# FUSION®
A Garmin Brand

# Fusion® XS Series Marine Wake Tower Speakers 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. |
| Disconnect the vehicle's or vessel's power supply before beginning to install this device. |

| ⚠ CAUTION |
|---|
| 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. |
| It is strongly recommended that you have your audio system installed by a professional installer to ensure optimum performance. |

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, go to www.fusionentertainment.com for product support.

## What's In the Box
- Two wake tower can speakers

## Materials and Tools Needed
- 16 AWG (1.31 mm$^2$) wire (speakers) (*Speaker Wire Gauge Guide*, page 2)
- 20 AWG (0.5 mm$^2$) wire (LEDs)
- 3 A in-line fuse (LEDs)
- Speaker mounting bracket (sold separately)[1]
- Drill and 12 mm ($^1/_2$ in.) drill bit
- Wire strippers
- Solder and dual-wall heat-shrink tubing for wire connections

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

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[1] Various brackets are available for mounting these speakers on a wake tower bar or on a deck. See your Fusion dealer for more information.

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# Mounting the Speakers

You must purchase mounting brackets for the Fusion XS Series speakers separately. Each type of mounting bracket contains specific installation instructions.

1. If necessary, mark the locations on the wake tower or the deck where you plan to mount the speakers.
2. If necessary, drill a 12 mm ($^1/_2$ in.) cable pass-through hole in the wake tower or deck.
3. Route the speaker and LED power wires (not included) to the mounting locations.
4. Using the installation instructions provided with the mounting bracket, connect the bracket to the speakers and to the wake tower or the deck.
5. Connect the speaker wires (*Speaker Wiring*, page 2).
6. If necessary, connect the LED power wires (*LED Wiring*, page 3).

## Speaker Wiring

When connecting the speakers to your stereo or amplifier, observe these considerations.

- Speaker wire is not included with the speakers. You should use the recommended speaker wire to connect the speakers to the stereo or amplifier (*Speaker Wire Gauge Guide*, page 2).
- You should make all wiring connections using solder and heat-shrink tubing (not included). You can use crimp connectors instead of solder and heat-shrink if the crimp connectors can be routed through the bracket and the wake tower or your mounting location, so you should plan and select the best connection type for your installation needs.
- You can use this table to identify the polarity of the leads on the speaker.

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

## Speaker Wire Gauge Guide

You should use 16 AWG (1.31 mm$^2$) speaker wire for most installations. You can use this table to determine if you need to use a larger gauge of wire. This table accounts for terminal connection resistance.

**NOTE:** If you are using aluminum or tinned wire, you should use a wire two gauges larger than the gauge listed below to compensate for a potential voltage drop due to the wire material.

**4 Ohm Load (1 Speaker)**

| Distance between the amplifier and speaker | Wire gauge | Recommended cable |
|---|---|---|
| From 0 to 28 ft. (from 0 to 8.5 m) | 16 AWG (1.31 mm$^2$) | 010-12899-00 [1] |
| From 28 to 69 ft. (from 8.5 to 21 m) | 12 AWG (3.31 mm$^2$) | 010-12898-00 |

**2 Ohm Load (2 Speakers in Parallel)**

| Distance between the amplifier and speaker | Wire gauge | Recommended cable |
|---|---|---|
| From 0 to 14 ft. (from 0 to 4 m) | 16 AWG (1.31 mm$^2$) | 010-12899-00 |
| From 14 to 35 ft. (from 4 to 10.5 m) | 12 AWG (3.31 mm$^2$) | 010-12898-00 |

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[1] Fusion speaker cable is sold in various lengths. See your Fusion dealer for more information.

## LED Wiring

It is recommended to install a Fusion RGB Lighting Control Module with these speakers to turn the LEDs on and off, change the colors, and create lighting effects. See your Fusion dealer or www.fusionentertainment.com for more information.

You should follow the instructions provided with the remote control to connect the LED wires from the speakers to the remote control receiver module and to connect the receiver module to power.

If you choose not to install the remote control, you can set the static color of the LEDs by connecting the colored LED wires directly to the power source (*Connecting the LED Wires*, page 3).

### Connecting the LED Wires

You can control the color of the LEDs by connecting the LED color wires to ground. You can splice the ground wire to multiple LED wires to customize the LED color.

**NOTE:** Instead of connecting the LED wires for one dedicated color, you can install a remote control to turn the LEDs on and off, change the color, and create lighting effects. See your Fusion dealer or www.fusionentertainment.com for more information.

1  Connect a positive wire to the black wire on the LED cable.
2  Connect a ground wire to the wire on the LED cable according to the preferred LED color.

| LED Color | LED Wire Color |
| --- | --- |
| Red | Red |
| Green | Green |
| Blue | Blue |
| Yellow | Red and green |
| Magenta | Red and blue |
| Cyan | Blue and green |
| White | Red, green, and blue |

3  Route the positive and negative wires, and connect them to a power source (*Connecting the LED Wires to Power*, page 3).

### Connecting the LED Wires to Power

You must connect all 12 Vdc wiring to the LEDs to a 3 A fuse at the power-source end of the cable. You should connect the positive (+) power wire to a 12 Vdc 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 20 AWG (0.5 mm$^2$) or thicker wire to connect the LEDs to the battery.

1  Route the positive power (+) and negative ground (-) wires from the LED-wire connections to the battery.
2  Connect the negative wire to the negative (-) battery terminal.
3  Connect the positive wire to the positive (+) terminal through a 3 A fuse and isolator switch or circuit breaker.

## 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.

## Registering Your Fusion Device

Help us better support you by completing our online registration today.

* Go to www.fusionentertainment.com.
* Keep the original sales receipt, or a photocopy, in a safe place.

## Cleaning the Speakers

**NOTE:** When mounted correctly, these speakers are rated IP65 for dust and water ingress protection under normal conditions. They are not designed to withstand high pressure water spray, which may occur when you wash down your vessel. Failure to carefully spray-clean the vessel may damage the product and void the warranty.

*NOTICE*

Do not use harsh or solvent-based cleaners on the speakers. 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.

# Troubleshooting

Before you contact your Fusion dealer or service center, you should perform a few simple troubleshooting steps to help diagnose the problem.

If the Fusion speaker has been installed by a professional installation company, you should contact the company so the technicians can assess the problem and advise you about possible solutions.

## There is no sound coming from the speakers

* Verify that all connections from the source device and/or the amplifier are connected correctly to the speaker terminals.

## The system lacks bass or high frequencies

* Verify that the correct wire polarity is observed between the source and speakers.
  The wires should be connected positive to positive and negative to negative.
* Verify that the speakers are attached firmly to the mounting surface.

## The audio is distorted

* Verify that the source volume is not too loud for the speaker, and reduce the volume if necessary.
* Verify that the panels surrounding the speaker on the vessel are not rattling.
* Verify that the source device and/or the amplifier are connected to the speaker terminals correctly.
* If the speaker is connected to an amplifier, verify that the input level of the amplifier is matched to the output level of the stereo. For more information, see the manual for the amplifier.
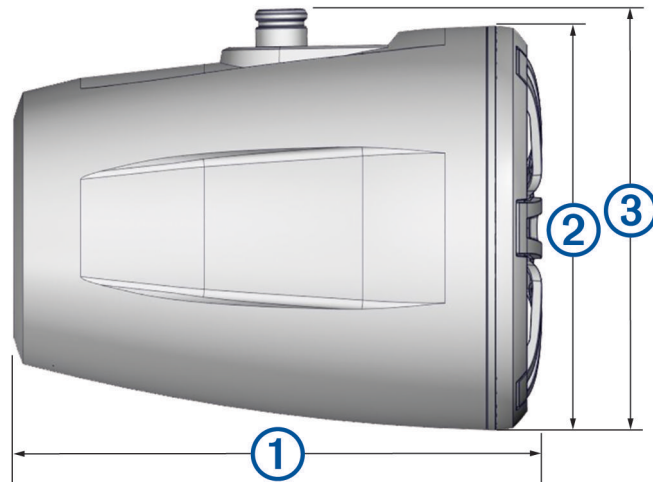
## The LED lights will not turn on

* Verify that all wiring connections are correct and tight.

# Specifications

| | |
|---|---|
| Max. power (Watts) | 230 W |
| RMS power (Watts) | 75 W |
| Sensitivity (1 W/1 m) | 90 dB |
| Frequency response | 70 Hz to 22 kHz |
| Recommended amplifier power (RMS, playing music) | From 30 to 90 W |
| Nominal voice coil diameter | 30 mm |
| Impedance | 4 ohms |
| LED Supply Voltage (Sports Model Speakers only) | From 10.8 to 16 Vdc |
| LED Load Current at 14.4 Vdc (Sports Model Speakers only) | 300 mA |
| 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 | CURV cone with rubber surround |
| Tweeter type | Silk dome |
| Water and dust rating | IEC 60529 IP67[1] |
| Compass-safe distance | 310 cm (122 in.) |

# Dimensions



| | |
|---|---|
| ① | 304 mm ($11^{15}/_{16}$ in.) |
| ② | Ø 176 mm ($6^{15}/_{16}$ in.) |
| ③ | 180 mm ($7^{1}/_{8}$ in.) |

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[1] Protected against dust and water ingress.

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