

GARMIN®

GRID™ 20

INSTALLATION INSTRUCTIONS

Important Safety Information

WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

When connecting the power cable, do not remove the in-line fuse holder. To prevent the possibility of personal injury or product damage caused by fire or overheating, the appropriate fuse must be in place as indicated in the product specifications. Connecting the power cable without the appropriate fuse in place voids the product warranty.

Failure to install this device according to these instructions could result in personal injury, damage to the vessel or device, or poor product performance.

CAUTION

To avoid possible personal injury, always wear safety goggles, ear protection, and a dust mask when drilling, cutting, or sanding.

To avoid possible personal injury or damage to the device and vessel, disconnect the vessel's power supply before beginning to install the device.

To avoid possible personal injury or damage to the device or vessel, before applying power to the device, make sure that it has been properly grounded, following the instructions in the guide.

To avoid possible personal injury or damage to this device and vessel, only install this device when the vessel is on land, or when properly secured and docked in calm water conditions.

NOTICE

When drilling or cutting, always check what is on the opposite side of the surface to avoid damaging the vessel.

Read all installation instructions before proceeding with the installation. If you experience difficulty during the installation, contact Garmin® Product Support.

Software Update

You must update the Garmin chartplotter software when you install this device. For instructions on updating the software, see your chartplotter owner's manual at support.garmin.com.

Keys



	Hold both keys to begin pairing. Press to move between displays in the station.
MARK SOS	Press to save the present location as a waypoint. Hold for one second to mark an SOS location and begin a route back to the location.
	Press repeatedly to scroll through the backlight brightness levels.
NAV INFO	Press to display navigation information, such as points of interest, user data, and graphs.
STBY ENG	Press to engage the autopilot or put it in standby mode.
	Press to return to the home screen.
MENU	Press to open or close additional settings about that screen.
	Spin or tilt to move the cursor or highlight. Spin to zoom in or out of a view. Press to make a selection.
BACK	Press to return to the previous screen.
FOCUS	Press to move a highlight to a different section of the screen. Press to move a highlight to a different function or window on a combination screen.
1 2 3 4	Hold to assign a shortcut key to the active screen. NOTE: If necessary, use the FOCUS key to highlight the active screen. TIP: You can also assign a shortcut to a highlighted home screen icon. Press to open the assigned screen.

Tools Needed

- Drill and drill bits
 - 3 mm ($\frac{1}{8}$ in.) drill bit
 - 13 mm ($\frac{1}{2}$ in.) drill bit
 - 2 mm ($\frac{1}{4}$ in.) drill bit for wood screws
 - 4 mm ($\frac{3}{16}$ in.) drill bit for the nut plates
 - 5 mm ($\frac{3}{16}$ in.) drill bit for the nut plates
- #2 Phillips screwdriver
- Jigsaw or rotary tool
- File and sandpaper
- Marine-grade sealant, approved for use on plastics (recommended)
- Two AA alkaline, NiMH, or lithium batteries (if powering with batteries)

Mounting and Connection Considerations

NOTICE

This device should be mounted in a location that is not exposed to extreme temperatures or conditions. The temperature range for this device is listed in the product specifications. Extended exposure to temperatures exceeding the specified temperature range, in storage or operating conditions, may cause device failure. Extreme-temperature-induced damage and related consequences are not covered by the warranty.

The mounting surface must be flat to avoid damaging the device when it is mounted.

The GRID 20 device requires a power connection and a data connection, using one of three methods:

- NMEA 2000® network for power and data
- Included power cable and an ANT® wireless connection
- AA batteries (not included) and an ANT wireless connection

This device can be mounted in a dashboard or other surface using the included hardware. When selecting a mounting location, observe these considerations.

- To avoid interference with a magnetic compass, you must not mount the device closer to a compass than 11.4 cm (4.5 in.).
- You must mount the device in a location that allows room for the routing and connection of the NMEA 2000 cable, power cable, or the replacement of the batteries.
- The NMEA 2000 connection method can be used to remove all risk of issues caused by wireless interference from other devices and in cases where there are wireless range concerns. The cables necessary to connect to the NMEA 2000 network are not included.
- When connecting wirelessly, you must test the GRID 20 device's performance at the selected location before mounting.

Mounting the Device

NOTICE

Use only the included hardware when mounting this device. Using mounting hardware not provided with the device may damage the device.

Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the case and the mounting holes, and cutting the hole too large could compromise the stability of the device after it is mounted.

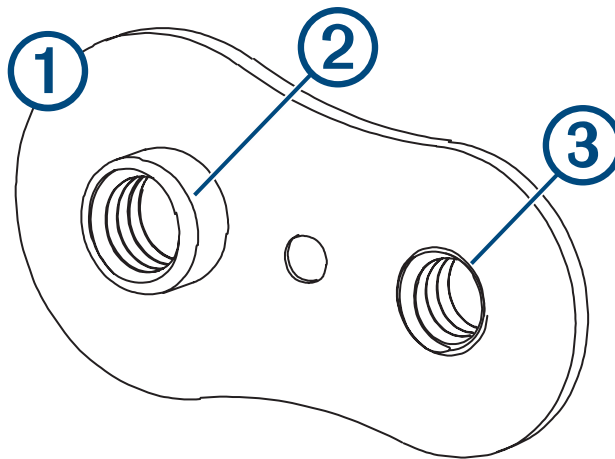
If you are mounting the device on fiberglass with screws, it is recommended to use a countersink drill bit to drill a clearance counterbore through only the top gel-coat layer. This will avoid cracking in the gel-coat layer when the screws are tightened.

The included template and hardware can be used to flush mount the device at the selected location. There are three options for hardware based on the mounting surface material.

- You can drill holes and use the included nut plates and machine screws. The nut plates can add stability to a thinner surface and allow you to more easily remove the device when you need to change the batteries.
- You can drill pilot holes and use the included wood screws. You should only use wood screws if you are connecting to power using the included cable or the NMEA 2000 network, or if you are using batteries and have access to the back of the device to replace the batteries. Do not use wood screws if you are using batteries and do not have access to the back of the device to replace the batteries.
- You can drill and tap holes, and use the included machine screws.

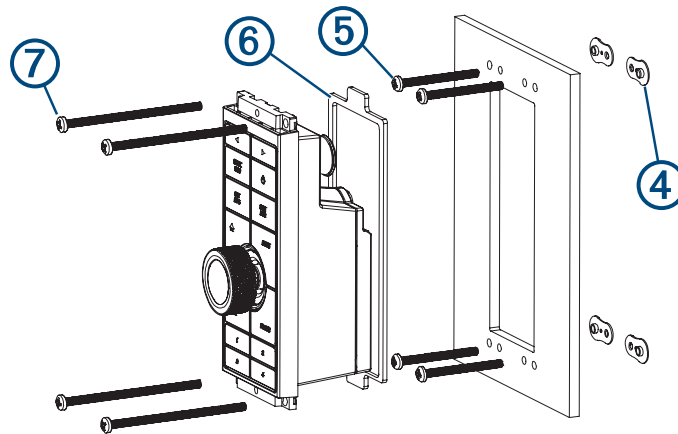
- 1 Trim the template and make sure it fits in the location where you want to mount the device.
- 2 Secure the template to the selected location.
- 3 Using a 3 mm ($\frac{1}{8}$ in.) drill bit, drill a hole in each corner of the solid line on the template.
- 4 Using a 13 mm ($\frac{1}{2}$ in.) drill bit, drill one or more of the large holes indicated along the inside of the solid line on the template to allow access for a jigsaw.
- 5 Using a jigsaw or rotary tool, cut the mounting surface along the **inside** of the solid line on the template.
- 6 Place the device in the cutout to test the fit.
- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 After the device fits correctly in the cutout, ensure the mounting holes on the device line up with the larger, outer holes on the template.
- 9 If the mounting holes on the device do not line up, mark the new hole locations.
- 10 Based on your mounting method, drill the larger, outer holes:
 - Drill 5 mm ($\frac{3}{16}$ in.) holes for the included nut plate and machine screws.
 - Drill 2 mm ($\frac{5}{64}$ in.) pilot holes for the included wood screws, and skip to step 16.
 - Drill and tap M3.5 holes for the included machine screws, and skip to step 16.

- 11 If you are using a nut plate, starting in one corner of the template, place a nut plate ① over the larger, outer hole ② drilled in the previous step.



The smaller hole ③ on the nut plate should line up with the smaller hole on the template.

- 12 If the smaller hole on the nut plate does not line up with the smaller hole on the template, mark the new hole location.
- 13 If you are using a nut plate, drill a 4 mm ($\frac{3}{16}$ in.) hole in the smaller hole location.
- 14 Remove the template from the mounting surface.
- 15 Starting in one corner of the mounting location, place a nut plate ④ on the back of the mounting surface, lining up the large and small holes.
- The raised portion of the nut plate should fit into the larger hole.



- 16 Secure the nut plates to the mounting surface by fastening the shorter screws ⑤ through the smaller, inner hole.
- 17 Install the foam gasket ⑥ on the back of the device.
- The pieces of the foam gasket have adhesive on the back. Make sure you remove the protective liner before installing them on the device.
- 18 If you will not have access to the back of the device after you mount it, connect the necessary cable or install the AA batteries (observing polarity) as needed before placing the device into the cutout.
- NOTE:** To prevent corrosion of the metal contacts, if you are not using a cable, firmly press the weather cap over the connector.

- 19 Apply marine sealant between the mounting surface and the device to properly seal and prevent leakage behind the dashboard.
- 20 If you will have access to the back of the device, apply marine sealant around the cutout.
- 21 Place the device into the cutout.
- 22 Secure the device to the mounting surface using the longer machine screws ⑦ or included wood screws, depending on the mounting method.
- 23 Wipe away all excess marine sealant.
- 24 Install the trim caps by snapping them in place around the top and bottom of the device.

Connecting the GRID 20 Device

The GRID 20 device requires a power connection and a data connection, using one of three methods:

- NMEA 2000 network for power and data
- Included power cable and an ANT wireless connection (*Pairing the GRID 20 Device with the Chartplotter, page 8*)
- AA batteries (not included) and an ANT wireless connection (*Pairing the GRID 20 Device with the Chartplotter, page 8*)

NOTE: The NMEA 2000 connection method can be used to remove all risk of issues caused by wireless interference from other devices and in cases where there are wireless range concerns. The cables necessary to connect to the NMEA 2000 network are not included.

After you supply power to the GRID 20 device, you must pair it with the chartplotter to make the data connection (*Pairing the GRID 20 Device with the Chartplotter, page 8*).

NMEA 2000 Connection Considerations

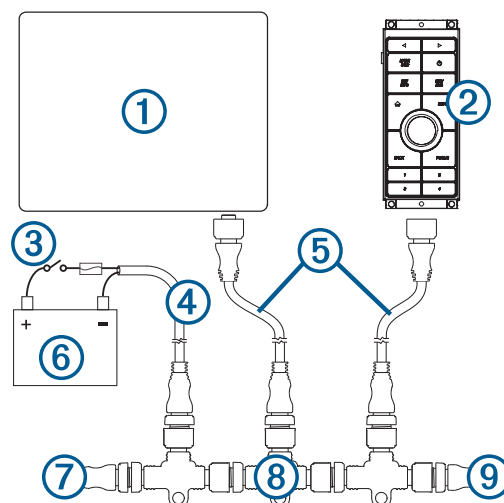
NOTICE

If you are connecting to an **existing** NMEA 2000 network, identify the NMEA 2000 power cable. Only one NMEA 2000 power cable is required for the NMEA 2000 network to operate properly.

A NMEA 2000 Power Isolator (010-11580-00) should be used in installations where the existing NMEA 2000 network manufacturer is unknown.

You can connect the GRID 20 device to a NMEA 2000 network on your boat to provide a power and data connection. If you connect the GRID 20 device to a NMEA 2000 network, you do not need to use batteries, the included power cable, or an ANT wireless connection.

If you need to create a NMEA 2000 network and are unfamiliar with it, go to support.garmin.com for more information.



①	Compatible Garmin chartplotter
②	GRID 20
③	Ignition or in-line switch
④	NMEA 2000 power cable
⑤	NMEA 2000 drop cable
⑥	12 Vdc power source
⑦	NMEA 2000 terminator or backbone cable
⑧	NMEA 2000 T-connector
⑨	NMEA 2000 terminator or backbone cable

After making the NMEA 2000 network connection, you must pair the GRID 20 device with the chartplotter ([Pairing the GRID 20 Device with the Chartplotter, page 8](#)).

Connecting to Power

WARNING

When connecting the power cable, do not remove the in-line fuse holder. To prevent the possibility of personal injury or product damage caused by fire or overheating, the appropriate fuse must be in place as indicated in the product specifications. Connecting the power cable without the appropriate fuse in place voids the product warranty.

- 1 Route the power cable to the power source and to the device.
- 2 Connect the red wire to the positive (+) battery terminal, and connect the black wire to the negative (-) battery terminal.
- 3 Connect the power cable to the device, and turn the locking ring clockwise to tighten it.

After connecting to power, you must pair the device with the chartplotter ([Pairing the GRID 20 Device with the Chartplotter, page 8](#))

Installing the Batteries

You can use AA alkaline, NiMH, or lithium batteries (not included). Use lithium batteries for best results.

NOTE: Do not install batteries if you are using the included power cable or a NMEA 2000 network connection.

- 1 Turn the D-ring counter-clockwise, and pull up to open the battery door.
- 2 Insert two AA batteries, observing polarity.



NOTE: You should verify the gasket and battery compartment are free of debris.

- 3 Close the battery door, and turn the D-ring clockwise.

After installing batteries, you must pair the device with the chartplotter ([Pairing the GRID 20 Device with the Chartplotter, page 8](#))

Pairing the GRID 20 Device with the Chartplotter

After you supply power to the GRID 20 device, you must pair it with the chartplotter to make the data connection.

- 1 On the compatible chartplotter, select **Settings > System > Station Information > GRID™ Pairing > Add**.
- 2 On the GRID 20 device, press ◀ and ▶ until the device beeps.

After the GRID 20 device connects to the chartplotter, the GRID 20 device emits a single, long beep.

NOTE: If you are using multiple GRID 20 devices in your installation, at least one of them must be wired to a NMEA 2000 network to access the autopilot control.

Specifications

Dimensions (W×H×D)	14.1 × 5.6 × 6.8 cm (5.6 × 2.2 × 2.7 in.)
Material	Fully gasketed, high-impact plastic
Water resistance	IEC 60529 IPX7 ¹
Weight	179 g (6.3 oz.)
Temperature range	From -15° to 70°C (from 5° to 158°F)
Input power	9 to 32 Vdc (from included power cable or NMEA 2000 network)
Fuse	1 A, 32 V fast-acting
Max. power usage at 9 Vdc	1.5 W
Typical current draw at 12 Vdc	40 mA
Max. current draw at 12 Vdc	120 mA
Battery type	Two AA batteries (Alkaline, NiMH, or lithium. Not included.)
Battery life	About 70 days of typical use
Compass-safe distance	11.4 cm (4.5 in.)
Wireless frequency/protocol	2.4 GHz @ 4.83 dBm nominal

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¹ The device withstands incidental exposure to water of up to 1 m for up to 30 min. For more information, go to www.garmin.com/waterrating.

