

Raymarine®



Long & Short Arm Wind Vane

Installation instructions

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Software updates



Check the Raymarine website for the latest software releases for your product.
www.raymarine.com/software

Product documentation



The latest versions of all English and translated documents are available to download in PDF format from the website: www.raymarine.com/manuals.
Please check the website to ensure you have the latest documentation.

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Contents

Chapter 1 Important information	7
Water ingress	7
Disclaimer	7
Declaration of conformity.....	7
Warranty registration.....	8
Product disposal	8
IMO and SOLAS	8
Technical accuracy.....	8
Chapter 2 Document and product information.....	9
2.1 Product documentation.....	10
Operation instructions	10
Display software	10
Document illustrations	10
2.2 Applicable products.....	10
Wind vane products.....	10
Wind vane replacements.....	11
Compatible displays	12
Compatible converter and pods.....	13
Parts supplied — Wind vane transducers	13
Parts supplied — Replacement wind vane assembly.....	14
Chapter 3 Installation	15
3.1 Tools required	16
3.2 Selecting a location.....	16
Warnings and cautions	16
Location requirements.....	16
Wind vane dimensions.....	17
3.3 Mounting.....	17
Mounting.....	17
Mounting the junction box	20
3.4 Replacing an existing wind vane.....	21
Improved base and protective cap design	22
Replacing wind vane and base using existing cable	22
Replacing wind vane and cable.....	23
Replacing the wind vane arm	23
Protective cap.....	23
Chapter 4 Connections.....	25
4.1 General cabling guidance	26
Cable types and length.....	26
Cable routing	26

Strain relief.....	26
Cable shielding.....	26
4.2 Cable routing.....	27
Routing the cable through the deck mast.....	27
Routing the cable through a stepped deck mast.....	27
Replacing spade terminals.....	28
4.3 Wind vane connections.....	28
Chapter 5 System checks and troubleshooting.....	31
5.1 Troubleshooting.....	32
5.2 Wind data troubleshooting.....	32
Chapter 6 Operation.....	33
6.1 Calibration and linearization.....	34
6.2 Operation instructions.....	34
Chapter 7 Maintenance.....	35
7.1 Wind vane routine checks.....	36
Wind Vane maintenance.....	36
7.2 Unit cleaning instructions.....	36
Chapter 8 Technical support.....	37
8.1 Raymarine product support and servicing.....	38
8.2 Learning resources.....	39
Chapter 9 Technical specification.....	41
9.1 Physical specification.....	42
9.2 Conformance specification.....	42
Chapter 10 Spares and accessories.....	43
10.1 Wind vane spares and accessories.....	44

Chapter 1: Important information



Warning: Product installation and operation

- This product must be installed and operated in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.
- Raymarine recommends certified installation by a Raymarine approved installer. A certified installation qualifies for enhanced product warranty benefits. Contact your Raymarine dealer for further details, and refer to the separate warranty document packed with your product.



Warning: Potential ignition source

This product is NOT approved for use in hazardous/flammable atmospheres. Do NOT install in a hazardous/flammable atmosphere (such as in an engine room or near fuel tanks).



Warning: Switch off power supply

Ensure the vessel's power supply is switched OFF before starting to install this product. Do NOT connect or disconnect equipment with the power switched on, unless instructed in this document.



Warning: Positive ground systems

Do not connect this unit to a system which has positive grounding.

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.

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 subjected to high-pressure washing. Raymarine will not warrant products subjected to high-pressure washing.

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.

Declaration of conformity

FLIR Belgium BVBA declares that the following products are in compliance with the EMC Directive 2014/30/EU:

- Short arm wind vane transducer, part number E22078
- Long arm wind vane transducer, part number E22079

The original Declaration of Conformity certificate may be viewed on the relevant product page at www.raymarine.com/manuals.

Warranty registration

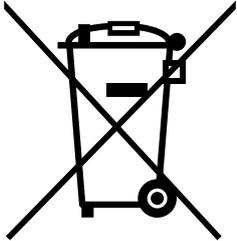
To register your Raymarine product ownership, please visit www.raymarine.com and register online.

It is important that you register your product to receive full warranty benefits. Your unit package includes a bar code label indicating the serial number of the unit. You will need this serial number when registering your product online. You should retain the label for future reference.

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: www.raymarine.eu/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 (www.raymarine.com) to ensure you have the most up-to-date version(s) of the documentation for your product.

Chapter 2: Document and product information

Chapter contents

- [2.1 Product documentation on page 10](#)
- [2.2 Applicable products on page 10](#)

2.1 Product documentation

The following documentation is applicable to your product:

All documents are available to download as PDFs from www.raymarine.com/manuals

Description	Part number
Wind vane transducer installation instructions (This document) Installation of a short or long arm wind vane transducer, and connection to a wider system of marine electronics.	87220
Long and short arm wind vane transducer mounting template	87377
i60 Installation and operation instructions Details the connection and operation of the instrument display in conjunction with a short or long arm wind vane transducer.	81342
i70 Installation and operation instructions Details the connection and operation of the instrument display in conjunction with an iTC-5.	81357
iTC-5 Installation instructions Details the connection of a short or long arm wind vane transducer to a wider system of marine electronics.	87138
LightHouse™ 3 operations instructions Details calibration of wind transducers using an MFD.	81370

Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website: www.raymarine.com/manuals.

Display software

Ensure your display software is updated to the latest version.

To update your display software refer to the operations instructions for your display.

For the latest software for your display refer to the Raymarine website: www.raymarine.com/software

Document illustrations

Your product and if applicable, its user interface may differ slightly from that shown in the illustrations in this document, depending on product variant and date of manufacture.

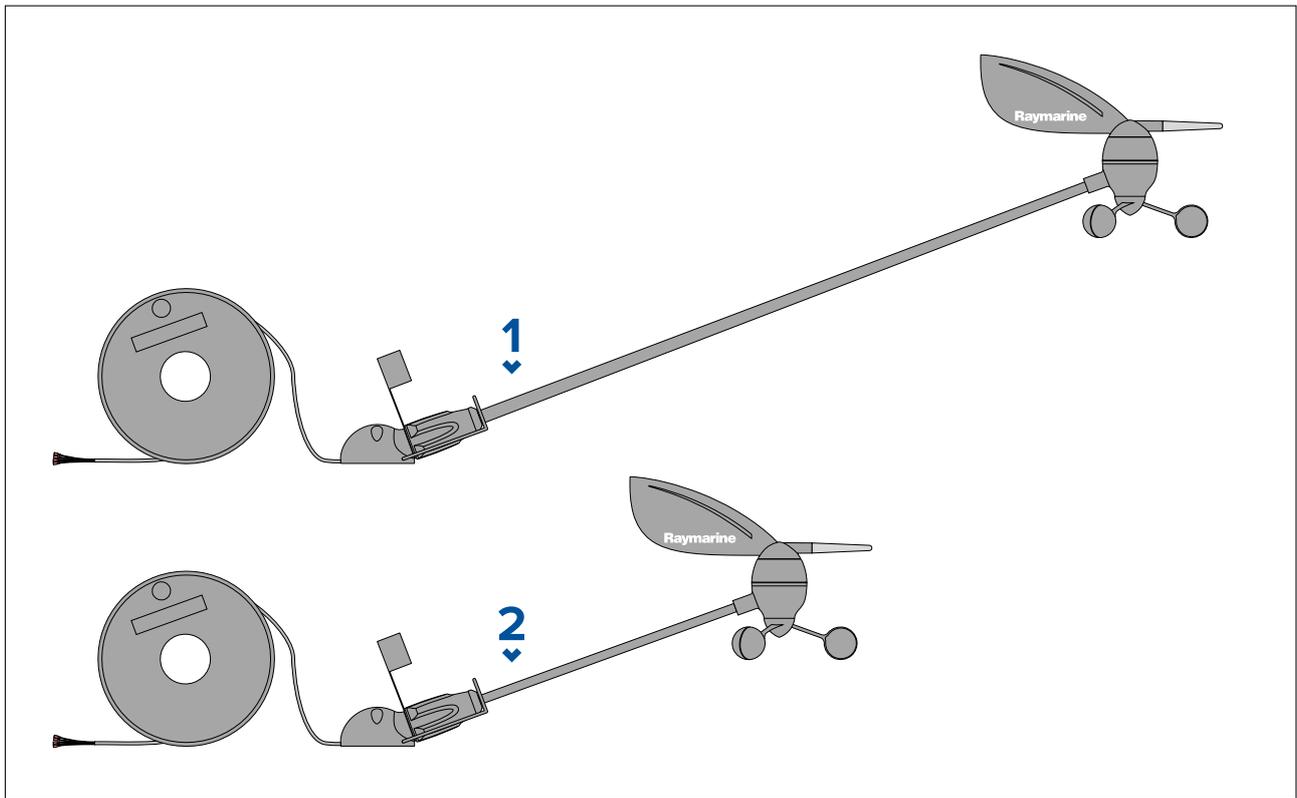
All images are provided for illustration purposes only.

2.2 Applicable products

This document is applicable to the following products:

Wind vane products

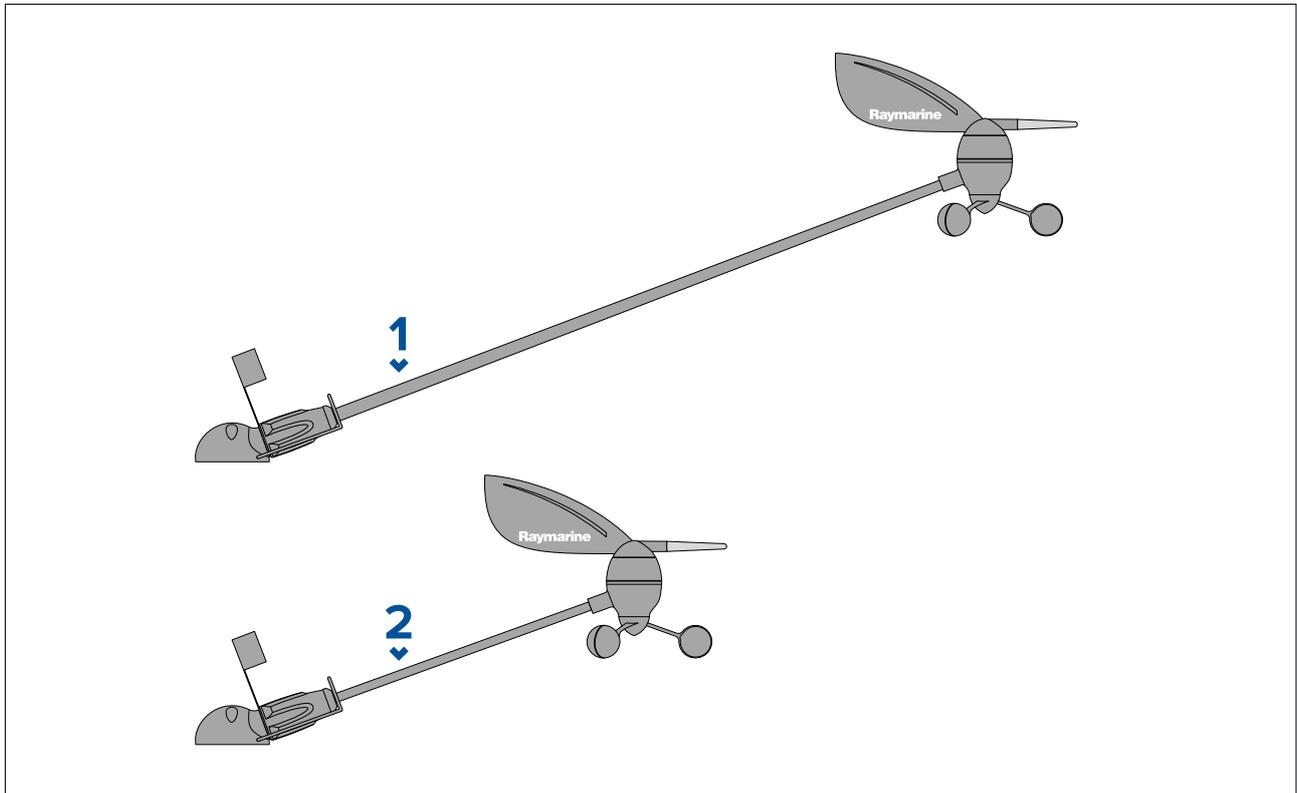
Wind vanes transducers are available in long and short arm variants.



1	Short arm 300 mm (11.8 in) wind vane transducer with 30 m (98.4 ft) cable — E22078 Provides both wind speed and wind direction data.
2	Long arm 600 mm (23.6 in) wind vane transducer with 50 m (164 ft) cable — E22079 Provides both wind speed and wind direction data.

Wind vane replacements

The following replacement wind vane assemblies are available.



1	Replacement short arm wind vane assembly — R28170
2	Replacement long arm wind vane assembly — R28171

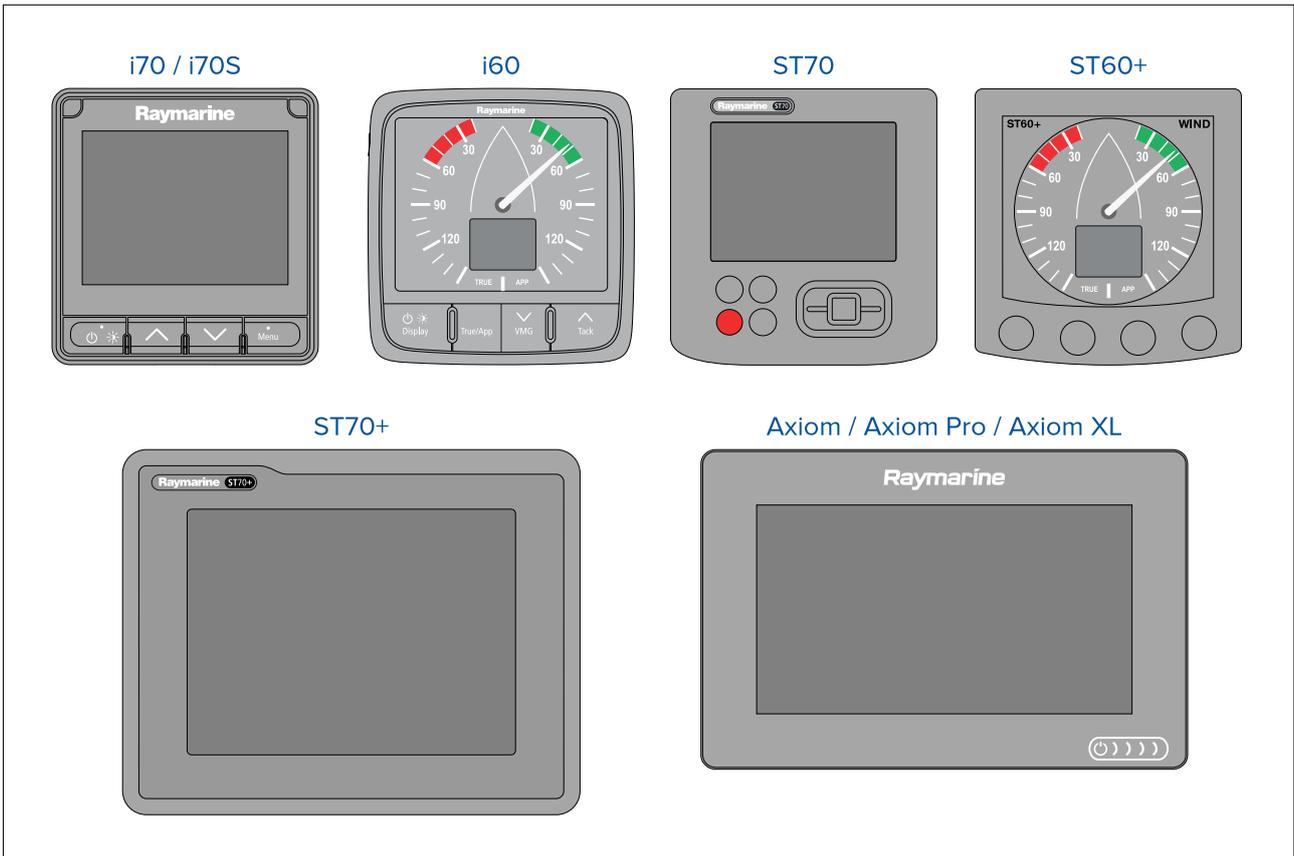
Note:

Wind vane replacements are not supplied with a new cable. New cables can be purchased separately:

- 30 m (98.4 ft) cable assembly — A28162
- 50 m (164 ft) cable assembly — A28163

Compatible displays

A compatible instrument display is required to calibrate and display wind data from your wind vane transducer. See below for compatible instrument displays.



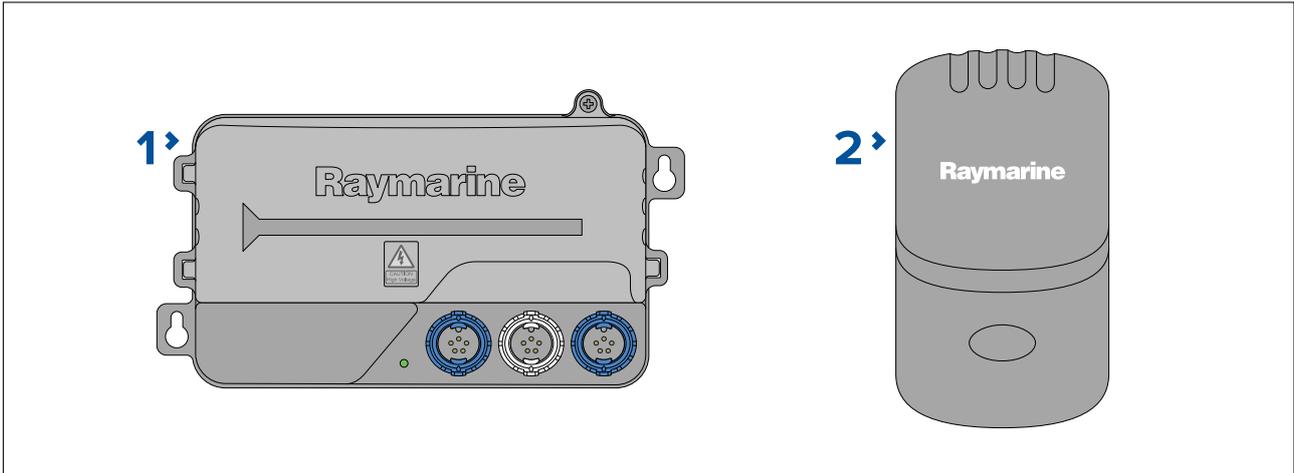
Instrument display	Connection method
i70 / i70S	iTC-5 or transducer pod
i60 Wind	Direct connection
ST70	iTC-5 or transducer pod
ST60+ Wind	Direct connection
ST70+	iTC-5 or transducer pod
Axiom™ MFDs (i.e.: Axiom™ / Axiom™ Pro / Axiom™ XL)	iTC-5 only

Note:

Axiom MFDs must be running LightHouse™ 3 version 3.11 or greater.

Compatible converter and pods

Wind vane transducers can also be connected to the SeaTalkng® network using a compatible converter. Wind data will then be available to all displays connected to the same network.

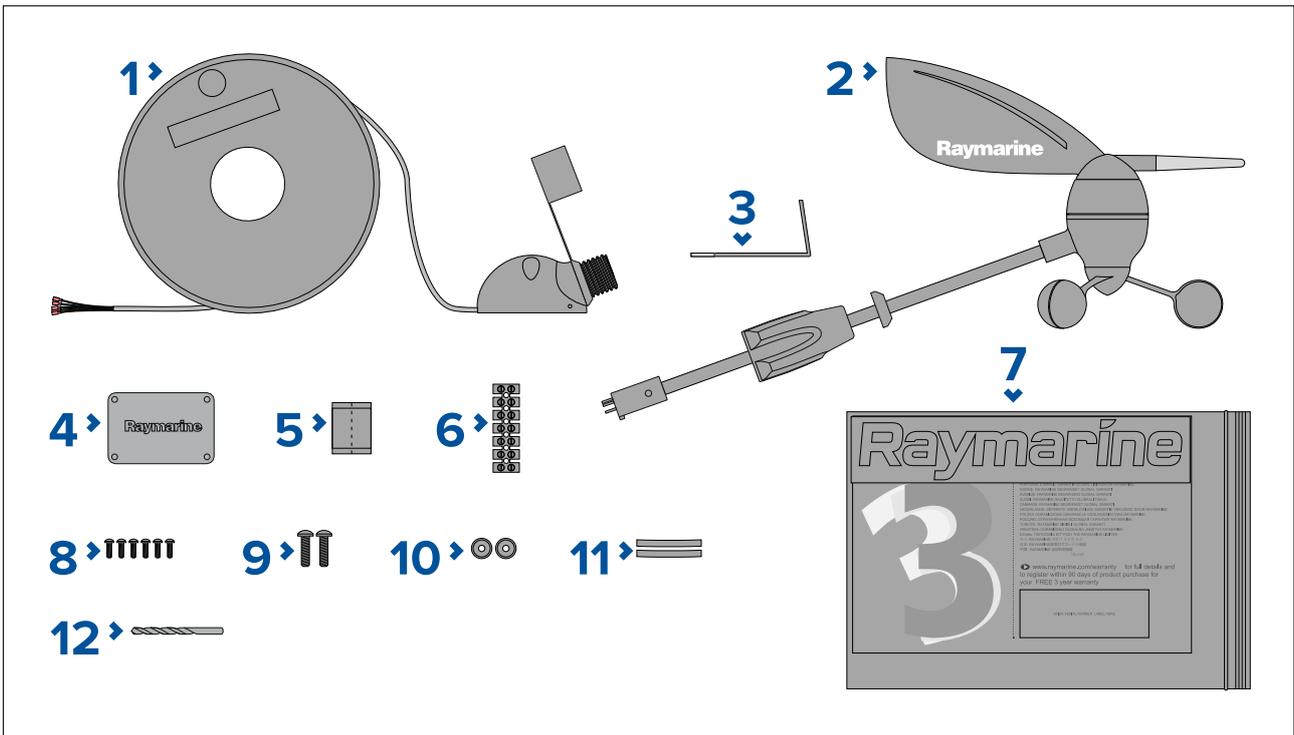


1. iTC-5 (E70010).
2. ST70 (E22108) / ST290 (E22068) wind transducer pod.

Parts supplied — Wind vane transducers

The following parts are supplied with the short and long arm wind vane transducers, part numbers: E22078 and E22079.

Unpack your product carefully to prevent damage or loss of parts. Check the box contents against the list below. Retain the packaging and documentation for future reference.



1. Cable assembly (including wind vane base and protective cap).
 - Short arm wind vane is supplied with a 30 m (98.4 ft.) cable.
 - Long arm wind vane is supplied with a 50 m (164 ft.) cable.
2. Short arm wind vane assembly / Long arm wind vane assembly
3. Arm retaining clip
4. Junction box
5. Double sided adhesive pads x 2
6. Terminal block

7. Documentation pack
8. 4 mm drill bit
9. No 4x3/8" pan head pozi screws (junction box fixings x 6)
10. No 10x3/4" pan head pozi screws (base mounting fixings x 2)
11. Junction box grommets x 2
12. 40 mm x 4 mm protective sleeve x 2

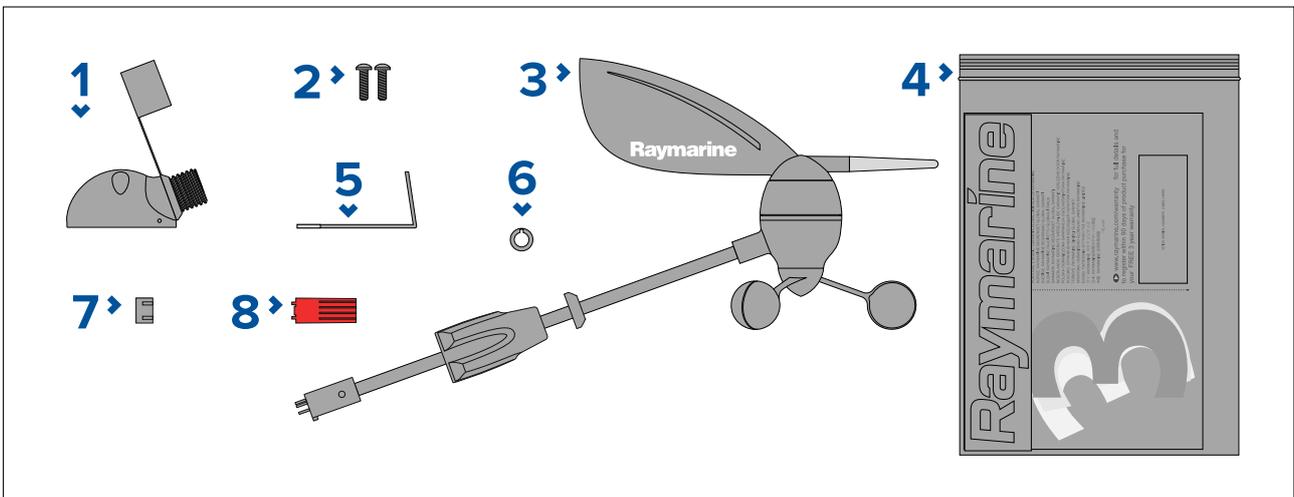
Note:

Fixings are provided for various installation scenarios, you do not need to use all of the supplied fixings to install your wind transducer.

Parts supplied — Replacement wind vane assembly

The following parts are supplied with the replacement short and long arm wind vane assemblies, part numbers: R28170 and R28171.

Unpack your product carefully to prevent damage or loss of parts. Check the box contents against the list below. Retain the packaging and documentation for future reference.



1. Base and protective cap.
2. No 10x3/4" pan head pozi screws (base mounting fixings x 2)
3. Short arm wind vane assembly / Long arm wind vane assembly
4. Documentation pack
5. Arm retaining clip
6. Cable washer
7. Cable nut
8. Cable nut spanner

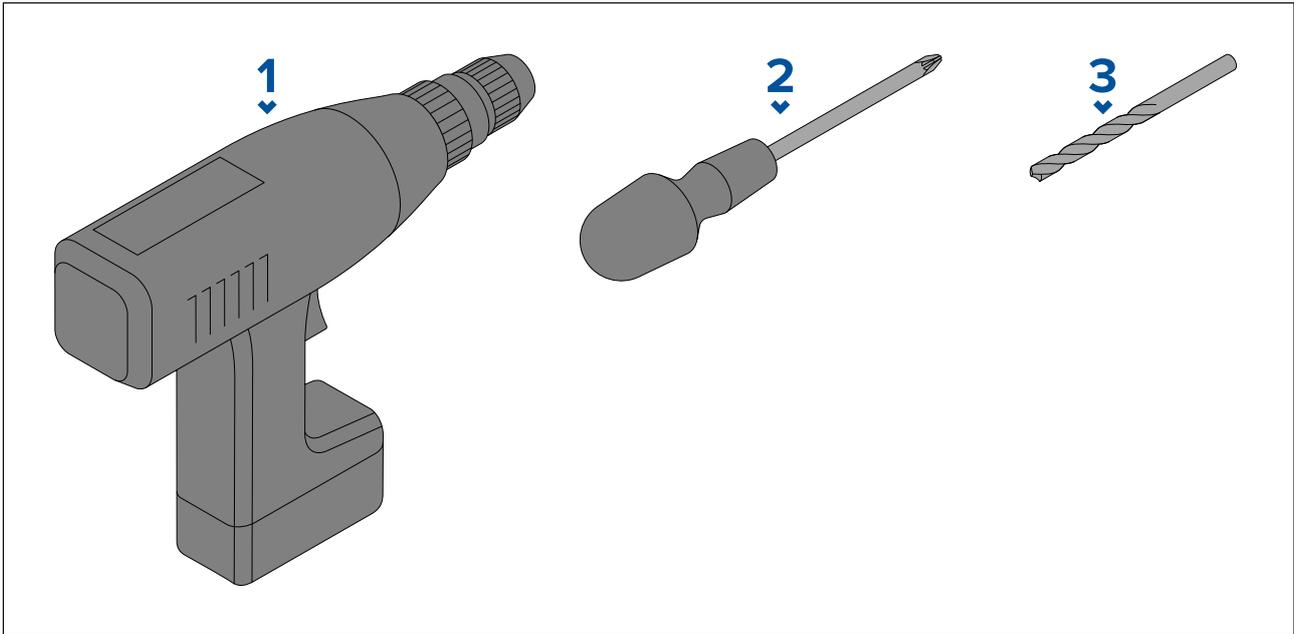
Chapter 3: Installation

Chapter contents

- 3.1 Tools required on page 16
- 3.2 Selecting a location on page 16
- 3.3 Mounting on page 17
- 3.4 Replacing an existing wind vane on page 21

3.1 Tools required

Product installation requires the following tools:



1. Power drill
2. Pozidrive screwdriver
3. Drill bit

Note:

The appropriate drill bit size is dependent on the thickness and material of the mounting surface.

3.2 Selecting a location

Warnings and cautions

Important: Before proceeding, ensure that you have read and understood the warnings and cautions provided in the [Chapter 1 Important information](#) section of this document.

Location requirements

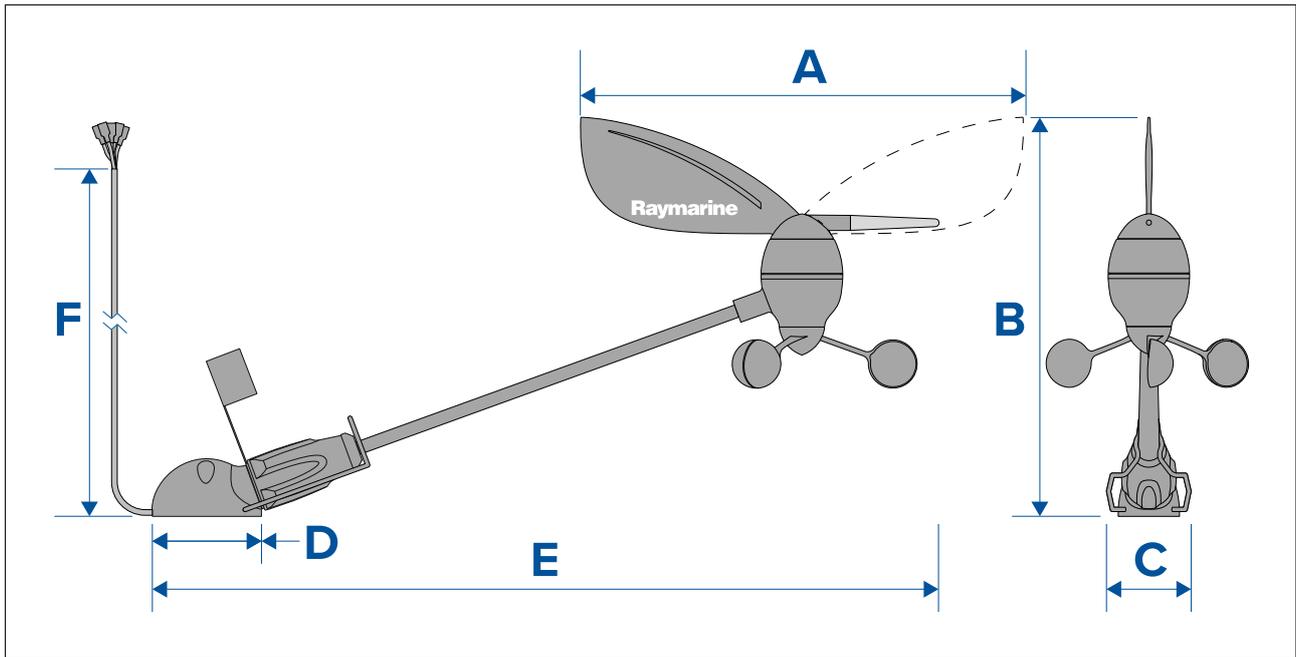
When selecting a location for your wind transducer it is important to consider a number of factors.

The transducer's location must ensure that:

- it is installed facing forwards.
- it is installed on a horizontal surface (If a surface e.g. mast top, is otherwise suitable but not horizontal, make up a suitable wedged piece to provide the necessary horizontal surface).
- it is installed as high as possible and away from any equipment which may shield the transducer or otherwise disturb the air flow to the transducer.
- there must also be a viable route for the transducer's cable to be routed to the display or converter it is to be connected to.
- the vane and cups can spin freely.
- there is sufficient access for installation and servicing.

Wind vane dimensions

Dimensions for the short and long arm wind vanes are shown below.



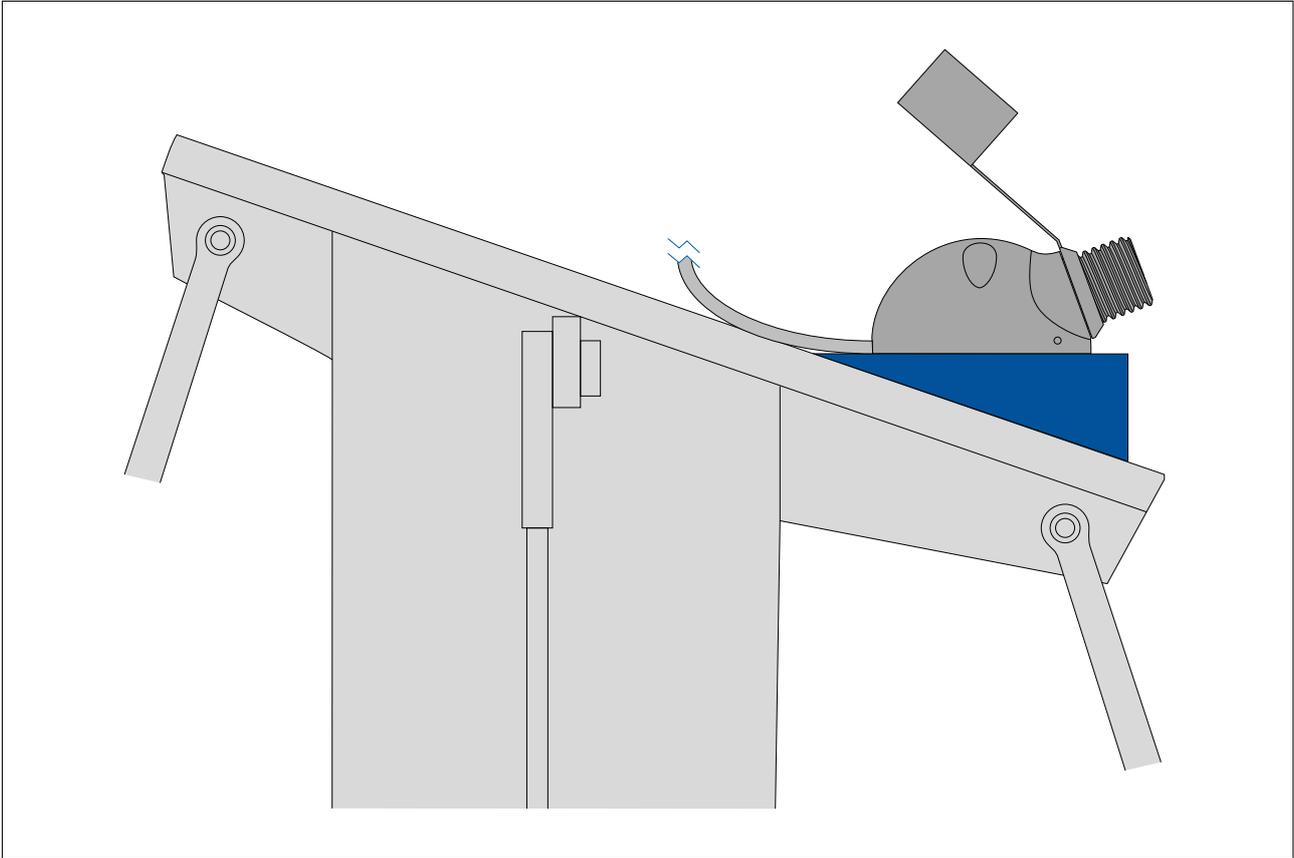
	Short arm	Long arm
A	272 mm (10.70 in)	
B	248 mm (9.76 in)	345.5 mm (13.60 in)
C	38 mm (1.50 in)	
D	68 mm (2.70 in)	
E	538.5 mm (21.20 in)	803.5 mm (31.63 in)
F	30 m (98.4 ft)	50 m (164 ft)

3.3 Mounting

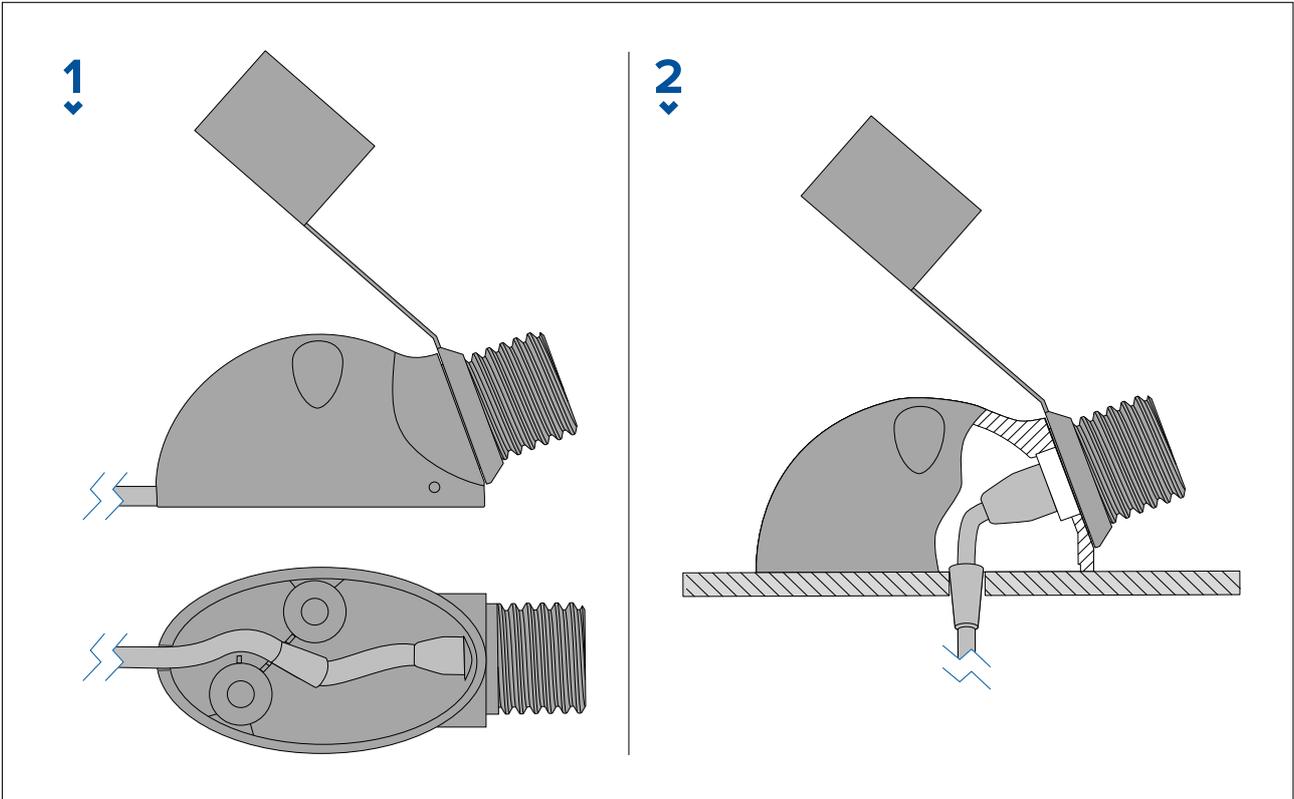
Mounting

Follow the steps below to mount your wind vane.

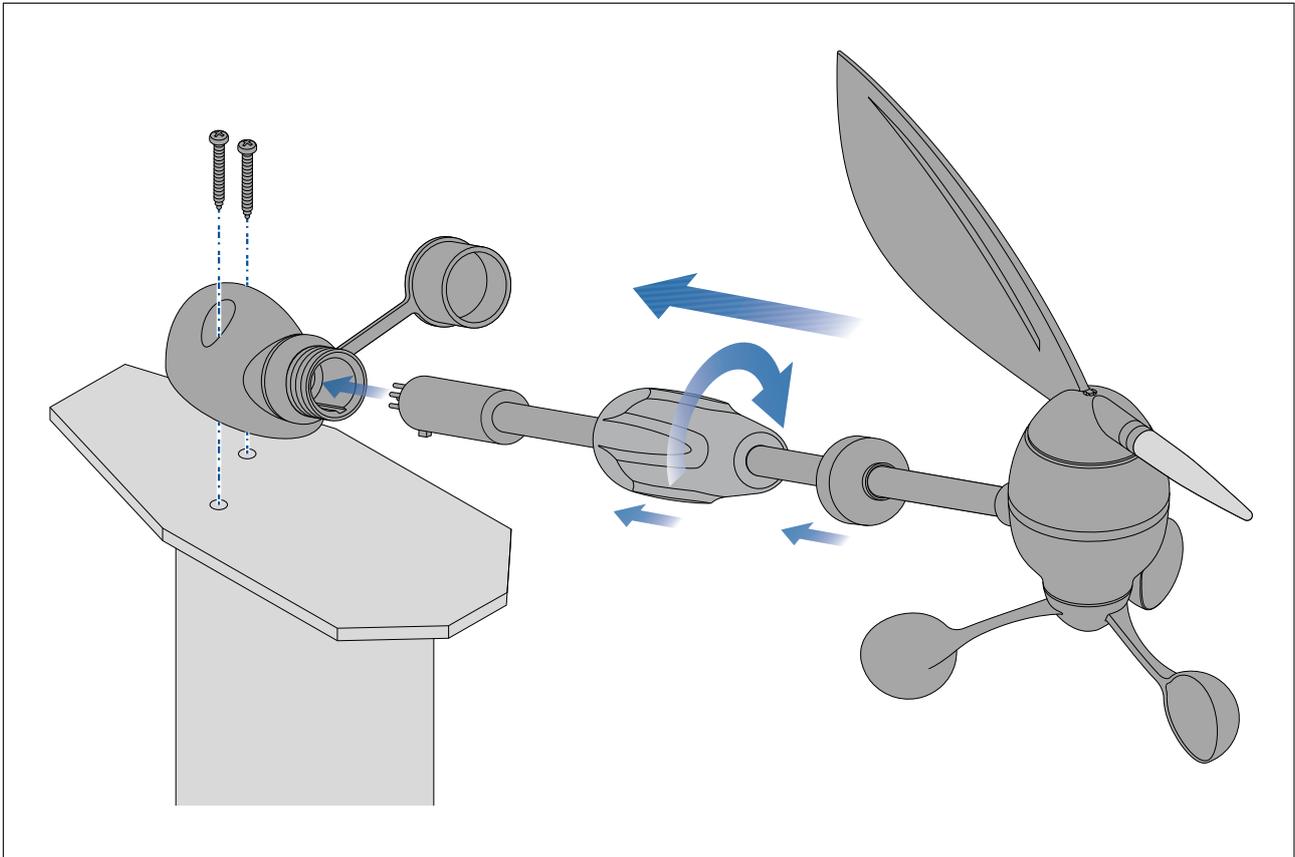
The unit must be mounted on a horizontal surface. If the mounting surface is not horizontal, create a wedge piece to make the surface horizontal.



The unit's cable can be routed protruding from the rear of the base or underneath the base as shown below:



1. Cable protruding from rear.
2. Cable protruding underneath.

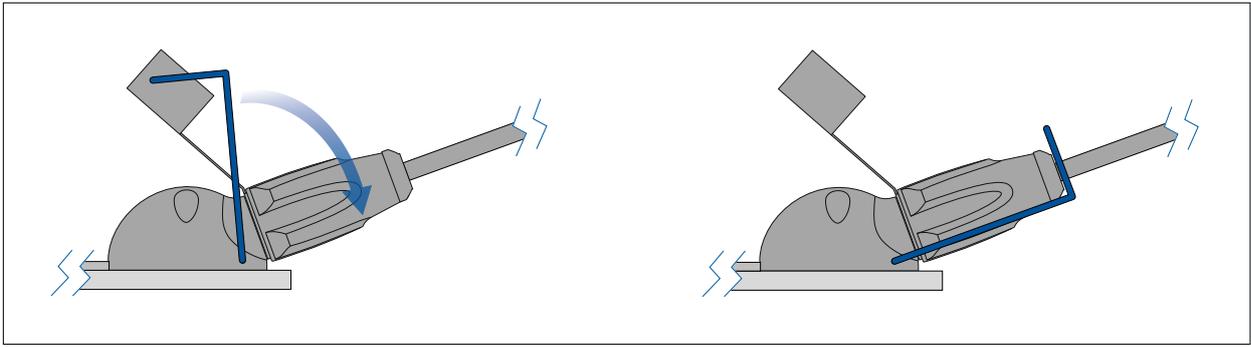


Note:

Do NOT remove the protective cap from the base connector until you are ready to fit the wind vane arm.

1. Decide on the cable routing option that suits your installation.
2. Mark the mounting surface based on your cable routing option:
 - i. **Option 1** — Place the base of the unit in the desired location, with the connection end facing directly forwards, and mark the position of the mounting holes.
 - ii. **Option 2** — Use the supplied mounting template to mark the position of the mounting holes and the cable hole.
3. Drill holes in the mounting surface based on your chosen cable routing option:
 - i. **Option 1** — Drill a hole at each of the 2 mounting hole locations.
 - ii. **Option 2** — Drill a hole at each of the 2 mounting hole locations and an 8 mm hole for the cable routing.
4. Unreel the unit's cable from the spindle it is supplied on.
5. If option 2 has been chosen or you need to use the junction box, you may need to remove the spade terminals from the end of the cable to feed the cable through the hole in the mounting surface.
6. Using the provided fixings secure the unit's base to the mounting surface, ensuring that the cable does not get squashed between the base and the mounting surface.
7. Remove the protective cap from the connector in the base, ensuring it stays attached to the base.
8. Ensuring correct connector orientation, insert the wind vane assembly into the base.
9. Slide the locking collar down the arm towards the base.
10. Tighten the locking collar using one hand and turning clockwise until tight.
11. Slide the rubber cover down the arm and fit to the end of the locking collar.

12. Use the retaining clip to secure the arm of the wind vane.

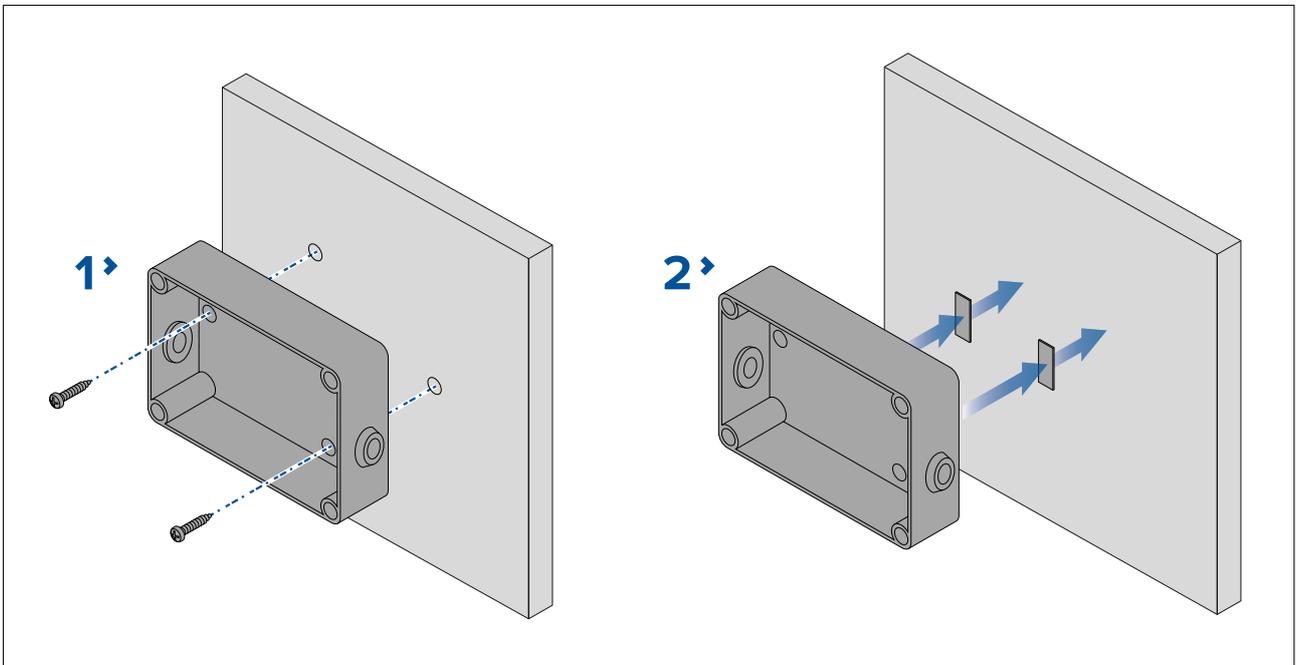


13. Route the cable back to the display, using the junction box if required.
14. If you had to remove the spade terminals then new spade terminals (not supplied) must be fitted to each wire.
15. Connect the spade terminals to the relevant connectors on the back of the display.

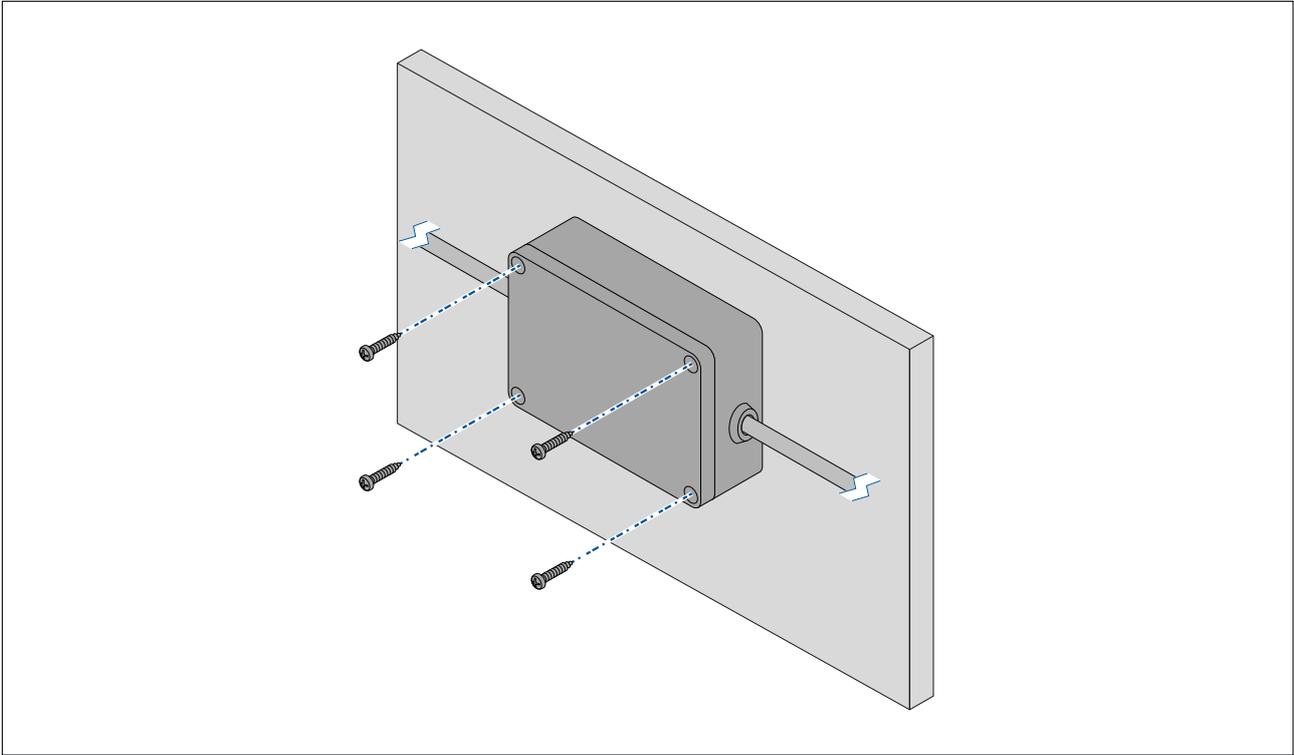
Mounting the junction box

The junction box can be mounted using the supplied screws or double sided adhesive pads.

The junction box should be mounted below decks, close to the cable entry point.



1. To mount the junction box using the fixings screws (supplied) follow the steps below:
 - i. Hold the junction box against the mounting surface at the desired location.
 - ii. Mark the location of the mounting holes on the mounting surface.
 - iii. Drill 2 holes in the mounting surface at the marked locations.
 - iv. Holding the junction box in place, secure to the mounting surface using the supplied screws.
2. To mount the junction box using the double sided pads (supplied) follow the steps below:
 - i. Remove the backing from one side of the double sided adhesive pads
 - ii. Evenly space the adhesive pads and stick to the rear of the junction box.
 - iii. Remove the backing from the opposite side of the adhesive pads.
 - iv. Hold the junction box against the mounting surface at the desired location.
 - v. Apply firm pressure to the front of the junction box to ensure the pads adhere the junction box to the mounting surface.
3. Feed the necessary cables through the grommets in the junction box.
4. Connect the relevant wires together inside the junction box using the supplied terminal block.
5. Place the lid onto the junction box.
6. Use the screws provided to secure the lid to the junction box.



3.4 Replacing an existing wind vane

When replacing an existing wind vane it is important that the latest hardware design is utilized. When considering what needs replacing there are 3 options.

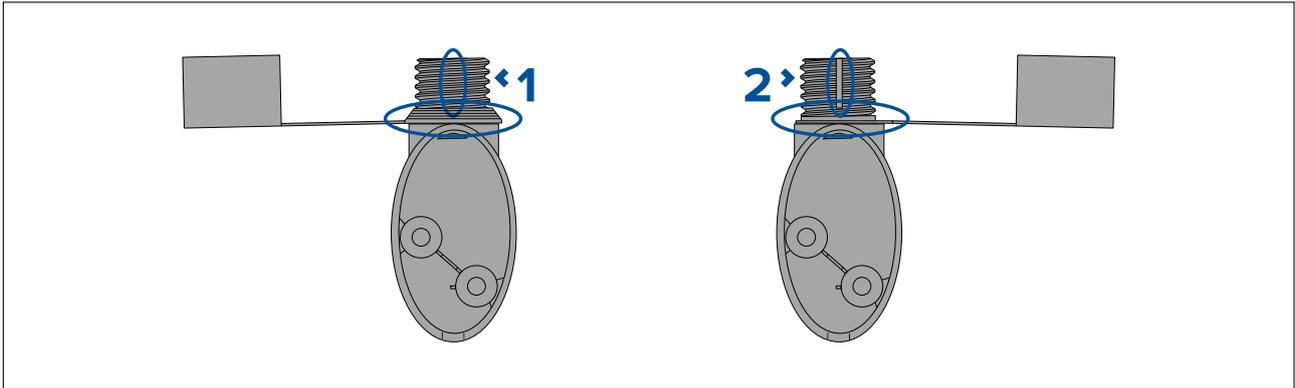
- Option 1 — Replacing wind vane and base. If the wind vane cable is in good condition but your base is an older design then you can replace the wind vane and base using the existing cable. The parts required for this type of replacement are:
 - Replacement wind vane short arm assembly — R28170
 - Replacement wind vane long arm assembly — R28171

Note: Before deciding to keep the existing cable you must ensure that sufficient slack exists in the cable to allow for the connector to be removed and refitted to the base.

- Option 2 — Replacing wind vane only. If the wind vane cable is in good condition and the base is the new design then you can replace just the wind vane. The parts required for this type of replacement are:
 - Replacement wind vane short arm assembly — R28170
 - Replacement wind vane long arm assembly — R28171
- Option 3— Replacing wind vane, base and cable. If the wind vane cable requires replacement then it is advisable to replace the wind vane, its base and the cable. The parts required for this type of replacement are:
 - Short arm wind vane transducer — E22078
 - Long arm wind vane transducer — E22079

Improved base and protective cap design

The replacement wind vane components utilize an improved design to aid protection against water ingress and prolong the life of your wind vane.



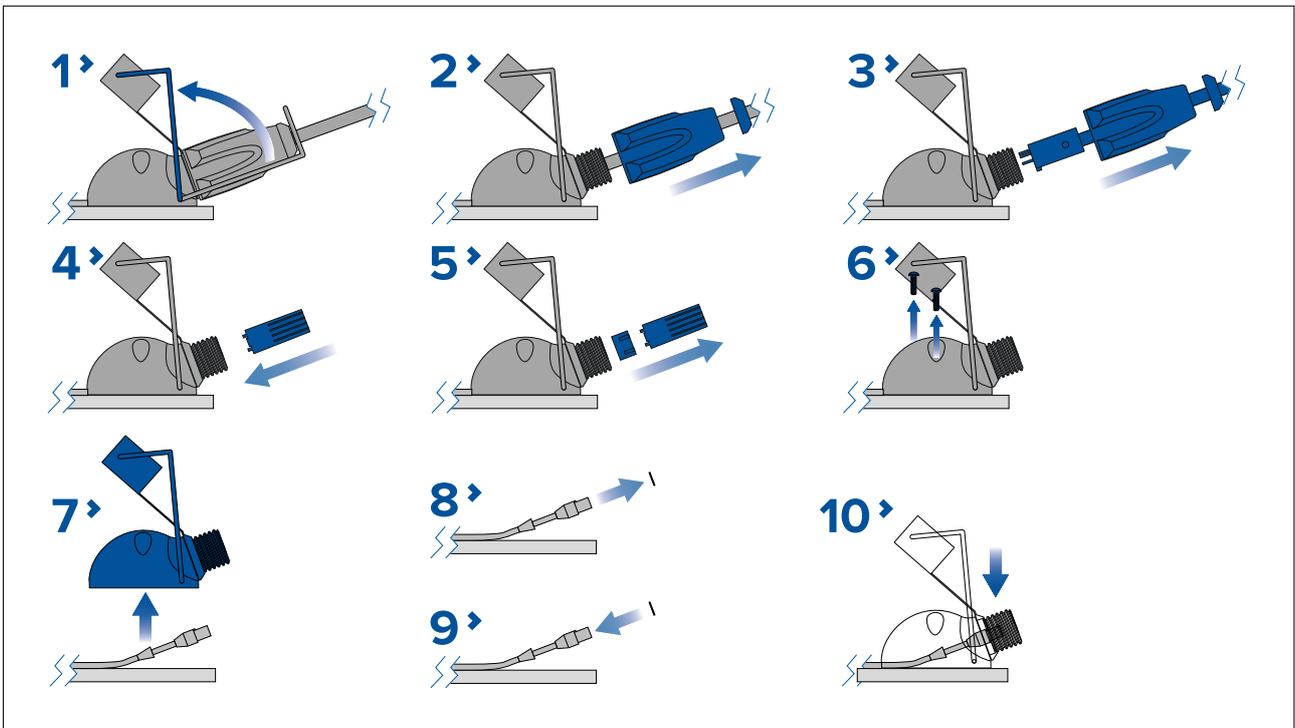
1. New design — The new design has an arm alignment recess instead of a slit through the thread and the new protective cap design includes a tapered collar.
2. Old design — The old design has a slit through the thread that is used for arm alignment.

Important:

- If your current installation uses the old design the base and protective cap must be changed to the new design.
- Failure to replace the base and protective cap with the improved design may affect product warranty.

Replacing wind vane and base using existing cable

When replacing an existing wind vane you can either fit the new wind vane including the new cable, or you can keep the existing installed cable. It is recommended that the wind vane base is changed. The method below describes replacing the wind vane and base, keeping the existing cable.

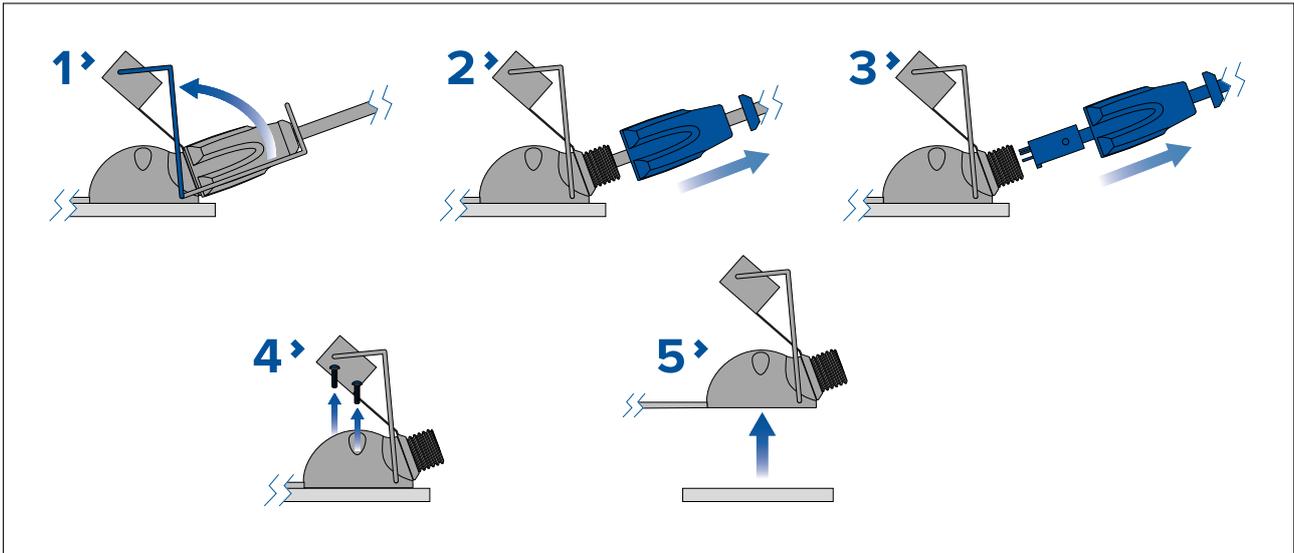


1. Release the arm from the retaining clip.
2. Push the plastic sleeve up the arm and unscrew the locking collar
3. Pull the wind vane arm away from its base.
4. Place the cable nut removal tool (supplied with your replacement arm) inside the thread area of the base, aligning the tags with the grooves on the nut.

5. Unscrew the cable retention nut and remove from the base.
6. Unscrew the base fixing screws.
7. Remove the base leaving the cable in place.
8. Remove the cable washer from the end of the cable connector.
9. Replace the cable washer with the new one supplied.
10. Fit the new base to the cable, ensuring the located tag at the top of the cable connector is engaged in the groove in the new base.
11. Re-assemble following the above instructions in reverse order from step 6 to step 1.

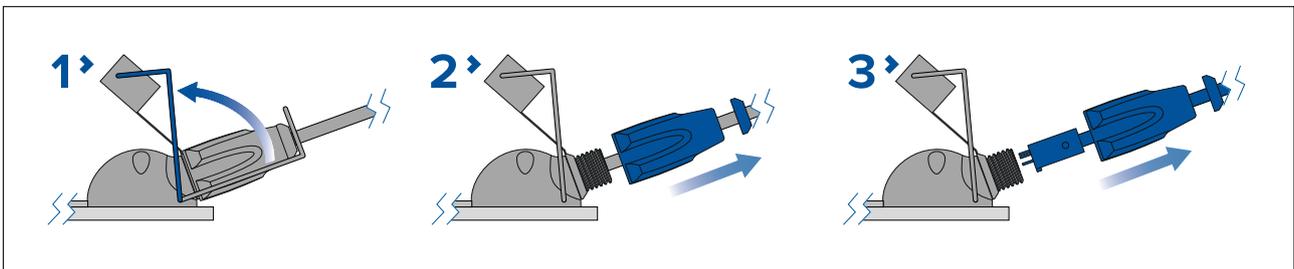
Replacing wind vane and cable

When replacing an existing wind vane you can either fit the new wind vane including the new cable, or you can keep the existing installed cable. It is recommended that the wind vane base is changed. The method below describes replacing the wind vane, base and cable.



1. Release the arm from the retaining clip.
2. Push the plastic sleeve up the arm and unscrew the locking collar
3. Pull the wind vane arm away from its base.
4. Unscrew the base fixing screws.
5. Remove the base and cable.
6. Install the new wind vane and cable, utilizing the existing base fixing holes and following the steps above in reverse order.

Replacing the wind vane arm

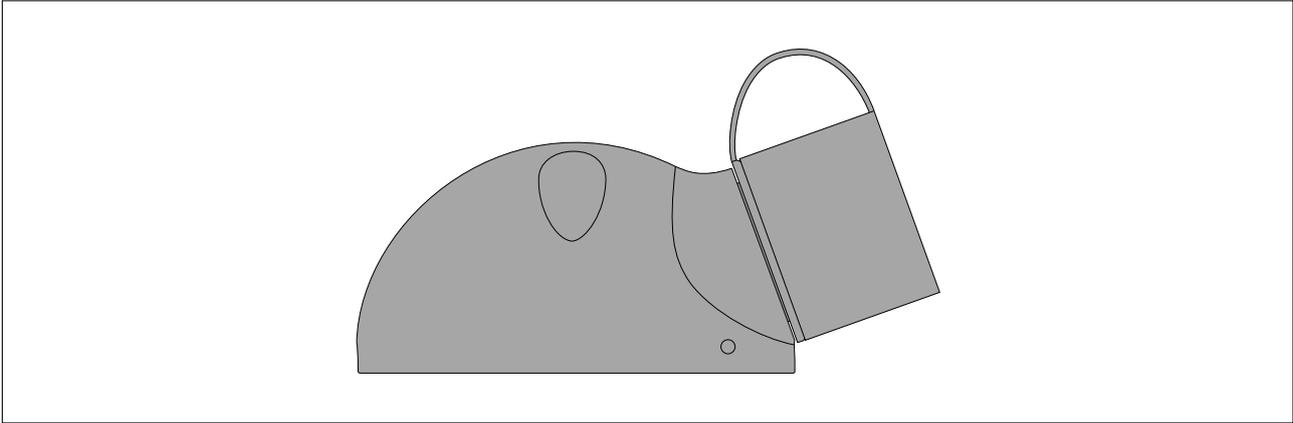


1. Release the arm from the retaining clip.
2. Push the plastic sleeve up the arm and unscrew the locking collar.
3. Pull the wind vane arm away from its base.
4. Using the new wind vane reassemble following the above steps in reverse order.

Protective cap

The protective cap provides protection against water and dust ingress to the cable connector when servicing, maintaining or replacing your wind vane.

If the arm is being removed for servicing, maintenance or replacement, use the protective cap.



Note:

The tapered collar on the protective cap provides a seal to protect the wind vane cable connector against water ingress and must be used in all installations.

Chapter 4: Connections

Chapter contents

- [4.1 General cabling guidance on page 26](#)
- [4.2 Cable routing on page 27](#)
- [4.3 Wind vane connections on page 28](#)

4.1 General cabling guidance

Cable types and length

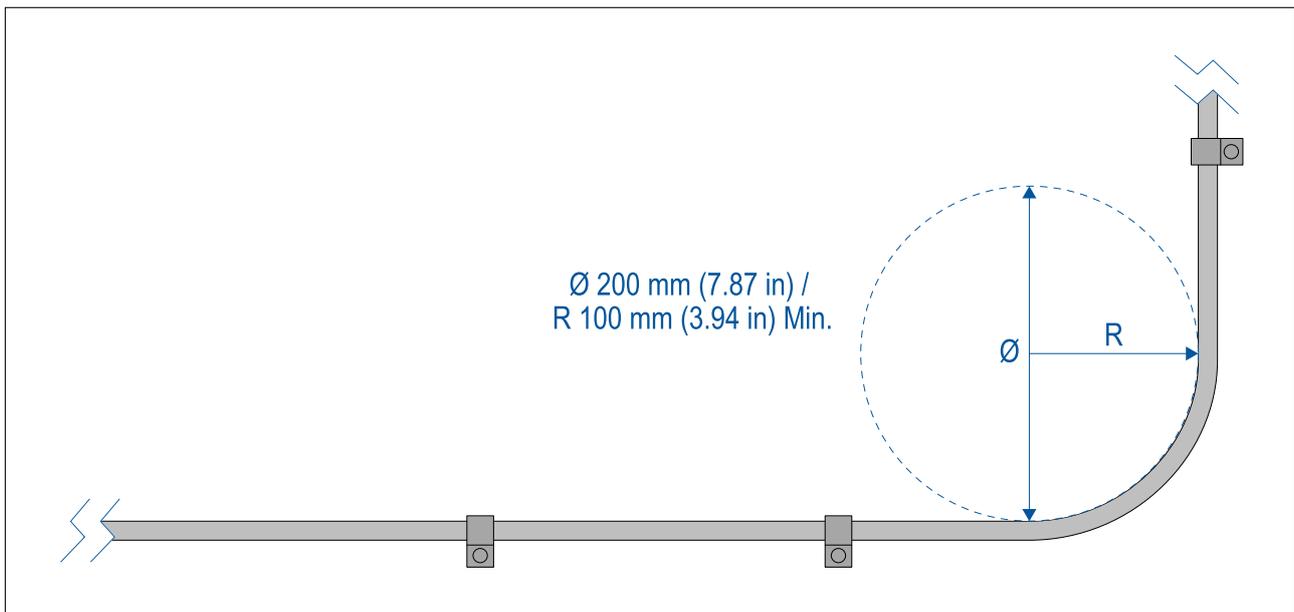
It is important to use cables of the appropriate type and length.

- Unless otherwise stated only use cables supplied by Raymarine.
- Where it is necessary to use non-Raymarine cables, ensure that they are of correct quality and gauge for their intended purpose. (e.g.: longer power cable runs may require larger wire gauges to minimize voltage drop along the run).

Cable routing

Cables must be routed correctly, to maximize performance and prolong cable life.

- Do NOT bend cables excessively. Wherever possible, ensure a minimum bend diameter (\emptyset) of 200 mm (7.87 in) / minimum bend radius (R) of 100 mm (3.94 in).



- Protect all cables from physical damage and exposure to heat. Use trunking or conduit where possible. Do NOT run cables through bilges or doorways, or close to moving or hot objects.
- Secure cables in place using cable clips or cable ties. Coil any excess cable and tie it out of the way.
- Where a cable passes through an exposed bulkhead or deckhead, use a suitable watertight feed-through.
- Do NOT run cables near to engines or fluorescent lights.
- Always route data cables as far away as possible from:
 - other equipment and cables,
 - high current carrying AC and DC power lines,
 - antennas.

Caution: Pulling cables

Do NOT use cords or ropes, attached to cable connectors, to pull cables through restricted apertures (e.g. as in bulkheads), as this could cause damage to cables.

Strain relief

Use adequate strain relief for cabling to ensure that connectors are protected from strain and will not pull out under extreme sea conditions.

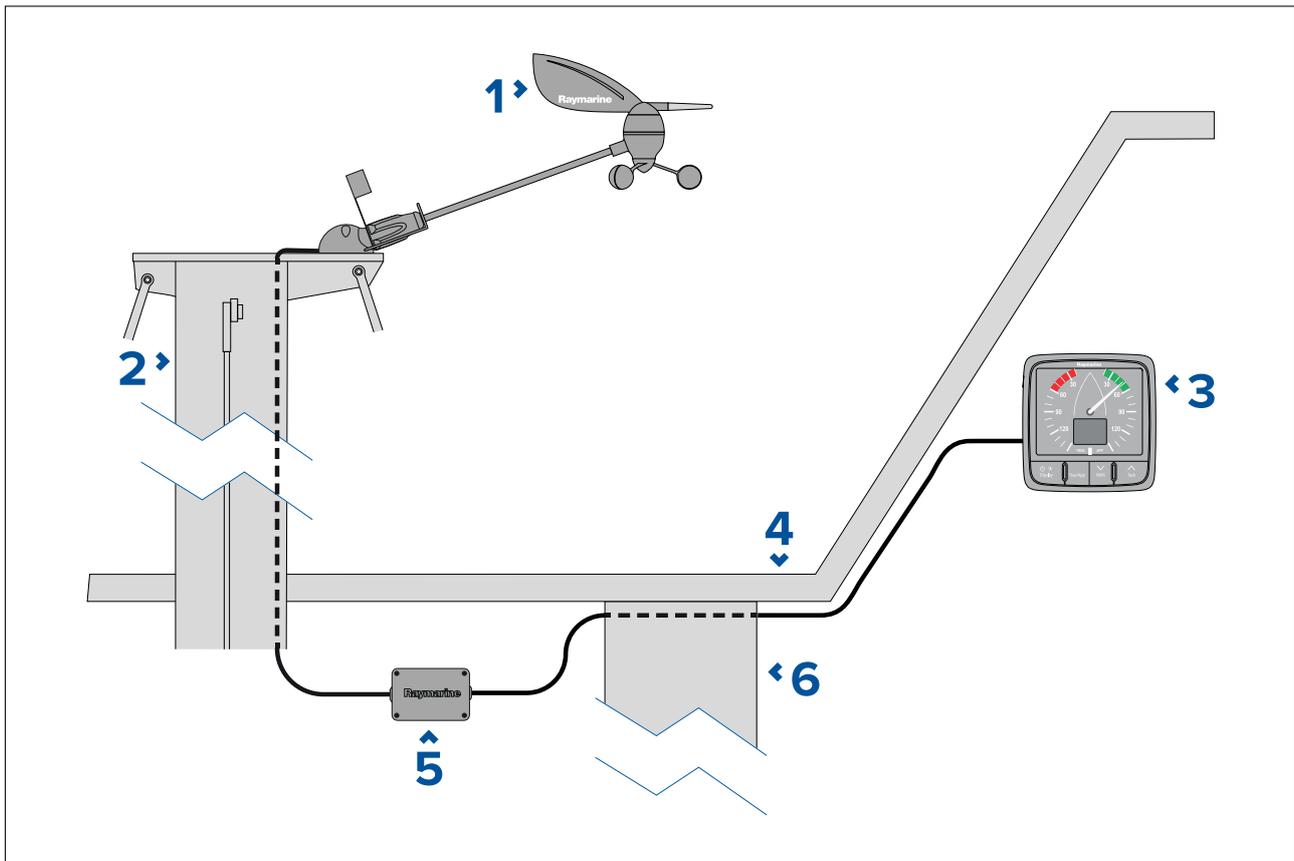
Cable shielding

Ensure that cable shielding is not damaged during installation and that all cables are properly shielded.

4.2 Cable routing

Routing the cable through the deck mast

Follow the steps below to route cable through a deck mast.



1	Wind vane transducer
2	Mast
3	Compatible instrument display
4	Deck
5	Junction box
6	Bulkhead

1. Feed the cable down the mast and out through a suitable below-decks aperture.
2. Run the cable back to the display or converter and connect the spade terminals to the relevant connectors.

Routing the cable through a stepped deck mast

Follow the steps below to route cable through a stepped deck mast.

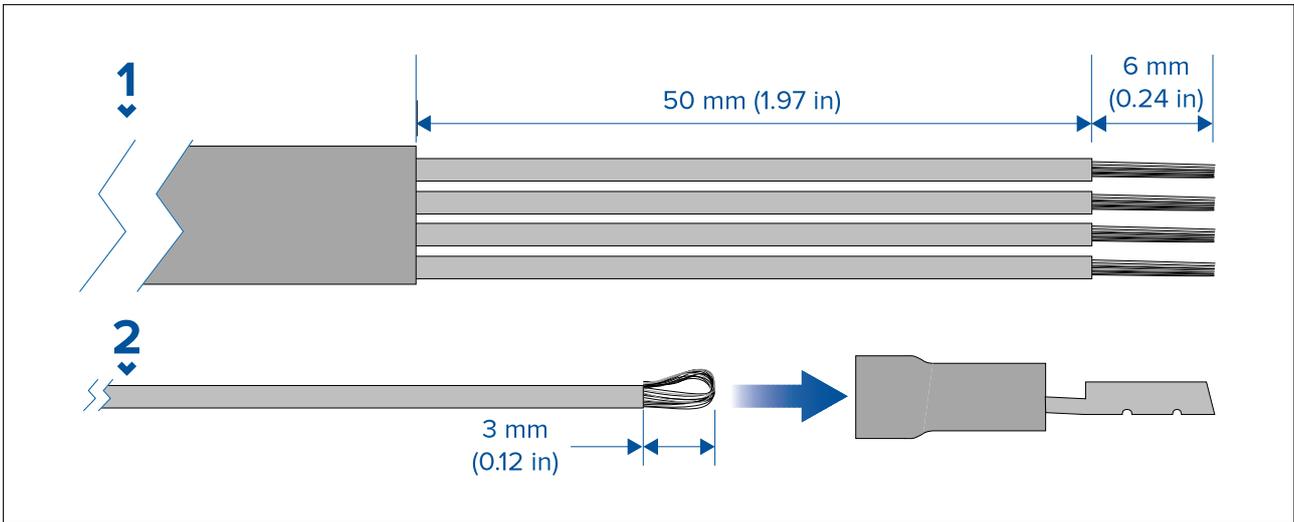
You will require new 1/8th spade terminals to perform this procedure.

1. Remove the existing spade terminals from the end of the cable.
2. Feed the cable down the mast and out through a suitable above-decks aperture.
3. Fit a suitable cable gland to the deck.
4. Pass the cable through the gland and run it back to the display or converter.
5. Crimp the new spade terminals (not supplied) to the end of the cable.
6. Connect the new spade terminals to the relevant connectors on the unit.

Replacing spade terminals

Although the transducer cable is fitted with spade terminals for direct connection to a compatible display or converter, it may be necessary to remove these to allow the cable to be routed through bulkheads or masts etc. 5 x 1/8th spade terminals will be required (not supplied), to replace those removed.

When fitting the new spade terminals, prepare the cables as detailed below:



1. Prepare the cable as shown in 1 above.
2. Fold back the wire strands and insert into the new spade connector as shown in 2 above.
3. Ensure the wire strands do not extend beyond the rear of the spade connector insulation.
4. Crimp the connector to the wire.

4.3 Wind vane connections

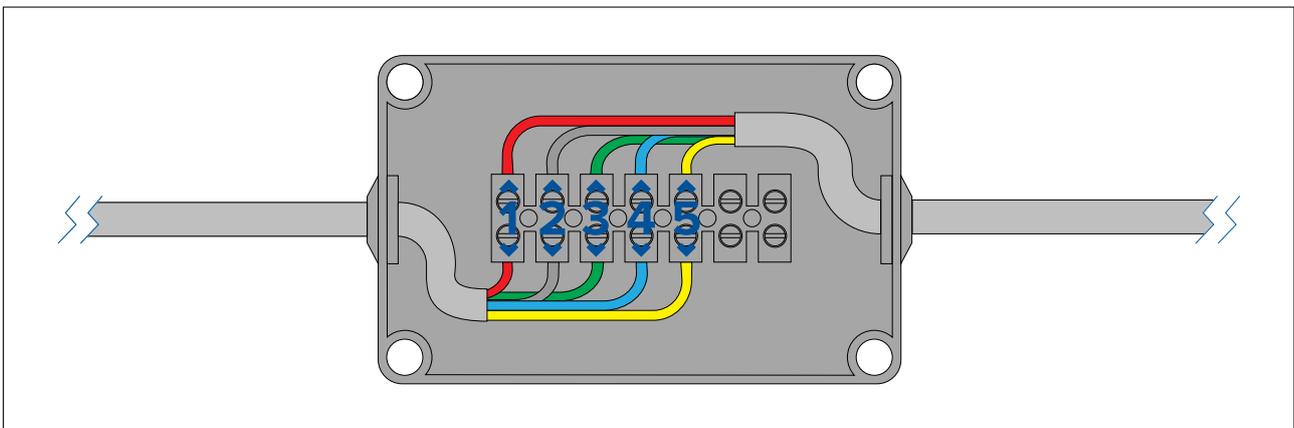
The wind vane should be connected as shown below.

Important:

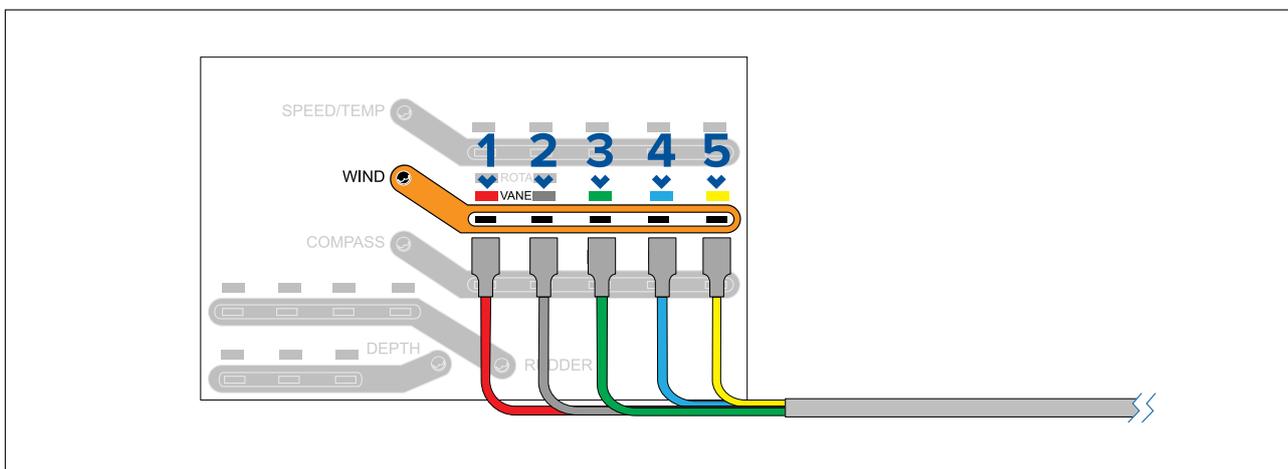
Wires and connections are color coded, ensure that colors match before making connections.

Junction box connection

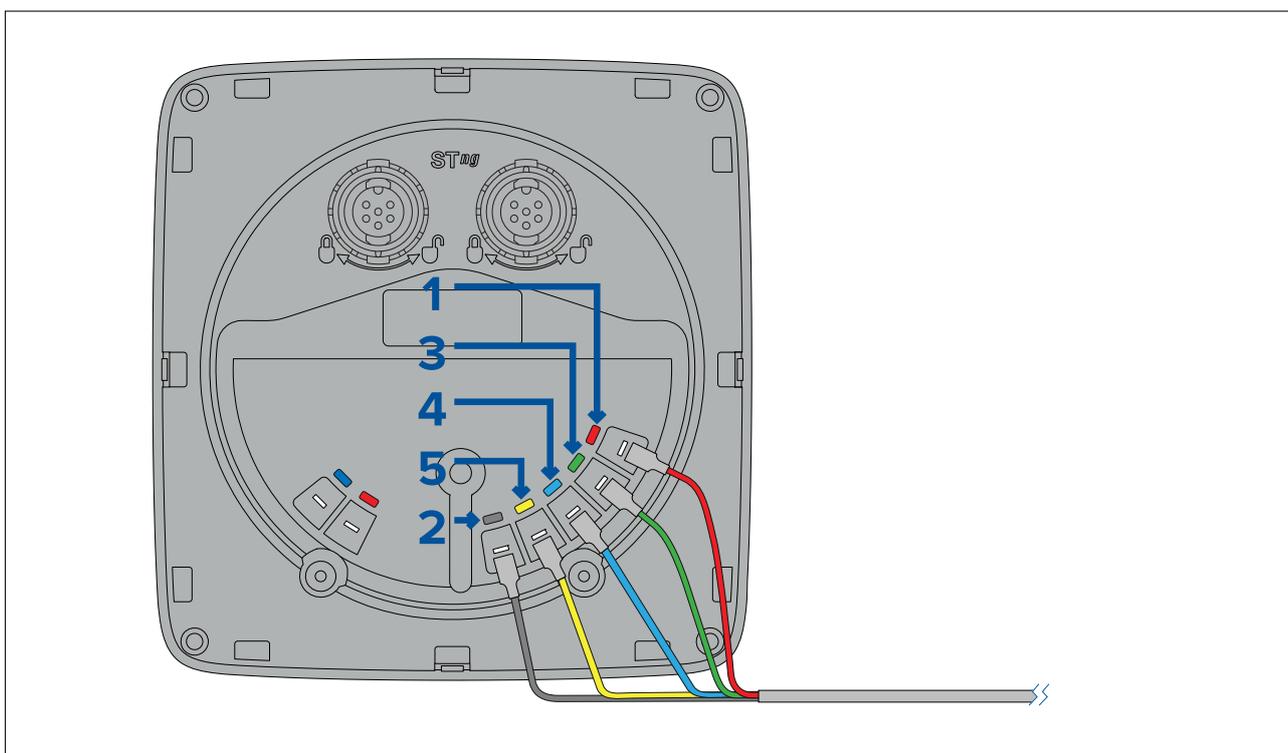
If you need to splice and rejoin the cable then the supplied junction box should be used which ensures that the connections are protected.



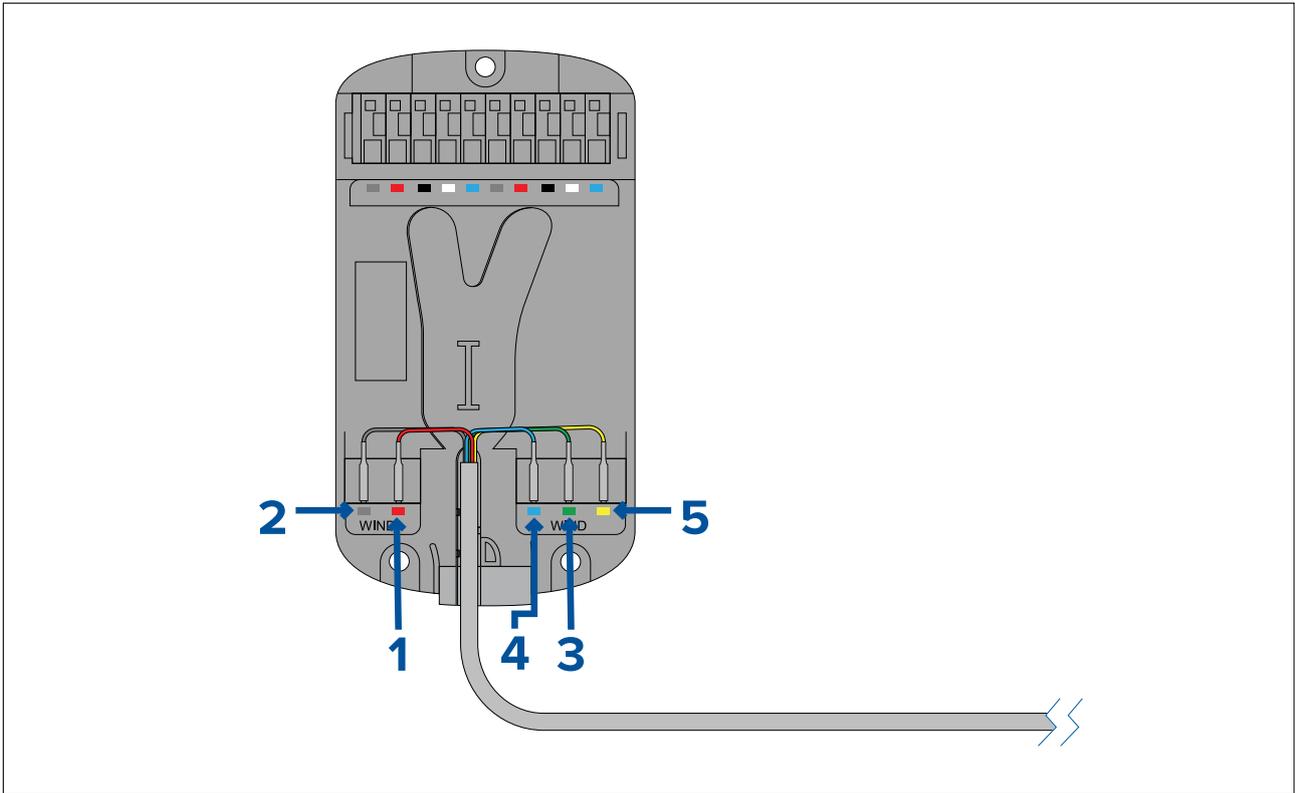
iTC-5 connection



Compatible wind instrument display connection



Pod (legacy) connection



Wire colors / signal

	Wire color	Signal
1	Red	Wind V+
2	Gray	Wind 0 V (Shield)
3	Green	Sine wind direction
4	Blue	Cosine wind direction
5	Yellow	Anemometer (signal)

Chapter 5: System checks and troubleshooting

Chapter contents

- [5.1 Troubleshooting on page 32](#)
- [5.2 Wind data troubleshooting on page 32](#)

5.1 Troubleshooting

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

Before packing and shipping, all Raymarine 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 in order to restore normal operation.

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

5.2 Wind data troubleshooting

Where solutions are provided in numbered steps follow steps in order.

Data appears as dashes on display

Possible causes	Possible solutions
Wind data is set to 'True' wind and there is no speed through water (STW) data available.	<ol style="list-style-type: none"> 1. Set wind data to 'Apparent' and check for wind data. 2. If wind data appears, and you require 'True' then check the source of STW data.
Wind vane transducer connection problem.	<ol style="list-style-type: none"> 1. Check cabling to ensure it is free from damage. 2. Check the cable junction box (usually located at the bottom of the mast) for damage and corrosion and ensure that connections are clean and secure, repair and replace as necessary. 3. Check connections to display or converter for damage and corrosion and ensure that connections are clean and secure, repair and replace as necessary. 4. Disconnect the wind vane arm and check arm and base connectors damage and corrosion and ensure that they are clean and secure, repair and replace as necessary.

Data appears to be incorrect

Possible causes	Possible solutions
Wind vane has not been calibrated or has lost its calibration settings.	<ol style="list-style-type: none"> 1. Re-calibrate wind vane. Refer to the operations instructions supplied with your display for calibration procedures.

Chapter 6: Operation

Chapter contents

- [6.1 Calibration and linearization on page 34](#)
- [6.2 Operation instructions on page 34](#)

6.1 Calibration and linearization

In order to achieve optimum data readings from your transducer it must be calibrated and linearized. Please refer to the operation instructions that accompanied your compatible wind instrument display for calibration and linearization procedures.

6.2 Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website:
www.raymarine.com/manuals.

Chapter 7: Maintenance

Chapter contents

- 7.1 Wind vane routine checks on page 36
- 7.2 Unit cleaning instructions on page 36

7.1 Wind vane routine checks

You should perform the following routine checks of your wind vane transducer:

- Check the wind vane arm's locking collar is tight.
- Check that the wind vane arm's retaining clip is firmly in place.
- Check cabling for signs of damage, such as chafing, cuts or nicks.
- Check cable connectors are firmly attached and are not corroded.

Note:

Cable and connector checks should be carried out with the power supply switched off.

Wind Vane maintenance

As part of any maintenance ensure that:

- You do NOT use Lubricants or sealants.
- The protective cap is used when the arm is removed.

7.2 Unit cleaning instructions

The unit does not require regular cleaning. However, if you find it necessary to clean the unit, please follow the steps below:

1. Ensure power is switched off.
2. Wipe unit clean with a damp cloth.
3. If necessary, use a mild detergent solution to remove grease marks.

Chapter 8: Technical support

Chapter contents

- 8.1 Raymarine product support and servicing on page 38
- 8.2 Learning resources on page 39

8.1 Raymarine product 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.

You can obtain this product information using diagnostic pages of the connected MFD.

Servicing and warranty

Raymarine offers dedicated service departments for warranty, service, and repairs.

Don't forget to visit the Raymarine website to register your product for extended warranty benefits: <http://www.raymarine.co.uk/display/?id=788>.

Region	Contact
United Kingdom (UK), EMEA, and Asia Pacific	<ul style="list-style-type: none">• E-Mail: emea.service@raymarine.com• Tel: +44 (0)1329 246 932
United States (US)	<ul style="list-style-type: none">• E-Mail: rm-usrepair@flir.com• Tel: +1 (603) 324 7900

Web support

Please visit the “Support” area of the Raymarine website for:

- **Manuals and Documents** — <http://www.raymarine.com/manuals>
- **Technical support forum** — <http://forum.raymarine.com>
- **Software updates** — <http://www.raymarine.com/software>

Worldwide support

Region	Contact
United Kingdom (UK), EMEA, and Asia Pacific	<ul style="list-style-type: none">• E-Mail: support.uk@raymarine.com• Tel: +44 (0)1329 246 777
United States (US)	<ul style="list-style-type: none">• E-Mail: support@raymarine.com• Tel: +1 (603) 324 7900 (Toll-free: +800 539 5539)
Australia and New Zealand (Raymarine subsidiary)	<ul style="list-style-type: none">• E-Mail: aus.support@raymarine.com• Tel: +61 2 8977 0300
France (Raymarine subsidiary)	<ul style="list-style-type: none">• E-Mail: support.fr@raymarine.com• Tel: +33 (0)1 46 49 72 30
Germany (Raymarine subsidiary)	<ul style="list-style-type: none">• E-Mail: support.de@raymarine.com• Tel: +49 (0)40 237 808 0
Italy (Raymarine subsidiary)	<ul style="list-style-type: none">• E-Mail: support.it@raymarine.com• Tel: +39 02 9945 1001
Spain (Authorized Raymarine distributor)	<ul style="list-style-type: none">• E-Mail: sat@azimut.es• Tel: +34 96 2965 102
Netherlands (Raymarine subsidiary)	<ul style="list-style-type: none">• E-Mail: support.nl@raymarine.com• Tel: +31 (0)26 3614 905

Region	Contact
Sweden (Raymarine subsidiary)	<ul style="list-style-type: none"> E-Mail: support.se@raymarine.com Tel: +46 (0)317 633 670
Finland (Raymarine subsidiary)	<ul style="list-style-type: none"> E-Mail: support.fi@raymarine.com Tel: +358 (0)207 619 937
Norway (Raymarine subsidiary)	<ul style="list-style-type: none"> E-Mail: support.no@raymarine.com Tel: +47 692 64 600
Denmark (Raymarine subsidiary)	<ul style="list-style-type: none"> E-Mail: support.dk@raymarine.com Tel: +45 437 164 64
Russia (Authorized Raymarine distributor)	<ul style="list-style-type: none"> E-Mail: info@mikstmarine.ru Tel: +7 495 788 0508

8.2 Learning resources

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

Video tutorials

	<p>Raymarine official channel on YouTube:</p> <ul style="list-style-type: none"> YouTube <p>LightHouse™ 3 tips and tricks:</p> <ul style="list-style-type: none"> Raymarine website
	<p>Video Gallery:</p> <ul style="list-style-type: none"> Raymarine website

<p>Note:</p> <ul style="list-style-type: none"> Viewing the videos requires a device with an Internet connection. Some videos are only available in English.

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:

- <http://www.raymarine.co.uk/view/?id=2372>

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:

- <http://forum.raymarine.com>

Chapter 9: Technical specification

Chapter contents

- [9.1 Physical specification on page 42](#)
- [9.2 Conformance specification on page 42](#)

9.1 Physical specification

	Short arm	Long arm
Weight:	<ul style="list-style-type: none">• Boxed: 2.5 Kg (5.5 lbs)• Wind vane assembly: 0.2 (0.4 lbs)• Cable assembly: 1.2 Kg (2.6 lbs)	<ul style="list-style-type: none">• Boxed: 3 Kg (6.6 lbs)• Wind vane assembly: 0.22 Kg (0.47 lbs)• Cable assembly: 1.85 Kg (4 lbs)

9.2 Conformance specification

Conformance	<ul style="list-style-type: none">• EN 60945:2002• EMC Directive 2004/108/EC• Australia and New Zealand: C-Tick, Compliance Level 2
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Chapter 10: Spares and accessories

Chapter contents

- [10.1 Wind vane spares and accessories on page 44](#)

10.1 Wind vane spares and accessories

The following spares and accessories are available for the wind vane transducers.

Spares

Part number	Description
R28170	Short arm wind vane assembly (no cable)
R28171	Long arm wind vane assembly (no cable)
A28159	Wind vane short arm (300 mm)
A28160	Wind vane long arm (600 mm)
A28161	Wind vane base
A28162	Cable assembly (including base) 30 m (98.4 ft)
A28163	Cable assembly (including base) 50 m (164 ft)
A28164	Wind vane PCB assembly
A28165	Wind vane short arm cable 300 mm (11.8 in)
A28166	Wind vane long arm cable 600 mm (23.6 in)
A28167	Wind vane service kit (includes: vane, counterbalance weight, anemometer cups and screws)
A28168	Wind vane top pod kit (includes: bearing, magnet assembly and O-ring seal)
R28169	Protective cap

Accessories

Part number	Description
E70010	iTC-5
E22068	ST290 wind pod
E22108	ST70 wind pod

Index

A

Applicable products 11

C

Cable

Bend radius.....26
Protection26
Routing26
Security.....26
Strain relief.....26

Cable routing.....18, 27

Calibration34

Cleaning36

Compatible converters13

Compatible displays12

Connections

General cabling guidance.....26

Instrument display.....29

iTC-5

Converter29

Junction box28

pod.....30

Contact details.....38

D

Documentation

Installation instructions 10

Mounting template..... 10

Operation instructions 10, 34

I

Instrument display

Connection29

iTC-5

Connection29

J

Junction box19–20

Connection28

L

LightHouse™ 3

Tips and Tricks39

Linearization34

Location requirements 16

Locking collar 19

M

Maintenance..... 7, 36

Mounting17

O

Operation instructions 10, 34

P

Parts supplied..... 13–14

Pod

Connection30

Product dimensions.....17

Product recycling (WEEE)8

Product support.....38

protective cap.....19

Protective cap.....23

R

Retaining clip..... 20

S

Service Center.....38

Servicing.....7

Software10

Spade terminals..... 20, 28

Support forum39

T

Technical specification41

Technical support..... 38–39

Training courses39

Troubleshooting32

V

Video Gallery.....39

W

Warranty38

WEEE Directive.....8

Weight42

Wind vane replacement 22–23



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