

Sperry Marine

NORTHROP GRUMMAN

NAVIGUIDE 4000



**Versatile Manual Steering
Control System**

NAVIGUIDE 4000

Start your journey with a flexible integration of steering systems

A versatile manual steering control system offering full control and multiple system configuration.

Northrop Grumman Sperry Marine has over 100 years' experience designing and manufacturing equipment that mariners can depend on for marine navigation and communication.

The NAVIGUIDE 4000 is the first manual steering system based on controller area network (CAN) technology.

Our manual steering control system provides a wide range of important benefits, including:

- High flexibility
- Increased safety
- Easy installation
- Supported steering modes
- Wide range of components
- Type approval
- Total support 24/7

High Flexibility

The NAVIGUIDE 4000 is a manual steering control system that can control a vast number of different steering gear types, from different makers and requiring different steering gear interfaces, such as solenoid valves (AC or DC bang-bang valves, proportional valves), torque motor control, voltage or current analogue signal.

Suitable for single or dual rudder vessels, the NAVIGUIDE 4000 offers system configurations that can match all customer's requirements as well as meeting the requirements of all classification societies.

The system is available in a range of steering modes, according to your needs, with any combination of non-follow-up, single or dual follow-up and autopilot options available. Configurable control transfer (take-over or call-up) means that you can also enjoy multiple steering positions.

It's also easy to add extensions or modifications to your system, as your needs may change.

Increased Safety

Above all, the NAVIGUIDE 4000 provides you with enhanced safety, by presenting all the information you need, and doing so simply and clearly.

All NAVIGUIDE 4000 systems feature displays indicating rudder order and rudder angle, so providing clear indications of actual steering mode and active steering position.

The control transfer between different control stations can be configured to 'call-up', meaning that the control has to be released from the active station before changing it to another control station, so preventing unwilling transfer of steering control.



Easy Installation

We are acutely conscious of the need to save you time and money, so beyond functional excellence, we have designed the NAVIGUIDE 4000 to be easy to set up, and to require as little installation time as possible, which saves on labour costs and reduces the chance of errors. The use of the NAVINET 4000 control area network reduces the amount of separate wire connections, while maintaining the versatility in functionality. The setting up of the system is menu controlled, giving you full access to all desired functions.

We have also provided standard interfaces to external systems, such as dynamic positioning (DP) or joystick systems.

Supported Steering Modes

The NAVIGUIDE 4000 supports a range of different steering modes:

Non-follow-up:

The non-follow-up (NFU) steering mode provides steering control by means of NFU tillers that act directly on the steering gear, providing a very safe and economic means of controlling your vessel. Once a NFU tiller is actuated, the rudder starts moving until the NFU tiller is released or the maximum rudder angle is reached.

Follow-up:

Follow-up steering mode includes a follow-up handwheel or follow-up miniwheels. The operator selects the desired rudder angle using the scale of the follow-up handwheel or the display of the follow-up miniwheels, while the system controls the rudder to that position and keeps it there.

Heading control (autopilot):

You can also connect an optional heading control system to the NAVIGUIDE 4000 manual steering control system, increasing the operator's comfort by keeping your vessel on a pre-selected heading. The NAVIPILOT 4000 embodies all features of the NAVINET 4000 control area network and can be connected to the manual steering control system very easily.

Additional steering modes:

External systems, such as dynamic positioning (DP), or joystick systems can be connected to the NAVIGUIDE 4000 manual steering control system, providing full rudder control to these systems. If required, handshaking systems for safe control transfer can be provided.

Wide Range of Components

The autopilot from Northrop Grumman Sperry Marine, NAVIPILOT 4000, uses the same control area network and can easily be integrated into the NAVIGUIDE 4000 steering control system, adding full heading control features to the system.

Type-Approved Performance

Sperry Marine's NAVIGUIDE 4000 components are all IMO compliant, meeting the certification requirements of all major international organisations, standards and notations.

Each NAVIGUIDE 4000 steering control system providing follow-up or other loop controlled steering modes comes with a steering failure alarm sensor (one per rudder), fulfilling the requirements of the International Association of Classification Societies (IACS) SC.94 for loop monitoring.

24/7 Service

As with all Northrop Grumman Sperry Marine systems and products, all your NAVIGUIDE 4000 components will be supported by one of the world's most extensive worldwide service networks, with help available around the clock, 24 hours a day, 365 days a year. Our global service network provides prompt shipboard maintenance and repair services in every major seaport in the world. We also offer comprehensive maintenance contracts, as well as support for all products for at least ten years after any is discontinued, so providing continuing peace of mind to all our customers.



FOLLOW-UP HAND WHEEL

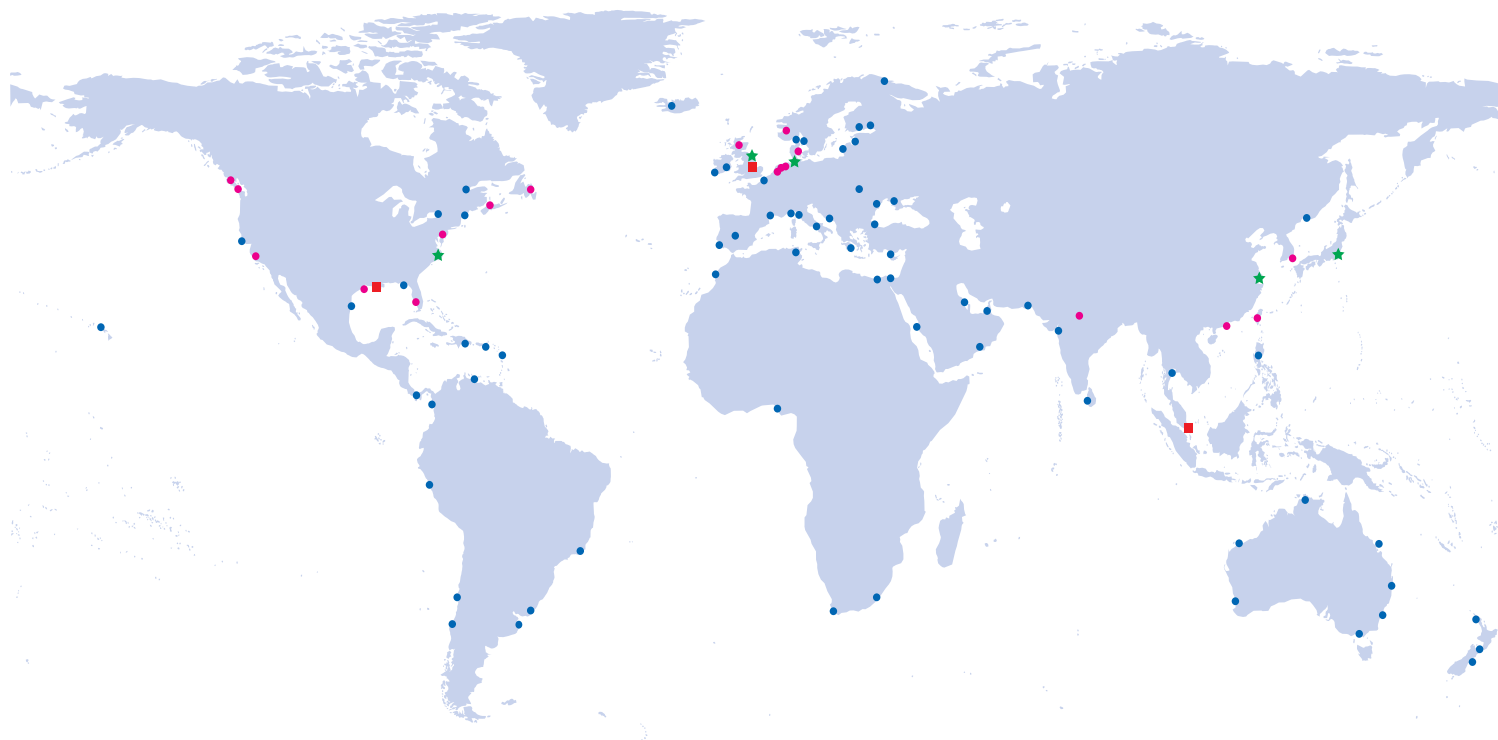


FOLLOW-UP MINI WHEEL & DISPLAY



RUDDER ANGLE FEEDBACK UNIT

Worldwide service/sales locations



● Sperry Marine Service/Sales locations ● Sperry Marine Service Agents ■ Regional Head offices ★ Gyrofin offices

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www.sperrymarine.com

A division of the Northrop Grumman Corporation, Sperry Marine provides a range of sophisticated navigation solutions for mariners around the world: autopilot and steering control systems, compass systems, integrated bridge and platform management systems, speed/velocity logs, navigation radar and ECDIS. Working with mariners around the globe for over 100 years.