

## Long & short arm wind vane

### Warning: Read the expanded handbook

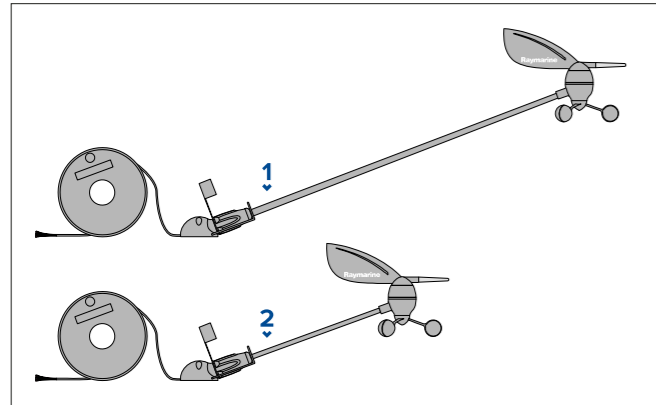
This document is a subset of the full documentation for your product. For the complete documentation and safety information, please refer to the expanded handbook, available on the Raymarine website ([www.raymarine.com](http://www.raymarine.com)).

## Applicable products

This document is applicable to the following products:

### Wind vane products

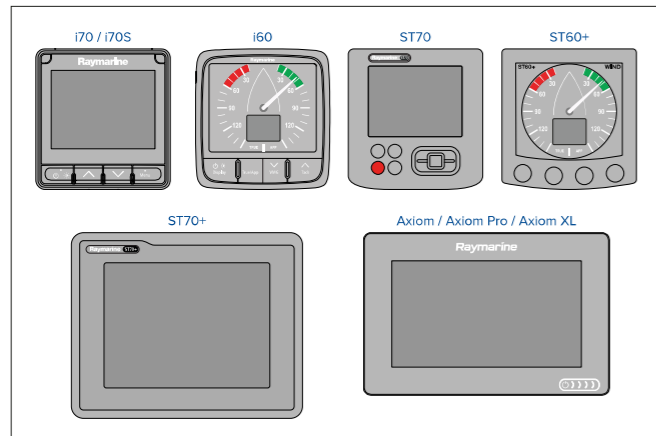
Wind vanes transducers are available in long and short arm variants.



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.

## 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.



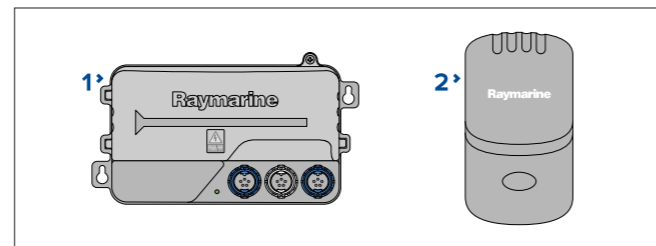
Instrument display	Connection method
i70 / i70S	iTC-5 or transducer pod
i60 Wind	Direct connection
ST70	iTC-5 or transducer pod
ST60+ Wind	Direct connection
ST70+	iTC-5 or transducer pod
Axiom™ MFDs (i.e.: Axiom™ / Axiom™ Pro / Axiom™ XL)	iTC-5 only

### 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.

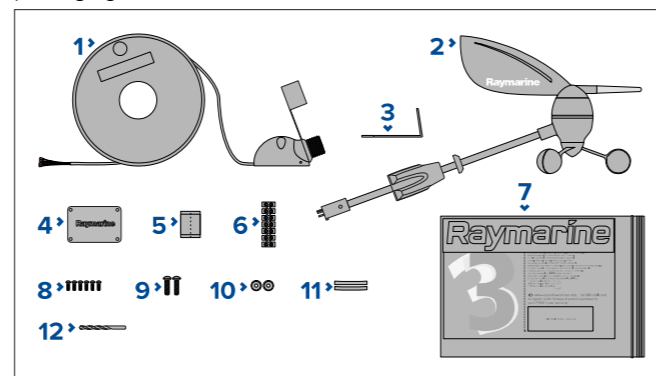


- iTC-5 (E70010).
- ST70 (E22108) / ST290 (E22068) wind transducer pod.

## 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.



- 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.
- Short arm wind vane assembly / Long arm wind vane assembly
- Arm retaining clip
- Junction box
- Double sided adhesive pads x 2
- Terminal block
- Documentation pack
- 4 mm drill bit

- No 4x3/8" pan head pozi screws (junction box fixings x 6)
- No 10x3/4" pan head pozi screws (base mounting fixings x 2)
- Junction box grommets x 2
- 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.

## Location requirements

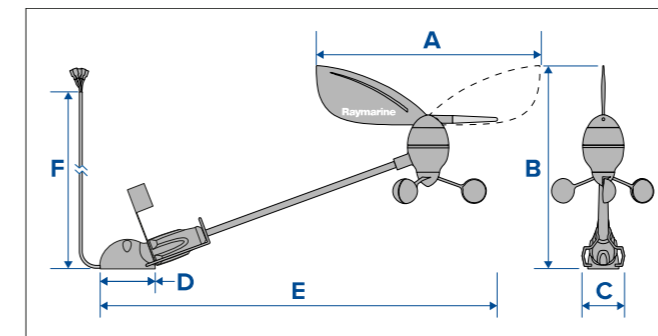
When selecting a location for your wind transducer it is important to consider a number of factors.

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.



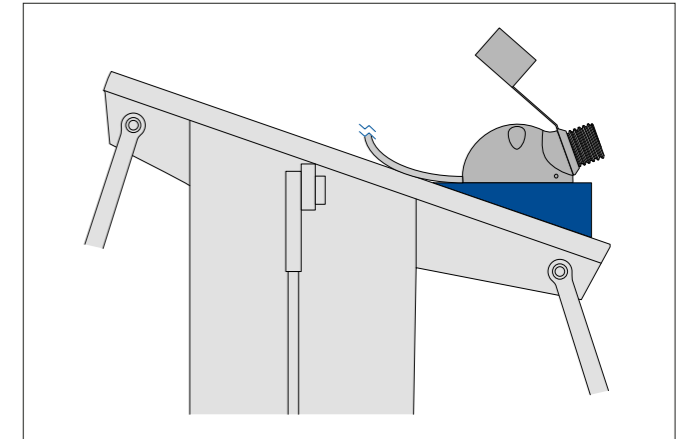
	Short arm	Long arm
A	272 mm (10.70 in)	
B	248 mm (9.76 in)	345.5 mm (13.60 in)
C	38 mm (1.50 in)	
D	68 mm (2.70 in)	
E	538.5 mm (21.20 in)	803.5 mm (31.63 in)
F	30 m (98.4 ft)	50 m (164 ft)

## Mounting

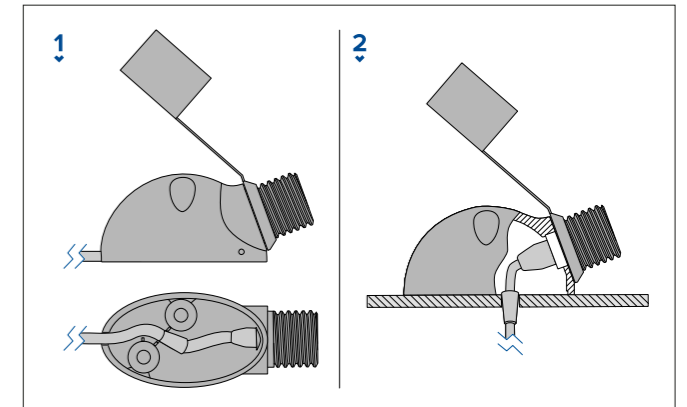
### Mounting

Follow the steps below to mount your wind vane.

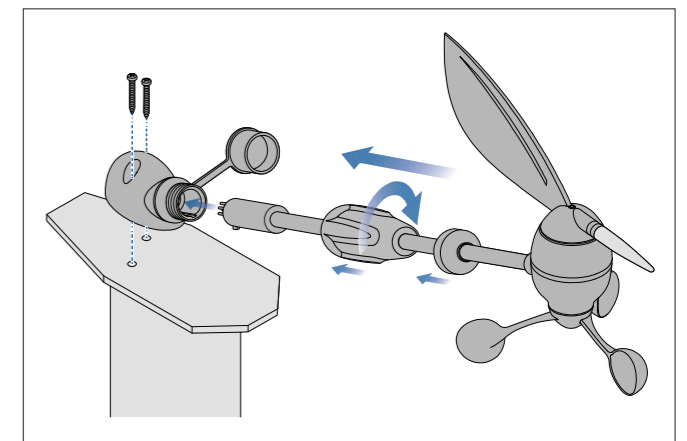
The unit must be mounted on a horizontal surface. If the mounting surface is not horizontal, create a wedge piece to make the surface horizontal.



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



- Cable protruding from rear.
- Cable protruding underneath.

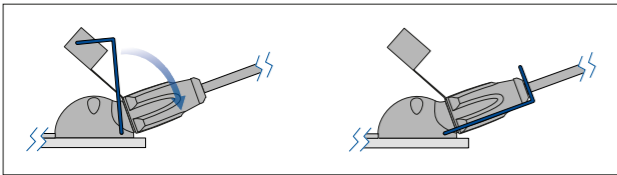


### Note:

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

- Decide on the cable routing option that suits your installation.
- Mark the mounting surface based on your cable routing option:
  - 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.
  - Option 2** — Use the supplied mounting template to mark the position of the mounting holes and the cable hole.
- Drill holes in the mounting surface based on your chosen cable routing option:
  - Option 1** — Drill a hole at each of the 2 mounting hole locations.
  - Option 2** — Drill a hole at each of the 2 mounting hole locations and an 8 mm hole for the cable routing.
- Unreel the unit's cable from the spindle it is supplied on.

- 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.
- 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.
- Remove the protective cap from the connector in the base, ensuring it stays attached to the base.
- Ensuring correct connector orientation, insert the wind vane assembly into the base.
- Slide the locking collar down the arm towards the base.
- Tighten the locking collar using one hand and turning clockwise until tight.
- Slide the rubber cover down the arm and fit to the end of the locking collar.
- Use the retaining clip to secure the arm of the wind vane.

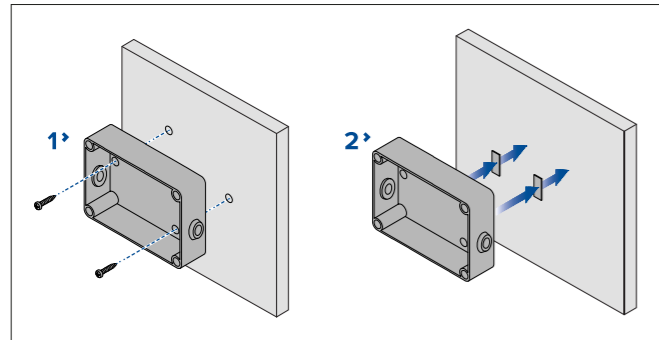


- Route the cable back to the display, using the junction box if required.
- If you had to remove the spade terminals then new spade terminals (not supplied) must be fitted to each wire.
- Connect the spade terminals to the relevant connectors on the back of the display.

### Mounting the junction box

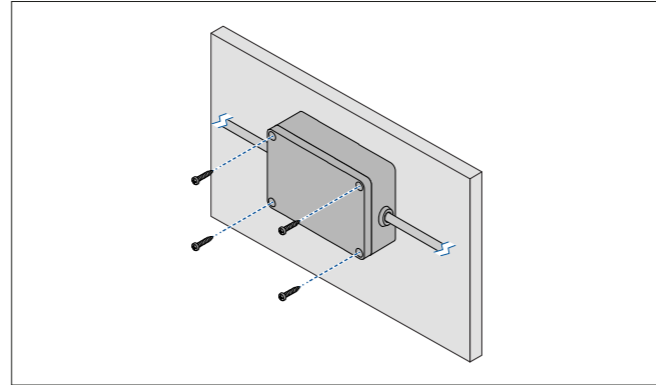
The junction box can be mounted using the supplied screws or double sided adhesive pads.

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



- To mount the junction box using the fixings screws (supplied) follow the steps below:
  - Hold the junction box against the mounting surface at the desired location.
  - Mark the location of the mounting holes on the mounting surface.
  - Drill 2 holes in the mounting surface at the marked locations.
  - Holding the junction box in place, secure to the mounting surface using the supplied screws.
- To mount the junction box using the double sided pads (supplied) follow the steps below:
  - Remove the backing from one side of the double sided adhesive pads
  - Evenly space the adhesive pads and stick to the rear of the junction box.
  - Remove the backing from the opposite side of the adhesive pads.
  - Hold the junction box against the mounting surface at the desired location.
  - Apply firm pressure to the front of the junction box to ensure the pads adhere to the mounting surface.

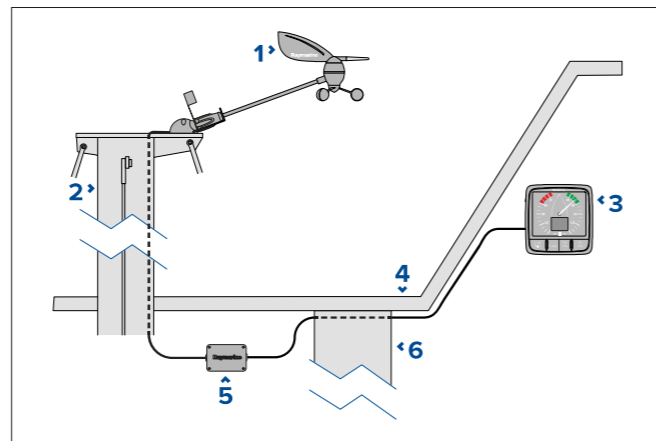
- Feed the necessary cables through the grommets in the junction box.
- Connect the relevant wires together inside the junction box using the supplied terminal block.
- Place the lid onto the junction box.
- Use the screws provided to secure the lid to the junction box.



### 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

- Feed the cable down the mast and out through a suitable below-decks aperture.
- 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 1/8<sup>th</sup> spade terminals to perform this procedure.

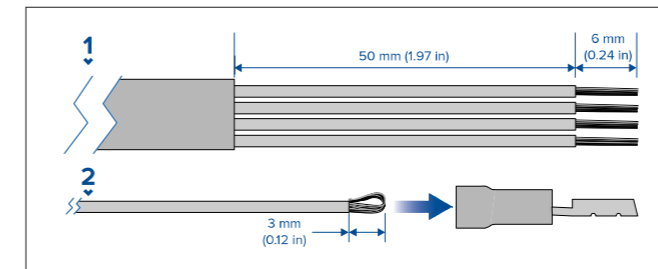
- Remove the existing spade terminals from the end of the cable.
- Feed the cable down the mast and out through a suitable above-decks aperture.
- Fit a suitable cable gland to the deck.
- Pass the cable through the gland and run it back to the display or converter.

- Crimp the new spade terminals (not supplied) to the end of the cable.
- 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 1/8<sup>th</sup> spade terminals will be required (not supplied), to replace those removed.

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



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

### Wind vane connections

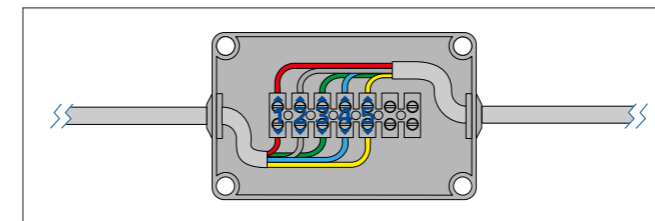
The wind vane should be connected as shown below.

#### Important:

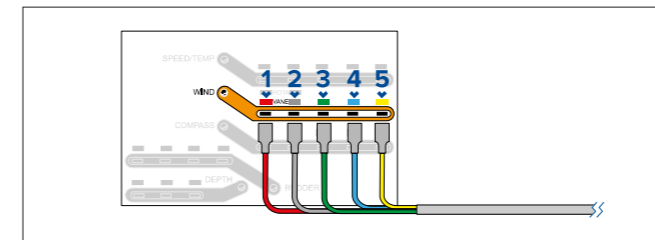
Wires and connections are color coded, ensure that colors match before making connections.

#### Junction box connection

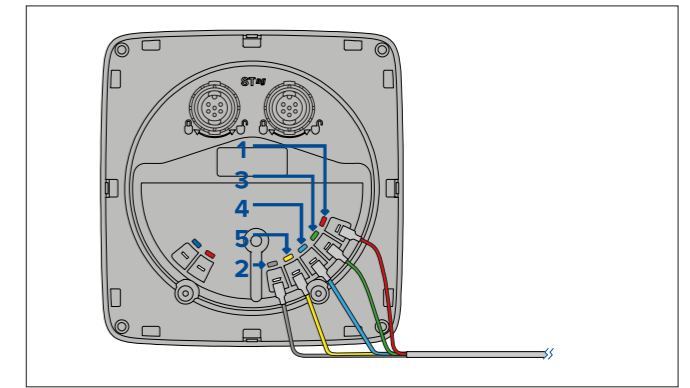
If you need to splice and rejoin the cable then the supplied junction box should be used which ensures that the connections are protected.



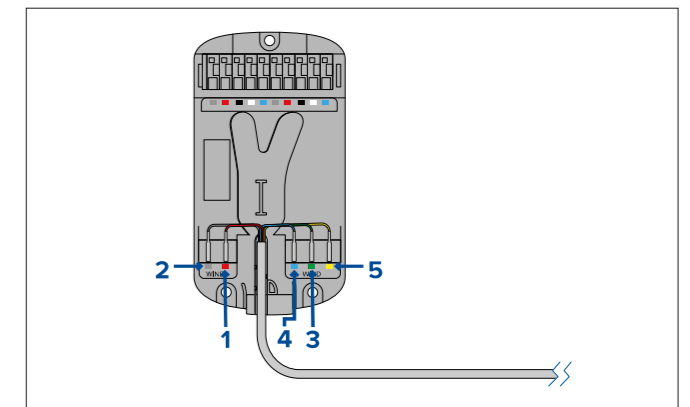
#### iTC-5 connection



### 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)

### 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.

### 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](http://www.raymarine.com/manuals).