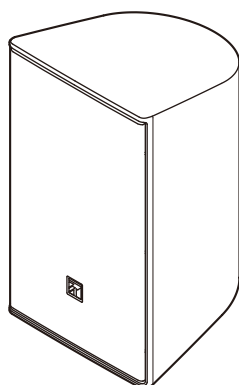


SPEAKER SYSTEM

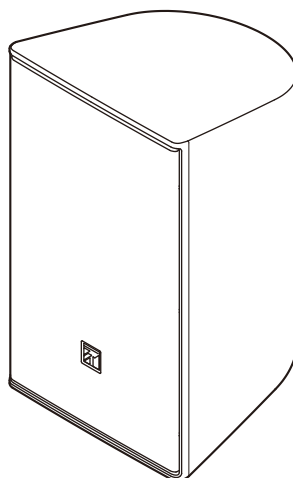
F-03BT-WP-UE, F-03WT-WP-UE

F-05BT-WP-UE, F-05WT-WP-UE

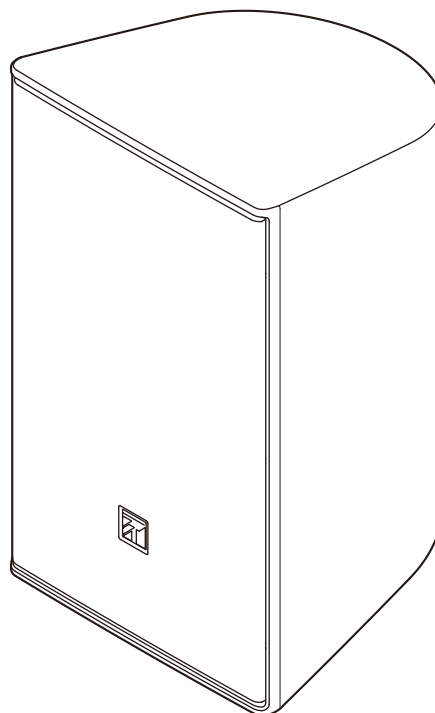
F-08BT-WP-UE, F-08WT-WP-UE



F-03BT-WP-UE
F-03WT-WP-UE



F-05BT-WP-UE
F-05WT-WP-UE



F-08BT-WP-UE
F-08WT-WP-UE

Thank you for purchasing TOA's Speaker System.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

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1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

- Install the speaker only in a location that can structurally support the weight of the speaker and the mounting bracket. Doing otherwise may result in the speaker falling down and causing personal injury and/or property damage.
- When installing the speaker in the snowy area, take appropriate measures to prevent snow from lying on the speaker. If the snow lies on the speaker, the speaker may fall, causing personal injuries.
- (F-08BT-WP-UE and F-08WT-WP-UE only)
Owing to the speaker's size and weight, be sure that at least two persons are available to install the speaker. Failure to do so could result in personal injury.
- Do not use other methods than specified to mount the bracket. Extreme force is applied to the speaker and the speaker could fall off, possibly resulting in personal injuries.
- Attach the safety wire to the speaker. If not attached, the speaker could fall off, resulting in personal injury.
- Use nuts and bolts that are appropriate for the ceiling's or wall's structure and composition. Failure to do so may cause the speaker to fall, resulting in material damage and possible personal injury.
- Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.
- Use the specified mounting bracket in combination. Doing otherwise may cause the speaker or component to fall off, resulting in personal injury.
- Do not mount the speaker in locations exposed to constant vibration. The mounting bracket can be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.

- Avoid installing the speaker in locations close to the seashore or in indoor swimming facilities that are not well ventilated. In such locations, the bracket may be vulnerable to corrosion, eventually allowing the speaker to fall resulting in personal injury.
- Do not install the speaker in areas where corrosive gases may be present, such as coastal areas with salt damage or hot spring areas, or in places with a lot of dust or strong wind pressure.
Doing otherwise may cause the speaker to fall off, resulting in personal injury.

CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

- Avoid touching the speaker's sharp metal edge to prevent injury.
- To avoid electric shocks, be sure to switch off the amplifier's power when connecting speakers.
- Do not place heavy objects on the speaker as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Do not operate the speaker for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire.
- Do not stand or sit on, nor hang down from the speaker as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the speaker checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the speaker or its mounting bracket that could cause the speaker to fall, possibly causing personal injury.

2. GENERAL DESCRIPTION AND FEATURES

- Compact speakers with high quality sound that can suit a wide range of scenes such as background music and announcement use.
- These speakers are IP65-rated, providing both dustproof and waterproof performance.
- The table below shows the differences among models of the F-03BT-WP-UE/03WT-WP-UE, the F-05BT-WP-UE/05WT-WP-UE, and the F-08BT-WP-UE/08WT-WP-UE.

Model	Speaker unit
F-03BT-WP-UE (Black), F-03WT-WP-UE (White)	Full range (9 cm or 3.5" speaker)
F-05BT-WP-UE (Black), F-05WT-WP-UE (White)	2-way (13 cm or 5" woofer and 25 mm or 1" dome tweeter)
F-08BT-WP-UE (Black), F-08WT-WP-UE (White)	2-way (20 cm or 8" woofer and 25 mm or 1" dome tweeter)

- The supplied mounting bracket can be installed to a wall or ceiling, enabling the adjustment of the speaker's orientation.
- Compatible with UL 1480A (UEAY (outdoor use))
- Certified by EN54-24:2008 TYPE B

3. HANDLING PRECAUTIONS

WARNING

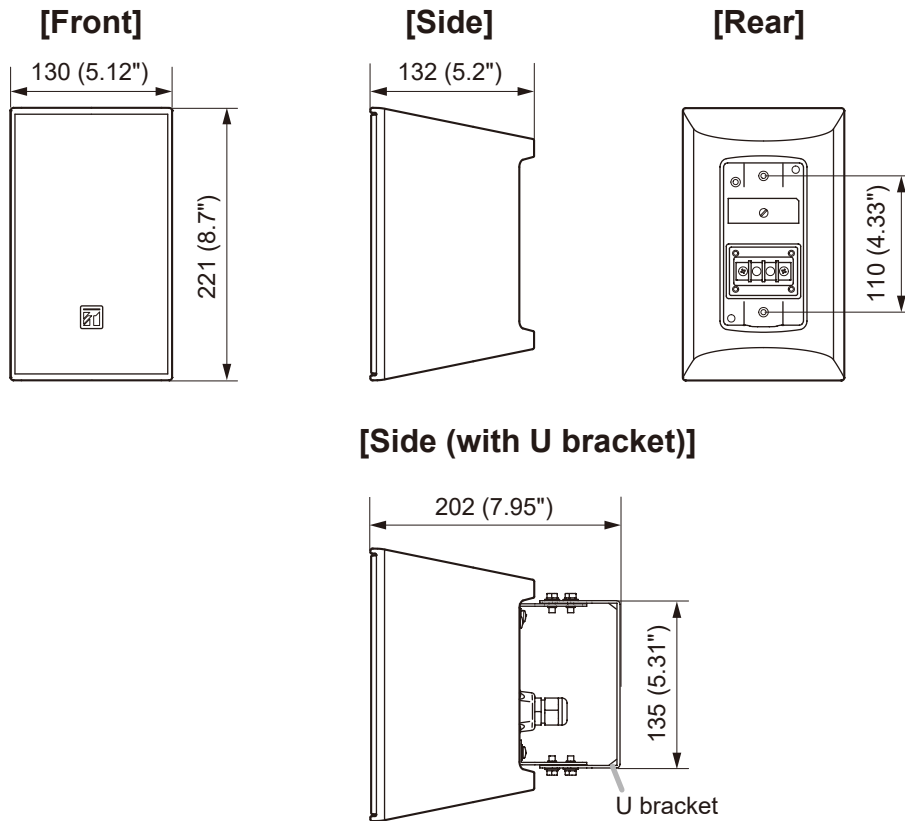
Do not install the speaker in areas where corrosive gases may be present, such as coastal areas with salt damage or hot spring areas, or in places with a lot of dust or strong wind pressure. Doing otherwise may cause the speaker to fall off, resulting in personal injury.

- Only install the speaker in locations with an ambient operating temperature range of -10 to $+50$ °C (14 to 122 °F). Failure to follow this instruction could result in speaker malfunction or failure.
- Keep the front part of speaker away from direct sunlight. Otherwise, ultraviolet rays deteriorate the speaker unit's cone, causing the speaker to malfunction.
- Please note that IP rating test is conducted under specific conditions and does not fully replicate the conditions of all installation environments, though these speakers are IP65-rated for its dustproof and waterproof performances. And the protective performance may deteriorate due to wear and tear, depending on the installation environment and usage conditions.

4. DIMENSIONAL DIAGRAM

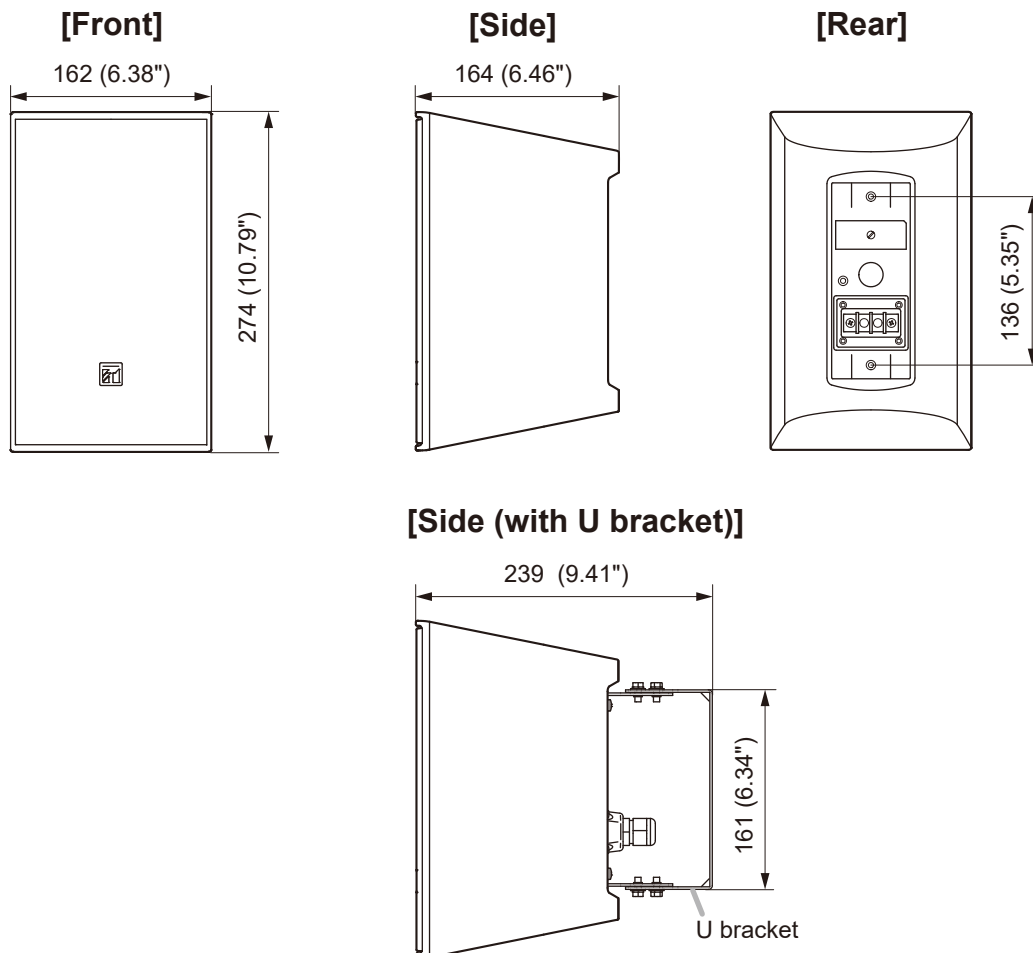
4.1. F-03BT-WP-UE, F-03WT-WP-UE

Unit: mm



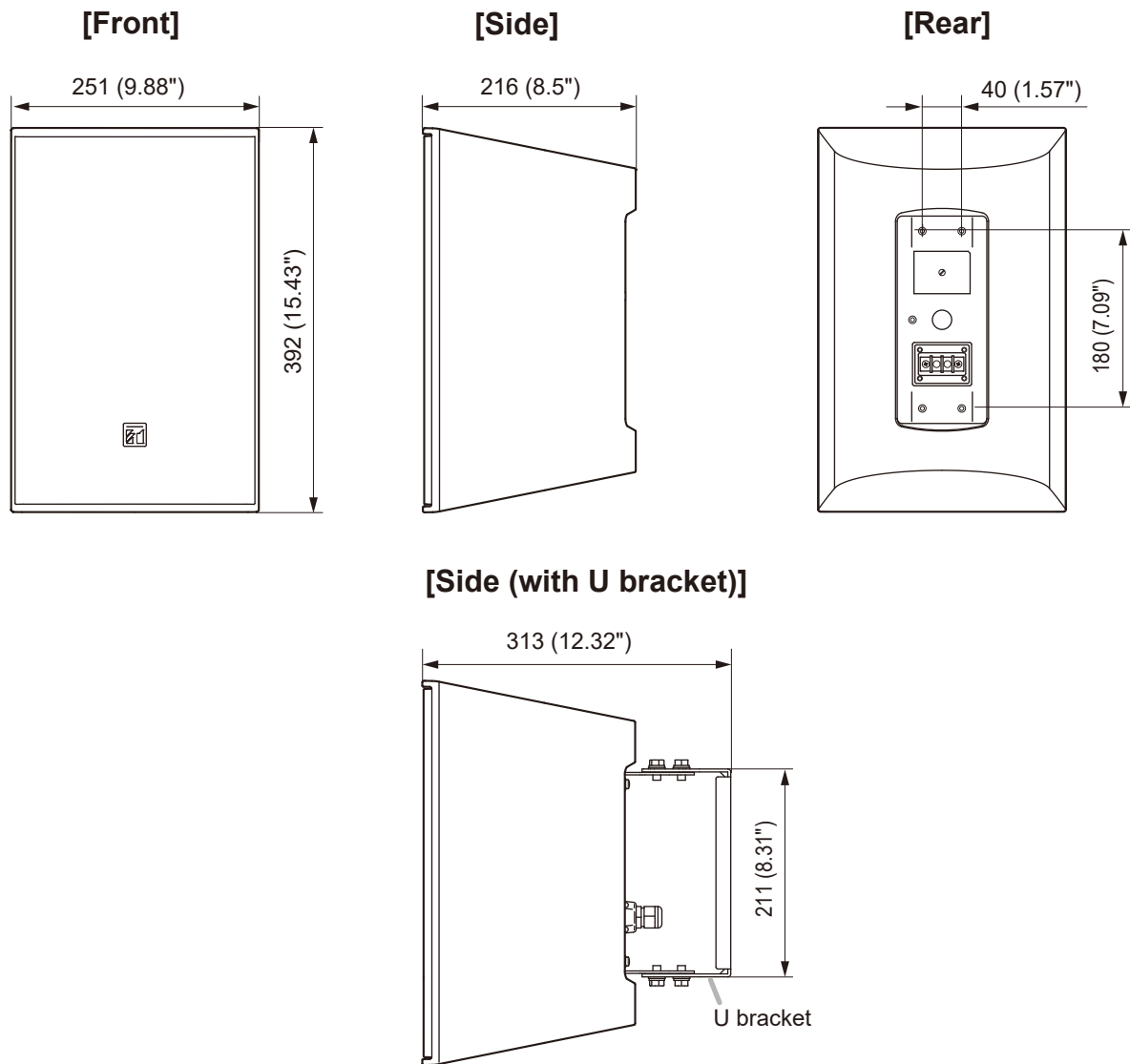
4.2. F-05BT-WP-UE, F-05WT-WP-UE

Unit: mm



4.3. F-08BT-WP-UE, F-08WT-WP-UE

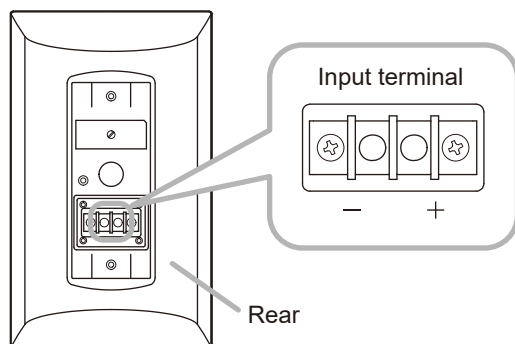
Unit: mm



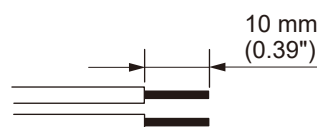
5. SPEAKER CABLE CONNECTIONS

Applicable cable: 0.33 – 3.3 mm² (AWG 22 – 12)

[Input terminal polarity]



[Stripped conductor of cable]

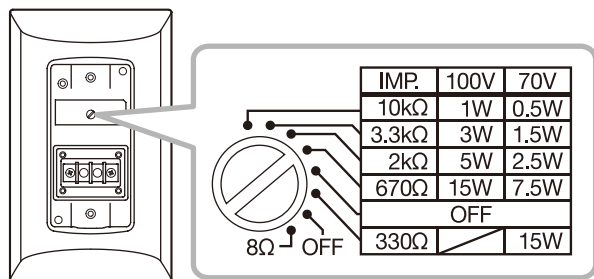


The figure represents the F-05BT-WP-UE or F-05WT-WP-UE.

6. IMPEDANCE CHANGE

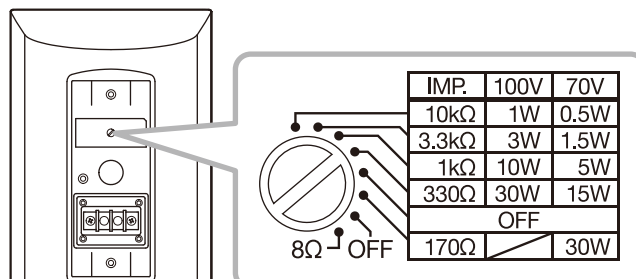
To change the impedance, use a standard screwdriver to rotate the rotary switch on the speaker's rear to select the desired input power.

[F-03BT-WP-UE or F-03WT-WP-UE]



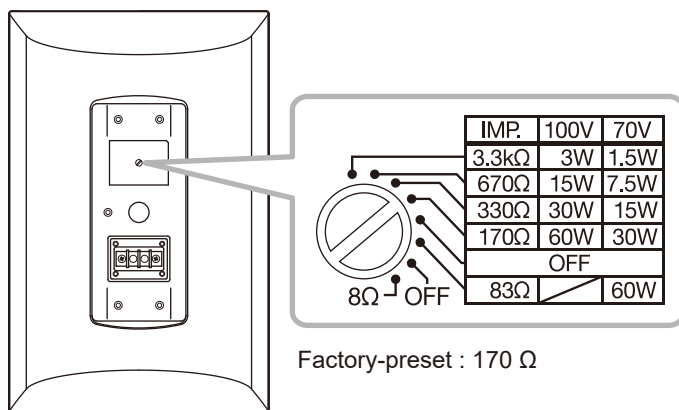
Factory-preset : 670 Ω

[F-05BT-WP-UE or F-05WT-WP-UE]



Factory-preset : 330 Ω

[F-08BT-WP-UE or F-08WT-WP-UE]



Factory-preset : 170 Ω

Note

Never set the switch to "OFF" position for 100 V line operation, as doing so may result in damage to the speaker.

7. INSTALLATION

7.1. Using the Supplied Brackets

The speaker system is supplied with the following brackets.

- U bracket: Used when installing the speaker to a wall or ceiling
- Speaker brackets: To be attached to the speaker's rear surface

F-03BT-WP-UE, F-03WT-WP-UE	F-05BT-WP-UE, F-05WT-WP-UE	F-08BT-WP-UE, F-08WT-WP-UE

F-03BT-WP-UE, F-03WT-WP-UE	F-05BT-WP-UE, F-05WT-WP-UE	F-08BT-WP-UE, F-08WT-WP-UE

Determine the installation position of the U bracket referring to the installation location diagram on p. 8.

7.1.1. Installation Location of the U Bracket

When installing the U bracket to a wall or ceiling, refer to the installation location diagrams and position dimensions table shown below.

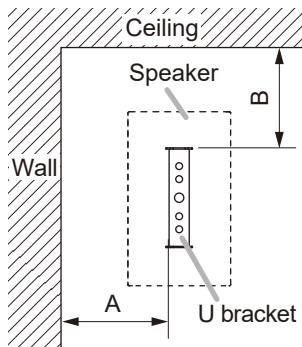
The diagrams shown below are distance guidelines from the wall or ceiling to the U bracket, taking into consideration of the speaker installation angle and installation work space.

For the speaker installation angle, see "Range of Speaker Installation Angle" on p. 9.

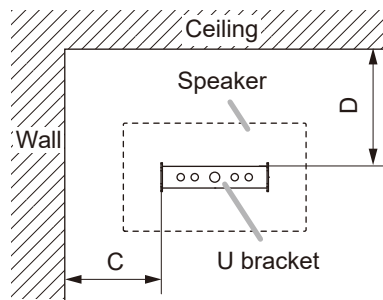
[When installing to a wall]

- The figures are front views.
- The U bracket in the diagrams is that of the F-05BT-WP-UE or F-05WT-WP-UE.

(Vertical installation)



(Horizontal installation)

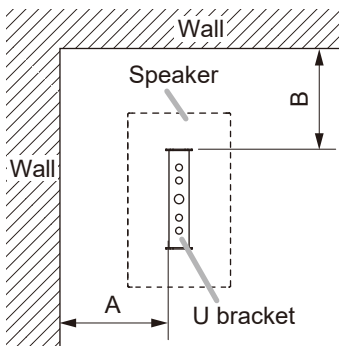


Unit: mm

	A	B	C	D
F-03BT-WP-UE, F-03WT-WP-UE	250 (9.84")			150 (5.91")
F-05BT-WP-UE, F-05WT-WP-UE				
F-08BT-WP-UE, F-08WT-WP-UE				250 (9.84")

[When installing to a ceiling]

- The figure is a bottom view.
- Referring to the diagram below, install the U bracket to the ceiling according to the direction in which speaker is installed.
- The U bracket in the diagrams is that of the F-05BT-WP-UE or F-05WT-WP-UE.



Unit: mm

	A	B
F-03BT-WP-UE, F-03WT-WP-UE	250 (9.84")	
F-05BT-WP-UE, F-05WT-WP-UE		
F-08BT-WP-UE, F-08WT-WP-UE		

7.1.2. U bracket installation dimensions

The number of the mounting holes in the U bracket varies depending on the model. Be sure to use 2 or more mounting holes to secure the U bracket to the installation location.

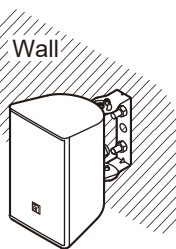
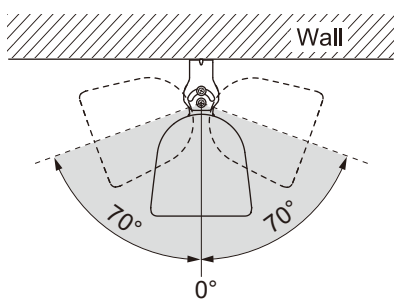
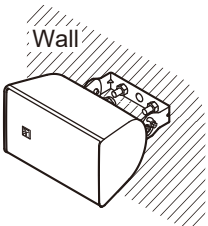
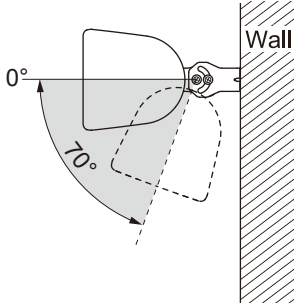
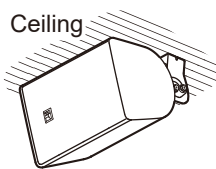
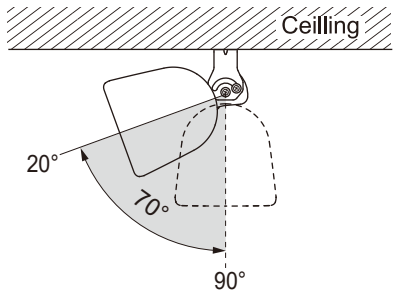
Use M10 nut for installation.

F-03BT-WP-UE, F-03WT-WP-UE	F-05BT-WP-UE, F-05WT-WP-UE	F-08BT-WP-UE, F-08WT-WP-UE

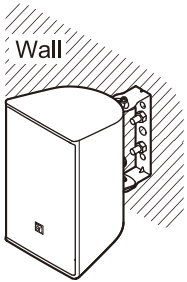
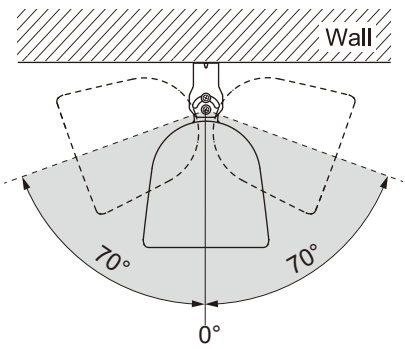
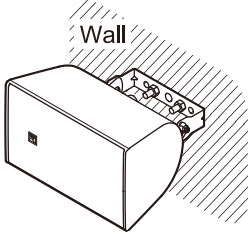
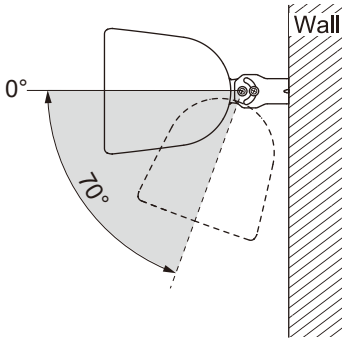
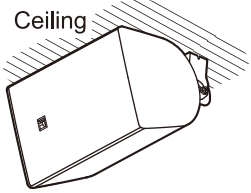
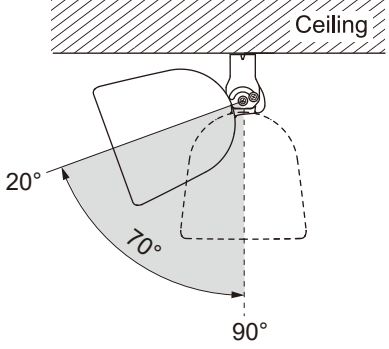
7.2. Range of Speaker Installation Angle

Install the speakers within the shaded  range shown in the table below.

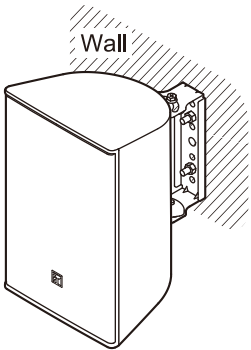
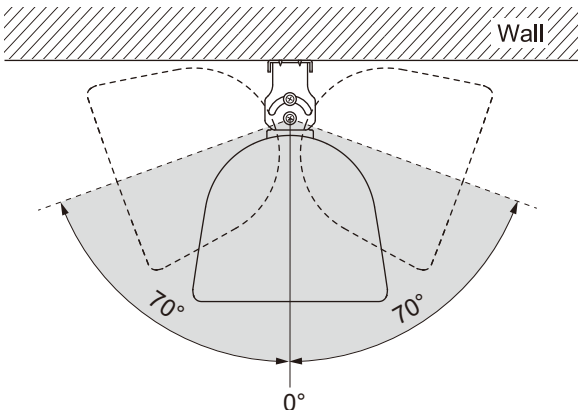
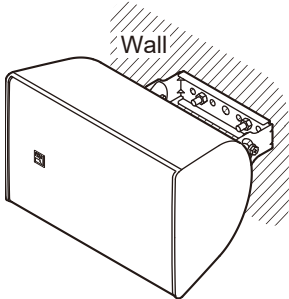
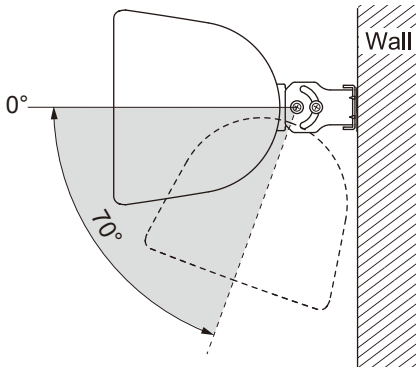
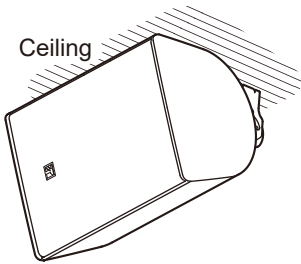
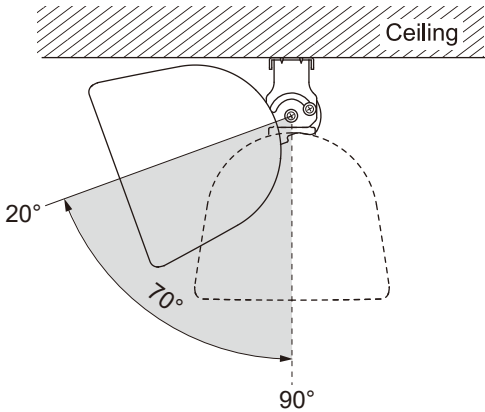
7.2.1. F-03BT-WP-UE, F-03WT-WP-UE

	Installation examples	Horizontal angle adjustment range
Wall mounting example	<ul style="list-style-type: none"> Vertical installation 	<p>70° left and right from the center of the speaker (Top view)</p> 
	<ul style="list-style-type: none"> Horizontal installation 	<p>0° horizontal to 70° downward (Side view)</p> 
Ceiling mounting example	<ul style="list-style-type: none"> Horizontal installation 	<p>20° downward to 90° downward (Side view)</p> 

7.2.2. F-05BT-WP-UE, F-05WT-WP-UE

	Installation examples	Horizontal angle adjustment range
Wall mounting example	<ul style="list-style-type: none"> Vertical installation  <p>A 3D perspective view of the speaker mounted vertically on a wall. The wall is indicated by a hatched area behind the speaker.</p>	<p>70° left and right from the center of the speaker (Top view)</p>  <p>A top-down view of the speaker mounted on a wall. A vertical line represents the center (0°). Dashed lines indicate the 70° left and 70° right adjustment range. The wall is indicated by a hatched area above the speaker.</p>
	<ul style="list-style-type: none"> Horizontal installation  <p>A 3D perspective view of the speaker mounted horizontally on a wall. The wall is indicated by a hatched area behind the speaker.</p>	<p>0° horizontal to 70° downward (Side view)</p>  <p>A side view of the speaker mounted on a wall. A horizontal line represents 0°. A dashed line indicates the 70° downward adjustment range. The wall is indicated by a hatched area to the right of the speaker.</p>
Ceiling mounting example	<ul style="list-style-type: none"> Horizontal installation  <p>A 3D perspective view of the speaker mounted horizontally on a ceiling. The ceiling is indicated by a hatched area above the speaker.</p>	<p>20° downward to 90° downward (Side view)</p>  <p>A side view of the speaker mounted on a ceiling. A dashed line indicates the 20° downward adjustment range. A solid line indicates the 90° downward adjustment range. The ceiling is indicated by a hatched area above the speaker.</p>

7.2.3. F-08BT-WP-UE, F-08WT-WP-UE

	Installation examples	Horizontal angle adjustment range
Wall mounting example	<ul style="list-style-type: none"> Vertical installation 	<p>70° left and right from the center of the speaker (Top view)</p> 
	<ul style="list-style-type: none"> Horizontal installation 	<p>0° horizontal to 70° downward (Side view)</p> 
Ceiling mounting example	<ul style="list-style-type: none"> Horizontal installation 	<p>20° downward to 90° downward (Side view)</p> 

7.3. Mounting

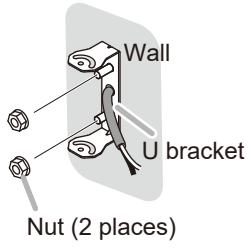
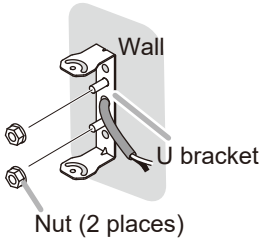
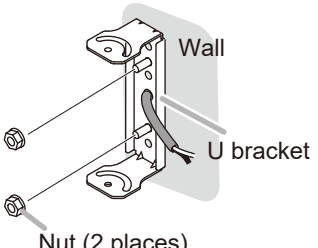
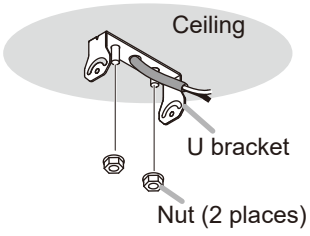
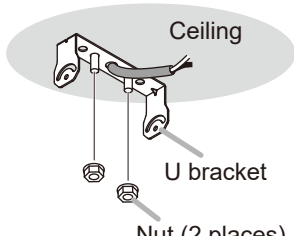
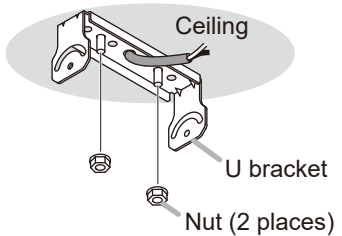
Note

The figures from **Step 4** onward are examples of the F-05BT-WP-UE or F-05WT-WP-UE.

Step 1. Mount the supplied U bracket on the wall or ceiling.

Notes

- Bolts and nuts used for mounting the U bracket to the wall or the ceiling are not supplied. Use M10 bolts and nuts.
- For the installation location and dimension of the U bracket, see "Using the Supplied Brackets" on p. 7.

	F-03BT-WP-UE, F-03WT-WP-UE	F-05BT-WP-UE, F-05WT-WP-UE	F-08BT-WP-UE, F-08WT-WP-UE
Wall mounting			
Ceiling mounting			

Step 2. Attach a safety wire to the rear surface of the speaker.

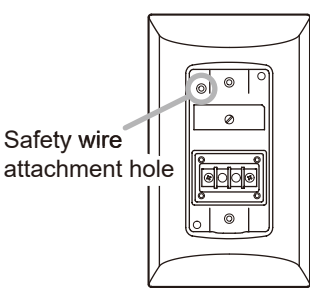
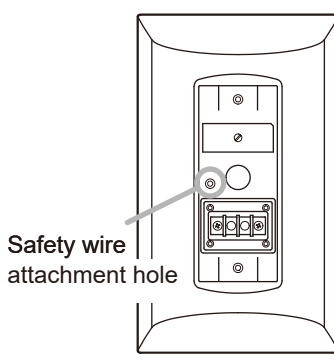
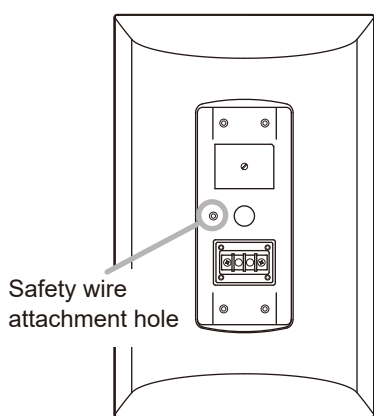


WARNING

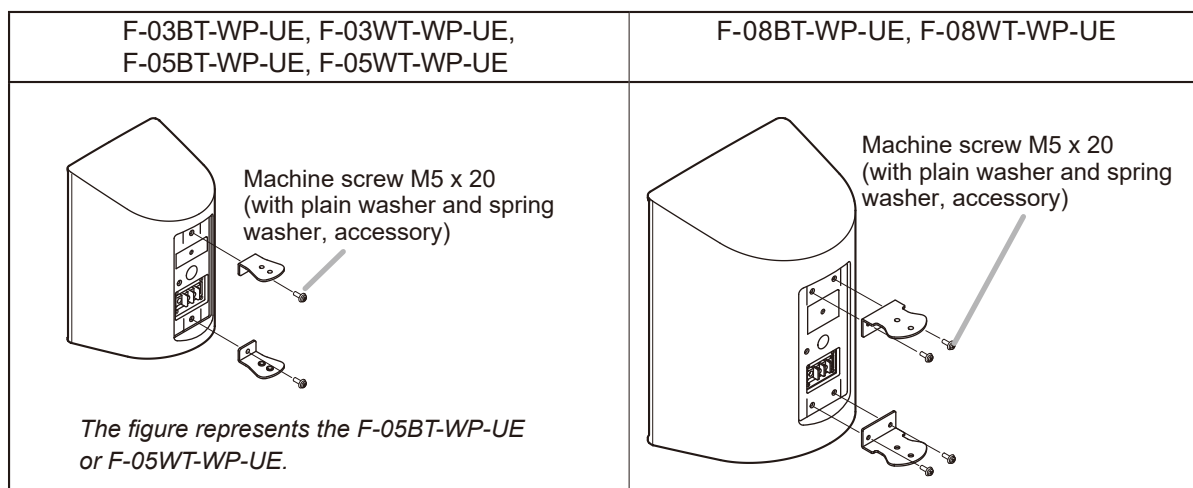
- Install the safety wire on the wall side or the ceiling side to a location that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Use a safety wire that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Keep the safety wire at the minimum length without slack.

Note

The safety wire is not supplied. Prepare it separately.

F-03BT-WP-UE, F-03WT-WP-UE	F-05BT-WP-UE, F-05WT-WP-UE	F-08BT-WP-UE, F-08WT-WP-UE
		

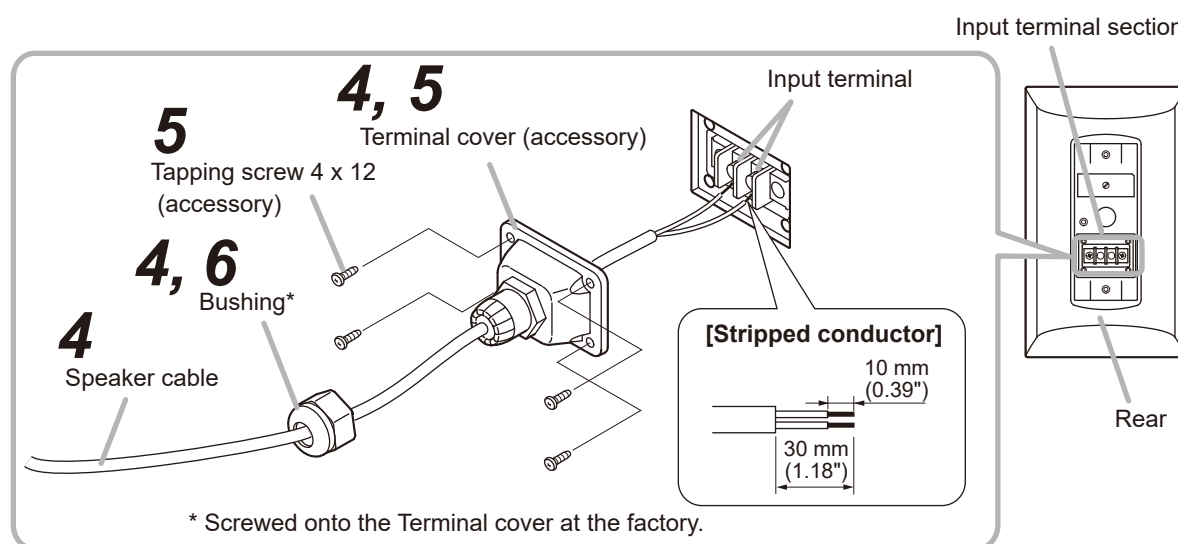
Step 3. Secure the speaker bracket to the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 2 N·m



Step 4. Pass the speaker cable through the bushing and the terminal cover, then connect it to the input terminals.

Notes

- Be sure to pass the speaker cable through the supplied terminal cover.
- For the speaker cable, use a cable with a diameter of 6 – 10 mm (0.24 – 0.39"), which will fit the cable bushing. Also, use a cable with thickness of 0.33 – 3.3 mm² (AWG 22 – 12).



Step 5. Secure the terminal cover to the input terminal section on the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 1 N·m

Notes

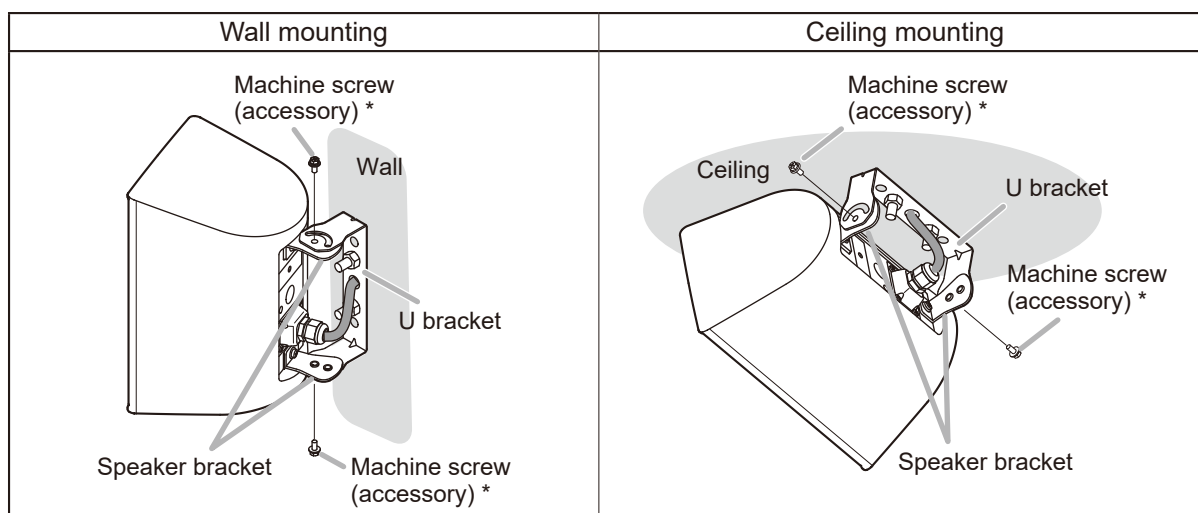
- Perform this work by pulling the speaker cable while ensuring that it is not tangled inside the terminal cover.
- To ensure waterproof effect, be sure to insert 4 screws vertically into the screw holes in the terminal cover.

Step 6. Fit the bushing into the terminal cover, then tighten it with a tool.

Note

Tightening the bushing with excessive force may cause damage.
Tighten the bushing approximately 90° (1/4 turn) using a tool.

Step 7. Temporarily fix the speaker bracket to the U bracket using the supplied screws. (2 places)

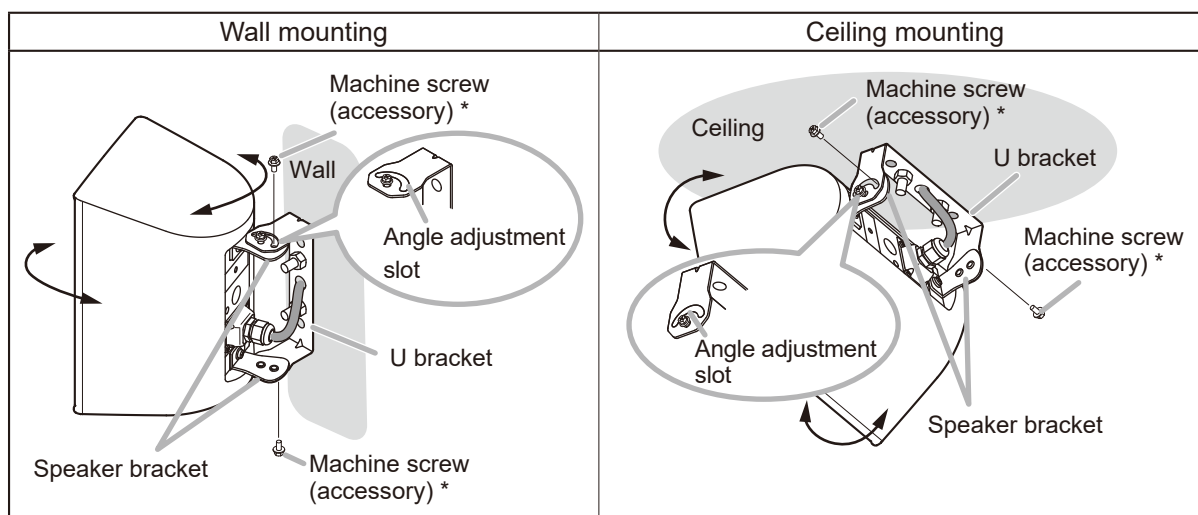


Step 8. Adjust the speaker angle by moving the speaker along the angle adjustment slots in the U bracket, then tighten the speaker using the supplied screws. (2 places)

[Recommended tightening torque]

F-03BT-WP-UE, F-03WT-WP-UE, F-05BT-WP-UE, F-05WT-WP-UE: 5 N·m

F-08BT-WP-UE, F-08WT-WP-UE: 10 N·m

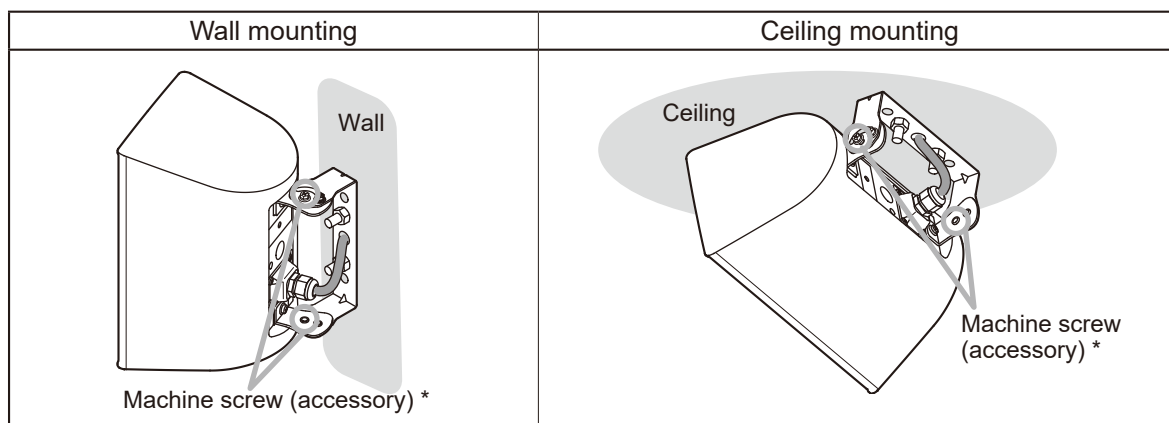


Step 9. Firmly secure the screws temporarily tightened in **Step 7**.

[Recommended tightening torque]

F-03BT-WP-UE, F-03WT-WP-UE, F-05BT-WP-UE, F-05WT-WP-UE: 5 N·m

F-08BT-WP-UE, F-08WT-WP-UE: 10 N·m



* F-03BT-WP-UE, F-03WT-WP-UE, F-05BT-WP-UE, F-05WT-WP-UE:

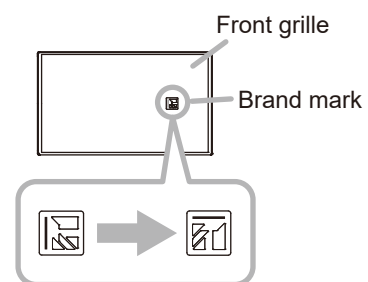
Machine screw M6 x 12 with plain washer and spring washer

F-08BT-WP-UE, F-08WT-WP-UE: Machine screw M8 x 12 with plain washer and spring washer

Tip

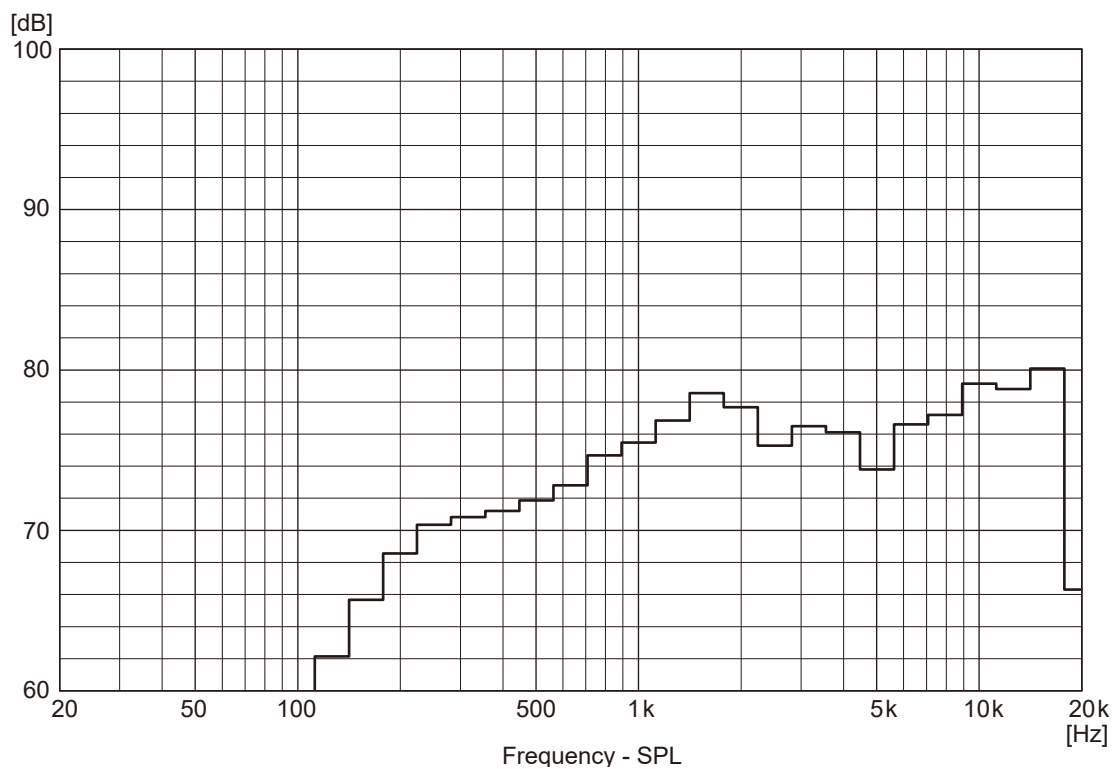
The brand mark is attached to the speaker's front grille with the double-sided adhesive tape.

You can change the orientation of the brand mark, if needed, when the speaker is installed horizontally to a wall or a ceiling. In this case, peel off the brand mark slowly and carefully, then you can reattach it after changing its orientation.

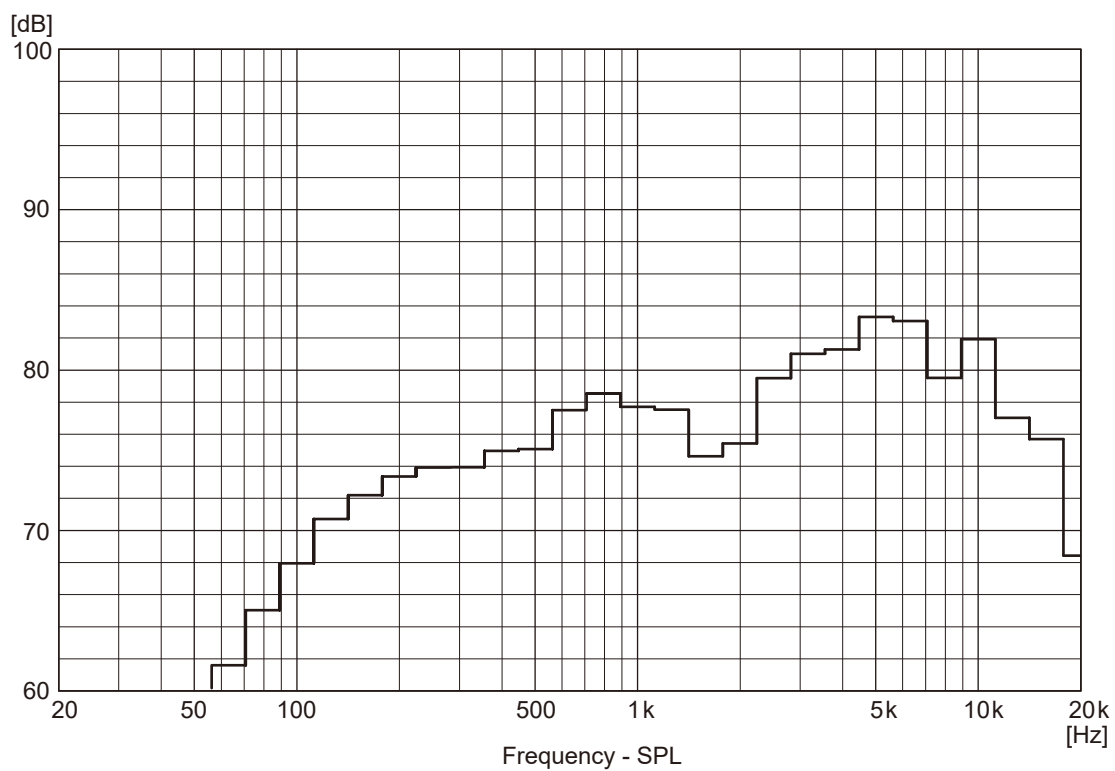


8. FREQUENCY RESPONSE (1 W, 4 m)

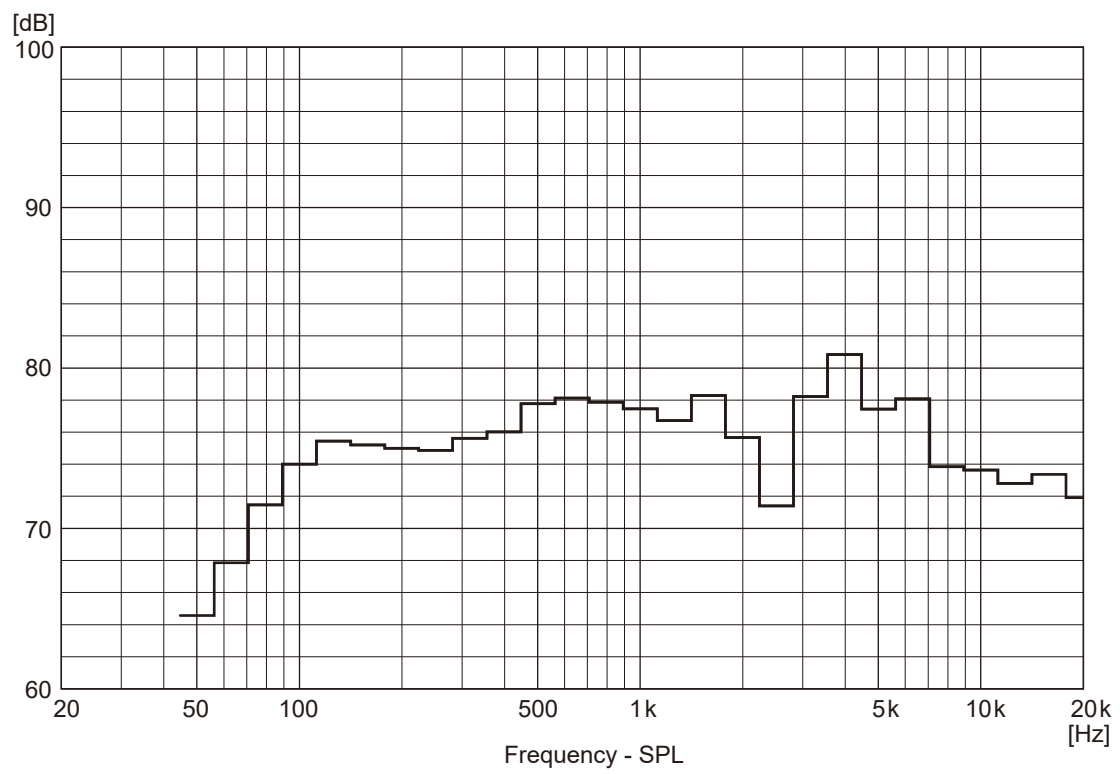
8.1. F-03BT-WP-UE, F-03WT-WP-UE



8.2. F-05BT-WP-UE, F-05WT-WP-UE



8.3. F-08BT-WP-UE, F-08WT-WP-UE



9. SPECIFICATIONS

9.1. F-03BT-WP-UE, F-03WT-WP-UE

Model No.		F-03BT-WP-UE	F-03WT-WP-UE
Standards		EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and alarm systems for buildings Cert. No.: 1438-CPR-1053 NB No.:1438 DoP: 24-105	
Enclosure		Sealed type	
Power Handling Capacity* ¹		Rated noise power: 30 W (8 Ω) Continuous program: 60 W (8 Ω)	
Rated Input		15 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 670 Ω (15 W), 2 kΩ (5 W), 3.3 kΩ (3 W), 10 kΩ (1 W) 70 V line: 330 Ω (15 W), 670 Ω (7.5 W), 2 kΩ (2.5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.5 W)	
Sensitivity		86 dB (1 W, 1 m) (1 – 10 kHz, pink noise)	
Speaker Component		9 cm (3.5") Full-range, PP cone-type	
Frequency Response		100 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Compliance/Certifications		EN 54-24:2008, UL 1480A (UEAY (Outdoor use))	
IP Code		IP65	
Installation Environment		Indoor installation, outdoor installation	
EN 54-24 specifications			
	Sensitivity	73 dB (1 W, 4 m)	
	Max. SPL	85 dB (15 W, 4 m)	
	Coverage Angle (–6 dB)	Horizontal: 360° (500 Hz), 190° (1 kHz), 125° (2 kHz), 100° (4 kHz) Vertical: 360° (500 Hz), 150° (1 kHz), 130° (2 kHz), 110° (4 kHz)	
	Environmental Type	B (outdoor applications)	
	IP Code	IP33C	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Input Terminal		M4 screw terminal, distance between barriers : 9 mm (0.35")	
Applicable Cable		Cabtyre cable: ø6 – 10 mm (0.24 – 0.39") Solid wire, Twisted wire: 0.3 – 3.3 mm ² (AWG 22 – 12)	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	U bracket	Stainless steel, t2, black* ² , paint	Stainless steel, t2, white* ³ , paint
	Speaker bracket	Stainless steel, t2, black* ² , paint	Stainless steel, t2, white* ³ , paint
Dimensions		130 (w) x 221 (h) x 132 (d) mm (5.12" x 8.7" x 5.2")	
Weight		1.7 kg (3.75 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

U bracket	1
Speaker bracket	2
Machine screw M6 x 12 (with plain washer and spring washer) ...	4
Machine screw M5 x 20 (with plain washer and spring washer) ...	2
Terminal cover	1
Tapping screw 4 x 12	4

9.2. F-05BT-WP-UE, F-05WT-WP-UE

Model No.		F-05BT-WP-UE	F-05WT-WP-UE
Standards		EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and alarm systems for buildings Cert. No.: 1438-CPR-1053 NB No.:1438 DoP: 24-105	
Enclosure		Sealed type	
Power Handling Capacity* ¹		Rated noise power: 60 W (8 Ω) Continuous program: 120 W (8 Ω)	
Rated Input		30 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 330 Ω (30 W), 1 kΩ (10 W), 3.3 kΩ (3 W), 10 kΩ (1 W) 70 V line: 170 Ω (30 W), 330 Ω (15 W), 1 kΩ (5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.5 W)	
Sensitivity		89 dB (1 W, 1 m) (1 – 10 kHz, pink noise)	
Speaker Component		Low frequency: 13 cm (5") PP cone-type High frequency: 25 mm (1") dome tweeter	
Frequency Response		80 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Crossover Frequency		4.5 kHz	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Compliance/Certifications		EN 54-24:2008, UL 1480A (UEAY (Outdoor use))	
IP Code		IP65	
Installation Environment		Indoor installation, outdoor installation	
EN 54-24 specifications			
	Sensitivity	76 dB (1 W, 4 m)	
	Max. SPL	91 dB (30 W, 4 m)	
	Coverage Angle (–6 dB)	Horizontal: 360° (500 Hz), 170° (1 kHz), 110° (2 kHz), 85° (4 kHz) Vertical: 360° (500 Hz), 150° (1 kHz), 115° (2 kHz), 35° (4 kHz)	
	Environmental Type	B (outdoor applications)	
	IP Code	IP33C	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Input Terminal		M4 screw terminal, distance between barriers : 9 mm (0.35")	
Applicable Cable		Cabtyre cable: ø6 – 10 mm (0.24 – 0.39") Solid wire, Twisted wire: 0.3 – 3.3 mm ² (AWG 22 – 12)	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	U bracket	Stainless steel, t2, black* ² , paint	Stainless steel, t2, white* ³ , paint
	Speaker bracket	Stainless steel, t2, black* ² , paint	Stainless steel, t2, white* ³ , paint
Dimensions		162 (w) x 274 (h) x 164 (d) mm (6.38" x 10.79" x 6.46")	
Weight		2.8 kg (6.17 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

U bracket	1
Speaker bracket	2
Machine screw M6 x 12 (with plain washer and spring washer) ...	4
Machine screw M5 x 20 (with plain washer and spring washer) ...	2
Terminal cover	1
Tapping screw 4 x 12	4

9.3. F-08BT-WP-UE, F-08WT-WP-UE

Model No.		F-08BT-WP-UE	F-08WT-WP-UE
Standards		EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and alarm systems for buildings Cert. No.: 1438-CPR-1053 NB No.:1438 DoP: 24-105	
Enclosure		Sealed type	
Power Handling Capacity* ¹		Rated noise power: 90 W (8 Ω) Continuous program: 180 W (8 Ω)	
Rated Input		60 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 170 Ω (60 W), 330 Ω (30 W), 670 Ω (15 W), 3.3 kΩ (3 W), 70 V line: 83 Ω (60 W), 170 Ω (30 W), 330 Ω (15 W), 670 Ω (7.5 W), 3.3 kΩ (1.5 W)	
Sensitivity		90 dB (1 W, 1 m) (1 – 10 kHz, pink noise)	
Speaker Component		Low frequency: 20 cm (8") PP cone-type High frequency: 25 mm (1") dome tweeter	
Frequency Response		70 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Crossover Frequency		3 kHz	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Compliance/Certifications		EN 54-24:2008, UL 1480A (UEAY (Outdoor use))	
IP Code		IP65	
Installation Environment		Indoor installation, outdoor installation	
EN 54-24 specifications			
	Sensitivity	75 dB (1 W, 4 m)	
	Max. SPL	92 dB (60 W, 4 m)	
	Coverage Angle (–6 dB)	Horizontal: 170° (500 Hz), 130° (1 kHz), 100° (2 kHz), 110° (4 kHz) Vertical: 150° (500 Hz), 130° (1 kHz), 100° (2 kHz), 90° (4 kHz)	
	Environmental Type	B (outdoor applications)	
	IP Code	IP33C	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Input Terminal		M4 screw terminal, distance between barriers : 9 mm (0.35")	
Applicable Cable		Cabtyre cable: ø6 – 10 mm (0.24 – 0.39") Solid wire, Twisted wire: 0.3 – 3.3 mm ² (AWG 22 – 12)	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	U bracket	Stainless steel, t3, black* ² , paint	Stainless steel, t3, white* ³ , paint
	Speaker bracket	Stainless steel, t3, black* ² , paint	Stainless steel, t3, white* ³ , paint
Dimensions		251 (w) x 392 (h) x 216 (d) mm (9.88" x 15.43" x 8.5")	
Weight		5.5 kg (12.13 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

U bracket	1
Speaker bracket	2
Machine screw M8 x 12 (with plain washer and spring washer) ...	4
Machine screw M5 x 20 (with plain washer and spring washer) ...	4
Terminal cover	1
Tapping screw 4 x 12	4