Compass Solutions

For safer, more efficient and sustainable sailing

Sperrymarine
the navigation experts

sperrymarine.com

The most accurate and reliable compass solutions

A compass is fundamental to the safe, continuous passage of any vessel. But operating requirements vary widely from ship to ship.

Choosing the most appropriate solution depends on the type, size and class of vessel, whether it's a new build or retrofit, where it sails, how tight its schedule is, how precisely it must stay on course, and whether remote access is needed from shore. And how requirements may evolve throughout the lifetime of the vessel.

Sperry Marine compass solutions deliver the industry's highest levels of accuracy and reliability – for safer, more efficient and sustainable sailing.

We offer the broadest range of compasses to suit every operating scenario: from the basic magnetic compass and well-proven spinning mass gyros, to the latest generation of solid-state fiber optic gyros.

Choose from simple standalone systems for low initial investment to fully-networked, scalable platforms, providing a flexible upgrade path to support your digital transformation.

We offer the industry's most cost-efficient networked heading management system. Complete solutions are available for new build vessels or individual compasses for seamless retrofit with existing systems.

And with Sperry Marine, you can be assured of the highest standard of service and support on a 24/365 consistent global basis.

For safer, more efficient and sustainable sailing

Stay compliant

- All systems are type approved to applicable MED, IMO and IEC standards.
- Single, dual, triple, quadruple-gyro and transmitting magnetic compass (TMC) compliance

Increase reliability

- Networked solutions offer full system redundancy and maximum uptime
- Spinning mass gyros that deliver the highest accuracy and longest system life
- Fiber optic gyros (FOG) with no moving parts for maintenance-free, continuous operation; and deliver the longest system life

Improve ease of use

- Networked solutions enable simpler, safer management of all components through one common control and display unit (CDU)

Protect crew health

- Maintenance-free FOG solutions eliminate onboard visits from Marine Service Engineers
- Silent operation of bridge equipment on FOG solutions

Reduce through-life costs

- Competitive fixed-price options for system and installation by certified Sperry Marine Engineers
- Faster, easier installation for networked solutions with up to 80% less cabling and standard interfaces to integrate third-party systems
- Low maintenance intervals on spinning mass gyros; no maintenance required on FOG systems
- 5-year warranty on FOG systems

Optimise operational schedule

- Fast start-up with the quickest alignment time on FOG systems
- No in-port delays for maintenance on FOG systems

Improve flexibility

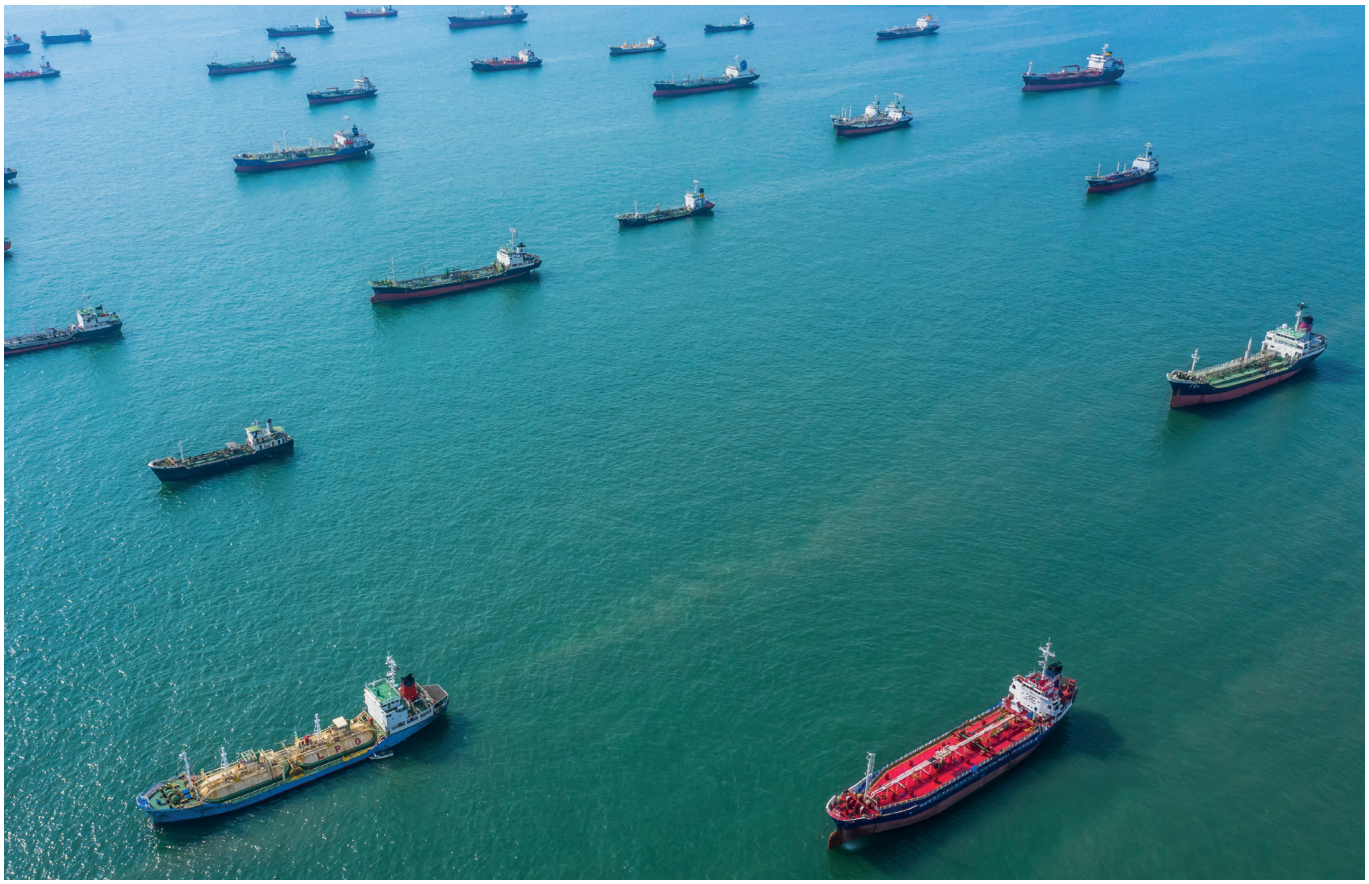
- Networked solutions offer an open, scalable platform that supports any mix of up to four gyro compasses, plus one magnetic compass
- Flexibly upgrade individual compasses as required over the vessel's lifetime
- Global 24/365 service and support at every major seaport, at anchor, offshore and even in passage
- Creates a connected, digital-ready platform for future remote access from shore

Extend system life

- Longest system life on all types of gyro
- Refurbishment programme for spinning mass gyrospheres

Reduce emissions

- Stay on course with more precise heading and rate of turn data to help reduce fuel use



One port of call for all your compass needs

The broadest range of industry-leading gyros

Product	NAVIGAT 100	NAVIGAT 200	NAVIGAT 2500	NAVIGAT 3500
Industry-leading systems	The most accurate and reliable spinning mass gyro compass	The most accurate and reliable networked spinning mass gyro compass	The most affordable and reliable fiber optic gyro compass	The most precise and reliable fiber optic gyro (FOG) compass and Motion Reference Unit (MRU)
Vessel requirements	Cost-efficient operations Single-gyro compliance Sensor replacement in existing systems	Safe, cost-efficient and resilient operations Single, dual, triple, quadruple-gyro and TMC compliance Upgrade path to retrofit existing compass installations	Safe, cost-efficient, resilient operations Single, dual, triple, quadruple-gyro and TMC compliance Ideal for vessels in remote locations or on a tight schedule Flexibility to sail in any latitude Truly strapped-down solution with the lowest through-life costs	More precise input to support route planning for specialist applications Motion reference data for more complex operations Fast start-up Precise heading in high latitudes Optimised route planning to reduce emissions Safe, cost-efficient, resilient operations Single, dual, triple, quadruple-gyro and TMC compliance

Key technical data

Technology	Spinning Mass	Spinning Mass	Fiber Optic	Fiber Optic
Heading (degrees secant latitude)	≤ 0.4 RMS	≤ 0.4 RMS	0.23 RMS	0.15 RMS
Rate of turn (degrees/minute)	≤ 0.5	≤ 0.5	0.06	0.06
Roll and pitch (degrees)	n/a	n/a	0.5 RMS	0.1 RMS
Heave (m)	n/a	n/a	n/a	0.1
x-y rates (degrees/minute)	n/a	n/a	n/a	0.06
Follow-up rate (degrees/second)	100	100	n/a	n/a
Settle point error	≤ 0.1	≤ 0.1	n/a	n/a
Settling time (minutes)	180	180	5 (initial) +25 (fine)	5 (initial) +25 (fine)
Operating temperature (˚C)	-10 to 55	-10 to 55	-20 to 55	-20 to 55
MTBF (hours) (field data)	120,000	120,000	150,000	150,000
Compatible with CompassNet	Upgrade path available	Yes	Yes	Yes

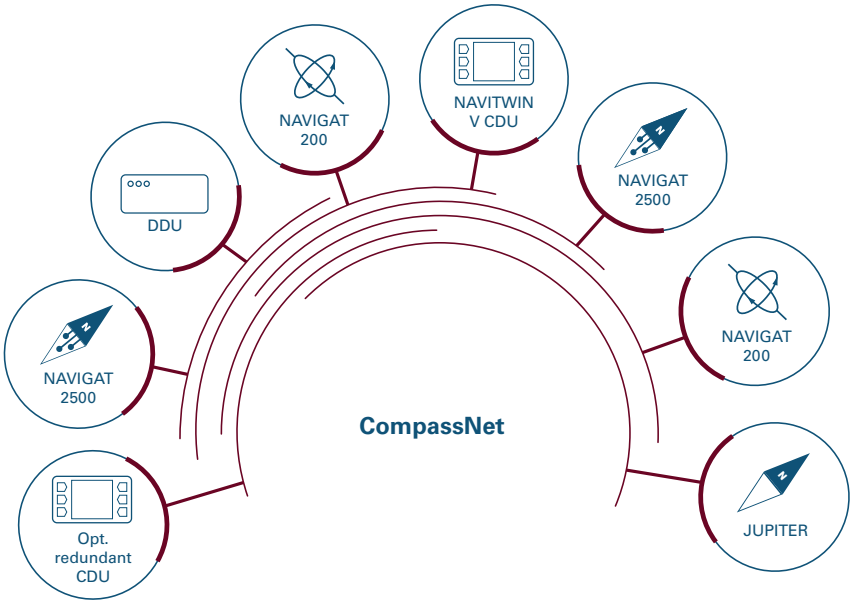
The most cost-efficient networked heading management system

Sperry Marine's CompassNet is the most cost-efficient solution for controlling multiple heading sensor systems. It's easier to deploy with significantly less cabling, less equipment, fewer connections and the use of standard Ethernet technology.

It provides full system redundancy for improved reliability and efficiency. And creates a scalable, digital-ready platform for future remote access from shore.

It supports any mix of up to four spinning mass and fiber optic gyros, plus one magnetic compass for Transmitting Magnetic Compass compliance, which can be flexibly upgraded as required. CompassNet is an open platform that supports third-party systems.

It incorporates the NAVITWIN V control and display unit as the single access point for set up commissioning and operation, and a data distribution unit with built-in redundancy.



The most reputable magnetic compass system

Sperry Marine's magnetic compass equipment is legendary in the shipping world. Evolved over many years, it offers an accurate and dependable system for essential navigational data.

All components are built to a rugged design for reliable operation at sea, and type approved to the applicable MED standard. It's a comprehensive solution that includes:

- JUPITER magnetic flat glass compass
- Azimuth Device
- NAVIPOL binnacles (optional without reflector tube)
- Fluxgate with integrated sine/cosine interface (optional)
- Universal Digital Repeaters (optional)
- Analogue Repeaters (optional)

Suitable for every operating scenario

Sperry Marine's compass solutions suit a diverse range of vessels, for new builds or retrofit with our own and third-party systems.

Container and cargo vessels

- Enhance safety with resilient, networked solutions and the longest-running gyro systems
- Protect crew health with FOG systems that eliminate onboard maintenance visits and operate silently

Bulk vessels

- Optimise efficiency with faster installation, continuous operation, shorter in-port turnaround and reduced through-life costs.
- Secure budget and schedule with FOG systems that eliminate onboard maintenance visits

Ferries

- Enhance safety and stay on schedule with resilient, networked solutions and the longest-running gyro systems
- Protect crew health with silent operation on bridge for FOG systems

Tankers

- Enhance safety with resilient, networked solutions and the longest-running gyro systems
- Protect crew health with FOG systems that eliminate onboard maintenance visits and operate silently

Offshore vessels

- Enhance safety for extended operations in remote locations with the most reliable FOG systems
- Enhance positioning accuracy for diving support vessels

Tuna and sardine vessels

- Optimise efficiency with continuous operation, shorter in-port turnaround and no need for onboard maintenance

Megayacht

- Sail wherever you want in the world with the latest compass technology that supports fast start up, silent operation FOG systems that enhance life on board and reduce your emissions with more accurate route planning

Cruise

- Optimise passenger and crew safety with the most reliable gyro systems
- Stay on schedule to maintain a high quality customer experience and enhance life on board with silent operation FOG systems
- Reduce your emissions with more accurate performance against route planning

You may also be interested in:

NAVIGAT 100
Your solution for easy integration and upgrade.

NAVIGAT 200
Building redundancy for highest system availability.

CompassNet
Efficiently managing your redundant heading sensors on the bridge.

NAVIGAT 2500
Reducing the need for onboard maintenance.

NAVIGAT 3500
Adding highest heading accuracy and motion reference data to your bridge.

JUPITER & NAVIPOL
Adding primary compass back-up required for every vessel.

Global Service and Support

Sperry Marine provides service and support on a 24/365 basis at every major port worldwide, at anchor, offshore and at sea. All Marine Service Engineers are all certified to ensure they install, maintain and repair our products to the industry's highest standards on a consistent global basis. Please see **www.sperrymarine.com/services** for full details of all our service locations.

Find out more

Please visit **www.sperrymarine.com** for more information.
If you would like a quotation, please email **sales@sperry.ngc.com.**

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