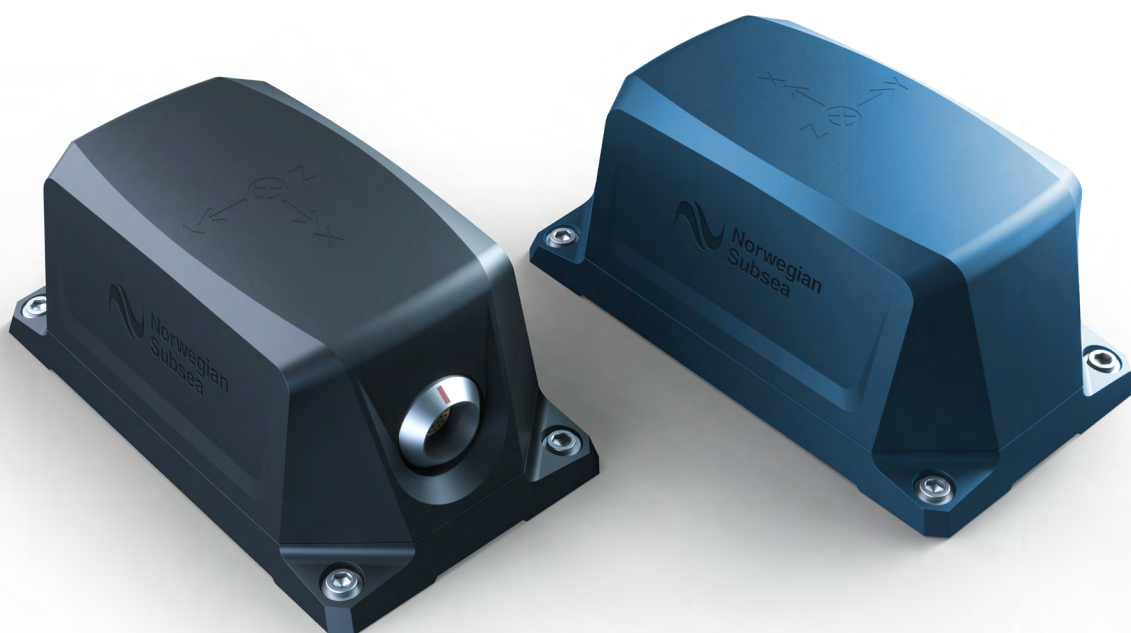
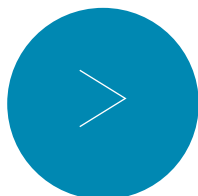


NORSUB MOTION REFERENCE UNITS

OUTSTANDING PERFORMANCE
AFFORDABLE & DURABLE



↻ 0.02° RMS

↓ 5 CM / 5 %

💧 IP68

NORSUB Marine MRUs

HIGH PERFORMANCE

NORSUB Motion Reference Units are high performance, compact and affordable MRUs. NORSUB MRUs use state-of-the-art MEMS technology and advanced sensor fusion algorithms to provide real-time roll, pitch and heave at high frequencies.



TAILORMADE FOR MARINE USE

NORSUB MRUs are ideal for use in marine applications such as motion compensation of sonars, active heave compensation of offshore cranes, helideck monitoring, DP systems and motion compensation of wave radars, gangways and offshore installations.



EASY INTERFACING

NORSUB MRUs come in waterproof, marine housings with ethernet, serial ports and free software upgrades included. A wide range of industry standard and custom protocols are included for easy interfacing to other systems.

TEAM OF HIGHLY SKILLED PHDs

Norwegian Subsea employs a team of PhDs with expertise in control systems, motion compensation and inertial navigation. Our team provides hands-on and accessible customer service and technical support.



Technical Specifications

PERFORMANCE

PARAMETER	MRU 6000 MARINE	MRU 3000 MARINE	REMARKS
Roll & Pitch	+/- 0.02°	+/- 0.05°	RMS (Dynamic)
Heave (Real-time)	5.0 cm or 5.0 %	5.0 cm or 5.0 %	Whichever is greater
Heading (Optional)	+/- 0.5°	+/- 0.5°	Magnetic heading
Rotation speed range	+/- 450°/s	+/- 150°/s	-
Acceleration range	+/- 4 g	+/- 3 g	-
Output Frequency	0 - 100 Hz	0 - 100 Hz	Adjustable output frequencies

POWER & INTERFACES

PARAMETER	MRU 6000 MARINE	MRU 3000 MARINE	REMARKS
Power Consumption	6 W	6 W	-
Supply Voltage	9 - 36 V DC	9 - 36 V DC	24 V DC Nominal
Internal Storage	32 GB	32 GB	-
Ports	Ethernet, RS-232, RS-485 (422), 2 x Sync	Ethernet, RS-232, RS-485 (422), 2 x Sync	-
Protocols	NMEA, ASCII, Binary, Atlas, Gyrocompas 1, Ifremer Victor, MDL, Simrad EM 3000, SMCA, SMCC, TSS1 ++		Wide range of protocols included, see separate list

PHYSICAL CHARACTERISTICS

PARAMETER	MRU 6000 MARINE	MRU 3000 MARINE	REMARKS
Weight	1.2 kg	1.2 kg	Marine aluminium housing
Footprint (L x B)	15.4 cm x 8.6 cm	15.4 cm x 8.6 cm	-
Height	6.7 cm	6.7 cm	-
Depth Rating (Optional)	IP68	IP68	20 m
Other Options	OEM and subsea versions available		
Application Examples	Hydrography, offshore AHC cranes, dynamic positioning, helideck monitoring, gangways, wind turbines, wave radars etc.		

ABOUT US

Norwegian Subsea delivers high performance MRUs and motion sensors for marine, OEM and subsea use.

Our products combine state-of-the-art MEMS technology with advanced sensor fusion algorithms to provide real-time attitude measurements at high frequencies.

We work with clients in the maritime industry, fishery and subsea oil & gas. Typical application areas for our products are hydrography, active heave compensation, helideck monitoring, underwater navigation, subsea and marine surveys and various asset integrity applications.

We are located in Oslo, Norway.

CONTACT

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