Manuals+ — User Manuals Simplified.

FS4CE In Ceiling Loud speaker

BOSE FS4CE In Ceiling Loudspeaker Installation Guide

Contents

BOSE

BOSE FS4CE In-Ceiling Loudspeaker

Specifications

- **Product Name:** FreeSpace FS4CE In-ceiling Loudspeaker
- **Input Voltage:** 70V/100V
- **Impedance:** 8Ω, 40W
- **Current or Power:** (70V): 2.5W, 5W, 10W, 20W, 40W; (100V): 5W, 10W, 20W, 40W

Product Information

The FreeSpace FS4CE is an in-ceiling loudspeaker designed for high-quality audio output in various settings. It is suitable for commercial and professional installations where clear sound reproduction is essential.

Installation Instructions

1. Ensure the installation location is free from heat sources such as radiators, heat registers, and stoves.
2. Only use attachments and accessories specified by the manufacturer for safe installation.
3. Follow the provided mounting instructions carefully for secure and proper installation of the loudspeaker.

Safety Instructions

It is important to read and adhere to the safety instructions provided with the product.

- Avoid placing the loudspeaker near heat sources to prevent damage.
- Keep small parts away from children under the age of 3 to prevent choking hazards.
- Consult your physician if you have an implantable medical device due to the magnetic material in the product.

Regulatory Information

This product complies with EU directive requirements and Electromagnetic Compatibility Regulations 2016. Proper disposal and recycling are recommended to protect the environment.

China Restriction of Hazardous Substances Table

The table lists toxic or hazardous substances and elements present in different parts of the product. Follow guidelines for safe handling and disposal.

Taiwan Restriction of Hazardous Substances Table

This table specifies restricted substances and their chemical symbols found in the FreeSpace FS4CE loudspeaker. Adhere to regulations for safe use.

FAQ

Q: Can this loudspeaker be used in outdoor environments?

A: The FreeSpace FS4CE in-ceiling loudspeaker is designed for indoor use only and should not be exposed to outdoor elements.

Q: What is the warranty period for this product?

A: Please refer to the warranty information provided by BoseProfessional.com or contact customer support for details on the warranty coverage.

Important Safety Instructions

- Please read and keep all safety and use instructions.
- This product is intended for installation by professional installers only! This document is intended to provide professional installers with basic installation and safety guidelines for this product in typical fixed-installation systems.
- Please read this document and all safety warnings before attempting installation.
- Do not attempt to service this product yourself. Refer all servicing to authorized service centers, installers, technicians, dealers, or distributors.
- To contact Bose Professional or to find a dealer or distributor near you, visit **BoseProfessional.com**.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not block any ventilation openings. Install under the manufacturer's instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.

WARNINGS/**CAUTIONS**

- This product contains magnetic material. Consult your physician on whether this might affect your implantable medical device.

- Contains small parts which may be a choking hazard. Not suitable for children under age 3.

- It is the responsibility of the installer to use a support system that has sufficient wind load strength to comply with the applicable codes and standards.
- All Bose Professional products must be installed under local, state, federal, and industry regulations.
- It is the installer's responsibility to ensure the installation of the loudspeakers and mounting system is performed per all applicable codes, including local building codes and regulations.
- Consult the local authority having jurisdiction before installing this product.
- Unsafe mounting or overhead suspension of any heavy load can result in serious injury or death, and property damage. It is the installer's responsibility to evaluate the reliability of any mounting method used for their application.
- Only professional installers with knowledge of proper hardware and safe mounting techniques should attempt to install any loudspeaker overhead.
- Do not mount on surfaces that are not sturdy, or that have hazards concealed behind them, such as electrical wiring or plumbing. Ensure the bracket is installed by a qualified professional installer and per local building codes.
- Use only the hardware and accessories included or specified by Bose Professional for use with FreeSpace FS4CE loudspeakers. For information on compatible accessories, see the product's technical data sheet at.
- Keep the product away from fire and heat sources. Do not place naked flame sources, such as lighted candles, on or near the product.
- Do not make unauthorized alterations to this product.
- Do not expose loudspeaker or mounting components to any chemical substances that are not specified by Bose Professional, including but not limited to lubricants, cleaning agents, contact sprays, or hydrocarbon-based solvents.
- Exposure to such substances can lead to degradation of the plastic material, resulting in cracking and creating a falling hazard.
- Clean speakers using only a dry cloth. Do not expose loudspeakers to soap, detergent, mineral oil, alcohol or other cleaning agents or chemicals.

Product Ratings:

- **Input Voltage:** 70V/100V
- **Impedance:** 8 Ω, 40 W
- **Current or Power:** (70V): 2.5W, 5W, 10W, 20W, 40W; (100V): 5W, 10W, 20W, 40W

Regulatory Information

- CE This product conforms to all applicable EU directive requirements. The complete declaration of conformity can be found on the product-specific page: **BoseProfessional.com**.

- UKCA This product conforms to all applicable Electromagnetic Compatibility Regulations 2016 and all other applicable UK regulations. The complete declaration of conformity can be found on the product-specific page: **BoseProfessional.com**

- This symbol means the product must not be discarded as household waste, and should be delivered to an appropriate collection facility for recycling. Proper disposal and recycling help protect natural resources, human health, and the environment.
- For more information on the disposal and recycling of this product, contact your local municipality, disposal service, or the shop where you bought this product.

China Restriction of Hazardous Substances Table

	Names and Contents of Toxic or Hazardous Substances or Elements					
	Toxic or Hazardous Substances and Elements					
Part Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent (CR(VI))	Polybrominated Biphenyl (PBB)	Polybrominated diphenylether (PBDE)
PCBs	X	O	O	O	O	O
Metal Parts	X	O	O	O	O	O
Plastic Parts	O	O	O	O	O	O
Speakers	X	O	O	O	O	O
Cables	X	O	O	O	O	O

This table is prepared in accordance with the provisions of SJ/T 11364.

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

Taiwan Restriction of Hazardous Substances Table

Equipment name: FreeSpace FS4CE, Type designation: 841156						
	Restricted substances and its chemical symbols					
Unit	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (Cr+6)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
PCBs	-	○	○	○	○	○
Metal Parts	-	○	○	○	○	○
Plastic Parts	○	○	○	○	○	○
Speakers	-	○	○	○	○	○
Cables	-	○	○	○	○	○

Note 1: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

Note 2: The "−" indicates that the restricted substance corresponds to the exemption.

Package Contents

×2   ×2   ×1   ×2   ×4   ×2
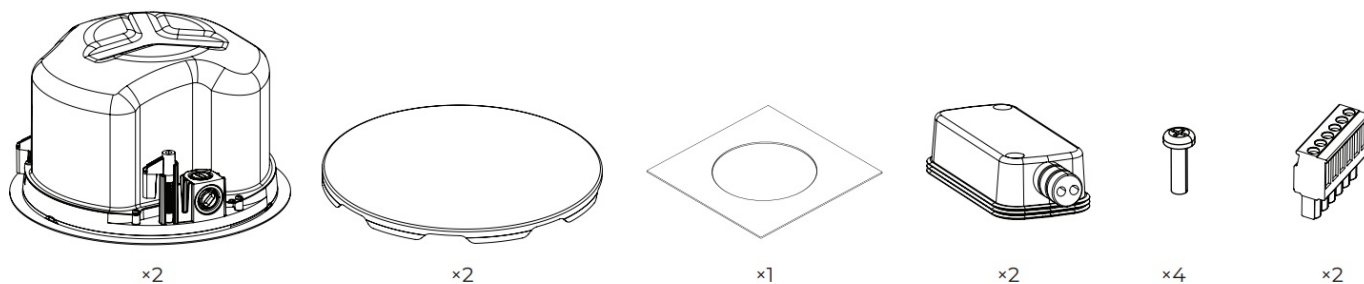
Product Dimensions
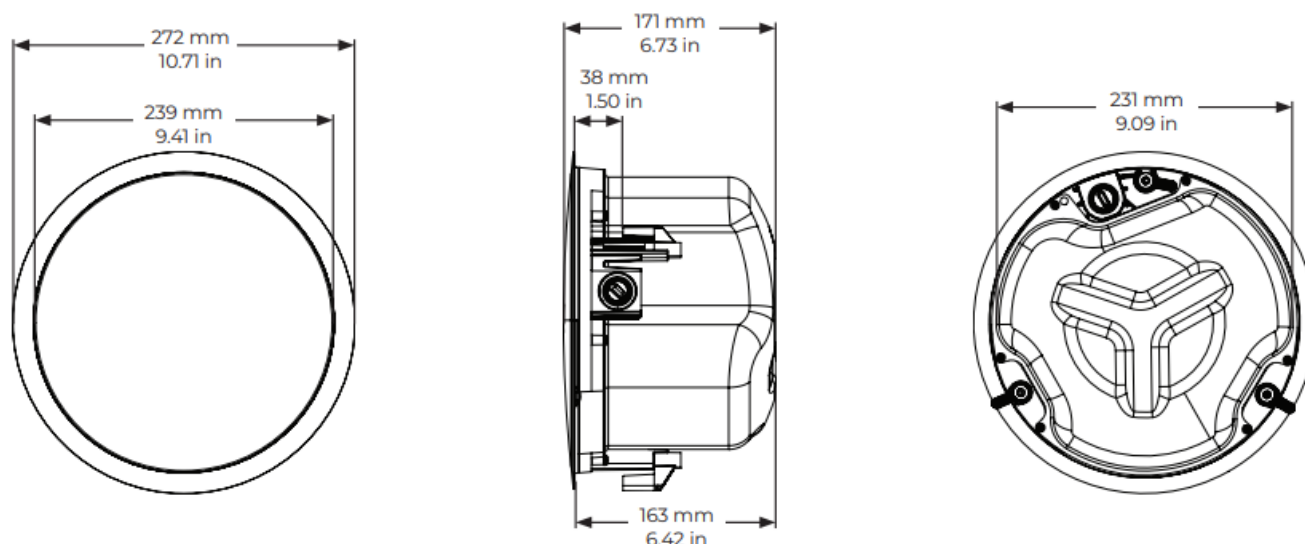
Technical Specifications

For additional specifications, see the FreeSpace FS4CE technical data sheet at **BoseProfessional.com**.

| Physical	
Product Dimensions	Baffle diameter: 272 mm (10.71 in)
	Enclosure diameter: 231 mm (9.09 in)
	Backcan depth: 163 mm (6.42 in)
Hole cutout	250 mm (9.84 in)
Maximum Ceiling Thickness	38 mm (1.50 in)
Net Weight, Loudspeaker with grille (single)	3.47 kg (7.65 lb)
Shipping Weight (pair)	9.05 kg (19.95 lb)
Environmental	Suitable for use outdoors in wet locations with included weather-resistant input cover (IP55C per EN 54-24). Optional accessory aluminum grille for harsh environments to prevent red corrosion is available.

Important Installation Information

- ⚠️ Before installing the loudspeaker, review Important Safety Instructions.

- ⚠️ For fire and evacuation notification applications, environmental rated to IP55C per EN 54-24.

Installation Options

Installation Options and Accessories

One of the following is required for installation. See the related accessory installation guide at BoseProfessional.com for installation instructions.

1. Adjustable Tile Bridge (not included)
2. Rough-in Pan (not included)
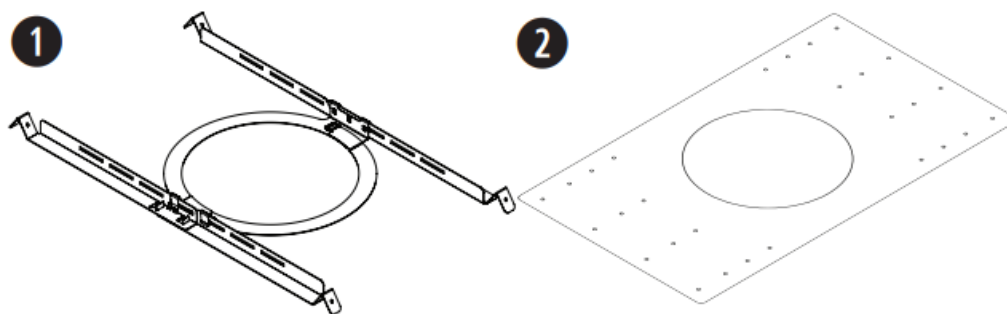
Choosing an Installation Method

1. **Top Knockout**
    1. Use the top knockout when there is available space above the ceiling.
2. **Side Knockout**
   1. Use the side knockout when there is limited space above the ceiling.
3. **Both Knockouts**
    1. Use both knockouts when an independent signal-in and signal-out wiring scheme are required and there is available space above the ceiling.
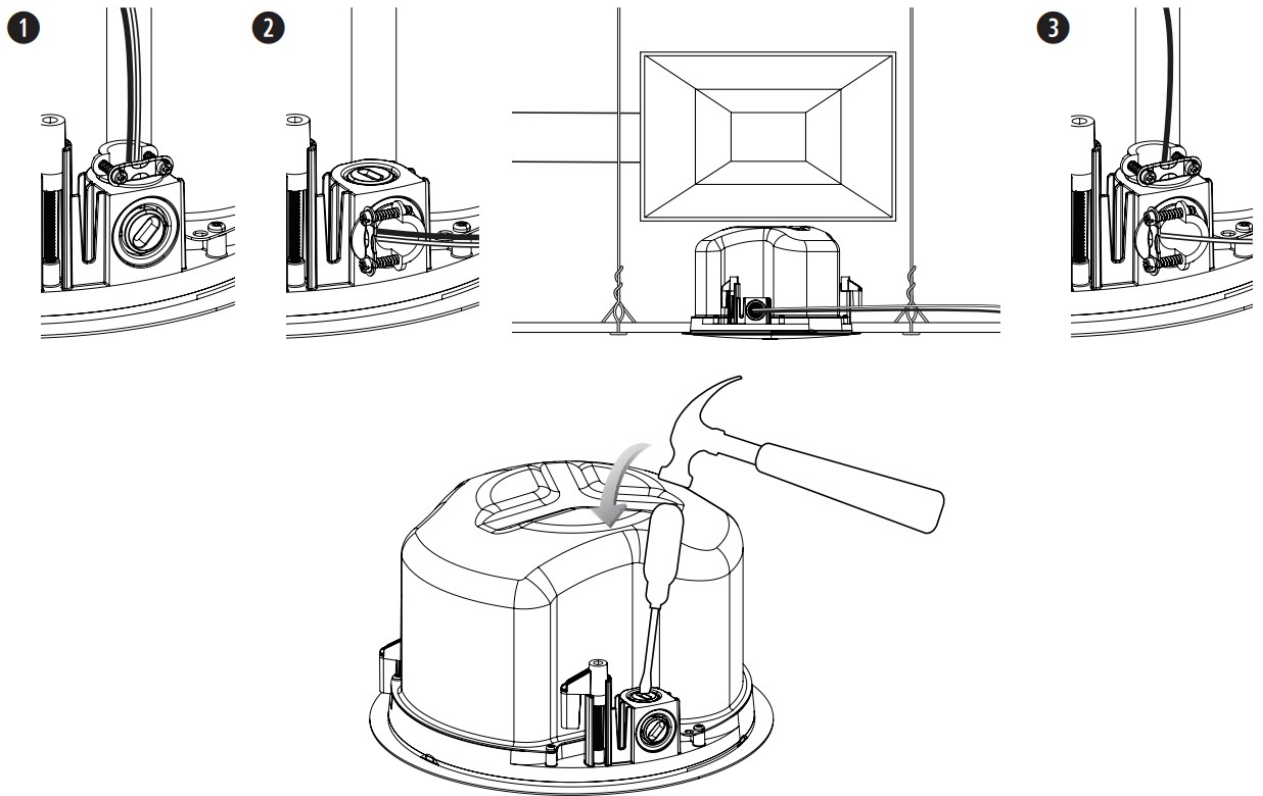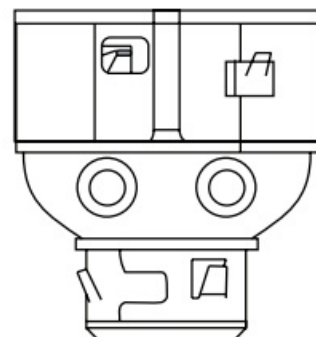
Conduit Fitting

- If using a flexible metal conduit, use a 3/8-inch conduit fitting or a 3/8-inch dual (duplex) connector.
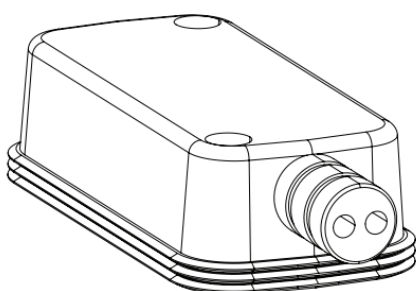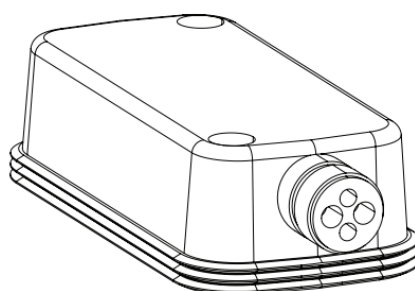- **Note:** Conduit fittings are not provided.
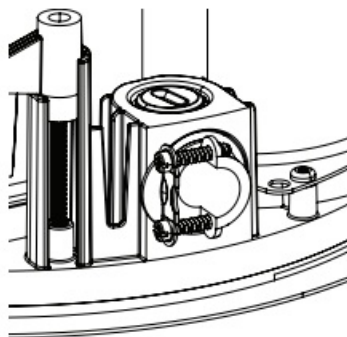
⅜-inch single in   ⅜-inch duplex in/loop
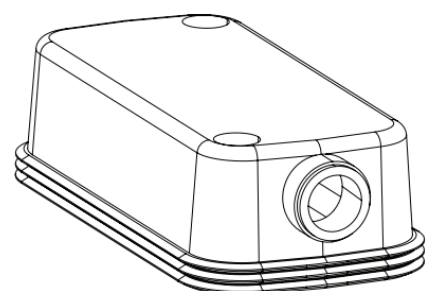
Setup


Single In   In and Out   Wide Open

Preparing the Weather-resistant Input Cover

- The weather-resistant input cover is designed for three different wiring scenarios (see above). To change the configuration of the input cover to support your wiring scenario, cut along the perforation on the rubber conduit.
- **Note:** Indoor-only applications do not require use of the input cover.
- **Note:** If using the wide-open rubber conduit configuration, it is the installer's responsibility to seal against water ingress into the Euroblock connector.
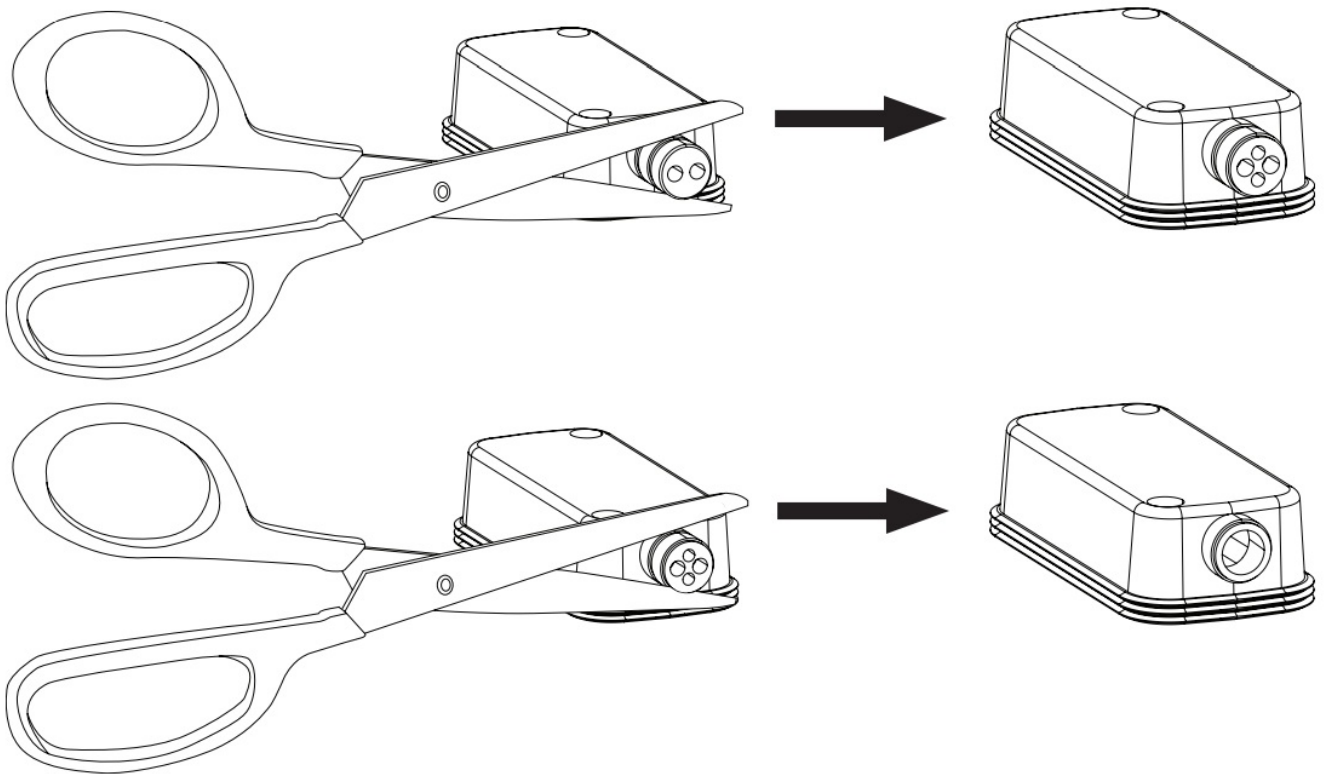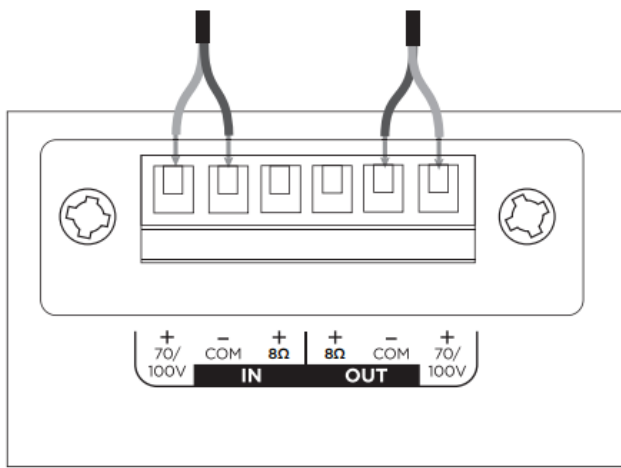

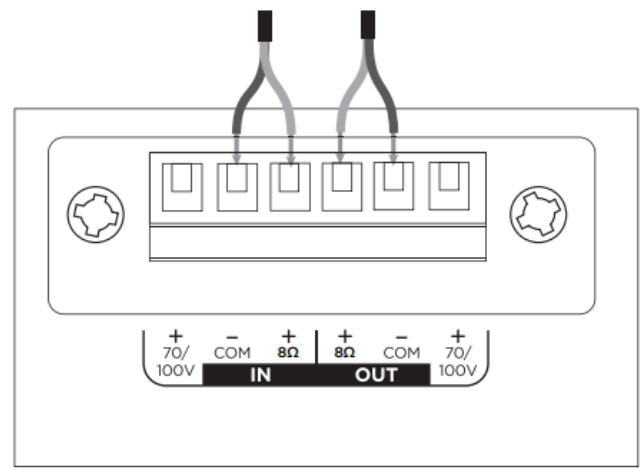## Wiring the Loudspeaker

Wire Gauge

- The FreeSpace FS4CE loudspeaker is designed to work with 18 AWG (0.8 mm2) to 14 AWG (2.1 mm2) size wire only.

Connection Diagrams

- Expose six millimeters (1/4 inch) of bare wire to attach to the terminals.
- **Note:** The wiring method must be under: In Canada, CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32; In the United States, The National Electrical Code, NFPA 70.
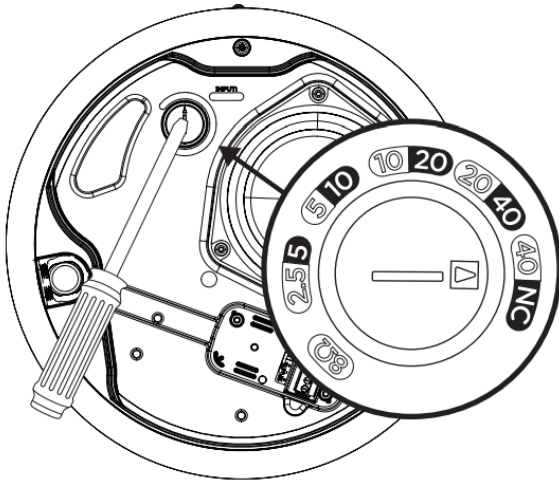
70/100V

8Ω

Loudspeaker Settings

70V					
2.5W	5W	10W	20W	40W*	8Ω
5W	10W	20W	40W	NC**	
100V					

* Factory default   ** NC: No Connection (do not use)

Transformer Tap Setting

Set tap by turning. Use a flat head screwdriver.

Preparing the Installation

Using a Safety Cable

- Some regional construction codes require the use of a secondary method of securing loudspeakers to support structures to provide additional safety. Choose a mounting position, method, and hardware consistent with local building codes and regulations.
- Bose Professional recommends using (1) a safety wire or (2) a safety cable as a secondary securing mechanism. See the diagram to the right for safety attachment points.
- Follow the manufacturer's instructions for any secondary securing mechanism implemented.
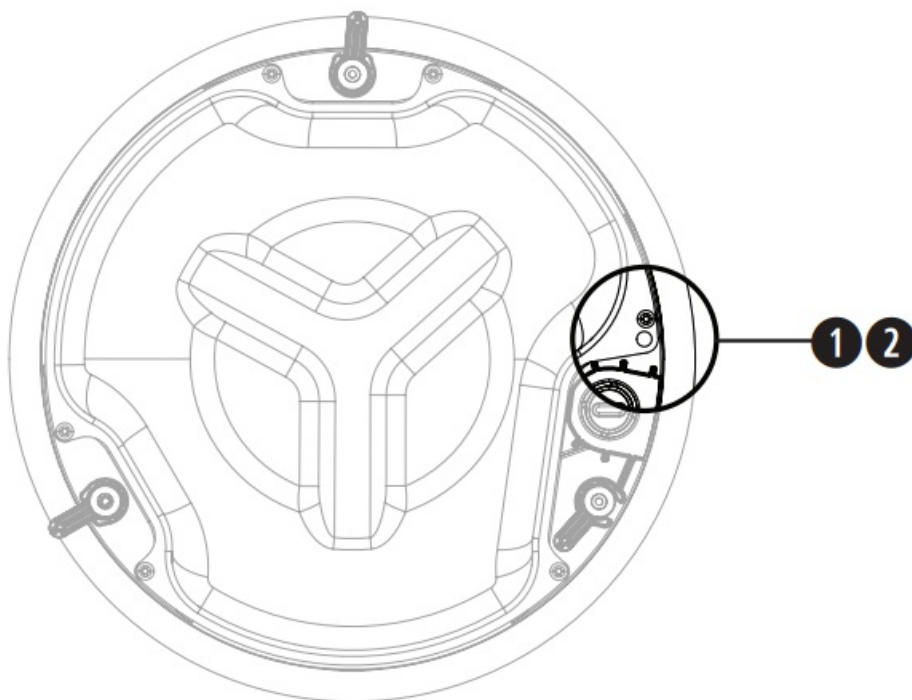
Preparing a Tile Bridge Installation

Ceiling Tile

1. Remove the tile and use the template to trace a loudspeaker hole onto the tile. To center the template on the tile, draw an X by connecting the corners diagonally and center the template using the crossing point.
2. Cut a hole into the tile.
3. Install the tile bridge. For instructions on installing a tile bridge, see the installation guide for the applicable tile bridge at **BoseProfessional.com.**
4. Replace the ceiling tile.
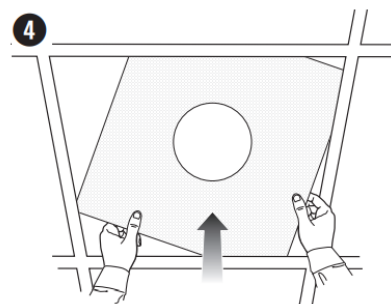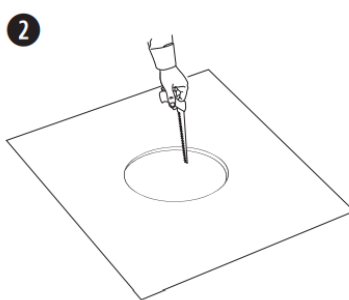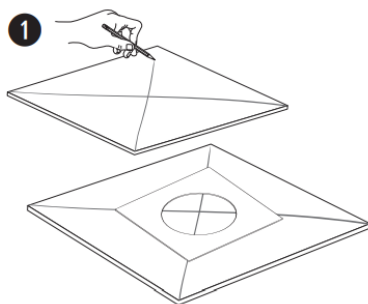
Hard Ceiling

1. Use the template to trace a hole in the ceiling.
2. Cut a hole into the ceiling.
3. Install the tile bridge. For instructions on installing a tile bridge, see the installation guide for the applicable tile bridge at **BoseProfessional.com**.
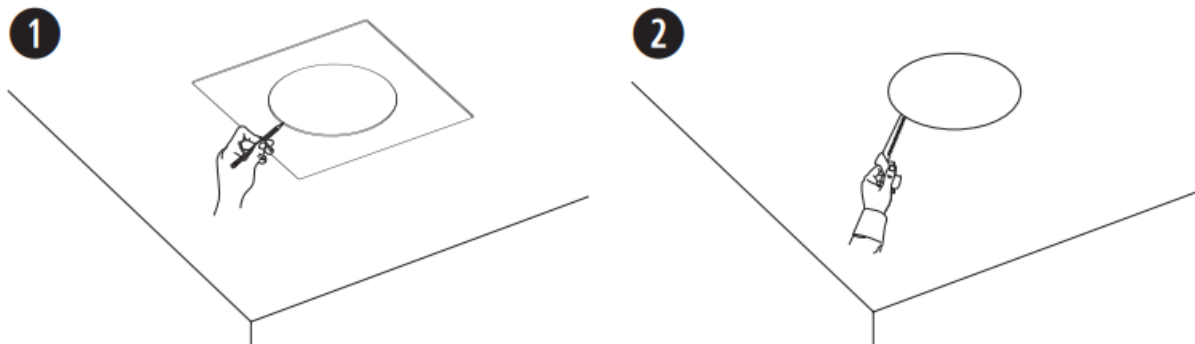
Installing in Hard Ceiling Using a Rough-in Pan (New Construction)

- For information on installing a rough-in pan, see the DesignMax and FreeSpace Rough-in Pan installation guide at **BoseProfessional.com.**
- Once the rough-in pan is installed, see Mounting the Loudspeaker on.

Ceramic Terminal Attachment Point

- The FreeSpace FS4CE is compatible with an optional ceramic terminal accessory. See the diagram for the location of the ceramic terminal attachment point.
- For more information on the ceramic terminal, see the ceramic terminal installation guide at **BoseProfessional.com**.
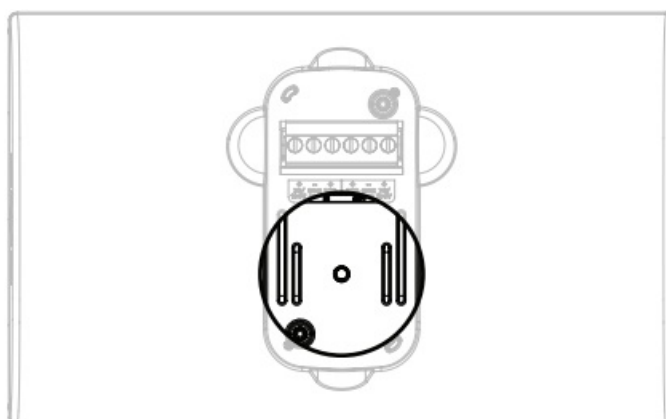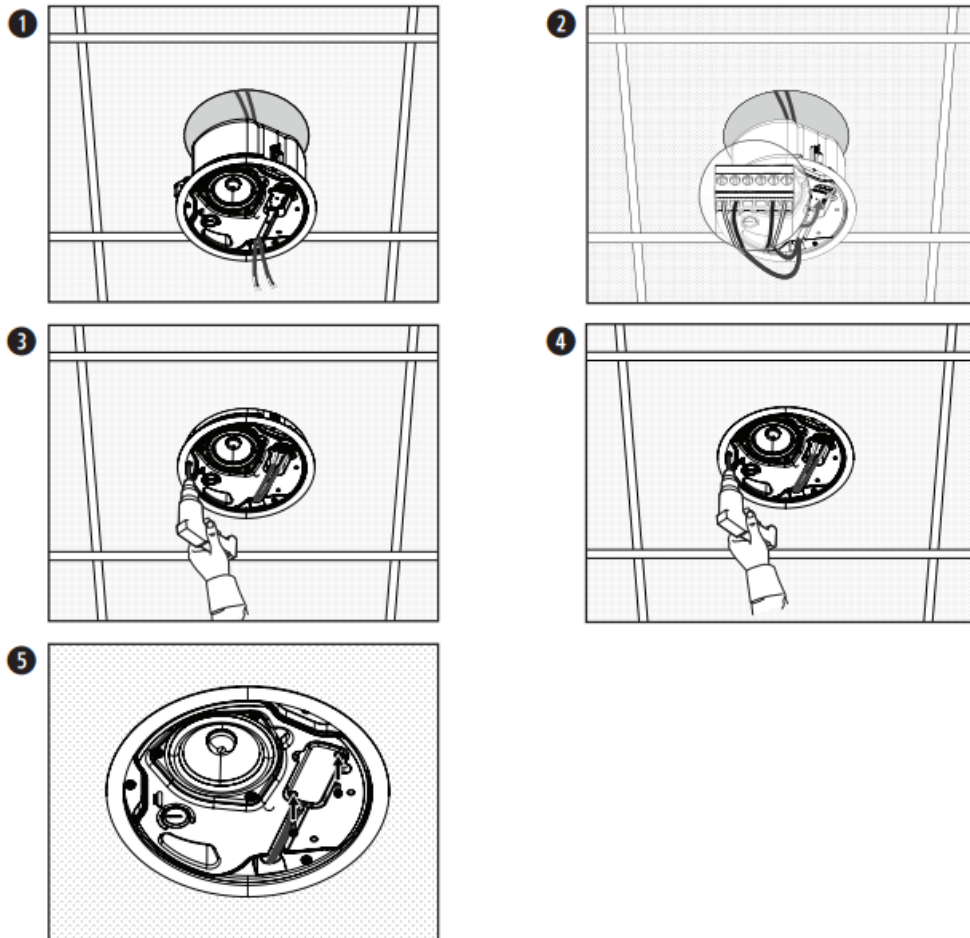

Installation

Mounting the Loudspeaker

1. Pass the audio wire through the wire opening and through the input cover (not shown; see Preparing the Input Cover).
2. Wire the connector and insert the connector into the loudspeaker. Tighten the conduit fitting if applicable. For wiring information, see Wiring the Loudspeaker.
3. Insert the loudspeaker through the hole and into the tile bridge or rough-in pan and turn (counterclockwise) the anchor arm screws one-half turn to release the anchor arms.
   - Slowly lower the loudspeaker until the anchor arms engage on the tile bridge or rough-in pan.
4. Tighten the anchor arm screws to secure the loudspeaker.

- ⚠ **WARNING:** Over-tightening or over-loosening the screws may result in damage to the anchor arms, the anchor attachment point, or the ceiling, which could lead to a falling hazard.

5. Place the input cover over the connector and press it firmly against the loudspeaker to create a tight seal. Use the two included input cover screws to secure the input cover. See Preparing the Input Cover.


Attaching the Grille

- **Note:** Before attaching the grille, adjust the loudspeaker tap settings to the appropriate setting for the installation.
- See Loudspeaker Settings.
- After determining the logo alignment appropriate for the installation, line up the grille with the inside of the loudspeaker enclosure and push upward until it is secured into place.
- If necessary, push the grille tabs inward to properly fit into the loudspeaker enclosure.

Removing the Grille

- Insert a small tool (no larger than 1.5 millimeters in diameter) through the grille perforation at the edge of the grille and pull to disengage the grille.
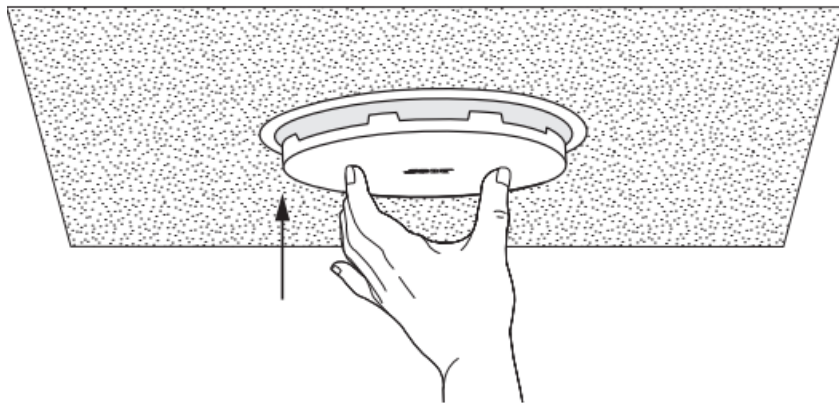
- **CAUTION:** Do not use a screwdriver to pry the grille from the enclosure. This could result in damage to the loudspeaker.

Safety and Regulatory Compliance

- The FreeSpace FS4CE loudspeaker has passed testing and complies with the following specifications and uses.
- Listed to ANSI/UL 1480A-2016, Speakers for Commercial & Safety Professional Use.
- General-Purpose Use – UL Category UEAY, File Number S36835.
- Suitable for use indoors in dry locations.
- **EN 54-24**: 2008, Loudspeaker for Voice Alarm Systems for Fire Detection and Fire Alarm Systems for Buildings
- **Environmental:** Type B (outdoor applications)
- Suitable for installation using Class 1, Class 2, or Class 3 wiring methods under NFPA 70, National Electric Code, 2002, Article 640.
- Suitable for use with fire alarm circuit wiring methods under NFPA 70, National Electric Code, 2002, Article 760.
- Suitable for use in air-handling plenum spaces.
- UL-2043, Fire Test and Visible Smoke Release for Discrete Products and their Accessories Installed in Air Handling Spaces.
- NFPA 70, National Electric Code, 2002, Article 300-22 (c).
- NFPA 90-A, 2002, Installation of Air Conditioning and Ventilation Systems, Paragraph 4.3.10.2.6.5.
- EMC Directive 89/336/EEC and Article 10 (1) of the directive, EN50081-1 and EN50082-1 as signified by the CE mark.
- The FreeSpace FS4CE loudspeaker has been designed to the requirements defined in the following European regulatory specifications for combination systems.
- British Standard Code of Practice BS 5839, Part 8, when used with the ceramic terminal block and thermal fuse. Tested to IEC60268-5.

EN 54-24 Certified Ratings [1]					
Frequency Range	100 Hz to 10 kHz				
Sensitivity (1 W @ 4 m)	74.6 dB				
Measured Max. SPL @ 4 m	87.6 dB				
Coverage Angle Octave Band	500 Hz	1000 Hz	2000 Hz	4000 Hz	
Horizontal Coverage	180°	175°	155°	75°	
Vertical Coverage	180°	175°	150°	90°	
Rated Impedance		2.5W	5W	10W	20W	40W
	70V	1960 Ω	980 Ω	490 Ω	245 Ω	123 Ω
	100V	—	2000 Ω	1000 Ω	500 Ω	250 Ω
Passive Nominal Impedance	8 Ω				
Rated Noise Power	40W				

UKCA 0843   **CE** 2821

Bose Professional
117 South St, Hopkinton, MA 01748 USA

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DOP 841403

EN 54-24: 2008

Loudspeaker for voice alarm systems for fire detection and fire alarm systems for buildings

FreeSpace FS4CE

Provided options:
Type B

For DOP 841403, see BoseProfessional.com/FS4CEDOP

Footnotes

The specifications data was measured and mounted in a baffle in an anechoic chamber to EN 54-24 standards.
The reference plane is on the grille surface and perpendicular to the reference axis.
The reference axis is perpendicular to the center of the grille surface. The horizontal plane contains the reference axis and perpendicular to the reference plane.

On-axis Frequency Response
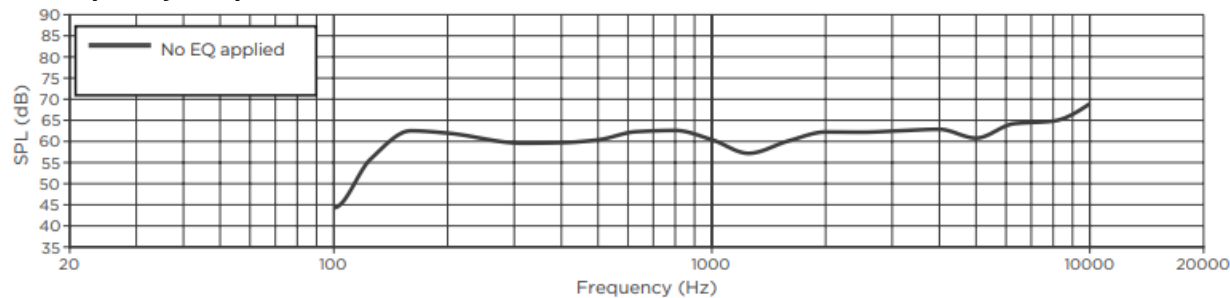
- **Date of Manufacture:** The eighth digit in the serial number indicates the year of manufacture; "7" is 2007 or 2017.
- **EU Importer:** Transom Post Netherlands B.V., Keizersgracht 391A, 1016 EJ, Amsterdam.
- **UK Importer:** Transom Post Netherlands UK, Squires House 205a High Street, West Wickham, BR4 0PH
- **Japan Importer:** Transom Post International Japan KK Co., Ltd. PMO Tamachi IV Shiba5-29-19, Minato-ku, Tokyo
- **Australia Importer:** Transom Post Australia Pty. Ltd., Level 14, 60 Margaret Street, Sydney, NSW 2000
- **China Importer:** Transom Post (Shanghai) Audio Co. Ltd Room 2209, Building 1, 175 Longyao Road, Xuhui District, Shanghai
- **Mexico Importer:** POST INTL MEXICO, S. DE R.L. DE C.V. Insurgentes Sur No. 1079, 1st floor, Colonia Noche Buena, Benito Juárez, C.P. 03270, Mexico City | UAE
- **Importer:** 102 A, Sama Tower Sheikh Zayed Road, Dubai UAE Bose is a trademark of Bose Corporation.
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Warranty Information

- This product is covered by a limited warranty.

- For warranty details, visit **BoseProfessional.com/Warranty**.

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- **AM891339 Rev. 01**

- **July 2024**

Documents / Resources

BOSE FS4CE In Ceiling Loudspeaker [pdf] Installation Guide
FS4CE In Ceiling Loudspeaker, FS4CE, In Ceiling Loudspeaker, Ceiling Loudspeaker, Loudspeaker

References

- **User Manual**