Raymarine®

RCU-1

Operation Instructions

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CHAPTER 1: IMPORTANT INFORMATION

Safety warnings

Warning: Aid to navigation

This product is intended only as an aid to navigation and must never be used in preference to sound navigational judgment. It is the user's responsibility to use official government charts, notices to mariners, caution and proper navigational skill when operating this or any other Raymarine product.

Warning: Maintain a permanent watch

Always maintain a permanent watch, this will allow you to respond to situations as they develop. Failure to maintain a permanent watch puts yourself, your vessel and others at serious risk of harm.

Warning: Autopilot usage

Autopilots navigate a preset course and do NOT respond to hazards automatically. The operator must remain at the helm at all times and be ready to avoid hazards and warn passengers of course changes.

Warning: Day mode brightness warning

Switching from Night mode to Day mode instantly increases the display brightness to maximum. This will impact the operator's night vision, due to the relative brightness of Day mode in night time conditions.

Warning: Battery safety

Before handling, charging, installing or using your battery please ensure you have read and understood the safety related information provided below.

- Do NOT expose the battery to sources of excessive heat, flame or sparks.
- Do NOT drop, throw, crush or attempt to disassemble the battery
- Do NOT use the battery if it is damaged.
- Do NOT submerge the battery.
- Do NOT short the battery terminals.
- Do NOT operate the battery outside of its operating temperature range. Refer to the product's technical specification for more information.
- Ensure battery disposal is in accordance with applicable local laws and regulations.
- Do NOT use solvents or solvent based cleaning agents to clean your battery.
- Keep batteries away from children.
- Contact with battery acid may cause irritation or chemicals burns, irritation may occur to the eyes, skin or respiratory system. If contact is made flush with clean water immediately.

Failure to adhere to the guidelines above may result in shortened battery life, risk of damaging the device, fire, chemical burns, acid leakage or injury to persons.

Warning: Battery care

Before handling, charging, installing or using your battery please ensure you have read and understood the safety related information provided below.

• Ensure that the battery is charged before storing.

• Ensure that the battery is disconnected before it is stored for a prolonged period without recharge.

• Always store the battery in a cool and dry area that is well-ventilated and not in direct sunlight.

• Do NOT leave the battery in high temperature areas such as in a vehicle on a sunny day.

• Do NOT store the battery outside of its storage temperature range. Refer to the product's technical specification for more information.

Failure to adhere to the guidelines above may result in shortened battery life, irreparable damage to your battery, risk of damaging the device, fire, chemical burns, acid leakage or injury to persons.

Product warnings

Battery operation

Battery care and operation guidance.

- When used in colder temperatures, the batteries will discharge more quickly than in warmer conditions.
- When using a high display brightness, the batteries will discharge more quickly.
- Stored batteries will slowly discharge over time.
- The batteries are recyclable, and you must follow local laws and regulations for safe battery disposal.
- The batteries are sealed, maintenance-free units.

Caution: Float recommendation

It is recommended that you attach a float to the remote's lanyard so that is can be retrieved if dropped overboard.

Caution: Service and maintenance

This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

Regulatory notices

Disclaimer

Raymarine does not warrant that this product is error-free or that it is compatible with products manufactured by any person or entity other than Raymarine.

Raymarine is not responsible for damages or injuries caused by your use or inability to use the product, by the interaction of the product with products manufactured by others, or by errors in information utilized by the product supplied by third parties.

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Declaration of Conformity

Declaration of Conformity for product sold into the UK, Australia and New Zealand, and EU member state regions.

Raymarine UK Ltd declares that the radio equipment type products listed below are in conformity with the relevant sections of the listed designated standards and / or other normative documents:

- RCU-1 Autopilot Remote Control, part number: A80835.
- RCU-1 Autopilot Remote Control with WG-1 Wireless Gateway, part number: E70718.

Region	Standard	Mark
UK	EMC Regulations 2016	UKCA
EU	Radio Equipment Directive 2014/53/EU	CE
Australia and New Zealand	AS/NZS 4417.1 & 2	

The original Declaration of Conformity certificates may be obtained via the documentation page at www.bit.ly/RCU-1-docs

Water ingress

Water ingress disclaimer

Although the waterproof rating capacity of this product meets the stated water ingress protection standard (refer to the product's *Technical Specification*), water intrusion and subsequent equipment failure may occur if the product is not installed correctly or subjected to high-pressure washing. Raymarine will not warrant products subjected to high-pressure washing.

Warranty policy and registration

Visit the Raymarine website to **read the latest warranty policy**, and **register** your product's warranty online: www.bit.ly/rym-warranty

It is important that you register your product to receive full warranty benefits. Your product package includes a barcode label indicating the serial number of the unit. This serial number is also provided on a label affixed to the product itself. You will need this serial number when registering your product online.

Battery disposal

Consumers in European Union (EU) Member State regions are required to dispose of the battery (or batteries) included with this product in accordance with the EU Battery Directive (2006/66/EC).

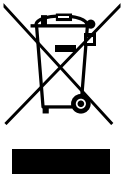
The Battery Directive requires the proper waste management of batteries, including their recycling, collection, take-back programs, and disposal. The purpose of the Directive is to ensure the appropriate management of waste batteries which contain materials and chemicals that may be hazardous and present a risk to human health and / or the environment, when not handled correctly.

Local authorities in many regions have established collection schemes under which residents can dispose of waste batteries at a recycling center or other collection point. For a list of relevant websites for each region, visit: www.bit.ly/rym-recycling

Product disposal

Dispose of this product in accordance with the WEEE Directive.

The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electrical and electronic equipment which contains materials, components and substances that may be hazardous and present a risk to human health and the environment when WEEE is not handled correctly.



Equipment marked with the crossed-out wheeled bin symbol indicates that the equipment should not be disposed of in unsorted household waste. Local authorities in many regions have established collection schemes under which residents can dispose of waste electrical and electronic equipment at a recycling center or other collection point. For more information about suitable collection points for waste electrical and electronic equipment in your region, refer to the Raymarine website: https://bit.ly/rym-recycling

IMO and SOLAS

The equipment described within this document is intended for use on leisure marine boats and workboats NOT covered by International Maritime Organization (IMO) and Safety of Life at Sea (SOLAS) Carriage Regulations.

Technical accuracy

To the best of our knowledge, the information in this document was correct at the time it was produced. However, Raymarine cannot accept liability for any inaccuracies or omissions it may contain. In addition, our policy of continuous product improvement may change specifications without notice. As a result, Raymarine cannot accept liability for any differences between the product and this document. Please check the Raymarine website to ensure you have the most up-to-date version(s) of the documentation for your product: www.docs.raymarine.com

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CHAPTER 2: DOCUMENT INFORMATION

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2.1 Applicable products

This document is applicable to the following products:

- **RCU-1** Autopilot Remote Control, part number: A80835
- **RCU-1** Autopilot Remote Control with **WG-1** Wireless Gateway, part number: E70718

2.2 Document information

This document contains important information related to the installation of your Raymarine product.

The document includes information to help you:

- Plan your installation and ensure you have all the necessary equipment.
- Install and connect your product as part of a wider system of connected marine electronics.
- Troubleshoot problems and obtain technical support if required.

This and other Raymarine product documents are available to download in PDF format from www.bit.ly/rym-docs

2.3 Product documentation

The following documentation is applicable to your product:

RCU-1 applicable documents

Document	Description
87492	RCU-1 Remote Autopilot Controller Installation Instructions
87491	RCU-1 Cradle Mounting Template
81426	RCU-1 Operation Instructions

WG-1 applicable documents

Document	Description
87493	WG-1 Wireless Gateway Installation Instructions
87496	WG-1 Wireless Gateway Mounting Template.

Related documents

Document	Description
81406	LightHouse 4 Advanced Operation Instructions
81402	p70s/p70Rs/p70/p70R Operation Instructions
87281	Deck Mounting Kit Installation Instructions. (Provides alternative mounting methods for the WG-1 wireless gateway).
87274	Pole / Rail Mount Adaptor Accessory Installation Instructions (Provides alternative mounting methods for the WG-1 wireless gateway).

Obtain the latest documentation

This document may not reflect the latest information available for your product. Please ensure that you obtain the **latest version** of documentation for your product from the Raymarine website.

QR code	Link
	www.bit.ly/RCU-1-docs

2.4 Document conventions

The following conventions are used throughout this document.

Formatting of user interface menus and settings.

References to menus, setting options and physical buttons are formatted using square brackets [].
Examples:

- "You can select your desired cartography from the *[Cartography selection]* menu."
- "MFD apps are accessed from the *[Homescreen]*."
- "Press the *[Home]* button to return to the Homescreen."

Procedures for performing specific tasks using the product's user interface.

The term "**Select**" is used to refer to the action of:

- Touchscreen control — using your finger to select a menu option or item on the screen.
- Physical buttons — Highlighting an item using the navigational controls and confirming the selection by pressing the *[OK]* button.

Examples:

- "Select *[Ok]* to confirm your selection."
- "Select *[Set-up]*."

Procedures for navigating menu hierarchies.

Menu hierarchies are used in this document to provide a quick summary on how to access a particular function or menu option.
Examples:

- "The internal sonar module is disabled using the Fishfinder app menu: *[Menu > Set-up > Sounder Set-up > Internal Sounder]*."
- "The internal GPS can be switched off from the GPS settings menu: *[Homescreen > Status area > Satellites > Settings > Internal GPS]*."

2.5 Document illustrations

While every effort is made to ensure that the illustrations provided in this publication accurately reflect the final released product, due to editorial and production lead times, your product — and if applicable — its user interface, may differ slightly from the illustrations provided in this document, depending on product variant and date of manufacture.

All images are provided for illustration purposes only.

CHAPTER 3: PRODUCT AND SYSTEM OVERVIEW

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3.1 Product overview

The RCU-1 is a battery powered, handheld remote autopilot controller for Evolution-Series autopilot systems.

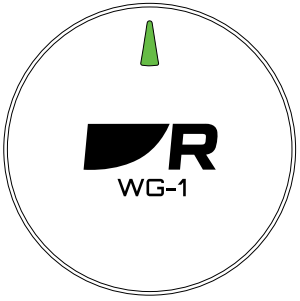
The RCU-1 is supplied with a pre-paired WG-1 Wireless Gateway when ordering part number E70718, or can be supplied as a standalone handset (part number A80835), for systems that already include a WG-1 Wireless Gateway.

Remote control features:

- Remote autopilot control — Engage, adjust, or disengage the autopilot from anywhere onboard.
- Powered by standard or rechargeable AA batteries (2 x alkaline batteries supplied).
- Full color, direct sunlight-viewable LCD screen.
- Wireless (Bluetooth) connection via the WG-1 Wireless Gateway.
- *[Point and Go]* button — Point the remote and press the button to initiate a GoTo in that direction.
- *[Solo sailor]* mode.
- Activate Man Overboard (MOB) alarm.
- View NMEA 2000 data.
- Built in AHRS (Attitude and Heading Reference System) sensor.
- Built in alarm buzzer.
- Remains fully operational when held in the cradle.
- 30 m (98.43 ft) line-of-sight operating distance from gateway.
- Approximate “In use” battery life: 30 hours.
- Approximate storage battery life: 365 days.
- Supplied with a lanyard.

3.2 Compatible gateway

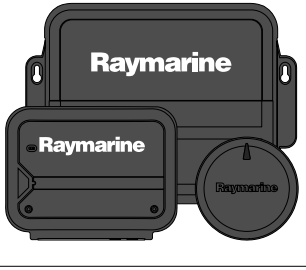
The RCU-1 Autopilot Remote Control is compatible with the following wireless gateway:



- WG-1 Wireless Gateway, part number: R70947

3.3 Compatible autopilot systems

Your remote control is **only** compatible with Evolution-Series autopilot systems.



Note:
The EV-1 / EV-2 sensor requires software **v3.21**, or later.

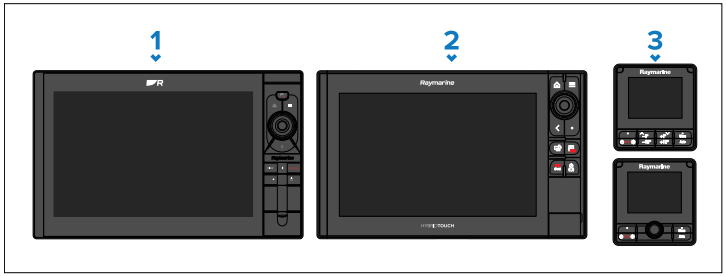
Important:
The remote control is NOT compatible with any other Raymarine, or third-party autopilot systems.

3.4 Compatible autopilot controllers

The RCU-1 autopilot remote control requires a compatible autopilot controller to be connected to the system.

Note:
The RCU-1 cannot act as the sole autopilot control in an autopilot system.

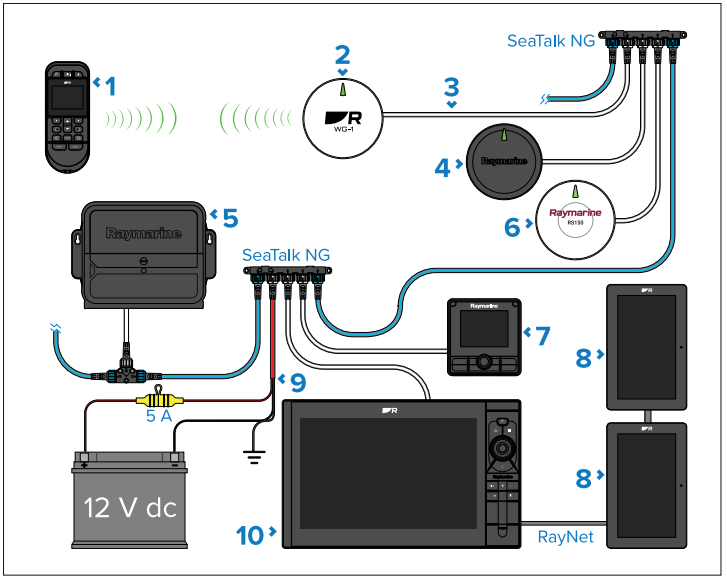
The following autopilot controllers can be used with the remote:



1. Axiom 2-Series chartplotters.
2. Axiom-Series chartplotters.
3. p70-Series autopilot controller.

3.5 System example

The following system example shows an RCU-1 Autopilot Remote Control connected to an autopilot system via the WG-1 Wireless Gateway.



1. RCU-1 Remote Autopilot Controller.
2. WG-1 Wireless Gateway.
3. DeviceNet to SeaTalk NG adapter cable.
4. Evolution-Series sensor (e.g.: EV-1).
5. Evolution-Series ACU (e.g.: ACU-200).
6. RS150 GNSS (GPS) receiver.
7. p70Rs autopilot control head.
8. Alpha-Series displays.
9. SeaTalk NG power connection (12 V dc **only**).
10. Axiom 2 Pro chartplotter.

CHAPTER 4: SOFTWARE DETAILS

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4.1 Applicable software version

Product software is updated regularly to add new features and improve existing functionality.

This document has been updated to reflect the following software version:

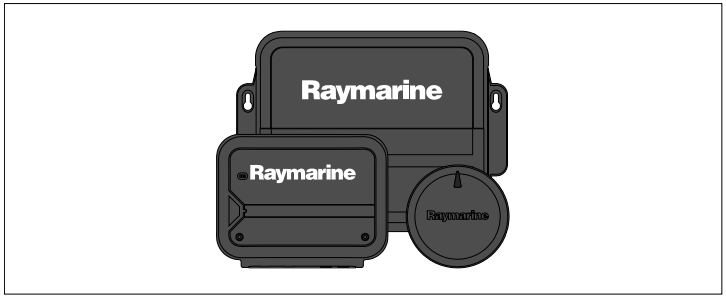
Applicable software version:
v1.08

Check the website for the latest software:

Software download link:
www.bit.ly/rym-software

4.2 Compatible autopilot systems

Your remote control is **only** compatible with Evolution-Series autopilot systems.



Note:
The EV-1 / EV-2 sensor requires software **v3.21**, or later.

Important:
The remote control is NOT compatible with any other Raymarine, or third-party autopilot systems.

4.3 Chartplotter compatibility

Axiom-Series and Axiom 2-Series chartplotters are compatible with the RCU-1 autopilot remote control.

Note:
Axiom-Series and Axiom 2-Series chartplotters require LightHouse 4 v4.11.103, or later.

4.4 Software updates

Product software updates may be made available which add new features and improve existing functionality. It's important to ensure that you have the latest software for your products by regularly checking the Raymarine website for new software releases.

To check for the latest software updates and the software update procedure for your specific product(s), refer to: www.bit.ly/rym-software

Unless otherwise stated, software updates for Raymarine products are performed using a Raymarine MFD / chartplotter.

- Where applicable, you should always backup your user data and settings before performing a software update.
- To update SeaTalk NG products, you must use the datamaster MFD / chartplotter which is physically connected to the SeaTalk NG backbone.
- Ethernet (RayNet) products can be updated from any MFD / chartplotter on the same network as the product to be updated.
- In order to perform a software update, any connected Autopilot or Radar must be switched to Standby.
- The MFD / chartplotter "Check online" feature is only available when connected to the Internet.

Note:
If in doubt as to the correct procedure for updating your product software, refer to your dealer or Raymarine technical support.

Caution: Installing software updates

• The software update process is carried out at your own risk. Before initiating the update process ensure you have backed up any important files.

• Ensure that the product(s) has a reliable power supply and that the update process is not interrupted.

• Damage caused by an incomplete update is not covered by Raymarine warranty.

• By downloading the software update package, you agree to these terms.

Updating multiple remotes

For systems that contain multiple remotes, each remote should be updated individually.

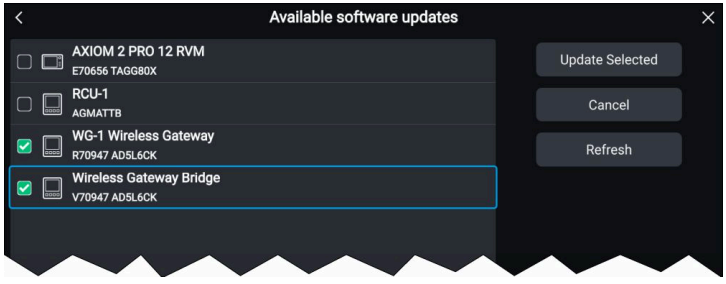
Important:

• Power off any additional remotes before starting the software update. Update each remote individually, ensuring only one remote is powered on during each update process.

• Failure to update remotes individually may result in prolonged software update times and the possibility of a process timeout occurring.

Wireless gateway software update

The gateway appears as 2 devices in the available software list. Both devices must be updated.



Ensure that both the *[WG-1 Wireless Gateway]* and the *[Wireless Gateway Bridge]* are updated with the same software version.

Updating software

This product's software can be updated using a connected LightHouse 4 chartplotter.

Refer to the *Software details* chapter of the LightHouse 4 Advanced Operation Instructions (document number: 81406) for details.

CHAPTER 5: GETTING STARTED

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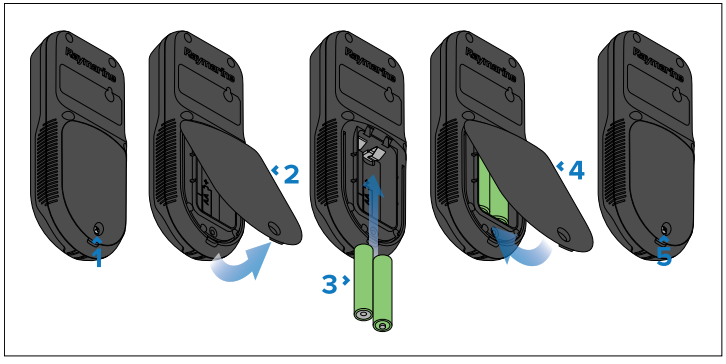
5.1 Inserting batteries

Use the supplied AA batteries to power the remote.

Before inserting the supplied batteries remove any protective packaging.

Note:

- Only use AA batteries to power the remote.
- Alkaline, Lithium or rechargeable batteries are recommended.
- It is also recommended that you purchase a spare pair of suitable AA batteries to limit any operational interruptions due to depleted batteries.

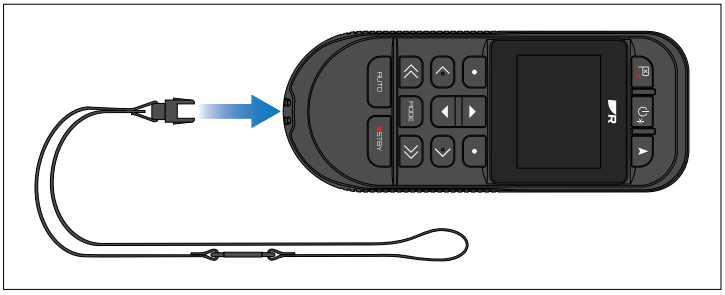


1. Unscrew the captive battery cover screw.
2. Remove the battery cover by pivoting the bottom of the cover away from the remote control.
3. Ensuring correct orientation, insert the new batteries.

   Correct battery orientation is indicated in the battery compartment, and is viewable when no batteries are fitted.
4. Replace the battery cover by inserting the top lugs into the remote control at a slight angle, and then push the bottom of the cover to its closed position.
5. Re-tighten the battery cover screw.

5.2 Connecting the lanyard

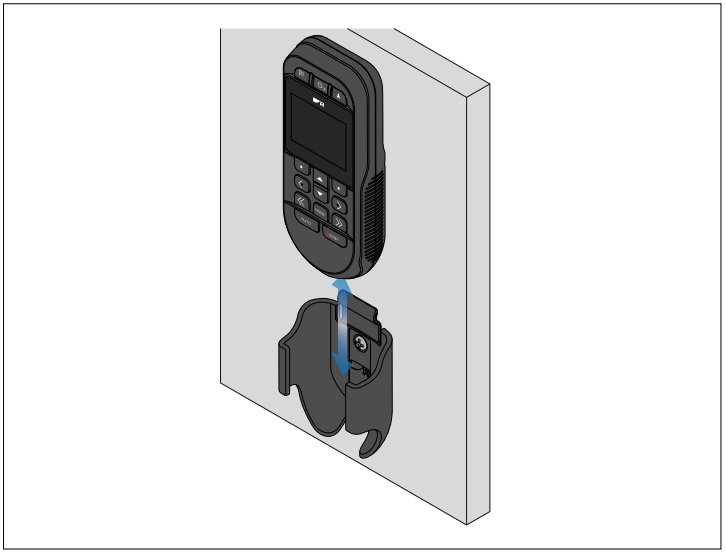
The supplied lanyard should be connected to the remote control.



1. Insert the end of the Lanyard into the holes located on the bottom of the remote control.

5.3 Using the cradle

When the remote is not in use it should be inserted in its cradle.



- **Inserting the remote:** Gently **push** the remote in a **downward** motion into the cradle, ensuring that the remote is pushed down

fully into the cradle. The remote remains fully operational while in its cradle.

- **Removing the remote:** Gently **pull** the remote in an **upward** motion out of the cradle.

5.4 Controls

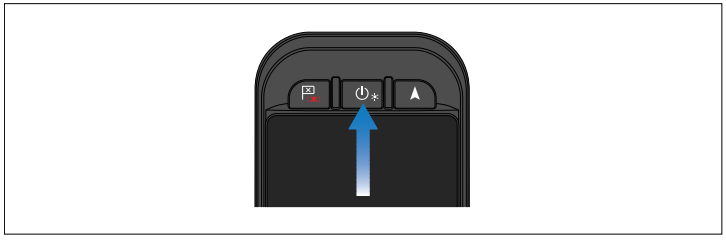
The RCU-1 has physical buttons which are used to interact with the remote's user interface. The details below describe the buttons and their functions.

General usage:

- Buttons 2, and 7 to 13 are used to control the autopilot.
- Buttons 3 to 6 are used to control the remote's user interface.

	Description
1	*[Waypoint / MOB]* — Press momentarily to place a waypoint at your vessel's location. A long press activates the Man Overboard (MOB) alarm.
2	*[Point and Go]* — Press to capture the remote's current bearing and place a *[GoTo]* at a defined distance.
3	*[Power]* • Press to power on. • When powered on, press to open the *[Brightness]* page. With the *[Brightness]* page displayed, pressing the *[Power]* button again increases the brightness in increments. • Press and hold to power off.
4	*[Up]* / *[Down]* — Use these buttons to move through menus, modify numeric settings, or adjust brightness from the Brightness page.
5	*[Left Softkey]* — The button's action is context-dependent, and is identified on the screen above the button.
6	*[Right Softkey]* — The button's action is context-dependent, and is identified on the screen above the button.
7	*[<]* (Left 1°) — Change Heading, Rudder angle, or Wind direction offset to port by 1° (one degree).
8	*[>]* (Right 1°) — Change Heading, Rudder angle, or Wind direction offset to starboard by 1° (one degree).
9	*[<<]* (Left 5° / 10°) • Change Heading, or Wind direction offset to port by 10° (ten degrees). • Increase rudder angle to port by 5° (five degrees)
10	*[>>]* (Right 5° / 10°) • Change Heading, or Wind direction offset to starboard by 10° (ten degrees). • Increase rudder angle to starboard by 5° (five degrees)
11	*[AUTO]* — Press to engage the autopilot in *[Steer to Heading mode]*.
12	*[STBY]* — Press to disengage the autopilot.
13	*[MODE]* — Press to open the autopilot modes menu.

5.5 Powering on the remote



1. Press the *[Power]* button to power on the remote.

The remote will beep and after a few seconds the *[Terms]* of use page will be displayed.
Once the *[Terms]* page has been accepted the first default data page will be displayed.

5.6 Powering off the remote

With the remote powered on:

1. Press and hold the *[Power]* button for approximately 2 seconds, until the powering down message is displayed onscreen.

5.7 Initial setup

User interface languages

The remote's user interface language can be changed from the *[Settings]* menu *[Menu > Settings > Language]*.

The available user interface languages are:

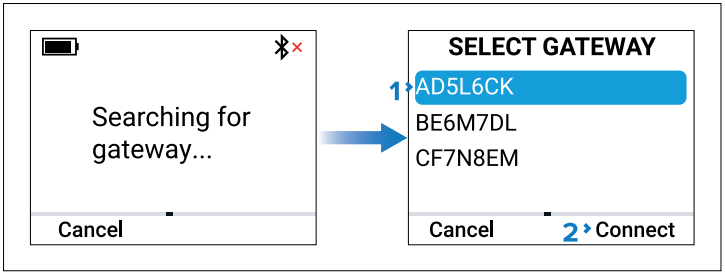
Languages			
Chinese (Simplified) (zh-CN)	Croatian (hr-HR)	Danish (da-DK)	Dutch (nl-NL)
English (en-GB)	English (en-US)	Finnish (fi-FI)	French (fr-FR)
German (de-DE)	Greek (el-GR)	Italian (it-IT)	Japanese (ja-JP)
Korean (ko-KR)	Norwegian (nb-NO)	Polish (pl-PL)	Portuguese (Brazilian) (pt-BR)
Russian (ru-RU)	Spanish (es-ES)	Swedish (sv-SE)	Turkish (tr-TR)

The selected language also determines the display's default units of measure.

Manual Bluetooth pairing

The remote control must be paired with the wireless gateway.

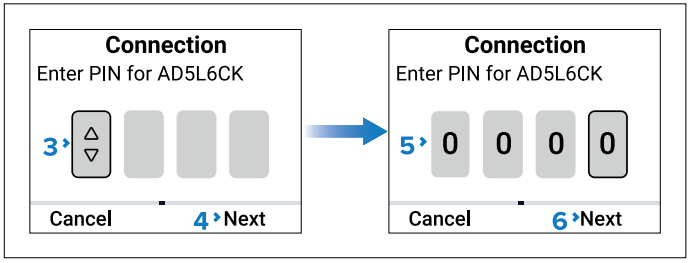
If your RCU-1 Autopilot Remote Control and WG-1 Wireless Gateway were purchased as a system pack (E70718), the remote control will be pre-paired to the wireless gateway. The remote control will automatically connect with the wireless gateway when it is powered on.
If you have purchased your remote control and wireless gateway separately (e.g. as a spare or accessory), the remote control will need to be manually paired to the wireless gateway.
When the remote is powered on, after accepting the *[Terms]* page, the remote will automatically start searching for wireless gateways.



1. Use the *[Up]* and *[Down]* buttons to highlight your wireless gateway in the list of devices.

   If more than one gateway is discovered, you can identify its serial number by checking its product label, or by checking the list of networked devices on a compatible chartplotter's Network settings menu: [Homescreen > Settings > Network].

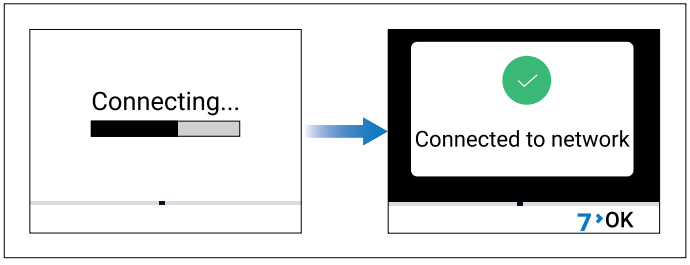
2. Press the *[Connect]* (Right softkey) button.



3. Enter the first digit of the PIN, using the *[Up]* and *[Down]* buttons.

Note:
The wireless gateway's PIN number is: **0000**.

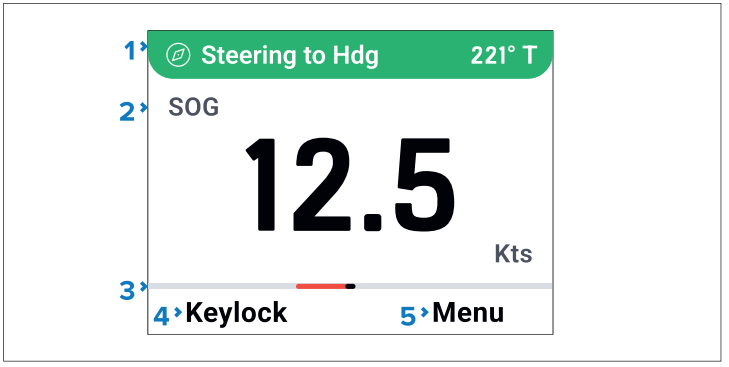
4. Press the *[Next]* (Right softkey) button.
5. Repeat steps 3 and 4 for the remaining 3 PIN digits.
6. After entering the fourth digit of the PIN, pressing the *[Next]* button will initiate the connection.



7. Press the *[OK]* button when the "*Connected to network*" message is displayed.

Note:
If the pairing process fails, re-check the wireless gateway's PIN number, power cycle the wireless gateway and the remote control, and then re-attempt pairing.

5.8 Screen overview

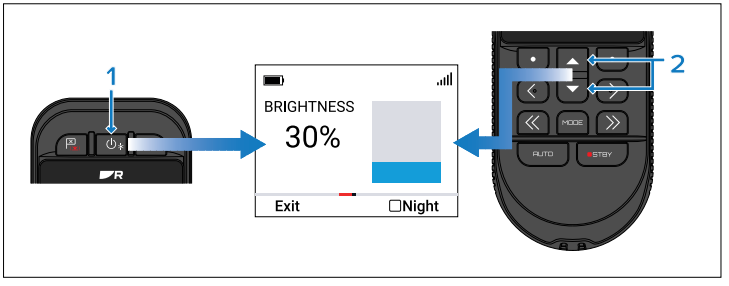


1. Autopilot status bar — The bar identifies the current pilot mode and expands when the *[MODE]* button is pressed so that an autopilot mode can be selected.
2. Main window — The main window is used to display data pages, notifications and menus.
3. Rudder indicator bar — The bar indicates rudder position.
4. *[Left soft]* button — Identifies the action assigned to the *[Left soft]* button
5. *[Right soft]* button — Identifies the action assigned to the *[Right soft]* button

The actions assigned to the *[Left soft]* button and *[Right soft]* button are context sensitive.

5.9 Adjusting the display brightness

The display backlight can be adjusted from the *[BRIGHTNESS]* page.



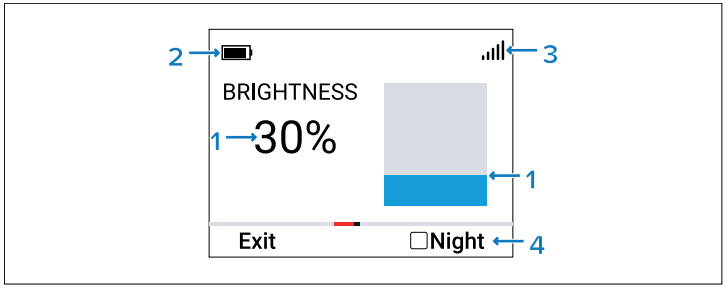
1. Press the *[Power]* button to open the *[BRIGHTNESS]* page.
2. Use the *[Up]* and *[Down]* buttons to adjust the display brightness in 10% increments.

With the *[BRIGHTNESS]* page displayed, the brightness can also be increased in 25% increments each time the *[Power]* button is pressed. This is useful to quickly adjust the brightness for daylight viewing, when the display is set for night time viewing.
The *[BRIGHTNESS]* page will timeout after approximately 5 seconds of inactivity.

5.10 Brightness page

Pressing the *[Power]* button opens the *[BRIGHTNESS]* page.

The *[BRIGHTNESS]* page includes the following:

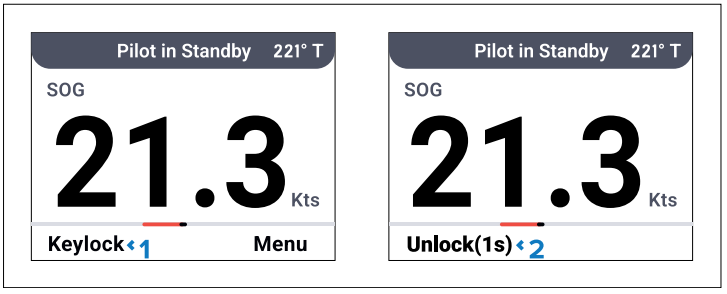


1. Brightness level.
2. Battery power level.
3. Bluetooth connection signal strength.
4. Night mode.

5.11 Keylock

The remote's buttons can be locked to prevent accidental operations.

By default, *[Keylock]* is assigned to the *[Left soft]* button. If a different shortcut has been assigned to the *[Left soft]* button *[Keylock]* can be activated from the *[Shortcut key]* menu: *[Menu > Settings > Shortcut keys > Lock keypad]*.

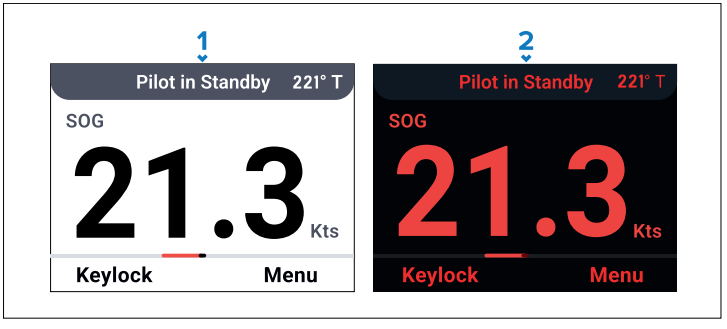


1. *[Keylock]* (Left soft) button — Press to activate *[Keylock]*.
2. *[Unlock(1s)]* (Left soft) button — Press for 1 second to deactivate *[Keylock]*.

While *[Keylock]* is active the *[STBY]* (Standby) button remains enabled and a Man Overboard can be triggered using the *[Waypoint/MOB]* button.

5.12 Switching to night mode

The remote includes a *[Night]* mode which reduces the display brightness and changes the color theme to a darker color palette, making the display easier to read at night.



1. *Day (default)*
2. *Night*

To switch to *[Night]* mode:

1. Press the *[Power]* button to open the *[BRIGHTNESS]* page.
2. Press the *[Night]* (Right soft) button to activate *[Night]* mode.

Switching between Night and Day modes will cause the remote to restart; however, the autopilot operation will be unaffected.
With the *[BRIGHTNESS]* page displayed, the brightness can also be increased in 25% increments each time the *[Power]* button is pressed. This is useful to quickly adjust the brightness for daylight viewing, when the display is set for night time viewing.
In *[Night]* mode, once 100% brightness is reached, the next press of the *[Power]* button will deactivate *[Night]* mode.
The *[BRIGHTNESS]* page will time-out after approximately 5 seconds of inactivity.

Warning: Day mode brightness warning

Switching from Night mode to Day mode instantly increases the display brightness to maximum. This will impact the operator's night vision, due to the relative brightness of Day mode in night time conditions.

5.13 Calibrating the internal sensors

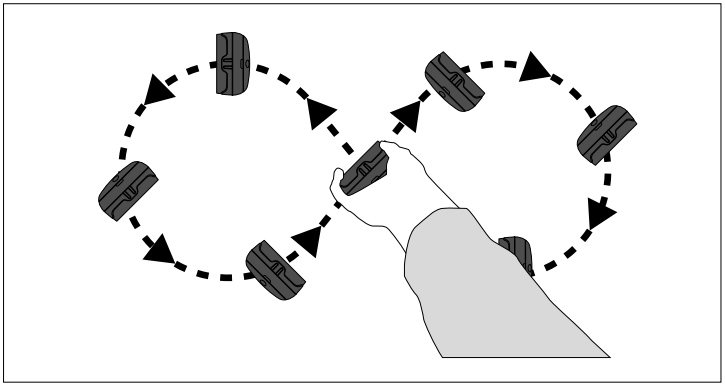
The remote includes an internal magnetometer, which may require calibration from time to time.

Important:

• Before performing the calibration, ensure that you are in an area free of sources that could cause interference with the remote's internal compass.

• Possible sources of interference can include: personal computers, smart devices such as cellular phones and tablets, motors, generators, VHF radios, audio speakers, power cables, metallic structures, etc.

To perform magnetometer calibration:



1. Ensure that you are in an area free of sources of interference.
2. Select *[Settings]* from the main menu.
3. Select *[Calibrate compass]*.
4. To calibrate the sensor, slowly move the remote in a continuous figure-of-eight motion while rotating it to maintain alignment with the direction of travel.

5.14 Setting data responsiveness

[Data responsiveness] determines how quickly the data displayed onscreen is updated when changes occur in data received from connected devices. Setting the *[Data responsiveness]* to a low value will dampen data fluctuations to provide a more stable reading. Setting the *[Data responsiveness]* to a higher value will reduce the damping and make readings more responsive.

1. Select *[Settings]* from the main menu.
2. Select *[Data responsiveness]*.
3. Use the *[Up]* and *[Down]* buttons to adjust the *[Data responsiveness]*.

Data responsiveness can be set between values 1 and 10, with 5 being the default value.

5.15 Setting the remote performance

The *[Performance]* setting determines the performance of the remote's battery saving settings.

1. Select *[Settings]* from the main menu.
2. Select *[Performance]*.

3. Select *[Backlight]* and use the *[Up]* and *[Down]* buttons to adjust the time in seconds before the display turns off when inactive.
4. Select *[Save]*.
5. Select *[Sleep]* and use the *[Up]* and *[Down]* buttons to adjust the time in minutes before the remote enters *[Sleep]* mode when inactive.
6. Select *[Save]*.
7. Select *[Power off]* and use the *[Up]* and *[Down]* buttons to adjust the time in hours before the remote is automatically powered off when inactive.
8. Select *[Save]*.

CHAPTER 6: AUTOPILOT MODES

CHAPTER CONTENTS

6.1 Supported autopilot modes

Autopilot modes are accessed by pressing the *[MODE]* button. The following modes are supported:

- *[Steer to Heading]* — The autopilot will automatically maintain the vessel's current heading. This mode is available for all vessel types.
- *[Steer to Navigation]* — The autopilot will automatically steer the vessel to a waypoint or follow a route set from a Raymarine chartplotter. This mode is available for all vessel types.
- *[Steer to Wind(A)]* — The autopilot will use AWA (Apparent Wind Angle) to maintain a fixed wind angle to the wind, at any point of sail. **This mode is only available for sailing vessel types**, and requires wind data to be available.
- *[Steer to Wind(T)]* — The autopilot will use TWA (True Wind Angle); calculated from AWA (Apparent Wind Angle) and STW (Speed Through Water) to maintain a fixed wind angle to the wind at any point of sail. **This mode is only available for sailing vessel types**, and requires wind data to be available.
- *[Steer to Polar]* — The autopilot will use the polar table configured on a Raymarine chartplotter to achieve optimum upwind (or downwind) performance, based on the polar table data. **This mode is only available for sailing vessel types**, and requires wind data to be available.
- *[Power Steer]* — The autopilot will command the rudder directly. **This mode is only available for power boat types / vessel hull types**.

6.2 Unsupported autopilot modes

The following autopilot modes are NOT supported by the remote:

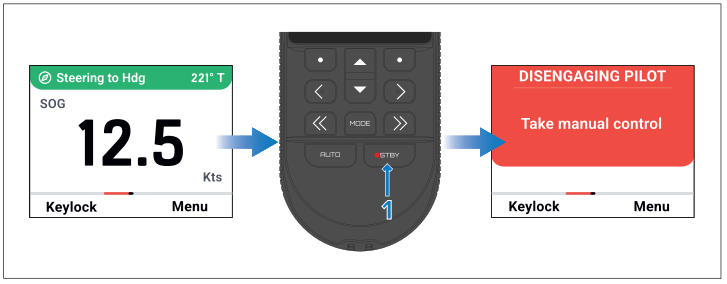
- *[Pattern]*
- *[Jog Steer]*

If an unsupported mode is engaged from a pilot controller or chartplotter, the remote screen will indicate the pilot mode, however the Override *[Left 1°]*, *[Right 1°]*, *[Left 10°]* and *[Right 10°]* buttons will be disabled.

6.3 Disengaging the autopilot — STBY

When the autopilot is engaged in any mode it can be disengaged from the remote.

Ensure you are ready to take manual control before disengaging the autopilot.

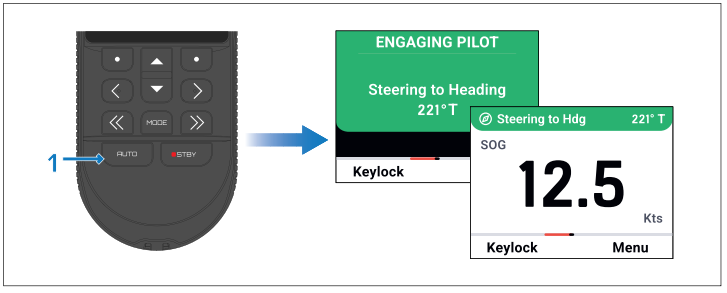


1. Press the *[STBY]* button.

6.4 Engaging the autopilot — Steer to Heading (AUTO)

When the *[AUTO]* button is pressed the autopilot will engage *[Steer to Heading]* mode. This mode is also commonly referred to as "Locked Heading" mode.

For Wheel and Tiller pilots, ensure that the mechanical drive is engaged by either engaging the wheel drive's clutch or attaching the pushrod onto the tiller pin.

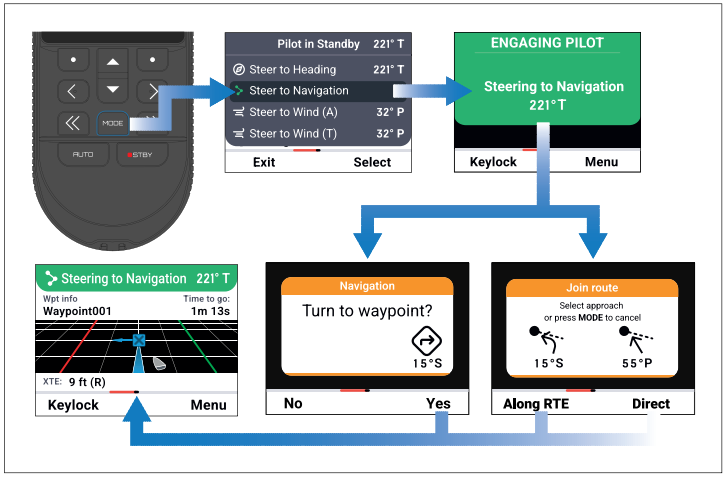


1. Press and hold the *[AUTO]* button

Steer to Heading mode can also be engaged by pressing the *[Mode]* button and selecting *[Steer to Heading]*.

6.5 Engaging the autopilot — Steer to Navigation

When there is active navigation on a connected chartplotter the remote can engage the autopilot in *[Steer to Navigation]* mode.



To engage your autopilot in *[Steer to Navigation]* mode:

1. For Wheel and Tiller pilots, engage the mechanical drive by either engaging the wheel drive's clutch or attaching the pushrod onto the tiller pin.
2. Initiate a *[Goto]* or *[Follow route]* on your chartplotter. For more information, refer to the ***LightHouse 4** Advanced Operation Instructions* (**81406**).

Important:
It is the captain's responsibility to ensure a route is safe to navigate before commencing the follow.

3. Press the *[MODE]* button.
4. Select *[Steer to Navigation]*.
   - If navigation is to a single waypoint, or your current cross track error is less than 30 m from the first waypoint in a route the *[Turn to waypoint]* notification is displayed.
   - If your current cross track error is greater than 30 m from the first waypoint in a route the *[Join route]* notification is displayed.
5. If the *[Turn to waypoint]* notification is displayed, select the *[Yes]* (Right soft) button to engage the autopilot, or
6. If the *[Join route]* notification is displayed:
   - Select the *[Along RTE]* (Left soft) button to engage the autopilot and steer your vessel back to its original track, or
   - Select the *[Direct]* (Right soft) button to engage the autopilot, restarting the track from your current position.

When *[Steer to Navigation]* is engaged the *[Navigation]* page will be displayed. For details refer to: **p.33** — Navigation page

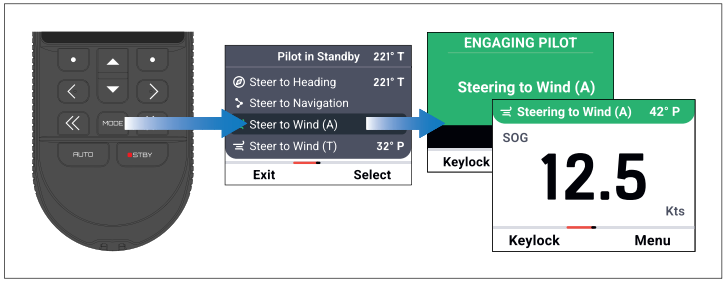
6.6 Engaging the autopilot — Steer to Wind

[Steer to Wind] modes can be engaged from the remote.

Note:
For the *[Steer to Wind]* modes to be available:

- Wind and Heading data must be available on the network.
- Your autopilot must be configured as a sailing *[Boat type]* / *[Vessel hull type]*. Refer to the commissioning instructions for your autopilot for details on how to configure the *[Boat type]* / *[Vessel hull type]*.
- *[Steer to Polar]* mode requires a valid polar table to be configured on your chartplotter.
- *[Steer to Polar]* also requires the wind angle to be within 30° of the polar target.

Example Steering to Wind (A)

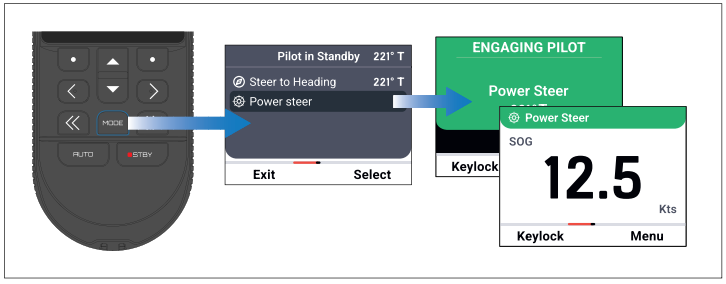


1. For Wheel and Tiller pilots, engage the mechanical drive by either engaging the wheel drive's clutch or attaching the pushrod onto the tiller pin.
2. Press the *[MODE]* button.
3. Select your desired *[Steer to Wind]* mode:

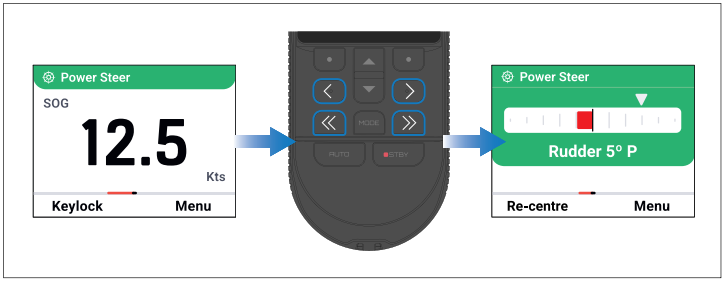
   [Steer to Wind (A)], *[Steer to Wind (T)]*, or *[Steer to Polar]*.

6.7 Engaging the autopilot — Power steer

The remote can command the rudder directly.



1. Press the *[MODE]* button.
2. Select *[Power steer]*.



You can now use the *[Left]* and *[Right]* buttons to steer the vessel.

6.8 Steer to Heading

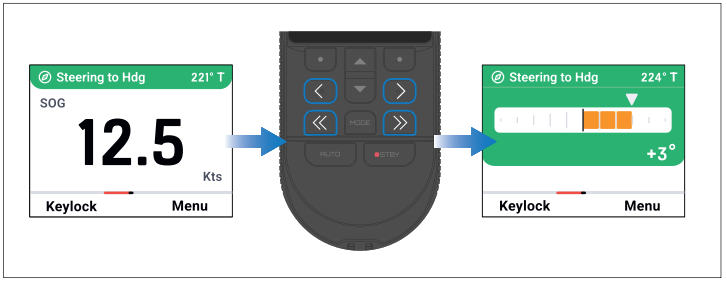
In *[Steer to Heading]* mode, your autopilot follows a locked heading.

While in *[Steer to Heading]* mode the following options are available from the remote:

- Change autopilot mode — Press the *[MODE]* button to switch to a different autopilot mode.
- Change the current locked heading — Use the *[Left]* and *[Right]* buttons to adjust the locked heading.
- Disengage the autopilot — Press the *[STBY]* (Standby) button to resume manual steering.

Adjusting locked heading

In *[Steer to Heading]* mode the remote can be used to change the locked heading.



1. Use the adjustment buttons to change the locked heading:
   - *[<]* (Left 1°) — Each press will change the locked heading by 1° to the left.

- *[<<]* (Left 10°) — Each press will change the locked heading by 10° to the left.
- *[>]* (Right 1°) — Each press will change the locked heading by 1° to the right.
- *[>>]* (Right 10°) — Each press will change the locked heading by 10° to the right.

6.9 Steer to Navigation

In *[Steer to Navigation]* mode, your autopilot will navigate to a waypoint, GoTo, or follow a route that has been initiated from your chartplotter.

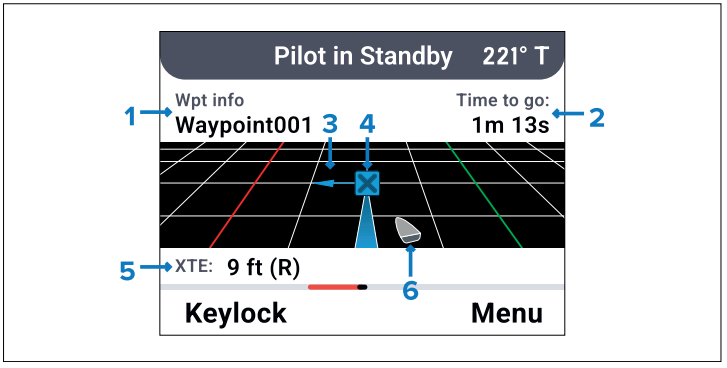
When *[Steer to Navigation]* is initiated the *[Navigation page]* is displayed. While in *[Steer to Navigation]* mode the following options are available from the remote:

- Change autopilot mode — Press the *[MODE]* button to select a different autopilot mode.
- Switch to *[Steer to Heading]* — Press the *[AUTO]* button to switch to *[Steer to Heading]* mode.
- Change the current heading — Use the *[Left]* and *[Right]* buttons to adjust the locked heading.
- Disengage the autopilot — Press the *[STBY]* (Standby) button to resume manual steering.

Navigation page

The *[Navigation page]* can be added as a data page. The *[Navigation page]* shows information about the vessel's progress towards a target waypoint.

Navigation page overview



The *[Navigation page]* provides the following navigation details:

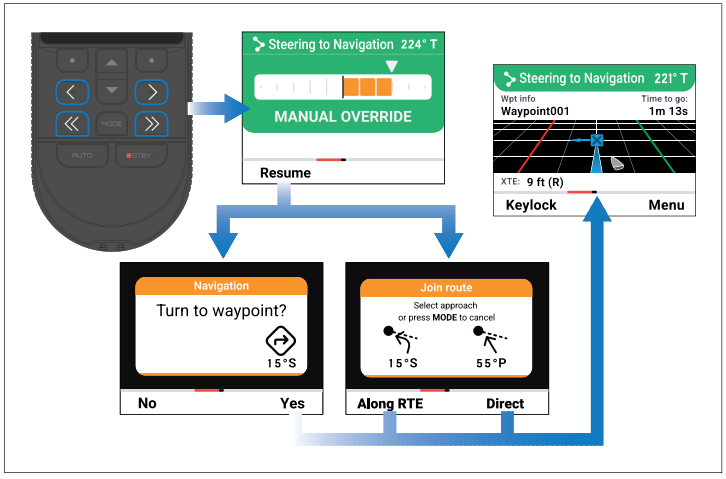
1. Waypoint name.
2. Time to go.
3. Next waypoint direction (applicable for routes).
4. Target waypoint.
5. XTE (Cross track error) (if applicable).
6. Vessel position.

Note:
An arrow indicating whether you are to the right or left of the track will be shown instead of the vessel icon, if the current cross track error is greater than the value configured in your pilot controller's, or chartplotter's cross track error alarm.

Overriding navigation

[Steer to Navigation] mode can be temporarily overridden so that an obstacle can be avoided without disengaging the autopilot.

If an obstacle is in your path follow the steps below to override navigation:



1. Use the adjustment buttons to override navigation and change your heading to avoid the obstacle:
   - *[<]* (Left 1°) — Each press will change the autopilot's course by 1° to the left.
   - *[<<]* (Left 10°) — Each press will change the autopilot's course by 10° to the left.
   - *[>]* (Right 1°) — Each press will change the autopilot's course by 1° to the right.
   - *[>>]* (Right 10°) — Each press will change the autopilot's course by 10° to the right.
2. Press the *[Resume]* (Left soft) button once you are clear of the obstacle.

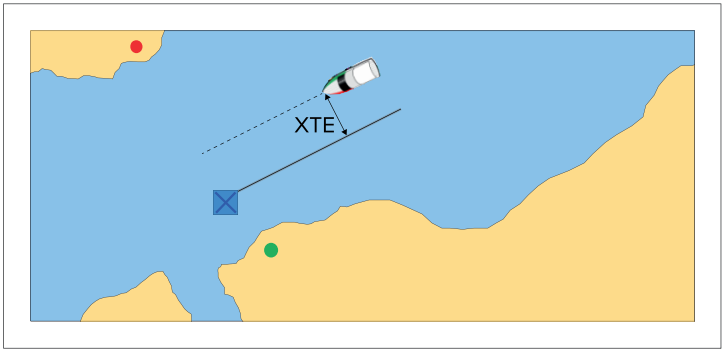
   If applicable, the *[Turn to waypoint]*, or *[Join route]* notification will be displayed.
3. If the *[Turn to waypoint]* notification is displayed, select the *[Yes]* (Right soft) button to engage the autopilot, or
4. If the *[Join route]* notification is displayed:
   - Select the *[Along RTE]* (Left soft) button to engage the autopilot and steer your vessel back to its original track, or
   - Select the *[Direct]* (Right soft) button to engage the autopilot, restarting the track from your current position.

[Steer to Navigation] will recommence.

Cross Track Error (XTE)

Cross Track Error (XTE) occurs when your vessel is steered or drifts off its original course (track). The distance between your original course and your current position is the Cross Track Error (XTE).

The Cross Track Error is relative to the track and not the vessel heading. Therefore, Cross Track Error values are specified in terms of distance to the left or right of the track.



When a Cross Track Error exists, you can steer your vessel back on to its original track, or you can restart the Cross Track Error value and use your current position as the starting point for a new track.

Restarting cross track error

When a cross track error (XTE) exists is can be restarted

1. Press the *[Menu]* (Left soft) button.
2. Select *[Restart XTE]*.

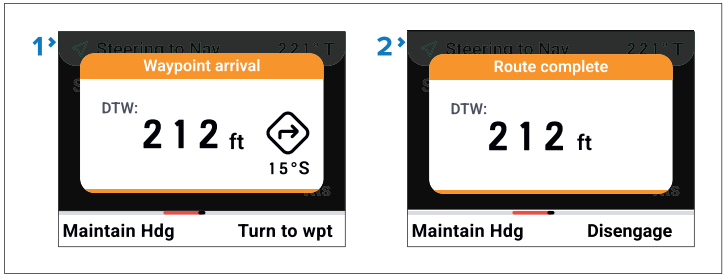
   The *[Turn to waypoint]* notification is displayed.
3. Press the *[Yes]* (Right soft) button.

A new track will be created from your current position to the target waypoint.

Waypoint arrival and route complete

In *[Steer to Navigation]* mode, when you reach a target waypoint a notification is displayed.

You are deemed to have arrived at a waypoint when your vessel reaches the distance from the waypoint as specified in your chartplotter's *[Arrival radius (pilot in track mode)]* setting.



1. **Waypoint arrival notification** — When arriving at an interim waypoint in a route the *[Waypoint arrival]* notification is displayed. The Waypoint arrival notification will include the remaining Distance To the Waypoint (DTW) and the turn angle required for the next waypoint. The options available to you are:
   - **Maintain heading** — Select the *[Maintain Hdg]* (Left soft) button to switch to *[Steer to Heading]* mode.
   - **Turn to the waypoint** — Select the *[Turn to wpt]* (Right soft) button to turn towards the next waypoint in the route.
   - **Disengage the autopilot** — Press the *[STBY]* button to resume manual steering.
2. **Route complete notification** — When arriving at a target *[GoTo]* waypoint, or to the final waypoint in a route the *[Route complete]* notification is displayed. The Route complete notification will include the remaining Distance To the Waypoint (DTW). The options available to you are:
   - **Maintain heading** — Select the *[Maintain Hdg]* (Left soft) button to switch to *[Steer to Heading]* mode.
   - **Disengage the autopilot** — Press the *[Disengage]* (Right soft) button to resume manual steering.

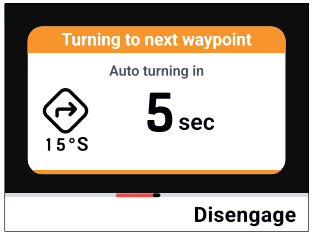
Automatic turning

If *Automatic turning* is configured on your chartplotter, the autopilot will automatically turn to the next waypoint when following a route in *[Steer to Navigation]* mode, once the vessel reaches the distance specified in the chartplotter's *[Arrival Radius (pilot in track mode)]* setting.

Note:

- *Automatic turning* is not available when the chartplotter has been configured with the "Sailing" boating activity.
- For details on configuring *Automatic turning* refer to the ***LightHouse 4*** *Operation instructions* (Document number 81406).

A notification is displayed informing you that *Automatic turning* will commence.



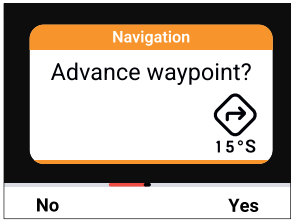
The notification includes a countdown. When the countdown reaches zero the vessel will turn.

If you do not want the vessel to turn select the *[Disengage]* (Right soft) button to resume manual steering.

Advance waypoint

When following a route in *[Steer to Navigation]* mode, if the current target waypoint is not the final waypoint in the route the *[Advance waypoint]* setting will be available in the main menu.

Selecting *[Advance waypoint]* will display a confirmation notification.



Selecting the *[Yes]* (Right soft) button will skip the current target waypoint and commence navigation to the next waypoint in the route.

6.10 Steer to wind modes

Steer to wind modes use your autopilot to steer your vessel to the wind. You can steer either to the Apparent Wind Angle (AWA), True Wind Angle (TWA), or to a target wind angle from a polar table.

Note:
For the *[Steer to Wind]* modes to be available:

- Wind and Heading data must be available on the network.
- Your autopilot must be configured as a sailing *[Boat type]* / *[Vessel hull type]*. Refer to the commissioning instructions for your autopilot for details on how to configure the *[Boat type]* / *[Vessel hull type]*.
- *[Steer to Polar]* mode requires a valid polar table to be configured on your chartplotter.
- *[Steer to Polar]* also requires the wind angle to be within 30° of the polar target.

The wind modes available depend on the selected *[Sail performance]* setting in your chartplotter's *[Boat details]* menu.

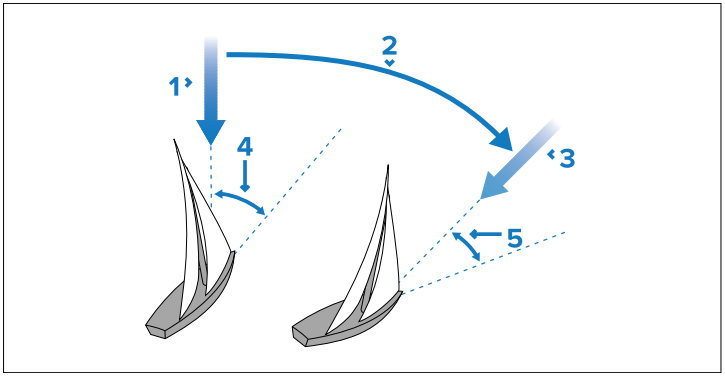
The available wind modes are:

- *[Steer to Wind (T)]* — Use the True Wind Angle (TWA) to maintain a fixed wind angle over water, observed when stationary, and relative to the vessel's bow.
- *[Steer to Wind (A)]* — Use the Apparent Wind Angle (AWA) to maintain a fixed wind angle when the vessel is in motion, relative to the vessel's heading, and at any point of sail.
- *[Steer to Polar]* — Only available when the chartplotter's *[Sail performance]* setting is set to *[Polar]*. Use *[Steer to Polar]* to achieve optimum upwind (or downwind) performance based on your polar table.

Mirrored TWA and Fixed angles

When your chartplotter's *[Sail performance]* is set to either *[Mirrored TWA]* or *[Fixed angles]* the TWA and AWA steer to wind modes will be available.

When using the TWA mode or AWA mode the vessel will automatically steer towards the selected wind angle. The wind angle can be adjusted in 1° or 10° increments using the relevant buttons. If a wind shift occurs, the autopilot will adjust the locked heading to maintain the original wind angle.



1. Initial wind direction.
2. Wind shift.
3. New wind direction.
4. Relative wind angle.
5. Vessel turns to maintain the same relative wind angle.

Target wind angle from polar

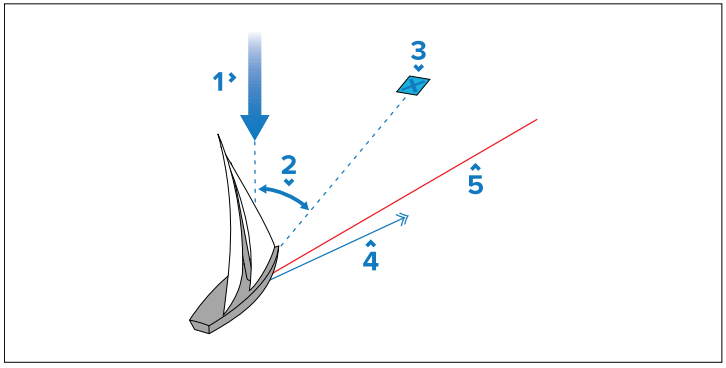
When the chartplotter's *[Sail performance]* is set to *[Polar]* and the wind angle is within 30° of the polar target wind angle, the vessel will automatically steer towards the relevant TWA based on current

True Wind Speed (TWS) for *vessel speed*, as specified in your polar table. The upwind or downwind, port or starboard target wind angle is used, depending on which is closest to the current wind angle.

The system tries to use the closest target wind angle to the actual wind angle. If the target wind angle is more than plus or minus 30° from the actual wind angle, the mode cannot be enabled.

You can adjust the target wind angle in 1° increments using the relevant buttons.

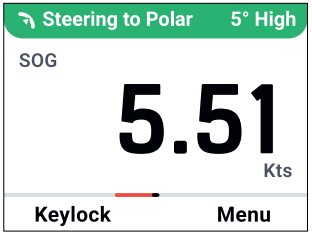
If the wind shifts, or the wind angle is changed by more than 30° from the polar target, the system will revert to the previously used mode (TWA or AWA).



1. Wind angle.
2. Target wind angle.
3. Destination.
4. Course Over Ground (COG).
5. Layline (with *[Adjust for tides]* enabled).

Polar performance

In *[Steer to Polar]* mode the pilot bar will include current wind angle and the performance to the polar target.



The performance values are:

- **On target** — Shown when the wind angle is on target.
- **High** — Shown when steering closer to the wind direction (while sailing upwind or downwind).
- **Low** — Shown when steering further from the wind direction (while sailing upwind).
- **Deep** — Shown when steering further from the wind direction (while sailing downwind).

Operating hints for wind vane mode

- Always trim your sails carefully to minimize the amount of standing helm.
- Reef the headsail and mainsail a little early rather than too late.
- In Wind Vane mode the autopilot will react to long-term wind shifts, but will not correct for short-term changes such as gusts.
- In gusty and unsteady inshore conditions, it is best to sail a few degrees further off the wind so that changes in wind direction can be tolerated.

Caution: Allow time

Always allow adequate time for course changes.

> **Caution: Major course changes**
>
> When making major course changes, the trim on the boat may change substantially. Due to this, the autopilot may take some time to settle accurately onto the new course.

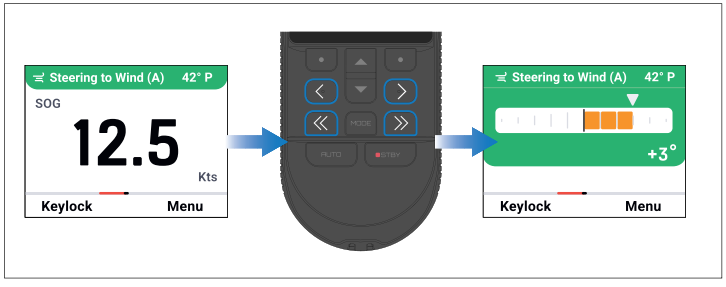
Steer to Wind

While in *[Steer to Wind]* modes the following options are available from the remote:

- Change autopilot mode — Press the *[MODE]* button to change autopilot mode.
- Change the current locked wind angle — Use the *[Left]* and *[Right]* buttons to adjust the wind angle.
- Disengage the autopilot — Press the *[STBY]* (Standby) button to resume manual steering.

Adjusting the wind angle

In *[Steer to Wind]* modes the remote can be used to change the wind angle the autopilot is steering towards.

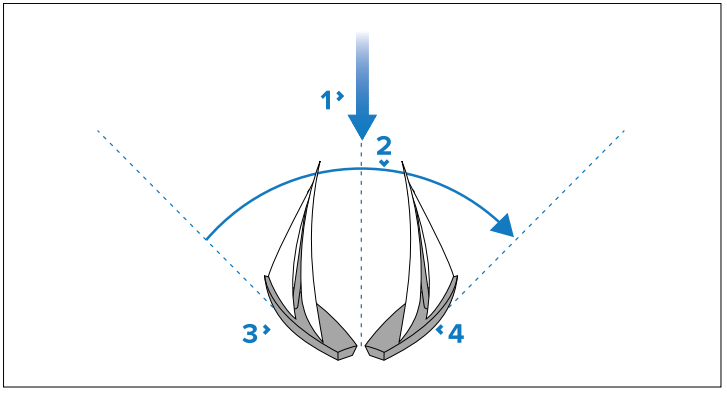


1. Use the adjustment buttons to change the current wind angle:
   - *[<]* (Left 1°) — Each press will change the wind angle by 1° to the left.
   - *[<<]* (Left 10°) — Each press will change the wind angle by 10° to the left.
   - *[>]* (Right 1°) — Each press will change the wind angle by 1° to the right.
   - *[>>]* (Right 10°) — Each press will change the wind angle by 10° to the right.

Tacking

When sailing upwind, in *[Steer to Wind]* modes settings will be available to tack your vessel. Tacking your vessel will turn the vessel to the same offset on the opposite side of the wind

Tacking is always relative to wind angle and is not adjustable. Performing a Tack will always be through the wind.



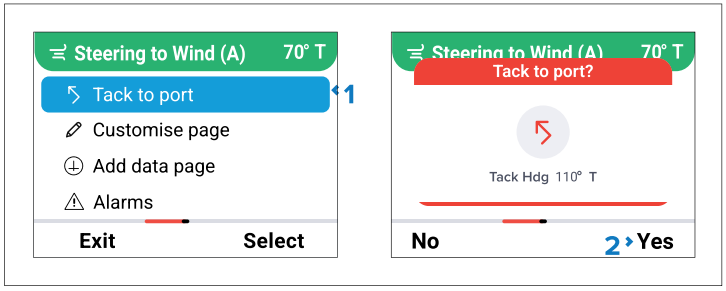
1. Wind direction.
2. Tack.
3. Starting position.
4. Final position.

Performing a tack

Use the *[Tack]* settings to perform a *[Tack]*.

- If your current locked wind angle is to starboard, the *[Tack to port]* setting will be available.
- If your current locked wind angle is to port, the *[Tack to starboard]* setting will be available.

Example Port tack



1. Select either *[Tack to port]*, or *[Tack to starboard]* from the main menu.
2. Press the *[Yes]* (Right soft) button to confirm the tack.

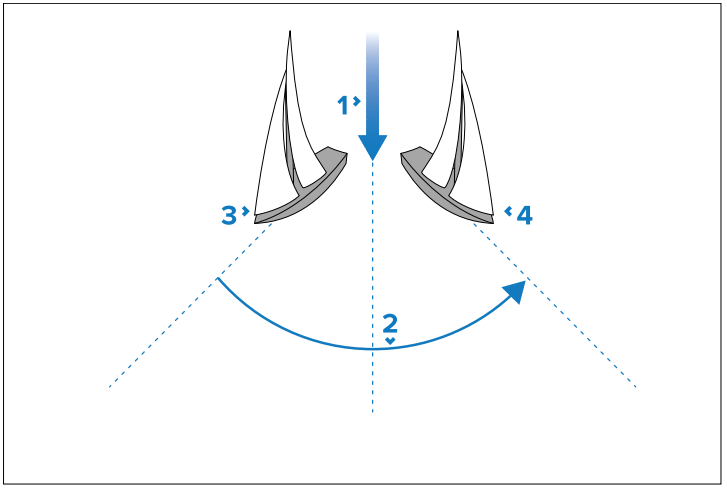
When you tack the vessel turns through the Tack angle. The autopilot will then adjust the heading to mirror the locked wind angle from the previous tack.

Gybing

When sailing downwind, in *[Steer to Wind]* modes settings will be available to gybe your vessel. Gybing your vessel will turn the vessel to the same offset on the opposite side of the wind.

Note:
Performing a Gybe will always be away from the wind. Gybes will be prevented if the autopilot's *[Gybe inhibit]* setting is set to *[Prevent Gybes]*.

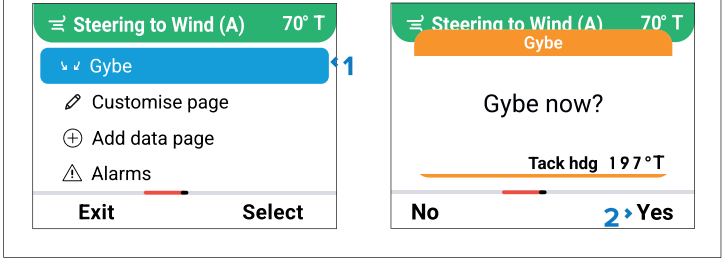
Gybing is always relative to wind angle and is not adjustable.



1. Wind direction.
2. Gybe.
3. Starting position.
4. Final position.

Performing a gybe

The *[Gybe]* setting can be used to *[Gybe]* your vessel.



1. Select *[Gybe]* from the main menu.
2. Press the *[Yes]* (Right soft) button to confirm the gybe.

When you Gybe in a Steer to wind mode, the vessel turns through the Gybe angle. The autopilot will then adjust the heading to mirror the locked wind angle from the previous Gybe.

6.11 Power steer

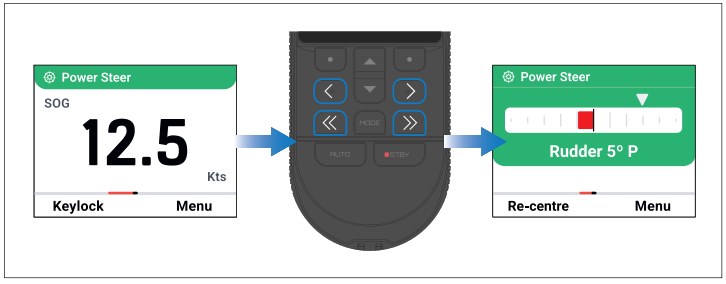
[Power steer] mode enables you to directly control the rudder using the remote's *[Left]* and *[Right]* buttons.

While in *[Power steer]* mode the following options are available from the remote:

- Change autopilot mode — Press the *[MODE]* button to change the autopilot mode.
- Turn the rudder — Use the *[Left]* and *[Right]* buttons to adjust the rudder angle.
- Center the Rudder — Press the *[Left Softkey]* to *[Re-centre]* the rudder.
- Disengage the autopilot — Press the *[STBY]* (Standby) button to resume manual steering.

Steering the vessel

In *[Power steer]* mode the remote can be used to command the rudder directly.



1. Use the adjustment buttons to change rudder angle:
   - *[<]* (Left 1°) — Each press will change the rudder angle by 1° to the left.
   - *[<<]* (Left 5°) — Each press will change the rudder angle by 5° to the left.
   - *[>]* (Right 1°) — Each press will change the rudder angle by 1° to the right.
   - *[>>]* (Right 5°) — Each press will change the rudder angle by 5° to the right.

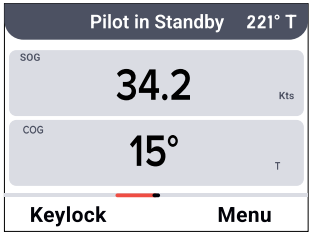
CHAPTER 7: DATA PAGES

CHAPTER CONTENTS

7.1 Data pages

Data pages are used to display supported data that is transmitted from connected devices and sensors.

Example data page



There are 6 of default data pages. The *[Up]* and *[Down]* buttons are used to cycle through the data pages.

These pages can be customized or deleted. When pages have been deleted new pages can be created.

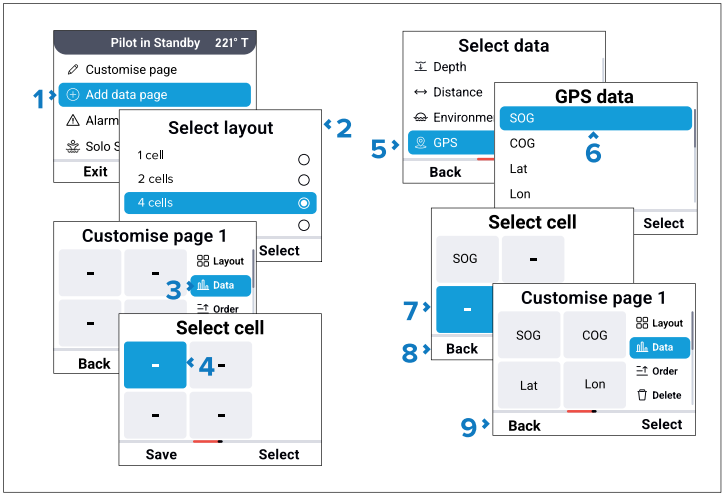
The remote can have up to 6 data pages.

7.2 Creating a data page

Note:

• The *[Add data page]* option is only available if the remote has less than 6 data pages.

• If *[Pilot control]* is enabled the autopilot must be in *[Standby]* for new data pages to be added.



From the main menu:

1. Select *[Add data page]*.
2. Select a page layout.

   Select 1 cell, 2 cells, or 4 cells as required. You can also add a [Navigation page].
3. Select *[Data]*.
4. Select the cell you want to add data to.
5. Select the relevant data category.
6. Select the desired data item.
7. Repeat steps 5 to 7 for the remaining cells.
8. Select the *[Back]* (Left soft) button.
9. Select the *[Back]* (Left soft) button again to exit the page creation page.

7.3 Customizing a data page.

Existing data pages can be customized.

With the data page you want to customize displayed:

1. Press the *[Menu]* (Right soft) button.
2. Select *[Customize page]*.
3. From the Customize menu you can:

   • Select *[Layout]* to change the number of data cells on the page.

- Select *[Data]* to change the data item in each cell.
- Select *[Order]* to change the order that data pages appear.
- Select *[Delete]* to delete the current data page.

7.4 Deleting data pages

With the data page you want to delete displayed:

1. Press the *[Menu]* (Right soft) button.
2. Select *[Customize page]*.
3. Select *[Delete]*.
4. Select the *[Yes]* (Right soft) button.

If all data pages are deleted the remote's main screen will show the Raymarine logo.

7.5 Data items

The following data items can be added to data pages:

	Data category	Data Items
	*[Depth]*	• *[Depth]*
	[Distance]	• *[Log]* • *[Trip]* • *[Distance to Waypoint]* • *[Cross Track Error]* • *[Distance to tack]* • *[Sailing distance to waypoint]*
	*[Environment]*	• *[Water Temperature]*
	*[GPS]*	• *[Speed Over Ground]* • *[Course Over Ground]* • *[Latitude]* • *[Longitude]* • *[HDOP]* • *[Accuracy]* • *[Num of satellites]* • *[Vessel position]*
	*[Heading]*	• *[Heading]* • *[Locked heading]* • *[Course Over Ground]* • *[Opp tack heading]*
	*[Navigation]*	• *[Bearing To Waypoint]* • *[Distance to Waypoint]* • *[Cross Track Error]* • *[Waypoint name]* • *[Distance to tack]* • *[Next leg bearing]* • *[Sailing distance to waypoint]* • *[Time to destination]* • *[Time to waypoint]* • *[Waypoint Sailing TTG]* • *[VMG Waypoint]*
	*[Pilot]*	• *[Locked heading]*

	Data category	Data Items
	*[Speed]*	• *[Speed (through water)]* • *[Speed Over Ground]* • *[Target speed]* • *[Polar performance]* • *[VMG Windward]* • *[VMG to Waypoint]*
	*[Time]*	• *[Time]* • *[Date]* • *[Time to destination]* • *[Time to waypoint]* • *[Waypoint Sailing TTG]* • *[Countdown]*
	*[Wind]*	• *[Apparent Wind Angle]* • *[Apparent Wind Speed]* • *[True Wind Angle]* • *[True Wind Speed]* • *[Target AWA]* • *[Target TWA]*

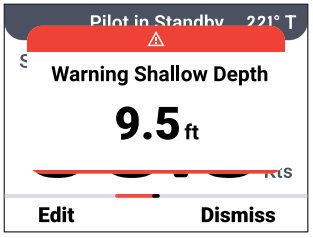
CHAPTER 8: ALARMS

CHAPTER CONTENTS

8.1 Alarms

When an alarm is triggered, an alarm notification is shown and an audible beep is sounded. The remote includes support for *[System alarms]* and *[Local alarms]*.

Example alarm notification



- Press the *[Dismiss]* (Right soft) button to dismiss the alarm.
- Press the *[Edit]* (Left soft) button to dismiss the alarm and open the Alarm settings to change the alarm's configuration.

Instrument alarms

When an *[Instrument alarm]* is activated a notification will appear along with an audible beep on all compatible devices connected to the network.

Acknowledging a system alarm will dismiss/cancel the alarm on all devices.

Instrument alarms can be either:

- *[Configurable alarms]* — Configurable alarms can be enabled, disabled and a trigger threshold set from an instrument display.
- *[Fault alarms]* — A hardware or condition fault alarm, such as autopilot alarms are not usually configurable but may be able to be enabled and disabled on individual devices.

Please refer to the *Alarm settings* section of the device's *Operation instructions* to see which alarms are supported.

Local alarms

A *[Local alarm]* is an alarm that is configured individually on each supported device. When a *[Local alarm]* is triggered it is only shown on that device.

Some *[Instrument alarms]* can be configured as a *[Local alarm]*. This allows you to configure a different trigger threshold than the threshold for the *[Instrument alarm]*.

If a *[Local alarm]* is changed to a *[Instrument alarm]* the *[Local]* threshold *[Value]* will be disabled.

Please refer to the *Alarm settings* section of the device's *Operation instructions* to see which alarms are supported.

Configuring an alarm example

As an example the *[Shallow depth]* alarm can be configured as a *[Instrument alarm]*, or a *[Local alarm]*.

Follow the steps below to configure the *[Shallow depth]* alarm as a *[Local alarm]*.

1. Select *[Alarms]* from the *[Settings]* menu.
2. Scroll down to *[Shallow depth]*.
3. Select *[Local alarm]*.
4. Select *[Value]*.
5. Use the *[Up]* and *[Down]* buttons to set a trigger threshold.
6. Select *[Save]*.

The *[Shallow depth]* alarm will now trigger on the remote when your vessel's depth reading reaches the specified *[Value]*.

Note:
This will not impact a system *[Shallow depth]* alarm from triggering on other devices when the system trigger threshold is reached.

Selecting *[Instrument alarm]* will disable the *[Local alarm]*.
Selecting *[None]* will disable both the *[Instrument alarm]* and *[Local alarm]* on the remote.

8.2 Alarm settings

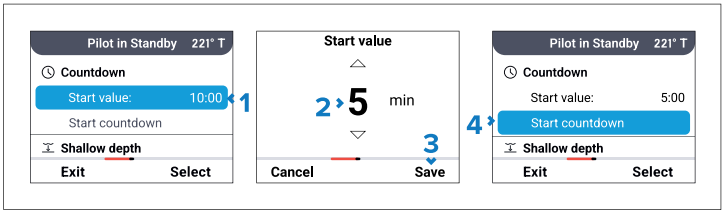
Supported alarms are configured from the *[Alarms]* menu.

Alarm	Description\Options	Behavior
[Lost connection MOB]	Toggle switch	System (When enabled)
[Countdown]	When the countdown not active the following options are available: • *[Start value]* • *[Start countdown]* With the countdown active the following options are available: • *[Stop countdown]* • *[Pause countdown]* With the countdown paused the following options are available: • *[Restart countdown]* • *[Reset]*	Local only
(1)*[Shallow depth]*	• *[Instrument alarm]* • *[Local alarm]* • *[Value]* • *[None]*	Instrument, or local
[High wind speed]	• *[Value]* • *[Alarm]*	Local only
[Low wind speed]	• *[Value]* • *[Alarm]*	Local only
[Pilot alarms]	• *[Notifications]*	System (When enabled)
[Waypoint arrival]	• *[Notifications]*	System (When enabled)
[Lost GNSS fix]	• *[Notifications]*	System (When enabled)

Note:
(1)When the *[Shallow depth]* alarm is set to *[System]* the remote control will share this alarm with compatible SeaTalk NG Instruments. The alarm is NOT shared with chartplotters.

8.3 Setting the countdown timer

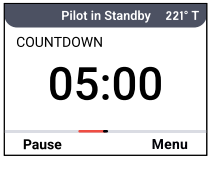
The countdown timer is located in the *[Alarms]* menu.



From the *[Alarms]* menu:

1. Select *[Start value]*.
2. Use the *[Up]* and *[Down]* buttons to adjust the *[Start value]*.
3. Select *[Save]*.
4. Select *[Start countdown]*.

The countdown timer page will be displayed.



While the countdown timer is running:

- An audible tone will sound from 5 minutes at each whole minute.
- An audible tone will sound from 10 seconds for each whole minute.
- When the timer reaches zero an alarm will sound and a notification is displayed.

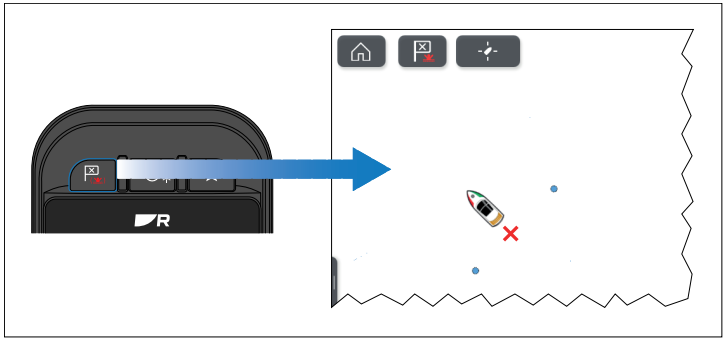
You can *[Pause]* and *[Resume]* the countdown using the Left soft button

CHAPTER 9: POINT AND GO AND WAYPOINTS

CHAPTER CONTENTS

9.1 Waypoints

When the remote is connected to a system that includes a chartplotter, waypoints can be placed at your vessel's current location using the remote.

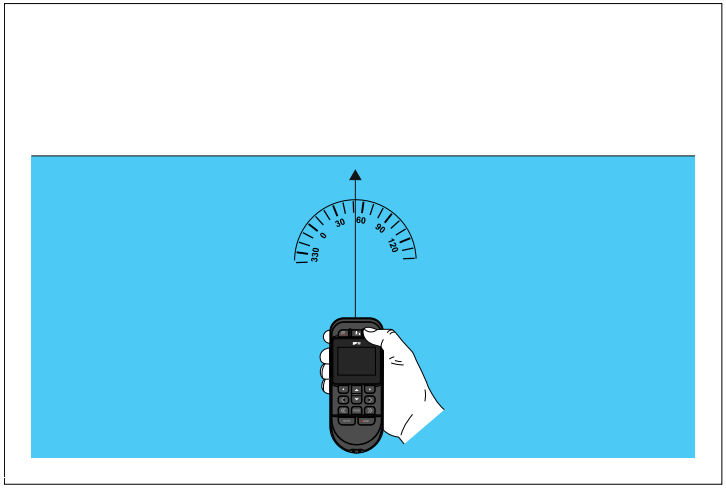


Press the *[Waypoint / MOB]* button to place a waypoint.

You can view the waypoint from your chartplotter.

9.2 Point and Go

A *[Point and Go]* can be initiated from the remote using the *[Point and Go]* button.



When the *[Point and Go]* button is pressed the bearing at which the remote is pointing will be used, in conjunction with a user defined *[Range]* to initiate active navigation and engage the autopilot in *[Steer to Navigation]* mode.

The *[Point and Go]* feature requires a compatible chartplotter to be connected to the system.

Note:
The *[Point and Go]* feature requires the remote's internal sensors to be calibrated, If calibration has not been carried out you will be requested to do so when the *[Point and Go]* button is first pressed. For details on calibrating the compass refer to:
p.27 — Calibrating the internal sensors

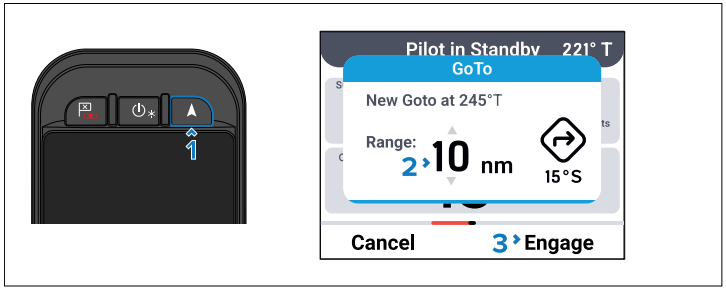
9.3 Performing a Point and Go

Procedure for using the Point and Go feature.

Note:

- For the best accuracy, calibrate and operate the *[Point and Go]* feature in an area free of sources that could cause interference with the remote's internal compass.
- Possible sources of interference can include: personal computers, smart devices such as cellular phones and tablets, motors, generators, VHF radios, audio speakers, power cables, metallic structures, etc.
- If you find that the Point and Go is off target, check that you are away from sources of interference and retry. Re-calibrate if necessary. For calibration instructions refer to:
p.27 — Calibrating the internal sensors

Holding the remote horizontally, pointing in the direction in which you wish to travel:



1. Ensure that you are in an area free of sources of interference.
2. Press the *[Point and Go]* button.
3. Use the *[Up]* and *[Down]* buttons to adjust the range for the *[Point and Go]*.
4. Press the *[Engage]* (Right soft) button.

Active navigation will commence on the chartplotter and the autopilot will engage in *[Steer to Navigation]* mode.

CHAPTER 10: SOLO SAILOR AND MAN OVERBOARD

CHAPTER CONTENTS

10.1 Solo sailor

[Solo sailor] is a safety mode intended to be used when a single person is sailing a vessel alone. When *[Solo sailor]* is enabled and the autopilot is in a steer-to-wind mode, if connection to the remote is lost the system assumes that the sailor has fallen overboard and automatically turns the vessel directly into the wind to slow down and stop the vessel.

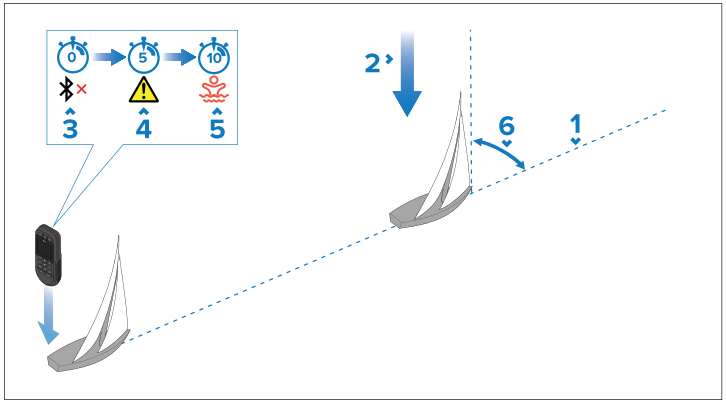
Note:

• *[Solo sailor]* is only available when your autopilot is configured as a sailing *[Boat type]* / *[Vessel hull type]*. Refer to the commissioning instructions for your autopilot for details on how to configure the *[Boat type]* / *[Vessel hull type]*.

• If the autopilot is not in *[Steer to Wind]* mode, the Man Overboard alarm will be triggered but the autopilot will take no action.

Important:
Do NOT use *[Solo sailor]* mode when crew are aboard.

Solo sailor sequence



1. Vessel's current locked wind angle.
2. Wind direction.
3. Bluetooth connection to the remote is lost.
4. 5 seconds after connection is lost a warning is displayed.
5. 10 seconds after connection is lost a Man Overboard alarm is triggered.
6. At 10 seconds the autopilot will automatically turn the vessel into the wind.

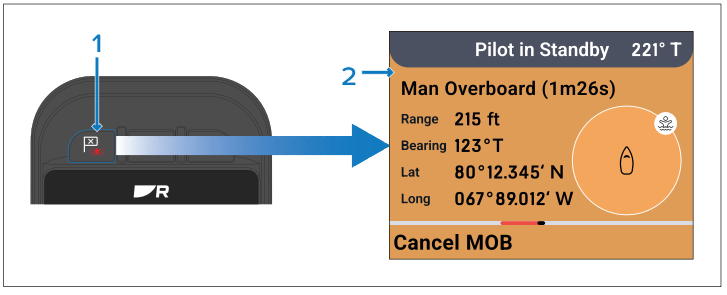
If the remote re-connects at any point up until the Man Overboard alarm is triggered, the process is cancelled.

When the remote is switched on, if *[Solo sailor]* was previously enabled, a warning is displayed. The warning provides the option to disable *[Solo sailor]*.

10.2 Man overboard

If a person or object falls overboard, you can use the Man Overboard (MOB) alarm to mark the position that your vessel was at when the alarm was activated.

The MOB alarm is a system alarm that can be activated using the remote's *[Waypoint / MOB]* button, or from a connected chartplotter.

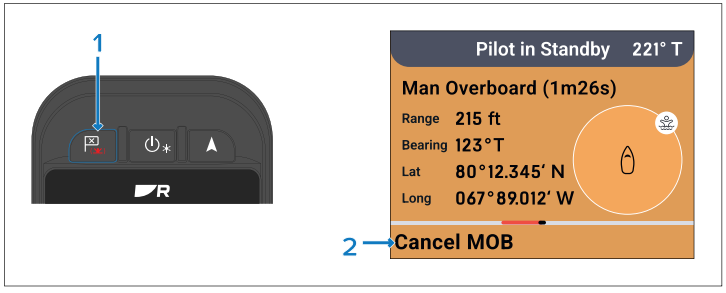


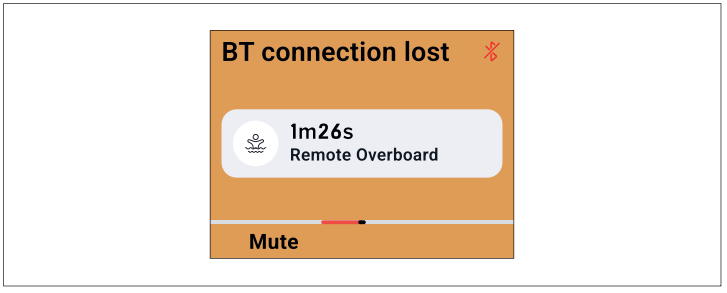
1. Press and hold the *[Waypoint / MOB]* button for 2 seconds to activate the MOB alarm. The remote must be connected to the system to activate the MOB alarm.
2. The MOB page is displayed on the remote to help you navigate back to the position your vessel was at when the alarm was activated.

Cancelling a MOB alarm

An active MOB alarm can be cancelled from the remote, or from a connected chartplotter.

From the remote you can press and hold the *[Waypoint / MOB]* button (1) for 2 seconds, or press the *[Cancel MOB]* (Left soft) button (2).



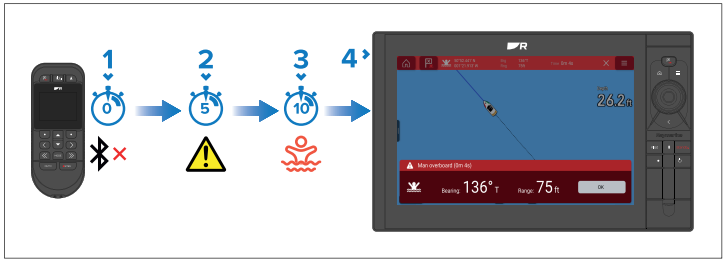


10.3 Lost connection MOB

The *[Lost connection MOB]* alarm is a safety alarm intended to alert the crew that the person using the remote has fallen overboard. When connection to the remote is lost the system assumes that the crew member using the remote has fallen overboard.

When *[Lost connection MOB]* is enabled, if the connection between the remote and the system is lost the alarm is activated.

Lost connection MOB sequence



1. Bluetooth connection to the remote is lost.
2. 5 seconds after connection is lost a warning is displayed.
3. 10 seconds after connection is lost the *[Lost connection MOB]* alarm is triggered.
4. At 10 seconds the MOB alarm is triggered on connected chartplotters.

If the remote re-connects at any point up until the Man Overboard alarm is triggered, the process is cancelled.

While the Lost connection MOB alarm is active the Lost connection MOB page is displayed on the remote.

Cancelling the Lost connection MOB alarm

The *[Lost connection MOB]* alarm must be cancelled on the remote and chartplotter separately.

- From the remote, press the *[Mute]* (Left soft) button.
- Cancel the MOB alarm from the chartplotter in the normal way.

The alarm does not cancel automatically if connection is re-established.

CHAPTER 11: DEMO MODE

CHAPTER CONTENTS

11.1 Demo mode

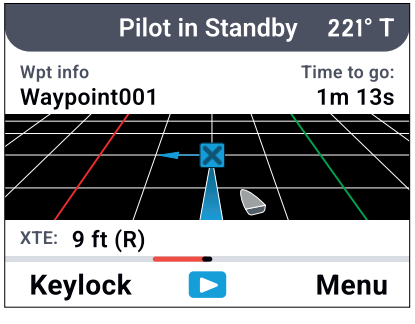
[Demo mode] can be used to demonstrate the capabilities of the remote independently of a network connection.

[Demo mode] populates the remote's pages with simulated data. The simulated data will be shown instead of any live data the remote is receiving.

Note:

- You cannot enable *[Demo mode]* while the autopilot is engaged.
- You cannot control the autopilot while *[Demo mode]* is enabled

While *[Demo mode]* is enabled the remote's pages will show the Demo icon at the bottom of the screen.



[Demo mode] can be enabled and disabled from the *[Settings]* menu: *[Menu > Settings > Demo mode]*.

CHAPTER 12: SETTINGS

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12.1 Main menu

All settings are accessed from the main menu.

	Setting	Description
	*[Lock keypad]*	Locks the remotes buttons. This setting is not shown if *[Lock keypad]* has been configured as the shortcut.
	*[Cancel countdown]*	Cancels a running countdown. This setting is only shown if the countdown is running.
	*[Advance waypoint]*	Advances navigation to the next waypoint in a route. This setting is only shown in *[Steer to Navigation]* mode. This setting is not shown if it has been configured as a shortcut.
	*[Restart XTE]*	Restart you current track at your vessel's current position. This setting is only shown in *[Steer to Navigation]* mode.
	*[Tack to port]*	Perform a *[Tack to port]* side. This setting is only available in *Steer to Wind* modes when heading upwind.
	*[Tack to starboard]*	Perform a *[Tack to starboard]* side. This setting is only available in *Steer to Wind* modes when heading upwind.
	*[Gybe]*	Perform a Gybe. This setting is only available in *Steer to Wind* modes when heading downwind. This setting will not be shown if the *[Gybe inhibit]* setting in your chartplotter is set to *[Prevent Gybe]*.
	*[Customize page]*	Select to customize the data page you were on when you opened the menu. For information about customizing data pages refer to: **p.42 —** Customizing a data page.

	Setting	Description
	*[Add data page]*	Select to create a new data page. The setting will not be available if the remote already has 10 data pages. For information about adding data pages refer to: **p.42 —** Creating a data page
	*[Alarms]*	Open the *[Alarms]* settings to configure alarms. For information about available *[Alarms]* refer to: **p.45 —** Alarms
	*[Solo sailor]*	Enable and disable *[Solo sailor]*. For information about *[Solo sailor]* refer to: **p.53 —** Solo sailor
	*[Pilot settings]*	Open the *[Pilot settings]* menu. For *[Pilot settings]* refer to: **p.59 —** Pilot settings menu
	*[Settings]*	Open the *[Settings]* menu. For *[Settings]* refer to: **p.59 —** Settings menu

12.2 Pilot settings menu

	Setting	Description
	[Pilot control]	Select to enable or disable autopilot control.
	[Responsiveness]	Determine the responsiveness of the autopilot. The available options are: • *[Leisure]* — Suitable for long passages where tight heading control is not critical. • *[Cruise]* — Good course-keeping without overworking pilot. • *[Performance]* — Emphasis on tight heading control.
	[Power steer]	Enables and disables *[Power steer]* mode for the *[Power]* *[Boat type]* / *[Vessel hull type]*. • *[OFF]* • *[ON]*

12.3 Settings menu

	Setting	Description
	[Demo mode]	Enable and disable *[Demo mode]*. For more information refer to: **p.55 —** Demo mode
	[Key beep]	By default, every time a button is pressed, the remote emits an audible beep. The beep can be enabled or disabled using the *[Key beep]* option.
	[Calibrate compass]	Calibrate the remote's internal sensors. Calibration requires you to move the remote in figure of 8 pattern until complete. For more information refer to: **p.27 —** Calibrating the internal sensors
	[Shortcut key]	Select which setting is assigned to the *[Left soft]* button. For a list of available shortcuts, refer to: **p.59 —** Shortcut button options
	[Language]	Change the user interface language. For a list of available languages, refer to: **p.24 —** User interface languages
	[Data responsiveness]	*[Data responsiveness]* allows you to specify how quickly the displayed data is refreshed when the received data changes. For more information refer to: **p.27 —** Setting data responsiveness
	[Performance]	Choose time-outs for the *[Backlight]*, *[Sleep]* and auto *[Power off]*. For more information refer to: **p.27 —** Setting the remote performance
	[Unpair Bluetooth connection]	Select to unpair the remote from the wireless gateway.
	[Reset device]	Reset the remote to its default settings.
	[About this device]	Provides hardware and software details for the remote. Scrolling down will reveal the Bluetooth connection details and the type of batteries in use. Pressing the *[Self-test]* (Right soft) button will initiate a self test of the remote.
	[Legal]	Displays the *Terms* of use disclaimer

Shortcut button options

You can select which option is assigned to the *[Left soft]* button.

The available options are:

- *[None]*

- *[Lock keypad]*
- *[Steer to Nav]*
- *[Steer to Wind]*
- *[Advance Waypoint]*
- *[Reset XTE]*
- *[Tack]*

CHAPTER 13: TROUBLESHOOTING

CHAPTER CONTENTS

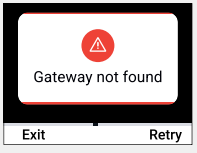
13.1 Troubleshooting

The troubleshooting section provides possible causes and the corrective action required for common problems that are associated with the installation and operation of your product.

Before packing and shipping, all products are subjected to comprehensive testing and quality assurance programs. If you do experience problems with your product, this section will help you to diagnose and correct problems to restore normal operation.

If after referring to this section you are still having problems with your product, please refer to the *Technical support and servicing* section of this manual for useful links and contact details.

13.2 Connection troubleshooting

Notification	
	**Could not connect** The WG-1 wireless gateway cannot be found. Press the *[Retry]* button. If the connection fails again try the following: 1. Check that the gateway is powered on and in range of the remote. 2. Check the gateway's LED to see if there is an issue with the gateway. 3. Power cycle the gateway.
	**Gateway not found** The remote connection timed out. Press the *[Retry]* button. If the connection fails again try the following: 1. Check that the gateway is powered on and in range of the remote. 2. Check the gateway's LED to see if there is an issue with the gateway. 3. Power cycle the gateway.
	**No connection** Connection was cancelled by the user. 1. Press the *[Connect]* (Left soft) button to establish a connection with the gateway.

13.3 Compass troubleshooting

Compass fails calibration

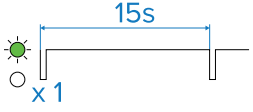
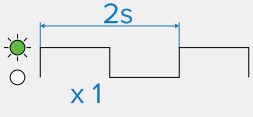
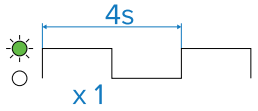
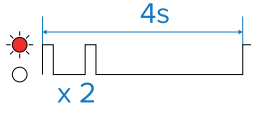
Possible causes	Possible solutions
Improper calibration.	Ensure that you follow the calibration procedure precisely. For instructions refer to: **p.27 —** Calibrating the internal sensors
Compass interference.	Move to a new area that is free from any sources that may cause interference and try again.

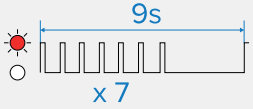
Point and Go is off target

Possible causes	Possible solutions
Improper calibration.	Ensure that you follow the calibration procedure precisely. For instructions refer to: **p.27 —** Calibrating the internal sensors
Compass interference.	Move to a new area that is free from any sources that may cause interference and try again.

13.4 WG-1 LED diagnostics

The wireless gateway has diagnostic LEDs on the front of the unit. These LEDs are used to identify the unit's status, and can be used for troubleshooting.

LED indication	LED status and possible solutions
	**(Green) Powered up / Ok** • Normal operation — no user action is required.
	**(Green) No wind vane connected / Wind vane connecting** • Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary.
	**(Green) Update in progress** • Normal operation — no user action is required.
	**(Green) Gateway powering on** • Normal operation — no user action is required.
	**(Red) CAN not connected** • Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary. • Consider contacting your local dealer or Raymarine Product Support.

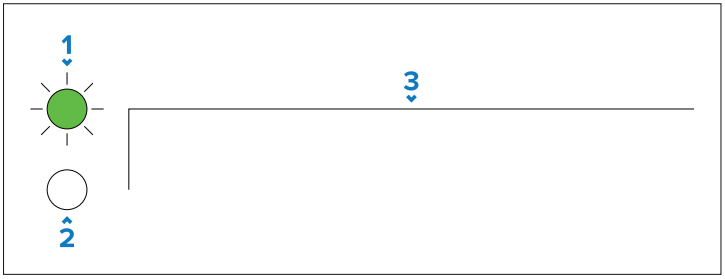
LED indication	LED status and possible solutions
	**(Red) CAN Fault** • Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary. • Consider contacting your local dealer or Raymarine Product Support.
	**(No color) No power** 1. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion; replace if necessary. 2. Check the power supply cable and connectors for signs of damage or corrosion; replace if necessary. 3. Check that the power cable connector is fully inserted into the unit and locked in position. 4. With the unit turned on, try flexing the power cable near to the connector to see if this causes the unit to re-start/lose power; replace if necessary. 5. With the product under load, using a multi-meter, check for high voltage drop across all connectors / fuses etc, and replace if necessary.

LED diagnostic guidance

Your product has diagnostic LEDs which can be used to identify the unit's status and to help troubleshoot any potential issues that may occur.

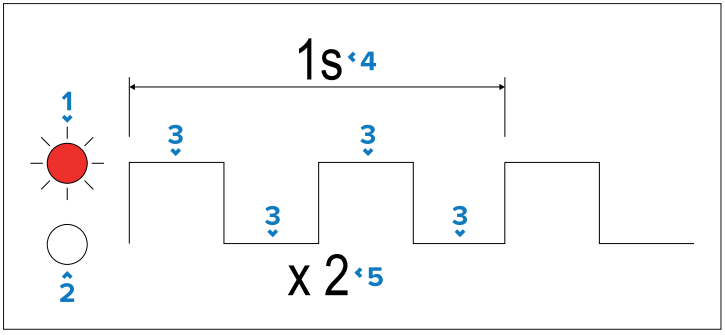
The following section provides two basic examples of how to interpret the LED diagnostic patterns included in this publication.

Example solid LED diagnostic pattern:



1. **LED ON** — Indicates the color assigned to the unit's diagnostic LED, and confirms that the diagnostic LED is active (switched **on**).
2. **LED OFF** — Indicates that the unit's diagnostic LED is inactive (switched **off**).
3. **Diagnostic pattern** — Indicates a diagnostic pattern based on the number and duration of *peaks* (indicating LED is switched **on**) and *troughs* (indicating LED is switched **off**) generated within the duration of the diagnostic pattern. In the example shown above, a continuous peak occurs, indicating that the LED is permanently **on**.

Example flashing LED diagnostic pattern:



1. **LED ON** — Indicates the color assigned to the unit's diagnostic LED, and confirms that the diagnostic LED is active (switched **on**).
2. **LED OFF** — Indicates that the unit's diagnostic LED is inactive (switched **off**).
3. **Diagnostic pattern** — Indicates a diagnostic pattern based on the number and duration of *peaks* (indicating LED is switched **on**) and *troughs* (indicating LED is switched **off**) generated within the duration of the diagnostic pattern. In the example shown above, a peak followed by a trough occurs and then repeats again, indicating that the LED flashes twice within a period of one second.
4. **Diagnostic pattern duration** — Indicates the total duration of the diagnostic pattern.
5. **Diagnostic pattern flash total** — Indicates the total number of flashes that occur within the diagnostic pattern.

CHAPTER 14: MAINTENANCE

CHAPTER CONTENTS

14.1 Routine equipment checks

It is recommended that you perform the following routine checks, on a regular basis, to ensure the correct and reliable operation of your equipment:

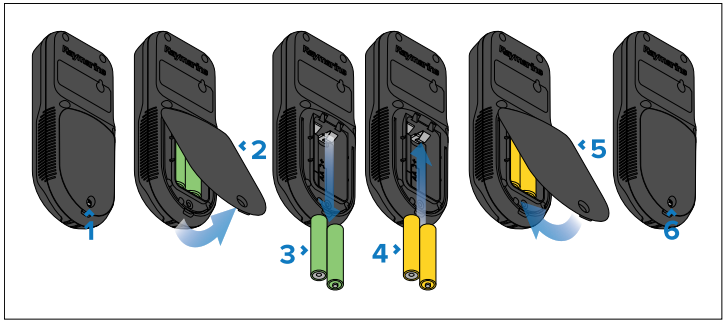
- Examine all cables for signs of damage or wear and tear.
- Check that all cables are securely connected.

> **Caution: Service and maintenance**
>
> This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

14.2 Replacing the batteries

The AA batteries can be replaced by removing the rear battery cover.

Note:
Only use AA batteries to power the remote.



1. Unscrew the captive battery cover screw.
2. Remove the battery cover by pivoting the bottom away from the remote control.
3. Remove the batteries.
4. Ensuring correct orientation, insert the new batteries.

   Battery orientation is indicated in the battery compartment and is viewable when no batteries are present.
5. Replace the battery cover by inserting the top lugs into the remote control at a slight angle, and then push the bottom of the cover until it is fully inserted.
6. Re-tighten the battery cover screw.

14.3 Product cleaning

Best cleaning practices.

When cleaning products:

- Switch off power supply.
- Use a clean damp cloth to wipe clean.
- Do NOT use: abrasive, acidic, ammonia, solvent or other chemical-based cleaning products.
- Do NOT use a jet wash.

Cleaning the display case

The display is a sealed unit and does not require regular cleaning. If it is necessary to clean the display, follow this basic procedure:

1. Switch off the power to the display.
2. Wipe the case with a clean, lint-free cloth.
3. If necessary, use a mild detergent to remove grease marks.

Cleaning the display screen

A coating is applied to the display screen. This makes it water repellent, and prevents glare. To avoid damaging this coating, follow this procedure:

1. Switch off the power to the display.
2. Rinse the screen with fresh water to remove all dirt particles and salt deposits.
3. Allow the screen to dry naturally.
4. If any smears remain, very gently wipe the screen with a clean microfibre cleaning cloth.

CHAPTER 15: TECHNICAL SUPPORT

CHAPTER CONTENTS

15.1 Raymarine technical support and servicing

Raymarine provides a comprehensive product support service, as well as warranty, service, and repairs. You can access these services through the Raymarine website, telephone, and e-mail.

Product information

If you need to request service or support, please have the following information to hand:

- Product name.
- Product identity.
- Serial number.
- Software application version.
- System diagrams.

Servicing and warranty

Raymarine offers dedicated service departments for warranty, service, and repairs.
Visit the Raymarine website to **read the latest warranty policy**, and **register** your product's warranty online:

- www.bit.ly/rym-warranty

United Kingdom (UK), EMEA, and Asia Pacific:

- Web: www.bit.ly/rym-service
- Tel: +44 (0)1329 246 932

United States (US):

- Web: www.bit.ly/rym-service
- Tel: +1 (603) 324 7900

Web support

Please visit the "Support" area of the Raymarine website for:

- **Manuals and Documents** — www.bit.ly/rym-docs
- **Technical support forum** — www.bit.ly/rym-support
- **Software updates** — www.bit.ly/rym-software

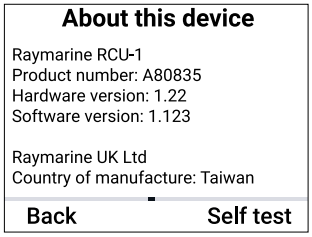
Telephone and online support

Region	Contact details
All regions	**Online support:** www.bit.ly/rym-support
United Kingdom (UK) and EMEA	**Telephone:** +44 (0)1329 246 777 **Address:** Marine House, Cartwright Drive, Fareham, PO15 5RJ, UK.
United States (US)	**Telephone:** Tel: +1 (603) 324 7900 (Toll-free: +800 539 5539) **Address:** 110 Lowell Road, Hudson, NH 03051, USA.
Australia and New Zealand (Raymarine subsidiary)	**Telephone:** +61 2 8977 0300 **Address:** Suite 1.01, 26 Rodborough Road, Frenchs Forest, NSW, 2086, Australia.
France (Raymarine subsidiary)	**Telephone:** +33 (0)1 46 49 72 30 **Address:** 35 avenue Michel Crépeau, 17000 La Rochelle - France.
Germany (Raymarine subsidiary)	**Telephone:** +49 40 237 808 0 **Address:** Atlantic-Haus, Zirkusweg 1, 20359 Hamburg.
Italy (Raymarine subsidiary)	**Telephone:** +39 02 9945 1001 **Address:** Via L. Manara 2, 20812 Limbiate (MB), Italy.
Spain (Authorized Raymarine distributor)	**Telephone:** +34 96 2965 102 **Email:** sat@azimut.es
Netherlands / Benelux (Authorized Raymarine distributor)	**Telephone:** +31 (0)26 3614 905 **Address:** Florijnweg 21G, 6883 JN VELP, Nederland.

Region	Contact details
Sweden (Raymarine subsidiary)	**Telephone:** +46 (0)317 633 670 **Address:** Bolshedens Industriväg 18, 427 50 Billdal, Sweden.
Finland (Raymarine subsidiary)	**Telephone:** +358 (0)207 619 937 **Address:** Suomalaistentie 1-3, 02270 Espoo, Finland.
Norway (Raymarine subsidiary)	**Telephone:** +47 692 64 600 **Address:** Årvollskogen 30, 1529 Moss, Norway.
Denmark (Raymarine subsidiary)	**Telephone:** +45 437 164 64 **Address:** Centervej 7, 4600 Køge, Denmark.
Russia (Distributor)	**Telephone:** Tel: +7 495 788 0508 **Email:** info@mikstmarine.ru

15.2 Viewing product information

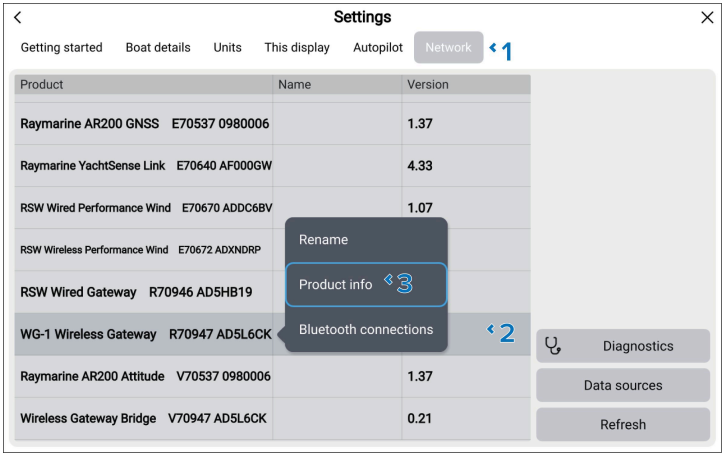
Use the *[About this device option]* in the *[Settings]* menu to view hardware and software information about your product.



1. Press the *[Menu]* button.
2. Scroll to the *[Settings]* menu and press the *[Select]* button.
3. Scroll to the *[About this device]* menu and press the *[Select]* button.
4. Scroll down to view further details.

15.3 Viewing product information from a chartplotter

Hardware and software information related to your product can be viewed from a compatible chartplotter running LightHouse 4.

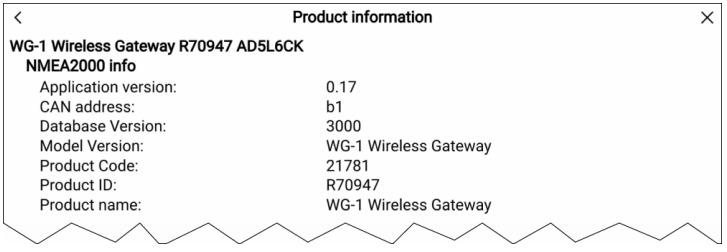


From the *[Homescreen > Settings]* menu:

1. Select the *[Network]* tab.
2. Select your device from the network list.

   The software version for your device will be listed in the [Version] column of the network list.
3. Select *[Product info]* from the pop-over options.

The product information details for the selected device will be displayed.



15.4 Learning resources

Raymarine has produced a range of learning resources to help you get the most out of your products.

Video tutorials

Raymarine official channel on YouTube

- http://www.youtube.com/user/RaymarineInc

Training courses

Raymarine regularly runs a range of in-depth training courses to help you make the most of your products. Visit the Training section of the Raymarine website for more information:

- www.bit.ly/rym-training

Technical support forum

You can use the Technical support forum to ask a technical question about a Raymarine product or to find out how other customers are using their Raymarine equipment. The resource is regularly updated with contributions from Raymarine customers and staff:

- www.bit.ly/rym-support

Appendix A NMEA 2000 PGN support

Supported standard NMEA 2000 PGNs are listed below. Proprietary PGNs are not listed.

Note:
Support for some PGNs may be restricted to a specific application.

Administration PGNs

- **59392** — ISO Acknowledge (Transmit)
- **59904** — ISO Request (Receive / Transmit)
- **60160** — ISO Transport Protocol, Data Transfer (Receive)
- **60416** — ISO Transport Protocol, Connection Management — BAM Group Function (Receive)
- **60928** — ISO Address Claim (Receive / Transmit)
- **65240** — ISO Commanded address (Receive)
- **126208** — NMEA — Request, Commanded, Acknowledged Group Function (Receive / Transmit)
- **126464** — PGN Transmit and Receive List (Transmit)
- **126993** — Heartbeat (Receive / Transmit)
- **126996** — Product Information (Transmit)
- **126998** — Configuration Information (Transmit)

Appendix B Glossary

Navigation glossary

Common terms and abbreviations used in navigation.

Term	Meaning
Active navigation	Active navigation is the term used when the display is performing navigation to a destination point. The destination point can be a 'Goto' (to an onscreen cursor position or a single waypoint), or part of a 'Follow' (to a waypoint within a route).
AIS (Automatic Identification System)	A tracking system enabling you to receive positional information broadcast by other vessels, and to transmit positional information for your own vessel. AIS is used to identify, locate and track marine vessels in the chart and radar applications. An AIS receiver or transceiver is required to view AIS information.
Auto range	A mode that ranges the chart application automatically, to ensure both the vessel and target waypoint are always visible.
Course Over Ground (COG)	COG is the actual direction of travel, relative to fixed land. Vessel heading may differ from COG due to the effects of currents, tide and wind. COG is transmitted by GNSS (GPS) receivers. Supported data: • NMEA 2000: PGN 129026 • NMEA 0183: RMC
Course up (CU / C-up)	The chart or radar is orientated so as to show your current course directly ahead of your vessel icon. The chart will rotate so that your Course Over Ground (COG) is always upward on the screen.

Term	Meaning
Cross Track Error (XTE)	The amount of deviation from your intended course, expressed as a distance. In the event that you steer off-track, you can create a new course to the target by selecting “Restart XTE” on your pilot controller or multifunction display.
Direction of Relative Motion (DRM)	The direction a target is travelling in relation to your own vessel’s direction and speed.
Follow	The action whereby the display is placed in active navigation following a route.
GNSS (Global Navigation Satellite System)	A constellation of Earth orbiting satellites that can be used to plot latitude, longitude, altitude, Course Over Ground (COG), and Speed Over Ground (SOG). Current available GNSS are: • *GPS* (USA) • *BeiDou* (China) • *Galileo* (EU) • *GLONASS* (Russia)
Goto	The action whereby the display is placed in active navigation travelling to a cursor location or a single waypoint.
Head up (HU / H-up)	The chart or radar is orientated so as to show your current heading directly ahead of your vessel icon at all times. As your vessel changes direction, the chart or radar image rotates accordingly to reflect the new bearing. In Head-up, the motion mode is fixed to Relative motion.

Term	Meaning
Heading (HDG)	Compass direction of travel. Heading can be relative to True north or Magnetic north. Heading can be transmitted from a ship’s compass or heading sensor. Supported data: • NMEA 2000: PGN 127237 / 127250 • NMEA 0183: HDG / HDM / HDT
Latitude (Lat)	A geographic coordinate which indicates the position of a point on the Earth that is either north or south of the equator. When provided as a coordinate, the number of degrees is determined in relation to how far (0° to 90°) north or south the coordinate is from the Earth’s equator — where 90° refers to either the North Pole or South Pole and 0° refers to the equator. One degree of latitude is approximately equivalent to 60 nautical miles.
Longitude (Lon)	A geographic coordinate which indicates the position of a point on the Earth that is either east or west of the prime meridian. When provided as a coordinate, the number of degrees is determined in relation to how far (0° to 180°) east or west the coordinate is from the prime meridian.
North up (NU / N-up)	The chart or radar image is orientated so that true north is always upward on the screen. As your vessel changes direction, vessel icon (chart) or ship heading line (radar) rotate accordingly to show your relative position to true north.
Rate of Turn (RoT)	RoT is the speed at which your vessel turns in a given direction, typically when under autopilot control.

Term	Meaning
Relative Motion (RM)	In the Chart and Radar applications, relative motion mode fixes your vessel's position and the chart or radar image moves relative to your vessel. In Relative Motion mode you can use the *[Boat position]* setting to determine whether the vessel position is fixed in the *Center* of the chart display or has a *Partial offset*, or *Full offset*. Selecting the partial or full offset has the effect of increasing the view ahead.
Route (RTE)	A series of waypoints typically used to assist with journey planning and navigation. A route is displayed on screen as a series of waypoints linked by a line.
Speed of Relative Motion (SRM)	The velocity of a target relative to your own vessel's velocity (E.g.: If you are travelling in the same direction as a target, the relative speed will be the difference between your vessel's speed and the target's speed. If you are travelling towards / away from each other then relative speed is the combination of both vessel's speeds).
Speed Over Ground (SOG)	The actual speed of travel, relative to fixed land. Vessel speed may differ from STW due to the effects of currents, tide and wind. SOG is transmitted by GNSS (GPS) receivers. Supported data: • NMEA 2000: PGN 129026 • NMEA 0183: RMC
Speed Through Water (STW)	The speed of your vessel through the water, also known as boat speed. Due to tide and current this will be different than Speed Over Ground (SOG). STW is measured by a speed transducer. Supported data: • NMEA 2000: PGN 128259 • NMEA 0183: VHW
Time To Go (TTG)	The time remaining until you reach the destination point.
Track	A visible trail displayed in the Chart app on a multifunction display, showing the passage you have taken. The trail consists of a series of track points which are created automatically. You can save the track to create a permanent record of where you have been. You can also create a new route from a track.
True Motion (TM)	True Motion mode fixes the chart position and the vessel icon moves across the screen. As the vessel's position approaches the edge of the screen, the chart image is automatically redrawn to reveal the area ahead of the vessel. As the vessel's position approaches the edge of the display, the image is automatically redrawn to reveal the area ahead of the vessel. **Note:** True Motion mode is not available when the orientation is set to "Head-up".
Waypoint (WPT)	A position marked on the screen to indicate a location to navigate to. Waypoint positions are defined by Longitude / Latitude coordinates, and can be saved for future use. As well as acting as position markers, waypoints are also the building blocks used to create routes. Waypoints can be created and displayed in the Chart, Radar, and Fishfinder apps on a multifunction display.

Sailing glossary

Common terms and abbreviations used in sailing.

Term	Meaning
Apparent Wind	The wind flow observed when the vessel is in motion, relative to the vessel's heading. Apparent wind is different from True wind in that it takes into account your vessel's movement, i.e.: speed and direction of travel. Apparent wind is the raw data that is reported by wind transducers, which can then be used in conjunction with other data sources to calculate True wind. Supported data: • NMEA 2000: PGN 130306 • NMEA 0183: MWV
Apparent Wind Angle (AWA)	The wind angle observed when the vessel is in motion, relative to the vessel's heading. AWA is a combination of the true angle of the wind and the angle that is experienced due to the direction and speed of travel.
Apparent Wind Speed (AWS)	The wind speed observed when the vessel is in motion. AWS is a combination of the true speed of the wind and the speed at which you are travelling.
Close-hauled / Beating	Generally, when sailing upwind, the tighter the angle at which the vessel sails with respect to the wind, the faster the vessel will travel. When a vessel's sails are pulled in tightly to the vessel's centerline in order to maximize the vessel's speed when travelling upwind, it is known as sailing "Close-hauled" or "beating". There's a "no-go" zone directly into the wind where a vessel cannot sail in a forward motion. Also, sailing too close to the wind ("pinching") can reduce both speed and efficiency in terms of the vessel's forward motion. Therefore, maximizing forward motion when sailing upwind requires the optimization of both the vessel's sail rigging and the vessel's angle with respect to the wind direction, which is typically 30 to 45 degrees.
Distance to Tack	The travel distance remaining until you need to tack.
Distance to Line	Distance remaining to the closest point along the race start line.
Downwind	Moving in the direction that the wind is blowing.
Ground Wind Direction (GWD)	The direction of the wind relative to north, as observed on land. This is the actual direction the wind is blowing. In addition to Apparent Wind Angle (AWA), Course Over Ground (COG) from a GNSS receiver is also required in order to calculate GWD.
Ground Wind Speed (GWS)	The wind speed observed when stationary, as observed on land. GWS is the actual speed at which the wind is blowing over land. In addition to Apparent Wind Speed (AWS), Speed Over Ground (SOG) data from a GNSS receiver is also required in order to calculate GWS.

Term	Meaning
Header	A wind shift which causes your vessel to turn more downwind.
Laylines	Vector lines showing the course the boat will take when sailing at the optimum angle to the wind, on either tack.
Leeway	The difference in angle between desired heading and actual course, caused by sideways movement of a sailing boat due to the wind.
Lift	A wind shift which allows your boat to turn upwind and closer to your destination.
Line bias	The distance advantage conferred by crossing the start line at the favored end (the end which is more upwind) of the race start line.
Polar table	A performance profile for a vessel, showing the vessel speed achievable at varying angles to the wind, with varying wind speed. In sailing, the Velocity Made Good (VMG) principle demonstrates that travelling in a straight line is not always the quickest route, and polars enable you to optimize your vessel's performance to its best advantage, by improving the accuracy of laylines to display how far you need to sail on a current tack to reach a target waypoint after tacking, and taking wind conditions into consideration.
RSW-Wired (Raymarine Smart Wind)	The Raymarine Smart Wind transducer series. The RSW-Wired series of transducers include a built-in attitude sensor, which is used to provide more accurate readings than standard wind transducers.
Sail plan	Sail configuration recommendations based on wind conditions.
Sailing upwind	Sailing close to the wind direction.

Term	Meaning
Tack	A course change made by a sailing vessel, by turning its heading into and through the wind.
Tacking	The zig-zag maneuver a sailing vessel makes when travelling upwind.
Time To Burn (TTB)	The time remaining during race start countdown before the vessel needs to start moving towards the start line at full speed.
Time to Tack	The amount of time remaining until you need to tack, if the current course and speed are maintained based on the calculated laylines.
True Wind	The actual wind flow; the wind flow that you experience on the water, when stationary. True wind is calculated from Apparent wind data from a wind transducer and STW (Speed Through Water) data from a speed transducer.
True Wind Angle (TWA)	The angle of the wind over water, relative to the vessel's bow, observed when stationary.
True Wind Direction (TWD)	The direction of the wind relative to North. This is the actual direction in which the wind is blowing. In addition to Speed Through Water (STW), Heading data is also required in order to calculate TWD.
True Wind Speed (TWS)	The wind speed observed when stationary, on the water. TWS is the actual speed at which the wind is blowing over water.
Velocity Made Good (VMG)	Sailing term related to the component of a sail vessel's velocity vector that is in the direction of true wind.
Wind shift	The amount of variation in True Wind Direction (TWD) over time.

Appendix C Document change history

Documentation for current products is regularly updated to ensure accuracy and reflect changing product features and / or specifications. Changes made to this document since its first release are listed below.

Document number:	Document name:
81426	RCU-1 Operation Instructions

Changes:

Revision	Date	Applicable software version(s)
3	May 2026	v1.08

- Added Demo mode chapter.
- Added notes to Calibration procedure and Point and Go procedure.
- Added compass troubleshooting topic.

Changes:

Revision	Date	Applicable software version(s)
2	March 2026	v1.08

- Initial public release.

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