

# GARMIN®

## FUSION® SIGNATURE SERIES SUBWOOFER



### 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.

This device must be installed according to these instructions to avoid serious personal injury or possible property damage.

Disconnect the vessel's power supply before beginning to install this device to avoid serious personal injury or possible property damage.

##### **⚠ CAUTION**

It is strongly recommended that you have your audio system installed by a professional installer to ensure optimum performance and to avoid personal injury or property damage.

Continuous exposure to sound pressure levels over 100 dBA may cause permanent hearing loss. The volume is typically too loud if you cannot hear people speaking around you. Limit the amount of time you listen at high volume. If you experience ringing in your ears or muffled speech, stop listening and have your hearing checked.

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

##### **NOTICE**

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

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, go to [support.garmin.com](https://support.garmin.com) for product support.

#### Tools Needed

- Electric drill
- Drill bit (size varies based on surface material)
- Appropriate saw or utility knife to cut surface material
- Phillips screwdriver
- Wire strippers
- 12 AWG (3 through 4 mm<sup>2</sup>) or larger marine-grade, fully-tinned copper speaker wire  
You can purchase this wire from your Fusion® or Garmin® dealer:
  - 010-12898-00: 7.62 m (25 ft.)
  - 010-12898-10: 15.24 m (50 ft.)
  - 010-12898-20: 100m (328 ft.)

- Solder and water-tight heat shrink tubing or water-tight, heat-shrink, butt-splice connectors (optional)
- Marine sealant (optional)

**NOTE:** For customized installations, additional tools and materials may be needed.

## Mounting Location and Water Resistance

### **WARNING**

The front of the subwoofer is protected from water ingress. The rear of the subwoofer, including all connected components and wires, is not waterproof and must be protected against moisture exposure. Moisture exposure to the rear of the subwoofer can lead to subwoofer component failure which can cause a fire resulting in property damage, serious personal injury, or death.

### **NOTICE**

When mounting the subwoofer in an area exposed to weather or water, you must mount the subwoofer on a vertical surface. If you mount the subwoofer on a horizontal surface facing up, water can gather in and around the subwoofer, causing damage over time.

If you intend to mount the subwoofer outside the boat, you must mount it in a location well above the waterline, where it is not submerged or damaged by docks, pilings, or other pieces of equipment. When mounted correctly, this subwoofer is rated for protection from the front of the subwoofer. Water exposure and damage to the rear of the subwoofer voids the warranty. This includes situations when the subwoofer is mounted in an enclosure, especially if it is exposed to wash down. Using an enclosure with a port or vent exposed to the outside environment may allow water to collect and damage the subwoofer.

You must turn off the audio system before making any connections to the source unit, amplifier, speakers, or subwoofer. Failure to do so could result in permanent damage to the audio system.

You should protect all terminals and connections from grounding and from each other. Failure to do so could result in permanent damage to the audio system and void the product warranty.

When selecting a mounting location for the subwoofer, observe these considerations:

- You must select a mounting location that protects the rear of the subwoofer from moisture exposure.
- You must select mounting locations that provide sufficient clearance for the mounting depth of the subwoofer as specified in the product specifications.
- You should select a flat, vertical mounting surface for the best seal.
- You should protect the subwoofer wires from sharp objects and always use rubber grommets when wiring through panels.
- To avoid interference with a magnetic compass, you should not mount the subwoofer closer to a compass than the compass-safe distance value listed in the product specifications.

Selecting the correct mounting location optimizes the performance of the subwoofer. The subwoofer is designed to perform in the widest possible range of mounting locations, but the more you plan the installation, the better the subwoofer's sound will be.

## Mounting the Subwoofer

Before mounting the subwoofer, you must choose a location following the guidelines above.

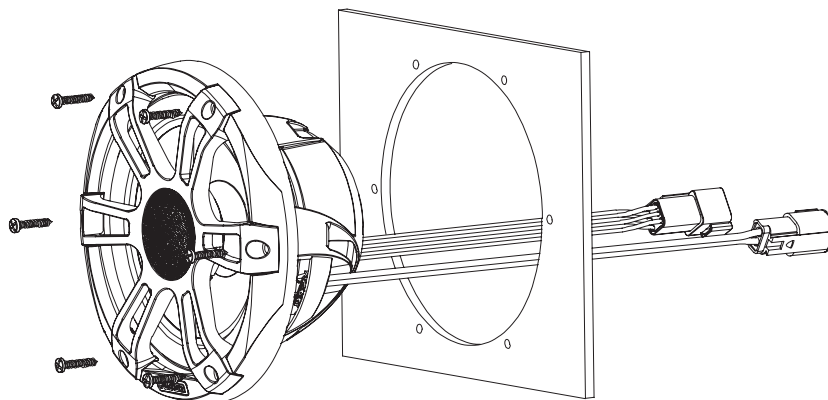
- 1 Trim the template and make sure it fits in the selected location.
- 2 Orient the template so the Fusion® logo is level.
- 3 Secure the template to the selected location.
- 4 Using a jigsaw or rotary tool, cut the mounting surface along the inside of the line on the template.
- 5 Place the subwoofer in the cutout to test the fit.
- 6 If necessary, use a file and sandpaper to refine the size of the cutout.
- 7 After the subwoofer fits correctly in the cutout, ensure the mounting holes on the subwoofer line up with the pilot holes on the template.
- 8 If the mounting holes do not line up, mark the new hole locations.
- 9 Using an appropriately sized drill bit for the mounting surface and screw type, drill the holes.

### **NOTICE**

Do not drill the pilot holes through the holes on the subwoofer. Drilling through the subwoofer may damage it.

- 10 Remove the template from the mounting surface.

- 11 Route speaker wire (not included) from the source to the subwoofer location ([Speaker Wiring, page 3](#)).  
**NOTE:** Avoid routing the speaker wire near sources of electrical interference.
- 12 For LED models, route the appropriate wire from the speaker location to the location of the LED controller or the battery ([LED Wiring, page 3](#)).
- 13 Connect the speaker wires to the included wiring harness while observing polarity.
- 14 For LED models, connect the LED wires to the included wiring harness.
- 15 Connect the wiring harnesses to the appropriate connectors on the subwoofer.
- 16 Place the subwoofer in the cutout.



- 17 Secure the subwoofer to the mounting surface using the included screws.  
Some versions of the sports model subwoofer include plastic washers you should install on the screws to protect the paint.

**NOTE:** Do not over tighten the screws, especially if the mounting surface is not flat.

For a Classic model subwoofer, attach the grille ([Attaching the Grille to the Classic Model Subwoofer, page 3](#)).

### Attaching the Grille to the Classic Model Subwoofer

**NOTE:** This feature is available only on the Classic model subwoofer.

- 1 With the subwoofer mounted, hold the grille with the Fusion® logo at the bottom, at the 6 o'clock position.
- 2 Turn the grille counter-clockwise about 10°, so the Fusion logo is at the 5 o'clock position.
- 3 Place the grille on the rim of the subwoofer.
- 4 Twist the grille clockwise to secure it.

## Speaker Wiring

When connecting the subwoofer to your amplifier, observe these considerations.

- The wires on the speaker are terminated using a connector, and you should use the provided wiring harness when connecting the speaker wires to the amplifier.
- Speaker wire is not included. You should use 12 AWG (3 through 4 mm<sup>2</sup>) or larger speaker wire to connect the wiring harness to the amplifier.
- You should use a water-tight connection method when connecting speaker wire to the wiring harness.

You can use this table to identify the polarity of the wires on the provided harness.

Lead color	Polarity
White	Positive (+)
White with a black stripe	Negative (-)

## LED Wiring

### NOTICE

Using certain LED colors on the speakers, such as red and green, may violate the laws, regulations, and standards related to the use and/or operation of marine navigation lights. It is the user's responsibility to

comply with any such applicable laws, regulations, and standards. Garmin® is not responsible for any fines, penalties, citations, or damages that may be incurred due to any such lack of compliance.

It is recommended to install a Fusion® CRGBW Wireless Remote Control module with this speaker to turn the LEDs on and off, change the colors, and create lighting effects. See your Fusion dealer or [garmin.com](http://garmin.com) for more information.

The LED wires on the speaker are terminated using a connector, and you should use the provided wiring harness when connecting the LED wires to a CRGBW Wireless Remote Control module or power source.

**NOTE:** LEDs are not available on all models.

## Connecting the LED Wires Directly

If you do not install the recommended remote control, you can set the static color of the LEDs by connecting the color LED wires from the harness to the negative (-) terminal of a 12 Vdc power source. You can splice the negative (-) wire to multiple LED wires to customize the LED color and tone. You must connect the black LED wire from the harness to the positive (+) terminal of the same power source to complete the circuit.

The LED wires on the subwoofer are terminated using a connector, and you should use the provided harness when connecting the LED wires directly to power.

You should use 20 AWG (0.5 through 0.75 mm<sup>2</sup>) or thicker wire to connect the LED wires from the harness to the battery.

You must connect the positive (+) wire (black) for all of the speaker LEDs through a fuse appropriate for your speaker model near the power source. You should also connect the positive (+) power wire to the power source through an isolator switch or circuit breaker to turn the LEDs on and off. You can use the same isolator or circuit breaker controlling the power supply to your stereo, which allows you to turn the LEDs and the stereo on and off at the same time.

You should use a water-tight connection method when connecting wire to the LED wiring harness.

- 1 Connect the black wire on the LED harness to the positive (+) terminal of the power source.

**NOTE:** You must connect the positive wire through a fuse appropriate for your speaker model (*LED Fuse Installation, page 4*).

- 2 Connect the negative (-) wire from the same power source to one or more colored wires on the LED harness according to the preferred LED color.

### NOTICE

You must insulate all unused LED wires on the harness to avoid causing a short circuit.

LED Color	LED Harness Wire Color
Red	Red
Green	Green
Blue	Blue
Yellow	Red and green
Magenta	Red and blue
Cyan	Blue and green
Cool white	Turquoise
Warm white	Yellow

**NOTE:** You can connect the cool white or warm white wire to change the tone of any LED color combination.

- 3 Connect the harness to the speaker.

## LED Fuse Installation

### ⚠ WARNING

You must install an inline fast-blow fuse on the positive wire at the power-source end of the LED cable for each speaker to protect the LEDs and the speaker from excessive electrical current. Failure to install a fuse could cause a fire resulting in property damage, serious personal injury, or death.

- The fuse must be installed in a fuse holder intended for marine use.
- The fuse must be installed on the positive wire on the power-source end of the LED cable.
- The fuse must be installed for use with any power source, including a lighting controller.
- Always use a fuse of the correct amperage rating and type for your speaker model.

Speaker Model	Fast-blow Fuse Rating
Fusion® Signature Series 10 in. Subwoofers with LED Lighting	300 mA
Fusion Signature Series 12 in. Subwoofers with LED Lighting	300 mA

## Wire Strain Relief

### NOTICE

Failure to secure the wiring-harness connections can damage the speaker.

The wires connected to the speaker and the included wiring harness use Amphenol™ AT Series™ connectors, and these connectors must be secured during installation to provide strain relief for the internal wire connections to the speaker. You can secure these connections using various methods.

- You can use cable ties or other third-party fastening devices to secure the connection to an appropriate location.
- You can use the various Amphenol A Series™ clips produced by Amphenol to secure the connection. You can check with your local electronics or marine dealer, or go to the Amphenol-Sine website for more information.

## Speaker Information

### True-Marine™ Products

True-Marine products are subjected to rigorous environmental testing under harsh marine conditions to surpass industry guidelines for marine products.

Any product that bears the True-Marine stamp of assurance has been designed for simplicity of use and combines advanced marine technologies to deliver an industry leading entertainment experience. All True-Marine products are supported by the Fusion® 3-year worldwide limited consumer warranty.

### Cleaning the Subwoofer

#### NOTICE

When mounted correctly, the front of this subwoofer is protected against dust and water ingress under normal conditions. They are not designed to withstand high pressure water spray, which may occur when you wash down your vessel. High-pressure spray on the subwoofer may damage the product and void the warranty.

Do not use harsh or solvent-based cleaners on the subwoofer. Using such cleaners may damage the product and void the warranty.

- 1 Clean all salt water and salt residue from the speaker with a damp cloth soaked in fresh water.
- 2 Use a mild detergent to remove a heavy buildup of salt or stains.

## Specifications

### 10" Subwoofer

Max. power	600 W
RMS power	300 W
LED Supply Voltage (LED models only)	From 10.8 to 16 Vdc
LED Load Current at 14.4 Vdc (LED models only)	40 mA per color
Frequency response	From 30 Hz to 2 kHz
Sensitivity (1 W/1 m)	86 dB
Impedance	4 ohms
Nominal voice coil diameter	50 mm
Min. mounting depth (clearance)	133 mm (5 <sup>1</sup> / <sub>4</sub> in.)
Mounting diameter (clearance)	223 mm (8 <sup>13</sup> / <sub>16</sub> in.)
Amplifier power-rating recommendation	50 to 400 W RMS, playing music
Compass-safe distance	520 cm (205 in.)

## 12" Subwoofer

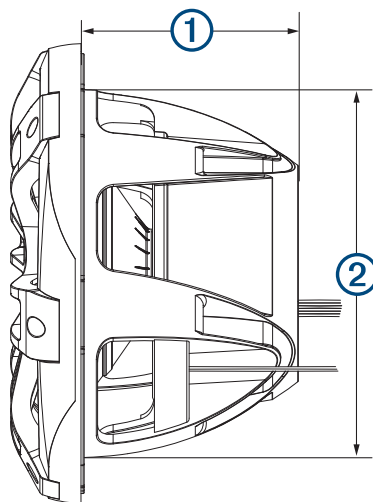
Max. power	1400 W
RMS power	700 W
LED Supply Voltage (LED models only)	From 10.8 to 16 Vdc
LED Load Current at 14.4 Vdc (LED models only)	50 mA per color
Frequency response	From 20 Hz to 2 kHz
Sensitivity (1 W/1 m)	86 dB
Impedance	4 ohms
Nominal voice coil diameter	100 mm
Amplifier power-rating recommendation	200 to 1000 W RMS, playing music
Min. mounting depth (clearance)	207 mm (8 <sup>5</sup> / <sub>32</sub> in.)
Mounting diameter (clearance)	306 mm (12 <sup>3</sup> / <sub>64</sub> in.)
Grille height from surface	50 mm (2 in.)
Compass-safe distance	460 cm (181 in.)

## All Models

Operating temperature range	From 0 to 50°C (from 32 to 122°F)
Storage temperature range	From -20 to 70°C (from -4 to 158°F)
Cone material	Polypropylene cone with Santoprene rubber surround
Ingress protection rating	IEC 60529 IP65 <sup>1</sup>
Wiring harness connector type	Audio: Amphenol™ AT Series™ ATP 2-way LED: Amphenol AT Series AT 6-way

## Dimension Drawings

### Side View

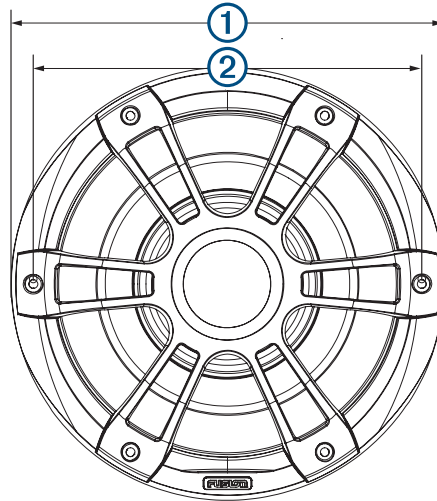


Measurement	10" Subwoofer	12" Subwoofer
①	130 mm (5 1/8 in.)	204 mm (8 1/16 in.)
②	220 mm (8 21/32 in.)	303 mm (11 15/16 in.)

A Sports model subwoofer is shown, but the dimensions are the same for the Classic model.

<sup>1</sup> Protected from dust and water ingress.

## Front View



Measurement	10" Subwoofer	12" Subwoofer
①	275 mm (10 <sup>13</sup> / <sub>16</sub> in.)	356 mm (14 in.)
②	247 mm (9 <sup>3</sup> / <sub>4</sub> in.)	325 mm (12 <sup>13</sup> / <sub>16</sub> in.)

A Sports model subwoofer is shown, but the dimensions are the same for the Classic model.

## Optimum Enclosure Recommendations

Specification	10" Subwoofer	12" Subwoofer
Sealed enclosure volume <sup>2</sup>	27 L (0.95 ft. <sup>3</sup> )	≥ 60 L (2.12 ft. <sup>3</sup> )
Ported (vented) enclosure volume <sup>3</sup>	45 L (1.6 ft. <sup>3</sup> )	250 L (8.83 ft. <sup>3</sup> )
Port diameter	104 mm (4.1 in.)	101.6 mm (4 in.)
Port length	265 mm (10 <sup>7</sup> / <sub>16</sub> in.)	127 mm (5 in.)

## 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
塑料件	○	○	○	○	○	○
磁钢	○	○	○	○	○	○
金属连接件	○	○	○	○	○	○
金属结构件(T 铁甲板)	○	○	○	○	○	○
电线	○	○	○	○	○	○
PC 混纺软件	○	○	○	○	○	○

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。



## 連絡地址

委製銷售:台灣國際航電股份有限公司

<sup>2</sup> Fully filled with absorption material.

<sup>3</sup> Lined with absorption material.

聯絡地址:新北市汐止區樟樹二路 68 號

電話:(02)2642-8999

客服專線:(02)2642-9199

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