

NAVIGAT X MK 2
Digital Gyrocompass System



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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, the NAVIGAT X MK 1 and the 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 unit (not removable) in front cover with 4-digit heading display and 6 operating keys.
- Heading accuracy
 - Static <math>< 0.1^\circ</math> secant latitude
 - Dynamic <math>< 0.4^\circ</math> secant latitude
 - Settle point error <math>< 0.1^\circ</math> 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 means of 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 eliminate latitude error.
- $\pm 180^\circ$ electronic alignment error correction in setup program (mechanical correction is not necessary).

Standard Version



Inputs

- Position:**
1 input IEC 61162-1
- Speed:**
1 input IEC 61162-1 or 200 pulses/nm
- Heading from electronic compass:**
1 input IEC 61162-1
- Steering mode status:**
1 input Man/Auto from selector
- External heading source status:**
1 input Gyro/Mag from selector
- Alarm mute:**
1 input from external control

Power

- Main power supply:**
18 VDC - 36 VDC
- Backup power supply:**
18 VDC - 36 VDC

Optional



Remote Control and Display Unit
* when available

Outputs

- 4 outputs NMEA TTL:**
gyrocompass heading, magnetic compass heading*, rate of turn, heading reference status to compass repeaters
- 1 output Sensor Data 1 RS 422:**
gyrocompass heading, magnetic compass heading*, rate of turn, heading reference status, position*, speed*.
- 1 output Sensor Data 2 RS 422:**
gyrocompass heading, magnetic compass heading*, rate of turn, heading reference status;
or
NAVIPRINT Voyage Data Printer: graphic printout of heading over time and status information
- 1 output IEC 61162-1 Fast:**
gyrocompass heading, magnetic compass heading*, rate of turn, heading reference status.
- 1 output RS 422 Superfast IEC 61162-1 or IEC 61162-2 selectable:**
gyrocompass heading, magnetic compass heading*, rate of turn, heading reference status.
- 1 output Furuno AD10:**
gyrocompass heading.
- 1 output 6 steps/°:**
heading. Internal supply 24 VDC, max. 18 W.
- 1 output rate of turn:**
selectable output of ± 30 , ± 90 and $\pm 300^\circ$ /min. or customized from ± 0.1 to 999.9 mV/°/min. (± 10 V, 10 mA max.).
- 1 alarm signal each for:**
heading difference (1 relay)
power failure and general device error (1 relay)

- 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 250 Sperry Marine service locations worldwide.

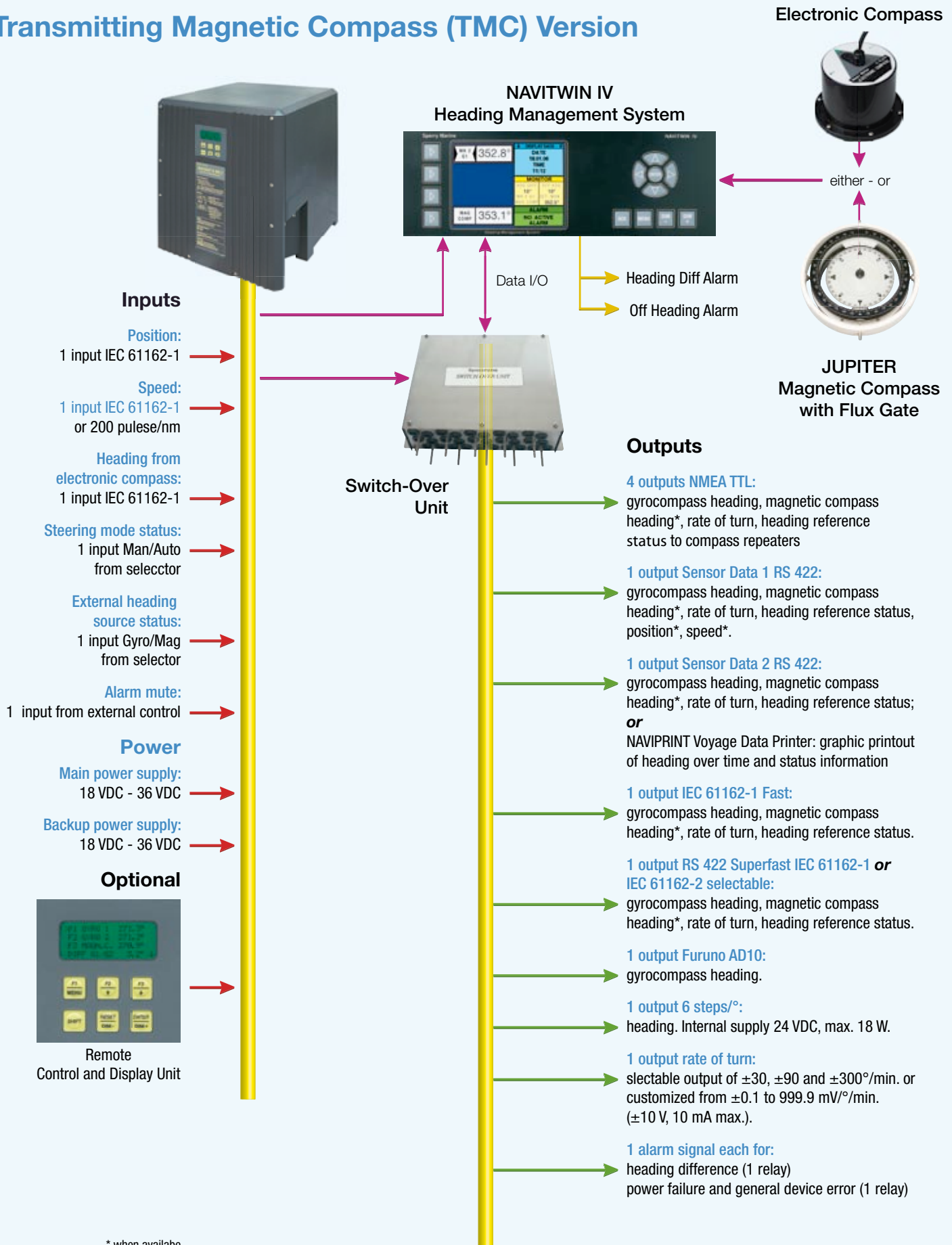
Power Consumption

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

Dimensions and Weight

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

Transmitting Magnetic Compass (TMC) Version



* when available

Accessory Equipment



NAVISTAR
Satellite Compass



Universal Digital Repeater
Weight: 1.0 kg with cable



Steering repeater compass
for console mounting with 360°
and 10° compass cards
Weight: 1.5 kg



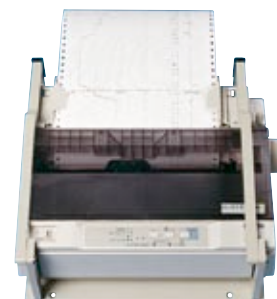
Console repeater compass
with 360° card
Weight: 1.5 kg



Bulkhead repeater compass
with 360° card
Weight: 2.9 kg



Bearing repeater compass
with 360° card in a stand
with azimuth device PV 23
Total weight: 16.1 kg



NAVIPRINT
Navigation Data Printer
Weight: 8 kg



Prismatic azimuth device PV 23
Weight: 1 kg

Sperry Marine

www.sperrymarine.northropgrumman.com

For more information, please contact:

AMERICAS

Charlottesville, VA USA

Tel: +1 434-974-2000

Fax: +1 434-974-2259

Melville, NY USA

Tel: +1 631-719-4736

Fax: +1 631-719-4630

ASIA

China, Shanghai

Tel: +86-21-5836-9978

Fax: +86-21-5836-9979

Hong Kong, Sheung Wan

Tel: +852-2581-9122

Fax: +852-2581-9967

Japan, Tokyo

Ph: +81 (0)-3-3863-7401

Fax: +81 (0)-3-3863-7455

Singapore

Tel: +65-6274-3332

Fax: +65-6271-3339

South Korea, Busan

Tel: +82-51-247-7455

Fax: +82-51-247-7454

Taiwan, Kaohsiung

Tel: +886-7-331-7786

Fax: +886-7-331-7924

CANADA

Nova Scotia, Halifax

Tel: +1 902-468-9479

Fax: +1 902-468-9480

EUROPE

Belgium, Antwerp

Tel: +32-3-233-14-33

Fax: +32-3-225-05-53

Denmark, Copenhagen

Tel: +45-77-33-66-33

Fax: +45-77-33-66-11

Germany, Hamburg

Tel: +49-40-299-00-0

Fax: +49-40-299-00-146

Holland, Vlaardingen

Tel: +31(0)-10-4451600

Fax: +31(0)-10-4345015

Norway, Bergen

Tel: +47-55-94-94-94

Fax: +47-55-34-52-27

United Kingdom, New Malden

Tel: +44(0)-20 8329-2000

Fax: +44(0)-20 8329-2415

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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