RF40 Rudder Feedback unit
Installation guide

The RF40 is a resistive rudder feedback unit, suitable for autopilot systems with a NAC-1 or NAC-2 autopilot computer.

→ ***Note:*** The RF40 can not be used with the NAC-3 autopilot computer.

The RF40 might also be used with autopilot computers that have analog rudder feedback input.

→ ***Note:*** Do not remove the transmitter lever from the feedback unit.

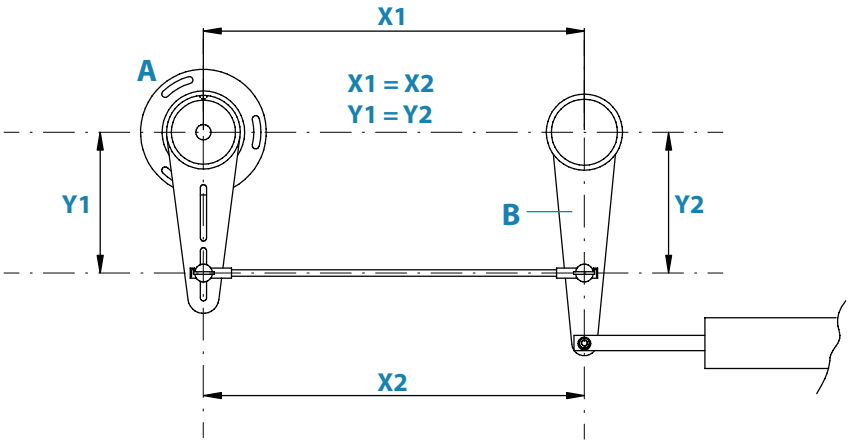
→ ***Note:*** The unit is factory adjusted and requires no further adjustment at installation than described below.

Mounting location

The RF40 unit (**A**) mounts close to the rudder, and is mechanically linked to the rudder tiller arm (**B**) or rudder quadrant.

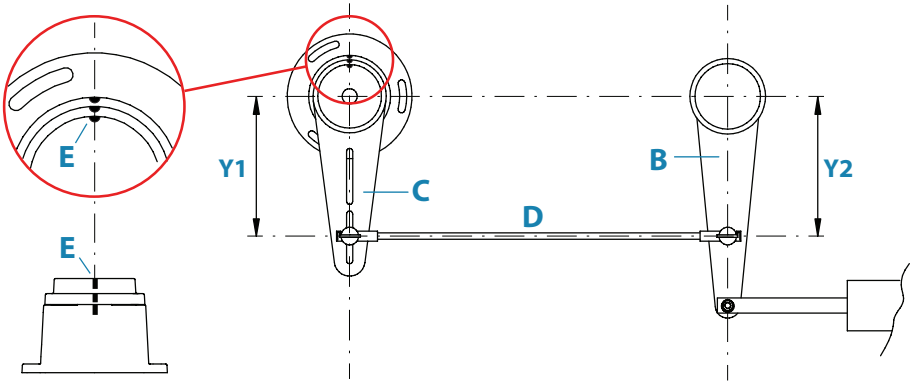
Select a mounting location for the RF40 unit according to the illustration

- **X1** = **X2**: min 150 mm (5.9”), max 345 mm (13.6”)
- **Y1** = **Y2**: min 44 mm (1.7”), max 130 mm (5.1”)



Installation

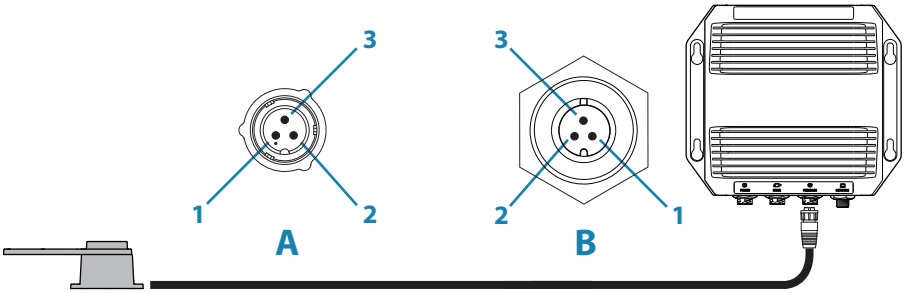
The RF40 lever (**C**) has two slots for the transmitter link (**D**). The slots enable maximum flexibility to provide the 1:1 mechanical linkage relationship.



1. Turn the helm to set the rudder tiller arm (**B**) to approximate center position
2. Mount the RF40 unit to a suitable platform
   - If required:
     - add blocking material under the RF40 to adjust the height of the transmitter lever to be level with the rudder tiller arm
     - cut the length of the transmitter rod (**D**) to move the feedback unit closer to the rudder post
3. Rotate the RF40 lever to center position
   - the marks (**E**) on unit and on the lever should be aligned
4. Rotate the RF40 unit so that the rudder lever is parallel with the rudder tiller arm
5. Set the transmitter link to the inner limit of the outer slot if possible
6. Drill and tap the rudder tiller arm so that the **Y2** dimension is equal to the **Y1** dimension
7. Attach the ball joint to the tiller arm, and connect the transmitter rod to the ball joint at the rudder tiller arm
8. Tighten the mounting screws for both the RF40 and the transmitter rod ball joint.
9. Observe the feedback unit while someone turns the helm through the complete rudder travel hard-over to hard-over, and verify that the mechanical linkage moves freely.

Wiring

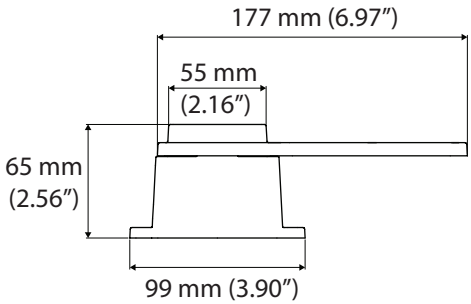
The RF40 is equipped with a 15 m (49 feet) cable with connector (**A**). The unit connects to the NAC-1/NAC-2 autopilot computer's three pins rudder feedback socket (**B**).



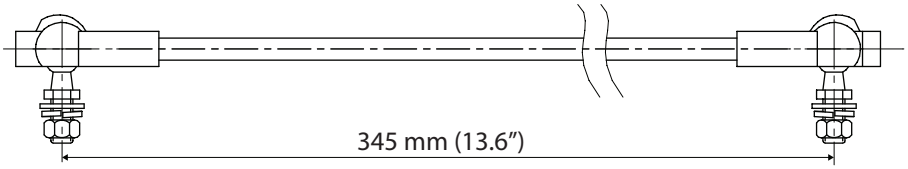
	Function	Color
1	+5 V DC	Red
2	Signal	Yellow
3	-0 V DC	Black

Dimensional drawings

RF40



Transmitter link



Spare part

20193454 Transmitter link

Technical specifications

→ ***Note:*** The most up-to-date specifications list is available at www.simrad-yachting.com

Physical	
Dimensions	See figure
Weight	0.5 kg (1.1 lbs.)
Material	Arnite T06 200 PBT
Compass safe distance	1.0 m (3.1 ft.)
Mounting	Horizontal, vertical or upside down
Cable	15 m (49 feet) with connector
Transmitter link	Stainless 345 mm (13.6”) with 2 ball joints
Electrical	
Supply voltage	5 V DC
Power consumption	2.5 mW
Environmental	
Operating temperature	-25 to +55 °C (–13 to +130 °F)
Storage temperature	-30 to +70 °C (–22 to + 158 °F)
Waterproof rating	IP56
Interface	
Rudder angle	+/-120 degrees
Output signal	0 - 5 V DC
Resistance value	10 K ohms
Accuracy	+/-0.25° within +/-5°, otherwise +/-0.5°
Repeatability	+/-0.1°

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