

**Sperry Marine**

**NORTHROP GRUMMAN**

# CompassNet



**Versatile and Efficient  
Heading Management System**

## Reliable and cost effective control

Northrop Grumman Sperry Marine has designed the CompassNet heading management system to deliver an unrivalled system solution for comprehensive multiple heading management control. The CompassNet system uses Ethernet connection for all communication between the connected heading sensors and the heading distribution and heading management system. A complete new set of heading sensors, both spinning mass and fibre-optic, will be available for connection to CompassNet.

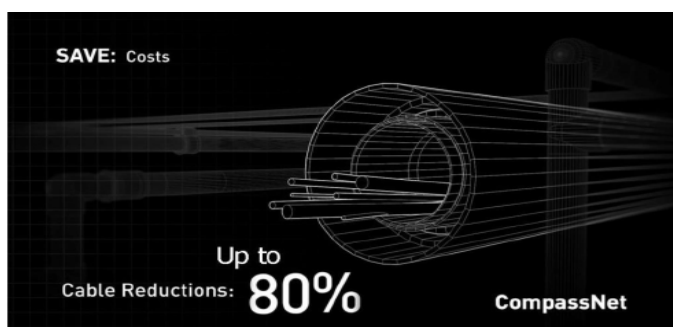
CompassNet provides you with a system that is both reliable and easy to use. CompassNet offers many benefits, including:

- Low cost and ease of installation
- Outstanding performance
- Improved efficiency
- Variety of configurations
- Type-approved.

## Low Cost and Ease of Installation

Northrop Grumman Sperry Marine is the first company to employ Ethernet technology in its heading management systems. This reduces the complexity of installation, simplifies operational performance and guarantees improved reliability and navigational safety. With less wiring, it's quicker, easier and less expensive for you to install and commission. Because there are fewer connections, it's also easier to connect a range of additional equipment to enhance your heading management requirements.

Functionality is further simplified through the use of two 24V DC power sources for all components.



## Outstanding Performance

CompassNet offers improved system redundancy and resilience, avoiding multiple functionality of hardware in a multi-gyrocompass system. It also offers "plug and play" functionality and reduces the number of Control and Display units required.

Key to the function of the CompassNet system is the Data Distribution Unit (DDU) with 1 or 2 processor boards, depending on the system configuration, the Control and Display Unit and the heading sensor(s).

The performance of CompassNet is further enhanced by integration with our new NAVITWIN V control and display unit and allows the connection of up to 5 heading sensors.

## Improved Efficiency

CompassNet is an integrated system that incorporates the NAVITWIN V control and display unit (CDU), the Data Distribution Unit with integral processor board(s).

## NAVITWIN V

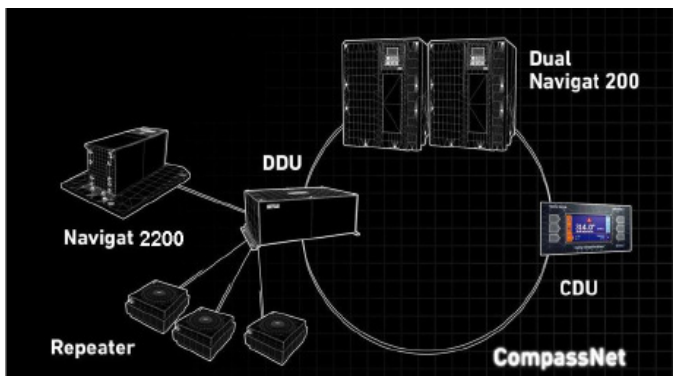
To give you maximum flexibility and convenience, the NAVITWIN V displays and monitors up to five heading sources (four gyrocompass headings and one magnetic compass heading) from a variety of heading sensors. The NAVITWIN V can provide a number of functions:

- Heading source selector
- Heading difference monitor
- Off-heading monitor
- Central gyrocompass control unit
- Central service control unit.

The NAVITWIN V Control and Display Unit (CDU) is a progression from the successful NAVITWIN IV. We have designed the "Human Machine Interface" (HMI) to make use intuitive and to provide a wide range of benefits:

- 4.3" bright colour display
- All heading and sensor data and system information displayed

- Alarm management with record of alarm history
- Access to, and control of, all CompassNet components through one common CDU
- Can install up to seven additional CDUs for extra redundancy and control at a different location.



## Data Distribution Unit (DDU)

The DDU offers a range of features, including:

- Interface with all navigation equipment
- "Comfortable housing" design, providing convenient access for faster installation and service of connections and terminals
- One processor board per DDU for a single gyrocompass system
- Plug-in of second processor board for CompassNet in multi-gyrocompass system
- Plug-in of up to two Compass Amplifier Units (CAU)
- Connection of Northrop Grumman Sperry Marine fluxgate for magnetic compass
- Emergency controls.

### Processor board

The processor board provides:

- Heading management
- Alert management
- Sensor interface management
- Sensor data management
- Integrated RingBus module

- Installation in the DDU
- Second processor boards for redundancy in multi-compass systems.

## Variety of Configurations

CompassNet can also provide a range of options to suit your different needs and preferences. These include:

- A range of system solutions
  - Single, dual, triple and quad sensor system plus magnetic heading with free combination of the Sperry Marine gyrocompasses
- System extension solutions
  - Can incorporate Sperry Marine's NAVIGAT 200 and NAVIGAT 2200
- System solutions for DP applications
- Converter and Amplifier Unit (CAU)
  - Integrates the NAVIGAT 2200 fibre-optic heading sensor
  - Integrates NAVIGAT 3000 sensor
  - Integrates other manufacturers' compasses (gyro and magnetic) with Course Bus or NMEA-0183 interface
  - Bus repeater for long distances (70m) between CompassNet units
  - Available as integral part of the DDU (max 2) or with separate housing as Converter and Amplifier Unit (CAU)
- Option 6 Step/module (future enhancement)
  - Providing a 6 Step/interface
  - Installed in DDU
- Optional Ethernet module (future enhancement)
  - Providing interface to external navigation network
  - Compliant with IEC 61162-450
  - Installed in the DDU

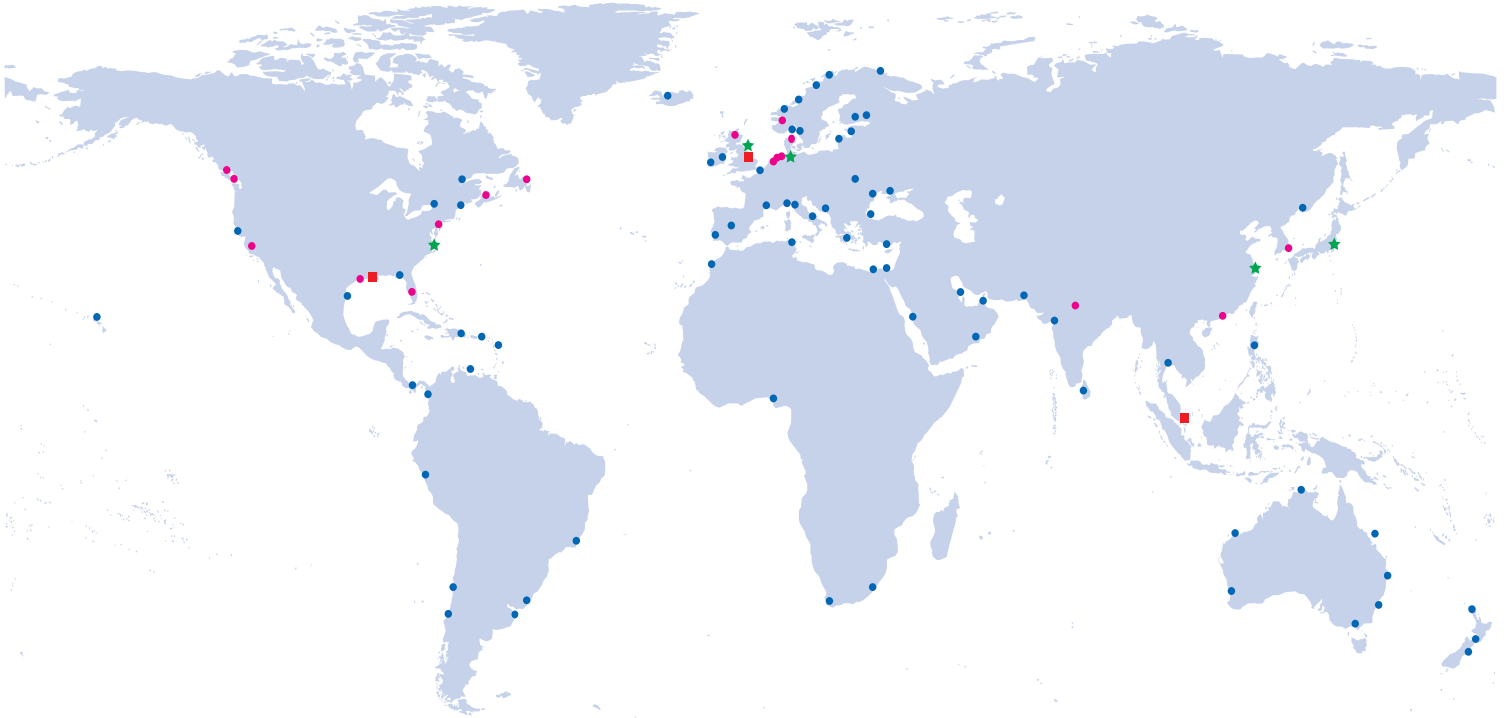
## Type-Approved Performance

The CompassNet system, NAVITWIN V and the associated gyrocompasses are type-approved to Marine Equipment Directive (MED) 96/98/EC.

Compliant with the standards for interconnection with a Bridge Alert Management System; IMO resolution MSC.302 (87) "Bridge Alert Management" and IEC 61924-2 "Modular Structure for INS" Annexes K and M.

## 24/7 Service

Our global service network provides prompt shipboard maintenance and repair services in every major seaport in the world, 24 hours a day, 365 days a year.



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