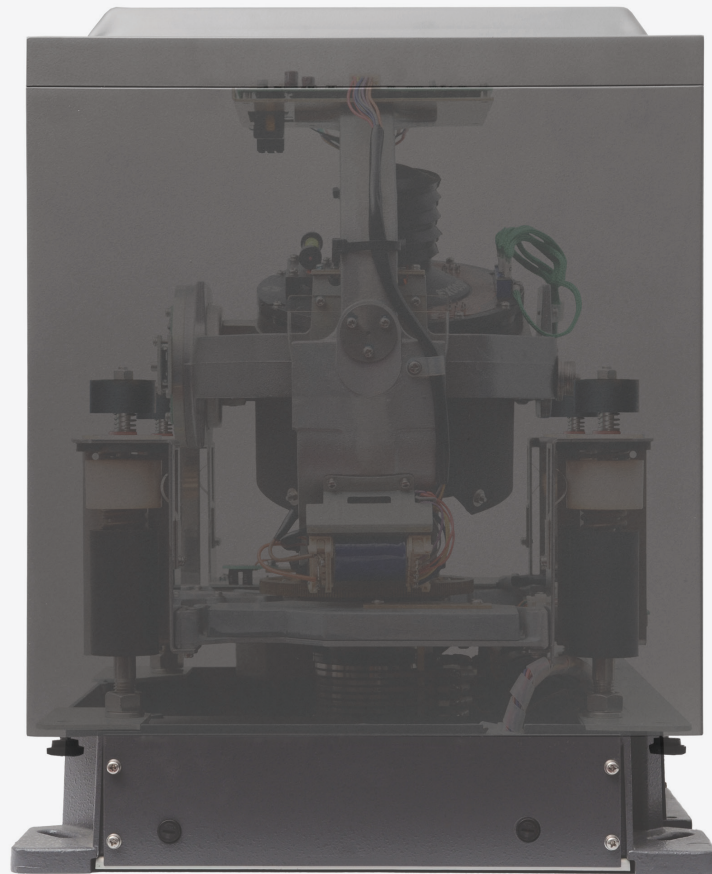




ALPHATRON
Marine



Gyrocompass

AlphaMidiCourse

High precision and dynamic gyrocompass

www.jrc.am

Features

The AlphaMidiCourse is a reliable, type-approved gyrocompass for merchant vessels. This gyrocompass is easy to install and requires little maintenance since there's no fluid inside. Alphasat Marine can also supply all peripheral equipment such as repeaters and converters to ensure compatibility with existing installations.

- Small size and versatility
- Automatic speed error correction
- Short initial settling time (within 3 hours)
- High reliability
- High static and dynamic accuracy¹
- Easy installation and adjustment
- Built-in testing facility
- No compass fluid or extra cooling required
- No periodic compensation of azimuth drift
- IMO compliant



The AlphaMidiCourse provides heading data against the geographical meridian (latitude up to 70°) at vessel speeds up to 50 knots. Roll and pitch angles up to maximum $\pm 45^\circ$.



Main unit

The AlphaMidiCourse is a self-contained precision navigation instrument capable of supplying heading reference information to a wide range of equipment located on board the vessel. To support this wide range of equipment, the AlphaMidiCourse can supply heading information through multiple channels using common transmission formats.

On a typical vessel heading information is used by:

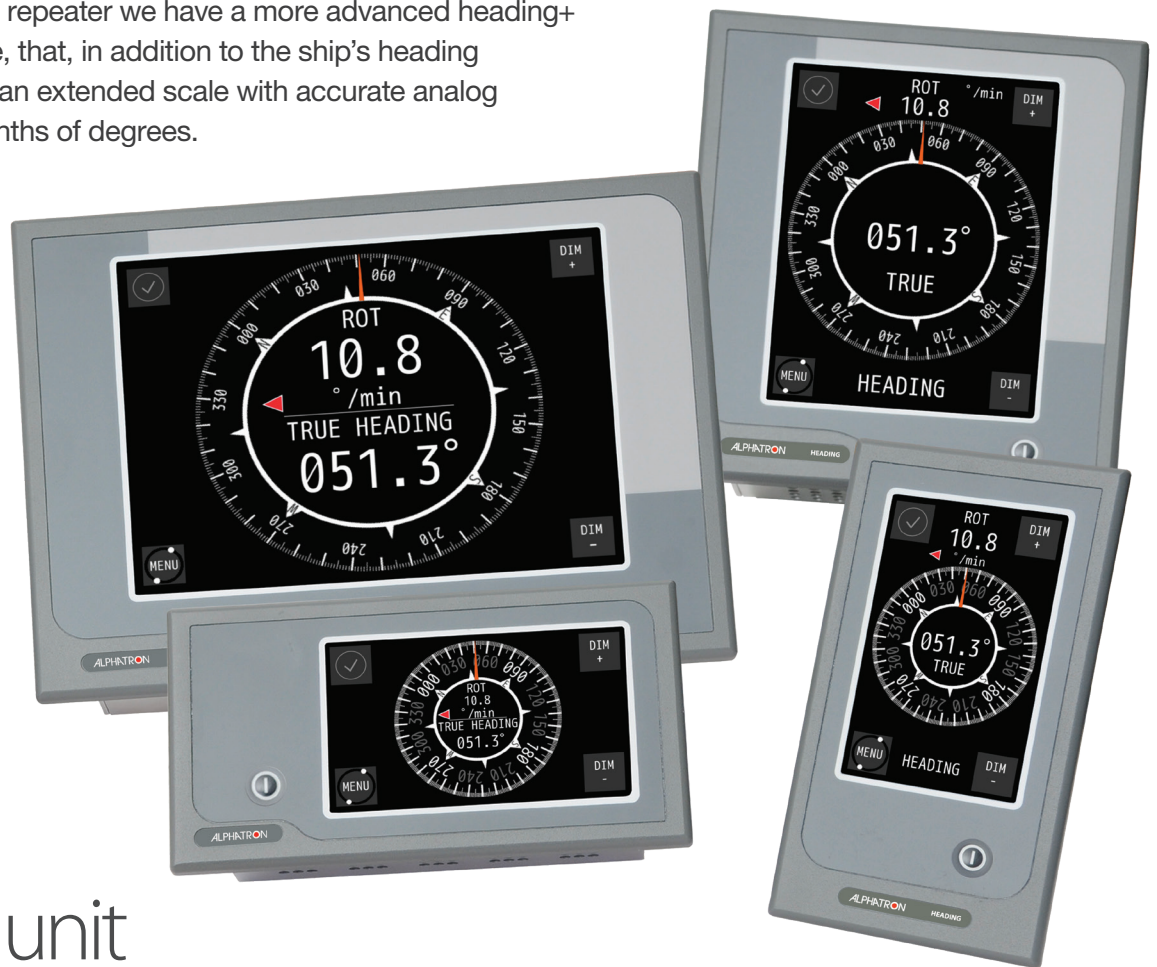
- Autopilot
- Radars
- Electronic chart systems
- Satellite communication systems
- Satellite television
- AIS

1. Latitude and speed compensation and automatic compensation of temperature drifts

AlphaLine Repeater

The AlphaLine Repeater displays range provides a heading repeater connectable to gyro, magnetic and GPS compass showing the ship's heading information. This advanced compass repeater has an analog moving compass card and fixed line. The LCD information screen displays in 5-inch (horizontal and vertical), 6.5-inch and 8.4-inch digital course trend, alarm and rate of turn.

Next to the heading repeater we have a more advanced heading+ instrument available, that, in addition to the ship's heading information, shows an extended scale with accurate analog representation in tenths of degrees.



Control unit

The control unit, supplied with the AlphaMidiCourse, provides all the functions and indicators necessary to power up, control and operate the AlphaMidiCourse. The control unit displays all information on an integrated display which can show the following information:

- Heading in degrees from 0.0 to 359.9
- Heading source
- Latitude from 70S to 70N
- Speed from 0 to 50 knots
- Speed source
- Steering source
- Rate of Turn
- Alarms and status information
- Presence of power readiness for operation
- Timer

The control unit is used for connecting the AlphaMidiCourse but also to connect ships' cabling, like power and data cable to aggregate all relevant data for input and output.



Accessoires

A range of accessoires are available for the AlphaMidiCourse.



Repeater compass

The repeater compass receives and displays the ship's heading signal transmitted from the master compass.

The case is made of Glass fiber Reinforced Plastic (GRP), thus corrosion free and has a waterproof construction, suitable for open deck installation.



Mounting bracket

The mounting bracket for the repeater compass has a gimbal ring to support the repeater compass horizontally when the ship is rolling and pitching.



Azimuth circle

Astronomical observations can be made with the mirror and the slit located on the azimuth circle, and measurements of objects with the lubber's line and the slit.



Repeater stand

The repeater stand (height of 1330 mm) can be used when a repeater compass is installed on the deck.



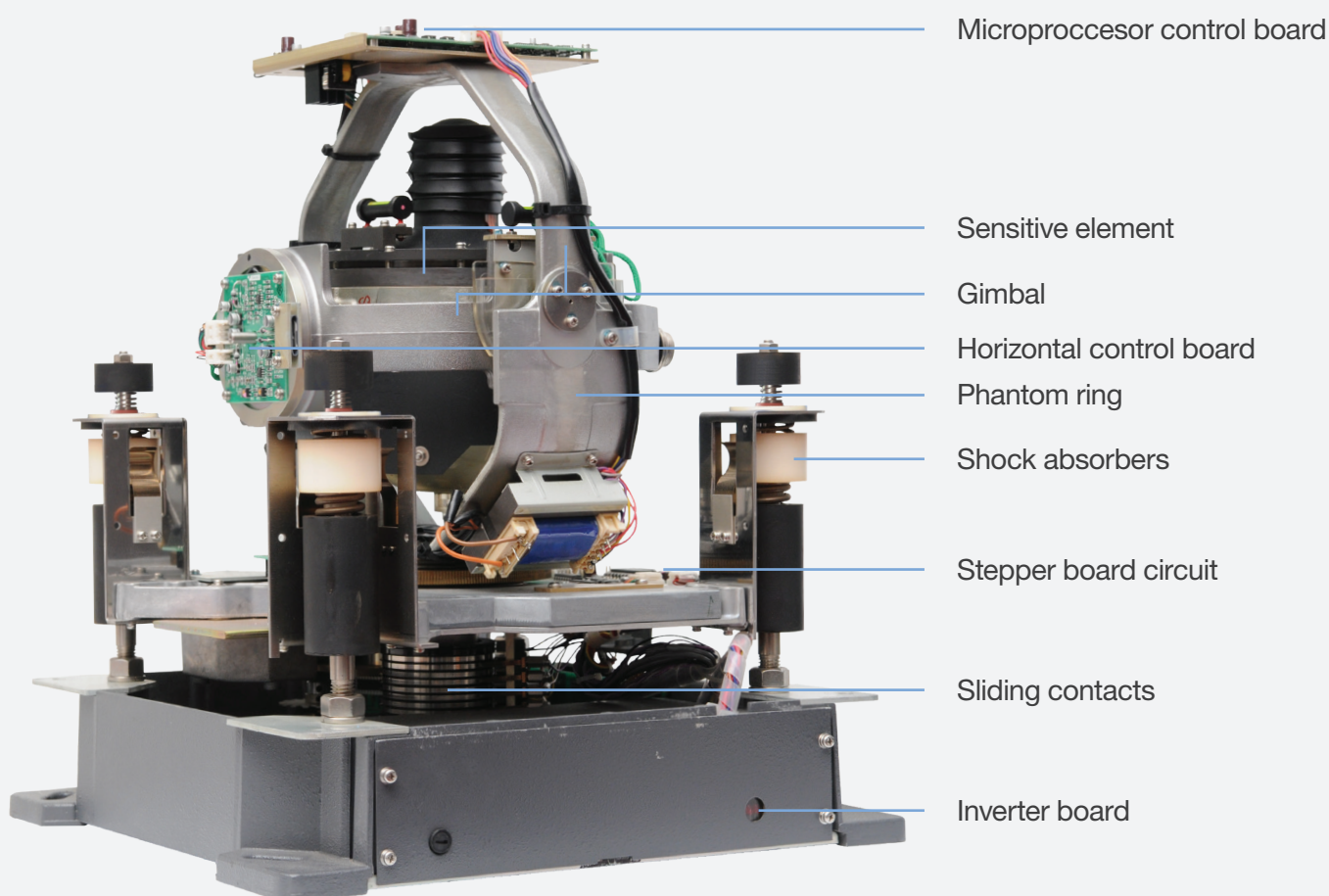
Data distribution

The NMEA distribution module is used when IEC61162 signals from a sensor must be distributed to multiple listeners. The system provides galvanic isolation between talker and listeners and between listeners to avoid problems when a listener is influencing the signal. Multiple NMEA modules can be daisy chained with each other, which allows you to create as many outputs as you want.

Advanced gyro element

The high precision dynamically tuned gyroscope and gimbal suspension is derived from aerospace technology and is now available to the marine industry.

- Unique technology without annual servicing
- No oil change
- Very low RPM reduces wear, increasing life time
- Quick installation



Bridge Alert Management

The optional annunciator unit can be connected to the AlphaMidiCourse to comply to Bridge Alert Management system (BAM). It harmonizes the priority, classification, handling, distribution and presentation of alerts, meaning that the bridge team can devote its full attention to the safe operation of the ship and immediately identify any alert situation requiring action to maintain the safe operation of the ship.



Installation

Unlike a magnetic compass, it can output without influence of the steel hull, the heading signal to repeaters around the vessel at critical positions. The gyrocompass is typically located below decks as close as possible to the center of roll, pitch and yaw of the ship, minimizing errors caused by the ship's motion.

Repeaters are located at convenient places throughout the ship, such as at the helm for steering, in after steering for emergency steering, and other places. Bearing repeaters installed on the bridge wing used for taking bearings will likely be equipped with removable bearing and azimuth circles, and telescopic alidades, which allow one to sight a distant object and see its exact gyrocompass bearing.

Model

3107.9134 AlphaMidiCourse (including control unit)

Accessoires

3107.9138 Bearing repeater compass, serial data
3107.9140 BB repeater holder, bearing bracket, serial data
3107.9142 BH repeater stand
3107.9146 Azimuth circle
3401.0240 NMEA distribution module Mk2

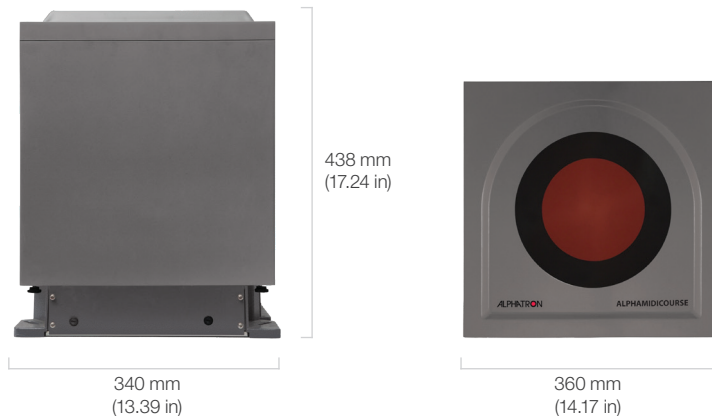
Repeaters

3803.0226	AlphaLine Repeater MFS-H grey	3803.0228	AlphaLine Repeater MFS-H black
3803.0230	AlphaLine Repeater MFS-V grey	3803.0232	AlphaLine Repeater MFS-V black
3803.0242	AlphaLine Repeater MFM grey	3803.0244	AlphaLine Repeater MFM black
3803.0246	AlphaLine Repeater MFL grey	3803.0248	AlphaLine Repeater MFL black

Tech Specs

Main unit

Weight 23 kg (50.7 lbs)



0 to 50 knots

Follow up speed $>75^{\circ}/\text{sec}$

Settling time within 3 hours

Settle point accuracy $<\pm 0,3^{\circ}$

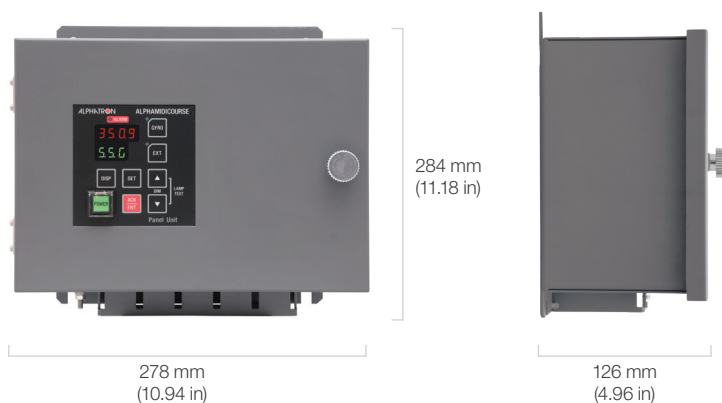
Dynamic accuracy $<\pm 0,5^{\circ}/\text{sec}$

Settle point repeatability $<\pm 0,2^{\circ}/\text{sec}$

Service life 35.000 hours

Control unit

Weight 7 kg (15.43 lbs)



1x step; 24V DC, 6 steps/ $^{\circ}$

4x serial data; RS422/485

Serial data transfer rate;

IEC61162-1/2 (4800/38400 bps)

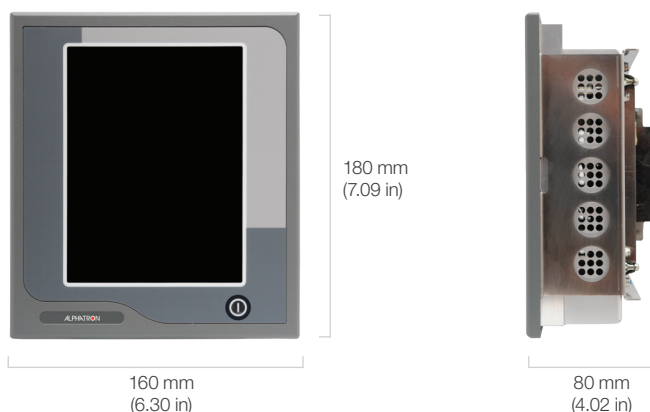
24V backup supply

Failure/alarm; NO relay/NC relay

Power 24V DC, 70W

AlphaLine Repeater (option)

3803.0242 (grey), 3803.0244 (black) Weight 1.23 kg (2.71 lbs)



4 display sizes available

Alarm signal loss (audible/visual)

Indication; heading, magnetic or true Rate of Turn (ROT)

IEC61162-1 serial port interface

Input; DDC, ROT, HDT (default),

HDG, HDM, THS



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