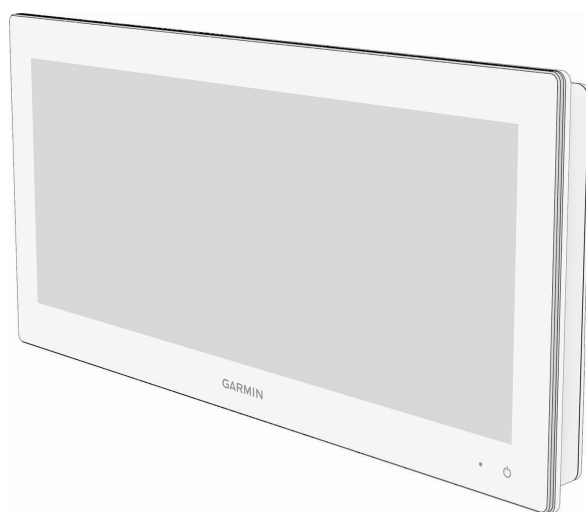


GARMIN®



GPSMAP® 15X3

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GPSMAP® 1523xsv/1543xsv/1553xsv

M/N: A05068

Garmin Corporation



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GPSMAP® 15x3

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.

RF Exposure Statement: the product antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons.

⚠ 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

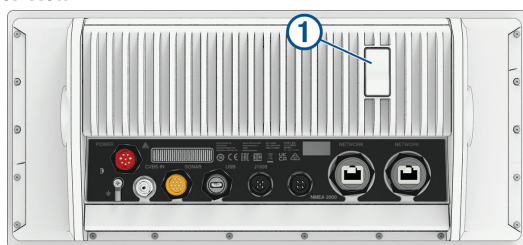
When drilling or cutting, always check what is on the opposite side of the surface to avoid damaging the vessel.

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

Tools Needed

- Drill and 14 mm (⁹/₁₆ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD® memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA® 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000® network
NETWORK	Garmin Marine Network

Software Update

You may need to update the chartplotter software after installation. For the instructions on how to update the software, see the owner's manual at garmin.com/manuals/gpsmap15x3/.

Mounting 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.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

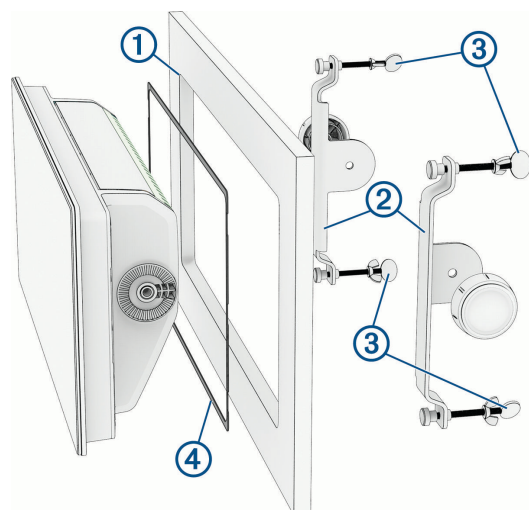
If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm (⁹/₁₆ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.

- 6 Place the device in the cutout ① to test the fit.

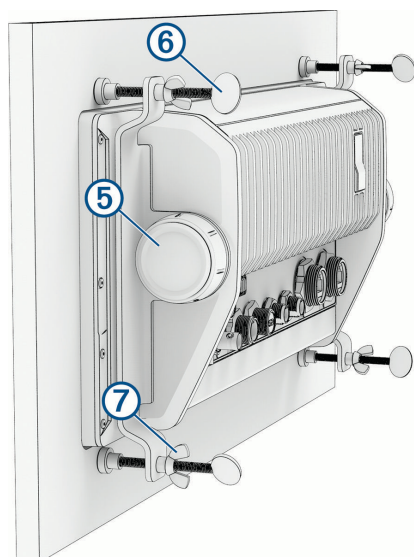


- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.
- TIP:** To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.
- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.

- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

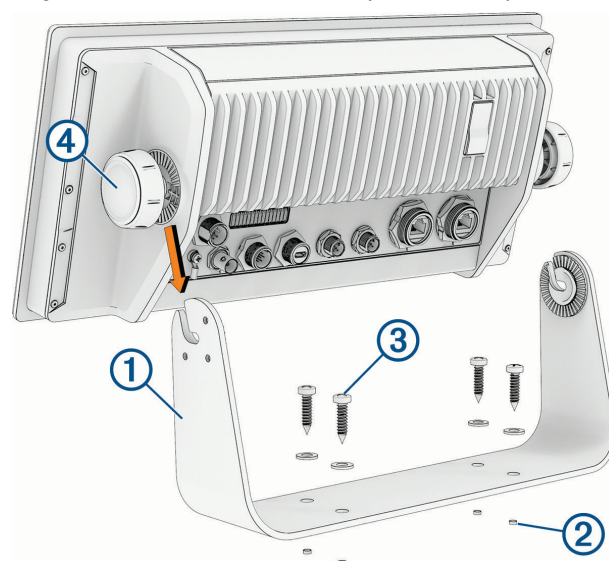
Bail Mounting the Device

NOTICE

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

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



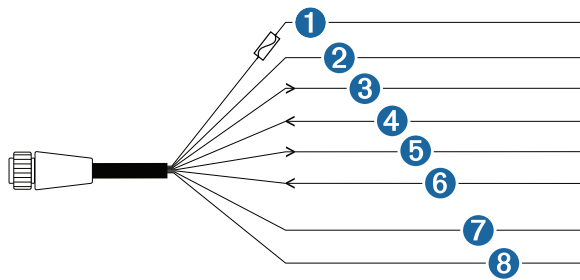
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Connection Considerations

After connecting the cables to the device, tighten the locking rings to secure each cable.

Power/NMEA 0183 Cable

- The wiring harness connects the device to power, NMEA 0183 devices, and a lamp or a horn for visible or audible alerts.
- If it is necessary to extend the power and ground wires, you must use a wire gauge appropriate for the length of the extension (Power Wire Extensions, page 4).
- If it is necessary to extend the NMEA 0183 or alarm wires, you must use 22 AWG (.33 mm²) wire.
- This cable provides one differential NMEA 0183 input and output port.



Item	Wire Color	Wire Function
①	Red	Power
②	Black	Ground (power and NMEA 0183)
③	Blue	NMEA 0183 TxA (Out +)
⑤	Gray	NMEA 0183 TxB (Out -)
④	Brown	NMEA 0183 RxA (In +)
⑥	Violet	NMEA 0183 RxB (In -)
⑦	Orange	Accessory on
⑧	Yellow	Alarm low

Connecting the Wiring Harness to Power

⚠ WARNING

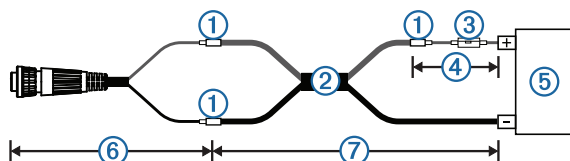
When connecting the power cable, do not remove the in-line fuse holder. To prevent the possibility of personal injury or product damage caused by fire or overheating, the appropriate fuse must be in place as indicated in the product specifications. Connecting the power cable without the appropriate fuse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

- 1 Route the wiring harness 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 If necessary, install the locking ring and O-ring on the end of the wiring harness.
- 4 Insert the cable into the POWER connector on the back of the device, pushing firmly.
- 5 Turn the locking ring clockwise to attach the cable to the device.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery

⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Additional Grounding Consideration

This device should not need additional chassis grounding in most installation situations. If you experience interference, the grounding screw on the housing can be used to connect the device to the water ground of the boat to help avoid the interference.

Garmin Marine Network Considerations

NOTICE

A Garmin Marine Network PoE Isolation Coupler (010-10580-10) must be used when connecting any third-party device, such as a FLIR® camera, to a Garmin Marine Network. Connecting a Power over Ethernet (PoE) device directly to a Garmin Marine Network chartplotter damages the Garmin chartplotter and may damage the PoE device. Connecting any third-party device directly to a Garmin Marine Network chartplotter will cause abnormal behavior on the Garmin devices, including the devices not properly turning off or the software becoming inoperable.

This device can connect to additional Garmin Marine Network devices to share data such as radar, sonar, and detailed mapping. When connecting Garmin Marine Network devices to this device, observe these considerations.

- All devices connected to the Garmin Marine Network must be connected to the same ground. If multiple power sources are used for Garmin Marine Network devices, you must tie all ground connections from all power supplies together using a low resistance connection or tie them to a common ground bus bar, if available.
- A Garmin Marine Network cable must be used for all Garmin Marine Network connections.
 - Third-party CAT5 cable and RJ45 connectors must not be used for Garmin Marine Network connections.
 - Additional Garmin Marine Network cables and connectors are available from your Garmin dealer.
- The NETWORK ports on the device each act as a network switch. Any compatible device can be connected to any NETWORK port to share data with all devices on the boat connected by a Garmin Marine Network cable.

NMEA 2000 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.

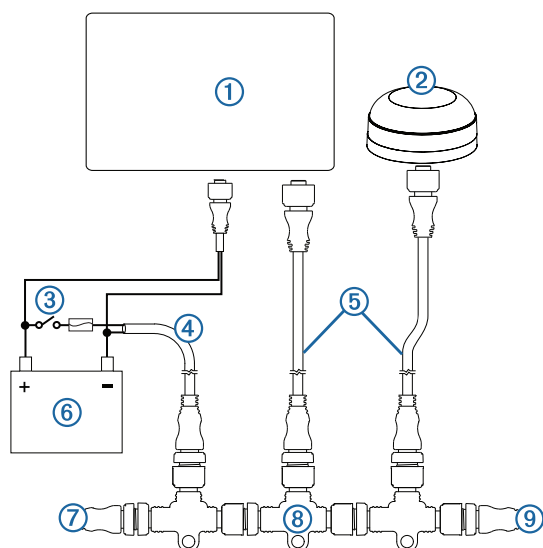
If you are installing a NMEA 2000 power cable, you must connect it to the boat ignition switch or through another in-line switch. NMEA 2000 devices will drain your battery if the NMEA 2000 power cable is connected to the battery directly.

This device can connect to a NMEA 2000 network on your boat to share data from NMEA 2000 compatible devices such as a GPS antenna or a VHF radio. The included NMEA 2000 cables and connectors allow you to connect the device to your existing NMEA 2000 network. If you do not have an existing NMEA 2000 network you can create a basic one using cables from Garmin.

This device is not powered through the NMEA 2000 network. You must connect the device to a power source (Connecting the Wiring Harness to Power, page 4).

If you are unfamiliar with NMEA 2000, you should read the *Technical Reference for NMEA 2000 Products* at garmin.com/manuals/nmea_2000.

The port labeled NMEA 2000 is used to connect the device to a standard NMEA 2000 network.



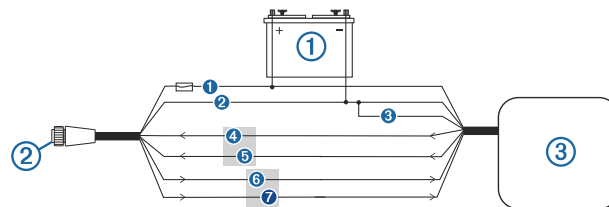
Item	Description
①	NMEA 2000 compatible Garmin device
②	GPS antenna
③	Ignition or in-line switch
④	NMEA 2000 power cable
⑤	NMEA 2000 drop cable
⑥	12 Vdc power source
⑦	NMEA 2000 terminator or backbone cable
⑧	NMEA 2000 T-connector
⑨	NMEA 2000 terminator or backbone cable

NMEA 0183 Connection Considerations

- The chartplotter provides one Tx (transmit) port and one Rx (receive) port.
- Each port has 2 wires, labeled A and B according to the NMEA 0183 convention. The corresponding A and B wires of each internal port should be connected to the A (+) and B (-) wires of the NMEA 0183 device.
- You can connect one NMEA 0183 device to the Rx port to input data to this chartplotter, and you can connect up to three NMEA 0183 devices in parallel to the Tx port to receive data output by this chartplotter.
- See the NMEA 0183 device installation instructions to identify the transmit (Tx) and receive (Rx) wires.
- You must use 22 AWG (.33 mm²), shielded, twisted-pair wiring for extended runs of wire. Solder all connections and seal them with heat-shrink tubing.
- Unless instructed for specific installation types, you should not connect the NMEA 0183 data wires from this device to power ground.
- The power cable from the chartplotter and the NMEA 0183 devices must be connected to a common power ground.
- The internal NMEA 0183 ports and communication protocols are configured on the chartplotter. See the NMEA 0183 section of the chartplotter owner's manual for more information.
- See the chartplotter owner's manual for a list of the approved NMEA 0183 sentences that the chartplotter supports.

NMEA 0183 Device Connections

This diagram illustrates two-way connections for both sending and receiving data. You can also use this diagram for one-way communication. To receive information from a NMEA 0183 device, refer to items ①, ②, ③, ④, and ⑤ when connecting the Garmin device. To transmit information to a NMEA 0183 device, refer to items ①, ②, ③, ⑥, and ⑦ when connecting the Garmin device.



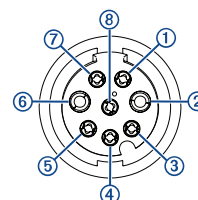
Item	Description
①	Power source
②	Power cable
③	NMEA 0183 device
④	NMEA 0183 cable

Item	Garmin Wire Function	Garmin Wire Color	NMEA 0183 Device Wire Function
①	Power	Red	Power
②	Power ground	Black	Power ground
③	Data ground	Black	Data ground
④	Rx/A (In +)	White/orange	Tx/A (Out +)
⑤	Rx/B (In -)	White	Tx/B (Out -)
⑥	Tx/A (Out +)	Gray	Rx/A (In +)
⑦	Tx/B (Out -)	Pink	Rx/B (In -)

If the NMEA 0183 device has only one input (receive, Rx) wire (no A, B, +, or -), you must leave the pink wire unconnected.

If the NMEA 0183 device has only one output (transmit, Tx) wire (no A, B, +, or -), you must connect the white/orange wire to ground.

NMEA 0183 and Power Cable Pinout



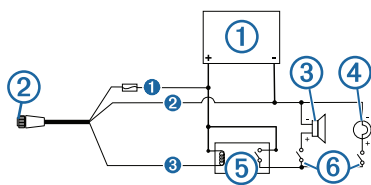
Pin Number	Wire Function	Wire Color
③	NMEA 0183 Tx/A (Out +)	Blue
④	NMEA 0183 Rx/A (In +)	Brown
①	NMEA 0183 Tx/B (Out -)	Gray
⑦	NMEA 0183 Rx/B (In -)	Violet
⑤	Alarm	Yellow
⑧	Accessory on	Orange
②	Ground (shield)	Black
⑥	VIN	Red

Lamp and Horn Connections

The device can be used with a lamp, a horn, or both, to sound or flash an alert when the chartplotter displays a message. This is optional, and the alarm wire is not necessary for the device to function normally. When connecting the device to a lamp or horn, observe these considerations.

- The alarm circuit switches to a low-voltage state when the alarm sounds.
- The maximum current is 100 mA, and a relay is needed to limit the current from the chartplotter to 100 mA.

- To manually toggle visual and audible alerts, you can install single-pole, single-throw switches.



Item	Description
①	Power source
②	Power cable
③	Horn
④	Lamp
⑤	Relay (100 mA coil current)
⑥	Toggle switches to enable and disable lamp or horn alerts

Item	Wire Color	Wire Function
①	Red	Power
②	Black	Ground
③	Yellow	Alarm

J1939 Engine Network Connection Considerations

NOTICE

You must use a Garmin GPSMAP® J1939 accessory cable when connecting the chartplotter to the J1939 engine network to prevent corrosion due to moisture. Using a different cable voids your warranty.

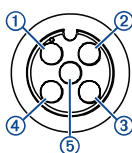
If you have an existing engine network on your boat, it should already be connected to power. Do not add any additional power supply.

This chartplotter can connect to an engine network on your boat to read data from compatible devices such as certain engines. The engine network follows a standard and uses proprietary messages.

You should consult the manufacturer of your engine or engine network when connecting the chartplotter. Some manufacturers may have requirements you must follow when connecting to avoid unexpected behavior.

The port labeled J1939 is used to connect the device to the existing engine network. You must route the cable within 6 m (20 ft.) of the engine network backbone.

The Garmin GPSMAP J1939 accessory cable requires connection to a power source and proper termination. For more information on connecting to your engine network, see the manufacturer's engine documentation.



Pin	Wire Color	Description
①	Bare	Shield
②	Red	Power, positive
③	Black	Power, negative
④	White	CAN High
⑤	Blue	CAN Low

Composite Video Considerations

This chartplotter allows video input from composite video sources using the port labeled CVBS IN. When connecting composite video, you should observe these considerations.

- The CVBS IN port uses a BNC connector. You can use a BNC to RCA adapter to connect a composite-video source with RCA connectors to the CVBS IN port.
- Video is shared across the Garmin Marine Network, but it is not shared across the NMEA 2000 network.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ²
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN Information

Transmit and Receive

PGN	Description
059392	ISO acknowledgment
059904	ISO request
060160	ISO transport protocol: Data transfer
060416	ISO transport protocol: Connection management
060928	ISO address claimed
126208	Request group function
126993	Heartbeat
126996	Product information
126998	Configuration information
127237	Heading/track control
127245	Rudder

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.

² Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Description
127250	Vessel heading
127258	Magnetic variance
127488	Engine parameters: Rapid update
127489	Engine parameters: Dynamic
127490	Electric drive status: Dynamic
127491	Electric energy storage status: Dynamic
127493	Transmission parameters: Dynamic
127494	Electric drive information
127495	Electric energy storage information
127505	Fluid level
127508	Battery status
128002	Electric drive status: Rapid update
128003	Electric energy storage status: Rapid update
128259	Speed: Water referenced
128267	Water depth
129025	Position: Rapid update
129026	COG and SOG: Rapid update
129029	GNSS position data
129283	Cross track error
129284	Navigation data
129285	Navigation - route/waypoint information
129539	GNSS DOPs
129540	GNSS satellites in view
130060	Label
130306	Wind data
130310	Environmental parameters (obsolete)
130312	Temperature (obsolete)

Transmit

PGN	Description
126464	Transmit and receive PGN list group function
126984	Alert response
127258	Magnetic variation
127497	Trip parameters: Engine
127502	Switch bank control (DEPRECATED)

Receive

PGN	Description
065030	Generator average basic AC quantities (GAAC)
065240	Commanded address
126983	Alert
126985	Alert text
126987	Alert threshold
126988	Alert value
126992	System time
127233	Man overboard
127237	Heading/track control
127245	Rudder
127251	Rate of turn
127252	Heave

PGN	Description
127257	Attitude
127498	Engine parameters: Static
127501	Switch bank status
127503	AC input status (obsolete)
127504	AC output status (obsolete)
127506	DC detailed status
127507	Charger status
127509	Inverter status
128000	Nautical leeway angle
128275	Distance log
128780	Linear actuator
129038	AIS class A position report
129039	AIS class B position report
129040	AIS class B extended position report
129041	AIS Aids to Navigation (AtoN) report
129044	Datum
129285	Navigation: Route, waypoint information
129794	AIS class A static and voyage related data
129798	AIS SAR aircraft position report
129799	Radio frequency/mode/power
129802	AIS safety-related broadcast message
129808	DSC call Information
129809	AIS class B "CS" static data report, part A
129810	AIS class B "CS" static data report, part B
130067	Route and waypoint service: Route, waypoint name and position
130311	Environmental parameters (obsolete)
130313	Humidity
130314	Actual pressure
130316	Temperature: Extended range
130569	Entertainment: Current file and status
130570	Entertainment: Library data file
130571	Entertainment: Library data group
130573	Entertainment: Supported source data
130574	Entertainment: Supported zone data
130576	Trim tab status
130577	Direction data

NMEA 0183 Information

Transmit

Sentence	Description
GPAPB	APB: Heading or track controller (autopilot) sentence "B"
GPBOD	BOD: Bearing (origin to destination)
GPBWC	BWC: Bearing and distance to waypoint
GPGGA	GGA: Global positioning system fix data
GPGLL	GLL: Geographic position (latitude and longitude)
GPGSA	GSA: GNSS DOP and active satellites
GPGSV	GSV: GNSS satellites in view
GPRMB	RMB: Recommended minimum navigation information
GPRMC	RMC: Recommended minimum specific GNSS data
GP RTE	RTE: Routes

Sentence	Description
GPVTG	VTG: Course over ground and ground speed
GPWPL	WPL: Waypoint location
GPXTE	XTE: Cross track error
PGRME	E: Estimated error
PGRMM	M: Map datum
PGRMZ	Z: Altitude
SDDBT	DBT: Depth below transducer
SDDPT	DPT: Depth
SDMTW	MTW: Water temperature
SDVHW	VHW: Water speed and heading
TLB	Target label
TLL	Target latitude and longitude
TTD	Tracked target data
ZDA	Time and date

Receive

Sentence	Description
DPT	Depth
DBT	Depth below transducer
MTW	Water temperature
VHW	Water speed and heading
WPL	Waypoint location
DSC	Digital selective calling information
DSE	Expanded digital selective calling
HDG	Heading, deviation, and variation
HDM	Heading, magnetic
MWD	Wind direction and speed
MDA	Meteorological composite
MWV	Wind speed and angle
RTE	Routes
VDM	AIS VHF data-link message

You can purchase complete information about National Marine Electronics Association (NMEA) format and sentences from www.nmea.org.

J1939 Information

The chartplotter can receive J1939 sentences. The chartplotter cannot transmit over the J1939 network.

Description	PGN	SPN
Engine percent load at current speed	61443	92
Engine speed	61444	190
Engine manifold exhaust gas temperature - right manifold	65031	2433
Engine manifold exhaust gas temperature - left manifold	65031	2434
Engine auxiliary coolant	65172	
Active diagnostic trouble codes	65226	
Vehicle distance	65248	
Water in fuel indicator	65279	
Engine wait to start lamp	65252	1081
Engine over speed test	65252	2812
Engine air shutoff command status	65252	2813
Engine alarm output command status	65252	2814

Description	PGN	SPN
Engine total hours of operation	65253	247
Navigation-based vehicle speed	65256	517
Engine fuel temperature 1	65262	174
Engine oil temperature 1	65262	175
Engine fuel delivery pressure	65263	94
Engine oil pressure	65263	100
Engine coolant pressure	65263	109
Engine coolant temperature	65263	110
Engine coolant level	65263	111
Engine fuel rate	65266	183
Engine average fuel economy	65266	185
Engine intake manifold #1 pressure	65270	102
Battery potential / power input 1	65271	168
Transmission oil temperature	65272	177
Transmission oil pressure	65272	127
Fuel level	65276	96
Engine oil filter differential pressure	65276	969

物質宣言

部件名称	有毒有害物质或元素									
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚	邻苯二甲酸二(2-乙基己)酯	邻苯二甲酸丁酯	邻苯二甲酸二丁酯	邻苯二甲酸异丁酯
印刷电路板组件	×	○	○	○	○	○	○	○	○	○
屏幕/背光	×	○	○	○	○	○	○	○	○	○
金属零件	×	○	○	○	○	○	○	○	○	○
电缆 电缆组件 连接器	×	○	○	○	○	○	○	○	○	○
塑料和橡胶零件	○	○	○	○	○	○	○	○	○	○

本表格依据 SJ/T11364 的规定编制。
○: 代表此种部件的所有均质材料中所含的该种有害物质均低于 (GB/T26572) 规定的限量
×: 代表此种部件所用的均质材料中, 至少有一类材料其所含的有害物质高于 (GB/T26572) 规定的限量
* 该产品说明书应提供在环保使用期限和特殊标记的部分详细讲解产品的担保使用条件。



中国微功率无线电发射设备合规

- 一) 工作于 2.4 GHz 频段的 ANT 技术无线遥控设备, 使用频率: 2.4 GHz, 发射功率限值: <10 mW (e.i.r.p.)(e.i.r.p.), 频率容限: <170 kHz
- 二) 不得擅自改变使用场景或使用条件、扩大发射频率范围、加大发射功率 (包括额外加装射频功率放大器), 不得擅自更改发射天线;
- 三) 不得对其他合法的无线电台 (站) 产生有害干扰, 也不得提出免受有害干扰保护;
- 四) 应当承受辐射射频能量的工业、科学及医疗 (ISM) 应用设备的干扰或其他合法的无线电台 (站) 干扰;
- 五) 如对其他合法的无线电台 (站) 产生有害干扰时, 应立即停止使用, 并采取有效措施消除干扰后方可继续使用;

六) 在航空器内和依据法律法规、国家有关规定、标准划设的射电天文台、气象雷达站、卫星地球站(含测控、测距、接收、导航站)等军民用无线电台(站)、机场等的电磁环境保护区域内使用微功率设备,应当遵守电磁环境保护及相关行业主管部门的规定;

七) 禁止在以机场跑道中心点为圆心、半径 5000 米的区域内使用各类模型遥控器;

八) 微功率设备使用时温度 -15~55℃ 直流电压 10~32 Vdc。

联系信息

制造厂商: 台湾国际航电股份有限公司

销售厂商: 上海佳明航电企业管理有限公司

联络地址: 上海市徐汇区桂平路 391 号(新漕河泾国际商务中心 A 座 37 层)

电话: 021-60737675

客服专线: 400-819-1899

GPSMAP® 15x3 Instructions d'installation

Informations importantes relatives à la sécurité

⚠ AVERTISSEMENT

Consultez le guide *Informations importantes sur le produit et la sécurité* inclus dans l'emballage du produit pour prendre connaissance des avertissements et autres informations importantes sur le produit.

Lorsque vous connectez le câble d'alimentation, ne retirez pas le porte-fusible en ligne. Pour éviter de vous blesser ou d'endommager le produit en l'exposant au feu ou à une chaleur extrême, le fusible approprié doit être placé comme indiqué dans les caractéristiques techniques du produit. La connexion du câble d'alimentation en l'absence du fusible approprié annule la garantie du produit.

Déclaration d'exposition RF: l'antenne ou les antennes du produit utilisées pour cet émetteur doivent être installées de manière à assurer une distance de séparation d'au moins 20 cm de toutes les personnes.

⚠ ATTENTION

Pour éviter les blessures, portez des lunettes de protection, un équipement antibruit et un masque anti-poussière lorsque vous percez, coupez ou poncez.

Pour éviter les éventuelles blessures et éviter d'endommager votre appareil ou votre bateau, débranchez l'alimentation du bateau avant d'installer l'appareil.

Avant de brancher l'appareil à sa source d'alimentation, pour éviter les éventuelles blessures et éviter d'endommager votre appareil ou votre bateau, veillez à ce que l'appareil soit relié à la masse en suivant les instructions du guide.

Pour éviter tout risque de blessure ou d'endommagement de cet appareil et du bateau, installez cet appareil uniquement lorsque le bateau est à terre, ou lorsqu'il est correctement fixé et amarré dans des conditions de mer calme.

AVIS

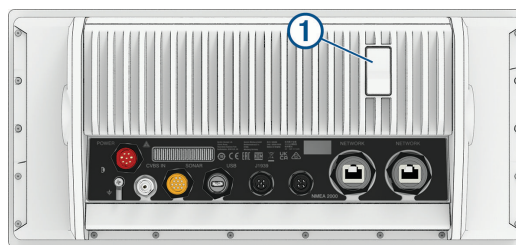
Lorsque vous percez ou coupez, commencez toujours par vérifier ce qui se trouve sur la face opposée de la surface de montage pour éviter d'endommager le bateau.

Lisez toutes les instructions d'installation avant de procéder à l'installation. Si vous rencontrez des difficultés durant l'installation, contactez le service d'assistance produit de Garmin.

Tools Needed

- Drill and 14 mm ($\frac{9}{16}$ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Mise à jour du logiciel

Vous devrez peut-être mettre à jour le logiciel du traceur après l'installation. Pour obtenir des instructions sur la mise à jour du logiciel, reportez-vous au manuel d'utilisation disponible sur garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Installez cet appareil à un emplacement qui n'est pas exposé à des températures ou des conditions extrêmes. La plage de températures pour cet appareil est indiquée dans les caractéristiques techniques du produit. Une exposition prolongée à des températures dépassant la plage de températures spécifiée, pendant le stockage ou en cours de fonctionnement, peut provoquer une panne de l'appareil. Les dommages dus aux températures extrêmes et leurs conséquences ne sont pas couverts par la garantie.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this

device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

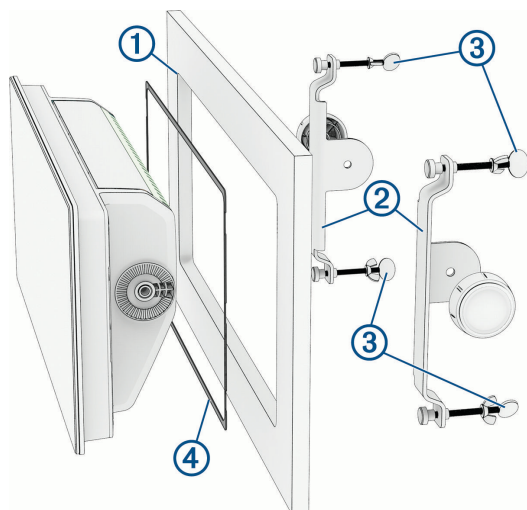
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

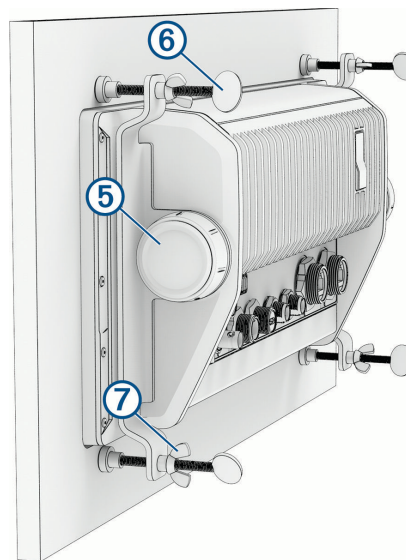
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

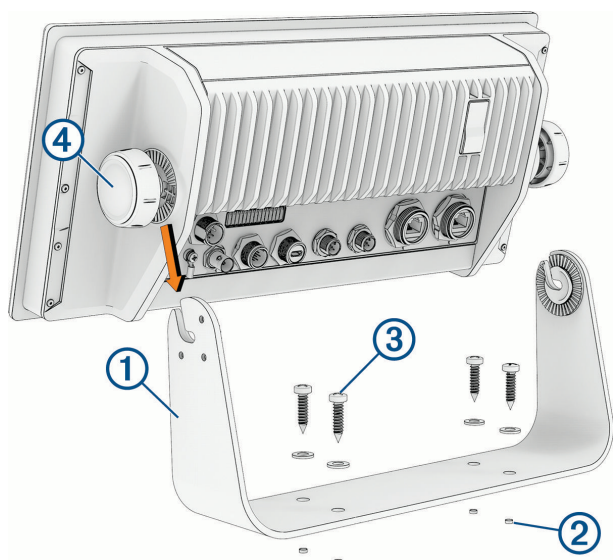
Bail Mounting the Device

NOTICE

Si vous montez le support de montage sur de la fibre de verre avec des vis, nous vous recommandons d'utiliser un foret de fraisage pour percer un trou à fond plat à travers le revêtement de la couche supérieure. Cela vous permettra d'éviter de fissurer le revêtement au moment du serrage des vis.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



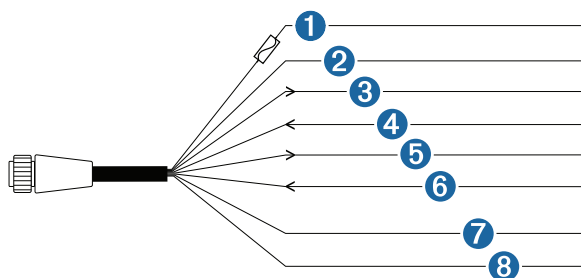
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs (2) on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Considérations relatives à la connexion

Une fois les câbles connectés à l'appareil, serrez les bagues de verrouillage pour fixer chaque câble.

Câble d'alimentation/NMEA 0183

- Le faisceau de câbles permet de connecter l'appareil à l'alimentation, aux périphériques NMEA 0183 et à une lampe ou un avertisseur sonore pour des alertes visibles ou audibles.
- Si une rallonge est nécessaire pour les fils d'alimentation et de masse, vous devez choisir un calibre de fil adapté à la longueur de la rallonge (Power Wire Extensions, page 11).
- Si vous avez besoin d'une rallonge pour les fils NMEA 0183 ou de l'alarme, utilisez un fil 22 AWG (0,33 mm²).
- Ce câble fournit un port de sortie et d'entrée NMEA 0183 différentiel.



Élément	Couleur du fil	Fonction du fil
1	Rouge	Alimentation
2	Noir	Terre (alimentation et NMEA 0183)
3	Bleu	NMEA 0183 Tx (Sortie +)
5	Gris	NMEA 0183 Tx (Sortie -)
4	Marron	NMEA 0183 Rx (Entrée+)
6	Violet	NMEA 0183 Rx (Entrée -)
7	Orange	Accessoire, marche
8	Jaune	Alarme, faible puissance

Connexion du faisceau de câbles à l'alimentation

⚠ AVERTISSEMENT

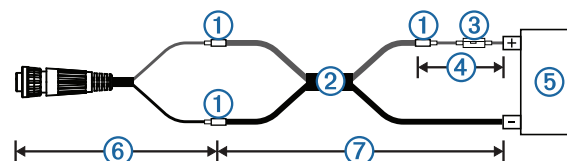
Lorsque vous connectez le câble d'alimentation, ne retirez pas le porte-fusible en ligne. Pour éviter de vous blesser ou d'endommager le produit en l'exposant au feu ou à une chaleur extrême, le fusible approprié doit être placé comme indiqué dans les caractéristiques techniques du produit. La connexion du câble d'alimentation en l'absence du fusible approprié annule la garantie du produit.

- 1 Acheminez le faisceau de câbles vers la source d'alimentation et vers l'appareil.
- 2 Reliez le fil rouge à la borne positive (+) de la batterie et le fil noir à la borne négative (-) de la batterie.
- 3 Si besoin, installez la bague de verrouillage et le joint torique à l'extrémité du faisceau de câbles.
- 4 Insérez le câble dans le connecteur POWER au dos de l'appareil, en poussant fermement.
- 5 Faites tourner la bague de verrouillage dans le sens des aiguilles d'une montre pour fixer le câble à l'appareil.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



1	Splice
2	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
3	NOTICE
	The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
4	20.3 cm (8 in.)
5	Battery
6	20.3 cm (8 in.)
7	11 m (36 ft.) maximum extension

Considération relative à la mise à la masse supplémentaire

Dans la plupart des conditions d'installation, cet appareil ne devrait pas nécessiter de mise à la masse supplémentaire du châssis. En cas d'interférence, vous pouvez utiliser la vis de mise à la masse sur le boîtier pour raccorder l'appareil à la terre radiofréquence et résoudre ainsi le problème.

Considérations relatives au réseau Garmin Marine Network

AVIS

Vous devez utiliser un coupleur d'isolation PoE Garmin Marine Network (010-10580-10) lorsque vous voulez connecter un appareil tiers, une caméra FLIR par exemple, à un réseau Garmin Marine Network. Si vous connectez directement un appareil PoE (Power over Ethernet) à un traceur relié au réseau Garmin Marine Network, vous endommagerez le traceur Garmin et risquerez également d'abîmer votre appareil PoE. Si vous connectez directement un appareil tiers à un traceur relié au réseau Garmin Marine Network, les appareils Garmin risquent d'avoir des comportements inattendus, notamment de ne pas s'éteindre ou de ne pas exécuter le logiciel correctement.

Cet appareil peut se connecter à d'autres périphériques Garmin Marine Network pour partager des données (radar, sondeur, cartographie détaillée, etc.). Lorsque vous connectez des périphériques Garmin Marine Network à cet appareil, tenez compte des considérations suivantes.

- Tous les appareils connectés au réseau Garmin Marine Network doivent être raccordés à la même prise de terre. Si vous utilisez plusieurs sources d'alimentation pour les appareils Garmin Marine Network, vous devez attacher ensemble tous les branchements à la masse de toutes les autres sources d'alimentation à l'aide d'une connexion basse résistance ou les attacher à l'aide d'une barrette de terre, si disponible.
- Un câble de réseau Garmin Marine Network doit être utilisé pour toutes les connexions de réseau Garmin Marine Network.
 - N'utilisez pas de câble CAT5 ni de connecteurs RJ45 d'autres fournisseurs pour les connexions de réseau Garmin Marine Network.
 - D'autres câbles et connecteurs pour le réseau Garmin Marine Network sont disponibles chez votre revendeur Garmin.
- Les ports NETWORK sur l'appareil font chacun office de commutateur réseau. Tout appareil compatible peut être connecté à un port NETWORK pour partager des données avec tous les appareils sur le bateau connectés par un câble réseau Garmin Marine Network.

Considérations relatives au réseau

AVIS

Si vous connectez l'appareil à un réseau **existant** NMEA 2000, localisez le câble d'alimentation NMEA 2000. Vous n'avez besoin que d'un seul câble d'alimentation NMEA 2000 pour faire fonctionner le réseau NMEA 2000.

Il est conseillé d'utiliser un isolateur d'alimentation NMEA 2000 (010-11580-00) pour les installations où le fabricant du réseau NMEA 2000 n'est pas connu.

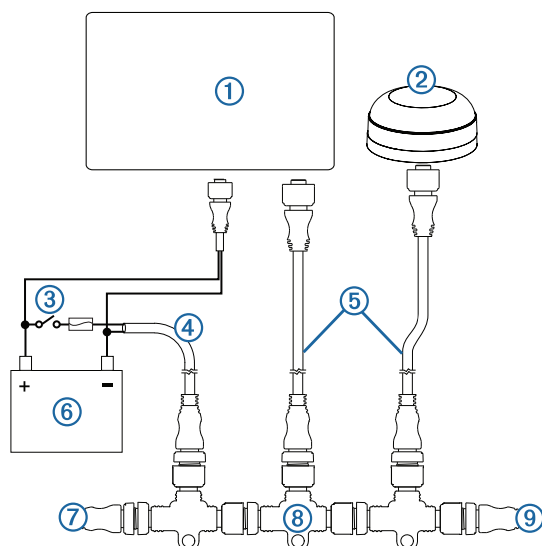
Si vous installez un câble d'alimentation NMEA 2000, vous devez le raccorder au commutateur d'allumage du bateau ou par l'intermédiaire d'un autre commutateur en ligne. Les appareils NMEA 2000 risquent de décharger votre batterie si le câble d'alimentation NMEA 2000 est branché directement sur cette dernière.

Cet appareil peut se connecter à un réseau NMEA 2000 sur votre bateau pour partager des données à partir de périphériques compatibles NMEA 2000 tels qu'une antenne GPS ou une radio VHF. Les câbles NMEA 2000 et les connecteurs fournis vous permettent de raccorder l'appareil à votre réseau NMEA 2000 existant. En l'absence de réseau NMEA 2000, vous pouvez en créer un de base à l'aide de câbles Garmin.

Cet appareil n'est pas alimenté par le réseau NMEA 2000. Vous devez connecter l'appareil à une source d'alimentation (Connexion du faisceau de câbles à l'alimentation, page 11).

Si vous ne maîtrisez pas bien le réseau NMEA 2000, lisez le « *Référentiel technique pour les produits NMEA 2000* » disponible sur garmin.com/manuals/nmea_2000.

Le port intitulé NMEA 2000 est utilisé pour connecter l'appareil à un réseau NMEA 2000 standard.



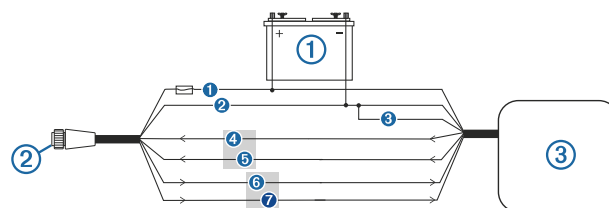
Élément	Description
①	Périphérique Garmin compatible NMEA 2000
②	Antenne GPS
③	Commutateur d'allumage ou en ligne
④	Câble d'alimentation NMEA 2000
⑤	Câble de dérivation NMEA 2000
⑥	Source d'alimentation 12 V c.c.
⑦	NMEA 2000 Borne ou câble de dorsale
⑧	NMEA 2000 Connecteur en T
⑨	NMEA 2000 Borne ou câble de dorsale

Considérations relatives à la connexion NMEA 0183

- Le traceur est doté d'un port Tx (émission) et d'un port Rx (réception).
- Chaque port est doté de 2 fils, libellés A et B suivant la convention NMEA 0183. Connectez les fils A et B de chaque port interne aux fils A et B de votre appareil NMEA 0183.
- Vous pouvez raccorder un appareil NMEA 0183 au port RX pour faire entrer des données sur ce traceur et connecter jusqu'à trois appareils NMEA 0183 en parallèle au port TX pour recevoir les données issues de ce traceur.
- Consultez les instructions d'installation de l'appareil NMEA 0183 pour identifier les fils d'émission (Tx) et de réception (Rx).
- Utilisez un câble blindé 22 AWG (.33 mm²) à paire torsadée pour toute rallonge. Soudez tous les raccordements et isolez-les à l'aide d'un tube thermorétractable.
- Sauf instructions contraires pour certains types d'installations spécifiques, vous ne devez pas connecter les câbles de données NMEA 0183 de cet appareil à la masse.
- Le câble d'alimentation du traceur et celui des appareils NMEA 0183 doivent être connectés à une même terre.
- Les ports NMEA 0183 internes et les protocoles de communication sont configurés sur le traceur. Pour plus d'informations, reportez-vous à la section NMEA 0183 du manuel d'utilisation du traceur.
- Dans le manuel d'utilisation du traceur, vous trouverez la liste des expressions NMEA 0183 prises en charge par le traceur.

NMEA Connexion d'un appareil NMEA 0183

Ce diagramme illustre la connexion bidirectionnelle pour les données transmises et reçues. Vous pouvez aussi suivre ce diagramme pour les connexions unidirectionnelles. Pour recevoir les informations d'un appareil NMEA 0183, reportez-vous aux éléments ①, ②, ③, ④ et ⑤ lorsque vous connectez l'appareil Garmin. Pour transmettre des informations à un appareil NMEA 0183, reportez-vous aux éléments ①, ②, ③, ⑥ et ⑦ lorsque vous connectez l'appareil Garmin.



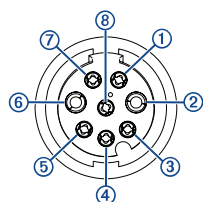
Élément	Description
①	Source d'alimentation
②	Câble d'alimentation
③	NMEA Appareil NMEA 0183
④	NMEA Câble NMEA 0183

Élément	Fonction du fil Garmin	Couleur du fil Garmin	NMEA Fonction du fil du périphérique NMEA 0183
①	Alimentation	Rouge	Alimentation
②	Terre alimentation	Noir	Terre alimentation
③	Terre données	Noir	Terre données
④	Rx/A (entrée +)	Blanc/orange	Tx/A (sortie +)
⑤	Rx/B (entrée -)	Blanc	Tx/B (sortie -)
⑥	Tx/A (sortie +)	Gris	Rx/A (entrée +)
⑦	Tx/B (sortie -)	Rose	Rx/B (entrée -)

Si le périphérique NMEA 0183 n'est doté que d'un câble d'entrée (réception Rx, sans A, B, + ou -), ne branchez pas le câble rose.

Si l'appareil NMEA 0183 n'est doté que d'un fil de sortie (transmission Tx, sans A, B, + ou -), reliez le fil blanc/orange à la terre.

Brochage du câble NMEA 0183 et d'alimentation

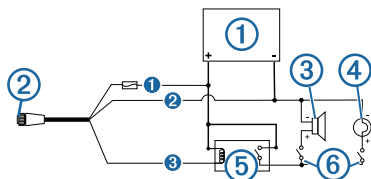


Numéro de broche	Fonction du fil	Couleur du fil
③	NMEA 0183 Tx/A (Sortie +)	Bleu
④	NMEA 0183 Rx/A (Entrée +)	Marron
①	NMEA 0183 Tx/B (Sortie -)	Gris
⑦	NMEA 0183 Rx/B (Entrée -)	Violet
⑤	Alarme	Jaune
⑧	Accessoire, marche	Orange
②	Masse (blindage)	Noir
⑥	NIV	Rouge

Connexion d'un avertisseur lumineux et sonore

L'appareil peut être utilisé avec un avertisseur lumineux et/ou un avertisseur sonore. Il émet alors un flash ou un son lorsque le traceur affiche un message. Ceci est facultatif. Le fil de l'alarme n'est pas nécessaire au bon fonctionnement de l'appareil. Lorsque vous connectez l'appareil à un avertisseur lumineux ou sonore, tenez compte des considérations suivantes.

- Au déclenchement de l'alarme, le commutateur passe directement en mode basse tension.
- Le courant maximum est de 100 mA. Un relais est nécessaire pour limiter à 100 mA le courant provenant du traceur.
- Pour basculer manuellement entre les alertes visuelles et sonores, vous pouvez installer des interrupteurs unipolaires unidirectionnels.



Élément	Description
①	Source d'alimentation
②	Câble d'alimentation
③	Alarme sonore
④	Lampe
⑤	Relais (courant sur bobine de 100 mA)
⑥	Basculer les commutateurs pour activer et désactiver les alertes lumineuses ou sonores

Élément	Couleur du fil	Fonction du fil
①	Rouge	Alimentation
②	Noir	Terre
③	Jaune	Alarme

Recommandations de connexion au bus moteur J1939

AVIS

Vous devez utiliser un câble Garmin GPSMAP J1939 pour connecter le traceur au bus moteur J1939 afin d'éviter toute corrosion due à l'humidité. Si vous utilisez un autre câble, la garantie est nulle.

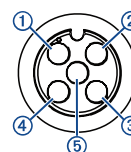
Si vous disposez d'un bus moteur sur votre bateau, il devrait déjà être branché sur une source d'alimentation. N'ajoutez aucune autre source d'alimentation.

Ce traceur peut être connecté à un bus moteur sur votre bateau pour lire des données provenant d'appareils compatibles comme certains moteurs. Le bus moteur respecte une norme et utilise un protocole propriétaire.

Il est conseillé de consulter le fabricant de votre moteur ou réseau de moteurs lorsque vous connectez le traceur. Certains fabricants ont des exigences que vous devez respecter lors de la connexion pour éviter tout comportement inattendu.

Le port intitulé J1939 est utilisé pour connecter l'appareil au bus moteur existant. Vous devez faire passer 6 m (20 pi) de câble par la dorsale du bus moteur.

Le câble accessoire Garmin GPSMAP J1939 doit être branché à une source d'alimentation et à une borne adaptée. Pour en savoir plus sur la manière de connecter votre bus moteur, consulter la documentation du moteur.



Broche	Couleur du fil	Description
①	Dénudé	Blindage
②	Rouge	Alimentation, positive
③	Noir	Alimentation, négative
④	Blanc	CAN high-speed
⑤	Bleu	CAN low-speed

Remarques relative à la vidéo composite

Ce traceur accepte les vidéos provenant de sources vidéo composites via le port CVBS IN. Veuillez prendre en compte les remarques qui suivent lorsque vous connectez des sources de vidéo composites.

- Le port CVBS IN utilise un connecteur BNC. Vous pouvez utiliser un adaptateur BNC vers RCA pour connecter une source vidéo composite munie de connecteurs RCA au port CVBS IN.
- Les données vidéo sont partagées sur le réseau Garmin Marine Network, mais pas sur le réseau NMEA 2000.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ³
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ⁴
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

Données PGN NMEA 2000

Transmission et réception

PGN	Description
059392	Reconnaissance ISO
059904	Requête ISO
060160	Protocole de transport ISO : transfert de données
060416	Protocole de transport ISO : gestion de la connexion
060928	Adresse ISO demandée
126208	Demander une fonction de groupe
126993	Battement de cœur
126996	Informations produit
126998	Informations de configuration
127237	Contrôle du tracé/cap suivi
127245	Barre
127250	Cap du bateau
127258	Déclinaison magnétique
127488	Paramètres moteur : mise à jour rapide
127489	Paramètres moteur : dynamiques
127490	État de la propulsion électrique : dynamique
127491	État du stockage de l'énergie électrique : dynamique
127493	Paramètres de transmission : dynamiques
127494	Informations sur la propulsion électrique

PGN	Description
127495	Informations sur le stockage de l'énergie électrique
127505	Niveau de fluide
127508	Etat de la batterie
128002	État de la propulsion électrique : mise à jour rapide
128003	État du stockage de l'énergie électrique : mise à jour rapide
128259	Vitesse : eaux référencées
128267	Profondeur de l'eau
129025	Position : mise à jour rapide
129026	COG et SOG : mise à jour rapide
129029	Données de position GNSS
129283	Erreur transversale
129284	Données de navigation
129285	Navigation - Informations itinéraire/waypoint
129539	CAP GNSS
129540	Satellites GNSS détectés
130060	Nom
130306	Données sur les vents
130310	Paramètres environnementaux (obsolètes)
130312	Température (obsolète)

Emetteur

PGN	Description
126464	Fonction de groupe de liste PGN de transmission/d'émission
126984	Réponse d'alerte
127258	Variation magnétique
127497	Paramètres du trajet : moteur
127502	Contrôle de la rangée de commutateurs (OBSOLÈTE)

Réception

PGN	Description
065030	Mesures CA moyennes du générateur (GAAC)
065240	Adresse demandée
126983	Pour l'apnée
126985	Texte d'alerte
126987	Seuil d'alerte
126988	Valeur d'alerte
126992	Heure du système
127233	Homme à la mer
127237	Contrôle du tracé/cap suivi
127245	Barre
127251	Vitesse de changement de direction
127252	Pilonnement
127257	Attitude
127498	Paramètres moteur : statiques
127501	État de la rangée de commutateurs
127503	État de l'entrée CA (obsolète)
127504	État de la sortie CA (obsolète)
127506	État détaillé du CC

³ L'appareil résiste à une immersion accidentelle dans un mètre d'eau pendant 30 minutes. Pour plus d'informations, rendez-vous sur www.garmin.com/waterrating.

⁴ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Description
127507	État du chargeur
127509	État de l'inverseur
128000	Angle de dérive nautique
128275	Journal de distance
128780	Actionneur linéaire
129038	Rapport de position AIS Classe A
129039	Rapport de position AIS Classe B
129040	Rapport de position étendue AIS Classe B
129041	Rapport AIS d'aide à la navigation (AtoN)
129044	Datum (système géodésique)
129285	Navigation : route, informations sur les waypoints
129794	Données statiques et relatives aux voyages AIS Classe A
129798	Rapport de position AIS d'avion de sauvetage
129799	Fréquence radio/mode/puissance
129802	Message SRM (Safety Related Message) AIS
129808	Informations appels ASN
129809	Rapport de données statiques CS de classe B AIS, partie A
129810	Rapport de données statiques CS de classe B AIS, partie B
130067	Service de route et waypoint : route, nom et position du waypoint
130311	Paramètres environnementaux (obsolètes)
130313	Humidité
130314	Pression réelle
130316	Température : portée étendue
130569	Divertissement : fichier et état actuels
130570	Divertissement : fichier de données de bibliothèque
130571	Divertissement : groupe de données de bibliothèque
130573	Divertissement : données de sources prises en charge
130574	Divertissement : données de zones prises en charge
130576	État du volet de Trim
130577	Données de direction

Informations NMEA 0183

Emetteur

Expression	Description
GPAPB	APB : contrôleur de cap/tracé (pilote automatique) Expression B
GPBOD	BOD : relèvement (origine à destination)
GPBWC	BWC : relèvement et distance jusqu'au waypoint
GPGGA	GGA : données de positionnement GPS (Global Positioning System)
GPGLL	GLL : position géographique (latitude et longitude)
GPGSA	GSA : CAP GNSS et satellites actifs
GPGSV	GSV : satellites GNSS détectés
GPRMB	RMB : informations de navigation minimum recommandées
GPRMC	RMC : données spécifiques GNSS minimum recommandées
GP RTE	RTE : itinéraires
GPVTG	VTG : cap suivi et vitesse d'avancement
GPWPL	WPL : position de waypoint
GPXTE	XTE : erreur transversale
PGRME	E : erreur présumée
PGRMM	M : système géodésique

Expression	Description
PGRMZ	Z : altitude
SDDBT	DBT : profondeur sous la sonde
SDDPT	DPT : profondeur
SDMTW	MTW : température de l'eau
SDVHW	VHW : vitesse surface et cap
TLB	Libellé de la cible
TLL	Latitude et longitude de la cible
TTD	Données de la cible suivie
ZDA	Heure et date

Réception

Expression	Description
DPT	Profondeur
DBT	Profondeur sous la sonde
MTW	Température de l'eau
VHW	Vitesse surface et cap
WPL	Position du waypoint
ASN	Informations appel sélectif numérique
DSE	Appel sélectif numérique étendu
HDG	Cap, écart et variation
HDM	Cap, magnétique
MWD	Direction et vitesse du vent
MDA	Composite météorologique
MWV	Vitesse et angle du vent
RTE	Routes
VDM	Message de liaison de données VHF AIS

Vous pouvez acheter les informations complètes relatives au format et aux expressions de la National Marine Electronics Association (NMEA) sur www.nmea.org.

Informations J1939

Le traceur peut recevoir des expressions J1939. Le traceur ne peut pas transmettre de données via le réseau J1939.

Description	PGN	SPN
Pourcentage de charge moteur à la vitesse actuelle	61443	92
Régime du moteur	61444	190
Température des gaz d'échappement du collecteur droit	65031	2433
Température des gaz d'échappement du collecteur gauche	65031	2434
Système de refroidissement auxiliaire du moteur	65172	
Codes de diagnostic des problèmes actifs	65226	
Distance du véhicule	65248	
Indicateur de présence d'eau dans le carburant	65279	
Feu Attendre avant de démarrer du moteur	65252	1081
Test de survitesse du moteur	65252	2812
État de la commande de prise d'air du moteur	65252	2813
État de la commande d'alarme émise du moteur	65252	2814
Nombre total d'heures de fonctionnement du moteur	65253	247
Vitesse du véhicule basée sur la navigation	65256	517
Température du carburant : moteur n° 1	65262	174
Température d'huile : moteur n° 1	65262	175
Pression de l'alimentation en carburant moteur	65263	94

Description	PGN	SPN
Pression d'huile moteur	65263	100
Pression du liquide de refroidissement moteur	65263	109
Température du liquide de refroidissement du moteur	65263	110
Niveau de liquide de refroidissement moteur	65263	111
Débit de carburant du moteur	65266	183
Consommation moyenne du moteur	65266	185
Pression du collecteur d'admission n° 1 du moteur	65270	102
Puissance absorbée/potentielle de la batterie 1	65271	168
Température de l'huile de transmission	65272	177
Pression de l'huile de transmission	65272	127
Niveau de carburant	65276	96
Pression différentielle du filtre à huile du moteur	65276	969

GPSMAP® 15x3

Istruzioni di installazione

Informazioni importanti sulla sicurezza

⚠ AVVERTENZA

Per avvisi sul prodotto e altre informazioni importanti, consultare la guida inclusa nella confezione del dispositivo.

Quando si collega il cavo di alimentazione, non rimuovere il portafusibili. Per evitare il rischio di lesioni personali o danni al prodotto dovuti a incendio o surriscaldamento, è necessario installare il fusibile appropriato come indicato nelle specifiche del prodotto. Il collegamento del cavo di alimentazione senza che sia installato il fusibile appropriato invalida la garanzia del prodotto.

Se l'installazione non viene effettuata seguendo queste istruzioni, si potrebbe incorrere in lesioni personali, danni all'imbarcazione o al dispositivo, oppure scarse prestazioni del prodotto.

⚠ ATTENZIONE

Per evitare lesioni personali, indossare sempre i visori protettivi, le protezioni acustiche e una mascherina anti-polvere per trapanare, tagliare o carteggiare.

Per evitare possibili lesioni personali o danni al dispositivo e all'imbarcazione, scollegare l'alimentazione dell'imbarcazione prima di iniziare l'installazione del dispositivo.

Per evitare possibili lesioni personali o danni al dispositivo o all'imbarcazione, prima di alimentare il dispositivo, accertarsi che sia stato collegato correttamente al cavo di terra, seguendo le istruzioni riportate nella guida.

Per evitare possibili infortuni personali o danni al dispositivo e all'imbarcazione, installare il dispositivo solo quando l'imbarcazione è a terra o quando è correttamente attraccata e ormeggiata in condizioni di acque calme.

AVVISO

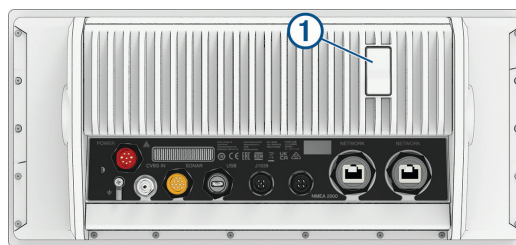
Prima di effettuare operazioni di trapanatura o taglio, verificare l'eventuale presenza di oggetti sul lato opposto della superficie da tagliare.

Prima di procedere all'installazione, leggere attentamente le istruzioni. In caso di difficoltà durante l'installazione, contattare il servizio di assistenza ai prodotti di Garmin.

Tools Needed

- Drill and 14 mm ($\frac{9}{16}$ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Aggiornamento software

Potrebbe essere necessario aggiornare il software del chartplotter dopo l'installazione. Per le istruzioni su come aggiornare il software, consultare il Manuale Utente all'indirizzo garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Non installare il dispositivo in una posizione soggetta a temperature o condizioni estreme. L'intervallo di temperatura per il funzionamento del dispositivo è indicato nelle specifiche del prodotto. L'esposizione prolungata a temperature che superano l'intervallo di temperature specificato, in condizioni di stoccaggio o di operatività, può causare danni al dispositivo. I danni e le conseguenze correlate all'esposizione a temperature estreme non sono coperti dalla garanzia.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

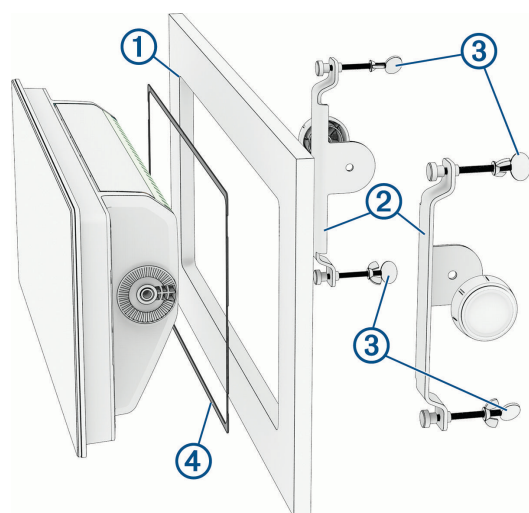
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

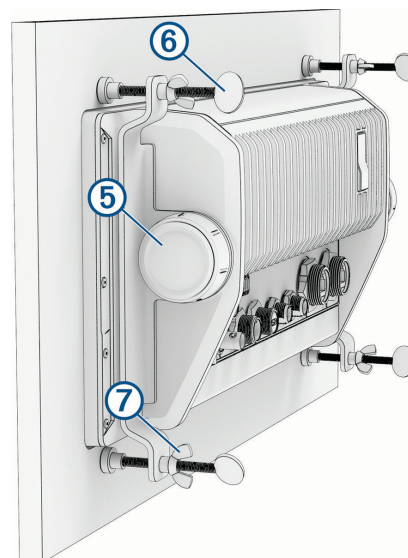
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

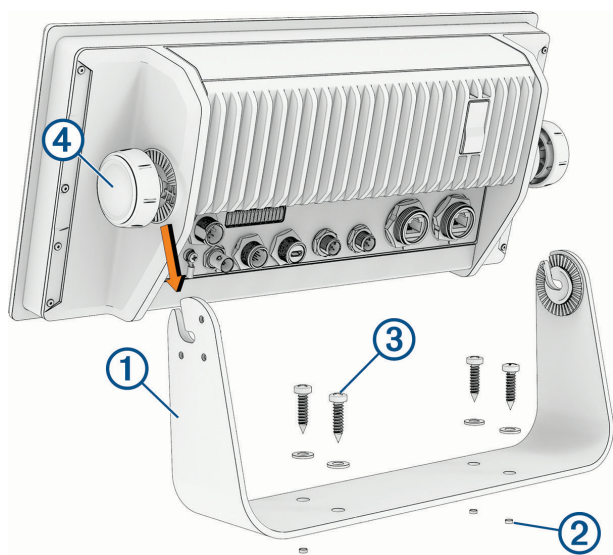
Bail Mounting the Device

NOTICE

Se si sta installando la staffa su fibra di vetro con delle viti, si consiglia di utilizzare una punta fresatrice per praticare una svasatura attraverso lo strato di resina. In questo modo è possibile evitare crepe prodotte dal serraggio delle viti nello strato di resina.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



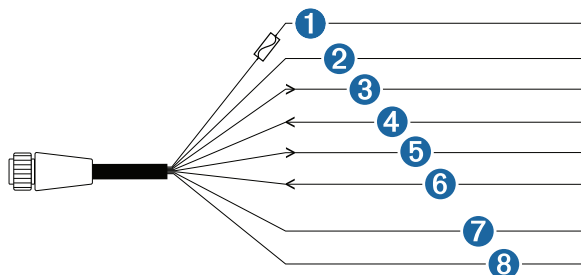
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Informazioni sul collegamento

Dopo aver collegato i cavi al dispositivo, stringere gli anelli di bloccaggio per fissare tutti i cavi.

Cavo di alimentazione/NMEA 0183

- Il cavo alimentazione/dati collega il dispositivo all'alimentazione, agli strumenti NMEA 0183, a un led o sirena per avvisi visibili o udibili.
- Se è necessario prolungare i cavi di alimentazione o di terra, utilizzare un cavo di sezione appropriato in base alla lunghezza della prolunga (Power Wire Extensions, pagina 18).
- Per estendere il cavo NMEA 0183 o del segnale acustico, utilizzare un cavo da 0,33 mm² (22 AWG).
- Questo cavo fornire una porta di input e output NMEA 0183 differenziale.



Elemento	Colore del cavo	Funzione cavo
①	Rosso	Alimentazione
②	Nero	Terra (alimentazione e NMEA 0183)
③	Blu	NMEA 0183 TxA (Out +)
⑤	Grigio	NMEA 0183 TxB (Out -)
④	Marrone	NMEA 0183 RxA (In +)
⑥	Viola	NMEA 0183 RxB (In -)
⑦	Arancione	Alimentazione accessorio
⑧	Giallo	Livello allarme basso

Collegamento all'alimentazione

⚠ AVVERTENZA

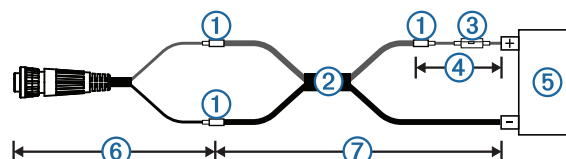
Quando si collega il cavo di alimentazione, non rimuovere il portafusibili. Per evitare il rischio di lesioni personali o danni al prodotto dovuti a incendio o surriscaldamento, è necessario installare il fusibile appropriato come indicato nelle specifiche del prodotto. Il collegamento del cavo di alimentazione senza che sia installato il fusibile appropriato invalida la garanzia del prodotto.

- 1 Tirare il cavo dall'alimentazione al dispositivo.
- 2 Collegare il filo rosso al terminale della batteria positivo (+) e il filo nero al terminale della batteria negativo (-).
- 3 Installare la ghiera di chiusura e l'o-ring all'estremità dei cavi.
- 4 Inserire il cavo nel connettore POWER sul retro del dispositivo e premere saldamente.
- 5 Ruotare l'anello di blocco in senso orario per collegare il cavo al dispositivo.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Ulteriore considerazione sulla messa a terra

Nella maggior parte delle installazioni, l'unità non ha bisogno di una messa a terra supplementare per funzionare correttamente. In caso di interferenze è possibile collegare lo chassis dell'unità al negativo comune dell'imbarcazione.

Informazioni sulla Garmin Marine Network

AVVISO

Utilizzare un PoE Garmin Marine Network isolato (010-10580-10) per collegare un dispositivo di terze parti, ad esempio una videocamera FLIR, alla Garmin Marine Network. Il collegamento diretto di un dispositivo PoE (Power over Ethernet) al chartplotter Garmin Marine Network danneggia il chartplotter Garmin e il dispositivo PoE. Il collegamento diretto di un dispositivo di terze parti a un chartplotter Garmin Marine Network causa il comportamento anomalo dei dispositivi Garmin, incluso lo spegnimento dei dispositivi in modo inappropriato o l'inutilizzabilità del software.

Questo dispositivo può collegarsi ad altri dispositivi Garmin Marine Network per la condivisione di dati, ad esempio radar, ecoscandagli e mappe dettagliate. Quando si collegano dispositivi Garmin Marine Network a questo dispositivo, tenere presente quanto segue.

- Tutti i dispositivi collegati alla Garmin Marine Network devono essere collegati alla stessa messa a terra. Se vengono utilizzate più fonti di alimentazione per i dispositivi Garmin Marine Network, è necessario unire tutti i collegamenti di terra di tutti gli alimentatori utilizzando un collegamento a bassa resistenza o fissandoli a una barra colletttrice di terra, se disponibile.
- È necessario utilizzare un cavo Garmin Marine Network per tutte le connessioni Garmin Marine Network.
 - Non utilizzare un cavo CAT5 e connettori RJ45 di terze parti per le connessioni Garmin Marine Network.
 - È possibile acquistare cavi e connettori Garmin Marine Network aggiuntivi presso il rivenditore Garmin locale.
- Le porte NETWORK sul dispositivo fungono ciascuna da switch di rete. Qualsiasi dispositivo compatibile può essere collegato a una qualsiasi delle porte NETWORK per condividere dati con tutti i dispositivi sull'imbarcazione collegati mediante un cavo Garmin Marine Network.

Informazioni su NMEA 2000

AVVISO

Se si è connessi a una rete **esistente** NMEA 2000, identificare il cavo di alimentazione NMEA 2000. Soltanto un cavo di alimentazione NMEA 2000 è richiesto per il corretto funzionamento della rete NMEA 2000.

Un isolatore di potenza (010-11580-00) NMEA 2000 dovrebbe essere utilizzato nelle installazioni in cui il produttore della rete NMEA 2000 esistente è sconosciuto.

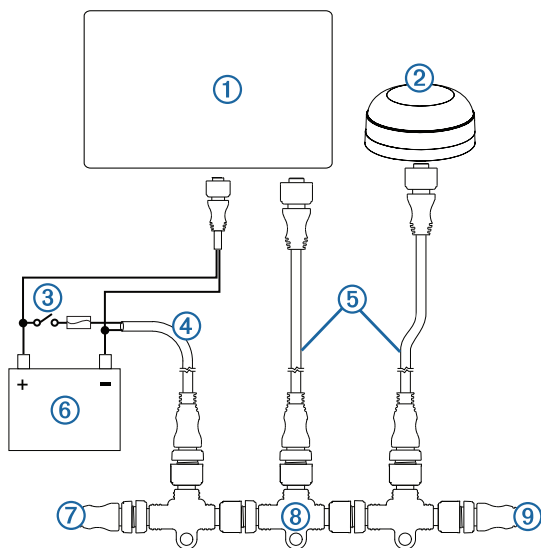
Se si installa un cavo di alimentazione NMEA 2000, è necessario collegarlo all'interruttore di accensione dell'imbarcazione o tramite un altro interruttore in linea. I dispositivi NMEA 2000 potrebbero scaricare la batteria se il cavo di alimentazione del NMEA 2000 viene collegato direttamente alla batteria.

Questo dispositivo può collegarsi a una rete NMEA 2000 sull'imbarcazione per condividere dati dai dispositivi compatibili NMEA 2000, ad esempio un ricevitore GPS o una radio VHF. I cavi NMEA 2000 inclusi e i connettori consentono di collegare il dispositivo alla rete NMEA 2000 esistente. Se non si dispone di una rete NMEA 2000 esistente, è possibile crearne una di base utilizzando i cavi di Garmin.

Questo dispositivo non è alimentato tramite la rete NMEA 2000. È necessario collegare il dispositivo a una fonte di alimentazione (Collegamento all'alimentazione, pagina 18).

Se non si ha dimestichezza con NMEA 2000, si consiglia di leggere *Riferimento tecnico per i prodotti NMEA 2000* all'indirizzo garmin.com/manuals/nmea_2000.

La porta NMEA 2000 viene utilizzata per collegare il dispositivo a una rete NMEA 2000 standard.



Elemento	Descrizione
①	Dispositivo NMEA 2000 compatibile con Garmin
②	Antenna GPS

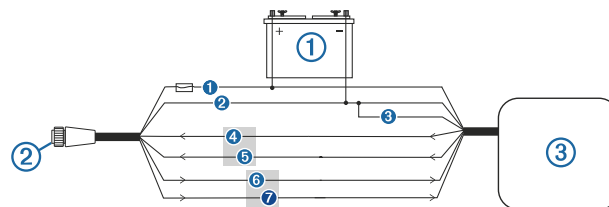
Elemento	Descrizione
③	Interruttore di accensione
④	Cavo di alimentazione NMEA 2000
⑤	Cavo di derivazione NMEA 2000
⑥	Fonte di alimentazione da 12 V cc
⑦	Terminatore o cavo backbone NMEA 2000
⑧	Connettore a T NMEA 2000
⑨	Terminatore o cavo backbone NMEA 2000

Connessioni NMEA 0183

- Il chartplotter è dotato di una porta Tx (trasmissione) e di una porta Rx (ricezione).
- Ciascuna porta è dotata di due cavi, etichettati con A e B in base alla convenzione NMEA 0183. Collegare i cavi A e B corrispondenti di ciascuna porta ai cavi A (+) e B (-) del dispositivo NMEA 0183.
- È possibile collegare un dispositivo NMEA 0183 alla porta Rx per inviare dati sul chartplotter ed è possibile collegare contemporaneamente fino a tre dispositivi NMEA 0183 alla porta Tx per ricevere dati dal chartplotter.
- Consultare le istruzioni di installazione del dispositivo NMEA 0183 per identificare i cavi di trasmissione (Tx) e di ricezione (Rx).
- Utilizzare un cavo bipolare schermato da 22 AWG (.33 mm²) per prolungare i cavi. Saldare tutti i collegamenti e sigillarli con del termorestringente.
- A meno che non venga richiesto un tipo di installazione specifico, non collegare i cavi dati NMEA 0183 da questo dispositivo alla messa a terra.
- Il cavo di alimentazione del chartplotter e i dispositivi NMEA 0183 devono essere collegati a una messa a terra comune.
- Le porte NMEA 0183 interne e i protocolli di comunicazione sono configurati sul chartplotter. Per ulteriori informazioni, consultare la sezione NMEA 0183 del Manuale Utente del chartplotter.
- Consultare il Manuale Utente del chartplotter per un elenco di sentenze NMEA 0183 approvate supportate dal chartplotter.

NMEA Collegamenti del dispositivo 0183

Questa diagramma mostra i collegamenti bidirezionali per l'invio e la ricezione di dati. È anche possibile utilizzare il diagramma per la comunicazione unidirezionale. Per ricevere informazioni da un dispositivo NMEA 0183, fare riferimento agli elementi ①, ②, ③, ④ e ⑤ per collegare il dispositivo Garmin. Per trasmettere informazioni a un dispositivo NMEA 0183, fare riferimento agli elementi ①, ②, ③, ⑥ e ⑦ per collegare il dispositivo Garmin.



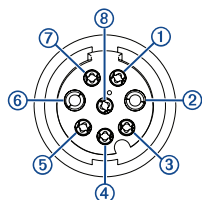
Elemento	Descrizione
①	Fonte di alimentazione
②	Cavo di alimentazione
③	NMEA Dispositivo 0183
④	NMEA Cavo 0183

Elemento	Funzione cavo Garmin	Colore del cavo Garmin	NMEA Funzione dei cavi del dispositivo 0183
①	Potenza	Rosso	Potenza
②	Massa a terra del cavo di alimentazione	Nero	Massa a terra del cavo di alimentazione
③	Massa a terra del cavo dati	Nero	Massa a terra del cavo dati
④	Rx/A (In +)	Bianco/arancione	Tx/A (Out +)
⑤	Rx/B (In -)	Bianco	Tx/B (Out -)
⑥	Tx/A (Out +)	Grigio	Rx/A (In +)
⑦	Tx/B (Out -)	Rosa	Rx/B (In -)

Se il dispositivo NMEA 0183 dispone solo di un cavo (nessun cavo A, B, + o -) in ingresso (ricezione, Rx), lasciare il cavo rosa scollegato.

Se il dispositivo NMEA 0183 dispone solo di un cavo d'uscita (trasmissione, Tx) (nessun cavo A, B, + o -), collegare il cavo arancione/bianco a terra.

NMEA 0183 e pinout cavo di alimentazione

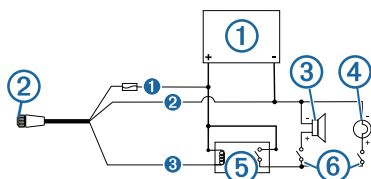


Numero pin	Funzione cavo	Colore del cavo
③	NMEA 0183 Tx/A (Out +)	Blu
④	NMEA 0183 Rx/A (In +)	Marrone
①	NMEA 0183 Tx/B (Out -)	Grigio
⑦	NMEA 0183 Rx/B (In -)	Viola
⑤	Allarme	Giallo
⑧	Alimentazione accessorio	Arancione
②	Terra (schermo)	Nero
⑥	VIN	Rosso

Collegamento di un led e di un cicalino

È possibile collegare al dispositivo un led o un cicalino ed essere avvisati quando viene visualizzato un messaggio. Il collegamento è opzionale, pertanto non è indispensabile eseguirlo per il corretto funzionamento del dispositivo. Quando si collega il dispositivo a un led o a una sirena considerare quanto segue.

- Quando si attiva l'allarme, la tensione del circuito si abbassa.
- La corrente massima è 100 mA ed è necessario un relè per limitare la corrente proveniente dal chartplotter a 100 mA.
- Per attivare manualmente il led e la sirena installare un interruttore dedicato.



Elemento	Descrizione
①	Fonte di alimentazione
②	Cavo di alimentazione
③	Cicalino
④	Led
⑤	Corrente massima del relè 100 mA
⑥	Interruttori per attivare e disattivare i led o le sirene

Elemento	Colore del cavo	Funzione cavo
①	Rosso	Alimentazione
②	Nero	Terra
③	Giallo	Allarme

Note sul collegamento alla rete del motore J1939

AVVISO

Per evitare la corrosione dovuta all'umidità, è necessario utilizzare un cavo accessorio Garmin GPSMAP J1939 per collegare il chartplotter alla rete del motore J1939. L'uso di un cavo alternativo invalida la garanzia.

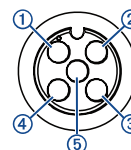
Se l'imbarcazione dispone di una rete del motore esistente, questa dovrebbe essere già collegata all'alimentazione. Non aggiungere ulteriori prese di alimentazione.

Questo chartplotter può collegarsi a una rete del motore sull'imbarcazione per leggere dati da dispositivi compatibili, ad esempio alcuni motori e generatori. La rete del motore segue uno standard e utilizza messaggi proprietari.

Per il collegamento del chartplotter, consultare il produttore del motore o della rete del motore. Alcuni produttori potrebbero prevedere dei requisiti da seguire durante la connessione per evitare comportamenti imprevisti.

La porta J1939 viene utilizzata per collegare il dispositivo alla rete del motore esistente. Passare il cavo entro 6 m (20 piedi) dalla backbone della rete del motore.

Il cavo accessorio Garmin GPSMAP J1939 deve essere collegato a una sorgente di alimentazione e a una terminazione appropriata. Per ulteriori informazioni sul collegamento alla propria rete del motore, consultare la documentazione del motore del produttore.



Pin	Colore del cavo	Descrizione
①	Senza rivestimento	Schermatura
②	Rosso	Alimentazione, positivo
③	Nero	Alimentazione, negativo
④	Bianco	CAN High
⑤	Blu	CAN Low

Note sui video compositi

Questo chartplotter consente di ricevere input video da sorgenti video composite utilizzando la porta CVBS IN. Per collegare un video composito, tenere presente quanto segue.

- La porta CVBS IN utilizza un connettore BNC. È possibile utilizzare un adattatore da BNC a RCA per collegare una sorgente video composita con connettori RCA alla porta CVBS IN.
- Il video viene condiviso tramite la Garmin Marine Network, ma non tramite la rete NMEA 2000.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ⁵
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ⁶
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

Informazioni su PGNNMEA 2000

Trasmissione e ricezione

PGN	Descrizione
059392	Riconoscimento ISO
059904	Richiesta ISO
060160	Protocollo di trasporto ISO: Trasferimento dati
060416	Protocollo di trasporto ISO: Gestione delle connessioni
060928	Indirizzo ISO richiesto
126208	Richiesta funzione di gruppo
126993	Battito cardiaco
126996	Informazioni sul prodotto
126998	Informazioni sulla configurazione
127237	Controllo direzione/traccia
127245	Timone
127250	Direzione imbarcazione
127258	Varianza magnetica
127488	Parametri motore: aggiornamento rapido
127489	Parametri motore: dinamici
127490	Stato della trasmissione elettrica: dinamico
127491	Stato di immagazzinamento dell'energia elettrica: dinamico
127493	Parametri trasmissione: dinamici
127494	Informazioni sulla trasmissione elettrica

PGN	Descrizione
127495	Informazioni sull'immagazzinamento dell'energia elettrica
127505	Livello fluidi
127508	Stato della batteria
128002	Stato della trasmissione elettrica: aggiornamento rapido
128003	Stato di immagazzinamento dell'energia elettrica: aggiornamento rapido
128259	Velocità: velocità sull'acqua
128267	Profondità dell'acqua
129025	Posizione: aggiornamento rapido
129026	COG e SOG: aggiornamento rapido
129029	Dati posizione GNSS
129283	Errore di fuori rotta
129284	Dati navigazione
129285	Navigazione - Informazioni waypoint/rotta
129539	DOP GNSS
129540	Satelliti GNSS in vista
130060	Etichetta
130306	Dati vento
130310	Parametri ambientali (obsoleto)
130312	Temperatura (obsoleto)

Trasmissione

PGN	Descrizione
126464	Funzione di gruppo elenco PGN in trasmissione e ricezione
126984	Risposta a un avviso
127258	Variazione magnetica
127497	Parametri trip: Motore
127502	Controllo gruppo interruttori (DEPRECATO)

Ricezione

PGN	Descrizione
065030	Generator average basic AC quantities (GAAC)
065240	Indirizzo richiesto
126983	Apnea in superficie
126985	Testo di avviso
126987	Soglia di allarme
126988	Valore allarme
126992	Ora del sistema
127233	Uomo a mare
127237	Controllo direzione/traccia
127245	Timone
127251	Velocità di virata
127252	Cappa
127257	Assetto
127498	Parametri motore: statici
127501	Stato gruppo interruttori
127503	Stato ingresso CA (obsoleto)
127504	Stato uscita CA (obsoleto)

⁵ Il dispositivo resiste all'esposizione accidentale all'acqua fino a 1 m per un massimo di 30 min. Per ulteriori informazioni, visitare il sito Web www.garmin.com/waterrating.

⁶ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Descrizione
127506	Stato dettagliato DC
127507	Stato caricabatterie
127509	Stato inverter
128000	Angolo di manovra
128275	Registro della distanza
128780	Attuatore lineare
129038	Rapporto posizione Classe A AIS
129039	Rapporto posizione Classe B AIS
129040	Rapporto posizione esteso Classe B AIS
129041	Rapporto ausili AIS alla navigazione (AtoN)
129044	Datum
129285	Navigazione: Informazioni waypoint/rotta
129794	Dati statici e relativi alla navigazione Classe A AIS
129798	Rapporto posizione velivolo SAR AIS
129799	Frequenza/Modalità/Alimentazione radio
129802	Messaggi AIS per trasmissioni correlate alla sicurezza
129808	Informazioni sulle chiamate DSC
129809	Rapporto dati statici "CS" Classe B AIS, parte A
129810	Rapporto dati statici "CS" Classe B AIS, parte B
130067	Servizio rotta e waypoint: rotta, nome e posizione del waypoint
130311	Parametri ambientali (obsoleto)
130313	Umidità
130314	Pressione effettiva
130316	Temperatura: Gamma estesa
130569	Sistema di intrattenimento: File corrente e stato
130570	Sistema di intrattenimento: File di dati della libreria
130571	Sistema di intrattenimento: Gruppo di dati della libreria
130573	Sistema di intrattenimento: Dati di origine supportati
130574	Sistema di intrattenimento: Dati di zona supportati
130576	Stato calibrazione trim
130577	Dati sulla direzione

Informazioni su NMEA 0183

Trasmissione

Sentenza	Descrizione
GPAPB	APB: controller direzione/traccia (pilota automatico) frase "B"
GPBOD	BOD: rilevamento (da origine a destinazione)
GPBWC	BWC: rilevamento e distanza da waypoint
GPGGA	GGA: dati correzione GPS (Global Positioning System)
GPGLL	GLL: posizione geografica (latitudine e longitudine)
GPGSA	GSA: GNSS DOP e satelliti attivi
GPGSV	GSV: satelliti GNSS in vista
GPRMB	RMB: informazioni di navigazione minime consigliate
GPRMC	RMC: dati minimi consigliati specifica GNSS
GP RTE	RTE: percorsi
GPVTG	VTG: COG e SOG
GPWPL	WPL: posizione del waypoint
GPXTE	XTE: errore di fuori rotta
PGRME	E: errore previsto
PGRMM	M: map datum

Sentenza	Descrizione
PGRMZ	Z: quota
SDDBT	DBT: profondità al di sotto del trasduttore
SDDPT	DPT: profondità
SDMTW	MTW: temperatura dell'acqua
SDVHW	VHW: velocità sull'acqua e direzione
TLB	Etichetta bersaglio
TLL	Latitudine e longitudine bersaglio
TTD	Dati bersaglio monitorati
ZDA	Ora e data

Ricezione

Sentenza	Descrizione
DPT	Profondità
DBT	Profondità al di sotto del trasduttore
MTW	Temperatura acqua
VHW	Velocità su acqua e direzione
WPL	Posizione del waypoint
DSC	Informazioni DSC (Digital Selective Calling)
DSE	Expanded Digital Selective Calling
HDG	Direzione, deviazione e variazione
HDM	Direzione magnetica
MWD	Direzione e velocità del vento
MDA	Composita meteorologica
MWV	Velocità e angolazione del vento
RTE	Percorsi
VDM	Messaggio collegamento dati VHF AIS

Le informazioni complete sul formato e le sequenze dati National Marine Electronics Association (NMEA) sono acquistabili all'indirizzo www.nmea.org.

Informazioni su J1939

Il chartplotter è in grado di ricevere sentenze J1939. Il chartplotter non è in grado di trasmettere sulla rete J1939.

Descrizione	PGN	SPN
Percentuale di carico del motore alla velocità corrente	61443	92
Velocità motore	61444	190
Temperatura del gas di scarico del collettore del motore - collettore destro	65031	2433
Temperatura del gas di scarico del collettore del motore - collettore sinistro	65031	2434
Refrigerante ausiliario del motore	65172	
Codici degli errori di diagnostica attivi	65226	
Distanza veicolo	65248	
Acqua nell'indicatore carburante	65279	
Spia di avviamento del motore	65252	1081
Test eccesso di velocità del motore	65252	2812
Stato dei comandi di non ritorno dell'aria del motore	65252	2813
Stato dei comandi di uscita degli allarmi del motore	65252	2814
Totale delle ore di esercizio del motore	65253	247
Velocità del veicolo in base alla navigazione	65256	517
Temperatura del carburante del motore 1	65262	174

Descrizione	PGN	SPN
Temperatura dell'olio motore 1	65262	175
Pressione di immissione carburante del motore	65263	94
Pressione olio motore	65263	100
Pressione refrigerante motore	65263	109
Temperatura del refrigerante del motore	65263	110
Livello refrigerante motore	65263	111
Velocità flusso carburante del motore	65266	183
Risparmio medio di carburante del motore	65266	185
Pressione del collettore di aspirazione #1 del motore	65270	102
Ingresso potenziale batteria/alimentazione 1	65271	168
Temperatura olio trasmissione	65272	177
Pressione olio trasmissione	65272	127
Livello carburante	65276	96
Pressione del differenziale filtro olio del motore	65276	969

GPSMAP® 15x3 Installationsanweisungen

Wichtige Sicherheitsinformationen

⚠️ WARNUNG

Lesen Sie alle Produktwarnungen und sonstigen wichtigen Informationen der Anleitung "Wichtige Sicherheits- und Produktinformationen", die dem Produkt beiliegt.

Wenn Sie das Netzkabel anschließen, entfernen Sie nicht den leitungsinternen Sicherungshalter. Vermeiden Sie mögliche Personen- oder Produktschäden durch Feuer oder Überhitzung, indem Sie darauf achten, dass die richtige Sicherung eingesetzt ist (siehe technische Daten zum Produkt). Die Garantie des Produkts erlischt, wenn Sie das Netzkabel anschließen und nicht die richtige Sicherung eingesetzt ist.

Wenn Sie dieses Gerät nicht entsprechend diesen Anweisungen installieren, könnte es zu Personenschäden, Schäden am Boot oder am Gerät oder zu einer schlechten Leistung des Produkts kommen.

⚠️ ACHTUNG

Tragen Sie zum Vermeiden möglicher Personenschäden beim Bohren, Schneiden und Schleifen immer Schutzbrille, Gehörschutz und eine Staubschutzmaske.

Zum Vermeiden möglicher Personenschäden oder Schäden am Gerät oder am Boot trennen Sie die Stromversorgung des Boots, bevor Sie mit der Installation des Geräts beginnen.

Zum Vermeiden möglicher Personenschäden oder Schäden am Gerät oder Boot stellen Sie vor der Herstellung der Stromversorgung des Geräts sicher, dass es ordnungsgemäß geerdet ist. Folgen Sie dabei den Anweisungen in der Anleitung.

Zum Vermeiden möglicher Personenschäden oder Schäden an diesem Gerät und am Boot installieren Sie dieses Gerät nur, wenn sich das Boot an Land befindet oder wenn es ordnungsgemäß gesichert und bei ruhigen Wasserbedingungen angedockt ist.

HINWEIS

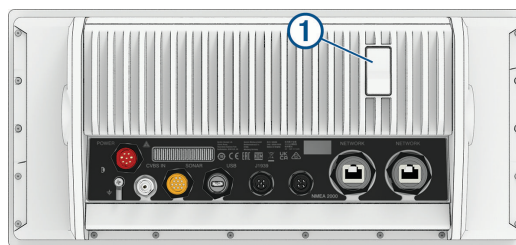
Prüfen Sie beim Bohren oder Schneiden immer, was sich auf der anderen Seite der Oberfläche befindet, um Schäden am Boot zu vermeiden.

Lesen Sie die gesamten Installationsanweisungen, bevor Sie mit der Installation beginnen. Sollten bei der Installation Probleme auftreten, wenden Sie sich an den Support von Garmin.

Tools Needed

- Drill and 14 mm (9/16 in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Software-Update

Nach der Installation müssen Sie evtl. die Software des Kartenplotters aktualisieren. Anweisungen zum Aktualisieren der Software finden Sie im Benutzerhandbuch unter garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Montieren Sie das Gerät an einem Ort, an dem es keinen extremen Temperaturen oder Umweltbedingungen ausgesetzt ist. Der Temperaturbereich für dieses Gerät ist in den technischen Daten zum Produkt aufgeführt. Eine längere Lagerung oder ein längerer Betrieb bei Temperaturen über dem angegebenen Temperaturbereich kann zu einem Versagen des Geräts führen. Schäden durch extreme Temperaturen und daraus resultierende Folgen sind nicht von der Garantie abgedeckt.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

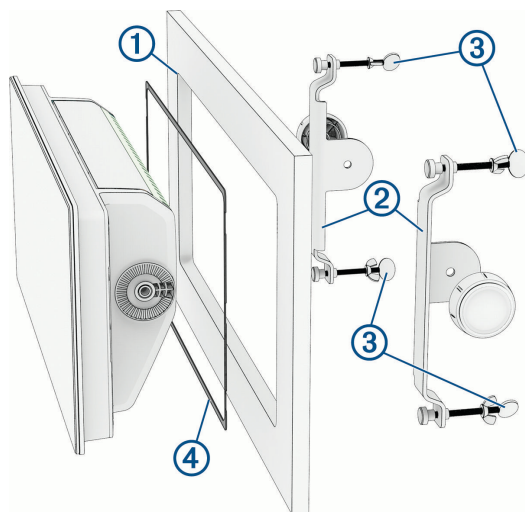
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

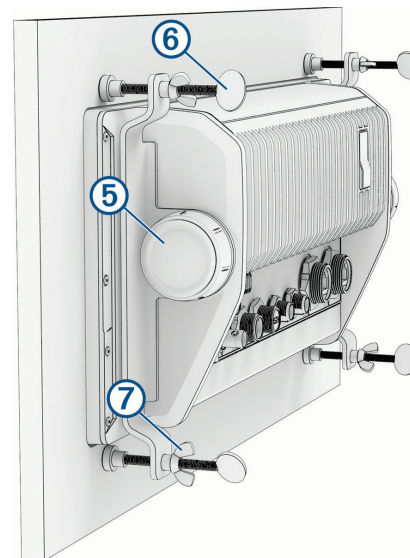
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

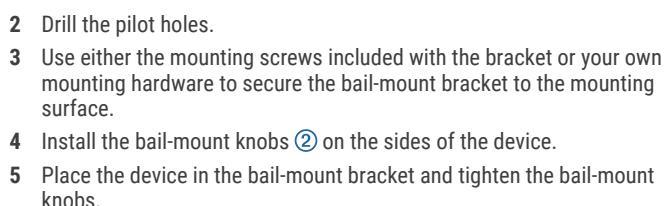
Bail Mounting the Device

NOTICE

Wenn Sie die Halterung in Glasfasermaterial einlassen und festschrauben, wird die Verwendung eines Senkkopfbohrers empfohlen, um die Ansenkung nur durch die oberste Gelcoat-Schicht zu bohren. Dadurch wird Rissen in der Gelschicht beim Anziehen der Schrauben vorgebeugt.

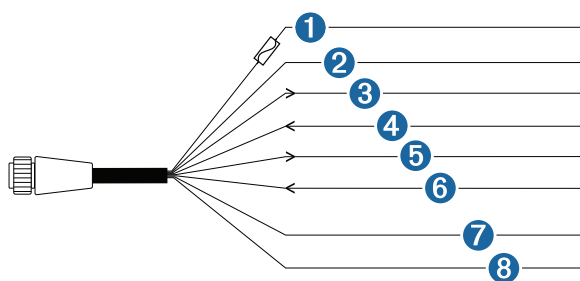
You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



Nachdem Sie die Kabel mit dem Gerät verbunden haben, ziehen Sie die Sicherungsringe an, um jedes Kabel zu befestigen.

- Über den Kabelbaum wird das Gerät mit der Stromversorgung, mit NMEA 0183 Geräten sowie mit einer Signalleuchte oder einem Signalhorn verbunden, um visuelle oder akustische Warnungen abzugeben.
- Sollte eine Verlängerung der Strom- und Masseleitungen erforderlich sein, muss für die Länge der Verlängerung eine Leitung mit dem entsprechenden Leitungsquerschnitt verwendet werden (Power Wire Extensions, Seite 25).
- Falls eine Verlängerung der NMEA 0183 oder Alarmleitungen erforderlich ist, müssen Sie Leitungen nach AWG 22 (0,33 mm²) verwenden.
- Dieses Kabel verfügt über einen NMEA 0183 Differenzial-Eingang und -Ausgang.



Element	Leitungsfarbe	Funktion der Leitung
1	Rot	Einschalttaste
2	Schwarz	Masse (Stromversorgung und NMEA 0183)
3	Blau	NMEA 0183 TxA (Ausgang +)
5	Grau	NMEA 0183 TxB (Ausgang -)
4	Braun	NMEA 0183 RxA (Eingang +)
6	Violett	NMEA 0183 RxB (Eingang -)
7	Orange	Zubehör Ein
8	Gelb	Alarm, niedrig

Anschließen des Kabelbaums an die Stromversorgung

⚠️ WARNUNG

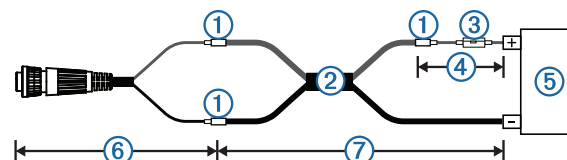
Wenn Sie das Netzkabel anschließen, entfernen Sie nicht den leitungsinternen Sicherungshalter. Vermeiden Sie mögliche Personen- oder Produktschäden durch Feuer oder Überhitzung, indem Sie darauf achten, dass die richtige Sicherung eingesetzt ist (siehe technische Daten zum Produkt). Die Garantie des Produkts erlischt, wenn Sie das Netzkabel anschließen und nicht die richtige Sicherung eingesetzt ist.

- 1 Verlegen Sie den Kabelbaum zur Stromquelle und zum Gerät.
- 2 Verbinden Sie die rote Leitung mit dem Pluspol (+) und die schwarze Leitung mit dem Minuspol (-) der Batterie.
- 3 Installieren Sie bei Bedarf den Sicherungsring und den Dichtungsring am Ende des Kabelbaums.
- 4 Verbinden Sie das Kabel mit dem POWER Anschluss auf der Rückseite des Geräts. Drücken Sie es dabei fest an.
- 5 Drehen Sie den Sicherungsring im Uhrzeigersinn, um das Kabel mit dem Gerät zu verbinden.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
	NOTICE
③	The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Zusätzliche Hinweise zur Erdung

Bei den meisten Montagearten sollte keine weitere Gehäuseerdung erforderlich sein. Sollte es zu Störungen kommen, kann die Erdungsschraube am Gehäuse verwendet werden, um das Gerät an die Wassererdung des Boots anzuschließen. So können Störungen vermieden werden.

Hinweise zum Garmin Marinenetzwerk

HINWEIS

Wenn ein Gerät eines Drittanbieters, z. B. eine FLIR Kamera, mit einem Garmin Marinenetzwerk verbunden wird, muss ein PoE-Isolierungskoppler für das Garmin Marinenetzwerk (010-10580-10) verwendet werden. Der Anschluss eines PoE-Geräts (Power over Ethernet) direkt an einen Kartenplotter im Garmin Marinenetzwerk führt zur Beschädigung des Garmin Kartenplotters und kann zur Beschädigung des PoE-Geräts führen. Der Anschluss eines Geräts eines Drittanbieters direkt an einen Kartenplotter im Garmin Marinenetzwerk führt zu einem unerwarteten Verhalten der Garmin Geräte. Beispielsweise schalten sich die Geräte nicht ordnungsgemäß aus, oder die Software wird unbrauchbar.

Das Gerät kann mit weiteren Garmin Marinenetzwerkgeräten verbunden werden, um Daten weiterzugeben, z. B. Radar-, Echolot- und

detaillierte Kartendaten. Beachten Sie beim Verbinden von Garmin Marinenetzwerkgeräten an das Gerät folgende Hinweise.

- Alle mit dem Garmin Marinenetzwerk verbundenen Geräte müssen an die gleiche Masse angeschlossen werden. Wenn mehrere Stromquellen für Garmin Marinenetzwerkgeräte verwendet werden, müssen Sie alle Masseanschlüsse von allen Stromquellen mit einer niederohmigen Verbindung zusammenfassen oder sie mit einer gemeinsamen Erdungssammelschiene verbinden, sofern verfügbar.
- Ein Garmin Marinenetzwerk kabel muss für alle Garmin Marinenetzwerkverbindungen verwendet werden.
 - CAT5-Kabel von Drittanbietern und RJ45-Stecker dürfen nicht für Garmin Marinenetzwerkverbindungen verwendet werden.
 - Zusätzliche Garmin Marinenetzwerk kabel und Anschlüsse sind bei Ihrem Garmin Händler verfügbar.
- Die Anschlüsse NETWORK am Gerät arbeiten jeweils als Netzwerk-Switch. Kompatible Geräte können mit einem beliebigen NETWORK Anschluss verbunden werden, um Daten an alle Geräte auf dem Boot weiterzugeben, die über ein Garmin Marinenetzwerk kabel verbunden sind.

Hinweise zu NMEA 2000

HINWEIS

Wenn Sie eine Verbindung mit einem **vorhandenen** NMEA 2000 Netzwerk herstellen, identifizieren Sie das NMEA 2000 Netzkabel. Nur ein NMEA 2000 Netzkabel ist erforderlich, damit das NMEA 2000 Netzwerk ordnungsgemäß funktioniert.

Ein NMEA 2000 Stromunterbrecher (010-11580-00) sollte verwendet werden, wenn der Hersteller des vorhandenen NMEA 2000 Netzwerks nicht bekannt ist.

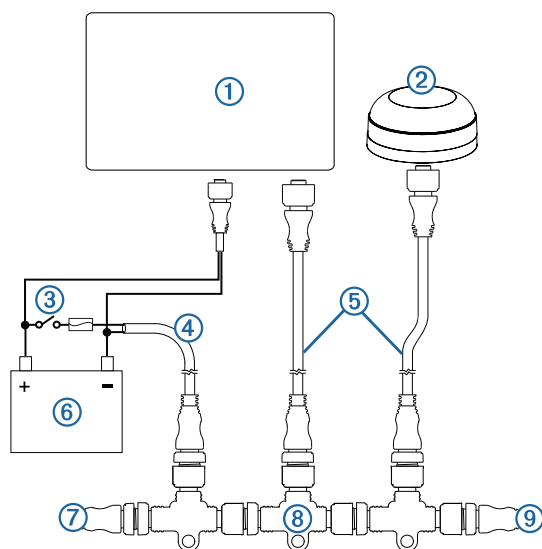
Wenn Sie ein NMEA 2000 Netzkabel anschließen, müssen Sie es an den Zündschalter des Boots oder über einen anderen Leitungsschalter anschließen. NMEA 2000 Geräte können die Batterie entladen, wenn das NMEA 2000 Netzkabel direkt an die Batterie angeschlossen ist.

Das Gerät kann mit einem NMEA 2000 Netzwerk auf dem Boot verbunden werden, um Daten von NMEA 2000 kompatiblen Geräten weiterzugeben, z. B. GPS-Antennen oder VHF-Funkgeräten. Mit den mitgelieferten NMEA 2000 Kabeln und Steckern können Sie das Gerät mit einem vorhandenen NMEA 2000 Netzwerk verbinden. Wenn noch kein NMEA 2000 Netzwerk installiert ist, können Sie mit den Kabeln von Garmin ein Basisnetzwerk erstellen.

Dieses Gerät wird nicht über das NMEA 2000 Netzwerk mit Strom versorgt. Sie müssen das Gerät mit einer Stromquelle verbinden (Anschließen des Kabelbaums an die Stromversorgung, Seite 25).

Sollten Sie nicht mit NMEA 2000 vertraut sein, lesen Sie im Dokument *Technische Informationen für NMEA 2000 Produkte* nach, das unter garmin.com/manuals/nmea_2000 verfügbar ist.

Der Anschluss NMEA 2000 dient zum Verbinden des Geräts mit einem NMEA 2000 Standardnetzwerk.



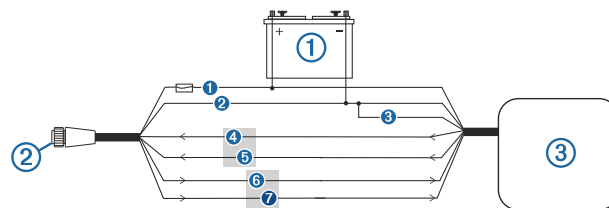
Element	Beschreibung
①	NMEA 2000 kompatibles Garmin Gerät
②	GPS-Antenne
③	Zündschalter bzw. Leitungsschalter
④	NMEA 2000 Netzkabel
⑤	NMEA 2000 Stichleitung
⑥	12-V-Gleichstromquelle
⑦	NMEA 2000 Abschlusswiderstand oder Backbone-Kabel
⑧	NMEA 2000 T-Stück
⑨	NMEA 2000 Abschlusswiderstand oder Backbone-Kabel

Hinweise für NMEA 0183 Verbindungen

- Der Kartenplotter verfügt über einen Tx-Anschluss (Senden) und einen Rx-Anschluss (Empfangen).
- Gemäß NMEA 0183 Konvention verfügt jeder Anschluss über 2 Leitungen mit den Bezeichnungen A und B. Die entsprechenden Leitungen A und B der einzelnen internen Anschlüsse sollten mit den Leitungen A (+) und B (-) des NMEA 0183 Geräts verbunden werden.
- Sie können ein NMEA 0183 Gerät über den Rx-Anschluss verbinden, um Daten auf diesen Kartenplotter zu übertragen, und Sie können drei NMEA 0183 Geräte parallel mit dem Tx-Anschluss verbinden, um von diesem Kartenplotter ausgegebene Daten zu empfangen.
- Identifizieren Sie die TX-Ausgangsleitungen und die RX-Eingangsleitungen anhand der Installationsanweisungen für das NMEA 0183 Gerät.
- Für längere Kabelwege müssen Sie ein abgeschirmtes Twisted-Pair-Kabel mit einem Leitungsquerschnitt von 22 AWG (.33 mm²) verwenden. Verlöten Sie alle Verbindungen, und dichten Sie sie mit einem Schrumpfschlauch ab.
- Sofern nicht für bestimmte Installationstypen angegeben, sollten Sie die NMEA 0183 Datenleitungen dieses Geräts nicht mit der Masse verbinden.
- Das Netzkabel von diesem Kartenplotter und den NMEA 0183 Geräten muss mit einer gemeinsamen Masse (Stromversorgung) verbunden sein.
- Die internen NMEA 0183 Anschlüsse und Übertragungsprotokolle werden über den Kartenplotter konfiguriert. Weitere Informationen finden Sie im Benutzerhandbuch des Kartenplotters im Abschnitt zu NMEA 0183.
- Eine Liste der zugelassenen NMEA 0183 Datensätze, die vom Kartenplotter unterstützt werden, finden Sie im Benutzerhandbuch des Kartenplotters.

Verbinden von NMEA 0183 Geräten

In diesem Schaltplan sind Verbindungen für die Zweizeigekommunikation zum Senden und Empfangen von Daten dargestellt. Dieser Plan kann auch für die Einzeigekommunikation verwendet werden. Für den Empfang von Informationen von einem NMEA 0183 Gerät gelten die Elemente ①, ②, ③, ④ und ⑤ beim Verbinden des Garmin Geräts. Für das Senden von Informationen an ein NMEA 0183 Gerät gelten die Elemente ①, ②, ③, ⑥ und ⑦ beim Verbinden des Garmin Geräts.



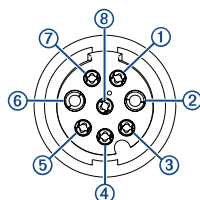
Element	Beschreibung
①	Stromversorgung
②	Netzkabel
③	NMEA 0183 Gerät
④	NMEA 0183 Kabel

Element	Funktion der Garmin Leitung	Farbe der Garmin Leitung	Funktion der Leitung des NMEA 0183 Geräts
①	Leistung	Rot	Leistung
②	Stromversorgung, Masse	Schwarz	Stromversorgung, Masse
③	Daten, Masse	Schwarz	Daten, Masse
④	Rx/A (Eingang +)	Weiß/Orange	Tx/A (Ausgang +)
⑤	Rx/B (Eingang -)	Weiß	Tx/B (Ausgang -)
⑥	Tx/A (Ausgang +)	Grau	Rx/A (Eingang +)
⑦	Tx/B (Ausgang -)	Pink	Rx/B (Eingang -)

Wenn das NMEA 0183 Gerät nur über eine Eingangsleitung (Rx) verfügt (nicht A, B, + oder -), schließen Sie die pinkfarbene Leitung nicht an.

Wenn das NMEA 0183 Gerät nur über eine Ausgangsleitung (Tx) verfügt (nicht A, B, + oder -), müssen Sie die weiße/orangefarbene Leitung mit der Masse verbinden.

Pinbelegung des NMEA 0183 und Netzkabels

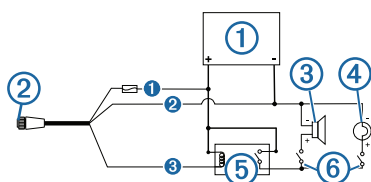


Pin-Nummer	Funktion der Leitung	Leitungsfarbe
③	NMEA 0183 Tx/A (Ausgang +)	Blau
④	NMEA 0183 Rx/A (Eingang +)	Braun
①	NMEA 0183 Tx/B (Ausgang -)	Grau
⑦	NMEA 0183 Rx/B (Eingang -)	Violett
⑤	Alarm	Gelb
⑧	Zubehör einschalten	Orange
②	Masse (Abschirmung)	Schwarz
⑥	Fahrgestellnummer	Rot

Verbindungen für Leuchte und Horn

Das Gerät kann mit einer Leuchte, einem Horn oder beidem verwendet werden, um ein akustisches oder optisches Signal auszulösen, wenn der Kartenplotter eine Meldung anzeigt. Dies ist optional, und die Alarmleitung muss nicht verwendet werden, damit das Gerät ordnungsgemäß funktioniert. Beachten Sie beim Verbinden des Geräts mit einer Leuchte oder einem Horn folgende Hinweise:

- Beim Ertönen des Alarms schaltet der Alarmstromkreis in einen Niederspannungszustand.
- Der maximale Strom beträgt 100 mA. Zur Begrenzung des Stroms vom Kartenplotter auf 100 mA ist ein Relais erforderlich.
- Wenn Sie den optischen und akustischen Alarm manuell ein- bzw. ausschalten möchten, können Sie einpolige Umschalter installieren.



Element	Beschreibung
①	Stromversorgung
②	Netzkabel
③	Horn
④	Leuchte
⑤	Relais (Spulenstrom, 100 mA)
⑥	Wechselschalter zum Aktivieren und Deaktivieren von Leuchten- oder Hornalarmen

Element	Leitungsfarbe	Funktion der Leitung
①	Rot	Einschalttaste
②	Schwarz	Masse
③	Gelb	Alarm

Hinweise zu Verbindungen mit J1939 Motornetzwerken

HINWEIS

Zum Verhindern von Korrosion durch Feuchtigkeit müssen Sie ein Garmin GPSMAP J1939 Zubehörkabel verwenden, wenn Sie den Kartenplotter mit dem J1939 Motornetzwerk verbinden. Bei Verwendung eines anderen Kabels erlischt die Garantie.

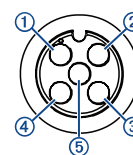
Wenn auf dem Boot bereits ein Motornetzwerk vorhanden ist, sollte es an das Stromnetz angeschlossen sein. Fügen Sie keine zusätzliche Stromversorgung hinzu.

Dieser Kartenplotter kann mit einem Motornetzwerk auf dem Boot verbunden werden, um Daten von kompatiblen Geräten zu lesen, z. B. von bestimmten Motoren. Für das Motornetzwerk gilt ein Standard, und es verwendet proprietäre Datensätze.

Sie sollten sich an den Hersteller des Motors oder Motornetzwerks wenden, wenn Sie den Kartenplotter verbinden. Bei einigen Herstellern müssen beim Verbinden evtl. Anforderungen erfüllt werden, um ein unerwartetes Verhalten zu vermeiden.

Der Anschluss J1939 dient zum Verbinden des Geräts mit dem vorhandenen Motornetzwerk. Sie müssen das Kabel in einem Abstand von maximal 6 m (20 Fuß) zum Backbone des Motornetzwerks verlegen.

Das Garmin GPSMAP J1939 Zubehörkabel muss mit einer Stromquelle verbunden und ordnungsgemäß abgeschlossen sein. Weitere Informationen zum Herstellen einer Verbindung mit dem Motornetzwerk finden Sie in der vom Hersteller bereitgestellten Dokumentation für den Motor.



Pin	Leitungsfarbe	Beschreibung
①	Blank	Abschirmung
②	Rot	Stromversorgung, positiv
③	Schwarz	Stromversorgung, negativ
④	Weiß	CAN High
⑤	Blau	CAN Low

Hinweise für Composite-Video

Dieser Kartenplotter unterstützt die Videoeingabe über den Anschluss CVBS IN. Beachten Sie beim Verbinden von Composite-Video folgende Hinweise:

- Der Anschluss CVBS IN ist ein BNC-Stecker. Sie können einen BNC-auf-RCA-Adapter verwenden, um eine Composite-Videoquelle mit RCA-Steckern mit dem Anschluss CVBS IN zu verbinden.
- Video wird über das Garmin Marinenetzwerk weitergegeben, aber nicht über das NMEA 2000 Netzwerk.

Specifications

Dimensions (W x H x D)	384.7 x 266.4 x 78 mm (15 1/8 x 10 1/2 x 3 1/16 in.)
Dimensions with cover on bail mount (W x H x D)	405.9 x 277.3 x 110 mm (16 x 10 15/16 x 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W x H)	345.2 x 194.6 mm (13 9/16 x 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 x 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ⁷
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ⁸
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN Informationen

Senden und Empfangen

PGN	Beschreibung
059392	ISO-Zulassung
059904	ISO-Anforderung
060160	ISO-Transportprotokoll: Datenübertragung
060416	ISO-Transportprotokoll: Verbindungsverwaltung
060928	ISO-Adresse angefordert
126208	Gruppenfunktion – Anforderung
126993	Takt
126996	Produktinformationen
126998	Konfigurationsinformationen
127237	Steuerkurs-/Track-Steuerung
127245	Steuerrad
127250	Schiffssteuerkurs
127258	Magnetische Missweisung
127488	Motorparameter: Schnelle Aktualisierung
127489	Motorparameter: Dynamisch
127490	Status des Elektroantriebs: Dynamisch
127491	Status der elektrischen Energiespeicherung: Dynamisch
127493	Getriebeparameter: Dynamisch
127494	Informationen zum Elektroantrieb

PGN	Beschreibung
127495	Informationen zur elektrischen Energiespeicherung
127505	Flüssigkeitsstand
127508	Akkuladestand
128002	Status des Elektroantriebs: Schnelle Aktualisierung
128003	Status der elektrischen Energiespeicherung: Schnelle Aktualisierung
128259	Geschwindigkeit: Durch Wasser
128267	Wassertiefe
129025	Position: Schnelle Aktualisierung
129026	COG und SOG: Schnelle Aktualisierung
129029	GNSS-Positionsdaten
129283	Kursversatzfehler
129284	Navigationsdaten
129285	Navigation – Informationen zu Route/Wegpunkt
129539	GNSS DOP-Werte
129540	GNSS-Satelliten in Reichweite
130060	Bezeichnung
130306	Winddaten
130310	Umweltparameter (veraltet)
130312	Temperatur (veraltet)

Senden

PGN	Beschreibung
126464	PGN-Listen-Gruppenfunktion – Senden und Empfangen
126984	Alarmantwort
127258	Magnetische Missweisung
127497	Reiseparameter: Motor
127502	Schalterbanksteuerung (VERALTET)

Empfangen

PGN	Beschreibung
065030	Durchschnittliche Strommenge des Generators (GAAC)
065240	Adressenbefehl
126983	Alarm
126985	Alarmtext
126987	Schwellenwert für Alarmer
126988	Alarmwert
126992	Systemzeit
127233	Mann über Bord
127237	Steuerkurs-/Track-Steuerung
127245	Steuerrad
127251	Kursänderung
127252	Hub
127257	Lage
127498	Motorparameter: Statisch
127501	Schalterbankstatus
127503	AC-Eingabestatus (veraltet)
127504	AC-Ausgabestatus (veraltet)
127506	Detaillierter DC-Status

⁷ Das Gerät ist bis zu einer Tiefe von 1 m bis zu 30 Minuten lang wasserdicht. Weitere Informationen finden Sie unter www.garmin.com/waterrating.

⁸ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Beschreibung
127507	Ladegerätstatus
127509	Inverterstatus
128000	Nautischer Abdriftwinkel
128275	Distanzaufzeichnung
128780	Linearer Stellantrieb
129038	Positionsmeldung der AIS-Klasse A
129039	Positionsmeldung der AIS-Klasse B
129040	AIS-Klasse B, erweiterte Positionsmeldung
129041	AIS-Navigationshilfenmeldung
129044	Kartenbezugssystem
129285	Navigation: Routen-, Wegpunktinformationen
129794	Statische Daten und Reisedaten der AIS-Klasse A
129798	AIS-SAR-Positionsmeldung für Such- und Luftrettung
129799	Hochfrequenz/-Modus/-Leistung
129802	Sicherheitsrelevante AIS-Nachricht
129808	Daten im DSC-Anruf
129809	AIS-Klasse B, „CS“-Bericht zu statischen Daten, Teil A
129810	AIS-Klasse B, „CS“-Bericht zu statischen Daten, Teil B
130067	Routen- und Wegpunktservice: Route, Wegpunktname und Position
130311	Umweltparameter (veraltet)
130313	Luftfeuchtigkeit
130314	Tatsächlicher Druck
130316	Temperatur: Erweiterter Bereich
130569	Entertainment: Aktuelle Datei und aktueller Status
130570	Entertainment: Bibliotheksdatendatei
130571	Entertainment: Bibliotheksdatengruppe
130573	Entertainment: Unterstützte Quelldaten
130574	Entertainment: Unterstützte Zonendaten
130576	Trimmklappenstatus
130577	Richtungsdaten

NMEA 0183 Informationen

Senden

Datensatz	Beschreibung
GPAPB	APB: Steuerkurs- oder Track-Controller (Autopilot), Datensatz „B“
GPBOD	BOD: Peilung (vom Ausgangspunkt zum Ziel)
GPBWC	BWC: Peilung und Distanz zum Wegpunkt
GPGGA	GGA: GPS-Festdaten
GPGLL	GLL: Geografische Position (Breiten- und Längengrad)
GPGSA	GSA: GNSS DOP und aktive Satelliten
GPGSV	GSV: GNSS-Satelliten in Reichweite
GPRMB	RMB: Empfohlene Navigations-Mindestdaten
GPRMC	RMC: Empfohlene spezielle GNSS-Mindestdaten
GP RTE	RTE: Routen
GPVTG	VTG: Kurs über Grund und Geschwindigkeit über Grund
GPWPL	WPL: Wegpunktposition
GPXTE	XTE: Kursversatzfehler
PGRME	E: Geschätzter Fehler
PGRMM	M: Kartenbezugssystem
PGRMZ	Z: Höhe

Datensatz	Beschreibung
SDDBT	DBT: Tiefe unter Geber
SDDPT	DPT: Tiefe
SDMTW	MTW: Wassertemperatur
SDVHW	VHW: Geschwindigkeit durch Wasser und Steuerkurs
TLB	Zielbezeichnung
TLL	Breiten- und Längengrad des Ziels
TTD	Daten des verfolgten Ziels
ZDA	Uhrzeit und Datum

Empfangen

Datensatz	Beschreibung
DPT	Tiefe
DBT	Tiefe unter Geber
MTW	Wassertemperatur
VHW	Geschwindigkeit durch Wasser und Steuerkurs
WPL	Wegpunktposition
DSC	Informationen zum digitalen Selektivruf
DSE	Erweiterter digitaler Selektivruf
HDG	Steuerkurs, Deklination und Missweisung
HDM	Steuerkurs, Magnetkompass
MWD	Windrichtung und -geschwindigkeit
MDA	Meteorologische Zusammenfassung
MWV	Windgeschwindigkeit und -winkel
RTE	Routen
VDM	AIS VHF Data-Link-Nachricht

Vollständige Informationen zum Format und zu den Sätzen der National Marine Electronics Association (NMEA) sind unter www.nmea.org käuflich erhältlich.

J1939 Informationen

Der Kartenplotter kann J1939 Datensätze empfangen. Der Kartenplotter kann Daten nicht über das J1939 Netzwerk senden.

Beschreibung	PGN	SPN
Motorlast-Prozentsatz bei aktuellem Tempo	61443	92
Motordrehzahl	61444	190
Motorkrümmen-Abgastemperatur – rechter Verteiler	65031	2433
Motorkrümmen-Abgastemperatur – linker Verteiler	65031	2434
Motor-Hilfskühlmittel	65172	
Aktive Diagnose-Fehlercodes	65226	
Fahrzeugdistanz	65248	
Anzeiger für Wasser im Kraftstoff	65279	
Lampe vor Start des Motors	65252	1081
Überdrehzahltest des Motors	65252	2812
Status zum Absperren der Motor-Luftzufuhr	65252	2813
Status zum Ausgeben eines Alarms für den Motor	65252	2814
Gesamtbetriebsstunden des Motors	65253	247
Navigationsbasierte Fahrzeuggeschwindigkeit	65256	517
Kraftstofftemperatur des Motors 1	65262	174
Öltemperatur des Motors 1	65262	175
Kraftstoffdruck des Motors	65263	94
Öldruck des Motors	65263	100

Beschreibung	PGN	SPN
Kühlmitteldruck des Motors	65263	109
Wassertemperatur des Motors	65263	110
Kühlmittelstand des Motors	65263	111
Kraftstoffdurchflussrate des Motors	65266	183
Durchschnittlicher Kraftstoffverbrauch des Motors	65266	185
Ansaugrohrdruck 1 des Motors	65270	102
Batteriepotenzial/Stromaufnahme 1	65271	168
Getriebeöltemperatur	65272	177
Getriebeöldruck	65272	127
Kraftstofffüllstand	65276	96
Ölfilter-Differenzdruck des Motors	65276	969

GPSMAP® 15x3

Instrucciones de instalación

Información importante sobre seguridad

⚠ ADVERTENCIA

Consulta la guía *Información importante sobre el producto y tu seguridad* que se incluye en la caja del producto y en la que encontrarás advertencias e información importante sobre el producto.

Al conectar el cable de alimentación, no retires el portafusibles en línea. Para evitar que se produzcan lesiones personales o daños en el producto por fuego o sobrecalentamiento, debe colocarse un fusible adecuado de acuerdo con las especificaciones del producto. La conexión del cable de alimentación sin el fusible adecuado anulará la garantía del producto.

No seguir estas instrucciones de instalación del dispositivo podría ocasionar lesiones o daños en la embarcación o el dispositivo, así como un rendimiento deficiente del producto.

⚠ ATENCIÓN

Para evitar posibles lesiones personales, utiliza siempre gafas de seguridad, un protector de oídos y una máscara antipolvo cuando vayas a realizar orificios, cortes o lijados.

Para evitar posibles lesiones personales o daños en el dispositivo y la embarcación, hay que desconectar la fuente de alimentación de la embarcación antes de comenzar a instalar el dispositivo.

Para evitar posibles lesiones personales o daños en el dispositivo o la embarcación, antes de conectar el dispositivo a la red eléctrica, es necesario asegurarse de que está conectado correctamente a tierra siguiendo las instrucciones de la guía.

Para evitar posibles lesiones personales o daños a este dispositivo y a la embarcación, instala este dispositivo únicamente cuando la embarcación esté en tierra o cuando esté correctamente fijada y acoplada en aguas tranquilas.

AVISO

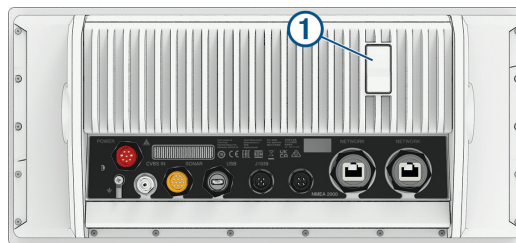
Al realizar orificios o cortes, el usuario deberá comprobar siempre lo que hay al otro lado de la superficie para evitar daños en la embarcación.

Lee todas las instrucciones de instalación antes de proceder a la misma. Si tienes dificultades con la instalación, ponte en contacto con el departamento de asistencia de Garmin.

Tools Needed

- Drill and 14 mm (9/16 in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Actualizar el software

Puede que necesites actualizar el software del plotter tras la instalación. Para obtener instrucciones sobre cómo actualizar el software, consulta el manual del usuario en garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Este dispositivo debe montarse en una ubicación que no esté expuesta a condiciones ni temperaturas extremas. El rango de temperatura para este dispositivo se indica en las especificaciones del producto. La exposición prolongada a temperaturas que superen ese rango, ya sea durante el funcionamiento o el almacenamiento, podría ocasionar daños en el dispositivo. La garantía no cubre los daños ocasionados por temperaturas extremas ni las consecuencias que se deriven de ello.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

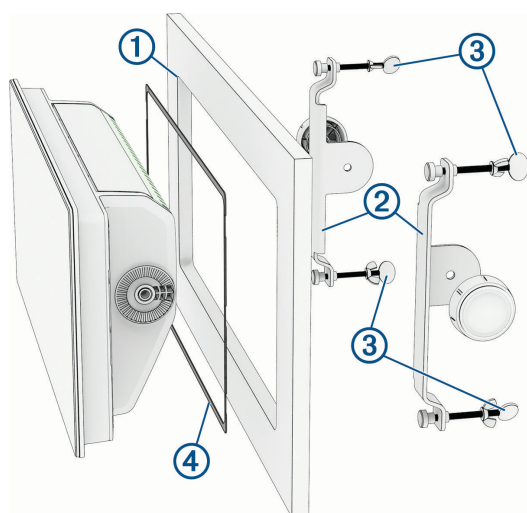
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

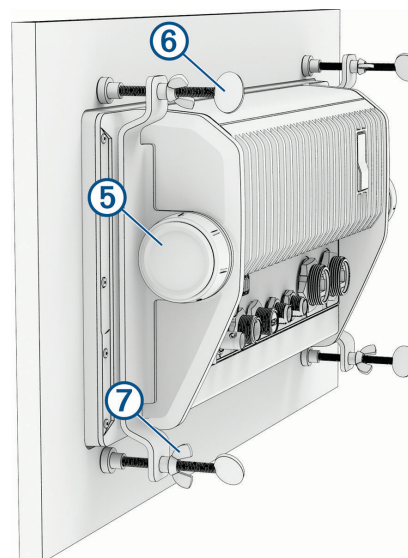
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

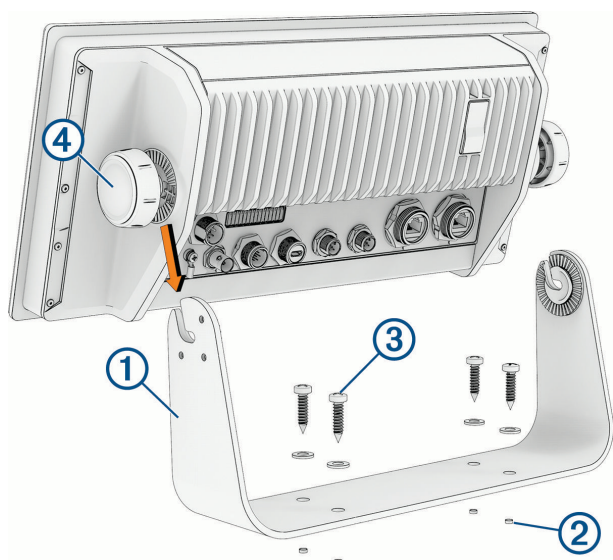
Bail Mounting the Device

NOTICE

Si el soporte se monta con tornillos en una superficie de fibra de vidrio, se recomienda utilizar una broca avellanadora para realizar un avellanado que solamente atraviese la capa superior de gelcoat. De esta forma, se evitará que se agriete la capa de gelcoat al apretar los tornillos.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



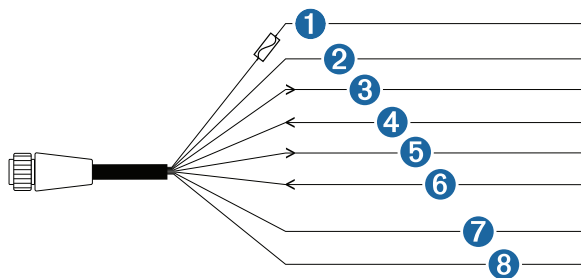
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Especificaciones sobre la conexión

Después de conectar los cables al dispositivo, aprieta los anillos de fijación para fijar cada cable.

Cable de alimentación/NMEA 0183

- El arnés de cableado conecta el dispositivo a la alimentación, a los dispositivos NMEA 0183 y a una lámpara o una bocina para alertas visibles o audibles.
- Si es necesario ampliar la extensión de los cables de alimentación y de conexión a tierra, debes utilizar el calibre de cableado adecuado para la longitud de la ampliación (Power Wire Extensions, página 32).
- Si es necesario alargar los cables de NMEA 0183 o de alarma, utiliza un cable de 22 AWG (0,33 mm²).
- Este cable ofrece un puerto de entrada y salida diferencial NMEA 0183.



Elemento	Color del cable	Función del cable
①	Rojo	Alimentación
②	Negro	Tierra (alimentación y NMEA 0183)
③	Azul	NMEA 0183 TxA (salida +)
⑤	Gris	NMEA 0183 TxB (salida -)
④	Marrón	NMEA 0183 RxA (entrada +)
⑥	Violeta	NMEA 0183 RxB (entrada -)
⑦	Naranja	Accesorio activado
⑧	Amarillo	Alarma de potencia baja

Conectar el arnés de cableado a la fuente de alimentación

⚠ ADVERTENCIA

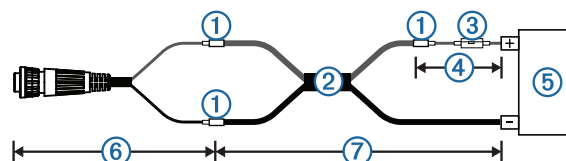
Al conectar el cable de alimentación, no retires el portafusibles en línea. Para evitar que se produzcan lesiones personales o daños en el producto por fuego o sobrecalentamiento, debe colocarse un fusible adecuado de acuerdo con las especificaciones del producto. La conexión del cable de alimentación sin el fusible adecuado anulará la garantía del producto.

- 1 Dirige el arnés de cableado a la fuente de alimentación y al dispositivo.
- 2 Conecta el cable rojo al terminal positivo (+) de la batería y conecta el cable negro (-) al terminal negativo de la batería.
- 3 Si es necesario, instala el anillo de fijación y la junta circular en el extremo del arnés de cableado.
- 4 Introduce el cable en el conector POWER, situado en la parte posterior del dispositivo, presionando con firmeza.
- 5 Gira el anillo de fijación hacia la derecha para conectar el cable al dispositivo.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Especificación adicional sobre la toma de tierra

En la mayor parte de las instalaciones, este dispositivo no necesitará ninguna toma de tierra adicional al chasis. Si se produce alguna interferencia, puedes utilizar el tornillo de toma de tierra suministrado para conectar el dispositivo a la toma de tierra al agua de la embarcación y evitar la interferencia.

GarminEspecificaciones sobre la Red náutica

AVISO

Debes usar un acoplador de aislamiento PoE de red Garmin (010-10580-10) cuando conectes un dispositivo de terceros, como una cámara FLIR, a una red Garmin. Si se conecta un dispositivo PoE (del inglés Power Over Ethernet) directamente a un plotter de la red Garmin, se podría dañar el plotter Garmin y el dispositivo PoE. Conectar cualquier dispositivo de terceros directamente a un plotter de la red Garmin provoca un comportamiento anómalo en los dispositivos Garmin, como que los dispositivos no se apaguen correctamente o el software deje de funcionar.

Este dispositivo se puede conectar a los dispositivos adicionales de la Red náutica Garmin para compartir datos como radar, sonda y mapas detallados. Ten en cuenta las siguientes especificaciones cuando vayas a conectar dispositivos de la Red náutica Garmin a este dispositivo.

- Todos los dispositivos conectados a la red Garmin se deben conectar a la misma toma de tierra. Si se utilizan varias fuentes de alimentación para los dispositivos de la Red náutica Garmin, debes unir todas las conexiones de toma de tierra de todas las fuentes de alimentación mediante una conexión de baja resistencia o unir las a una barra colectora de toma de tierra común, si está disponible.
- Se debe utilizar un cable de red Garmin para todas las conexiones de la red Garmin.
 - No se deben utilizar cables CAT5 ni conectores RJ45 de terceros para las conexiones de la Red náutica Garmin.
 - Puedes encontrar más cables y conectores de la Red náutica Garmin en tu distribuidor de Garmin.
- Los puertos NETWORK del dispositivo actúan como conmutadores de redes. Puedes conectar cualquier dispositivo compatible a los puertos NETWORK para compartir datos con todos los dispositivos de la embarcación conectados con un cable de la Red náutica Garmin.

Consideraciones sobre NMEA 2000

AVISO

Si se realiza la conexión con una red NMEA 2000 **existente**, es necesario localizar el cable de alimentación NMEA 2000. Solo es necesario un cable de alimentación NMEA 2000 para que la red NMEA 2000 funcione adecuadamente.

Debe utilizarse un aislante de línea NMEA 2000 (010-11580-00) en las instalaciones en las que se desconozca el fabricante de la red NMEA 2000 existente.

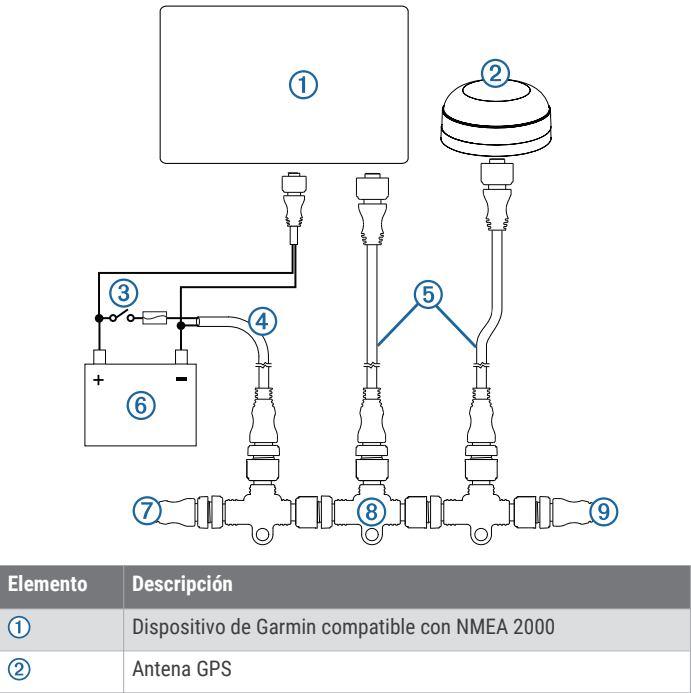
Si se va a instalar un cable de alimentación NMEA 2000, hay que conectarlo al interruptor de encendido de la embarcación o a través de otro interruptor en línea. Los dispositivos NMEA 2000 agotarán la batería si el cable de alimentación NMEA 2000 se conecta directamente a esta.

Este dispositivo puede conectarse a una red NMEA 2000 de la embarcación para compartir datos con dispositivos compatibles con NMEA 2000 como una antena GPS o una radio VHF. Los cables y conectores NMEA 2000 incluidos te permiten conectar el dispositivo a tu red NMEA 2000. Si no dispones de una red NMEA 2000, puedes crear una básica utilizando los cables de Garmin.

Este dispositivo no recibe alimentación de la red NMEA 2000. Debes conectar el dispositivo a una fuente de alimentación (Conectar el arnés de cableado a la fuente de alimentación, página 32).

Si no estás familiarizado con NMEA 2000, te recomendamos que consultes la *Referencia técnica para productos NMEA 2000* en garmin.com/manuals/nmea_2000.

El puerto etiquetado como NMEA 2000 se utiliza para conectar el dispositivo a una red NMEA 2000 estándar.



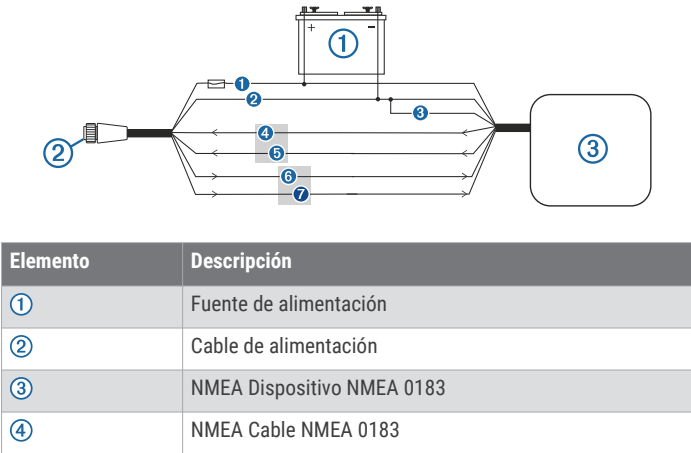
Elemento	Descripción
③	Interruptor de encendido o en línea
④	Cable de alimentación NMEA 2000
⑤	Cable de caída de voltaje NMEA 2000
⑥	Fuente de alimentación de 12 V de CC
⑦	Terminador o cable principal NMEA 2000
⑧	Conector en T NMEA 2000
⑨	Terminador o cable principal NMEA 2000

Especificaciones sobre la conexión NMEA 0183

- El plotter proporciona un puerto Tx (de transmisión) y un puerto Rx (de recepción).
- Cada puerto tiene 2 cables, denominados A y B, según la convención NMEA 0183. Debes conectar los cables A y B correspondientes de cada puerto interno a los cables A (+) y B (-) del dispositivo NMEA 0183.
- Puedes conectar un dispositivo NMEA 0183 al puerto Rx para introducir datos en el plotter y puedes conectar hasta tres dispositivos NMEA 0183 en paralelo al puerto Tx para recibir datos a través del plotter.
- Consulta las instrucciones de instalación del dispositivo NMEA 0183 para localizar los cables de transmisión (Tx) y recepción (Rx).
- Debes utilizar un cable de par trenzado blindado de 22 AWG (.33 mm²) para ampliar el cableado. Sueda todas las conexiones y sállalas con un tubo de aislamiento.
- A menos que se indique para tipos de instalaciones específicos, no conectes los cables de datos NMEA 0183 de este dispositivo a una toma de tierra.
- El cable de alimentación del plotter y los dispositivos NMEA 0183 deben conectarse a una toma de tierra normal.
- Los puertos internos NMEA 0183 y los protocolos de comunicación están configurados en el plotter. Consulta la sección NMEA 0183 del manual del usuario del plotter para obtener más información.
- Consulta el manual del usuario del plotter para obtener una lista de las sentencias NMEA 0183 admitidas por el plotter.

NMEA Conexiones del dispositivo 0183

Este diagrama muestra conexiones bidireccionales para el envío y la recepción de datos. También puedes utilizar este diagrama para las comunicaciones unidireccionales. Para recibir información de un dispositivo NMEA 0183, consulta los puntos ①, ②, ③, ④, y ⑤ cuando conectes el dispositivo Garmin. Para transmitir información a un dispositivo NMEA 0183, consulta los puntos ①, ②, ③, ⑥ y ⑦ cuando conectes el dispositivo Garmin.

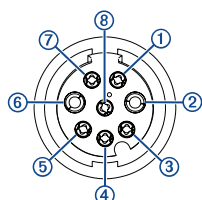


Elemento	Función del hilo del sistema Garmin	Color de los hilos del sistema Garmin	NMEA Función del cable del dispositivo compatible con 0183
①	Encendido/apagado	Rojo	Encendido/apagado
②	Tierra	Negro	Tierra
③	Tierra de datos	Negro	Tierra de datos
④	Rx/A (Entrada +)	Blanco/naranja	Tx/A (Salida +)
⑤	Rx/B (Entrada -)	Blanco	Tx/B (Salida -)
⑥	Tx/A (Salida +)	Gris	Rx/A (Entrada +)
⑦	Tx/B (Salida -)	Rosa	Rx/B (Entrada -)

Si el dispositivo NMEA 0183 solo tiene un cable de entrada (recepción, Rx) (no A, B, + ni -), debes dejar el cable rosa sin conectar.

Si el dispositivo NMEA 0183 solo tiene un cable de salida (transmisión, Tx) (no A, B, + ni -), debes conectar el cable blanco/naranja a tierra.

NMEA Asignación de patillas del cable de alimentación y NMEA 0183

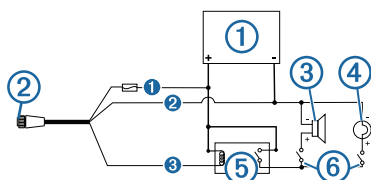


Número de pin	Función del cable	Color del cable
③	NMEA 0183 Tx/A (salida +)	Azul
④	NMEA 0183 Rx/A (entrada +)	Marrón
①	NMEA 0183 Tx/B (salida -)	Gris
⑦	NMEA 0183 Rx/B (entrada -)	Violeta
⑤	Alarma	Amarillo
⑧	Accesorio activado	Naranja
②	Tierra (blindaje)	Negro
⑥	VIN	Rojo

Conexiones de lámpara y bocina

El dispositivo se puede utilizar con una lámpara, una bocina o ambas para indicar una alerta con un sonido o un destello cuando el plotter muestra un mensaje. Esta configuración es opcional y no es necesario usar el cable de la alarma para que el dispositivo funcione con normalidad. Ten en cuenta las siguientes especificaciones cuando vayas a conectar el dispositivo a una lámpara o bocina.

- El circuito de alarma cambia al estado de bajo voltaje cuando suena la alarma.
- La corriente máxima es de 100 mA y es necesario un relé para limitar la corriente del plotter a 100 mA.
- Para cambiar entre alertas visuales y audibles manualmente, puedes instalar interruptores unidireccionales y unipolares.



Elemento	Descripción
①	Fuente de alimentación
②	Cable de alimentación
③	Bocina
④	Lámpara
⑤	Relé (corriente de bobina de 100 mA)
⑥	Interruptores de encendido y apagado para activar y desactivar las alertas de la lámpara y la bocina

Elemento	Color del cable	Función del cable
①	Rojo	Encendido/apagado
②	Negro	Tierra
③	Amarillo	Alarma

Especificaciones sobre la conexión de una red de motor J1939

AVISO

Utiliza un cable opcional Garmin GPSMAP J1939 al conectar el plotter a la red de motor J1939 para evitar que se produzca corrosión debido a la humedad. El uso de un cable diferente anula la garantía.

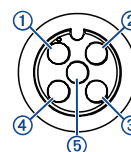
Si la embarcación dispone de una red de motor, ya debería estar conectada a la alimentación. No añadas ninguna fuente de alimentación adicional.

Este plotter se puede conectar a una red de motor en la embarcación para leer datos de dispositivos compatibles, como determinados motores. La red de motor sigue un estándar y utiliza mensajes de propietario.

Consulta al fabricante del motor o la red de motor cuando conectes el plotter. Algunos fabricantes pueden tener requisitos que debes seguir a la hora de conectarlo para evitar un comportamiento inesperado.

El puerto etiquetado como J1939 se utiliza para conectar el dispositivo a una red de motor existente. Debes instalar el cable a menos de 6 m (20 ft) del cable principal de la red de motor.

El cable accesorio Garmin GPSMAP J1939 requiere una conexión a una fuente de alimentación, así como una terminación correcta. Para obtener más información sobre la conexión con la red de motor, consulta la documentación de fabricante del motor.



Pin	Color del cable	Descripción
①	Desnudo	Protección
②	Rojo	Alimentación, positivo
③	Negro	Alimentación, negativo
④	Blanco	CAN High
⑤	Azul	CAN Low

Especificaciones de vídeo compuesto

Este plotter permite la entrada de vídeo de fuentes de vídeo compuesto mediante el puerto denominado CVBS IN. Al conectar vídeo compuesto, debes tener en cuenta las siguientes especificaciones.

- El puerto CVBS IN utiliza un conector BNC. Puedes utilizar un adaptador BNC a RCA para conectar una fuente de vídeo compuesto con conectores RCA al puerto CVBS IN.
- El vídeo se comparte a través de la Red náutica Garmin, pero no se comparte a través de la red NMEA 2000.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ⁹
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ¹⁰
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

Información PGN de NMEA 2000

Transmitir y recibir

PGN	Descripción
059392	Confirmación de ISO
059904	Solicitud de ISO
060160	Protocolo de transporte ISO: transferencia de datos
060416	Protocolo de transporte ISO: gestión de conexión
060928	Dirección de ISO solicitada
126208	Solicitar la función del grupo
126993	Frecuencia cardíaca
126996	Información del producto
126998	Información de configuración
127237	Rumbo/control de track
127245	Timón
127250	Rumbo de la embarcación
127258	Variación magnética
127488	Parámetros de motor: actualización rápida
127489	Parámetros de motor: dinámicos
127490	Estado de la transmisión eléctrica: dinámico
127491	Estado de almacenamiento de energía eléctrica: dinámico
127493	Parámetros de transmisión: dinámicos

PGN	Descripción
127494	Información de la transmisión eléctrica
127495	Información de almacenamiento de energía eléctrica
127505	Nivel de líquido
127508	Estado de la batería
128002	Estado de la transmisión eléctrica: actualización rápida
128003	Estado del almacenamiento de energía eléctrica: actualización rápida
128259	Velocidad: referenciada sobre el agua
128267	Profundidad del agua
129025	Posición: actualización rápida
129026	Rumbo GPS y velocidad GPS: actualización rápida
129029	Datos de posición GNSS
129283	Error de cross track
129284	Datos de navegación
129285	Navegación: información de ruta/waypoint
129539	DOP de GNSS
129540	Satélites GNSS a la vista
130060	Etiqueta
130306	Datos del viento
130310	Parámetros medioambientales (obsoleto)
130312	Temperatura (obsoleto)

Transmitir

PGN	Descripción
126464	Grupo de funciones Transmitir/Recibir lista PGN
126984	Respuesta de alerta
127258	Variación magnética
127497	Parámetros de la ruta: motor
127502	Control del circuito de interruptores (NO RECOMENDADO)

Recibir

PGN	Descripción
065030	Cantidades de CA básica media del generador (Generator average basic AC quantities, GAAC)
065240	Dirección de comandos
126983	Alerta
126985	Texto de alerta
126987	Umbral de alerta
126988	Valor de alerta
126992	Hora del sistema
127233	Hombre al agua
127237	Rumbo/control de track
127245	Timón
127251	Tasa de giro
127252	Arfada
127257	Movimiento
127498	Parámetros de motor: estáticos
127501	Estado del circuito de interruptores
127503	Estado de entrada de CA (obsoleto)

⁹ El dispositivo resiste la inmersión accidental en el agua a una profundidad de hasta 1 m durante un máximo de 30 minutos. Para obtener más información, visita www.garmin.com/waterrating.

¹⁰ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Descripción
127504	Estado de salida de CA (obsoleto)
127506	Estado detallado de CC
127507	Estado del cargador
127509	Estado del conversor
128000	Ángulo de abatimiento náutico
128275	Registro de distancia
128780	Actuador lineal
129038	Informe de posición AIS Clase A
129039	Informe de posición AIS Clase B
129040	Informe de posición ampliado AIS Clase B
129041	Informe de ayuda a la navegación AIS (AtoN)
129044	Datum
129285	Navegación: ruta, información del waypoint
129794	AIS Clase A, datos de rumbo y estáticos
129798	Informe de posición AIS de avión SAR
129799	Frecuencia/modo/potencia de la radio
129802	Mensaje de emisión de seguridad AIS
129808	Información de llamada DSC
129809	Informe de datos estáticos AIS Clase B "CS", parte A
129810	Informe de datos estáticos AIS Clase B "CS", parte B
130067	Servicio de ruta y waypoint: nombre y posición de la ruta y waypoint
130311	Parámetros medioambientales (obsoleto)
130313	Humedad
130314	Presión real
130316	Temperatura: alcance ampliado
130569	Diversión: archivo actual y estado
130570	Diversión: archivo de datos de la biblioteca
130571	Diversión: grupo de datos de la biblioteca
130573	Diversión: datos de origen compatibles
130574	Diversión: datos de zona compatibles
130576	Estado de compensadores de ajuste
130577	Datos de dirección

Información sobre NMEA 0183

Transmitir

Sentencia	Descripción
GPAPB	APB: rumbo o control de track (piloto automático) sentencia "B"
GPBOD	BOD: rumbo (de origen a destino)
GPBWC	BWC: rumbo y distancia al waypoint
GPGGA	GGA: datos de posición del sistema de posicionamiento global
GPGLL	GLL: posición geográfica (latitud y longitud)
GPGSA	GSA: DOP de GNSS y satélites activos
GPGSV	GSV: satélites GNSS a la vista
GPRMB	RMB: información mínima de navegación recomendada
GPRMC	RMC: datos específicos de GNSS mínimos recomendados
GPRTE	RTE: rutas
GPVTG	VTG: trayectoria sobre tierra y velocidad sobre tierra
GPWPL	WPL: ubicación del waypoint
GPXTE	XTE: error de cross track
PGRME	E: error estimado

Sentencia	Descripción
PGRMM	M: datum del mapa
PGRMZ	Z: altitud
SDDBT	DBT: profundidad bajo transductor
SDDPT	DPT: profundidad
SDMTW	MTW: temperatura del agua
SDVHW	VHW: velocidad en el agua y rumbo
TLB	Etiqueta del objetivo
TLL	Latitud y longitud del objetivo
TTD	Datos del objetivo seguido
ZDA	Hora y fecha

Recibir

Sentencia	Descripción
DPT	Profundidad
DBT	Profundidad bajo transductor
MTW	Temperatura del agua
VHW	Velocidad en el agua y rumbo
WPL	Ubicación del waypoint
DSC	Información de llamada selectiva digital
DSE	Llamada selectiva digital extendida
HDG	Rumbo, desviación y variación
HDM	Rumbo, magnético
MWD	Dirección y velocidad del viento
MDA	Compuesto de datos meteorológicos
MWV	Velocidad y ángulo del viento
RTE	Rutas
VDM	Mensaje de enlace de datos VHF AIS

Puedes adquirir información completa sobre el formato y las sentencias de la Asociación Nacional de Electrónica Marina de EE. UU. (National Marine Electronics Association, NMEA) en www.nmea.org.

Información sobre J1939

El plotter puede recibir sentencias de J1939. El plotter no puede transmitir a través de la red J1939.

Descripción	PGN	SPN
Porcentaje de carga de motor a la velocidad actual	61443	92
Régimen del motor	61444	190
Temperatura de gases de escape del colector del motor: colector derecho	65031	2433
Temperatura de gases de escape del colector del motor: colector izquierdo	65031	2434
Refrigerante auxiliar de motor	65172	
Códigos de problemas con diagnóstico activo	65226	
Distancia de vehículo	65248	
Indicador de agua en el combustible	65279	
Indicador de espera para arranque del motor	65252	1081
Prueba de exceso de velocidad del motor	65252	2812
Estado del comando de desconexión del aire del motor	65252	2813
Estado del comando de señal de alarma del motor	65252	2814
Total de horas de funcionamiento del motor	65253	247
Velocidad del vehículo basada en la navegación	65256	517

Descripción	PGN	SPN
Temperatura del combustible del motor 1	65262	174
Temperatura del aceite del motor 1	65262	175
Presión del suministro de combustible del motor	65263	94
Presión del aceite del motor	65263	100
Presión del refrigerante del motor	65263	109
Temperatura del refrigerante del motor	65263	110
Nivel de refrigerante del motor	65263	111
Tasa de combustible del motor	65266	183
Consumo medio del motor	65266	185
Presión del colector de admisión del motor 1	65270	102
Potencial eléctrico/entrada de alimentación 1	65271	168
Temperatura del aceite de transmisión	65272	177
Presión del aceite de transmisión	65272	127
Nivel de combustible	65276	96
Presión diferencial del filtro de aceite del motor	65276	969

GPSMAP® 15x3

Instruções de instalação

Informações importantes sobre segurança

⚠ ATENÇÃO

Consulte o guia *Informações importantes sobre segurança e sobre o produto* na caixa do produto para obter mais detalhes sobre avisos e outras informações importantes.

Ao conectar o cabo de alimentação, não remova o porta-fusíveis em linha. Para evitar a possibilidade de ferimentos pessoais ou danos ao produto causados por incêndio ou superaquecimento, o fusível apropriado deverá estar no local, conforme indicado nas especificações do produto. Conectar o cabo de alimentação sem o fusível apropriado anula a garantia do produto.

Não instalar este dispositivo de acordo com estas instruções pode causar lesões corporais, danos à embarcação ou ao dispositivo ou desempenho inadequado do produto.

⚠ CUIDADO

Para evitar possíveis lesões corporais, sempre use óculos de segurança, protetores auriculares e uma máscara contra poeira ao perfurar, cortar ou lixar.

Para evitar possíveis lesões corporais ou danos ao dispositivo e à embarcação, desconecte a fonte de alimentação da embarcação antes de começar a instalar o dispositivo.

Para evitar possíveis lesões corporais ou danos ao dispositivo ou à embarcação, antes de ligar o dispositivo, certifique-se de que ele tenha sido adequadamente aterrado, seguindo as instruções do manual.

Para evitar possíveis lesões pessoais ou danos a este dispositivo e esta embarcação, só instale o dispositivo quando a embarcação estiver em terra firme ou devidamente ancorada em condições de águas calmas.

AVISO

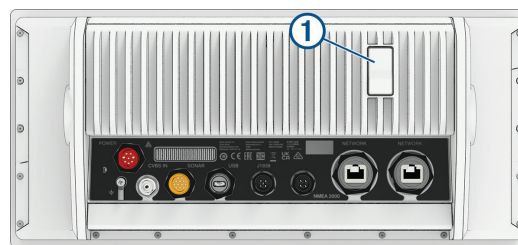
Ao fazer perfurações ou cortes, sempre verifique o que está no lado oposto da superfície para evitar danificar a embarcação.

Leia todas as instruções de instalação antes de dar continuidade à instalação. Se enfrentar dificuldades durante a instalação, entre em contato com o Suporte ao Produto Garmin.

Tools Needed

- Drill and 14 mm ($9/16$ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Atualização do software

Pode ser necessário atualizar o software do chartplotter após a instalação. Para obter instruções sobre como atualizar o software, consulte o manual do proprietário em garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Este dispositivo deve ser montado em um local não exposto a temperaturas ou condições extremas. A faixa de temperatura para este dispositivo está listada nas especificações do produto. Caso o dispositivo seja exposto a temperaturas acima do limite especificado durante o armazenamento ou uso prolongado, podem ocorrer falhas. Danos causados por temperaturas extremas ou consequências relacionadas não são cobertos pela garantia.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

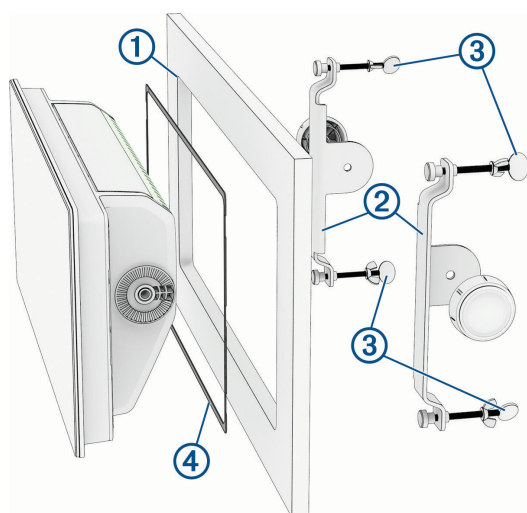
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

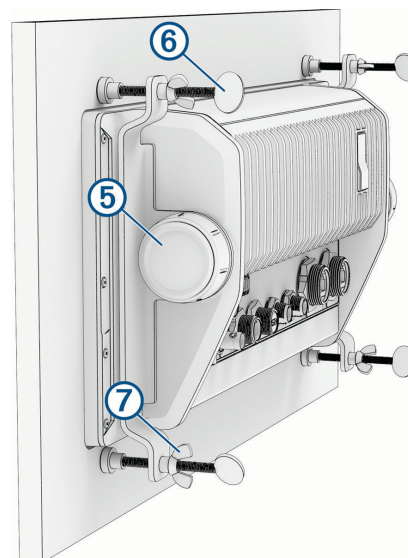
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

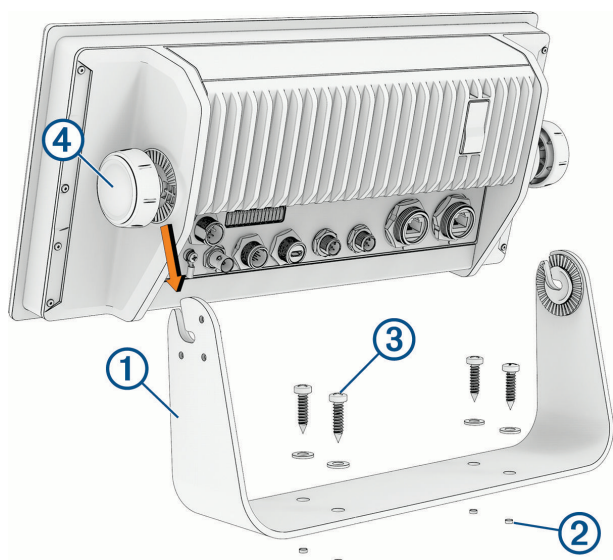
Bail Mounting the Device

NOTICE

Se você estiver montando o suporte em fibra de vidro com parafusos, é recomendável usar um rebaixamento de espaçamento apenas através da camada de Gel-Coat superior. Isso ajudará a evitar rachaduras nessa camada quando os parafusos forem apertados.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



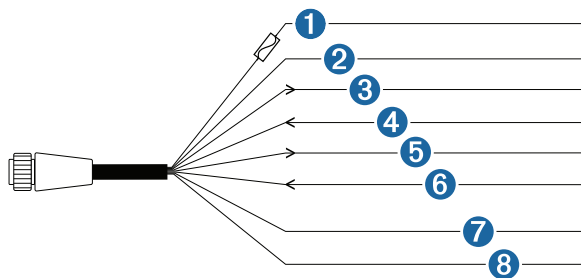
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Considerações sobre a conexão

Depois de conectar os cabos ao dispositivo, aperte os anéis de fixação para prender cada cabo.

Cabo de força/NMEA 0183

- A cablagem liga o dispositivo à alimentação, a dispositivos NMEA 0183 e ainda a uma lâmpada ou buzina para alertas visíveis ou audíveis.
- Se for necessário estender os fios de alimentação e de aterramento, você deverá usar um calibre apropriado para o tamanho da extensão (Power Wire Extensions, página 39).
- Se for necessário aumentar os cabos NMEA 0183 ou de alarme, use um cabo de 0,33 mm² (22 AWG).
- Este cabo oferece uma porta de entrada e saída diferencial do NMEA 0183.



Item	Cor do fio	Função do fio
①	Vermelho	Liga/desliga
②	Preto	Aterramento (alimentação e NMEA 0183)
③	Azul	NMEA 0183 TxA (Saída +)
⑤	Cinza	NMEA 0183 TxB (Saída -)
④	Marrom	NMEA 0183 RxA (Entrada +)
⑥	Violeta	NMEA 0183 RxB (Entrada -)
⑦	Laranja	Ativação de acessório
⑧	Amarelo	Alarme de baixo nível

Conectar o cabeamento à alimentação

⚠ ATENÇÃO

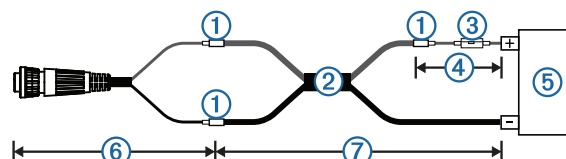
Ao conectar o cabo de alimentação, não remova o porta-fusíveis em linha. Para evitar a possibilidade de ferimentos pessoais ou danos ao produto causados por incêndio ou superaquecimento, o fusível apropriado deverá estar no local, conforme indicado nas especificações do produto. Conectar o cabo de alimentação sem o fusível apropriado anula a garantia do produto.

- 1 Encaminhe o cabeamento para a alimentação e para o dispositivo.
- 2 Conecte o fio vermelho ao terminal positivo (+) da bateria, e o fio preto ao terminal negativo (-).
- 3 Se necessário, instale o anel de fixação e o anel O-ring na extremidade do cabeamento.
- 4 Insira o cabo no conector POWER na parte de trás do dispositivo, pressionando com firmeza.
- 5 Gire o anel de fixação no sentido horário para prender o cabo no dispositivo.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	• Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire • Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire • Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Consideração adicional sobre encaixe

Este dispositivo não deve precisar de encaixe adicional na maioria das situações de instalação. Se houver interferência, o parafuso de encaixe no compartimento poderá ser usado para conectar o dispositivo ao aterramento na água para ajudar a evitar a interferência.

Garmin Considerações sobre a Rede marítima

AVISO

Um Acoplador de isolamento PoE (P/N 010-10580-10) da Garmin deve ser usado ao conectar qualquer dispositivo de terceiros, como uma câmera FLIR, a uma Rede marítima Garmin. Conectar um dispositivo Power over Ethernet (PoE) diretamente a um chartplotter da Rede marítima Garmin danifica o chartplotter Garmin e pode danificar o dispositivo PoE. Conectar qualquer dispositivo de terceiros diretamente a um chartplotter da Rede marítima Garmin causará um comportamento anormal nos dispositivos Garmin, incluindo os dispositivos não serem corretamente desligados ou o software se tornar inoperável.

Este dispositivo pode ser conectado a dispositivos de Rede marítima Garmin adicionais para compartilhar dados como radar, sonar e mapeamento detalhado. Ao conectar dispositivos de Rede marítima Garmin este dispositivo, observe as seguintes considerações.

- Todos os dispositivos conectados à Rede marítima Garmin devem ser conectados ao mesmo aterramento. Se várias fontes de alimentação forem usadas nos dispositivos de Rede marítima Garmin, você deverá unir todas as conexões terrestres de todas as fontes de alimentação com uma conexão de baixa resistência ou prendê-las em um barramento elétrico distribuição de aterramento comum, se disponível.
- Um cabo de Rede marítima Garmin deve ser usado para todas as conexões de Rede marítima Garmin.
 - Cabo CAT5 e conectores RJ45 de terceiros não devem ser usados para conexões de Rede marítima Garmin.
 - Cabos e conectores de Rede marítima Garmin adicionais estão disponíveis com o seu revendedor Garmin.
- Cada uma das portas NETWORK no dispositivo age como uma chave de rede. Qualquer dispositivo compatível pode ser conectado a qualquer porta NETWORK para compartilhar dados com todos os dispositivos na embarcação conectados por um cabo de Rede marítima Garmin.

Considerações sobre NMEA 2000

AVISO

Se estiver conectado a uma rede **existente** NMEA 2000, identifique o cabo de alimentação do NMEA 2000. Somente um cabo de alimentação do NMEA 2000 é necessário para a rede NMEA 2000 operar adequadamente.

Um isolador de energia (010-11580-00) NMEA 2000 deve ser usado em instalações em que o fabricante da rede NMEA 2000 existente seja desconhecido.

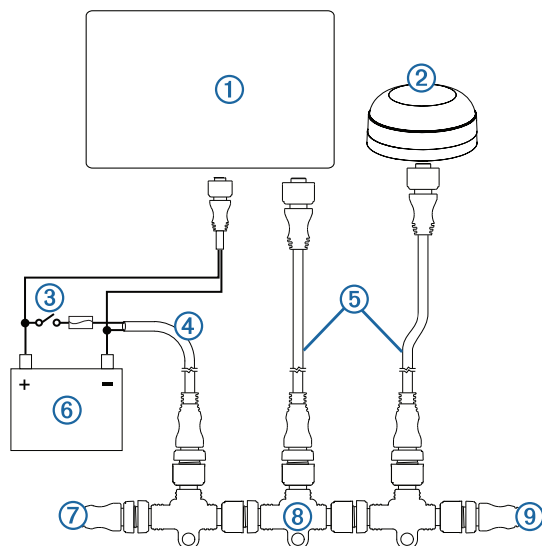
Se estiver instalando um cabo de alimentação NMEA 2000, ligue-o ao interruptor da ignição da embarcação ou através de outro interruptor em série. Os dispositivos NMEA 2000 descarregarão sua bateria se o cabo de alimentação NMEA 2000 for conectado diretamente à bateria.

Este dispositivo pode ser conectado a uma rede NMEA 2000 na sua embarcação para compartilhar dados de dispositivos NMEA 2000 compatíveis, como uma antena de GPS ou um rádio VHF. Os conectores e cabos do NMEA 2000 incluídos permitem-lhe ligar o dispositivo à sua rede NMEA 2000 existente. Se você não tem uma rede NMEA 2000 existente, é possível criar uma básica com cabos de Garmin.

Este dispositivo não é alimentado pela rede NMEA 2000. Você deve conectar o dispositivo a uma fonte de alimentação (Conectar o cabeamento à alimentação, página 39).

Se você não tiver familiaridade com a NMEA 2000, confira a *Referência técnica para produtos NMEA 2000* disponível em garmin.com/manuals/nmea_2000.

A porta identificada como NMEA 2000 é utilizada para conectar o dispositivo a uma rede NMEA 2000 padrão.



Item	Descrição
①	Dispositivo Garmin compatível com NMEA 2000
②	Antena de GPS

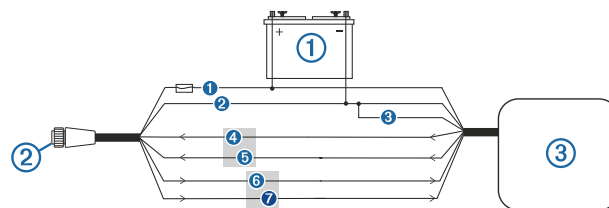
Item	Descrição
③	Interruptor em linha ou ignição
④	Cabo de alimentação da NMEA 2000
⑤	Cabo de rede da NMEA 2000
⑥	Fonte de alimentação de 12 VCC
⑦	Terminador ou cabo backbone da NMEA 2000
⑧	Conector em T da NMEA 2000
⑨	Terminador ou cabo backbone da NMEA 2000

Considerações sobre conexão do NMEA 0183

- O chartplotter fornece uma porta Tx (transmissor) e uma porta Rx (receptor).
- Cada porta tem 2 fios, identificados como A e B de acordo com a convenção NMEA 0183. Os fios A e B correspondentes de cada porta interna devem ser conectados aos fios A (+) e B (-) do dispositivo NMEA 0183.
- Você pode conectar um dispositivo NMEA 0183 na porta Rx para entrada de dados nesse chartplotter e conectar até três dispositivos NMEA 0183 paralelamente na porta Tx para receber saída de dados desse chartplotter.
- Consulte as instruções de instalação para o dispositivo NMEA 0183 para identificar os fios de transmissão (Tx) e recepção (Rx).
- Você deve usar fios de pares trançados e revestidos de 22 AWG (.33 mm²) para séries de fios estendidos. Solde todas as conexões e lacre-as com tubo de isolamento termorretrátil.
- A menos que haja instruções para tipos de instalação específicos, não conecte os fios de dados NMEA 0183 deste dispositivo a um aterramento.
- O cabo de alimentação do chartplotter e dos dispositivos NMEA 0183 devem estar conectados a um aterramento comum.
- As portas internas do NMEA 0183 e os protocolos de comunicação são configurados no chartplotter. Consulte a seção NMEA 0183 do manual do proprietário do chartplotter para obter mais informações.
- Consulte o manual do proprietário do chartplotter para ver uma lista das frases do NMEA 0183 aprovadas compatíveis com o chartplotter.

NMEA Conexões do dispositivo 0183

Este diagrama ilustra conexões emissoras e receptoras para o envio e o recebimento de dados. Você também pode usar este diagrama para comunicações de sentido único. Para receber informações de um dispositivo NMEA 0183, consulte os itens ①, ②, ③, ④ e ⑤ ao conectar o dispositivo Garmin. Para transmitir informações para um dispositivo NMEA 0183, consulte os itens ①, ②, ③, ⑥ e ⑦ ao conectar o dispositivo Garmin.



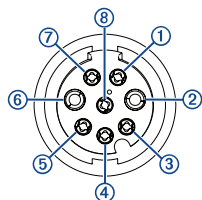
Item	Descrição
①	Fonte de alimentação
②	Cabo de força
③	NMEA Dispositivo 0183
④	NMEA Cabo 0183

Item	Garmin Função do fio	Garmin Cor do fio	NMEA Função do fio do dispositivo 0183
①	Liga/desliga	Vermelho	Liga/desliga
②	Aterramento	Preto	Aterramento
③	Aterramento de dados	Preto	Aterramento de dados
④	Rx/A (In +)	Branco/laranja	Tx/A (Out +)
⑤	Rx/B (In -)	Branco	Tx/B (Out -)
⑥	Tx/A (Out +)	Cinza	Rx/A (In +)
⑦	Tx/B (Out -)	Rosa	Rx/B (In -)

Se o dispositivo NMEA 0183 tiver apenas um fio de entrada (receptor, Rx) (e não tiver A, B, + ou -), você deve deixar o fio rosa desconectado.

Se o dispositivo NMEA 0183 tiver apenas um fio de saída (transmissor, Tx) (e não tiver A, B, + ou -), você deve conectar o fio branco/laranja ao aterramento.

NMEA 0183 e pinout do cabo de energia

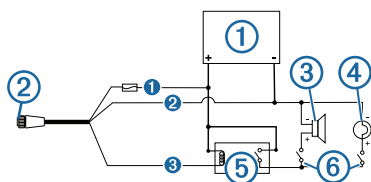


Número do Pin	Função do fio	Cor do fio
③	NMEA 0183 Tx/A (Saída +)	Azul
④	NMEA 0183 Rx/A (Entrada +)	Marrom
①	NMEA 0183 Tx/B (Saída -)	Cinza
⑦	NMEA 0183 Rx/B (Entrada -)	Violeta
⑤	Alarme	Amarelo
⑧	Ativação de acessório	Laranja
②	Aterramento (revestido)	Preto
⑥	VIN	Vermelho

Conexões de lâmpada e sirene

O dispositivo pode ser usado com uma lâmpada, uma sirene ou ambas, para emitir som ou alertar quando o plotador de gráficos exibe uma mensagem. Isto é opcional e o cabo de alarme não é necessário para que o dispositivo funcione normalmente. Ao conectar o dispositivo a uma lâmpada ou sirene, observe estas considerações.

- O circuito de alarme assume um estado de baixa voltagem quando o alarme soa.
- A corrente máxima é 100 mA, e é necessário um relé para limitar a corrente do plotador de gráficos a 100 mA.
- Para alterar manualmente entre alertas visuais e sonoros, você pode instalar chaves unipolares de uma posição.



Item	Descrição
①	Fonte de alimentação
②	Cabo de força
③	Sirene
④	Lâmpada
⑤	Relé (serpentina de 100 mA)
⑥	Alternar chaves para ativar ou desativar alertas visuais ou sonoros

Item	Cor do fio	Função do fio
①	Vermelho	Potência
②	Preto	Aterramento
③	Amarelo	Alarme

Considerações sobre conexão de rede do motor J1939

AVISO

Você deve utilizar um cabo acessório Garmin GPSMAP J1939 ao conectar o chartplotter à rede J1939 para evitar corrosão devido a umidade. Utilizar um cabo diferente anula a garantia.

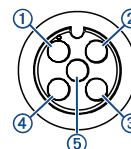
Se você tiver uma rede de motor na sua embarcação, ela já deverá estar conectada à alimentação. Não utilize fontes de alimentação adicionais.

Este chartplotter pode ser conectado a uma rede de motor no seu barco para ler dados de dispositivos compatíveis como determinados motores. A rede de motor segue um padrão e usa mensagens proprietárias.

Você deve consultar o fabricante do seu motor ou rede do motor ao conectar o chartplotter. Alguns fabricantes podem ter requisitos que você deve seguir ao se conectar para evitar comportamentos inesperados.

A porta identificada como J1939 é usada para conectar o dispositivo à rede de motor existente. Você deve parrar o cabo 6 m (20 pés) longe do backbone de rede do motor.

O cabo acessórios Garmin GPSMAP J1939 precisa de conexão com uma fonte de energia e terminação correta. Para obter mais informações sobre como se conectar à rede do motor, consulte a documentação do motor enviada pelo fabricante.



Pino	Cor do fio	Descrição
①	Desencapado	Blindagem
②	Vermelho	Energia, positivo
③	Preto	Energia, negativo
④	Branco	CAN Alto
⑤	Azul	CAN Baixo

Considerações sobre vídeo composto

Este chartplotter permite entrada de vídeo de fontes de vídeo composto usando a porta identificada como CVBS IN. Ao conectar o vídeo composto, observe estas considerações.

- A porta CVBS IN usa um conector BNC. Você pode usar um adaptador BNC para RCA para conectar uma fonte de vídeo composto com conectores RCA à porta CVBS IN.
- O vídeo é compartilhado pela Rede marítima Garmin, mas não é compartilhado pela rede NMEA 2000.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹¹
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ¹²
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

Informações sobre o PGN da NMEA 2000

Transmissão e recepção

PGN	Descrição
059392	Reconhecimento da ISO
059904	Solicitação da ISO
060160	Protocolo de transporte ISO: transferência de dados
060416	Protocolo de transporte ISO: gerenciamento de conexão
060928	Endereço ISO solicitado
126208	Solicitar função de grupo
126993	Batimentos cardíacos
126996	Informações do produto
126998	Informações de configuração
127237	Controle de rumo/trajeto
127245	Leme
127250	Direção da embarcação
127258	Variação magnética
127488	Parâmetros do motor: atualização rápida
127489	Parâmetros do motor: dinâmico
127490	Estado da transmissão elétrica: dinâmico
127491	Estado do armazenamento de energia elétrica: dinâmico
127493	Parâmetros de transmissão: dinâmico
127494	Informação da transmissão elétrica

PGN	Descrição
127495	Informações de armazenamento de energia elétrica
127505	Nível de fluidos
127508	Status da bateria
128002	Estado da transmissão elétrica: atualização rápida
128003	Estado do armazenamento de energia elétrica: atualização rápida
128259	Velocidade: com referência a água
128267	Profundidade da água
129025	Posição: atualização rápida
129026	COG e SOG: atualização rápida
129029	Dados de posição do GNSS
129283	Erro de trajeto cruzado
129284	Dados sobre navegação
129285	Navegação – Informações de rota/ponto de parada
129539	DOPS do GNSS
129540	Satélites do GNSS na visualização
130060	Rótulo
130306	Dados sobre o vento
130310	Parâmetros ambientais (obsoleto)
130312	Temperatura (obsoleto)

Transmissão

PGN	Descrição
126464	Função de grupo de listas do PGN de transmissão e recepção
126984	Resposta a alertas
127258	Variação magnética
127497	Parâmetros de viagem: motor
127502	Controle do banco de interruptores (DESCONTINUADO)

Recepção

PGN	Descrição
065030	Gerador de quantidades médias de CA básico (GAAC)
065240	Endereço comandado
126983	Alerta
126985	Texto do alerta
126987	Limite de alerta
126988	Valor do alerta
126992	Hora do sistema
127233	Homem ao mar
127237	Controle de rumo/trajeto
127245	Leme
127251	Incidência da curva
127252	Arfagem
127257	Atitude
127498	Parâmetros do motor: estáticos
127501	Status do banco de interruptores
127503	Status de entrada CA (obsoleto)
127504	Status de saída CA (obsoleto)
127506	Status detalhado CC

¹¹ O dispositivo é resistente a exposição acidental à água de até 1 m de profundidade por até 30 min. Para obter mais informações, acesse www.garmin.com/waterrating.

¹² Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Descrição
127507	Status do carregador
127509	Status do inversor
128000	Ângulo de manobra náutica
128275	Registro de distância
128780	Atuador linear
129038	Relatório de posição do AIS classe A
129039	Relatório de posição do AIS classe B
129040	Relatório de posição estendida do AIS classe B
129041	O AIS ajuda no relatório de navegação (AtoN)
129044	Linha de referência
129285	Navegação: Informações de rota, ponto de parada
129794	Dados relacionados a viagens e estática do AIS classe A
129798	Relatório da posição de aeronave AIS SAR
129799	Frequência/modo/energia do rádio
129802	Mensagem relacionada com a segurança AIS
129808	Informações de chamada DSC
129809	Relatório de dados de estática do AIS classe B "CS", parte A
129810	Relatório de dados de estática do AIS classe B "CS", parte B
130067	Serviço de rota e ponto de parada: nome e posição da rota e do ponto de parada
130311	Parâmetros ambientais (obsoleto)
130313	Umidade
130314	Pressão real
130316	Temperatura: Alcance estendido
130569	Entretenimento: Arquivo atual e status
130570	Entretenimento: Arquivo de dados da biblioteca
130571	Entretenimento: Grupo de dados da biblioteca
130573	Entretenimento: Dados de origem suportados
130574	Entretenimento: Dados de zona suportados
130576	Status de trimagem
130577	Dados de direção

Informações sobre o NMEA 0183

Transmissão

Frase	Descrição
GPAPB	APB: título ou sentença do controlador de trajeto (piloto automático) "B"
GPBOD	BOD: variação (da origem ao destino)
GPBWC	BWC: variação e distância para a parada
GPGGA	GGA: dados fixos de sistema de posicionamento global
GPGLL	GLL: posição geográfica (latitude e longitude)
GPGSA	GSA: GNSS DOP e satélites ativos
GPGSV	GSV: satélites do GNSS na visualização
GPRMB	RMB: informações de navegação mínimas recomendadas
GPRMC	RMC: dados mínimos do GNSS específicos recomendados
GP RTE	RTE: rotas
GPVTG	VTG: curso sobre o solo e velocidade no solo
GPWPL	WPL: local da parada
GPXTE	XTE: erro de trajeto cruzado
PGRME	E: erro estimado

Frase	Descrição
PGRMM	M: linha de referência do mapa
PGRMZ	Z: altitude
SDDBT	DBT: profundidade abaixo do transdutor
SDDPT	DPT: profundidade
SDMTW	MTW: temperatura da água
SDVHW	VHW: direção e velocidade da água
TLB	Rótulo de destino
TLL	Latitude e longitude de destino
TTD	Dados de destino rastreados
ZDA	Data e hora

Recepção

Frase	Descrição
DPT	Profundidade
DBT	Profundidade abaixo do transdutor
MTW	Temperatura da água
VHW	Direção e velocidade da água
WPL	Local do ponto de parada
DSC	Informações de chamada seletiva digital
DSE	Chamada seletiva digital expandida
HDG	Direção, desvio e variação
HDM	Direção, magnética
MWD	Direção e velocidade do vento
MDA	Composto meteorológico
MWV	Velocidade e ângulo do vento
RTE	Rotas
VDM	Mensagem de data link VHF do AIS

Você pode obter informações completas sobre o formato e sentenças da National Marine Electronics Association (NMEA) em www.nmea.org.

Informações sobre o J1939

O chartplotter pode receber sentenças do J1939. O chartplotter não pode transmitir pela rede J1939.

Descrição	PGN	SPN
Porcentagem de carga do motor na velocidade atual	61443	92
Velocidade do motor	61444	190
Temperatura do gás de escape do coletor do motor - coletor direito	65031	2433
Temperatura do gás de escape do coletor do motor - coletor esquerdo	65031	2434
Resfriamento automático do motor	65172	
Códigos de problema do diagnóstico ativo	65226	
Distância do veículo	65248	
Indicador de água no combustível	65279	
Luz para aguardar a partida do motor	65252	1081
Teste de motor em relação à velocidade	65252	2812
Status do comando de desligamento de ar do motor	65252	2813
Status do comando de saída do alarme do motor	65252	2814
Total de horas de operação do motor	65253	247
Velocidade do veículo baseada na navegação	65256	517
Temperatura do combustível do motor 1	65262	174

Descrição	PGN	SPN
Temperatura do óleo do motor 1	65262	175
Pressão de fornecimento de combustível do motor	65263	94
Pressão do óleo do motor	65263	100
Pressão do líquido de resfriamento do motor	65263	109
Temperatura do líquido de resfriamento do motor	65263	110
Nível de resfriamento do motor	65263	111
Taxa de combustível do motor	65266	183
Economia média de combustível do motor	65266	185
Pressão do coletor de admissão #1 do motor	65270	102
Entrada de energia/potência da bateria 1	65271	168
Temperatura do óleo da transmissão	65272	177
Pressão do óleo da transmissão	65272	127
Nível de combustível	65276	96
Pressão diferencial do filtro de óleo do motor	65276	969

GPSMAP® 15x3 Installationsvejledning

Vigtige sikkerhedsoplysninger

⚠ ADVARSEL

Se guiden *Vigtige produkt- og sikkerhedsinformationer* i æsken med produktet for at se produktadvarsler og andre vigtige oplysninger.

Ved tilslutning af strømkablet må du ikke fjerne inline-sikringsholderen. Den korrekte sikring skal være placeret som vist i produktspecifikationerne for at undgå risiko for personskade eller produktskade pga. brand eller overophedning. Tilslutning af strømkablet uden den korrekte sikring på rette plads vil gøre produktgarantien ugyldig.

Hvis denne enhed ikke monteres i henhold til denne vejledning, kan det medføre personskade, beskadigelse af fartøjet eller enheden eller ringe produktydelse.

⚠ FORSIGTIG

Bær altid beskyttelsesbriller, høreværn og støvmaske, når du borer, skærer eller sliber, for at undgå personskade.

Frakobl fartøjets strømforsyning, før du begynder at installere enheden, for at undgå mulig personskade eller skader på enheden og fartøjet.

Før du tænder for strømmen til enheden, skal du sørge for, at den er korrekt jordet i henhold til instruktionerne i vejledningen for at undgå mulig personskade eller beskadigelse af enheden eller fartøjet.

For at undgå mulig personskade eller beskadigelse af denne enhed og fartøjet, må denne enhed kun monteres, når fartøjet er på land, eller når det er korrekt fastgjort og docket i stille vand.

BEMÆRK

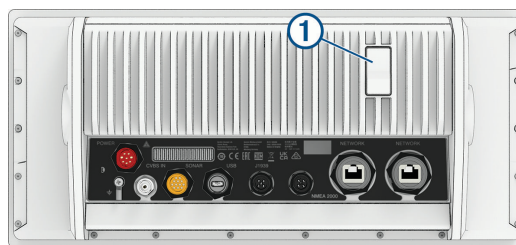
Når du borer eller skærer, skal du altid kontrollere, hvad der er på den anden side af overfladen, for at undgå skader på dit fartøj.

Læs hele installationsvejledningen, før du fortsætter med installationen. Hvis der opstår problemer under installationen, skal du kontakte Garmin produktsupport.

Tools Needed

- Drill and 14 mm (9/16 in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Softwareopdatering

Du skal muligvis opdatere plottersoftwaren efter installationen. Se brugervejledningen på garmin.com/manuals/gpsmap15x3/ for at få instruktioner til, hvordan du opdaterer softwaren.

Mounting Considerations

NOTICE

Denne enhed skal monteres på et sted, der ikke er udsat for ekstreme temperaturer eller betingelser. Temperaturområdet for denne enhed er angivet i produktspecifikationerne. Længere tids påvirkning ved temperaturer uden for det angivne temperaturområde, ved opbevaring eller drift, kan forårsage fejl på enheden. Fejl og relaterede konsekvenser, der skyldes ekstreme temperaturer, er ikke dækket af garantien.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

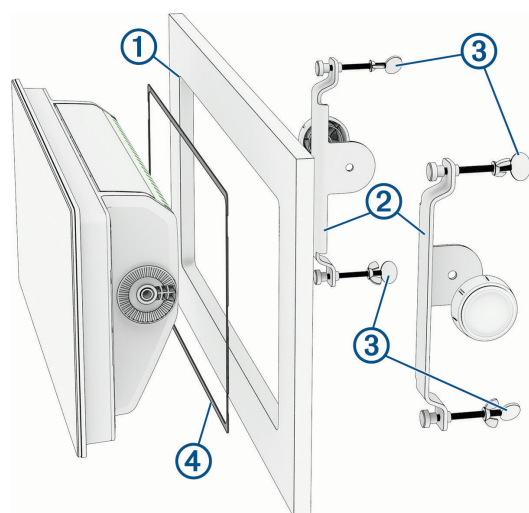
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

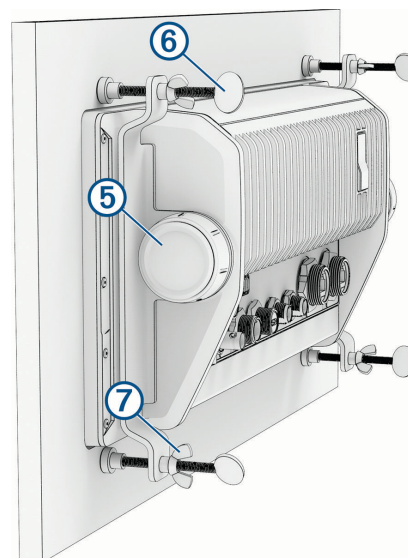
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

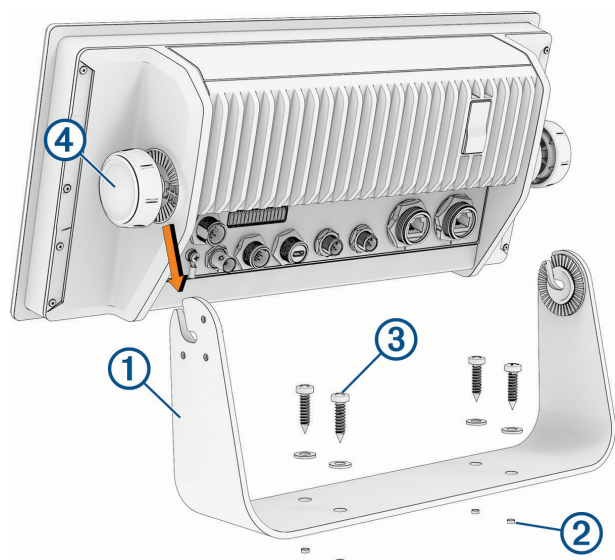
Bail Mounting the Device

NOTICE

Hvis du monterer beslaget på fiberglas med skruer, anbefales det at bruge et forsænkningshoved til at bore en frigangsforsækning i kun det øverste lag af gelcoat. Dette modvirker, at gelcoat-laget revner, når du strammer skruerne.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



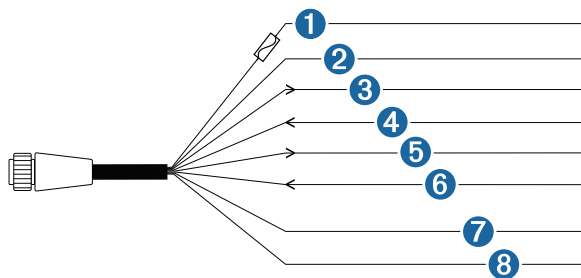
- 1 Drill the pilot holes.
- 2 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 3 Install the bail-mount knobs ② on the sides of the device.
- 4 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Overvejelser ved tilslutning

Når du har tilsluttet kablerne til enheden, skal du stramme låseringene for at fastgøre hvert kabel.

Strøm-/NMEA 0183-kabel

- Ledningsnettet forbinder enheden til strøm, NMEA 0183-enheder og en lampe eller et horn til alarmlys eller lydalarmer.
- Hvis det er nødvendigt at forlænge strøm- og stelledningen, skal du bruge et ledningsmål, der passer til forlængelsen (Power Wire Extensions, side 46).
- Hvis det er nødvendigt at forlænge NMEA 0183-ledningerne eller alarmledningerne, skal du bruge 22 AWG (0,33 mm²)-ledning.
- Dette kabel indeholder en differential NMEA 0183-indgangs- og udgangsport.



Element	Ledningsfarve	Ledningsfunktion
①	Rød	Tænd/sluk
②	Sort	Jord (strøm og NMEA 0183)
③	Blå	NMEA 0183 TxA (Ud +)
⑤	Grå	NMEA 0183 TxB (Ud -)
④	Brun	NMEA 0183 RxA (Ind +)
⑥	Violet	NMEA 0183 RxB (Ind -)
⑦	Orange	Tilbehør til
⑧	Gul	Alarm lav

Tilslutning af ledningsnettet til strøm

⚠ ADVARSEL

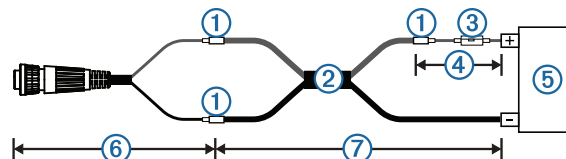
Ved tilslutning af strømkablet må du ikke fjerne inline-sikringsholderen. Den korrekte sikring skal være placeret som vist i produktspecifikationerne for at undgå risiko for personskafe eller produktskafe pga. brand eller overophedning. Tilslutning af strømkablet uden den korrekte sikring på rette plads vil gøre produktgarantien ugyldig.

- 1 Før ledningsnettet til en strømkilde og til enheden.
- 2 Tilslut den røde ledning til den positive (+) batteriterminal, og tilslut den sorte ledning til den negative (-) batteriterminal.
- 3 Monter om nødvendigt låseringen og O-ringen på enden af ledningsnettet.
- 4 Sæt kablet ind i POWER-stikket på bagsiden af enheden, og skub det godt på plads.
- 5 Drej låseringen med uret for at sætte kablet fast til enheden.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	• Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire • Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire • Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Yderligere overvejelser om jording

Enheden skulle ikke have behov for yderligere jording til stel i de fleste installationer. Hvis der opleves interferens, kan jordingskruen på huset bruges til at forbinde enheden til bådens vandjordskredsløb for at undgå interferensen.

Garmin Marine Network - overvejelser

BEMÆRK

En Garmin Marine Network PoE-koblingsenhed til isolering (010-10580-10) skal anvendes ved tilslutning af en eventuel tredjepartsenhed, som f.eks. et FLIR kamera, til et Garmin Marine Network. Tilslutning af en Power over Ethernet-enhed (PoE) direkte til en Garmin Marine Network-plotter ødelægger Garmin plotteren og kan ødelægge PoE-enheden. Hvis der tilsluttes en eventuel tredjepartsenhed direkte til en Garmin Marine Network plotter, vil det forårsage unormal adfærd på Garmin enhederne, herunder de enheder, der ikke slukker korrekt, eller softwaren bliver ubrugelig.

Enheden kan tilsluttes til yderligere Garmin Marine Network-enheder, der deler data, f.eks. radar, sonar og detaljerede kort. Når du tilslutter Garmin Marine Network-enheder til denne enhed, skal du tage højde for nedenstående:

- Alle enheder, der er sluttet til Garmin Marine Network skal sluttes til samme jordforbindelse. Hvis der bruges flere strømkilder til Garmin

Marine Network-enheder, skal du binde alle jordforbindelser fra alle strømforsyninger sammen ved hjælp af en tilslutning med lav modstand eller forbinde dem til en fælles stelsamleskinne, hvis en sådan er tilgængelig.

- Der skal bruges et Garmin Marine Network-kabel til alle Garmin Marine Network-tilslutninger.
 - Der må ikke bruges CAT5-kabel og RJ45-stik fra tredjepart til Garmin Marine Network-forbindelser.
 - Du kan købe yderligere Garmin Marine Network-kabler og -stik hos din Garmin forhandler.
- NETWORK portene på enheden, fungerer hver især som en netværksswitch. En hvilken som helst kompatibel enhed kan tilsluttes til en hvilken som helst NETWORK-port, så det er muligt at dele data med alle enheder på båden, der er tilsluttet med et Garmin Marine Network-kabel.

Overvejelser omkring NMEA 2000

BEMÆRK

Hvis du opretter forbindelse til et **eksisterende** NMEA 2000 netværk, skal du identificere NMEA 2000 strømkablet. Du behøver kun et NMEA 2000 strømkabel for at NMEA 2000 netværket kan anvendes.

En NMEA 2000 Power Isolator (010-11580-00) skal bruges i installationer, hvor den eksisterende NMEA 2000 netværksudbyder er ukendt.

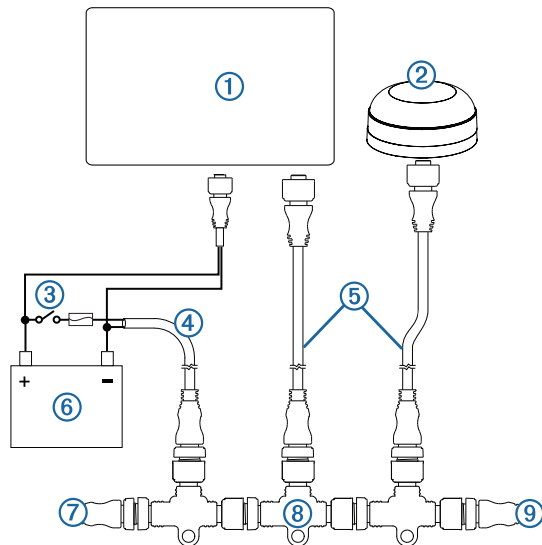
Hvis du monterer et NMEA 2000 strømkabel, skal du tilslutte det til bådens tændingskontakt eller gennem en anden serieafbryder. NMEA 2000 enheder vil dræne batteriet, hvis NMEA 2000 strømkablet tilsluttes direkte til batteriet.

Enheden kan tilsluttes til et NMEA 2000 netværk på din båd, så den kan dele data fra NMEA 2000 kompatible enheder, f.eks. en GPS-antenne eller en VHF-radio. Brug de medfølgende NMEA 2000 kabler og stik til at slutte enheden til dit eksisterende NMEA 2000 netværk. Hvis du ikke har et eksisterende NMEA 2000 netværk, kan du oprette et grundlæggende et med kablerne fra Garmin.

Denne enhed strømforsynes ikke via NMEA 2000 netværket. Du skal slutte enheden til en strømkilde (Tilslutning af ledningsnettet til strøm, side 46).

Hvis du ikke er fortrolig med NMEA 2000, bør du læse *Teknisk reference for NMEA 2000 produkter* på garmin.com/manuals/nmea_2000.

Porten, der er mærket NMEA 2000, bruges til at tilslutte enheden til et NMEA 2000 standardnetværk.



Element	Beskrivelse
①	NMEA 2000 kompatibel Garmin enhed
②	GPS-antenne
③	Tænding eller serieafbryder
④	NMEA 2000 strømkabel
⑤	NMEA 2000 dropkabel
⑥	12 V DC-strømkilde

Element	Beskrivelse
⑦	NMEA 2000 terminator eller backbonekabel
⑧	NMEA 2000 T-stik
⑨	NMEA 2000 terminator eller backbonekabel

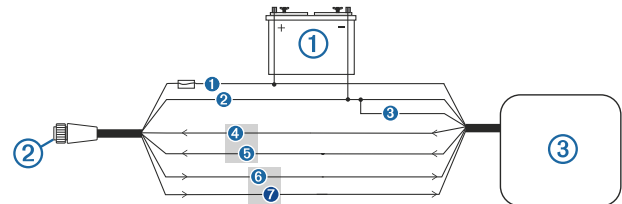
NMEA 0183 overvejelser om tilslutning

- Kortplotteren har en Tx-port (sender) og en Rx-port (modtager).
- Hver port har 2 ledninger med påskriften A og B ifølge NMEA 0183-konventionen. De tilsvarende ledninger A og B i hver intern port skal forbindes til ledningerne A (+) og B (-) på NMEA 0183-enheden.
- Du kan tilslutte én NMEA 0183-enhed til Rx-porten, så du kan sende data til denne kortplotter, og du kan tilslutte op til tre NMEA 0183-enheder parallelt til Tx-porten, så de kan modtage dataoutput fra denne kortplotter.
- Se installationsvejledningen for NMEA 0183-enheden for at identificere sende- (Tx) og modtageledningen (Rx).
- Du skal bruge 22 AWG (.33 mm²) ledninger, der er skærmede og snoede, hvis du behøver længere ledninger. Lod alle forbindelser, og forsegl dem med varmekrymperør.
- Medmindre du får besked om bestemte monteringsstyper, bør du ikke tilslutte NMEA 0183 datakablerne fra denne enhed til jordforbindelse.
- Strømkablet fra kortplotteren og NMEA 0183-enhederne skal være tilsluttet til et almindeligt jordkabel.
- De interne NMEA 0183-porte og kommunikationsprotokoller konfigureres på kortplotteren. Se NMEA 0183-afsnittet i brugervejledningen til kortplotteren for at få flere oplysninger.
- Se brugervejledningen for kortplotteren for at få vist en liste over de godkendte NMEA 0183-sætninger, som plotteren understøtter.

NMEA 0183-enhedsforbindelser

Diagrammet viser tovejsforbindelser til både at sende og modtage data.

Du kan også bruge diagrammet til envejskommunikation. For at modtage oplysninger fra en NMEA 0183 enhed skal du følge punkterne ①, ②, ③, ④ og ⑤ for at oprette forbindelse til Garmin enheden. For at sende oplysninger til en NMEA 0183 enhed, skal du følge punkterne ①, ②, ③, ⑥ og ⑦ for at oprette forbindelse til Garmin enheden.



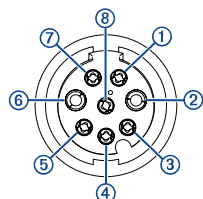
Element	Beskrivelse
①	Strømkilde
②	Strømkabel
③	NMEA 0183-enhed
④	NMEA 0183-kabel

Element	Ledningsfunktion Garmin	Ledningsfarve Garmin	NMEA 0183 - Funktion af ledninger
①	Tænd/sluk	Rød	Tænd/sluk
②	Strøm jord	Sort	Strøm jord
③	Data jord	Sort	Data jord
④	Rx/A (Ind +)	Hvid/orange	Tx/A (Ud +)
⑤	Rx/B (Ind -)	Hvid	Tx/B (Ud -)
⑥	Tx/A (Ud +)	Grå	Rx/A (Ind +)
⑦	Tx/B (Ud -)	Pink	Rx/B (Ind -)

Hvis NMEA 0183 enheden kun har én indgangsledning (modtage, Rx) (ingen A, B, + eller -), skal du ikke tilslutte den lyserøde ledning.

Hvis NMEA 0183 enheden kun har én udgangsledning (sende, Tx) (ingen A, B, + eller -), skal du tilslutte den hvide/orange ledning til jord.

NMEA 0183 og strømkabeldiagram

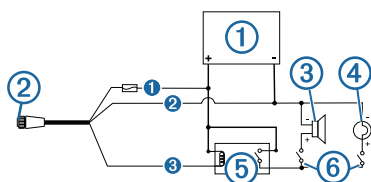


Ben-nummer	Ledningsfunktion	Ledningsfarve
③	NMEA 0183 Tx/A (Ud+)	Blå
④	NMEA 0183 Rx/A (Ind +)	Brun
①	NMEA 0183 Tx/B (Ud -)	Grå
⑦	NMEA 0183 Rx/B (Ind -)	Violet
⑤	Alarm	Gul
⑧	Tilbehør til	Orange
②	Jord (skærm)	Sort
⑥	VIN	Rød

Lampe- og horntilslutninger

Enheden kan bruges med en lampe, et horn eller begge dele for at afgive en lyd eller et lysglimt, når plotteren viser en meddelelse. Dette er valgfrit, og alarmledningen er ikke nødvendig, for at enheden fungerer normalt. Når du tilslutter enheden til en lampe eller et horn, skal du tage højde for nedenstående:

- Alarmkredsløbet skifter til en tilstand med lav spænding, når alarmer lyder.
- Den maksimale strøm er 100 mA, og der kræves et relæ for at begrænse strømmen fra plotteren til 100 mA.
- Hvis du vil skifte manuelt mellem visuelle alarmer og lydalarmer, kan du installere enpoledede SPST-afbrydere.



Element	Beskrivelse
①	Strømkilde
②	Strømkabel
③	Horn
④	Lampe
⑤	Relæ (100 mA spolestrom)
⑥	Tænd og sluk kontakterne for at aktivere og deaktivere advarsler med lampe eller horn

Element	Ledningsfarve	Ledningsfunktion
①	Rød	Tænd/sluk
②	Sort	Jord
③	Gul	Alarm

Overvejelser om J1939 motornetværksforbindelse

BEMÆRK

Du skal bruge et Garmin GPSMAP J1939 tilbehørskabel, når du slutter plotteren til J1939 motornetværket for at undgå korrosion forårsaget af fugt. Hvis du bruger et andet kabel, bortfalder garantien.

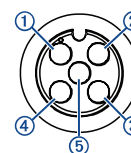
Hvis du har et eksisterende motornetværk på din båd, skulle det allerede være tilsluttet strømforsyningen. Tilslut ikke yderligere strømforsyning.

Denne plotter kan sluttes til et motornetværk på båden og læse data fra kompatible enheder, som f.eks. bestemte motorer. Motornetværket følger en standard og anvender ophavsretligt beskyttede meddelelser.

Kontakt producenten af motoren eller motornetværket, når du tilslutter kortplotteren. Nogle producenter kan have krav, du skal følge, når du tilslutter for at undgå uventet adfærd.

Porten, der er mærket J1939, bruges til at slutte enheden til det eksisterende motornetværk. Du skal føre kablet op til 6 m (20 fod) væk fra motornetværkets backbone.

Tilbehørskablet Garmin GPSMAP J1939 kræver forbindelse til en strømkilde og korrekt afslutning. Der er yderligere oplysninger om tilslutning af motornetværk i forhandlerens motorvejledning.



Ben	Ledningsfarve	Beskrivelse
①	Uisoleret	Afskærmning
②	Rød	Strøm, positiv
③	Sort	Strøm, negativ
④	Hvid	CAN High
⑤	Blå	CAN Low

Kompositvideoovervejelser

Denne plotter tillader videoindgang fra kompositvideokilder ved hjælp af porten, der er mærket CVBS IN. Når kompositvideo tilsluttes, skal du følge disse overvejelser.

- CVBS IN porten anvender et BNC-stik. Du kan bruge en BNC til RCA-adapter til at forbinde en kompositvideokilde med RCA-stik til CVBS IN porten.
- Video deles på tværs af Garmin Marine Network, men deles ikke på tværs af NMEA 2000 netværket.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting

Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹³
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ¹⁴
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN-oplysninger

Send og modtag

PGN	Beskrivelse
059392	ISO-bekræftelse
059904	ISO-anmodning
060160	ISO-transportprotokol: dataoverførsel
060416	ISO-transportprotokol: administration af tilslutning
060928	ISO-adresse påkrævet
126208	Anmod om gruppefunktion
126993	Puls
126996	Produktoplysninger
126998	Konfigurationsoplysninger
127237	Retnings-/sporstyring
127245	Ror
127250	Fartøjsretning
127258	Magnetisk variation
127488	Motorparametre: hurtig opdatering
127489	Motorparametre: dynamiske
127490	Status for elektrisk drev: Dynamisk
127491	Status for lagring af elektrisk energi: Dynamisk
127493	Gearparametre: dynamiske
127494	Oplysninger om elektrisk drev
127495	Oplysninger om lagring af elektrisk energi
127505	Væskenniveau
127508	Batteristatus
128002	Status for elektrisk drev: Hurtig opdatering
128003	Status for elektrisk lagring af energi: Hurtig opdatering
128259	Hastighed: i forhold til vand
128267	Vanddybde
129025	Position: hurtig opdatering
129026	COG/SOG: hurtig opdatering
129029	GNSS-positionsdata
129283	Cross Track-fejl
129284	Navigationsdata
129285	Navigation - rute-/waypoint-oplysninger
129539	GNSS DOP'er
129540	Antal synlige GNSS-satellitter

PGN	Beskrivelse
130060	Etiket
130306	Vinddata
130310	Miljøparametre (forældet)
130312	Temperatur (forældet)

Send

PGN	Beskrivelse
126464	Send og modtag gruppefunktion for PGN-oversigt
126984	Alarmsvar
127258	Magnetisk variation
127497	Tripparametre: motor
127502	Kontaktstyring (FRARÅDT)

Modtag

PGN	Beskrivelse
065030	Gennemsnitligt vekselstrømsforbrug for generator (GAAC)
065240	Anmodet adresse
126983	Alarm
126985	Alarmtekst
126987	Tærskelværdi for alarm
126988	Alarmværdi
126992	Systemtid
127233	Mand over bord
127237	Retnings-/sporstyring
127245	Ror
127251	Drejehastighed
127252	Hæv
127257	Attitude
127498	Motorparametre: statiske
127501	Status for kontaktstyring
127503	Status for vekselstrømsindgang (forældet)
127504	Status for vekselstrømsudgang (forældet)
127506	Detaljeret vekselstrømsstatus
127507	Opladerstatus
127509	Inverterstatus
128000	Nautisk afdriftsvinkel
128275	Afstandslog
128780	Lineær aktuator
129038	AIS Klasse A - positionsrapport
129039	AIS Klasse B - positionsrapport
129040	AIS Klasse B - udvidet positionsrapport
129041	AIS navigationshjælpemidler (AtoN) rapport
129044	Referencepunkt
129285	Navigation: Rute-/waypoint-oplysninger
129794	AIS Klasse A - statiske og trafikrelaterede data
129798	AIS SAR flyposition
129799	Radiofrekvens/-tilstand/-effekt
129802	AIS SRM (sikkerhedsrelaterede beskeder)

¹³ Enheden tåler hændelig udsættelse for vand op til 1 meter i op til 30 minutter. Du kan finde flere oplysninger på www.garmin.com/waterrating.

¹⁴ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Beskrivelse
129808	DSC-opkaldsoplysninger
129809	AIS Klasse B "CS" - statisk datarapport, del A
129810	AIS Klasse B "CS" - statisk datarapport, del B
130067	Rute- og waypoint-tjeneste: Rute- og waypoint-navn og position
130311	Miljøparametre (forældet)
130313	Fugtighed
130314	Faktisk tryk
130316	Temperatur: udvidet område
130569	Underholdning: aktuel fil og status
130570	Underholdning: biblioteksdatafil
130571	Underholdning: biblioteksdatagrube
130573	Underholdning: understøttede kildedata
130574	Underholdning: understøttede zonedata
130576	Trimfanestatus
130577	Retningsdata

NMEA 0183 oplysninger

Send

Sætning	Beskrivelse
GPAPB	APB: Kurs/sporkontrol (autopilot) sætning "B"
GPBOD	BOD: Pejling (start til destination)
GPBWC	BWC: Pejling og afstand til waypoint
GPGBA	GGA: Global Positioning System-positionsdata
GPGLL	GLL: Geografisk position (breddegrad/længdegrad)
GPGBA	GSA: GNSS DOP og aktive satellitter
GPGBV	GSV: Synlige GNSS-satellitter
GPRMB	RMB: Anbefalet minimum for navigationsoplysninger
GPRMC	RMC: Anbefalet minimum for specifikke GNSS-data
GPRTTE	RTE: Ruter
GPVTG	VTG: Kurs og fart over grunden
GPWPL	WPL: Waypointposition
GPXTE	XTE: Cross Track-fejl
PGRME	E: Estimeret fejl
PGRMM	M: Kortdatum
PGRMZ	Z: Højde
SDDBT	DBT: Dybde under transducer
SDDPT	DPT: Dybde
SDMTW	MTW: Vandtemperatur
SDVHW	VHW: Fart gennem vand og kurs
MBT	Målbetegnelse
MBL	Målbredde og -længdegrad
TTD	Sporet måldata
ZDA	Tid og dato

Modtag

Sætning	Beskrivelse
DPT	Dybde
DBT	Dybde under transducer
MTW	Vandtemperatur
VHW	Fart gennem vand og kurs

Sætning	Beskrivelse
WPL	Waypointposition
DSC	Oplysninger om digitalt selektivt opkald
DSE	Udvidet digitalt selektivt opkald
HDG	Kurs, afvigelse og variation
HDM	Kurs, magnetisk
MWD	Vindretning og -hastighed
MDA	Meteorologisk composite
MWV	Vindhastighed og -vinkel
RTE	Ruter
VDM	AIS VHF datalink-besked

Du kan købe samtlige oplysninger om National Marine Electronics Association (NMEA)-format og -sætninger hos www.nmea.org.

J1939 Oplysninger

Plotteren kan modtage J1939-sætninger. Plotteren kan ikke sende via J1939-netværket.

Beskrivelse	PGN	SPN
Motorbelastning i procent ved nuværende hastighed	61443	92
Motorhastighed	61444	190
Udstødningstemperatur ved motormanifold - højre manifold	65031	2433
Udstødningstemperatur ved motormanifold - venstre manifold	65031	2434
Motorkølemiddel	65172	
Fejlkoder til aktiv fejlfinding	65226	
Fartøjets afstand	65248	
Vand i brændstof-indikator	65279	
Motor, vent på startlampe	65252	1081
Test af for høj motorhastighed	65252	2812
Kommandostatus for motorluftstop	65252	2813
Kommandostatus for motoralarmudgang	65252	2814
Motorens samlede driftstimer	65253	247
Navigationsbaseret sejlhastighed	65256	517
Motorens brændstofftemperatur 1	65262	174
Motorolietemperatur 1	65262	175
Brændstoftryk for motor	65263	94
Motorolietryk	65263	100
Motorens kølevæsketryk	65263	109
Motorens kølevæsketemperatur	65263	110
Motorens kølevæskestand	65263	111
Motorens brændstofforbrug	65266	183
Motorens gennemsnitlige brændstoføkonomi	65266	185
Tryk i motorindsugningsmanifold nr. 1	65270	102
Batterispænding/strømindgang 1	65271	168
Gearolietemperatur	65272	177
Gearolietryk	65272	127
Brændstofniveau	65276	96
Differenstryk for motoroliefilter	65276	969

GPSMAP® 15x3

Installeringsinstruksjoner

Viktig sikkerhetsinformasjon

⚠ ADVARSEL

Se veiledningen *Viktig sikkerhets- og produktinformasjon* i produktesken for å lese advarsler angående produktet og annen viktig informasjon.

Ikke fjern den innebygde sikringsholderen når du kobler til strømkabelen. Riktig sikring må være på plass slik det vises i produktspesifikasjonene. Dette forhindrer mulighet for personskade eller skade på produktet som følge av brann eller overoppheting. Hvis du kobler til strømkabelen uten riktig sikring på plass, ugyldiggjøres produktgarantien.

Hvis du unnlater å montere denne enheten i henhold til disse instruksjonene, kan det føre til personskader, skader på fartøyet eller enheten eller dårlig produktytelse.

⚠ FORSIKTIG

Bruk alltid vernebriller, hørselsvern og støvmaske når du borer, skjærer eller sliper for å unngå mulig personskade.

Du må koble fra beholderens strømforsyning før du begynner å installere enheten for å unngå mulig personskade eller skade på enheten og beholderen.

Før du kobler enheten til strømforsyningen, må du forsikre deg om den er jordet riktig ifølge instruksjonene i veiledningen for å unngå mulig personskade eller skade på enheten eller fartøyet.

For å unngå mulig personskade eller skade på denne enheten og fartøyet må denne enheten bare installeres når fartøyet står på land, eller når den er forsvarlig festet i rolige vannforhold.

LES DETTE

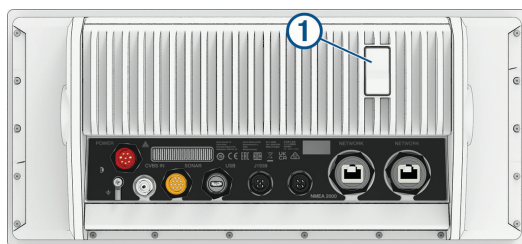
Når du borer eller skjærer, må du alltid kontrollere hva som er på den andre siden av overflaten for å unngå å skade fartøyet ditt.

Les alle installeringsinstruksjonene før du går videre med installeringen. Hvis du får problemer under monteringen, kan du kontakte Garmin produktsupport.

Tools Needed

- Drill and 14 mm ($\frac{9}{16}$ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Programvareoppdatering

Du må kanskje oppdatere kartplotterens programvare etter installeringen. Hvis du vil ha instruksjoner om hvordan du oppdaterer programvaren, kan du se brukerveiledningen på garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Denne enheten skal monteres på et sted som ikke er utsatt for ekstreme temperaturer eller forhold. Denne enhetens temperaturområde er oppført i produktspesifikasjonene. Hvis enheten blir utsatt for temperaturer utenfor det spesifiserte temperaturområdet, under oppbevaring eller bruk, kan det føre til feil på enheten. Skade forårsaket av ekstreme temperaturer og følgene av det dekkes ikke av garantien.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

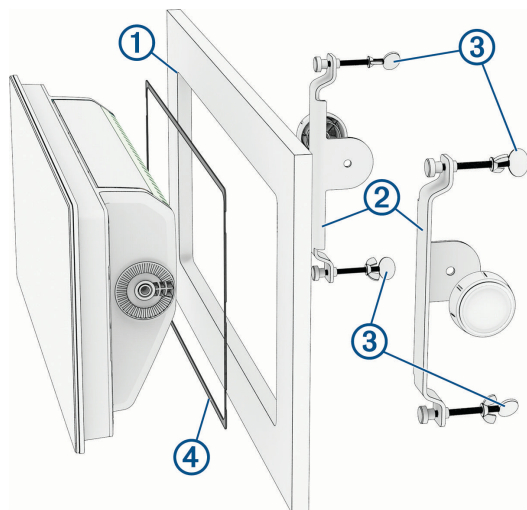
If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.

- 6 Place the device in the cutout ① to test the fit.

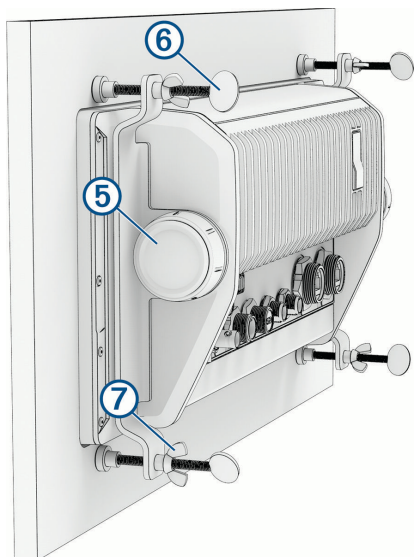


- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.
- TIP:** To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.
- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.

- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

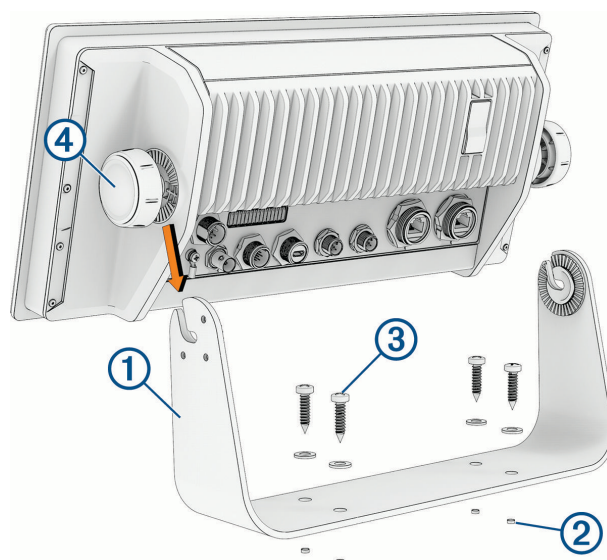
Bail Mounting the Device

NOTICE

Hvis du monterer braketten på glassfiber med skruer, anbefales det at du bruker et forsenkningsbor til å bore en klaringsforseknning gjennom bare det øverste laget med gelbelegg. Dette bidrar til å forhindre sprekker i gelbelegglaget når skruene strammes.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



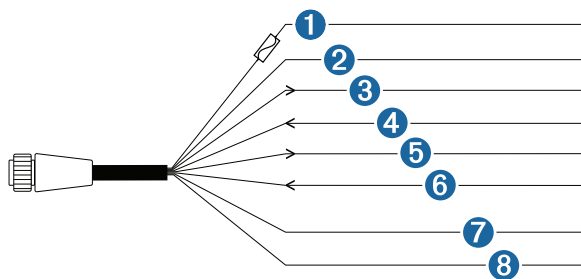
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Forhold vedrørende tilkobling

Etter at du har koblet kablene til enheten, må du stramme låseringene for å feste hver kabel.

Strømkabel / NMEA 0183-kabel

- Kabelklemmen kobler enheten til strøm, NMEA 0183 enheter og en lampe eller et signalhorn for synlige varsler eller lydvarsler.
- Hvis du må forlenge strøm- og jordingskablene, må du bruke riktig kabeldiameter på skjøteledningen (Power Wire Extensions, side 53).
- Hvis det er nødvendig å forlenge NMEA 0183 ledningene eller alarmledningene, skal du bruke en ledning på 22 AWG (0,33 mm²).
- Denne kablen har én differensiell NMEA 0183-inngangs- og utgangsport.



Element	Ledningsfarge	Ledningsfunksjon
①	Rød	Av/på
②	Sort	Jord (strøm og NMEA 0183)
③	Blå	NMEA 0183 TxA (ut +)
⑤	Grå	NMEA 0183 TxB (ut -)
④	Brun	NMEA 0183 RxA (inn +)
⑥	Fiolett	NMEA 0183 RxB (inn -)
⑦	Oransje	Tilbehør på
⑧	Gul	Alarm, lav spenning

Koble kabelklemmen til en strømkilde

⚠ ADVARSEL

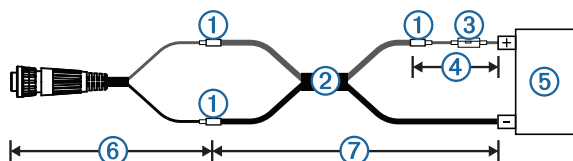
Ikke fjern den innebygde sikringsholderen når du kobler til strømkabelen. Riktig sikring må være på plass slik det vises i produktspesifikasjonene. Dette forhindrer mulighet for personskade eller skade på produktet som følge av brann eller overoppheting. Hvis du kobler til strømkabelen uten riktig sikring på plass, ugyldiggjøres produktgarantien.

- 1 Før kabelklemmen til strømkilden og til enheten.
- 2 Koble den røde ledningen til den positive (+) batteriterminalen, og koble den sorte ledningen til den negative (-) batteriterminalen.
- 3 Installer låseringen og O-ringen på enden av kabelklemmen om nødvendig.
- 4 Sett kabelen inn i strømkontakten POWER på baksiden av enheten, og trykk den godt på plass.
- 5 Vri låseringen med klokken for å feste kabelen til enheten.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery

⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Flere jordingshensyn

Denne enheten trenger ikke ekstra chassisjording i de fleste installasjoner. Hvis du opplever forstyrrelser, kan du bruke jordingsskruen på huset til å koble enheten til båtens jord for vann for å unngå forstyrrelsen.

Hensyn ved Garmin Marine Network

LES DETTE

Du må bruke en PoE-isoleringskopler fra Garmin Marine Network (010-10580-10) når du kobler en tredjepartsenhet, for eksempel et FLIR kamera, til Garmin Marine Network. Hvis du kobler en PoE-enhet (Power over Ethernet) direkte til en Garmin Marine Network-kartplotter, kan dette føre til skade på Garmin kartplotteren. Det kan også skade PoE-enheten. Hvis du kobler en tredjepartsenhet direkte til en kartplotter i et Garmin Marine Network, kan Garmin enhetene få en avvikende atferd. Du kommer for eksempel ikke til å kunne slå av enhetene, og programvaren fungerer ikke som normalt.

Denne enheten kan kobles til flere enheter med Garmin Marine Network for å dele data som radar, ekkolodd og detaljerte kart. Når du kobler enheter med Garmin Marine Network til denne enheten, bør du tenke over følgende.

- Alle enheter som er koblet til Garmin Marine Network, må kobles til samme jording. Hvis det brukes flere strømkilder til Garmin Marine Network-enheter, må du knytte alle jordforbindelser fra alle strømforsyningene sammen ved hjelp av en lavmotstandstilkobling eller knytte dem til en vanlig jordingsbusslinje, hvis det er tilgjengelig.
- Du må bruke en kabel for Garmin Marine Network for alle tilkoblinger med Garmin Marine Network.
 - Du kan ikke bruke tredjeparts CAT5-kabler eller RJ45-kontakter for tilkoblinger til Garmin Marine Network.
 - Du kan få tak i flere kabler for Garmin Marine Network og kontakter hos Garmin forhandlere.
- Hver av portene på enheten som er merket NETWORK fungerer som en nettverkssvitsj. Alle kompatible enheter kan kobles til alle NETWORK porter for å dele data med alle enheter på båten som er tilkoblet med en kabel for Garmin Marine Network.

NMEA 2000 hensyn

LES DETTE

Hvis du kobler til et **eksisterende** NMEA 2000 nettverk, finner du frem NMEA 2000 strømkabelen. Det kreves kun én NMEA 2000 strømkabel for at NMEA 2000 nettverket skal fungere som det skal.

En NMEA 2000 strømisolator (010-11580-00) skal brukes i monteringer der den eksisterende NMEA 2000 nettverksprodusenten er ukjent.

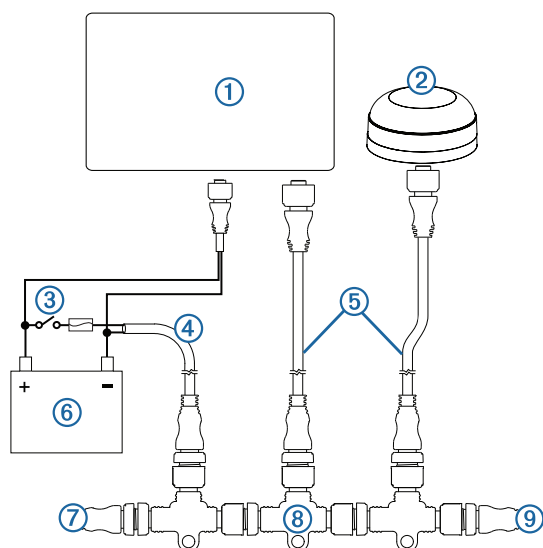
Hvis du installerer en NMEA 2000 strømkabel, må du koble den til båtens tenningsbryter eller via en annen innebygd bryter. NMEA 2000 enheter taper batteriet hvis NMEA 2000 strømkabelen er koblet direkte til batteriet.

Denne enheten kan kobles til et nettverk av typen NMEA 2000 på båten for å dele data fra enheter som er kompatible med NMEA 2000, som en GPS-antenne eller en VHF-radio. De medfølgende kablene og kontaktene for NMEA 2000 lar deg koble enheten til det eksisterende NMEA 2000 nettverket. Hvis du ikke har et eksisterende NMEA 2000 nettverk, kan du opprette et grunnleggende nettverk ved hjelp av kabler fra Garmin.

Denne enheten får ikke strøm via NMEA 2000 nettverket. Du må koble enheten til en strømkilde (Koble kabelklemmen til en strømkilde, side 53).

Hvis du ikke kjenner til NMEA 2000, bør du lese *Technical Reference for NMEA 2000 Products* på garmin.com/manuals/nmea_2000.

Du bruker porten som er merket NMEA 2000 til å koble enheten til et standard nettverk av typen NMEA 2000.



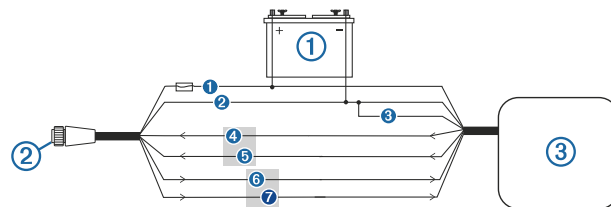
Element	Beskrivelse
①	NMEA 2000 kompatibel Garmin enhet
②	GPS-antenne
③	Tenningsbryter eller innebygd bryter
④	NMEA 2000 strømkabel
⑤	NMEA 2000 dropkabel
⑥	Strømkilde på 12 V likestrøm
⑦	NMEA 2000 terminator eller basisnettverkskabel
⑧	NMEA 2000 T-kontakt
⑨	NMEA 2000 terminator eller basisnettverkskabel

NMEA 0183 – hensyn ved tilkobling

- Kartplotteren har én TX-port (sending) og én RX-port (mottak).
- Hver port har to kabler, merket A og B i henhold til NMEA 0183-konvensjonen. Koble de tilsvarende kablene A og B for hver port til kablene A og B til enheten som samsvarer med NMEA 0183.
- Du kan koble én NMEA 0183-enhet til RX-porten for å lese inn data til denne kartplotteren, og du kan koble opptil tre NMEA 0183-enheter parallelt til TX-porten for å motta utdata fra denne kartplotteren.
- Se NMEA 0183-enhetens installeringsinstruksjoner for å identifisere sendekablene (TX) og mottakskablene (RX).
- Du må bruke et skjermet, snodd ledningspar på 22 AWG (.33 mm²) ved forlenget kabeltrekking. Lodd alle tilkoblingene, og forsegle dem med varmekrymperør.
- Du bør ikke koble NMEA 0183-dataledningene fra denne enheten til jordingen for strøm, med mindre du blir instruert til å gjøre det i forbindelse med bestemte monteringsstyper.
- Strømkabelen fra kartplotteren og NMEA 0183-enhetene må kobles til en felles jording for strøm.
- De interne NMEA 0183-portene og kommunikasjonsprotokollene er konfigurert på kartplotteren. Se i NMEA 0183-delen av kartplotterens brukerveiledning hvis du vil ha mer informasjon.
- Se brukerveiledningen for kartplotteren for å få en liste over godkjente NMEA 0183-setninger kartplotteren støtter.

NMEA 0183-enhetstilkoblinger

Dette diagrammet illustrerer toveistilkoblinger som både sender og mottar data. Du kan også bruke dette diagrammet for enveiskommunikasjon. Hvis du vil motta informasjon fra en NMEA 0183-enhet, kan du se element ①, ②, ③, ④ og ⑤ når du kobler til Garmin enheten. Hvis du vil sende informasjon til en NMEA 0183-enhet, kan du se elementene ①, ②, ③, ⑥ og ⑦ når du kobler til Garmin enheten.



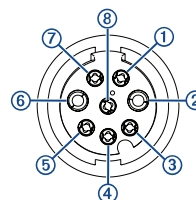
Element	Beskrivelse
①	Strømkilde
②	Strømkabel
③	NMEA 0183-enhet
④	NMEA 0183-kabel

Element	Garmin lednings-funksjon	Garmin lednings-farge	NMEA Funksjon for 0183-ledning
①	Av/på	Rød	Av/på
②	Jording for strøm	Svart	Jording for strøm
③	Datajord	Svart	Datajord
④	Rx/A (In +)	Hvit/oransje	Tx/A (Out +)
⑤	Rx/B (In -)	Hvit	Tx/B (Out -)
⑥	Tx/A (Out +)	Grå	Rx/A (In +)
⑦	Tx/B (Out -)	Rosa	Rx/B (In -)

Hvis NMEA 0183-enheten bare har én inngangsledning (mottak, Rx) (ingen A, B, + eller -), må du ikke koble til den rosa ledningen.

Hvis NMEA 0183-enheten bare har én utgangsledning (sending, Tx) (ingen A, B, + eller -), må du koble den hvite/oransje ledningen til jord.

NMEA 0183- og strømkabelpinner



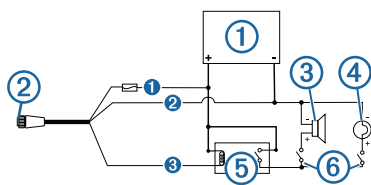
Pinnennummer	Ledningsfunksjon	Ledningsfarge
③	NMEA 0183 Tx/A (ut +)	Blå
④	NMEA 0183 Rx/A (inn +)	Brun
①	NMEA 0183 Tx/B (ut -)	Grå
⑦	NMEA 0183 Rx/B (inn -)	Fiolett
⑤	Alarm	Gul
⑧	Tilbehør på	Oransje
②	Jording (skjerming)	Svart
⑥	VIN	Rød

Tilkoblinger for lampe og signalhorn

Enheten kan brukes sammen med en lampe, et signalhorn eller begge deler for å avgi signaler med lyd eller lys når kartplotteren viser en melding. Dette er valgfritt, og alarmledningen er ikke nødvendig for at enheten skal fungere som normalt. Tenk over følgende når du kobler enheten til en lampe eller et signalhorn.

- Alarmkretsen går over i en lavspenningstilstand når alarmen går.
- Maksimal strømstyrke er på 100 mA, og det er nødvendig med et relé for å begrense strømmen fra kartplotteren til 100 mA.

- Hvis du vil veksle mellom lys- og lydvarsler manuelt, kan du installere enpolde brytere med én strømretning.



Element	Beskrivelse
①	Strømkilde
②	Strømkabel
③	Signalhorn
④	Lampe
⑤	Relé (100 mA coilstrøm)
⑥	Brytere til å aktivere og deaktivere lampe- eller signalhornvarsler

Element	Ledningsfarge	Ledningsfunksjon
①	Rød	Av/på
②	Svart	Jord
③	Gul	Alarm

Hensyn ved tilkobling av J1939-motornettverket

LES DETTE

Du må bruke en Garmin GPSMAP J1939-tilbehørskabel når du kobler kartplotteren til J1939-motornettverket, slik at du kan forhindre korrosjon grunnet fukt. Hvis du bruker en annen kabel, blir garantien din ugyldig.

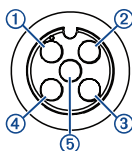
Hvis du har et eksisterende motornettverk på båten, skal det allerede være koblet til strøm. Ikke legg til en ekstra strømforsyning.

Denne kartplotteren kan kobles til et motornettverk på båten din for å lese av data fra kompatible enheter, for eksempel enkelte motorer. Motornettverket følger en standard og bruker egne meldinger.

Du bør rådføre deg med produsenten av motoren eller motornettverket når du kobler til kartplotteren. Noen produsenter kan ha krav du må følge når du kobler til, for å unngå uventet oppførsel.

Du bruker porten som er merket J1939 til å koble enheten til det eksisterende motornettverket. Du må føre kabelen innenfor 6 meter (20 fot) fra basismotornettverket.

Garmin GPSMAP J1939-tilbehørskabelen må være koblet til en strømkilde og riktig utgang. Du finner mer informasjon om tilkobling til motornettverket i produsentens motordokumentasjon.



Pinne	Ledningsfarge	Beskrivelse
①	Uisolert	Beskyttelse
②	Rød	Spennning, positiv
③	Sort	Spennning, negativ
④	Hvit	CAN høy
⑤	Blå	CAN lav

Hensyn å ta med komposittvideo

Denne kartplotteren tillater videoinndata fra komposittvideokilder via porten som er merket med CVBS IN. Når du kobler til komposittvideo, bør du tenke over følgende hensyn.

- CVBS IN-porten bruker en BNC-kontakt. Du kan bruke en BNC til RCA-adapter for å koble en komposittvideokilde med RCA-kontakter til CVBS IN-porten.
- Video deles over Garmin Marine Network, men deles ikke over NMEA 2000 nettverket.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹⁵
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ¹⁶
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN-informasjon

Send og motta

PGN	Beskrivelse
059392	ISO-bekreftelse
059904	ISO-forespørsel
060160	ISO-sendingssprotokoll: dataoverføring
060416	ISO-sendingssprotokoll: administrasjon av tilkobling
060928	ISO-adresse krevd
126208	Be om gruppefunksjon
126993	Hjerteslag
126996	Produktinformasjon
126998	Informasjon om konfigurasjon
127237	Overskrift/sporkontroll
127245	Ror

¹⁵ Enheten tåler utilsiktet kontakt med vann ned til 1 meter i opptil 30 minutter. Du finner mer informasjon på www.garmin.com/waterrating.

¹⁶ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Beskrivelse
127250	Fartøykurs
127258	Magnetisk variasjon
127488	Motorparametere: Rask oppdatering
127489	Motorparametere: Dynamiske
127490	Status for elektrisk driv: dynamisk
127491	Status for elektrisk energilagring: dynamisk
127493	Sendeparametere: Dynamiske
127494	Informasjon om elektrisk driv
127495	Informasjon om elektrisk energilagring
127505	Væsknivå
127508	Batteristatus
128002	Status for elektrisk driv: rask oppdatering
128003	Status for elektrisk energilagring: rask oppdatering
128259	Fart: Vannreferanse
128267	Vanndybde
129025	Posisjon: Rask oppdatering
129026	COG og SOG: Rask oppdatering
129029	GNSS-posisjonsdata
129283	Kryssrutefeil
129284	Navigasjonsdata
129285	Navigasjon – rute-/veipunktsinformasjon
129539	GNSS DOPer
129540	GNSS-satellitter innenfor rekkevidde
130060	Merke
130306	Vinddata
130310	Miljøparametere (foreldet)
130312	Temperatur (foreldet)

Send

PGN	Beskrivelse
126464	Gruppefunksjon for å sende og motta PGN-liste
126984	Varselsvar
127258	Magnetisk variasjon
127497	Turparametere: motor
127502	Bytt bankkontroll (PÅ VEI UT)

Motta

PGN	Beskrivelse
065030	Generatorens gjennomsnittlige vekselstrømmengde (GAAC)
065240	Forvalgt adresse
126983	Varsel
126985	Varseltekst
126987	Varselgrense
126988	Varselverdi
126992	Systemtid
127233	Mann over bord (MOB)
127237	Overskrift/sporkontroll
127245	Ror
127251	Svingegrad
127252	Hev

PGN	Beskrivelse
127257	Stilling
127498	Motorparametere: Statiske
127501	Bryterbankstatus
127503	AC inngangstatus (foreldet)
127504	AC utgangstatus (foreldet)
127506	Detaljert status om DC
127507	Laderstatus
127509	Vekselretterstatus
128000	Nautisk avdriftsvinkel
128275	Avstandslogg
128780	Lineær aktuator
129038	AIS-posisjonsrapport klasse A
129039	AIS-posisjonsrapport klasse B
129040	Utvidet AIS-posisjonsrapport klasse B
129041	AIS-hjelpemidler til navigasjonsrapport (AtON)
129044	Datum
129285	Navigasjon: rute-/veipunktsinformasjon
129794	Statiske og reiserelaterte data for AIS klasse A
129798	AIS-posisjonsrapport for SAR-luftfartøy
129799	Radiofrekvens / modus / av/på
129802	AIS-sikkerhetsrelatert kringkastingsmelding
129808	Informasjon om DSC-anrop
129809	AIS-CS-rapport for statiske data, klasse B, del A
129810	AIS-CS-rapport for statiske data, klasse B, del B
130067	Rute- og veipunktjeneste: rute, veipunktnavn og posisjon
130311	Miljøparametere (foreldet)
130313	Luftfuktighet
130314	Faktisk trykk
130316	Temperatur: utvidet område
130569	Underholdning: Gjeldende fil og status
130570	Underholdning: Biblioteksdatafil
130571	Underholdning: Biblioteksdatagruppe
130573	Underholdning: Støttede kildedata
130574	Underholdning: Støttede sonedata
130576	Status på tilstandsfane
130577	Retningsdata

Informasjon om NMEA 0183

Send

Setning	Beskrivelse
GPAPB	APB: Styrekurs eller sporkontroller (autopilot), setning "B"
GPBOD	BOD: Peiling fra opprinnelsessted til mål
GPBWC	BWC: Peiling og avstand til veipunkt
GPGBA	GGA: Faste data for globalt posisjoneringssystem
GPGLL	GLL: Geografisk posisjon (breddegrad og lengdegrad)
GPGBA	GSA: GNSS DOP og aktive satellitter
GPGBV	GSV: GNSS-satellitter innenfor rekkevidde
GPRMB	RMB: Anbefalt minimal navigasjonsinformasjon
GPRMC	RMC: Anbefalt minimum spesifikke GNSS-data
GPRTT	RTE: Ruter

Setning	Beskrivelse
GPVTG	VTG: Kurs over bakken og bakkehastighet
GPWPL	WPL: Veipunktposisjon
GPXTE	XTE: Feil for kryssrute
PGRME	E: Beregnet feil
PGRMM	M: Kartdatum
PGRMZ	Z: Høyde
SDDBT	DBT: Dybde under svinger
SDDPT	DPT: Dybde
SDMTW	MTW: Vanntemperatur
SDVHW	VHW: Fart og retning i vann
TLB	Målmerke
TLL	Målbredde- og lengdegrad
TTD	Sporede måldata
ZDA	Dato og klokkeslett

Motta

Setning	Beskrivelse
DPT	Dybde
DBT	Dybde under svinger
MTW	Vanntemperatur
VHW	Fart og retning i vann
WPL	Veipunktposisjon
DSC	Informasjon om Digital Selective Calling (digitalt selektivt anrop)
DSE	Utvidet Digital Selective Calling (digitalt selektivt anrop)
HDG	Kurs, avvik og variasjon
HDM	Magnetisk kurs
MWD	Vindretning og vindstyrke
MDA	Sammensatt meteorologisk oversikt
MWV	Vindstyrke og -vinkel
RTE	Ruter
VDM	AIS VHF-datakoblingsmelding

Du kan kjøpe fullstendig informasjon om setninger og format for National Marine Electronics Association (NMEA) fra www.nmea.org.

J1939-informasjon

Kartplotteren kan motta J1939-setninger. Kartplotteren kan ikke overføre via J1939-nettverket.

Beskrivelse	PGN	SPN
Motorprosentbelastning ved gjeldende hastighet	61443	92
Motorhastighet	61444	190
Eksostemperatur i motormanifold – høyre manifold	65031	2433
Eksostemperatur i motormanifold – venstre manifold	65031	2434
Tilleggskjølevæske til motoren	65172	
Problemkoder for aktiv diagnostikk	65226	
Avstanden til kjøretøy	65248	
Vann i drivstoff-indikator	65279	
Motorpause til startlampen	65252	1081
Test av overdreven motorhastighet	65252	2812
Status for motorens luftavstengningskommandoer	65252	2813
Status for motorens alarmutgangkommando	65252	2814

Beskrivelse	PGN	SPN
Motorens totale antall driftstimer	65253	247
Navigasjonsbasert fartøyhastighet	65256	517
Drivstofftemperatur for motor 1	65262	174
Oljetemperatur for motor 1	65262	175
Drivstoffleveringstrykk for motor	65263	94
Oljetrykk for motor	65263	100
Kjølevasketrykk for motor	65263	109
Kjølevasketemperatur for motor	65263	110
Motorens kjølevæskesnivå	65263	111
Drivstoffstrøm for motor	65266	183
Gjennomsnittlig drivstofføkonomi for motor	65266	185
Motorens inntaksmanifold #1 trykk	65270	102
Batterikapasitet / strøminntak 1	65271	168
Oljetemperatur for girkasse	65272	177
Oljetrykk for girkasse	65272	127
Drivstoffnivå	65276	96
Differensialtrykk for motoroljefilter	65276	969

GPSPMAP® 15x3 Installationsinstruksjoner

Viktig sikkerhetsinformasjon

⚠ VARNING

Guiden *Viktig sikkerhets- og produktinformasjon* som medfølger i produktforpackningen, inneholder viktig informasjon og produktvarninger.

Når du ansluter strømkabeln ska du inte ta bort den kabelmonterade säkringshållaren. Det är viktigt att rätt säkring är på plats för att förhindra skador på personer och på produkten, orsakade av eldsvåda eller överhettning. Se produktspecifikationerna. Produktgarantin gäller inte om du ansluter strømkabeln utan rätt säkring.

Om du inte installerar enheten enligt instruktionerna kan det leda till personskador, skador på båten eller enheten eller dålig produktprestanda.

⚠ OBSERVERA

Använd alltid skyddsglasögon, hörselskydd och andningsskydd när du borrar, skär eller slipar för att undvika eventuella personskador.

För att undvika personskador eller skador på enheten och fartyget ska du koppla bort fartygets strömförsörjning innan du börjar installera enheten.

För att undvika eventuella personskador eller skador på enheten eller fartyget ska du se till att enheten är ordentligt jordad innan du slår på strömmen. Följ anvisningarna i handboken.

Undvik personskador och skador på enheten och fartyget genom att endast installera den här enheten när fartyget är på land eller när det är ordentligt säkrat och dockat i lugnt vatten.

OBS!

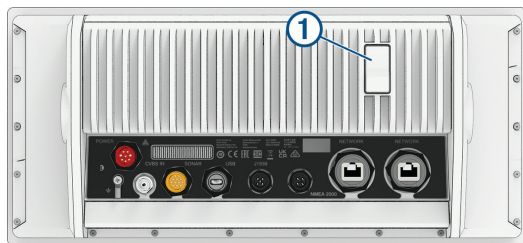
Kontrollera alltid vad som finns bakom ytan som du ska borra eller skära i för att undvika skador på fartyget.

Läs alla installationsinstruktioner innan du utför installationen. Om du stöter på problem under installationen kan du kontakta Garmin produktsupport.

Tools Needed

- Drill and 14 mm ($\frac{9}{16}$ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

Programuppdatering

Du kan behöva uppdatera plotterns programvara efter installation. Instruktioner om hur du uppdaterar programvaran finns i användarhandboken på garmin.com/manuals/gpsmap15x3/.

Mounting Considerations

NOTICE

Den här enheten ska monteras på en plats där den inte utsätts för extrema temperaturer eller förhållanden. Godkänt temperaturintervall för enheten framgår av produktspecifikationerna. Längre tids exponering för temperaturer som överskrider de godkända värdena (vid förvaring eller användning) kan orsaka permanenta skador på enheten. Skador och följdproblem som beror på extrema temperaturer täcks inte av garantin.

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

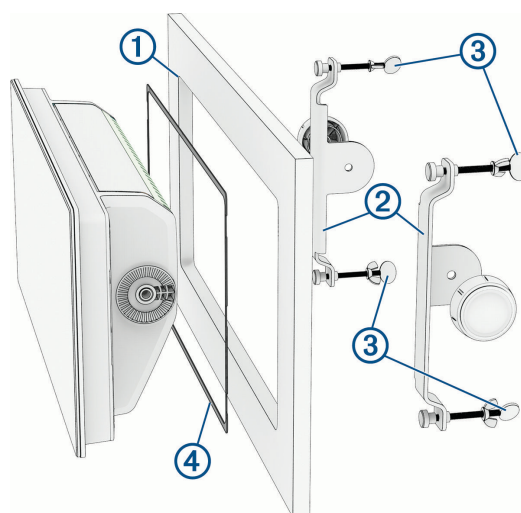
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($9/16$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.



- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

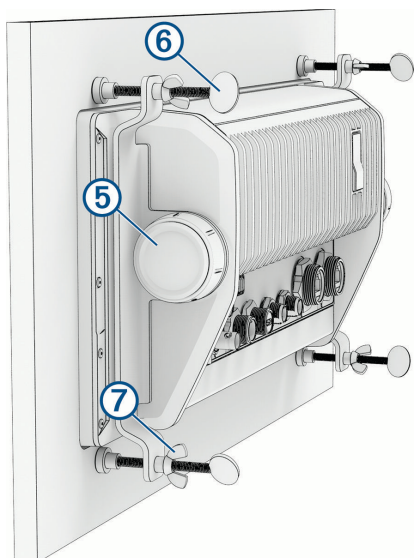
NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.

TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.

- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.
- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

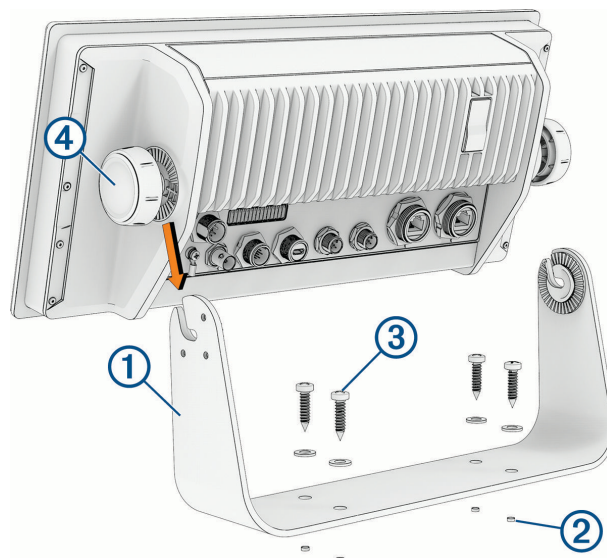
Bail Mounting the Device

NOTICE

Om du monterar fästet på glasfiber med skruvar rekommenderar vi att du använder en försänkingsborrspets och borrar en avståndsförsänkning genom bara det översta gelcoat-lagret. På så sätt undviker du sprickor i gelcoat-lagret när skruvarna dras åt.

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



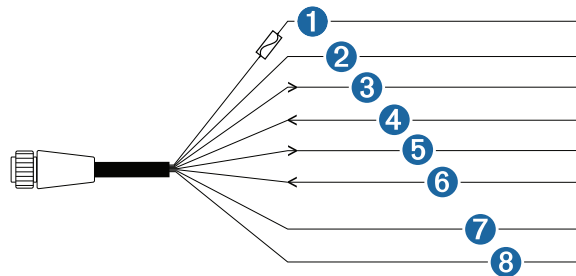
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

Att tänka på vid anslutning

När du har anslutit kablarna till enheten drar du åt låsringarna för att fästa varje kabel.

Ström/NMEA 0183 kabel

- Kabelstammen ansluter enheten till ström, NMEA 0183 enheter och en lampa eller ett signalhorn för visuella larm eller ljudlarm.
- Om ström- och jordledningarna behöver förlängas måste rätt kabeldimension användas på förlängningens längd (Power Wire Extensions, sidan 60).
- Om du måste förlänga NMEA 0183 eller larmkablarna måste du använda en 22 AWG-kabel (0,33 mm²).
- Kabeln har differentialport NMEA 0183 för ingång och utgång.



Objekt	Ledningsfärg	Kabelfunktion
①	Röd	Ström
②	Svart	Jord (ström och NMEA 0183)
③	Blå	NMEA 0183 TxA (ut +)
⑤	Grå	NMEA 0183 TxB (ut -)
④	Brun	NMEA 0183 RxA (in +)
⑥	Lila	NMEA 0183 RxB (in -)
⑦	Orange	Tillbehör på
⑧	Gul	Larm, låg nivå

Ansluta kabelstammen till strömmen

⚠ VARNING

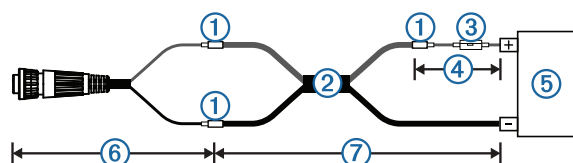
När du ansluter strömkabeln ska du inte ta bort den kabelmonterade säkringshållaren. Det är viktigt att rätt säkring är på plats för att förhindra skador på personer och på produkten, orsakade av eldsvåda eller överhettning. Se produktspecifikationerna. Produktgarantin gäller inte om du ansluter strömkabeln utan rätt säkring.

- 1 Dra kabelstammen till strömkällan och till enheten.
- 2 Anslut den röda ledningen till batteriets pluspol (+) och den svarta ledningen till batteriets minuspol (-).
- 3 Om det behövs installerar du låsringen och O-ringen i änden av kabelstammen.
- 4 Anslut kabeln i POWER-kontakten på baksidan av enheten och tryck ordentligt.
- 5 Vrid låsringen medurs för att fästa kabeln till enheten.

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	- Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire - Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire - Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE
	The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery
⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

Ytterligare att tänka på vid jordning

Den här enheten ska inte behöva några extra chassijordningar i de flesta installationssituationer. Om du upplever störningar kan du använda jordningsskruven på höljet för att koppla enheten till vattenjordningen och på så sätt motverka störningen.

Viktigt beträffande Garmin marina nätverk

OBS!

En PoE-isoleringskoppling (Power over Ethernet, P/N 010-10580-10) för marint Garmin nätverk måste användas när du ansluter en tredjepartsenhet, t.ex. en FLIR kamera, till ett Garmin marint nätverk. Anslutning av en PoE-enhet (Power over Ethernet) direkt till ett Garmin marint nätverks plotter skadar Garmin plottern och kan skada PoE-enheten. Att ansluta en tredjepartsenhet direkt till ett Garmin marint nätverks plotter kan orsaka onormalt beteende på Garmin enheterna, däribland att enheterna inte stängs av korrekt eller att programvaran slutar fungera.

Den här enheten kan anslutas till fler Garmin marina nätverk för att dela data såsom radar, ekolod och detaljerade kartor. Tänk på följande när du ansluter Garmin marina nätverksenheter till enheten.

- Alla enheter anslutna till Garmin marina nätverk måste anslutas till samma jord. Om flera strömkällor används för marina Garmin

nätverksenheter måste du koppla samman alla jordanslutningar från alla strömförsörjningsenheter med en anslutning med låg resistans eller knyta dem till en gemensam jordsamlingsskena, om sådan finns.

- En Garmin marin nätverkskabel måste användas för alla Garmin marina nätverksanslutningar.
 - Tredje parts CAT5-kablar och RJ45-kopplingar får inte användas för Garmin marina nätverksanslutningar.
 - Extra Garmin marina nätverkskablar och kontakter finns hos din Garmin återförsäljare.
- NETWORK portarna på enheten kan vardera fungera som en nätverksswitch. Alla kompatibla enheter kan anslutas till valfri NETWORK-port för att dela data med alla enheter på båten som är anslutna via en Garmin marin nätverkskabel.

NMEA 2000 – viktigt att tänka på

OBS!

Om du ansluter till ett befintligt NMEA 2000 nätverk, hitta NMEA 2000 strömkabeln. Du behöver bara en NMEA 2000 strömkabel för att NMEA 2000 nätverket ska fungera ordentligt.

En NMEA 2000 strömisolator (010-11580-00) bör användas i installationer där tillverkaren för det befintliga NMEA 2000 nätverket är okänd.

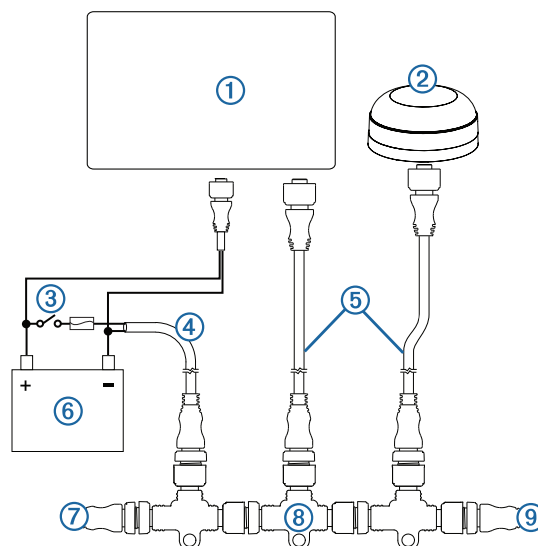
Om du installerar en NMEA 2000 strömkabel måste den anslutas till båtens tändningslås eller genom en annan kabelmonterad omkopplare. NMEA 2000 enheter laddar ur batteriet om NMEA 2000 strömkabeln ansluts direkt till batteriet.

Den här enheten kan anslutas till ett NMEA 2000 nätverk på din båt för att dela data från NMEA 2000 kompatibla enheter såsom en GPS-antenn eller VHF-radio. Med de medföljande NMEA 2000 kablarna och kontakterna kan du ansluta enheten till ditt befintliga NMEA 2000 nätverk. Om du inte har ett befintligt NMEA 2000 nätverk kan du skapa ett grundläggande nätverk med kablar från Garmin.

Den här enheten drivs inte via NMEA 2000 nätverket. Du måste ansluta enheten till en strömkälla (Ansluta kabelstammen till strömmen, sidan 60).

Om du inte är bekant med NMEA 2000 bör du läsa *Teknisk referens för NMEA 2000 produkter* på garmin.com/manuals/nmea_2000.

Porten som är märkt NMEA 2000 används för att ansluta enheten till ett NMEA 2000 standardnätverk.



Objekt	Beskrivning
①	NMEA 2000 kompatibel Garmin enhet
②	GPS-antenn
③	Tändnings- eller kabelmonterad brytare
④	NMEA 2000 strömkabel
⑤	NMEA 2000 droppkabel
⑥	12 V-likströmskälla

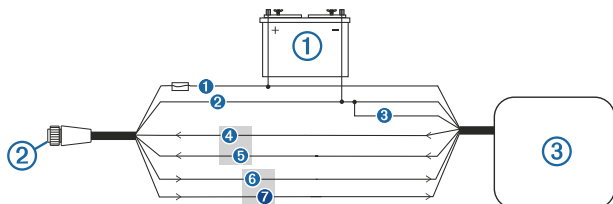
Objekt	Beskrivning
⑦	NMEA 2000 terminering eller stamnätskabel
⑧	NMEA 2000 T-koppling
⑨	NMEA 2000 terminering eller stamnätskabel

Att tänka på vid anslutning med NMEA 0183

- Plottern har en Tx-port (sänd) och en Rx-port (ta emot).
- Varje port har två ledningar som är märkta A och B i överensstämmelse med NMEA 0183 konventionen. Anslut A- och B-ledningen för respektive port till A (+)- och B (-)-ledningarna på den NMEA 0183 enheten.
- Du kan ansluta en NMEA 0183 enhet per Rx-port för att ta emot data i plottern och du kan ansluta upp till tre NMEA 0183 enheter parallellt till Tx-porten för att ta emot data från plottern.
- Se instruktionerna för installation av NMEA 0183 enheten för att identifiera sändningsledningar (Tx) och mottagningsledningar (Rx).
- Använd ett skärmat 22 AWG (.33 mm²) partvinnat kablage för långa kabellängder. Löd alla kontakter och täta dem med krypslang.
- Om du inte uppmanas att ange specifika installationstyper ska du inte ansluta NMEA 0183-datakablar från den här enheten till strömjord.
- Strömkabeln från plottern och NMEA 0183 enheterna måste anslutas till en gemensam strömjord.
- De interna NMEA 0183 portarna och kommunikationsprotokollen konfigureras på plottern. Mer information finns i NMEA 0183 avsnittet i plotterns användarhandbok.
- Läs plotterns ägarhandbok för en lista över godkända NMEA 0183 meningar som plottern har stöd för.

NMEA 0183 enhetsanslutningar

Det här schemat visar tvåvägsanslutningar för att både skicka och ta emot data. Du kan också använda den här tabellen för envägskommunikation. Ta emot information från en NMEA 0183-enhet genom att hänvisa till objekt ①, ②, ③, ④ och ⑤ när Garmin enheten ansluts. Skicka information till en NMEA 0183-enhet genom att använda objekt ①, ②, ③, ⑥ och ⑦ när du ansluter Garmin enheten.



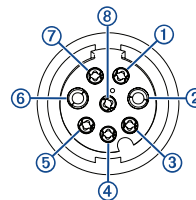
Objekt	Beskrivning
①	Strömförsörjning
②	Strömkabel
③	NMEA 0183 enhet
④	NMEA 0183 kabel

Objekt	Garmin ledningsfunktion	Garmin ledningsfärg	NMEA 0183 enhetsledningens funktion
①	Ström	Röd	Ström
②	Strömjord	Svart	Strömjord
③	Datajord	Svart	Datajord
④	Rx/A (In +)	Vit/orange	Tx/A (Ut +)
⑤	Rx/B (In -)	Vit	Tx/B (Ut -)
⑥	Tx/A (Ut +)	Grå	Rx/A (In +)
⑦	Tx/B (Ut -)	Rosa	Rx/B (In -)

Om NMEA 0183 bara har en ingående (Rx) ledning (ingen A, B, + eller -) ansluter du inte den rosa ledningen.

Om NMEA 0183 bara har en utgående (Tx) ledning (ingen A, B, + eller -) måste du ansluta den vita/orange ledningen till jord.

NMEA 0183 och strömkabelstift

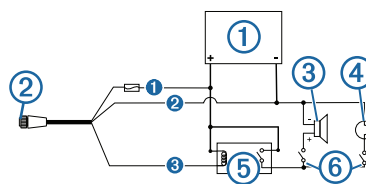


Stiftnummer	Kabelfunktion	Ledningsfärg
③	NMEA 0183 Tx/A (ut +)	Blå
④	NMEA 0183 Rx/A (in +)	Brun
①	NMEA 0183 Tx/B (ut -)	Grå
⑦	NMEA 0183 Rx/B (in -)	Lila
⑤	Larm	Gul
⑧	Tillbehör på	Orange
②	Jord (skärmad)	Svart
⑥	Chassinummer	Röd

Anslutning av lampa och signalhorn

Den här enheten kan användas tillsammans med en lampa, ett signalhorn eller både och för att avge en ljud- eller ljussignal när plottern visar ett meddelande. Det här är ett valfritt tillägg och larmkabeln är inte nödvändig för att enheten ska fungera normalt. Tänk på följande om du ansluter enheten till en lampa eller ett signalhorn.

- Larmkretsen växlar till ett lågspänningsläge när larmet utlöses.
- Maximal ström är 100 mA och ett relä behövs för att begränsa strömmen från plottern till 100 mA.
- Om du vill växla manuellt mellan visuella larm och ljudlarm kan du montera enpoliga envägsomkopplare.



Objekt	Beskrivning
①	Strömförsörjning
②	Strömkabel
③	Signalhorn
④	Lampa
⑤	Relä (100 mA spolström)
⑥	Växlar mellan larmsignal från lampan eller signalhornet

Objekt	Ledningsfärg	Kabelfunktion
①	Röd	Ström
②	Svart	Jord
③	Gul	Larm

Att tänka på vid anslutning av J1939 motornätverk

OBS!

Du måste använda en Garmin GPSMAP J1939 tillbehörskabel när du ansluter plottern till J1939 motornätverket för att förhindra korrosion till följd av fukt. Använder du en annan kabel ogiltigförklaras garantin.

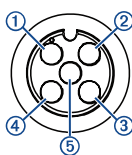
Om du har ett befintligt motornätverk på båten bör det redan vara anslutet till strömförsörjningen. Lägg inte till extra strömförsörjning.

Den här plottern kan anslutas till ett motornätverk på båten för att läsa data från kompatibla enheter, t.ex. vissa motorer. Motornätverket följer en standard och använder egna meddelanden.

Kontakta tillverkaren av motor eller motornätverket när du ansluter plottern. Vissa tillverkare kan ha krav som du måste följa när du ansluter för att undvika oväntade beteenden.

Porten som är märkt J1939 används för att ansluta enheten till ett befintligt motornätverk. Du måste dra kabeln inom 6 m (20 fot) från motornätverkets stamnät.

Garmin GPSMAP J1939 tillbehörskabel kräver anslutning till en strömkälla och korrekt terminering. Mer information om hur du ansluter till motornätverket finns i tillverkarens dokumentation för motorn.



Stift	Ledningsfärg	Beskrivning
①	Bar	Skärm
②	Röd	Ström, positiv
③	Svart	Ström, negativ
④	Vit	CAN, hög
⑤	Blå	CAN, låg

Att tänka på vid kompositvideo

Den här plottern tillåter videomottagning från kompositvideokällor som använder porten märkt CVBS IN. Vid anslutning av kompositvideo bör du observera detta.

- Porten CVBS IN använder en BNC-kontakt. Du kan använda en adapter från BNC till RCA för att ansluta en kompositvideokälla med RCA-kontakter till CVBS IN-portarna.
- Video delas över det Garmin marina nätverket, men delas inte över NMEA 2000 nätverket.

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A

Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹⁷
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ¹⁸
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN-information

Sända och ta emot

PGN	Beskrivning
059392	ISO-erkännande
059904	ISO-begäran
060160	ISO-transportprotokoll: Dataöverföring
060416	ISO-transportprotokoll: Anslutningshantering
060928	Begärd ISO-adress
126208	Begär gruppfunktion
126993	Hjärtslag
126996	Produktinformation
126998	Konfigurationsinformation
127237	Kurs/spårstyrning
127245	Roder
127250	Fartygets kurs
127258	Magnetisk variation
127488	Motorparametrar: Snabb uppdatering
127489	Motorparametrar: Dynamiska
127490	Status för elektrisk drivning: Dynamisk
127491	Status för lagring av elektrisk energi: Dynamisk
127493	Transmissionsparametrar: Dynamiska
127494	Information om elektrisk drivning
127495	Information om lagring av elektrisk energi
127505	Vätskenivå
127508	Batteristatus
128002	Status för elektrisk drivning: Snabb uppdatering
128003	Status för lagring av elektrisk energi: Snabb uppdatering
128259	Hastighet: I förhållande till vattnet
128267	Vattendjup
129025	Position: snabb uppdatering
129026	COG och SOG: Snabb uppdatering
129029	GNSS-positionsdata
129283	Avvikelse från utlagd kurs
129284	Navigationsdata
129285	Navigering – rutt-/waypointinformation
129539	GNSS DOP:er

¹⁷ Enheten tål tillfällig exponering för vatten på upp till 1 m djup i upp till 30 min. Mer information hittar du på www.garmin.com/waterrating.

¹⁸ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	Beskrivning
129540	GNSS-satelliter i vy
130060	Etikett
130306	Vinddata
130310	Miljöparametrar (används inte längre)
130312	Temperatur (används inte längre)

Sända

PGN	Beskrivning
126464	Sända och ta emot PGN-lista med gruppfunktion
126984	Larmsvar
127258	Magnetisk variation
127497	Reseparametrar: Motor
127502	Byt bankkontroll (INAKTUELL)

Ta emot

PGN	Beskrivning
065030	Generators vanliga grundläggande AC-kvantiteter (GAAC)
065240	Begärd adress
126983	Varning
126985	Varningstext
126987	Tröskelvärde för varning
126988	Varningsvärde
126992	Systemtid
127233	Man överbord
127237	Kurs/spårstyrning
127245	Roder
127251	Girvinkel
127252	Upp/ner
127257	Läge
127498	Motorparametrar: statiska
127501	Byt bankstatus
127503	AC-ingångsstatus (används inte längre)
127504	AC-utgångsstatus (används inte längre)
127506	Detaljerad status om likström
127507	Laddarstatus
127509	Omformarstatus
128000	Nautisk avdriftsvinkel
128275	Distanslogg
128780	Linjärt manöverdon
129038	AIS klass A positionsrapport
129039	AIS klass B positionsrapport
129040	AIS klass B utökad positionsrapport
129041	AIS Navigeringshjälpmedel (sjömärke), rapport
129044	Datum
129285	Navigering: Rutt-/waypointinformation
129794	AIS klass A statiskt relaterade och reserelaterade data
129798	AIS SAR, rapport om flygplansposition
129799	Radiofrekvens/läge/ström
129802	AIS Säkerhetsrelaterat utsändningsmeddelande
129808	DSC-samtalsinformation

PGN	Beskrivning
129809	AIS klass B "CS" statisk datarapport, del A
129810	AIS klass B "CS" statisk datarapport, del B
130067	Rutt- och waypointtjänst: rutt, waypointnamn och -position
130311	Miljöparametrar (används inte längre)
130313	Luftfuktighet
130314	Faktiskt tryck
130316	Temperatur: Utökad intervall
130569	Underhållning: aktuell fil och status
130570	Underhållning: biblioteksdatafil
130571	Underhållning: biblioteksdatagrupp
130573	Underhållning: data om källa som stöds
130574	Underhållning: data om zon som stöds
130576	Trimplansstatus
130577	Rikttningsdata

NMEA 0183 information

Sända

Mening	Beskrivning
GPAPB	APB: Kurs eller spårstyrning (autopilot), mening "B"
GPBOD	BOD: Riktning (ursprung till destination)
GPBWC	BWC: Riktning och avstånd till waypoint
GPGGA	GGA: GPS-fixdata
GPGLL	GLL: Geografisk position (latitud och longitud)
GPGSA	GSA: GNSS, DOP och aktiva satelliter
GPGSV	GSV: GNSS-satelliter i sikte
GPRMB	RMB: Rekommenderad minimiinformation för navigering
GPRMC	RMC: Rekommenderat minimum för specifika GNSS-data
GP RTE	RTE: Rutter
GPVTG	VTG: Kurs över grund och fart över grund
GPWPL	WPL: Waypoint-plats
GPXTE	XTE: Avvikelse från utlagd kurs
PGRME	E: Beräknat fel
PGRMM	M: Kartreferens
PGRMZ	Z: Höjd
SDDBT	DBT: Djup under givare
SDDPT	DPT: Djup
SDMTW	MTW: Vattentemperatur
SDVHW	VHW: Fart genom vattnet och kurs
TLB	Objektetikett
TLL	Objektets latitud och longitud
TTD	Data för spårat objekt
ZDA	Tid och datum

Ta emot

Mening	Beskrivning
DPT	Djup
DBT	Djup under givare
MTW	Vattentemperatur
VHW	Fart genom vattnet och kurs
WPL	Waypointens plats

Mening	Beskrivning
DSC	Digital selektiv anropsinformation
DSE	Utökat digitalt selektivt anrop
HDG	Kurs, avvikelse och variation
HDM	Kurs, magnetisk
MWD	Vindens riktning och hastighet
MDA	Meteorologisk sammansättning
MWV	Vindens hastighet och vinkel
RTE	Rutter
VDM	AIS, VHF-datalänkmeddelande

Du kan köpa fullständig information om format och meningar från NMEA (National Marine Electronics Association) från www.nmea.org.

Information om J1939

Plottern kan ta emot J1939 meningar. Plottern kan inte sända över J1939 nätverket.

Beskrivning	PGN	SPN
Motorbelastning i procent vid aktuellt hastighet	61443	92
Motorvarvtal	61444	190
Avgastemperatur i motors grenrör - höger grenrör	65031	2433
Avgastemperatur i motors grenrör - vänster grenrör	65031	2434
Extra motorkylning	65172	
Aktiva diagnostiska felkoder	65226	
Fordonsavstånd	65248	
Indikator för vatten i bränslet	65279	
Lampa för motorstart	65252	1081
Test av övervarning av motorn	65252	2812
Status för kommando för motors luftavstängning	65252	2813
Status för kommando för utgående motorlarm	65252	2814
Motorns totala antal driftstimmar	65253	247
Navigeringsbaserad fordonshastighet	65256	517
Motorns bränsletemperatur 1	65262	174
Motorns oljetemperatur 1	65262	175
Motorns bränsletryck	65263	94
Motorns oljetryck	65263	100
Motorns kylvätskestryck	65263	109
Motorns kylvätsketemperatur	65263	110
Motorns kylvätskenivå	65263	111
Motorns bränsleförbrukning	65266	183
Motorns genomsnittliga bränsleekonomi	65266	185
Tryck i motors insugsgrenrör #1	65270	102
Batteripotential/strömningång 1	65271	168
Transmissionens oljetemperatur	65272	177
Transmissionens oljetryck	65272	127
Bränslenivå	65276	96
Motorolfiltrets differentialtryck	65276	969

GPSMAP® 15x3 安裝指示

重要安全資訊

⚠ 警告

請見產品包裝內附的 GARMIN 安全及產品資訊須知，以瞭解產品注意事項及其他重要資訊。

連接電源線時，請勿取下引線式保險絲座。若要防止因火災或過熱而導致人身傷害或產品損壞的可能性，請務必按照產品規格所述，在正確的位置使用適當的保險絲。連接電源線但並未使用適當的保險絲會使產品保固失效。

未能根據這些指示安裝裝置，可能會導致人員傷害、船隻或裝置損壞，或產品效能降低。

⚠ 小心

為避免造成人員傷亡，在鑽孔、切割或研磨時，請務必配戴安全護目鏡、護耳裝置和防塵面罩。

為了避免人身傷害或造成裝置和船隻受損，開始安裝裝置前，請先拔除船隻的電源。

為了避免人身傷害或造成裝置或船隻受損，在對裝置供電前，請務必依照指南中的指示正確接地。

為了避免可能的人身傷害或本裝置和船隻損壞，請僅在船隻於陸地上，或在妥善固定和停靠於平靜水域時，安裝本裝置。

注意

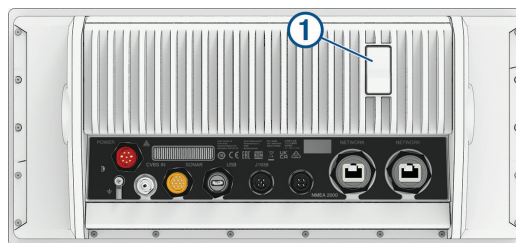
在鑽孔或切割時，請務必檢查表面的另一側，以避免船隻受損。

請閱讀所有安裝指示後，再繼續安裝。如果您在安裝時遭遇到困難，請聯絡 Garmin 產品支援部門。

Tools Needed

- Drill and 14 mm (⁹/₁₆ in.) bit (to prepare the surface for cutting)
- Jigsaw or rotary tool
- File and sandpaper
- Marine sealant (recommended)

Connector View



①	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.
POWER	Power and NMEA 0183 network
⏏	Ground screw (optional)
CVBS IN	Composite video in
SONAR	12-pin transducer
USB	Micro USB for compatible Garmin card reader
J1939	Engine or J1939 network
NMEA 2000	NMEA 2000 network
NETWORK	Garmin Marine Network

軟體更新

安裝後，您可能需要更新航儀軟體。如需如何更新軟體的指示，請參閱使用手冊，網址為 garmin.com/manuals/gpsmap15x3/。

Mounting Considerations

NOTICE

本裝置應該安裝在不會曝露於極端溫度或狀況下的地方。本裝置的溫度範圍列在產品規格中。長期曝露於超過指定溫度範圍的溫度下 (在儲存時或操作狀況中) 可能會造成裝置故障。極端溫度引起的損壞和相關後果不在保固涵蓋範圍內。

NOTE: This device is intended to be flush-mounted using the hardware included in the product box. If you would prefer to bail mount the device instead, you can purchase an optional bail-mount accessory from your Garmin dealer or at garmin.com.

When selecting a mounting location, you should observe these considerations.

- The location should provide optimal viewing as you operate your boat.
- The location should allow for easy access to all device interfaces, such as the keypad, touchscreen, and card reader, if applicable.
- The location must be strong enough to support the weight of the device and protect it from excessive vibration or shock.
- To avoid interference with a magnetic compass, the device should not be installed closer to a compass than the compass-safe distance value listed in the product specifications.
- The location must allow room for the routing and connection of all cables.
- When flush mounting the device, the location must not be a flat, horizontal surface. The location should be in a vertical angle.
- The location and viewing angle should be tested before you install the device. High viewing angles from above and below the display may result in a poor image.

Flush Mounting the Device

NOTICE

You must have access to the back of the mounting surface to install the hardware needed to flush mount this device. If you are not able to access the back of the mounting surface, you should not attempt to flush mount this device because you may cut a hole in your dashboard and then be unable to complete the installation, causing damage to the vessel.

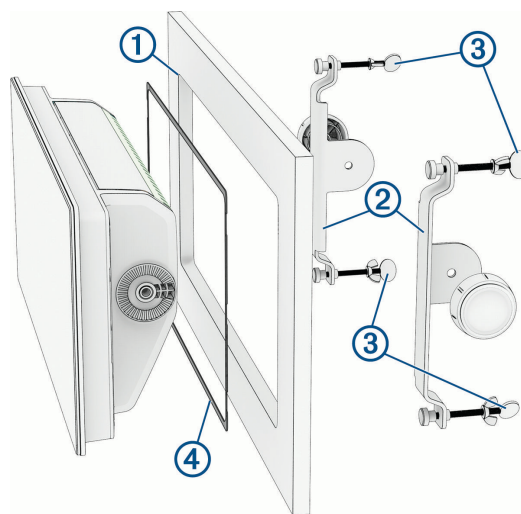
Be careful when cutting the hole to flush mount the device. There is only a small amount of clearance between the edge of the hole and the edge of the bezel that secures the device to the mounting surface. Cutting the hole too large could compromise the stability of the device after it is mounted.

If you will not have easy access to the microSD memory card slots on the back of the device after installation, you should insert a microSD memory card in one or both of the card slots prior to installation, or install an optional Garmin card reader so users can easily insert and remove cards after installation.

You can use the included template and brackets to mount the device in your dashboard.

The included brackets are designed to secure the device in a mounting surface less than or equal to a thickness of 25 mm (1 in.). If the mounting surface is thicker than 25 mm (1 in.), you can purchase brackets to accommodate a surface with a thickness up to 50 mm (2 in.) from your Garmin dealer or from garmin.com

- 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 mounting location.
- 3 Using a 14 mm ($\frac{9}{16}$ in.) drill bit, drill one or more of the holes inside the corners of the solid line on the template to prepare the mounting surface for cutting.
- 4 Using a jigsaw or a rotary tool, cut the mounting surface along the inside line on the template.
- 5 Remove the template from the mounting surface.
- 6 Place the device in the cutout ① to test the fit.

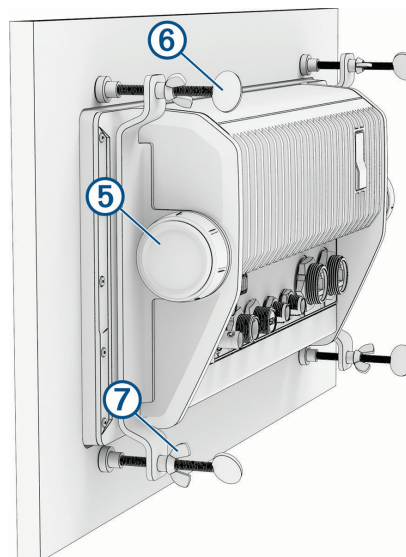


- 7 If necessary, use a file and sandpaper to refine the size of the cutout.
- 8 When the device fits properly in the cutout, you can place the brackets ② against the sides of the device and adjust the screws ③ closer to the back of the mounting surface to make the final tightening easier (optional).
- 9 Install the foam gasket ④ 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.
- 10 If you will not have easy access to the back of the device after you mount it, you can connect all necessary cables and install microSD cards in the back of the device before placing it into the cutout (optional).

NOTICE

To prevent corrosion of the metal contacts, cover unused connectors with the attached weather caps.

- 11 Apply a bead of marine sealant on the foam gasket along the inside of the bezel and insert the device into the cutout.
TIP: To keep the device from falling out of the mounting surface while you install the brackets on the back, you can use masking tape to hold the device in place or have another person hold the device in place.
- 12 Place one of the brackets against the side of the device and secure it using one of the included knobs ⑤.



- 13 Secure the other bracket to the other side of the device using the other knob.
- 14 Tighten one of the thumbscrews ⑥ until it contacts the back of the mounting surface until it stops.
Do not fully tighten the screw at this time. You will fully tighten them all later.

- 15 Tighten the other three screws until the device is held in place on the mounting surface.
- 16 Look at the device from the front and make sure it is straight and positioned as you intend, making any adjustments as needed.
- 17 Tighten all four of the screws to secure the device snugly to the mounting surface, taking care to not overtighten them.

NOTICE

Use only fingers when tightening the thumbscrews. Using a tool other than your fingers and overtightening the thumbscrews may damage the mounting surface, the device, or both.

- 18 Tighten the four wingnuts ⑦ on each thumbscrew to lock the thumbscrews at their present depths.

NOTE: The wingnuts do not provide tension to hold the device to the surface. They are designed to keep the thumbscrews from loosening over time.

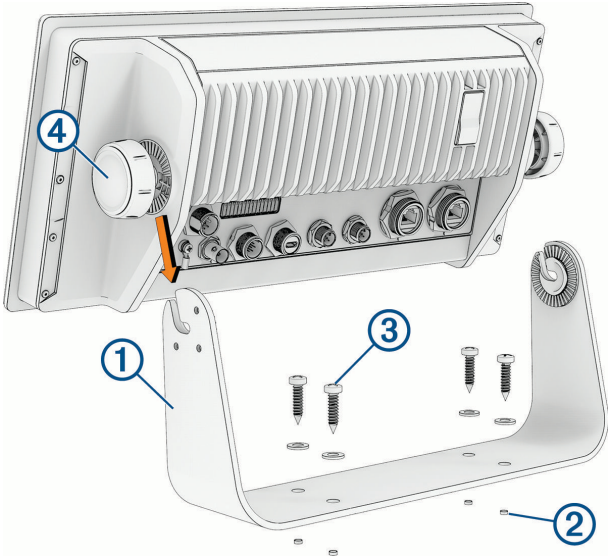
Bail Mounting the Device

NOTICE

如果您正在用螺絲將支架固定在玻璃纖維上，建議使用埋頭孔鑽頭以鑽出僅穿過頂部凝膠塗層的間隙埋頭孔。這將有助於在鎖緊螺絲時避免凝膠塗層裂開。

You can use a bail mount bracket (sold separately) to bail mount the device on a flat surface.

- 1 Using the bail-mount bracket ① as a template, mark the pilot holes.



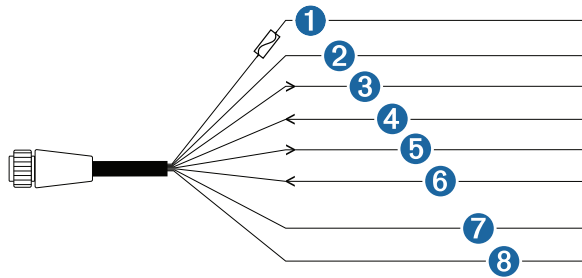
- 2 Drill the pilot holes.
- 3 Use either the mounting screws included with the bracket or your own mounting hardware to secure the bail-mount bracket to the mounting surface.
- 4 Install the bail-mount knobs ② on the sides of the device.
- 5 Place the device in the bail-mount bracket and tighten the bail-mount knobs.

連線考量事項

將纜線連接到裝置後，請將鎖環鎖緊，以保護每條纜線。

電源線/NMEA 0183 纜線

- 線束會將裝置連接到電源、NMEA 0183 裝置，以及警報燈或警笛，以呈現視覺或聽覺警示。
- 如果需要延長電源和接地線，您必須使用適當線規的電線來延長電源線 (Power Wire Extensions, 第 66 頁)。
- 如有必要延長 NMEA 0183 或警報電線，必須使用 22 AWG (0.33 平方公釐) 電線。
- 此纜線提供一個差動 NMEA 0183 輸入和輸出連接埠。



項目	電線顏色	電線功能
①	紅色	電源
②	黑色	接地 (電源與 NMEA 0183)
③	藍色	NMEA 0183 TxA (輸出 +)
⑤	灰色	NMEA 0183 TxB (輸出 -)
④	棕色	NMEA 0183 RxA (輸入 +)
⑥	紫色	NMEA 0183 RxB (輸入 -)
⑦	橙色	配件啟用
⑧	黃色	警報 (低電壓)

將線束連接至電源

警告

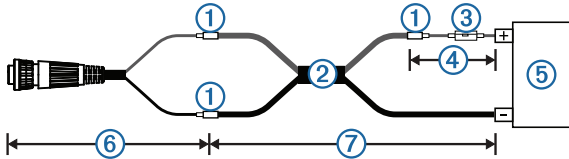
連接電源線時，請勿取下引線式保險絲座。若要防止因火災或過熱而導致人身傷害或產品損壞的可能性，請務必按照產品規格所述，在正確的位置使用適當的保險絲。連接電源線但並未使用適當的保險絲會使產品保固失效。

- 1 將線束連接至電源與裝置。
- 2 將紅色電線連接至電池正極 (+)，並將黑色電線連接至電池負極 (-)。
- 3 如有需要，請將鎖環與 O 型環安裝到線束末端。
- 4 將纜線插入裝置背面的 POWER 插孔，插入時請用力推入。
- 5 順時針轉動鎖環，將纜線連接到裝置上。

Power Wire Extensions

If necessary, the power wires can be extended using the appropriate wire gauge for the length of the extension.

NOTE: The power wires on this cable are red (+) and black (-). The other wires on this cable are used for other, optional connections and are not shown in this diagram.



①	Splice
②	• Up to 4.6 m (15 ft.): 10 AWG (5.26 mm²) extension wire • Up to 7 m (23 ft.): 8 AWG (8.36 mm²) extension wire • Up to 11 m (36 ft.): 6 AWG (13.29 mm²) extension wire
	Fuse (6 A, 125 V fast-acting)
③	NOTICE The fuse should be installed as close to the battery as possible. When extending the power wires, remove the inline fuse and relocate it near the battery connection.
④	20.3 cm (8 in.)
⑤	Battery

⑥	20.3 cm (8 in.)
⑦	11 m (36 ft.) maximum extension

額外地接地考量事項

在大部分的安裝情況下，此裝置應不需要額外的底板接地。若發生干擾情形，可使用機殼上的接地螺絲將裝置連接到船舶的射頻接地，以協助避免干擾。

Garmin Marine Network 考量事項

注意

將任何第三方裝置 (例如 FLIR 攝影機) 連接到 Garmin Marine Network 時，必須使用 Garmin Marine Network PoE 裝置隔離耦合器 (010-10580-10)。將乙太網路供電 (PoE) 裝置直接連接到 Garmin Marine Network 航儀會使 Garmin 航儀受損，並且可能會使 PoE 裝置損壞。將任何第三方裝置直接連接到 Garmin Marine Network 航儀時，會造成 Garmin 裝置發生異常行為，包括裝置無法正常關閉，或是軟體無法運作。

此裝置可連接額外的 Garmin Marine Network 裝置，以分享雷達、聲納及詳細地圖等資料。將 Garmin Marine Network 裝置連接到此裝置時，請遵守下列考量事項。

- 所有連接到 Garmin Marine Network 的裝置都必須連接相同的接地。如果 Garmin Marine Network 裝置使用多個電源，您必須使用低電阻連接將來自所有電源的所有接地連接繫在一起，或將其繫至一般接地匯流排桿 (若有的話)。
- 所有 Garmin Marine Network 連接都必須使用 Garmin Marine Network 纜線。
 - 第三方 CAT5 纜線及 RJ45 接頭不可用於 Garmin Marine Network 連接。
 - 如需額外的 Garmin Marine Network 纜線和接頭，請洽 Garmin 經銷商。
- 裝置上的 NETWORK 連接埠皆可獨立作為網路交換器。任何相容的裝置都可以連接至任何 NETWORK 連接埠，以便與船上透過 Garmin Marine Network 纜線連接的所有裝置分享資料。

NMEA 2000 考量事項

注意

如果您要連線到現有的 NMEA 2000 網路，請找出 NMEA 2000 電源線。僅需一條 NMEA 2000 電源線，即可讓 NMEA 2000 網路正常運作。

進行安裝時，若不知道現有的 NMEA 2000 網路製造商為何，應使用 NMEA 2000 電源隔離器 (010-11580-00)。

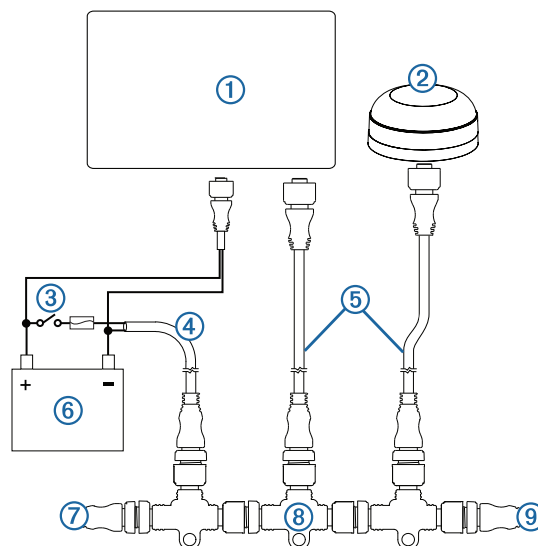
如果您正在安裝 NMEA 2000 電源線，您必須將其連接到船隻點火開關或者透過另一個線中開關。如果 NMEA 2000 電源線直接連接到電池，NMEA 2000 裝置將會耗盡您的電池電力。

此裝置可連接船上的 NMEA 2000 網路，以便從與 NMEA 2000 相容的裝置 (如 GPS 天線或 VHF 無線電) 分享資料。隨附的 NMEA 2000 纜線與接頭可讓您將裝置連接到現有的 NMEA 2000 網路。若目前沒有 NMEA 2000 網路，您可以使用 Garmin 的纜線建立基本網路。

此裝置不是透過 NMEA 2000 網路供電。您必須將裝置連接至電源 (將線束連接至電源，第 66 頁)。

如果您不熟悉 NMEA 2000，您應至 garmin.com/manuals/nmea_2000 閱讀 NMEA 2000 產品技術資料。

標示為 NMEA 2000 的連接埠可用於將裝置連接到標準 NMEA 2000 網路。



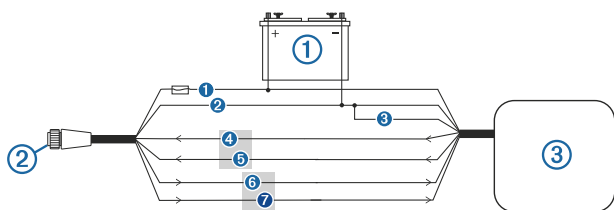
項目	說明
①	相容於 NMEA 2000 的 Garmin 裝置
②	GPS 天線
③	點火開關或線中開關
④	NMEA 2000 電源線
⑤	NMEA 2000 下引纜線
⑥	12 Vdc 電源
⑦	NMEA 2000 終端電阻或骨幹纜線
⑧	NMEA 2000 T 型接頭
⑨	NMEA 2000 終端電阻或骨幹纜線

NMEA 0183 連線考量事項

- 航儀提供一個 Tx (傳輸) 連接埠和一個 Rx (接收) 連接埠。
- 每個連接埠各有 2 條電線，根據 NMEA 0183 的命名慣例分別標示為 A 和 B。各內部連接埠的 A 及 B 電線應連接到 NMEA 0183 裝置的 A (+) 及 B (-) 電線。
- 您可以將一個 NMEA 0183 裝置連接到 Rx 連接埠，以輸入資料至此航儀，且最多可連接三個 NMEA 0183 裝置到 Tx 連接埠，以接收此航儀輸出的資料。
- 請參閱 NMEA 0183 裝置安裝指示，以找出傳輸 (Tx) 和接收 (Rx) 電線。
- 必須使用 22 AWG (.33 mm²) 的遮蔽式雙絞線，才能延長電線長度。將所有接線焊在一起，然後使用熱縮管密封起來。
- 除非有特定安裝類型的指示，否則請勿將此裝置的 NMEA 0183 資料線連接到電源接地。
- 航儀的電源線及 NMEA 0183 裝置皆需連接到共同的電源接地。
- 內部 NMEA 0183 連接埠與通訊的通訊協定是在航儀上進行設定。請參閱航儀使用手冊中的 NMEA 0183 章節，以取得更多資訊。
- 請參閱航儀使用手冊，以取得航儀支援的已核准 NMEA 0183 語句清單。

NMEA 0183 裝置連線

此圖表顯示可傳送及接收資料的雙向連線。您也可以將此圖表用於單向通訊。若要從 NMEA 0183 裝置接收資訊，請在連接 Garmin 裝置時參考項目 ①、②、③、④ 和 ⑤。若要從 NMEA 0183 裝置發送資訊，請在連接 Garmin 裝置時參考項目 ①、②、③、⑥ 和 ⑦。



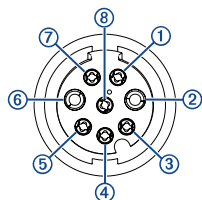
項目	說明
①	電源
②	電源線
③	NMEA 0183 裝置
④	NMEA 0183 纜線

項目	Garmin 電線功能	Garmin 電線顏色	NMEA 0183 裝置電線功能
①	電源	紅色	電源
②	電源接地	黑色	電源接地
③	資料接地	黑色	資料接地
④	Rx/A (輸入 +)	白/橙	Tx/A (輸出 +)
⑤	Rx/B (輸入 -)	白	Tx/B (輸出 -)
⑥	Tx/A (輸出 +)	灰色	Rx/A (輸入 +)
⑦	Tx/B (輸出 -)	粉紅色	Rx/B (輸入 -)

若 NMEA 0183 裝置只有一條輸入 (接收, Rx) 電線 (沒有 A、B、+ 或 -), 粉紅色連接線即必須保持未連接的狀態。

若 NMEA 0183 裝置只有一條輸出 (傳輸, Tx) 電線 (沒有 A、B、+ 或 -), 白/橙連接線即必須接地。

NMEA 0183 及電源線插腳輸出



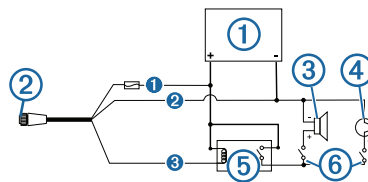
插腳編號	電線功能	電線顏色
③	NMEA 0183 Tx/A (輸出 +)	藍色
④	NMEA 0183 Rx/A (輸入 +)	棕色
①	NMEA 0183 Tx/B (輸出 -)	灰色
⑦	NMEA 0183 Rx/B (輸入 -)	紫色
⑤	警報	黃色
⑧	配件啟用	橙色
②	接地 (遮蔽)	黑色
⑥	VIN	紅色

警報燈或警笛連接

裝置可以與警報燈、警笛或二者搭配使用, 以在航儀顯示訊息時發出聲音或閃爍警示。這不是必要項目, 裝置沒有警報線也能正常運作。裝置連接警報燈或警笛時, 請遵守這些考量事項。

- 警報電路在警報響起時, 會切換為低電壓狀態。
- 最大電流是 100 mA, 且必須有繼電器, 以將航儀輸出電流限制為 100 mA。

- 若要手動切換視覺和聽覺警示, 您可以安裝單極單投開關。



項目	說明
①	電源
②	電源線
③	警笛
④	警報燈
⑤	繼電器 (100 mA 線圈電流)
⑥	切換關閉以啟用和停用警報燈或警笛警示

項目	電線顏色	電線功能
①	紅色	電源
②	黑色	接地
③	黃色	警報

J1939 引擎網路連線考量事項

注意

您必須使用 Garmin GPSMAP J1939 配件纜線將航儀連接到 J1939 引擎網路, 以避免因水氣而腐蝕。使用不同的纜線會使保固失效。

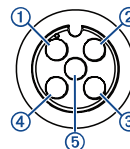
如果船隻上有現有引擎網路, 應已接上電源。請勿增加任何額外電源。

本航儀可連線船隻上的引擎網路以從相容裝置 (例如特定引擎) 讀取資料。引擎網路遵循標準並使用專有訊息。

連接航儀時, 您應諮詢引擎或引擎網路的製造商。有些製造商可能會有一些規定, 要求您在連接時必須遵守, 以避免發生非預期的行為。

標有 J1939 的連接埠是用於將裝置連線至現有的引擎網路。您必須在距離引擎網路骨幹 6 公尺 (20 英尺) 的範圍內進行佈線。

Garmin GPSMAP J1939 配件纜線需要連接電源與合適的終端。如需其他有關連線至引擎網路的資訊, 請參閱製造商的引擎說明文件。



針腳	電線顏色	說明
①	裸線	遮蔽
②	紅色	電源 (正極)
③	黑色	電源 (負極)
④	白	CAN 高速
⑤	藍色	CAN 低速

複合視訊考量事項

此航儀允許使用標示為 CVBS IN 的連接埠, 從複合視訊來源輸入視訊。當連接複合視訊時, 您應遵守這些考量事項。

- CVBS IN 連接埠使用 BNC 接頭。您可以使用 BNC 轉 RCA 轉接器, 將有 RCA 接頭的複合視訊來源連接至 CVBS IN 連接埠。
- 視訊會在 Garmin Marine Network 中分享, 但不會在 NMEA 2000 網路中分享。

Specifications

Dimensions (W × H × D)	384.7 × 266.4 × 78 mm (15 1/8 × 10 1/2 × 3 1/16 in.)
Dimensions with cover on bail mount (W × H × D)	405.9 × 277.3 × 110 mm (16 × 10 15/16 × 4 3/8 in.)
Clearance to next obstruction behind chartplotter	94 mm (3 3/4 in.)
Display size (W × H)	345.2 × 194.6 mm (13 9/16 × 7 11/16 in.) 396.3 mm (15 5/8 in.) diagonal
Display resolution	1920 × 720 pixels (IPS)
Weight	4.45 kg (9.8 lb.)
Compass-safe distance	85 cm (33.5 in.)
Wireless frequency	2.4 GHz @ 19.7 dBm maximum
Max. power usage at 10 Vdc	56.93 W
Typical current draw at 12 Vdc	2.44 A
Max. current draw at 12 Vdc	4.31 A
Fuse	6 A, 125 V fast-acting
Temperature range	From -15° to 55°C (from 5° to 131°F)
Material	Polycarbonate plastic and die-cast aluminum
Water rating	IEC 60529 IPX7 ¹⁹
Input voltage	From 10 to 32 Vdc
NMEA 2000 LEN @ 9 Vdc	2
NMEA 2000 draw	75 mA max.
USB connector	Micro-USB for compatible Garmin card reader ²⁰
Memory card	2 microSD memory card slots, 32 GB max. card size, formatted to FAT32 or exFAT with speed class 10 or higher.

NMEA 2000 PGN 資訊

發送與接收

PGN	說明
059392	ISO 確認
059904	ISO 請求
060160	ISO 傳輸通訊協定：資料傳輸
060416	ISO 傳輸通訊協定：連線管理
060928	宣告擁有 ISO 位址
126208	要求群組功能
126993	心跳
126996	產品資訊
126998	設定資訊
127237	航行方向/航跡控制
127245	船舵
127250	船隻航行方向
127258	磁偏
127488	引擎參數：快速更新
127489	引擎參數：動態
127490	電驅動狀態：動態
127491	電力儲存狀態：動態
127493	變速箱參數：動態
127494	電驅動資訊

PGN	說明
127495	電力儲存資訊
127505	液位
127508	電池狀態
128002	電驅動狀態：快速更新
128003	電力儲存狀態：快速更新
128259	速度：對水
128267	水深
129025	位置：快速更新
129026	COG 和 SOG：快速更新
129029	GNSS 位置資料
129283	偏離距離
129284	導航資料
129285	導航 - 航線/航點資訊
129539	GNSS DOP
129540	可見的 GNSS 衛星
130060	標籤
130306	風資料
130310	環境參數 (過時)
130312	溫度 (過時)

發送

PGN	說明
126464	發送與接收 PGN 清單群組功能
126984	警示回應
127258	磁偏角
127497	航程參數：引擎
127502	開關組控制 (已淘汰)

接收

PGN	說明
065030	發電機平均基本 AC 量 (GAAC, Generator average basic AC quantity)
065240	透過命令取得位址
126983	警示
126985	警示文字
126987	警示閾值
126988	警示值
126992	系統時間
127233	人員落水
127237	航行方向/航跡控制
127245	船舵
127251	轉彎速率
127252	起伏
127257	姿態
127498	引擎參數：靜態
127501	開關組狀態
127503	AC 輸入狀態 (過時)
127504	AC 輸出狀態 (過時)

¹⁹ 裝置若意外暴露於水中，承受程度水深最深為 1 公尺，最多 30 分鐘。如需更多資訊，請至 www.garmin.com/waterrating。

²⁰ Only compatible Garmin card readers recommended. Third-party card readers are not guaranteed to be fully compatible.

PGN	說明
127506	DC 詳細狀態
127507	充電器狀態
127509	反向器狀態
128000	航海風壓差角
128275	距離記錄
128780	線性致動器
129038	AIS 類別 A 位置報告
129039	AIS 類別 B 位置報告
129040	AIS 類別 B 延伸位置報告
129041	AIS 輔助導航 (AtoN) 報告
129044	大地座標系統
129285	導航：航線、航點資訊
129794	AIS 類別 A 靜止和航行相關資料
129798	AIS SAR 航空器位置報告
129799	無線電頻率/模式/功率
129802	AIS 安全相關廣播訊息
129808	DSC 呼叫資訊
129809	AIS 類別 B 「CS」靜止資料，部分 A
129810	AIS 類別 B 「CS」靜止資料，部分 B
130067	航線和航點服務：航線、航點名稱與位置
130311	環境參數 (過時)
130313	溼度
130314	實際壓力
130316	溫度：延伸範圍
130569	娛樂：目前的檔案與狀態
130570	娛樂：媒體櫃資料檔案
130571	娛樂：媒體櫃資料群組
130573	娛樂：支援的來源資料
130574	娛樂：支援的區域資料
130576	艀翼狀態
130577	方向資料

NMEA 0183 資訊發送

語句	說明
GPAPB	APB：航行方向或航跡控制器 (自動引航) 語句「B」
GPBOD	BOD：相對方位 (起點到目標點)
GPBWC	BWC：與航點的相對方位和距離
GPGGA	GGA：全球定位系統修正資料
GPGLL	GLL：地理位置 (緯度和經度)
GPGSA	GSA：GNSS DOP 和使用中的衛星
GPGSV	GSV：可見的 GNSS 衛星
GPRMB	RMB：建議的最低導航資訊
GPRMC	RMC：建議的最低特定 GNSS 資料
GPRTE	RTE：航線
GPVTG	VTG：真實航向和對地速度
GPWPL	WPL：航點位置
GPXTE	XTE：偏離距離
PGRME	E：估計誤差
PGRMM	M：地圖大地座標系統

語句	說明
PGRMZ	Z：高度
SDDBT	DBT：測感器下深度
SDDPT	DPT：深度
SDMTW	MTW：水溫
SDVHW	VHW：水速和航行方向
TLB	目標標籤
TLL	目標經緯度
TTD	已追蹤目標資料
ZDA	時間與日期

接收

語句	說明
DPT	深度
DBT	測感器下深度
MTW	水溫
VHW	水速和航行方向
WPL	航點位置
DSC	數位選擇性呼叫資訊
DSE	擴大數位選擇性呼叫
HDG	航行方向、偏差和變異
HDM	航行方向 (磁方位)
MWD	風向和風速
MDA	氣象綜合
MWV	風速和風向角
RTE	航線
VDM	AIS VHF 資料連結訊息

您可以從 www.nmea.org 購買關於美國國家航海電子協會 (NMEA , National Marine Electronics Association) 格式和語句的完整資訊。

J1939 資訊

航儀可以接收 J1939 語句。航儀無法透過 J1939 網路傳送。

Descriptions	PGN	SPN
目前速度的引擎負載百分比	61443	92
引擎轉速	61444	190
引擎歧管排氣氣體溫度 - 右歧管	65031	2433
引擎歧管排氣氣體溫度 - 左歧管	65031	2434
引擎輔助冷卻劑	65172	
主動診斷問題碼	65226	
載具距離	65248	
燃料進水指示器	65279	
引擎等候啟動燈	65252	1081
引擎超速測試	65252	2812
引擎空氣關閉命令狀態	65252	2813
引擎警報輸出命令狀態	65252	2814
引擎運轉總時數	65253	247
以導航為基礎的船隻速度	65256	517
引擎燃料溫度 1	65262	174
引擎機油溫度 1	65262	175
引擎燃料供給壓力	65263	94
引擎油壓	65263	100

Descriptions	PGN	SPN
引擎冷卻液壓力	65263	109
引擎冷卻液溫度	65263	110
引擎冷卻液液位	65263	111
引擎燃料消耗率	65266	183
引擎平均油耗	65266	185
引擎進氣歧管 1 壓力	65270	102
電池電位 / 電源輸入 1	65271	168
變速箱機油溫度	65272	177
變速箱油壓	65272	127
燃料量	65276	96
引擎機油濾芯差壓	65276	969

低功率電波輻射器材管理宣告

本產品謹遵循 NCC 所頒布電信管理法，並經驗證通過合格，請使用者遵循相關電信法規以避免違反規定受罰。若使用者欲攜帶本機至其他地區或國家應用，也請遵循該地區或國家之相關法令限制。根據 NCC 低功率射頻器材技術規範規定：

3.8.2 章節：

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

聯絡地址

製造銷售: 台灣國際航電股份有限公司

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