

NORTHROP GRUMMAN

NAVIGAT X MK 2
Digital Gyrocompass System



Sperry Marine

OVERVIEW

Sperry Marine is pleased to announce the introduction of its new-generation NAVIGAT X MK 2 digital gyrocompass system, which provides a cost-effective solution that satisfies international carriage requirements for a type-approved marine gyrocompass.

The NAVIGAT X MK 2 gyrocompass is a compact, one-unit design that runs on a 24-volt power supply with two independent DC inputs. It can drive up to four analogue repeaters and provides five additional serial data outputs and one six-steps/degree output. Based on the proven Sperry Marine NAVIGAT X MK 1 design, the new gyrocompass provides better than 40,000 hours mean time between failures. The system remains north-stabilized for up to three minutes in the event of a power interruption.

The NAVIGAT X MK 2 complies with International Maritime Organization (IMO) regulations A.424(XI) and A.694(17) as well as the International Standards Organization (ISO) standard 8728, and is fully Wheelmark type-approved.

The introduction of this new gyrocompass completes the Sperry Marine range of heading sensors, which now comprises the NAVIGAT 2100 fiber-optic gyrocompass, NAVIGAT X MK 1 and NAVIGAT X MK 2 digital gyrocompasses and the NAVISTAR satellite compass.

Main Features

- Performance in accordance with IMO A.424(XI), A.694(17), and ISO 8728
- MED (Wheelmark) approval.
- Comprises one single unit.
- Power supply: two independent 24 VDC inputs.
- Control and display in front cover (not removable) with 4-digit heading display and 6 operating keys.
- Heading accuracy

Static	< 0.1° secant latitude
Dynamic	< 0.4° secant latitude
Settle point error	< 0.1° secant latitude
- Automatic static north speed error correction – no extra unit required.
- Rate-of-turn output.
- High speed transmission and follow-up system 100°/sec.
- Highly accurate heading data transmission by shaft encoder.
- Self-aligning repeater compasses with serial interface IEC-61162-1 / RS 422.
- Gyro system remains north-stabilized during power interruptions of up to three minutes.
- Twin rotors (19,000 rev./min.) and liquid damping system eliminates latitude error.
- ± 180° electronic alignment error correction in setup program (mechanical correction not necessary).
- High MTBF (40,000 hours).
- 18-month maintenance intervals
- Monitoring and alarm functions for all voltages, gyroscope current and follow-up system.
- Short maintenance and repair times – low service costs
- Permanent storage of operational data (gyrosphere current, temperature, elapsed operation time).
- Over 400 Sperry Marine service locations worldwide.



Analogue
Console
Repeater



NAVIDATA
Multifunction Digital Display



Ma
Comp
Flu

Outputs

- 4 analogue repeaters (NMEA TTL)
 - gyrocompass heading
 - magnetic compass heading (when available)
 - rate of turn
 - heading reference status
 - 4 x supply 24 VDC, max. 7 W each
- 2 sensor data (RS 422)
 - gyrocompass heading
 - magnetic compass heading (when available)
 - rate of turn
 - position (when available)
 - speed (when available)
 - heading reference status
- 1 RS 422 Fast IEC-61162-1
 - gyrocompass heading
 - magnetic compass heading (when available)
 - rate of turn
 - heading reference status
- 1 RS 422 SuperFast IEC-61162-1 or IEC-61162-2, selectable
 - gyrocompass heading
 - magnetic compass heading (when available)
 - rate of turn
 - heading reference status
- 6 step/° output
 - current heading, supply 24 VDC, max. 18W
- AD10 output
 - gyrocompass heading
- Rate of turn, analogue
 - ±0.1 - 999.9 mV/°/min.; max. 10 V, 10 mA
- Furuno interface output, selectable
- Alarm signal output (heading difference)
- Status signal output (power failure)
- NAVIPRINT navigation data printer, selectable through one of the available RS 422 interfaces.

Inputs

- IEC-61162-1 position input
- IEC-61162-1 speed input or 200 p/nm
- Electronic compass input (IEC-61162-1)
- Mute function
- Status gyro/magnetic
- Steering mode status

Power Consumption

Start-up	DC 80 W
Operation	DC 45W
Each repeater (analogue)	8 W

Dimensions and Weight

Width	404 mm
Height	520 mm
Depth	420 mm
Weight	21 kg



Magnetic compass with flux Gate



NAVITWIN III Compass Monitor



Universal Digital Repeater

Sperry Marine

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Sperry Marine, founded in 1910, is the world leader in developing, manufacturing, supplying and supporting marine electronics equipment and systems. We have 34 facilities in 11 countries and a worldwide network of over 200 distributors. Sperry Marine has a service location in every major seaport. You are never far from a factory-trained service engineer.



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- Parts Exchange Service
- GMDSS Shore-Based Maintenance Agreements

Sperry Marine, with worldwide headquarters in Charlottesville, VA, and major engineering and support offices in Melville, NY, New Malden, England, and Hamburg, Germany, is part of the Northrop Grumman **Electronic Systems** sector.

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