FUSION®

MS-DAB100A Installation Instructions

Important Safety Information

You must read all installation instructions before beginning the installation. If you experience difficulty during the installation, contact FUSION® Product Support.

What's in the Box

- 1 DAB module
- 2 mounting screws for the DAB module
- 1 DAB antenna base
- 1 whip antenna mast for the DAB antenna base
- 1 pole mount adapter (attached to the DAB antenna base)
- 1 mounting bracket for the DAB antenna
- 4 mounting screws for the DAB antenna mounting bracket
- 2 seal pads for surface-mounting the DAB antenna
- 3 threaded rods for surface-mounting the DAB antenna
- 3 thumbscrews for surface-mounting the DAB antenna

Connection Considerations

The DAB module connects to a compatible FUSION stereo using the ACC port on the device, or the ACCESSORY connector on the wiring harness.

A DAB antenna with a FAKRA Z-type connector must be installed and connected to the DAB module to receive DAB programs.

DAB Module Mounting Location Considerations

When selecting a mounting location for the device, observe these considerations.

- Due to the water rating, this device must be mounted and the wiring connections must be made in a non-submerged location.
- The device and its wiring connectors must not be exposed to spray or wash down.
- The device should be mounted with the connectors facing downward, to avoid water entering the device through the antenna port.

Installing the DAB Module

1 After you have selected a mounting location for the DAB module, route the cable from the module to the compatible FUSION device.

2 Connect the cable from the DAB module ① to the ACC port on the device, or to the ACCESSORY connector on the wiring harness.
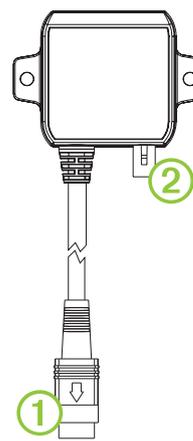
3 Route the antenna cable and connect it to the antenna port on the DAB module ②.

4 Select an option:
- Secure the DAB module to the mounting location using the supplied screws.
- Clean the mounting surface and secure the DAB module to the mounting location using the adhesive pad on the base.

Antenna Mounting Considerations

The antenna can be mounted on the included bracket, on a standard 1 in. OD, 14 threads per inch, pipe-threaded pole (not included), or directly onto a flat surface. If you are mounting the antenna on the included bracket or a pole, you can route the antenna cable either through the bracket or pole, or outside of the bracket or pole. If you are mounting the antenna directly on a flat surface, you can route the antenna cable either through the mounting surface or on top of the mounting surface.

For the best performance, you should consider these guidelines when selecting the antenna mounting location.

NOTE: Before you permanently mount the antenna, you must test the mounting location for correct operation (*Testing the Mounting Location*, page 2).

- If you are mounting the antenna directly on a flat surface, the surface must be a maximum of 19 mm ($^3/_4$ in.) thick, and you must have access on the other side of the surface to secure the mounting hardware.
- To ensure the best reception, the antenna should be mounted in a location that has a clear, unobstructed view of the horizon in all directions.

- The antenna should not be mounted where it is shaded by the superstructure of the boat, a radome antenna, or the mast.
- The antenna should not be mounted near the engine or other sources of Electromagnetic Interference (EMI).
- If a radar is present, the antenna should not be mounted directly in the path of the radar. The antenna should be mounted above the path of the radar, but if necessary, the antenna may be mounted below the path of the radar.
- If a high-powered transmitter is present, such as a VHF radio, the antenna should be mounted as far as possible from the transmitter's antenna. The minimum recommended distance is at least 3 ft. (1 m) away from, and preferably above or below, the path of the transmitter's antenna. If possible, you should avoid installing the antenna in the direct line-of-sight of the transmitter's antenna.

Installing the Whip Antenna

The whip antenna mast is disconnected from the DAB antenna base for shipment. The whip antenna mast must be installed on the DAB antenna base before you can receive DAB signals.

Turn the whip antenna mast clockwise to secure it to the top of the DAB antenna base.

Testing the Mounting Location

1 Temporarily secure the antenna in the preferred mounting location and test it for correct operation.
2 If you experience interference with other electronics, move the antenna to a different location, and test it again.
3 Repeat steps 1–2 until you observe full or acceptable signal strength.
4 Permanently mount the antenna.

Mounting the Antenna with the Cable Routed Outside the Mount

Before you permanently mount the antenna, you must test the mounting location for correct operation (*Testing the Mounting Location*, page 2).

1 Select an option:
   - If you are installing the antenna ① on the included mounting bracket ②, screw the antenna onto the bracket.
   - If you are installing the antenna on a standard 1 in. OD, 14 threads per inch, pipe-threaded pole (not included), screw the antenna onto the pole.
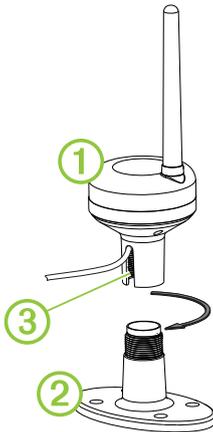
Do not overtighten the antenna on the bracket or pole.
2 With the antenna installed on the bracket or pole, fill the gap in the vertical cable slot ③ with marine sealant (optional).
3 Select an option:

- If you installed the antenna on the included bracket, use the included screws to secure the bracket to the mounting surface.
- If you installed the antenna on a pole, attach the pole to the boat if it is not already attached.

4 Route the cable away from sources of electronic interference.

Mounting the Antenna with the Cable Routed Through the Mount

Before you permanently mount the antenna, you must test the mounting location for correct operation (*Testing the Mounting Location*, page 2).

1 Select an option:
   - If you are installing the antenna ① on the included mounting bracket ②, proceed to step 2.
   - If you are installing the antenna on a standard 1 in. OD, 14 threads per inch, pipe-threaded pole (not included), proceed to step 7.
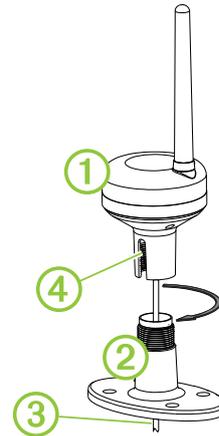
2 Place the bracket on the mounting location, mark the center through the bracket.
3 Using a 15 mm bit, drill a passthrough hole in the mounting surface at the location you marked in step 2.
4 Route the antenna cable③ through the bracket and the mounting surface.
5 Fill the hole you drilled in step 3 with marine sealant.
   Filling the passthrough hole under the antenna bracket with marine sealant prevents water ingress beneath the mounting surface.
6 Use the included screws to secure the bracket to the mounting surface.
7 Select an option:
   - If you are installing the antenna on the mounting bracket, screw the antenna onto the bracket.
   - If you are installing the antenna on a pole, route the antenna cable through the pole and screw the antenna onto the pole.
   Do not overtighten the antenna on the bracket or pole.
8 With the antenna installed on the bracket or pole, fill the gap in the vertical cable slot ④ with marine sealant (optional).
9 Route the cable away from sources of electronic interference.

Mounting the Antenna on a Flat Surface

Before you can mount the antenna on a flat surface using the threaded rods and thumbscrews, you must make sure that the mounting surface is a maximum of 19 mm thick, and you must have access to the other side of the surface to secure the mounting hardware.

Before you can mount the antenna on a wooden, metal, or plastic surface using the double-sided seal pad, you must make sure the surface is clean and free of grease or debris.

Before you mount the antenna, you must test the mounting location for correct operation (*Testing the Mounting Location*, page 2).

You can either mount the antenna on a flat surface using the threaded rods and thumbscrews and the included single-sided seal pad, or you can adhere the antenna to a wooden, metal, or plastic surface using the double-sided seal pad only.

You can route the antenna cable either through the mounting surface or on top of the mounting surface.

1 Use a 2.5 mm hex wrench to remove the pole mount adapter from the antenna.

2 If you are mounting the antenna with the threaded rods and thumbscrews, use a 1.5 mm hex wrench to install the threaded rods ① into the bottom of the antenna.
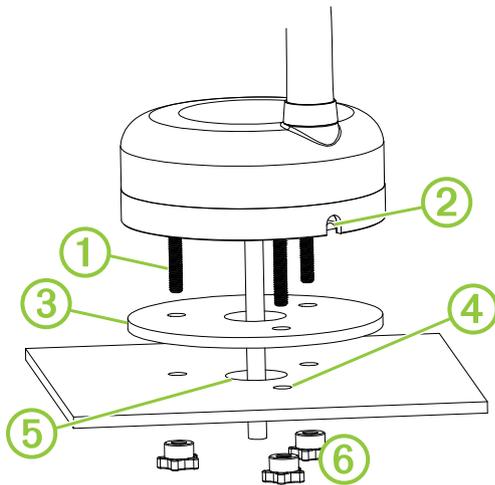
3 Determine the direction the antenna must face on the surface.

NOTE: If you plan to route the cable through the side of the antenna, you must consider the direction of the opening ② when determining the mounting position.

4 If you are mounting the antenna with the threaded rods and thumbscrews, use the single-sided seal pad ③ as a template to mark the pilot holes ④ on the mounting surface.

NOTE: Do not adhere the seal pad to the mounting surface or the antenna until directed.

5 If you are routing the cable through the mounting surface, mark the center hole ⑤ of the seal pad.

6 Use a 4 mm bit to drill the pilot holes in the mounting surface.

7 If you are routing the cable through the mounting surface, use a 15 mm bit to drill the center hole.

8 Select an option:
   • If you are mounting the antenna with the threaded rods and thumbscrews, remove the paper backing from the single-sided seal pad.
   • If you are mounting the antenna on the surface with the double-sided seal pad, remove the paper backing from one side of the double-sided seal pad.

9 Select an option:
   • If you are routing the cable through the mounting surface, insert it through the seal pad, feed it through the hole you drilled in step 7, and adhere the seal pad to the bottom of the antenna.

   • If you are routing the cable through the side of the antenna, insert it through the opening in the side and adhere the seal pad to the bottom of the antenna.

10 Select an option:
   • If you are mounting the antenna with the threaded rods and thumbscrews, proceed to step 11.
   • If you are mounting the antenna with the double-sided seal pad, remove the paper backing from the other side of the seal pad, press it firmly to adhere it to the mounting surface, and proceed to step 13.

11 Place the antenna on the mounting surface, inserting the threaded rods through the holes you drilled in step 6.

12 Install the included thumbscrews ⑥ on the threaded rods on the other side of the mounting surface to secure the antenna.

13 Fill the opening on the side of the antenna with marine sealant (optional).

14 Route the cable away from sources of electronic interference.

Tuning DAB Stations

Before you can tune in to DAB stations, you must update your compatible FUSION device with the latest software (*Software Updates*, page 4).

DAB stations are organized by ensembles, or collections. After you select an ensemble, you can tune in to a station in that ensemble.

NOTE: These instructions are general guidelines for tuning DAB stations on a compatible FUSION device.

1 Turn on the FUSION device.

2 In the settings menu, select your local tuner region.
   DAB broadcasts are not available in all regions. When the stereo is not set to a compatible region, the DAB source is not available.

3 Select the **DAB** source.

4 Search for and select an ensemble.

5 Select a station in the ensemble.

Specifications

DAB Module

Specification	Value
DAB standard compatibility	DAB and DAB+
DAB frequency band	Band III (174 to 240 MHz)
DAB transmission modes	Mode I
Sensitivity	-97 dBm
Input voltage	From 10.8 to 16 Vdc
Input current	250 mA
Output voltage to antenna	From 8 to 15 Vdc
Output current to antenna	50 mA maximum
Antenna connector type	FAKRA Z-type waterblue male Compatible with SMB connectors
Power/control/audio stereo connector	10-pin mini DIN
Dimensions (H × W × D)	58 × 64 × 21 mm (2.28 × 2.52 × 0.83 in.)
Power/control/audio stereo cable length	1.5 m (4.9 ft.)
Weight	103 g (3.63 oz.)
Water rating	IEC 60529 IPX3 (Withstands exposure to dripping water when installed with the connectors pointing downward.)
Operating temperature range	From 0 to 50°C (from 32 to 122°F)

Specification	Value
Storage temperature range	From -20 to 70°C (from -4 to 158°F)
Compass-safe distance	5 cm (2 in.)

Antenna

Specification	Value
Maximum dimensions with whip antenna and base (H × W)	248 × 110 mm (9.76 × 4.33 in.)
Antenna base diameter	74 mm (2.91 in.)
Antenna cable length	10 m (32.8 ft.)
Antenna cable connector	FAKRA Z-Type waterblue female
Weight (excluding cable)	170 g (6 oz.)
Water rating	IEC 60529 IPX7
Operating temperature range	From 0 to 50°C (from 32 to 122°F)
Frequencies	DAB band III (174 through 240 MHz)
Impedance	50 Ohms
Polarization	Vertical
LNA Gain	22 dB (typical)
Voltage standing wave ratio (VSWR)	Less than 2.5:1
Input voltage	From 6 to 16 Vdc
Input current	13 mA
Maximum power	312 mW
Compass-safe distance	5 cm (2 in.)

Software Updates

Updates for this device are included in the software updates for a compatible stereo. To make sure the device functions correctly with your compatible stereo, you should update the software in all FUSION devices after you install this device.

Go to www.fusionentertainment.com/marine to download the latest software. Software updates and instructions are available on your device product page.

Getting the Owner's Manual

You can get the latest owner's manual and translations of manuals from the web.

1 Go to www.fusionentertainment.com/marine.
2 Select your product.
3 Select **Manuals & Downloads**.
4 Select a manual.

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