

MITSUBISHI ELECTRIC Package Air-Conditioner Grille (Optional Part) Automatic Filter Elevation Panel Installation Manual

〔PLP-6EAJ
PLP-6EAJE (with “i-see Sensor”)〕

Safety precautions

- Before installation, make sure to read all the “Safety precautions that must be followed” and perform it accurately.
- The precautions herein provide very important points regarding safety. Make sure you follow them.
- Symbols used in this manual are categorized as follows according to the degree of risk when used improperly:

	Warning	Describes warnings that must be observed to prevent serious consequences, such as serious injury or death of the user.
	Caution	Describes precautions that must be observed to prevent damage to the unit.

- After installation, describe the user “Safety Precautions”, how to use, and how to care for and clean the unit following the operation manual, and test run the unit to check whether there are any problems.
- In addition, direct the user to keep this installation manual together with the operation manual, and, should the users change, to give the manuals to the new user.

Warning

Wiring must be done properly using specific cables and fixed so that external pressure from the cable will not transmit to the terminal area. Never splice the cables for wiring.

- If the connection and/or fixation are not done properly, or if the cables are spliced, heat or fire may result.

Never make alterations to the unit.

- Consult with a dealer for repairs. If alterations are done on the unit or the unit is repaired improperly, water leakage, electric shock or fire may result.

Ask the dealer or an authorized technician to install the unit.

- If the unit is installed improperly by the user, water leakage, electric shock or fire may result.

Installation must be properly done following this installation manual.

- If the unit is installed improperly, water leakage, electric shock or fire may result.

Installation must be done in proper order in case of strong wind such as storms and earthquakes.

- If the unit is installed improperly, there is a risk that a fall may result.

The unit must be securely installed on a surface that is able to support the weight of the unit.

- If the surface does not have sufficient strength, accidents may result due to falling of the unit.

If the unit is to be installed in a small room, take measures to prevent exceeding the concentration limit of refrigerant in the case of refrigerant leakage.

- Ask a dealer about measures to prevent the exceeding the concentration limit. If there is any chance of refrigerant leakage and its concentration exceeds the limit, it may result in lack of oxygen.

Do not mix substances other than the designated refrigerant in the refrigerant cycle when installing and/or moving the unit.

- If air or other substances mix in, abnormal high-pressure will occur in the refrigerant cycle, which may cause explosion.

The unit must not be moved or reinstalled by the user.

- If the unit is installed improperly, water leakage, electric shock or fire may result. Ask the dealer or an authorized company to do so.

Use genuine Mitsubishi parts such as humidifier and high performance filters (sold separately).

- Ask an authorized company to install. If the unit is installed by the user improperly, water leakage, electric shock or fire may result.

Terminal board cover (panel) of the indoor/outdoor unit must be installed properly.

- If the terminal board cover (panel) is installed improperly, fire or electric shock may result due to dust or water.

Make sure the refrigerant has not leaked after installation.

- In case the refrigerant leaks into the room and comes in contact with a fan heater, heater, or stove burner, noxious fumes may be produced.

Electrical work must be done by an authorized engineer following “Technical standards for electrical equipment”, “Extension Code” and this installation manual and using dedicated communication circuit and rated power voltage/circuit breakers.

- If the electrical circuit does not have sufficient capacity or if the unit is installed improperly, electric shock or fire may result.

Turn off the main power before the installation work.

- Otherwise, injury or electric shock may result.

Ventilate the room if refrigerant leaks out during installation.

- When refrigerant comes in contact with fire, noxious fumes may be produced.

Before installation(Environment)

Caution

Do not use the unit in unusual environment.

- If used in an environment with a large amount of volatile oil (including mechanical oil), steam, or sulfidizing gas or where it is high in salt content such as a seashore where the outdoor unit may become blocked by snow, performance may drop significantly or parts may become damaged.

Do not install the unit in an area where flammable gas may be generated, flow in, be retained or leaked.

- In case gas leaks around the unit, fire or explosion may result.

If the unit is installed in a hospital or telecommunications office, preparation for noise must be adequately completed.

- The effect of inverter equipment, private power generators, high-frequency medical devices and radio communication devices may result in malfunctions and/or damage of the air-conditioner. Air-conditioners may affect medical devices or telecommunications devices to interfere with medical treatment or cause adverse effects such as disturbance of broadcasting and/or noise bursts.

The unit must not be used for special purposes such as the storage of precision apparatuses, food, animals and plants, and art objects.

- It may cause deterioration in quality of the objects.

Do not install the unit above objects that should not get wet.

- In case humidity exceeds 80% or the drain outlet is blocked, dew may fall from the indoor unit. When the heating function is on, water leaks from the outdoor unit; intensive drain work may be done to the outdoor unit as needed.

Before installation(Relocation)

Caution

Do not neglect damaged platforms.

- If left damaged, the unit may fall and result in injury.

Transport of the product must be done carefully.

- In principle, products over 20 kg must be carried by two or more people. Make sure you move the product holding only the designated handle but not a PP band and such. Use protectors to prevent injury; do not touch the fins or the edge of part with your bare hands.

Appropriately dispose of packages.

- Packaging may contain metal objects such as “nails” and wood chips. So injury may result if disposal is neglected.

Make sure that the joints are locked securely and they do not come off from all of 4 holes.

- Otherwise, the intake grille may drop off and cause an injury or a failure.

Do not wash the air-conditioner.

- Doing so may cause electric shock.

Drain piping must be done properly according to the installation manual to drain water and must be heat insulated to prevent bedewing.

- If piping is not properly installed, water leakage may result, which will make the ceilings, floors or other household items wet.

Make sure heat insulation for refrigerant piping is properly installed to prevent bedewing.

- If heat insulation is not done properly, bedewing of the surfaces such as piping may result, which will make the ceilings, floors, or other valuable items wet.
- Insulation for the joint part must be done after an air tightness test.

Make sure to hang the safety strap of the intake grille while temporarily installing the grille.

- Otherwise, the intake grille may drop off and cause an injury or a failure.

Before electrical work

Caution

Make sure to install a short circuit breaker to the power.

- If a short circuit breaker is not installed, electric shock may result.

Use proper electrical cables to meet the standard for current capacity.

- If improper electrical cables are used, short circuit, heat, or fire may result.

Electrical wiring must be done without tension.

- If there is tension on the cables, wire disconnection, electric shock, or fire may result.

Unit must be grounded.

- Do not connect the ground wires with ground wires for gas pipes, water pipes, conductor rods, or telephones. If the unit is not properly grounded, electric shock may result.

Use fuses with appropriate capacity such as short circuit breaker, hand switch (switch + type B fuse), and circuit breakers for wiring devices.

- If fuses, wires, and copper wires with larger capacities are used, damage or fire may result.

Start the electrical work after turning off the main power.

- Otherwise, electric shock, damage, or failure may result.

Before test runs

Caution

Do not operate the unit without the grille or guard.

- If you touch rotating, hot or high-voltage parts of the equipment, injury may result from being snagged or burnt, or from electric shock.

Do not operate the unit with wet hands.

- Electric shock may result.

Turn it on more than 12 hours before operation.

- If operation starts as soon as the unit is turned on, damage may result. Do not turn it off during the season.

Do not touch refrigerant piping when operating with bare hands.

- Refrigerant piping when operating becomes cold and hot, depending on the condition of the flowing refrigerant. If touched with bare hands, frostbite or burns may result.

Do not turn the unit off soon after operation stops.

- Make sure you wait for more than 5 minutes. If it is turned off too soon, water leakage or damage may result.

Do not operate the unit without air filters.

- Dirt may get clogged inside and may result in damage.

1. Included parts (This manual and following parts are included.)

Standard grille							
Part Number/ Name	① Grille	② Installation gauge	③ Tag	④ Wireless remote controller for Automatic Filter Elevation Panel	⑤ Battery	⑥ Remote controller holder	⑦ Screw
Quantity	1	1	1	1	1	1	2
Shapes/ Sizes							
Grille with i-see Sensor							
Parts ① to ⑦ above and			Note: Never force pressure on the vane, it may result in damage. Never force pressure on the lens of ③ i-see Sensor corner panel, it may result in damage.				

2. Preparation before installing the grille

- Confirming the location of the main unit**
- Check whether the opening holes of the ceiling are within the following range: 860 × 860 to 910 × 910
 - Using included installation gauge②, locate the ceiling surface and the main unit. If location of the ceiling surface and the main unit does not match, wind leakage, dew fall or damage of the vane may result.
 - Turn off the main power (short circuit breaker).

Warning

Turn off the main power.

- If the main power is not turned off, injury or electric shock may result.

[Remarks] The grille must not be painted by the user.

- It may result extreme malfunction or the damage of parts. Ask the dealer or an authorized technician to paint.

Installing the wired remote controller

- The intake grille elevation function can be controlled with the wired remote controller. There are 2 methods for controlling the intake grille elevation function: Use the elevation function for all the main units which are controlled by the remote controller at once, and use the elevation function for each main unit individually. (Please refer to the operation manual for the operation method.)
- Install the remote controller in a place where you can observe all the indoor units managed with it. Otherwise, the lowering grille may hit people or objects and cause damage to them.

Installing the remote controller holder (For Automatic Filter Elevation Panel)

- The remote controller holder is included. Use the holder to prevent losing the wireless remote controller.
- Install the wireless remote controller for Automatic Filter Elevation Panel in the following locations.
 - Locations that are not exposed to direct sunlight
 - Locations in which it is easy to operate the remote controller and see its display
 - Locations that are not near sources of heat
 - Locations that are out of the reach of children
 - Locations that are not exposed to cold air (hot air)
 - Locations that are not exposed to oily smoke, and so on
 - Locations that are not exposed to oily smoke, and so on
- To install the wireless remote controller for Automatic Filter Elevation Panel, secure the remote controller holder to a wall using the included screws, and then fit the wireless remote controller for Automatic Filter Elevation Panel into the holder.

Removing the intake grille

- Remove the tape that secures the intake grille and remove the intake grille from the grille.
- Note: You will find the limit switch for storing and detecting intake grille shown in the right figure. Make sure you do not damage the limit switch when operating.

Removing the corner panel

- Loosen the 4 screws on the corner, slide the corner panel in the direction of the arrow (1) in the figure and remove the corner panel.

3. Selection of air outlets

- You can select 11 different patterns of air outlet directions on this grille.
 - Select a pattern of air outlet directions.
 - **More than two directions must be selected.**
- Notes 1. When changing the number of directions, you need an air outlet shutter plate, which is optional part. An air outlet shutter plate will be attached to the indoor unit; configuration must be done before attaching the grille on the main unit.
2. Do not select 2 directions in a hot and humid environment. (Dew formation or dew drop may result.)

3. Selection of air outlets (continued from the previous page)

- Change the settings depending on the number of air outlets and the ceiling height where the main unit is installed.
 - **If not changed, failure may result or users may feel discomfort.**
- Note: Do not set up for low ceilings in a hot and humid environment. (Dew drop may result.)

When used in combination with PLA-EA

Configuration will be done on the remote controller. Refer to the section “Function Setting” in the installation manual of the remote controller or the section “Function Setting on the Remote Controller” in the installation manual of the main unit.

When used in combination with PLFY-EM

Set up the switches on controller board of the main unit as shown in the following table.

Main unit Type		20 to 80 Type						100 to 125 Type					
		Standard		High ceiling		Low ceiling		Standard		High ceiling		Low ceiling	
		SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2	SW21-1	SW21-2
		OFF	ON	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
4 directions	SW21-3 OFF SW21-4 ON	2.5m		2.7m		3.5m		2.7m		3.2m		4.5m	
3 directions	SW21-3 OFF SW21-4 OFF	2.7m		3.0m		3.5m		3.0m		3.6m		4.5m	
2 directions	SW21-3 ON SW21-4 OFF	3.0m		3.3m		3.5m		3.3m		4.0m		4.5m	

Note: Switch setting is necessary except for the column highlighted in gray. (Column highlighted in gray is the initial setting.)

4. Installing grille

1) Preparations

Make sure to flip 2 hooks on the grille up.

2) Temporary installation of grille

- Join the corner of drain pipe on the main unit with the corner with hole on the grille and put them together temporarily by hanging the hook of the grille to the claw of the main unit.
- Make sure the lead wires of the grille do not get caught between the main unit and the grille.
- Never force pressure on the grille while the temporary installation. It may result in accident and damage.

3) Fixing the grille

- By tightening the pre-installed screws, fix the grille onto the main unit.
- Note: Make sure there is no gap between the main unit and the grille or between the grille and the ceiling surface.

[Remarks] When tightening the screw, make sure that the tightening torque is 2.8N · m to 3.6N · m. Never use an impact screw driver.

- It may result in parts damage.

4) Wiring connections

Wiring connections for vane motor

- Loosen the 2 screws fixing the electrical box cover on the main unit, and slide the cover to open.
 - Make sure to connect a connector for vane motor (white, 20 poles) to CNV connector (white) on the controller board of the main unit.
 - Lead wires that lead off the grille must be held together without slack using a clamp into the electrical box.
- Note: Lead wires of the grille must be held together using a clamp on the main unit so that they do not contact the strings of elevation machine motor box.

Wiring connections for elevation machine

- Route the lead wires (blue, 4 poles) of the elevation machine of the grille from the side of the electrical box on the main unit.
- Make sure to connect them to CN4G (blue) on the controller board of the main unit.
- Earth wires of the grille must be fixed with the included screws in the electrical box of the main unit.

Caution

Indoor unit must be grounded.

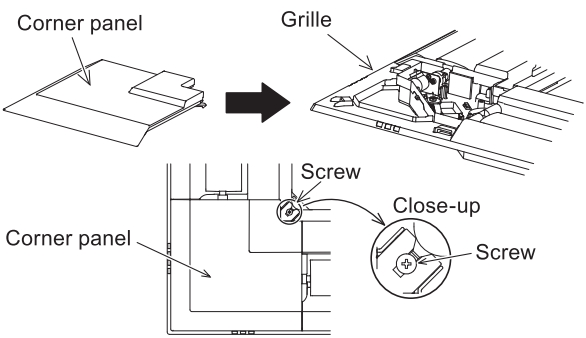
- Do not connect the ground wires with ground wires for gas pipes, water pipes, conductor rods, or telephones. If the indoor unit is not properly grounded, electric shock may result.

Ground wire fixing position

5. Installing corner panels

Installing of corner panels

Slide the corner panels to each corner towards the arrow and fix with the provided screws.



•For the corner panels with safety strap, make sure to hang the strap on the hook of the grille securely.
Note: If the safety strap is not hanged properly, there is a risk the corner panel may fall.

Installing signal receiver corner panel (default position)

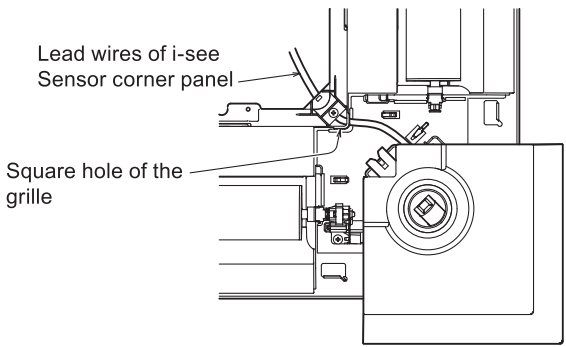
1. Route the lead wires (white, 9 poles) for signal receiver corner panel from the side of the electrical box on the main unit.
2. Make sure to connect to CN90 (white) on the controller board of the main unit.
3. Make sure that lead wires of signal receiver corner panel is passed through the claw of bellmouth.
The remaining lead wires must be held together without slack using the clamp into the electrical box; so that they do not contact the strings of elevation machine motor box.
4. The electrical box cover of the main unit is closed again with 2 screws.
5. Install the signal receiver corner panel with to the grille and fix with the screws.

Notes:

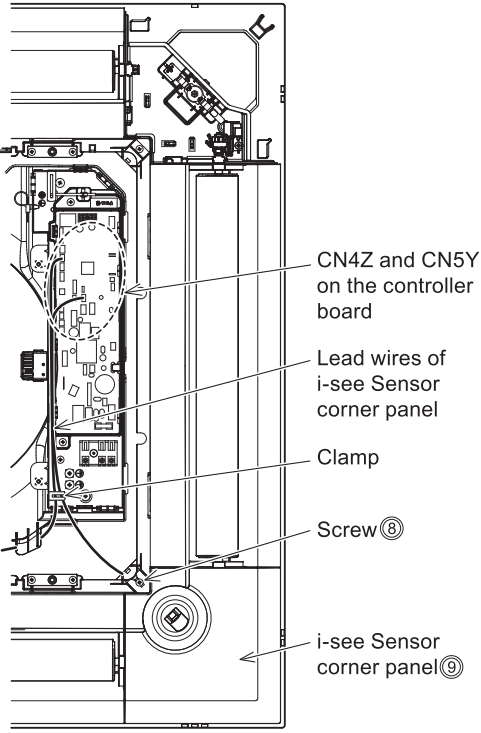
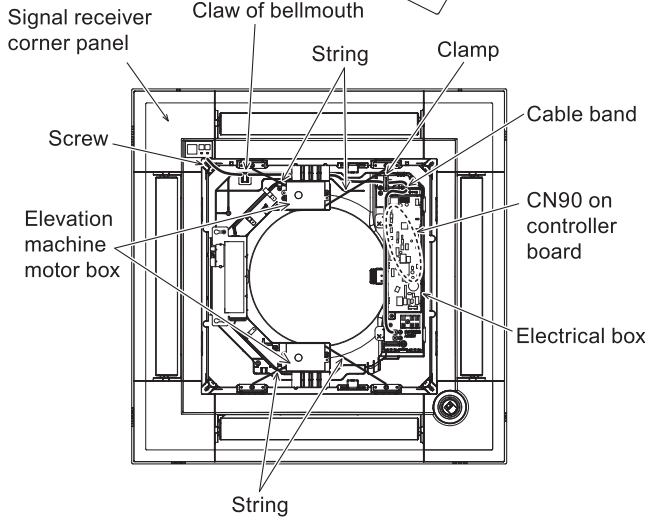
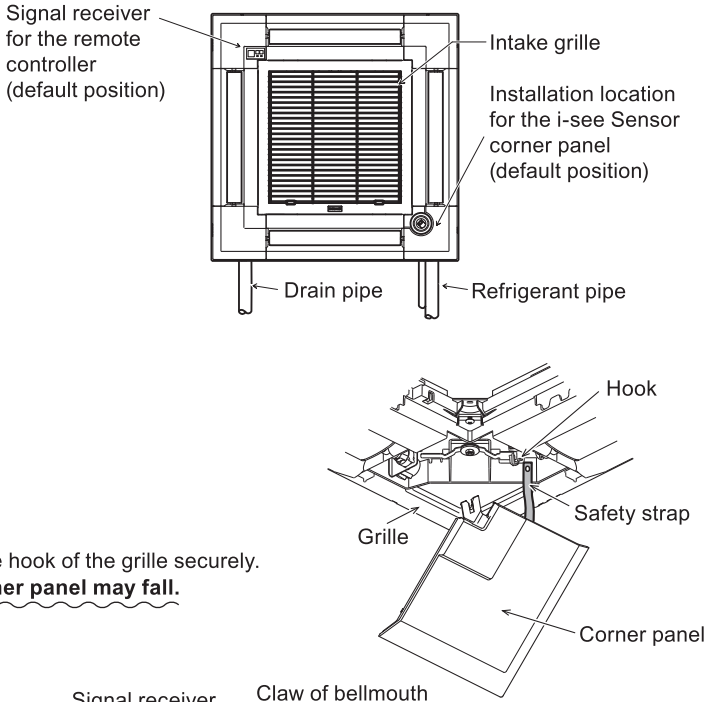
1. Make sure the strings of the elevation machine motor are not caught in the cover of electrical box of the main unit.
If they get caught, they may be cut off.
2. The signal receiver corner panel cannot be installed on the drain pipe side for the main unit.
If installed forcibly, it may result in the failure.

Installing i-see Sensor corner panel (default position)

Pass the lead wires of i-see Sensor corner panel through the square hole of the grille.



1. Loose the 2 screws fixing the electrical box cover on the main unit, and slide the cover to open.
 2. Route the lead wire connector (white, 4 poles and white, 5 poles) of the i-see Sensor corner panel ③ from the side of the electrical box on the main unit and connect to the connector CN4Z and CN5Y on the controller board of main unit.
 3. Lead wires for the i-see Sensor corner panel must be held together into the electrical box without slack using the clamp.
 4. To reinstall the cover of electrical box, reverse the procedure 1.
 5. Install the i-see Sensor corner panel to the grille and fix with the screws ③.
- Note: The i-see Sensor corner panel cannot be installed on the drain pipe side for the main unit.
If installed forcibly, it may result in the failure of i-see Sensor corner panel.



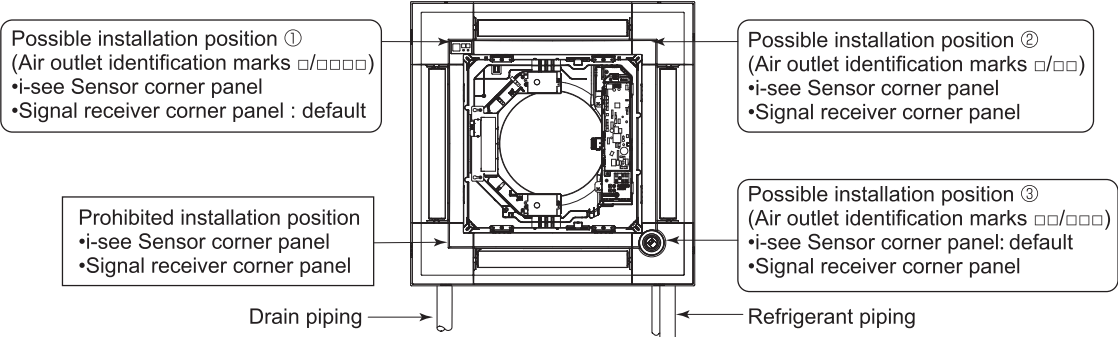
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5. Installing corner panels

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Installing the i-see Sensor corner panel and signal receiver corner panel

• When installing the i-see Sensor corner panel or signal receiver corner panel in a position other than the default installation position, install it according to the following important points.



Installation procedure when installing the i-see Sensor corner panel in possible installation position ①

To install the corner panel and route the lead wires, refer to the installation procedure (section 5) for the default installation position of the signal receiver corner panel.
Connect the lead wire connectors (white, 4 poles and white, 5 poles) of the i-see Sensor corner panel to the connectors CN4Z and CN5Y on the controller board on the main unit.
Note: If the i-see Sensor corner panel install position is changed from default position, change the function settings by referring to main unit installation manual.

Installation procedure when installing the i-see Sensor corner panel or signal receiver corner panel in possible installation position ②

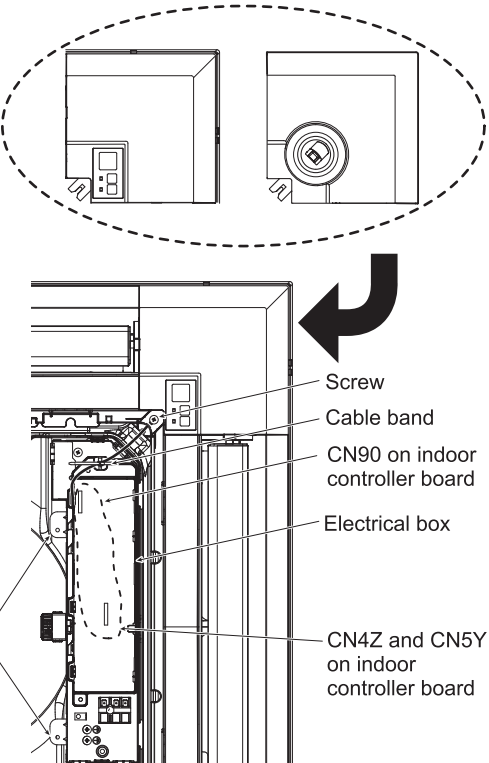
1. Pass the lead wire of i-see Sensor corner panel or signal receiver corner panel through the square hole located in the corner of grille.
2. Loosen the 2 screws fixing the electrical box cover on the main unit, and slide the cover to open.
3. Connect the lead wire connectors of the corner panels to the controller board connectors on the main unit according to the following table.

	Lead wire connector	Controller board connector
Signal receiver corner panel	White, 9 poles	CN90
i-see Sensor corner panel	White, 4 poles	CN4Z
	White, 5 poles	CN5Y

4. The lead wire of signal receiver corner panel must be held together without slack, and fixed with the cable band into the electrical box.
5. Follow the reverse procedure of 2 to reinstall the electrical box cover on the main unit.
6. Install the i-see Sensor corner panel or signal receiver corner panel to the grille and fix with the screws.
Note: If the i-see Sensor corner panel install position is changed from default position, change the function settings by referring to main unit installation manual.

Installation procedure when installing the signal receiver corner panel in possible installation position ③

To install the signal receiver corner panel and route the lead wires, refer to the installation procedure (section 5) for the default installation position of the i-see Sensor corner panel.
Connect the lead wire connector (white, 9 poles) of the signal receiver corner panel to the connector CN90 on the controller board on the main unit.



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5. Installing corner panels

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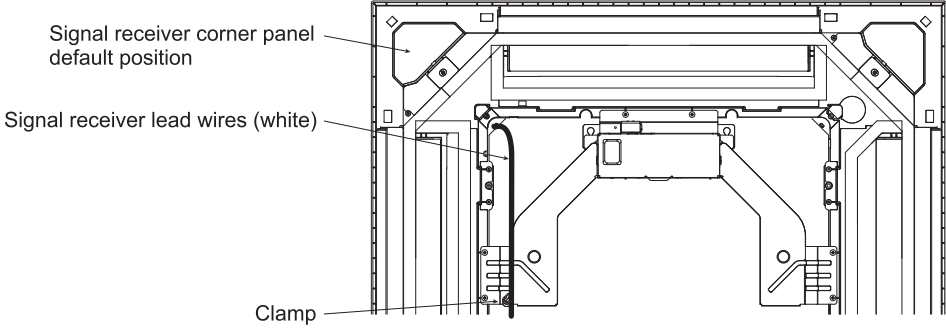
Removing the signal receiver corner panel

• Remove the signal receiver corner panel according to the following important points.

1. Because the lead wires (white, 9 poles) for the signal receiver corner panel are fixed to the back of the grille using a clamp, the lead wires must be removed from the clamp.
2. Loosen the screw in the corner on the front of the grille and remove the signal receiver corner panel.

Note: If the i-see Sensor install position is changed from default position, change the function settings by referring to main unit installation manual.

<Back of the grille>



6. Setting up the lowering distance of intake grille

• You can set up 8 different stages of lowering distance for the intake grille according to the set up location if desired.
Note: As a initial setting, the intake grille will automatically stop at 1.6 m from the ceiling surface.
The distance is a rough indication, check by actually lowering it.

• The lowering distance can be set using PAR-3xMAA ("x" represents 2 or later.) or DIP switches of SW2 on the controller board of the Automatic Filter Elevation Panel. The latest setting using either one of them will be adopted.
Therefore, there may be a gap between the actual lowering distance and the display of PAR-3xMAA ("x" represents 2 or later.) or DIP switches of SW2 on the controller board of the Automatic Filter Elevation Panel.

1) Setting using PAR-3xMAA ("x" represents 2 or later.)

1. To display Automatic Filter Elevation Panel, select "Auto descending panel" from the maintenance menu with the [F1] and the [F2] button, and press the [Enter] button.
2. To display "Descending adjustment", select "Descending adjustment" with the [F1] and the [F2] button, and press the [Enter] button.
3. To display "Height", specify "Ref. address" and "Unit No." of the main unit with the [F2] and the [F3] button, and press the [Enter] button. (Specify the "Ref. No" and "Unit. No" with F1 button.)
4. Select "Height" with the [F1] button and set the height with the [F2] and the [F3] button to press the [Enter] button.
Note: Refer to "Lowering distance set up table" below.

Note: The images to the right are the display examples of PAR-3xMAA when connected to PLA-EA.
When PAR-3xMAA is connected to PLFY-EM, "Ref. address" will be displayed as "M-NET address".
Also, "Unit No." will not be displayed.

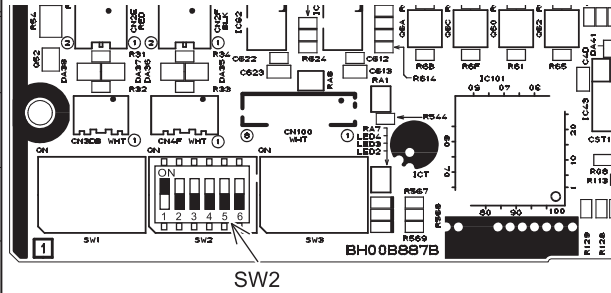
2) The setting on the controller board of Automatic Filter Elevation Panel.

1. Loose the 2 screws and slide the electrical box cover to open.
2. Set up the DIP switches of SW2 on the controller board of Automatic Filter Elevation Panel as followed.
Note: To change the setting, make sure the symbol of the DIP switch is SW2.
3. Reinstall the electrical parts cover of the grille following reverse procedure 1.

Lowering distance set up table

Lowering distance (Rough indication of the ceiling height)	The setting value using the remote controller	SW2 (Lowering distance set up)	Lowering distance (Rough indication of the ceiling height)	The setting value using the remote controller	SW2 (Lowering distance set up)
1.2m (up to 2.4m)	Setting 1	ON OFF 1 2 3 4 5 6	1.6m (2.4m-2.8m) "Initial setting"	Setting 2	ON OFF 1 2 3 4 5 6
2.0m (2.8m-3.2m)	Setting 3	ON OFF 1 2 3 4 5 6	2.4m (3.2m-3.6m)	Setting 4	ON OFF 1 2 3 4 5 6
2.8m (3.6m-4.0m)	Setting 5	ON OFF 1 2 3 4 5 6	3.2m (4.0m-4.4m)	Setting 6	ON OFF 1 2 3 4 5 6
3.6m (4.4m-4.8m)	Setting 7	ON OFF 1 2 3 4 5 6	4.0m (4.8m-5.2m)	Setting 8	ON OFF 1 2 3 4 5 6

■ Indicates the position of the switch.



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7. Installing intake grille

1) After electronic power is supplied

You can set the direction of the intake grille such as grids when installing multiple main units as desired.

1. Take off the joint from the joint holder.
2. Put the joint into the square hole of the grille support towards the arrow ④, and slide the joint toward the arrow ⑤ to install the intake grille.

Caution Make sure that the joints are locked securely and they do not come off from all of 4 holes.
• Otherwise, the intake grille may drop off and cause an accident.

3. The intake grille will be stored when you press "UP" button on the remote controller or the signal receiver corner panel.

2) Temporary fixation of the intake grille before electronic power is supplied

1. Hold the 4 strings together so that they do not get tangled.
2. Remove the temporary fixing hooks and the safety strap, which are screwed onto the grille shown in the right figure.
3. Using the screws which have fixed the temporary fixing hooks, attach the temporary fixing hooks onto 2 parts of the intake grille shown in the right figure.
4. Hook the snap hook of one end of the safety strap in the hole on the grille support and hook that of the other end in the hole on the grille.

Caution Make sure to hang the safety strap of the intake grille while temporarily installing the grille.
• Otherwise, the intake grille may drop off and cause an injury or a failure.

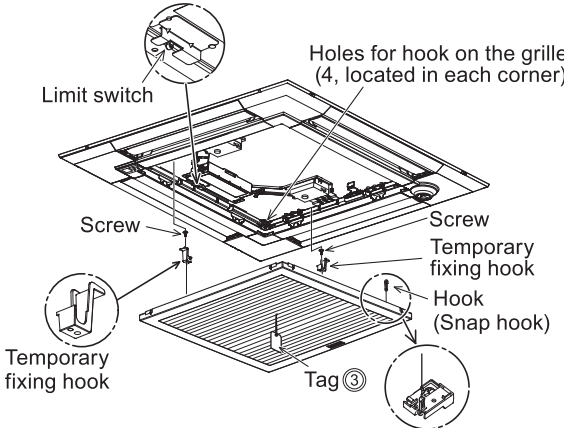
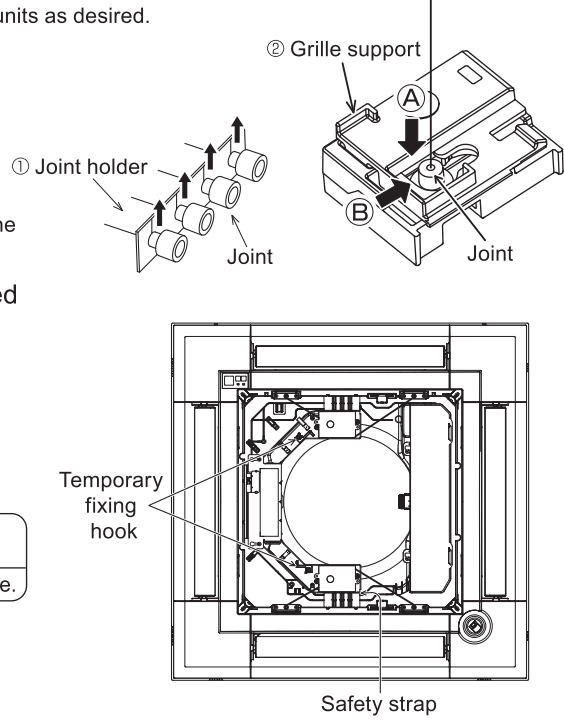
5. Set the intake grille on the grille horizontally.

Install the intake grille as to hang the temporary fixing hook to the location as shown on the right figure.

If the temporary fixing hook touches the limit switch, the damage may result in the limit switch.

Notes:

1. Make sure the safety strap does not get caught.
2. While the temporary fixation, the intake grille will be fixed slightly slanted to the grille surface.
3. Attach the tag ③ on the intake grille to inform that the intake grille is fixed temporarily.
4. Take the tag ③ off after electronic power is supplied, and take the intake grille following the reverse procedure of the previous procedure, and attach the temporary fixing hook and the safety strap back to their original position. (They will be reused.)



8. Confirmation

- Confirm that there is no gap between the main unit and the grille or between the grille and the ceiling surface.
Note: If there is a gap, dew formation or dew drop may result.
- Confirm that lead wires are properly connected.
Note: If any are improperly connected, problems may result; vane does not move, dew drop may occur or the intake grille does not elevation.
- If the model has a wireless remote controller compatible (for operating the main unit), check whether the pair numbers of the remote controller and the main unit match.
- Confirm that the air conditioner operates correctly using the wired/wireless remote controller. For the operation method, refer to the operation manuals for the Automatic Filter Elevation Panel and remote controller.
- Make sure if the lowering distance of intake grille is given as requested by the user and if the elevation movement is smooth.
- If the lowering distance of intake grille is changed, check the movement.
- For optional part Automatic Filter Elevation Panel with i-see Sensor corner panel, check the rotating movement of the i-see Sensor corner panel.
Note: If the i-see Sensor does not rotate, review the procedure in "installation of i-see Sensor corner panel" in section 5.

After verifying all the items above, hand all the documents including this manual and the manuals for the main unit and separately sold parts to the user.
Be sure to explain the descriptions of cleaning the filters and how to use the intake grille elevation function (remote controller operation) in the operation manual to the user.

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