

Accessories

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Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

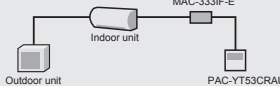
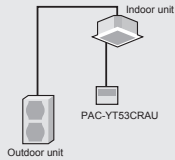
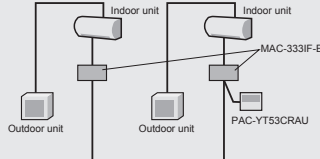
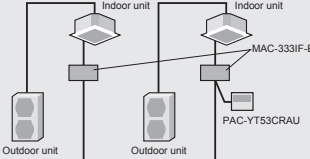
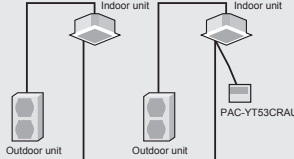
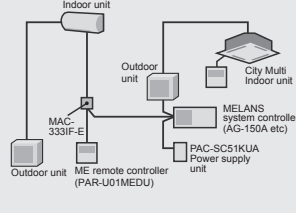
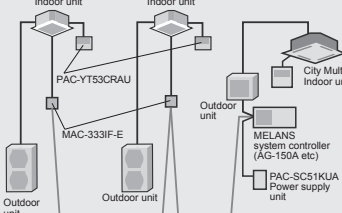
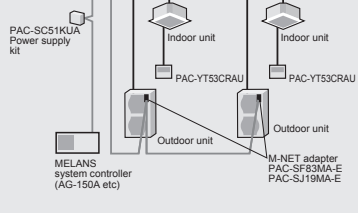
Series Name			Outlet								
			Connector Cable for Back Up Heater	Connector Cable for Back Up Heater	Signal Receiver	Wireless Remote Controller	Remote Sensor	Connector Cable for Remote Display		Remote On/Off Adapter	Remote Operation Adapter
			MAC-1702RA-E	MAC-1710RA-E	PAR-SA9CA-E	PAR-FL32MA-E	PAC-SE41 TS-E	PAC-SA88HA-E	PAC-725AD-E	PAC-SE55 RA-E	PAC-SF40RM-E
MSZ-F series	MSZ-FH	06NA									
		09NA									
		12NA									
		15NA									
		18NA2									
	MSZ-FE	09NA									
		12NA									
MSZ-E series	MSZ-EF	09NAW(B)(S)									
		12NAW(B)(S)									
		15NAW(B)(S)									
		18NAW(B)(S)									
MSZ-G series	MSZ-GL	06NA									
		09NA									
		12NA									
		15NA									
		18NA									
		24NA									
MSZ-D series	MSZ-D	30NA									
		36NA									
MSY-G series	MSY-GL	09NA									
		12NA									
		15NA									
		18NA									
		24NA									
MSY-D series	MSY-D	30NA									
		36NA									
Floor standing	MFZ-KJ	09NA	●	●							
		12NA	●	●							
		15NA	●	●							
		18NA	●	●							
4-way cassette	SLZ-KA	09NA					●	●	●	●	●
		12NA					●	●	●	●	●
		15NA					●	●	●	●	●
Ducted	SEZ-KD	09NA4			●	●	●	●	●	●	●
		12NA4			●	●	●	●	●	●	●
		15NA4			●	●	●	●	●	●	●
		18NA4			●	●	●	●	●	●	●
Multi Position	MVZ-A	09AA4									
		12AA4									
		15AA4									
		18AA4									
		24AA4									

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1. CONTROLS

1-1. System Control

MAJOR SYSTEM CONTROL

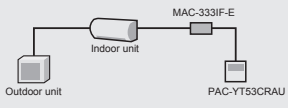
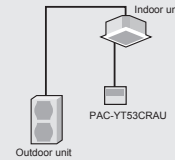
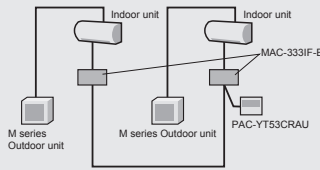
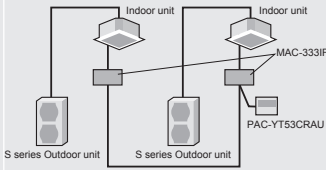
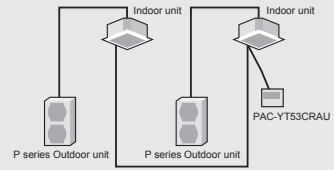
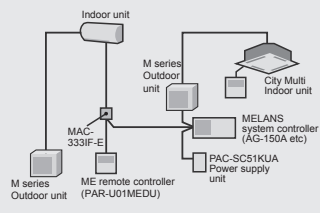
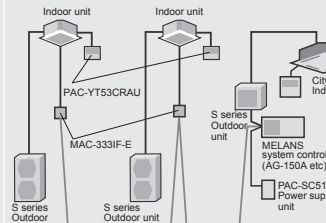
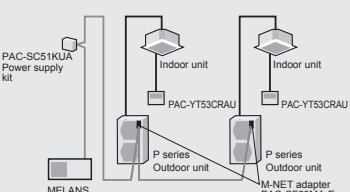
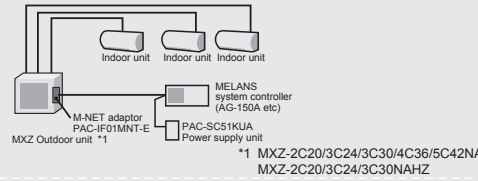
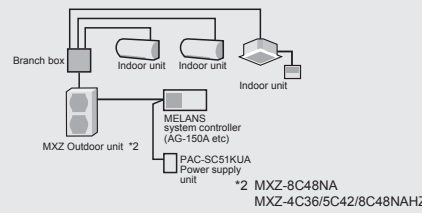
	System Examples		
Indoor Unit	M Series Indoor Unit	S Series	P Series Indoor Unit
Outdoor Unit	M Series and MXZ-B Series Outdoor	S Series and MXZ-B Series Outdoor	P Series Outdoor
 PAC-YT53CRAU Control			
Details	Wired remote controller can be connected to indoor unit	Standard equipment (for indoor units compatible with wired remote controllers)	
Major Optional Parts Required	- MAC-333IF-E (Interface) - PAC-YT53CRAU (Wired remote controller)	PAC-YT53CRAU (Wired remote controller)	
 System Group Control			
Details	- One remote controller can control plural air conditioners with the same settings simultaneously. - One remote controller can control up to 16 refrigerant systems. (When connected to a MXZ unit, MAC-333IF-E is counted as one system.) - Up to two remote controller can be connected.		
Major Optional Parts Required	- MAC-333IF-E (Interface) - PAC-YT53CRAU (Wired remote controller)		PAC-YT53CRAU (Wired remote controller)
 M-NET Connections			
Details	Group of air conditioners can be controlled by MELANS system controller (M-NET).		
Major Optional Parts Required	- MAC-333IF-E (M-NET Interface) - MELANS System controller - PAC-SC51KUA (power supply unit)		- PAC-SF83MA-E or PAC-SJ19MA-E (M-NET converter) - MELANS System controller - PAC-SC51KUA (power supply unit)

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-1. System Control, cont.

■ MAJOR SYSTEM CONTROL

System Examples			
Indoor Unit	M Series Indoor Unit	S Series	P Series Indoor Unit
Outdoor Unit	M Series and MXZ-C series outdoor	S Series and MXZ-C series outdoor	P Series and MXZ series outdoor
 PAC-YT53CRAU Control			
Details	Wired remote controller can be connected to indoor unit	Standard equipment (for indoor units compatible with wired remote controllers)	
Major Optional Parts Required	- MAC-333IF-E (Interface) - PAC-YT53CRAU (Wired remote controller)	PAC-YT53CRAU (Wired remote controller)	
 System Group Control			
Details	- One remote controller can control plural air conditioners with the same settings simultaneously. - One remote controller can control up to 16 refrigerant systems. (When connected to a MXZ unit, MAC-333IF-E is counted as one system.) - Up to two remote controller can be connected. - When connected to the branch box or PAC-IF01MNT-E, cannot use group control.		
Major Optional Parts Required	- MAC-333IF-E (Interface) - PAC-YT53CRAU (Wired remote controller)		PAC-YT53CRAU (Wired remote controller)
 M-NET Connections			
	 MXZ Outdoor unit *1 MXZ-2C20/3C24/3C30/4C36/5C42NA MXZ-2C20/3C24/3C30NAHZ		
	 MXZ Outdoor unit *2 MXZ-8C48NA MXZ-4C36/5C42/8C48NAHZ		
Details	- Group of air conditioners can be controlled by MELANS system controller (M-NET). - When connected to the branch box or PAC-IF01MNT-E, cannot grouping.		
Major Optional Parts Required	- MAC-333IF-E (M-NET Interface) - MELANS System controller - PAC-SC51KUA (power supply unit)		- PAC-SF83MA-E or PAC-SJ19MA-E (M-NET converter) - MELANS System controller - PAC-SC51KUA (power supply unit)

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-1. System Control

■ OTHERS

For M Series Indoor Units (New A-control Models Only)

	System Examples	Connection Details	Control Details	Major Optional Parts Required
1 Remote On/Off Operation Air conditioner can be started/stopped remotely. (1 and 2 can be used in combination)	MAC-333IF-E Indoor unit Outdoor unit Remote control section (to be purchased locally)	Connect the interface to the air conditioner. Then connect the locally purchased remote controller to the terminal in the interface.	On/Off operation is possible from a remote location.	MAC-333IF-E (Interface) - Parts for circuit such as relay box, lead wire, etc. (to be purchased locally)
2 Remote Display of Operation Status The On/Off status of air conditioners can be confirmed remotely. (1 and 2 can be used in combination)	MAC-333IF-E Indoor unit Outdoor unit Remote monitor section (to be purchased locally)	Connect the interface to the air conditioner. Then connect the locally purchased remote controller to the terminal in the interface.	The operation status (On/Off) or error signals can be monitored from a remote location.	MAC-333IF-E (Interface) - Parts for circuit to be purchased locally (DC power source needed) - External power source (12V DC) is required when using MAC-333IF-E.

For M Series Indoor Units (FH series Only)

	System Examples	Connection Details	Control Details	Major Optional Parts Required
1 Interface which outputs the ON/OFF signals from the air conditioner to the back-up heater. (This and MAC333IF-E can be used in combination)	MAC-1702RA-U MAC-1710RA-U Indoor unit Outdoor unit Relay and back-up heater section (to be purchased locally)	Connect the connector cable to the air conditioner. Then connect the locally purchased back-up heater to the electrical wire of connector cable.	It can control the On/Off operation of back-up heater.	MAC-1702/1710RA-U (Connector Cable) - Parts for circuit such as relay box, lead wire, etc. (to be purchased locally)

For P Series and S Series Indoor Units

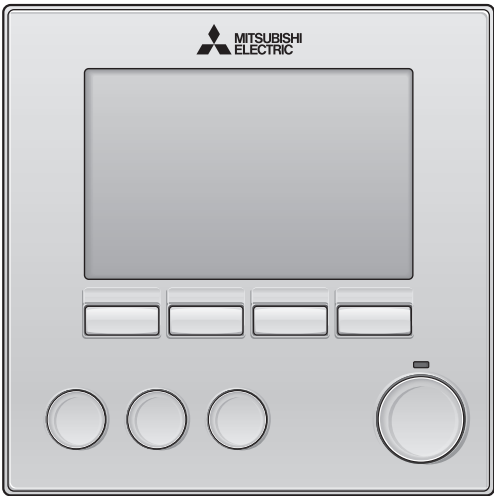
	System Examples		Details	Major Optional Parts Required
	Wired remote controller	Wireless remote controller		
A 2-remote Controller Control With two remote controllers, control can be performed locally and remotely from two locations.	PAC-YT53CRAU (Example of 1 : 1 system) * Set "Main" and "Sub" remote controllers.	PAC-YT53CRAU PAR-FL32MA (Example of Simultaneous Twin) * When using wired and wireless remote controllers	- Up to two remote controllers can be connected to one group. - Both wired and wireless remote controllers can be used in combination.	- Wired Remote Controller PAC-YT53CRAU - Wireless Remote Controller PAR-FL32MA - Wireless Remote Controller Kit for PCA PAR-SL93B-E
B Operation Control by Level Signal Air conditioner can be started/stopped remotely. In addition, On/Off operation by local remote controller can be prohibited/permitted.	Relay box (to be purchased locally) Adapter for remote On/Off Remote control panel Wired remote controller (Example of 1 : 1 system x 2)	Relay box (to be purchased locally) Adapter for remote On/Off Remote control panel PAR-FL32MA (Example of 1 : 1 system x 2)	- Operation other than On/Off (e.g., adjustment of temperature, fan speed, and airflow) can be performed even when remote controller operation is prohibited. - Timer control is possible with an external timer.	- Adapter for remote On/Off PAC-SE55RA-E - Relay box (to be purchased locally) - Remote control panel (to be purchased locally)
C Operation Control by Pulse Signal	Relay box (to be purchased locally) Connector cable for remote display Remote control panel Wired remote controller (Example of 1 : 1 system x 2)	Relay box (to be purchased locally) Connector cable for remote display Remote control panel PAR-FL32MA (Example of 1 : 1 system x 2)	- The pulse signal can be turned On/Off. - Operation/emergency signal can be received at a remote location.	- Connector cable for remote display PAC-SA88HA-E / PAC-725AD (10 pcs. x PAC-SA88HA-E) - Relay box (to be purchased locally) - Remote control panel (to be purchased locally)
D Remote Display of Operating Status Operating status can be displayed at a remote location.	Remote operation adapter/ Connector cable for remote display + Relay box Remote display panel PAC-YT53CRAU (Example of 1 : 1 system)	Remote operation adapter/ Connector cable for remote display + Relay box Remote display panel PAR-FL32MA (Example of Simultaneous Twin)	Operation/emergency signal can be received at a remote location (when channeled through the PAC-SF40RM-E → no-voltage signal, when channeled through the PAC-SA88HA-E → DC 12V signal).	- Remote display panel (to be purchased locally) - Connector cable for remote display PAC-SA88HA-E / PAC-725AD (10 pcs. x PAC-SA88HA-E) - Relay box (to be purchased locally) - Remote operation adapter PAC-SF40RM-E *Unable to use with wireless remote controller

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1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J]

Figure



Descriptions

Advanced MA remote controller with the large size dot liquid crystal display. Multi-language display and weekly timer function are available.

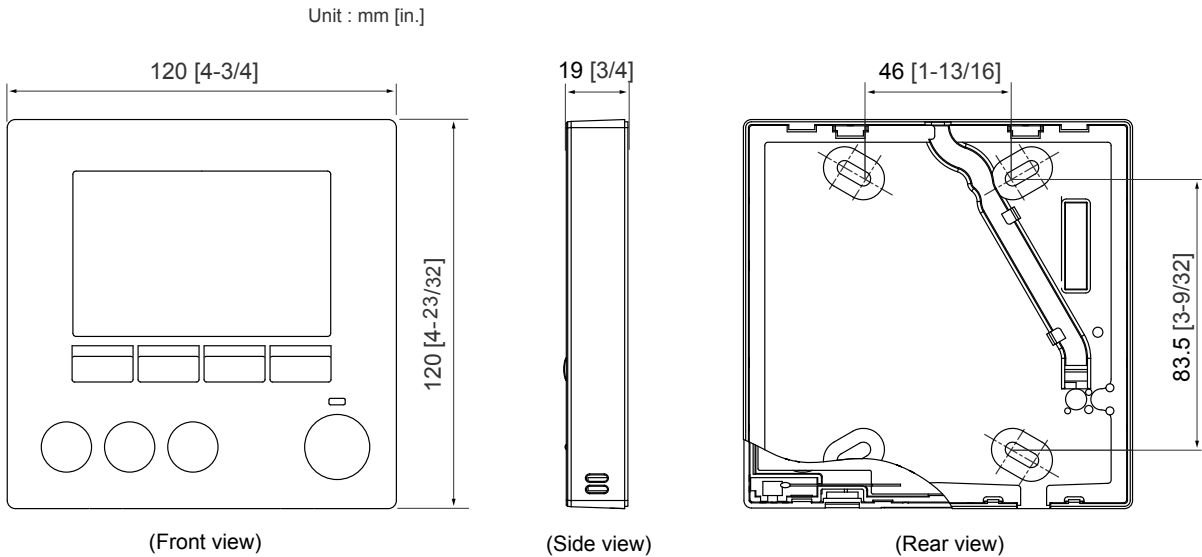
Applicable Models

- MSZ-FH06/09/12/15NA *
 - MSZ-FH18NA2 *
 - MSZ-FE09/12NA *
 - MSZ-EF09/12/15/18NAW(B)(S) *
 - MSZ-GL06/09/12/15/18/24NA *
 - MSZ-D30/36NA *
 - MSY-GL09/12/15/18/24NA *
 - MSY-D30/36NA *
 - SLZ-KA09/12/15NA
 - SEZ-KD09/12/15/18NA4
- MVZ-A09/12/15/18/24AA4
 - PKA-12/18HA6
 - PKA-A24/30/36KA6
 - PCA-A24/30/36/42KA6
 - PLA-A12/18/24/30/36BA6
 - PEA-A12/18AA6
 - PEAD-A24/30/36/42AA5
 - PVA-A30/36/42AA6
- * MAC-333IF-E required

Specifications

External colors	Cover	Clear white (Munsell 1.0Y 9.2/0.2)
	LCD peripheral area	Medium gray

Dimensions



1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

How to Use / How to Install

1. System Requirements

⚠ WARNING

The CD-ROM that is supplied with the unit can only be played on a CD-drive or a DVD-drive. Do not attempt to play this CD-ROM on an audio CD player as this may damage your ears and/or speakers.

Your computer must meet the following requirements to run Manual Navigation Software.

[PC] PC/AT compatible

[CPU] Core2 Duo 1.66 GHz or faster (Core2 Duo 1.86 GHz or faster recommended)
Pentium D 1.7 GHz or faster (Pentium D 3.0 GHz or faster recommended)
Pentium M 1.7 GHz or faster (Pentium M 2.0 GHz or faster recommended)
Pentium 4 2.4 GHz or faster (Pentium 4 2.8 GHz or faster recommended)
* Core2 Duo or faster processor is required to run Manual Navigation Software on Windows Vista or later.

[RAM] Windows Vista or later: 1 GB minimum (2 GB or more recommended)
Windows XP: 512 MB minimum (1 GB or more recommended)

[HDD space] 1 GB minimum (available space)
* Windows Vista or later: Available space in the drive that has the Document folder
* Windows XP: Available space in the drive that has the My Document folder

[Resolution] SVGA 800 × 600 or greater

[OS] Windows8/Pro/Enterprise (Pro recommended)
Windows7 Ultimate/Enterprise/Professional/Home Premium Service Pack1 (Professional recommended)
Windows Vista Ultimate/Business/Home Basic Service Pack1 (Business version recommended)
Windows XP Professional/Home Edition Service Pack2 or Service Pack3 (Professional version recommended)

[Required software] Windows8: Adobe Reader 11.0.2 or later (Windows Reader, installed by default in Windows8, cannot be used.)
Windows7: Adobe Reader 10.1.0 or later
Windows XP and Windows Vista: Adobe Reader 8.1.3 or later
* Software to view PDF files

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"Adobe Reader" and "Adobe Acrobat" are registered trademarks of Adobe Systems Incorporated.
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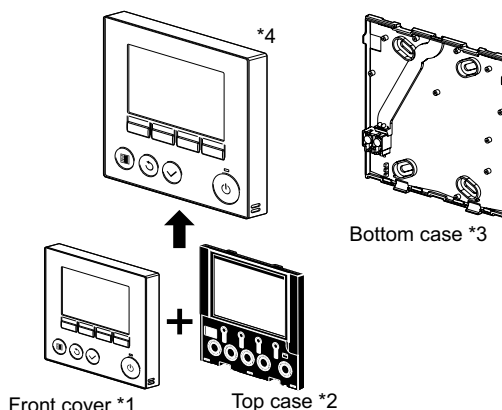
2. Component names and supplied parts

The following parts are included in the box.

Parts name	Qty.	Appearance
Remote controller (front cover)	1	Right figure *1
Remote controller (top case)	1	Right figure *2
Remote controller (bottom case)	1	Right figure *3
Roundhead cross slot screws M4×30	2	
Wood screw 4.1×16 (for direct wall installation)	2	
Installation Manual (this manual)	1	
Simple Operation Manual	1	
CD-ROM (Instruction Book and Installation Manual)	1	

*4 The front cover (*1) is already installed on the top case (*2) at factory shipment.

*5 Remote controller cable is not included.



1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

3. Field-supplied parts/Required tools

(1) Field-supplied parts

The following parts are field-supplied parts.

Parts name	Qty.	Notes
Double switch box	1	Not required for direct wall installation
Thin metal conduit	Necessary	
Lock nut and bushing	Necessary	
Cable cover	Necessary	Required for routing remote controller cable along a wall
Putty	Reasonable	
Molly anchor	Necessary	
Remote controller cable (Use a 0.3 mm ² (AWG22) 2-core sheathed cable.)	Necessary	

(2) Field-supplied tools

- Flat-tip screwdriver (Width: 4-7 mm (5/32-9/32 inch)) or Plate service tool (Part No.R61008235)
- Nipper
- Miscellaneous tools

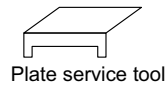


Plate service tool

4. Selecting an installation site

This remote controller is for the wall installation. It can be installed either in the switch box or directly on the wall. When performing direct wall installation, wires can be thread through either back or top of the remote controller.

(1) Selecting an installation site

Install the remote controller (switch box) on the site where the following conditions are met.

- For connection to the indoor unit with an Auto descending panel, a place where people can check the Auto descending panel operation of the indoor unit while they are operating the remote controller (Refer to the indoor unit Instructions Book for how to operate Auto descending panel.)
- A flat surface
- A place where the remote controller can measure the accurate indoor temperature
Sensors to monitor indoor temperature are on the indoor unit and on the remote controller. When the room temperature is monitored with the sensor on the remote controller, the main remote controller monitors the room temperature. When using the sensor on the remote controller, follow the instructions below.
 - To monitor the accurate indoor temperature, install the remote controller away from direct sunlight, heat sources, and the supply air outlet of the air conditioner.
 - Install the remote controller in a location that allows the sensor to measure the representative room temperature.
 - Install the remote controller where no wires are routed around the temperature sensor on the controller.
(If wires are routed, the sensor cannot measure accurate indoor temperature.)

Important

Do not install the controller in a place where the difference between the remote controller surface temperature and the actual room temperature will be great.
If the temperature difference is too high, room temperature may not be adequately controlled.

To reduce the risk of shorting, current leakage, electric shock, malfunctions, smoke, or fire, do not install the controller in a place exposed to water or in a condensing environment.

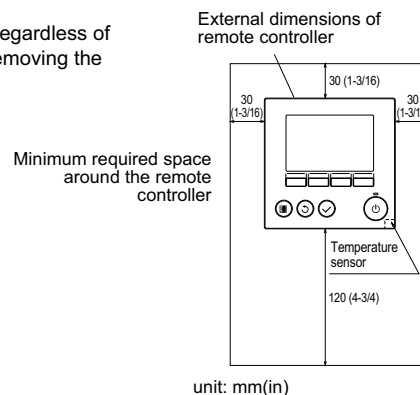
To avoid deformation and malfunction, do not install the remote controller in direct sunlight or where the ambient temperature may exceed 40°C (104°F) or drop below 0°C (32°F).

To reduce the risk of malfunctions and damage to the controller, avoid installing the remote controller on an electrically conductive surface, such as an unpainted metal sheet.

(2) Installation space

Leave a space around the remote controller as shown in the figure at right, regardless of whether the controller is installed in the switch box or directly on the wall. Removing the remote controller will not be easy with insufficient space.

Also, leave an operating space in front of the remote controller.



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

5. Installation/Wiring work

(1) Installation work

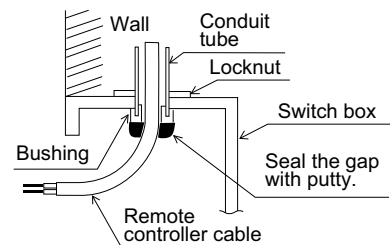
Controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the method.

① Drill a hole in the wall.

- Installation using a switch box
 - Drill a hole in the wall, and install the switch box on the wall.
 - Connect the switch box to the conduit tube.
- Direct wall installation
 - Drill a hole in the wall, and thread the cable through it.

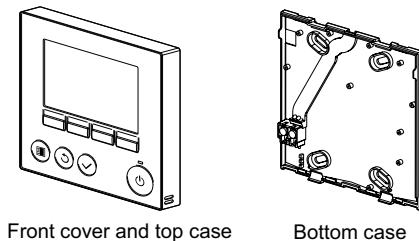
② Seal the cable access hole with putty.

- Installation using a switch box
 - Seal the remote controller cable access hole at the connection of switch box and conduit tube with putty.



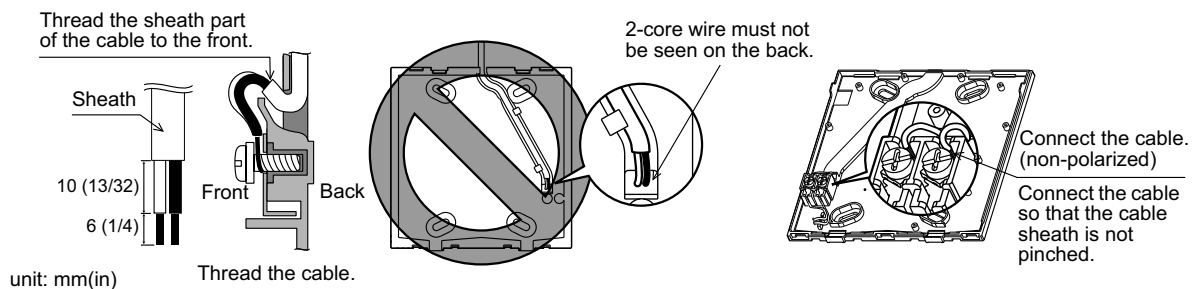
To reduce the risk of electric shock, malfunctions, or fire, seal the gap between the cables and cable access holes with putty.

③ Prepare the bottom case of the remote controller.



④ Connect the remote controller cable to the terminal block on the bottom case.

Peel off 6 mm of the remote controller cable sheath as shown in the figure below, and thread the cable from behind the bottom case. Thread the cable to the front of the bottom case so that the peeled part of the cable cannot be seen behind the bottom case. Connect the remote controller cable to the terminal block on the bottom case.

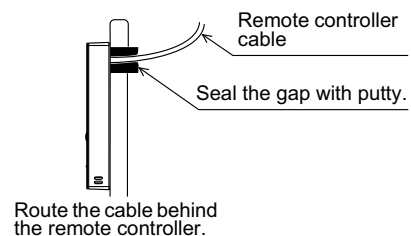


- Direct wall installation
 - Seal the hole through which the cable is threaded with putty.

To reduce the risk of electric shock, shorting, or malfunctions, keep wire pieces and sheath shavings out of the terminal block.

Important

Do not use solderless terminals to connect cables to the terminal block. Solderless terminals may come in contact with the circuit board and cause malfunctions or damage the controller cover.



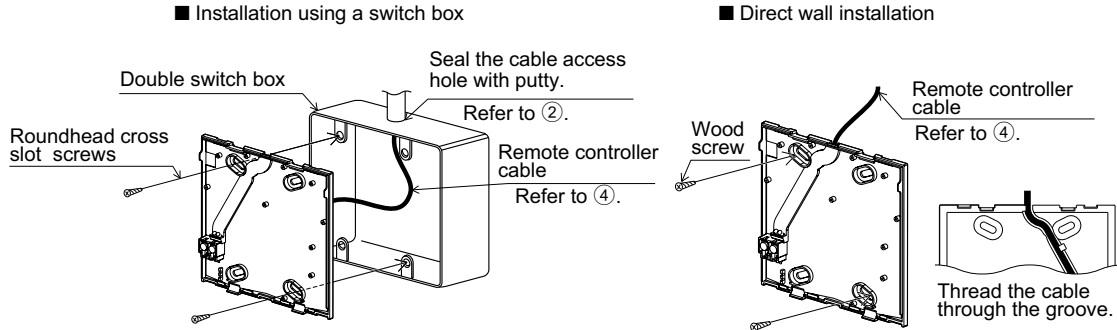
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1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

⑤ Install the bottom case.

- Installation using a switch box
 - Secure at least two corners of the switch box with screws.
- Direct wall installation
 - Thread the cable through the groove.
 - Secure at least two corners of the remote controller with screws.
 - Be sure to secure top-left and bottom-right corners of the remote controller (viewed from the front) to prevent it from lifting. (Use molly anchor etc.)



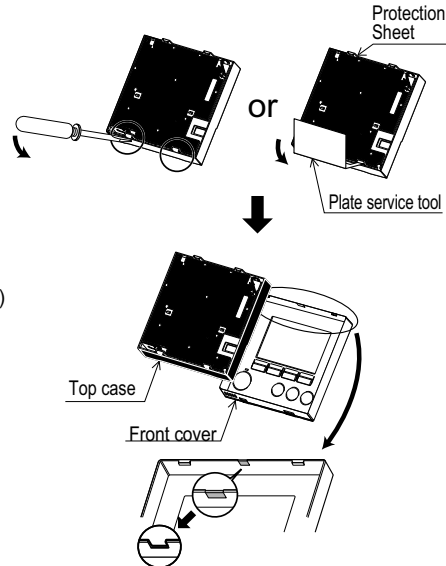
Important

To avoid damage to the controller, do not overtighten the screws.

To avoid damage to the controller, do not make holes on the controller cover.

⑥ Cut out the cable access hole.

- Direct wall installation (when running the cable along the wall)
 - Insert a flat-tip screwdriver with a blade width of 4–7 mm (5/32–9/32 inch) or a Plate service tool into either of the two latches at the bottom of the remote controller, and move it in the direction of the arrow as shown in the figure at right.
 - The top case will come loose from the front cover. Pull the top case toward you to remove it.
 - Cut out the thin-wall part on the front cover (indicated with the shaded area in the right figure) with a nipper. (This cutout hole will be used to thread the remote controller cable through, after the cable is threaded through the groove on the back of the bottom case.)
 - Place the top case onto the front cover.

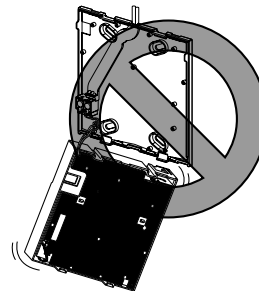
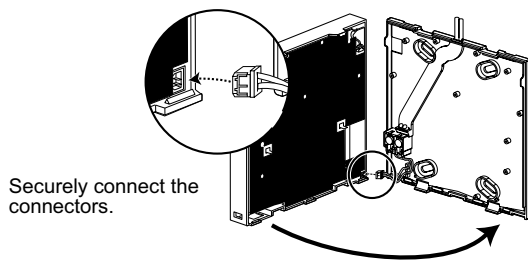


Notice

To prevent damage to the circuit board, remove the front cover from the top case before cutting out a cable access hole.

⑦ Route the wire to the top case.

Connect the connector on the bottom case to the connector on the top case.



Important

To prevent malfunctions, do not remove the protective film or the circuit board from the casing.

To prevent cable breakage and malfunctions, do not hang the top controller casing hang by the cable.

Due to continuing improvement, above specification may be subject to change without notice.

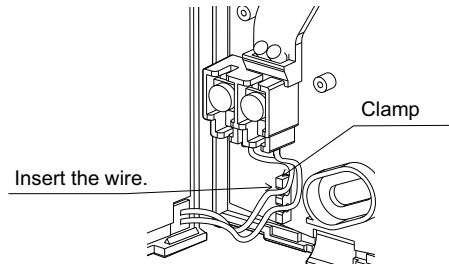
1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

⑧ Route the wire to the top case.

Important

Hold the cables in place with clamps to prevent undue force from being applied to the terminal block and causing cable breakage.

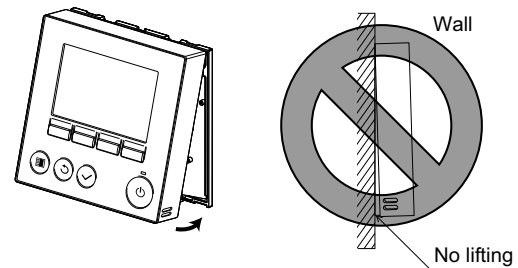


⑨ Install the front cover and top case on the bottom case.

Two mounting tabs are at the top of the top case. (A cover is already installed on the case at the time of factory shipment.) Hook those two tabs onto the bottom case, and click the top case into place. Check that the case is securely installed and not lifted.

Important

When attaching the cover and the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.

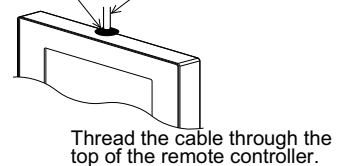


■ Direct wall installation (when running the cable along the wall)

- Thread the cable through the access hole at the top of the remote controller.
- Seal the cut-out part of the cover with putty.
- Use a cable cover.

Seal the gap with putty.

Use a cable cover.



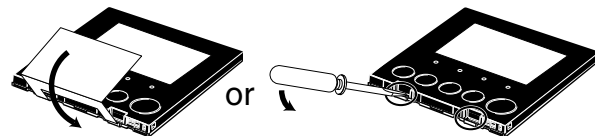
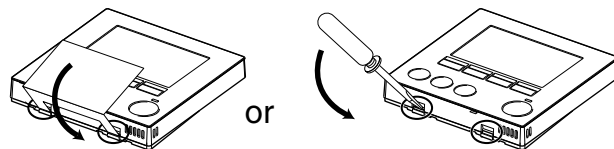
Installation is complete.

Follow the instructions below when uninstalling them.

• Uninstalling the front cover and top case

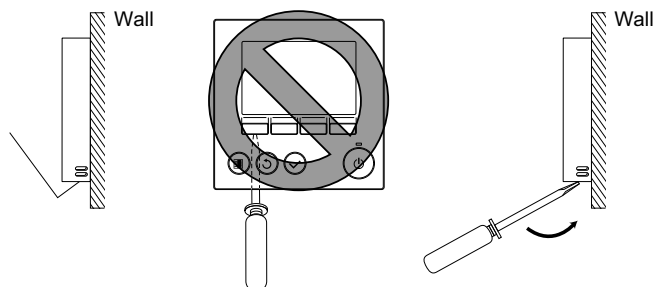
① Uninstalling the front cover

Insert a flat-tip screwdriver or a Plate service tool into either of the two latches at the bottom of the remote controller, and move it in the direction of the arrow as shown in the figure at right. Note that the top case may also be removed if the driver or the tool is inserted deeply.



② Uninstalling the top case

Insert a flat-tip screwdriver or a Plate service tool into either of the two latches at the bottom of the remote controller, and move it in the direction of the arrow as shown in the figure at right.



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

Important

Use a flat-head screwdriver with a blade width of 4-7 mm (5/32-9/32 inch). The use of a screwdriver with a narrower or wider blade tip may damage the controller casing.

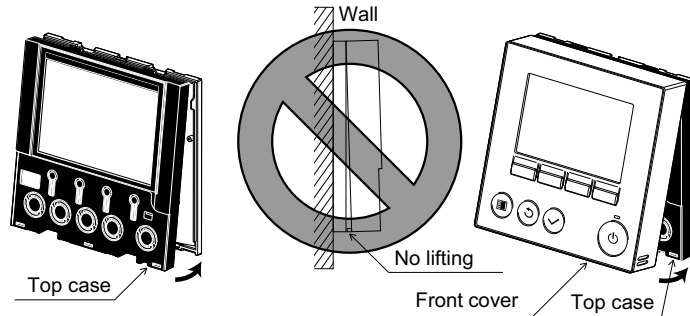
To prevent damage to the controller casing, do not force the driver to turn with its tip inserted in the slot.

To prevent damage to the control board, do not insert the driver into the slot strongly.

- ③ Installing the cover and top case
Two mounting tabs are at the top of the top case. Hook those two tabs onto the bottom case, and click the top case into place.
Install the cover on the top case in the same way as with the top case.
Check that the top case is securely installed and not lifted.

Important

When attaching the cover and the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.



6. Important

■ Discrepancy between the indoor temperature measured at the wall and the actual indoor temperature may occur.

If the following conditions are met, the use of the temperature sensor on the indoor unit is recommended.

- Supply air does not reach to the wall easily where the remote controller is installed due to improper airflow distribution.
- There is a great discrepancy between the wall temperature and the actual indoor temperature.
- The back side of the wall is directly exposed to the outside air.

Note: When temperature changes rapidly, the temperature may not be detected accurately.

■ Refer to the section on initial setting in this Manual for remote controller main/sub setting.

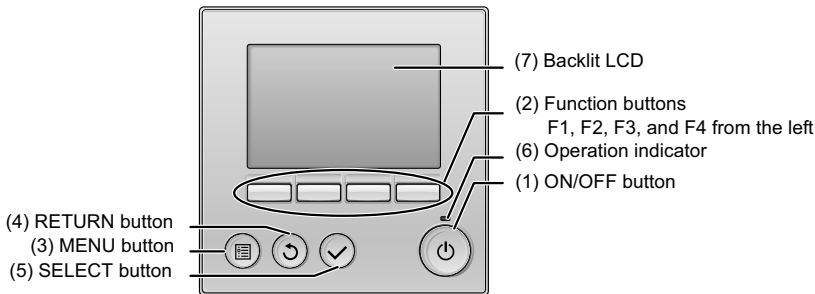
■ Refer to either of the following manuals for temperature sensor setting: indoor unit Installation Manual for City Multi; this manual for Mr. Slim.

■ At the time of factory shipment, protective sheet is on the operation interface of the front cover. Peel off the protective sheet on the operation interface prior to use.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

7. Remote controller button functions



(1) ON/OFF button

Use to turn ON/OFF the indoor unit.

(2) Function buttons

Use to select the operation mode or to set the temperature and fan speed on the Main display.
Use to select items on other screens.

(3) MENU button

Use to bring up the Main menu.

(4) RETURN button

Use to return to the previous screen.

(5) SELECT button

Use to jump to the setting screen or to save the settings.

(6) Operation indicator

Stays lit during normal operation. Blinks during startup and when an error occurs.

(7) Backlit LCD

Dot display. When the backlight is off, pressing any button turns the backlight on and it will stay lit for a certain period of time depending on the screen. Performing any button operation keeps the backlight on.

Note: When the backlight is off, pressing any button turns the backlight on and does not perform its function. (except for the ON/OFF button)

Pressing the MENU button will bring up the Main menu as shown below.
(Refer to section 9.(2) "Main display" for details.)

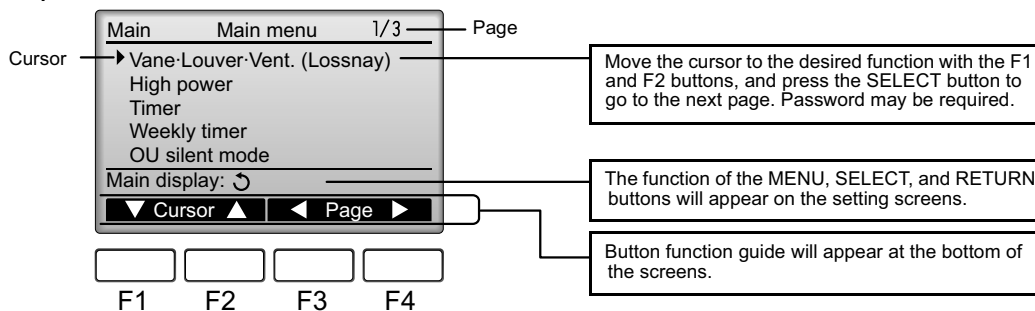
1/3 Vane·Louver·Vent. (Lossnay)	*1
High power	*1
Timer	*1
Weekly timer	*1
OU silent mode	*1
2/3 Restriction	*1
Energy saving	*1
Night setback	*1
Filter information	*1
Error information	*1
3/3 Maintenance	*1
Initial setting	*2 *3
Service	*2 *3

*1 Refer to the Instructions Book in the CD-ROM for details.
*2 Explained in this manual.

*3 If no buttons are pressed for 10 minutes on the initial setting screens, or 2 hours on the service screens (10 minutes on some screens), the screen will automatically return to the Main display. Any settings that have not been saved will be lost.

The available items on the menu depend on the connected indoor unit model. For items not described in the manuals that are enclosed with the MA remote controller, refer to the manuals that came with the air conditioning units.

Button operations on the Main menu



Due to continuing improvement, above specification may be subject to change without notice.

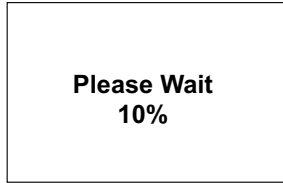
1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

8. Turning on the power

Make sure that the MA remote controller is properly installed according to the instructions in the Installation Manual and that the indoor and outdoor unit installation has been completed before turning on the power.

(1) When the power is turned on, the following screen will appear.



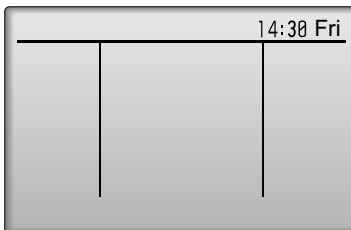
Normal start up (indicating the percentage of process completion)

Notes

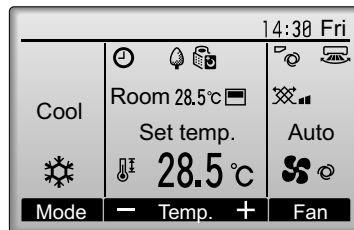
- When the power is on for the first time, the Language selection screen will be displayed. Refer to section 11 (8). Select a desired language. The system will not start-up without language selection.
- Some models of City Multi cannot have more than one remote controller connected. Refer to relevant documents (e.g., catalogs) for usage compatibility.

(2) Main display

After the successful startup, the Main display will appear. The Main display can be displayed in two different modes: "Full" and "Basic." Refer to section 11 "Initial settings" for how to select the display mode. (The factory setting is "Full.")



Main display in the Full mode
(while the unit is not in operation)



Main display in the Full mode
(while the unit is in operation)

Notes

- When connecting two remote controllers, be sure to designate one as a main and the other as a sub controller. Refer to section 11 "Initial settings" for how to make the Main/Sub setting.
- Refer to the Instructions Book for the icons on the display.

9. Test run <Maintenance password is required.>

(1) Read the section about Test run in the indoor unit Installation Manual before performing a test run.

(2) At the Main display, press the MENU button and select Service>Test run>Test run.

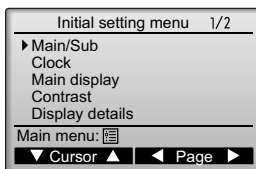
(3) Press the ON/OFF button to cancel the test run if necessary.

(4) Refer to the indoor unit Installation Manual for the detailed information about test run and for how to handle the errors that occur during a test run.

Note: Refer to section 12 "Service menu" for information about the maintenance password.

10. Initial settings (Remote controller settings) <Administrator password is required.>

From the Main display, select Main menu>Initial setting, and make the remote controller settings on the screen that appears.



Initial setting menu (1/2)

- Main/Sub
- Clock
- Main display
- Contrast
- Display details
 - Clock
 - Temperature
 - Room temp.
 - Auto mode

Initial setting menu (2/2)

- Auto mode
- Administrator password
- Language selection

Note: The initial administrator password is "0000." Refer to section (7) "Administrator password setting" for how to change the password.

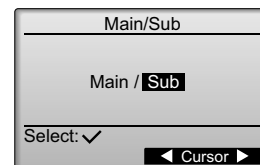
(1) Main/Sub setting

When connecting two remote controllers, one of them needs to be designated as a sub controller.

[Button operation]

[1] When the F3 or F4 button is pressed, the currently selected setting will appear highlighted. Select "Sub", and press the SELECT button to save the change.

[2] Press the MENU button to return to the Main menu screen. (This button always brings up the Main menu screen.)



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

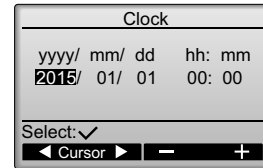
(2) Clock setting

[Button operation]

[1] Move the cursor with the F1 or F2 button to the desired item.

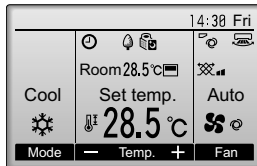
[2] Change the date and time with the F3 or F4 button, and press the SELECT button to save the change. The change will be reflected on the clock display on the Main display.

Note: Clock setting is necessary for time display, weekly timer, timer setting and error history. Make sure to perform clock setting when the unit is used for the first time or has not used for a long time.

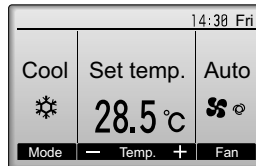


(3) Main display setting

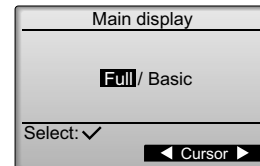
Use the F3 or F4 button to select the display mode "Full" or "Basic." (The factory setting is "Full.")



Full mode (Example)



Basic mode (Example)



Note: This setting is only for the Main display. In the Basic mode, icons that indicate control status on timer and schedule settings will not appear on the display. Vane, louver, and ventilation settings or room temperature will not appear, either.

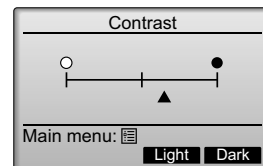
(4) Display contrast

[Button operation]

Adjust LCD contrast with the F3 or F4 button.

The current level is indicated with a triangle.

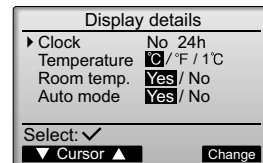
Note: Adjust the contrast to improve viewing in different lighting conditions or installation locations. This setting can not improve viewing from all directions.



(5) Remote controller display details setting

Make the settings for the remote-controller-related items as necessary.

Press the SELECT button to save the changes.



[1] Clock display

[Button operation]

· Select "Clock" from the remote controller display details setting screen, and press the F4 button (Change) to bring up the clock display setting screen.

· Use the F1 through F4 buttons to select "Yes" (display) or "No" (non-display) and its format for the Main display.

· Save the settings with the SELECT button.

(The factory settings are "Yes" (display) and "24 h" format.)

Clock display: Yes (Time is displayed on the Main display.)

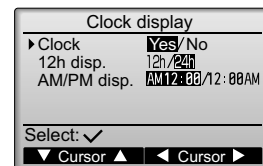
No (Time is not displayed on the Main display.)

Display format: 24-hour format

12-hour format

AM/PM display (Effective when the display format is 12-hour): AM/PM before the time

AM/PM after the time



Note: Time display format will also be reflected on the timer and schedule setting display. The time is displayed as shown below.

12-hour format: AM12:00 ~ AM1:00 ~ PM12:00 ~ PM1:00 ~ PM11:59

24-hour format: 0:00 ~ 1:00 ~ 12:00 ~ 13:00 ~ 23:59

[2] Temperature unit setting

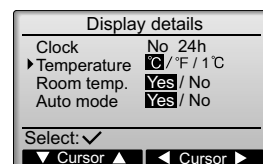
[Button operation]

Move the cursor to the "Temperature" on the display details setting screen, and select the desired temperature unit with the F3 or F4 button. (The factory setting is Centigrade (°C).)

· °C: Temperature is displayed in Centigrade. Temperature is displayed in 0.5- or 1-degree increments, depending on the model of indoor units.

· °F: Temperature is displayed in Fahrenheit.

· 1 °C: Temperature is displayed in Centigrade in 1-degree increments. This item will not appear on a sub remote controller.



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

[3]Room temperature display

[Button operation]

Move the cursor to the "Room temp." on the display details setting screen, and select the desired setting with the F3 or F4 button.

(The factory setting is "Yes".)

· Yes: Room temperature appears on the Main display.

· No: Room temperature does not appear on the Main display.

Note: Even when "Yes" is set, the room temperature is not displayed on the Main display in the "Basic" mode.

[4]Auto (single set point) mode display setting

[Button operation]

Move the cursor to the "Auto mode" on the display details setting screen, and select the desired mode with the F3 or F4 button.

(The factory setting is "Yes".)

· Yes: "AUTO COOL" or "AUTO HEAT" is displayed during operation in the AUTO (single set point) mode.

· No: Only "AUTO" is displayed during operation in the AUTO (single set point) mode.

(6) Auto mode setting

[Button operation]

Whether or not to use the Auto (single set point) or Auto (dual set points) mode can be selected by using the F3 or F4 button. This setting is valid only when indoor units with the AUTO mode function are connected.

(The factory setting is "Yes".)

Press the SELECT button to save the changes made.

· Yes: The AUTO mode can be selected in the operation mode setting.

· No: The AUTO mode cannot be selected in the operation mode setting.

Auto mode

Auto mode Yes/No

Select: ✓

◀ Cursor ▶

(7) Administrator password setting

[Button operation]

[1] To enter the current Administrator password (4 numerical digits), move the cursor to the digit you want to change with the F1 or F2 button, and set each number (0 through 9) with the F3 or F4 button.

[2] Press the SELECT button.

Note: The initial administrator password is "0000." Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

Note: If you forget your administrator password, you can initialize the password to the default password "0000" by pressing and holding the F1 and F2 buttons simultaneously for three seconds on the administrator password setting screen.

Administrator password

Enter administrator password

0000

Select: ✓

◀ Cursor ▶ - +

[3] If the password matches, a window to enter a new password will appear. Enter a new password in the same way as explained above, and press the SELECT button.

[4] Press the F4 button (OK) on the password change confirmation screen to save the change. Press the F3 button (Cancel) to cancel the change.

Administrator password

Enter administrator password

1234

Change administrator password.

Select: ✓

◀ Cursor ▶ - +

Note: The administrator password is required to make the settings for the following items.

· Timer setting · Weekly timer setting · Energy-save setting

· Outdoor unit silent mode setting · Restriction setting

Refer to the Instruction Book that came with the remote controller for the detailed information about how to make the settings for these items.

Administrator password

Enter administrator password

1234

Update administrator password?

Cancel OK

(8) Language selection

[Button operation]

Move the cursor to the language you desire with the F1 through F4 buttons.

Press the SELECT button to save the setting.

Language selection

English	Français
Español	Italiano
Português	Ελληνικά
Türkçe	Svenska

Select: ✓

▼ Cursor ▲ ◀ Cursor ▶

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

11. Service menu (Maintenance password is required.)

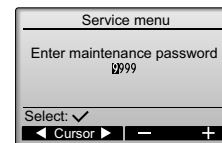
At the Main display, press the MENU button and select "Service" to make the maintenance settings.

When the Service menu is selected, a window will appear asking for the password.

To enter the current maintenance password (4 numerical digits), move the cursor to the digit you want to change with the F1 or F2 button, and set each number (0 through 9) with the F3 or F4 button. Then, press the SELECT button.

Note: The initial maintenance password is "9999." Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

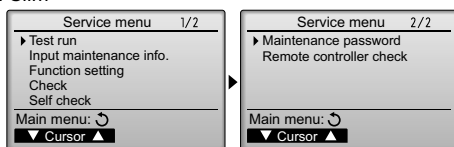
Note: If you forget your maintenance password, you can initialize the password to the default password "9999" by pressing and holding the F1 and F2 buttons simultaneously for three seconds on the maintenance password setting screen.



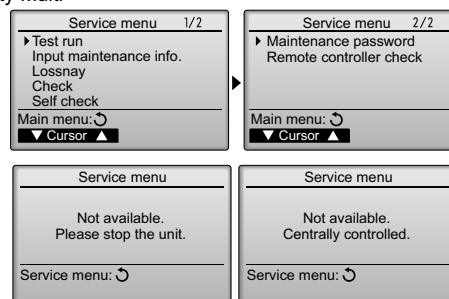
If the password matches, the Service menu will appear.

The type of menu that appears depends on the connected indoor units' type (City Multi or Mr. Slim).

<Mr. Slim>



<City Multi>



Note: Air conditioning units may need to be stopped to make certain settings. There may be some settings that cannot be made when the system is centrally controlled.

(1) Test run (City Multi and Mr. Slim)

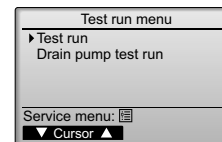
Select "Test run" from the Service menu to bring up the Test run menu.

· Test run: Select this option to perform a test run.

· Drain pump test run: Select this option to perform a test run on the drain pump on the indoor unit.

Applicable only to the type of indoor units that support the test run function.

Note: Refer to the indoor unit Installation Manual for the detailed information about test run.



(2) Input maintenance Info. (City Multi and Mr. Slim)

Select "Input maintenance Info." from the Service menu to bring up the Maintenance information screen. Refer to the indoor unit Installation Manual for how to make the settings.

Note: The following settings can be made from the Maintenance Information screen.

•Registering model names and serial numbers

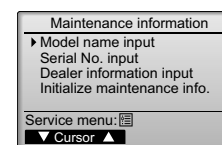
Enter the model names and serial numbers of outdoor and indoor units. The information entered will appear on the Error information screen. Model names can have up to 18 characters, and the serial numbers can have up to 8 characters.

•Registering dealer information

Enter phone number of a dealer. The entered information will appear on the Error information screen. Phone number can have up to 13 characters.

•Initializing maintenance information

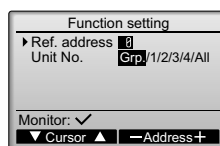
Select the desired item to initialize the above settings.



(3) Function setting (Mr. Slim)

Make the settings for the indoor unit functions via the remote controller as necessary.

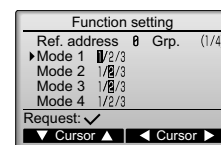
Select "Function setting" from the Service menu to bring up the Function setting screen.



[Button operation]

[1] Set the indoor unit refrigerant addresses and unit numbers with the F1 through F4 buttons, and then press the SELECT button to confirm the current setting.

[2] When data collection from the indoor units is completed, the current settings appears highlighted. Non-highlighted items indicate that no function settings are made. Screen appearance varies depending on the "Unit No." setting.



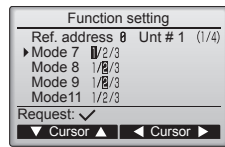
Common items

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

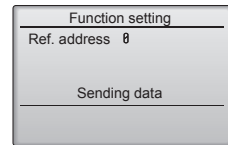
[3] Use the F1 or F2 button to move the cursor to select the mode number, and change the setting number with the F3 or F4 button.



Individual items
(Unit No. 1 through 4)

[4] When the settings are completed, press the SELECT button to send the setting data from the remote controller to the indoor units.

[5] When the transmission is successfully completed, the screen will return to the Function setting screen.



Note:	• Make the above settings on Mr. Slim units as necessary. • Refer to the Instructions Book when it is necessary to set the settings for City Multi units. • Table 1 summarizes the setting options for each mode number. Refer to the indoor unit Installation Manual for the detailed information about initial settings, mode numbers, and setting numbers for the indoor units. • Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.
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Table 1. Function setting options

Function	Settings	Mode No.	Setting No.	OUTDOOR UNIT				
				P-Series	PUMY	MXZ-2C/3C/4C/5C	MXZ-8C (PAC-MKA*BC)	MXZ-8B (PAC-AKA*BC)
Power failure automatic recovery	Disable	01 (101)	1					
	Enable (Four minutes of standby time is required after the restoration of power)		2	●	●	●	●	●
Thermistor selection (Indoor temperature detection)	Average temperature reading of the indoor units in operation	02 (-)	1	●	●	●	●	●
	Thermistor on the indoor unit to which the remote controller is connected (fixed)		2					
	Built-in sensor on the remote controller		3					
LOSSNAY connectivity	Not supported	03 (103)	1	●	●	●	●	●
	Supported (Indoor unit does not intake outdoor air through LOSSNAY.)		2					
	Supported (Indoor unit intakes outdoor air through LOSSNAY.)		3					
Power voltage	230V	04 (104)	1	●	●	●	●	●
	208V		2					
Frost prevention temperature	2°C [36 °F] (Normal)	15 (115)	1	●	●	●		●
	3°C [37°F]		2				●	
Humidifier control	Heat operation & Thermo ON	16 (116)	1	●	●	●	●	●
	Heat operation		2					
Change of defrosting control	Standard	17 (117)	1	●	—	—	—	—
	For high humidity		2		—	—	—	—

() RF thermostat setup function No.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

Table 2

Function	Settings	Mode No.	Setting No.	Initial setting(Factory setting) -: Notg available				
				4 way cassette		Ceiling suspended	Wall mounted	
				PLA-BA	SLZ-KA·NA	PCA-KA	PKA-HA	PKA-KA
Filter sign	100Hr	07 (107)	1				●	●
	2500Hr		2	●	●	●		
	No filter sign indicator		3					
Air flow (fan speed)	Quiet	08 (108)	1		—		—	
	Standard		2	●	—	●	●	●
	Hi ceiling		3		—			—
No. of air outlets	4 directions	09 (109)	1	●	—	—	—	—
	3 directions		2		—	—	—	—
	2 directions		3		—	—	—	—
Installed options (High performance filter)	Not supported	10 (110)	1	●	—	●	—	—
	Supported		2		—		—	—
Horizontal vane setting	No vanes (Vane No.3 setting: PLA only)	11 (111)	1		—		—	—
	Vane No.1 setting		2		—	●	—	—
	Vane No.2 setting		3	●	—		—	—
Vane differential setting in heating mode (cold wind prevention)	Low (24C-28C)	14 (114)	1					
	Standard (28C-32C)		2	●	●	●	●	●
	High (35C-38C)		3					
Vane Swing	Not supported (Swing: PLA only)	23 (123)	1					
	Supported (Wave airflow: PLA only)		2	●	●	●	●	●
Setting temperature in heating (4 deg up)*1PKA: 2 deg up	Available	24 (124)	1	●	●	●	●	●
	Not available		2					
Fan speed during the heating thermostat is OFF	Extra low	25 (125)	1	●	●	●	●	●
	Stop		2					
	Setting fan speed		3					
Fan speed during the cooling thermostat is OFF	Setting fan speed	27 (127)	1	●	●	●	●	●
	Stop		2					
Detection of abnormality of the pipe temperature (P8)	Available	28 (128)	1	●	●	●	●	●
	Not available		2					

()RF thermostat setup function No.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

Table 2, cont.

Function	Settings	Mode No.	Setting No.	Initial setting(Factory setting) -: Notg available					
				Ceiling concealed				Multi position	
				SEZ-KD-NA	PEA-AA	PEAD-AA4	PEAD-AA5	MVZ	PVA
Filter sign	100Hr	07 (107)	1						
	2500Hr		2						
	No filter sign indicator		3	●	●	●	●	●	●
External static pressure setting	*Refer to Table 3	08 (108)	1	●	●				
			2					●	●
			3			●	●		
		10 (110)	1	●	●	●	●	●	●
			2						
Heater control	*Refer to Table 4	11 (111)	1	—	—	—	●	●	●
			2	—	—	—			
		23 (123)	1	●	●	●	●		
			2					●	●
Setting temperature in heating (4 deg up)	Available	24 (124)	1	●	●	●	●	●	●
	Not available		2						
Humidifier	Not supported	13 (113)	1	—	—	—	—		
	Supported		2	—	—	—	—	●	●
Fan speed during the heating thermostat is OFF	Extra low ※1	25 (125)	1	●	●	●	●	●	●
	Stop ※1		2						
	Setting fan speed ※1		3						
Fan speed during the cooling thermostat is OFF	Setting fan speed	27 (127)	1	●	●	●	●	●	●
	Stop		2						
Detection of abnormality of the pipe temperature (P8)	Available	28 (128)	1	●	●	●			
	Not available		2				●	●	●

※1 High speed setting depending on heater control.

()RF thermostat setup function No.

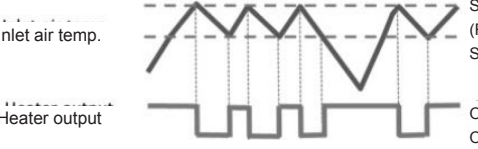
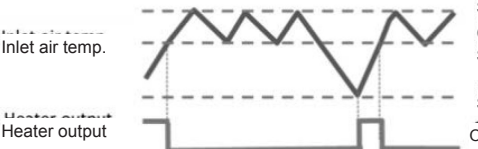
1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

Table 3

Function	Setting No. of		SEZ, PEA	PEAD	MVZ, PVA	
	Mode No. 08	Mode No. 10				
External static pressure	1	1	15 Pa	—	75 Pa	Vertical, Horizontal Left, Horizontal Right External Static Pressure Setting
	2		35 Pa	35 Pa	125 Pa	
	3		50 Pa	50 Pa	200 Pa	
	1	2	5 Pa	70 Pa	75 Pa	Down flow External Static Pressure Setting
	2		—	100 Pa	125 Pa	
	3		—	150 Pa	200 Pa	

Table 4
MVZ, PVA

Function	Setting		Mode No. () RF thermostat setup function No.		Initial setting (Factory setting)
			23 (123)	11 (111)	
Heater control	Enable heater basic control	1st Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. $\leq$ set temp - 4.5°F(2.5°C) •The fan will stop and the heater will turn off when [DEFROST] or [ERROR] is displayed  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) Set temp. -4.5°F (2.5°C) ON OFF	1	—	
	Enable heater comfort mode	1st Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. $\leq$ set temp - 1.8°F(1°C) •The fan will stop and the heater will turn off when [DEFROST] is displayed.  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) ON OFF	2	1	●
	Enable heater economy mode	1st Heater OFF Inlet air temp. $\geq$ set temp - 1.8°F(1°C) Heater ON Inlet air temp. $\leq$ set temp - 3.6°F(2°C) •The fan will stop and the heater will turn off when [DEFROST] is displayed  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) Set temp. -4.5°F (2.5°C) ON OFF	2	2	

1st: Heater output from CN24-1 (yellow) on the indoor unit control board.

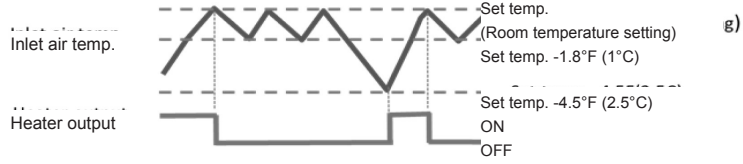
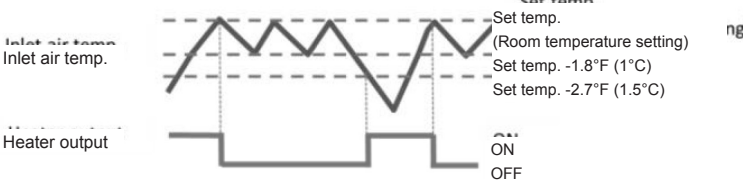
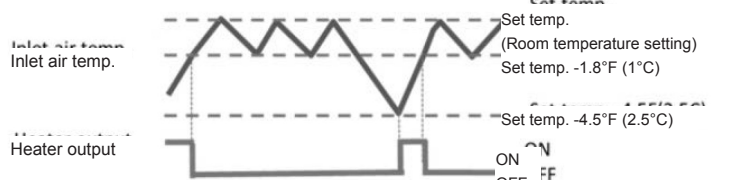
2nd: Heater output from CN24-2 (Blue) on the indoor unit control board.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

PEAD-AA5

Function	Setting		Mode No. ()RF thermostat setup function No.		Initial setting (Factory setting)
			23 (123)	11 (111)	
Heater control	Enable heater basic control	1st Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. $\leq$ set temp - 4.5°F(2.5°C) •The fan will stop and the heater will turn off when [DEFROST] or [ERROR] is displayed  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) Set temp. -4.5°F (2.5°C) ON OFF	1	—	●
	Enable heater comfort mode	1st Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. $\leq$ set temp - 1.8°F(1°C) •The fan will stop and the heater will turn off when [DEFROST] is displayed.  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) ON OFF	2	1	
		2nd Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. $\leq$ set temp - 2.7°F(1.5°C) •The fan will stop and the heater will turn off when [DEFROST] is displayed.  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) Set temp. -2.7°F (1.5°C) ON OFF			
	Enable heater economy mode	1st Heater OFF Inlet air temp. $\geq$ set temp - 1.8°F(1°C) Heater ON Inlet air temp. $\leq$ set temp - 3.6°F(2°C) •The fan will stop and the heater will turn off when [DEFROST] is displayed.  Set temp. (Room temperature setting) Set temp. -1.8°F (1°C) Set temp. -4.5°F (2.5°C) ON OFF	2	2	

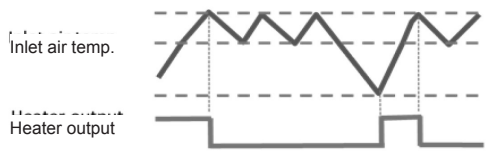
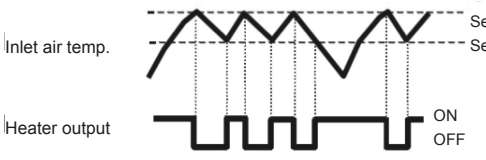
1st: Heater output from CN24-1 (yellow) on the indoor unit control board.

2nd: Heater output from CN24-2 (Blue) on the indoor unit control board.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

PEAD-AA4, PEA, SEZ

Function	Setting	Mode No. ()RF thermostat setup function No.		Initial setting (Factory setting)
		23 (123)	11 (111)	
Heater control	Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. < set temp - 4.5°F (2.5°C) •The fan will stop and the heater will turn off when [DEFROST] or [ERROR] is displayed 	1	—	●
	Heater OFF Inlet air temp. $\geq$ set temp Heater ON Inlet air temp. < set temp - 4.5°F (2.5°C) •The fan will drive and the heater will turn off when [DEFROST] is displayed. 	2	—	

(4) LOSSNAY setting (City Multi only)

This setting is required only when the operation of City Multi units is interlocked with LOSSNAY units. This setting is not available for the Mr. Slim units. Interlock settings can be made for the indoor unit to which the remote controller is connected. (They can also be confirmed or deleted.)

Note:	• Use the centralized controller to make the settings if it is connected. • To interlock the operation of the indoor units with the LOSSNAY units, be sure to interlock the addresses of ALL indoor units in the group and that of the LOSSNAY unit.
-------	---

[Button operation]

- [1] When "Lossnay" on the Service menu is selected, the remote controller will automatically begin searching for the registered LOSSNAY addresses of the currently connected indoor unit.

Lossnay

IU address

Lossnay address

Collecting data

- [2] When the search is completed, the smallest address of the indoor units that are connected to the remote controller and the address of the interlocked LOSSNAY unit will appear. "--" will appear if no LOSSNAY unit is interlocked with the indoor units.

Lossnay

IU address 5

Lossnay address 38

Function Set/Conf/Del.

Select: ✓

▼ Cursor ▲ ← Address +

If no settings need to be made, press the RETURN button to go back to the Service menu.

To make LOSSNAY interlock setting

- [3] Enter the addresses of the indoor unit and the LOSSNAY unit to be interlocked, with the F1 through F4 buttons, select "Set" in the "Function", and press the SELECT button to save the settings. "Sending data" will appear on the screen. If the setting is successfully completed, "Setting completed" will appear.

Lossnay

IU address 5

Lossnay address 38

Sending data

Lossnay

IU address 5

Lossnay address 38

Setting completed

Return: ↺

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-2. Wired Remote Controller [PAR-32MAA-J], cont.

To search for the LOSSNAY address

- [4] Enter the address of the indoor unit to which the remote controller is connected, select "Conf" in the "Function", and press the SELECT button. "Collecting data" will appear on the screen. If the signal is received correctly, the indoor unit address and LOSSNAY address will appear. "--" will appear when no LOSSNAY unit is found. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found.

Lossnay	
IU address	5
Lossnay address	
Collecting data	

Lossnay	
IU address	5
Lossnay address	
Unit not exist	
Return: ↻	

To delete the interlock setting

- [5] To delete the interlocked setting between LOSSNAY unit and the indoor units to which the remote controller is connected, enter the indoor unit address and LOSSNAY address with the F1 through F4 buttons, select "Del." in the "Function", and press the SELECT button. "Deleting" will appear. The screen will return to the search result screen if the deletion is successfully completed. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found. If deletion fails, "Request rejected" will appear on the screen.

Lossnay	
IU address	5
Lossnay address	38
Deleting	

Lossnay	
IU address	5
Lossnay address	38
Request rejected	
Return: ↻	

(5) Check

Select "Check" on the Service menu to bring up the Check menu screen. The type of menu that appears depends on the type of indoor units that are connected (City Multi or Mr. Slim).
(When City Multi is connected, only "Error history" will appear in the menu.)

<Mr. Slim>

Check menu 1/1	
▶ Error history	
Refrigerant volume check	
Refrigerant leak check	
Smooth maintenance	
Request code	
Service menu: []	
▼ Cursor ▲	

[1] Error history

Select "Error history" from the Check menu, and press the SELECT button to view up to 16 error history records. Four records are shown per page, and the top record on the first page indicates the latest error record.

Error history 1/4			
Error	Unit#	dd/mm/yy	12:34
E8	0-1	15/04/08	12:34
E8	0-1	15/04/08	12:34
E8	0-1	15/04/08	12:34
E8	0-1	15/04/08	12:34

Check menu: []
▼ Page ▲ Delete

"Error history deleted" will appear on the screen. Press the Return button to go back to the Check menu screen.

Error history	
Error history deleted	
Check menu: ↻	

[2] Other options in the Check menu (Mr. Slim only)

The following options are also available on the Mr. Slim units in the Check menu.

- Refrigerant volume check
- Refrigerant leak check
- Smooth maintenance
- Request code

These options are available only on the Mr. Slim units. Refer to the indoor unit Installation Manual for details.

[Deleting the error history]

To delete the error history, press the F4 button (Delete) on the screen that shows error history. A confirmation screen will appear asking if you want to delete the error history. Press the F4 button (OK) to delete the history.

Error history	
Delete error history?	
Cancel OK	

(6) Diagnostic function.

Error history of each unit can be checked via the remote controller.
[Procedures]

- [1] Select "Self check" from the Service menu, and press the SELECT button to view the Self check screen.
[2] With the F1 or F2 button, enter the refrigerant address (Mr. Slim) or the M-NET address (City Multi), and press the SELECT button.
[3] Error code, unit number, attribute, and indoor unit demand signal ON/OFF status at the contact (City Multi only) will appear. "--" will appear if no error history is available.

<Mr. Slim>

<City Multi>

Self check	
Ref. address	0
Select: ✓	
-Address+	

Self check	
M-NET address	1
Select: ✓	
-Address+	

<Mr. Slim>

<City Multi>

Self check			
Ref. address	0		
Error P4	Unit # 1	Grp. IC	
Return: ↻			
Reset			

Self check			
M-NET address	1		
Error 5102	1	Grp. IC	
Contact	OFF		
Return: ↻			
Reset			

Self check			
M-NET address	1		
Error ---	-	Grp. --	
Contact	OFF		
Return: ↻			
Reset			

When there is no error history

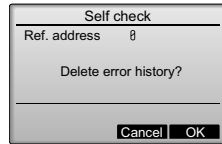
Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

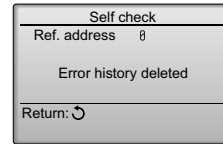
1-2. Wired Remote Controller [PAR-32MAA-J], cont.

[Resetting the error history]

- [1] Press the F4 button (Reset) on the screen that shows the error history. A confirmation screen will appear asking if you want to delete the error history.



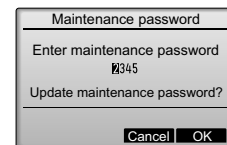
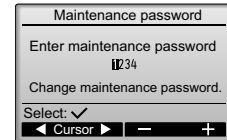
- [2] Press the F4 button (OK) to delete the error history. If deletion fails, "Request rejected" will appear, and "Unit not exist" will appear if no indoor units that are correspond to the entered address are found.



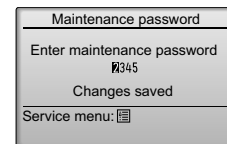
- (7) Setting the maintenance password
Take the following steps to change the maintenance password.

[Procedures]

- [1] Select "Maintenance password" on the Service menu, and press the SELECT button to bring up the screen to enter a new password.
[2] Move the cursor to the digit you want to change with the F1 or F2 button, and set each digit to the desired number (0 through 9) with the F3 or F4 button.
[3] Press the SELECT button to save the new password.
[4] A confirmation screen will appear asking if you want to change the maintenance password. Press the F4 button (OK) to save the change. Press the F3 button (Cancel) to cancel the change.



- [5] "Changes saved" will appear when the password is updated.
[6] Press the MENU button to return to the Service menu or press the RETURN button to go back to the "Maintenance password" screen.



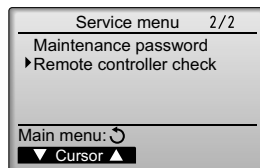
12. Remote controller check

When the remote controller does not work properly, use the remote controller checking function to troubleshoot the problem.

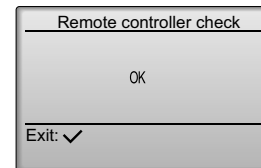
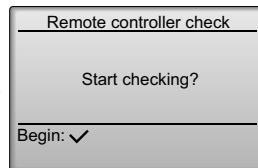
- (1) Check the remote controller display and see if anything is displayed (including lines). Nothing will appear on the remote controller display if the correct voltage (8.5-12 VDC) is not supplied to the remote controller. If this is the case, check the remote controller wiring and indoor units.

[Procedures]

- [1] Select "Remote controller check" from the Service menu, and press the SELECT button to start the remote controller check and see the check results. To cancel the remote controller check and exit the Remote controller check menu screen, press the MENU or the RETURN button. The remote controller will not reboot itself.



Select "Remote controller check".



Remote controller check results screen

OK: No problems are found with the remote controller. Check other parts for problems.

E3, 6832: There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.

NG (ALL0, ALL1): Send-receive circuit fault. Remote controller needs replacing.

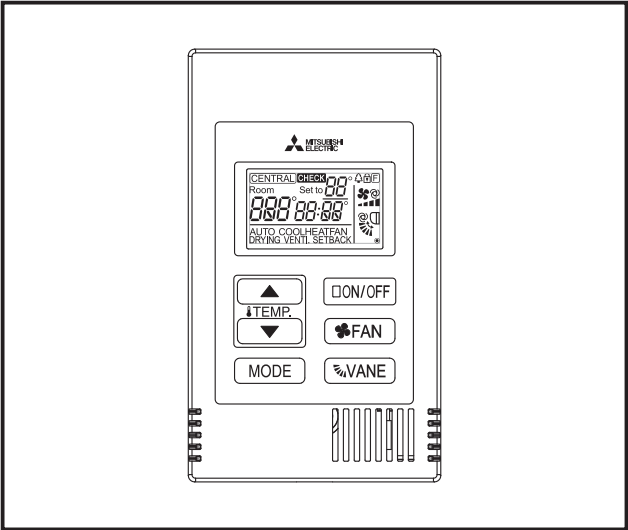
ERC: The number of data errors is the discrepancy between the number of bits in the data transmitted from the remote controller and that of the data that was actually transmitted over the transmission line. If data errors are found, check the transmission line for external noise interference.

- [2] If the SELECT button is pressed after the remote controller check results are displayed, remote controller check will end, and the remote controller will automatically reboot itself.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU]

Photo



Descriptions

New functions have been added to the CITY MULTI series that enable the setting of certain indoor unit functions (such as static pressure) from the remote controller. (For more detailed information, please contact your nearest sales office or distributor.)

Applicable Models

- MSZ-FH06/09/12/15NA*

■ MSZ-FH18NA2*

■ MSZ-FE09/12NA*

MSZ-EF09/12/15/18NAW(B)(S)*

■ MSZ-GL06/09/12/15/18/24NA*

■ MSZ-D30/36NA*
- MSY-GL09/12/15/18/24NA*

■ MSZ-D30/36NA*

■ SLZ-KA09/12/15NA

■ SEZ-KD09/12/15/18NA4

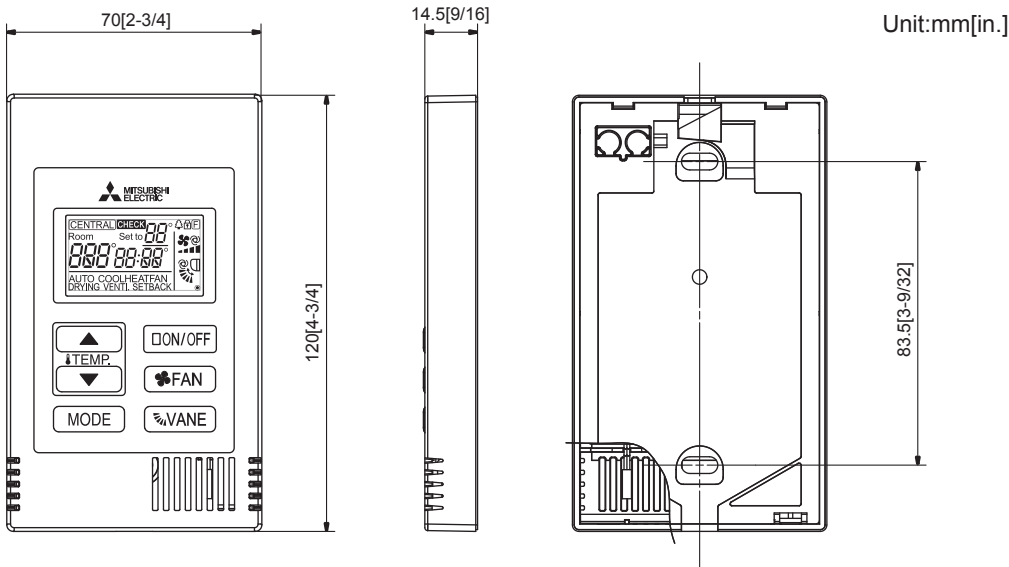
■ MVZ-A09/12/15/18/24AA4

* MAC-333IF-E required

Specifications

	Specifications
Product size	70 (W) × 120 (H) × 14.5 (D) mm (2-3/4 × 4-3/4 × 9/16 [in]) (not including the protruding part)
Net weight	0.1 kg (1/4 lb.)
Rated power supply voltage	12 VDC (supplied from indoor units)
Power consumption	0.3 W
Usage environment	Temperature 0 ~ 40°C (32 ~ 104°F) Humidity 30 ~ 90%RH (with no dew condensation)
Material	PC + ABS

Dimensions



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

How to Use / How to Install

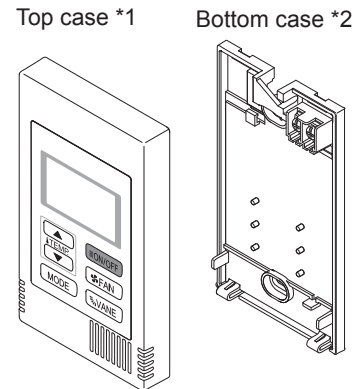
1 Component names and supplied parts

The following parts are included in the box.

Parts name	Qty.	Appearance
Remote controller (top case)	1	Right figure *1
Remote controller (bottom case)	1	Right figure *2
Roundhead cross slot screws M4×30	2	*3
Wood screw 4.1×16 (for direct wall installation)	2	*3
Installation Manual (this manual)	1	
Instruction Book	1	

*3 ISO metric screw thread

*4 Remote controller cable is not included.



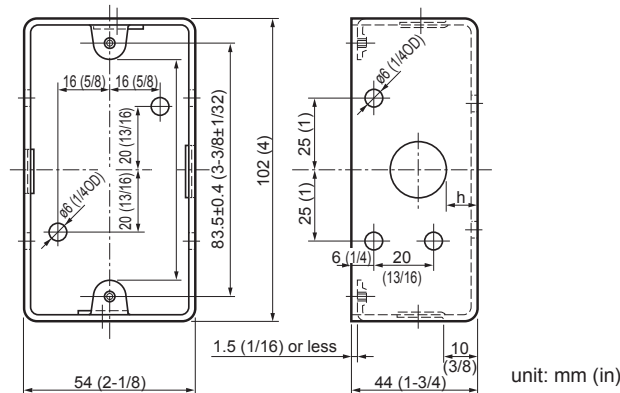
2 Field-supplied parts/Required tools

(1) Field-supplied parts

The following parts are field-supplied parts.

Parts name	Qty.	Notes
Single switch box	1	Not required for direct wall installation
Thin metal conduit	Necessary	
Lock nut and bushing	Necessary	
Cable cover	Necessary	Required for routing remote controller cable along a wall
Putty	Reasonable	
Molly anchor	Necessary	
Remote controller cable (Use a 0.3 mm ² (AWG22) 2-core sheathed cable.)	Necessary	If you need to use a cable extension longer than 10 m (32 ft), select an electric wire that meets the following specifications: Wire specification VCTF or CVV (2-core): 1.25 mm ² (stranded 16 AWG) or equivalent

Switch box



(2) Field-supplied tools

- Flat-tip screwdriver (Width: 3 - 5 mm (1/8 - 7/32 inch))
- Knife or Nipper
- Miscellaneous tools

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

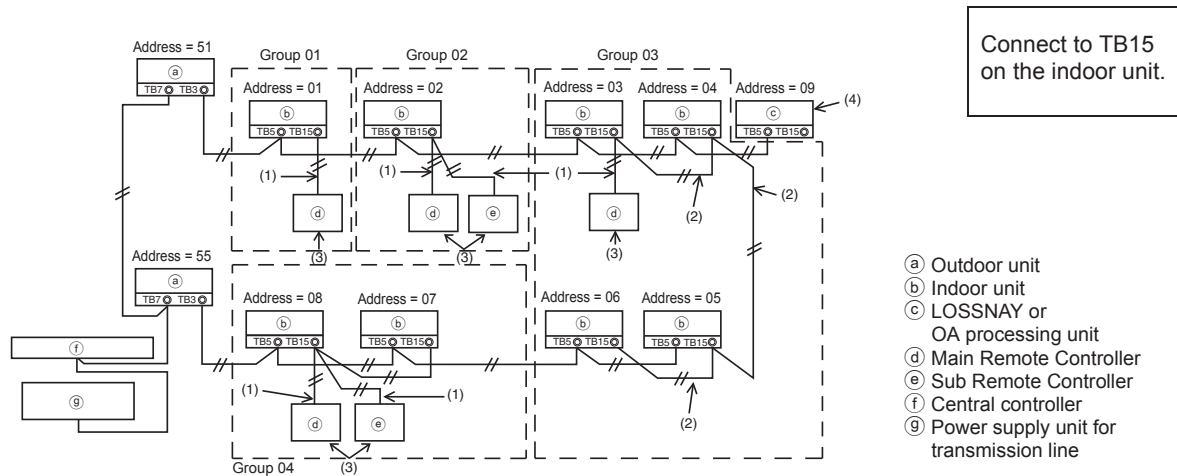
1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

3 How To Wire Transmission Line

The wiring is different when the remote controller is connected to a CITY MULTI control system ("A" type and later) and when it is connected to a M-Series and P-Series air conditioner (A control type). The wiring also differs with the system configuration. Check the system used.

1. Connecting to CITY MULTI control system

The numbers (1) to (4) in the figure correspond to items (1) to (4) in the following description.



(1) Wiring from the remote controller

- Connect to the MA remote controller terminal block (TB15) on the indoor unit.
- The terminal block has no polarity. Connect to the terminal block at the rear bottom of the remote controller.

(2) Operating in a group (Groups 03, and 04 above)

- Interconnect the MA remote controller terminal block (TB15) of the indoor units you want to operate as a group, and connect the MA remote controller to that point.
- When the remote controller is used in combination with the system controller (central controller in the figure above) is necessary.

(3) Number of connectable remote controllers (groups 02 and 04)

- A main remote controller and one sub remote controller, a total of two, can be connected to a group made up of indoor units.

NOTE: When using this Simple MA remote controller in combination with other MA remote controllers, be sure to follow the compatibility rules below.

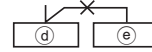
Indoor unit function	Main remote controller	Sub remote controller	Compatibility
Models applicable for AUTO (dual set point) and SETBACK mode	This Simple MA remote controller	This Simple MA remote controller	Compatible, and AUTO (dual set point) and SETBACK mode can be used depending on the indoor units to be connected.
	Other MA remote controllers	This Simple MA remote controller	Compatible, but AUTO (dual set point) and SETBACK mode cannot be used.
	This Simple MA remote controller	Other MA remote controllers	Incompatible
Models not applicable for AUTO (dual set point) and SETBACK mode	Combination with all of the above		Compatible

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- (4) To interlock to a LOSSNAY or OA processing unit, make the following settings using the remote controller. (For a description of how to set an interlock, see section (7) Ventilation Setting .)
Set the LOSSNAY or OA processing unit address and the address of all the indoor units you want to interlock.
- (5) Total length of remote controller wiring
- The simple MA controller can be wired up to 200 m (656 ft). Procure 0.75 - 1.25 mm² (stranded 16 - 28 AWG), 2-core cable at the installation site.

CAUTION Remote controllers cannot be wired together. Only one wire can be connected to the remote controller terminal block.



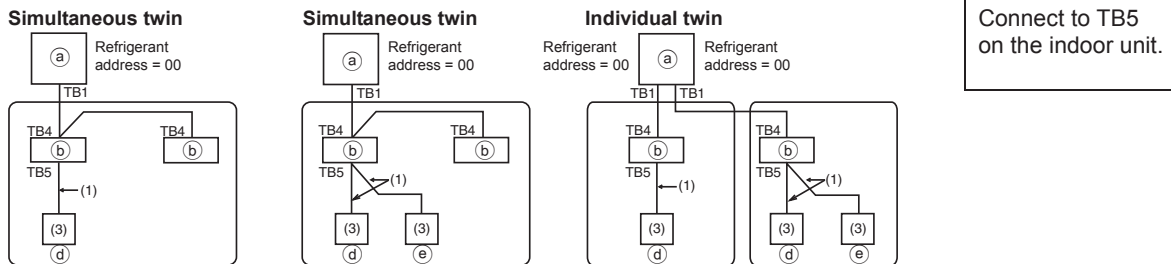
NOTE: When interlocking the MA remote controller with a LOSSNAY or OA processing unit, always set the address of all the indoor units in the group and the address of the LOSSNAY or OA processing unit.

2. Connecting to M-Series and P-Series air conditioner

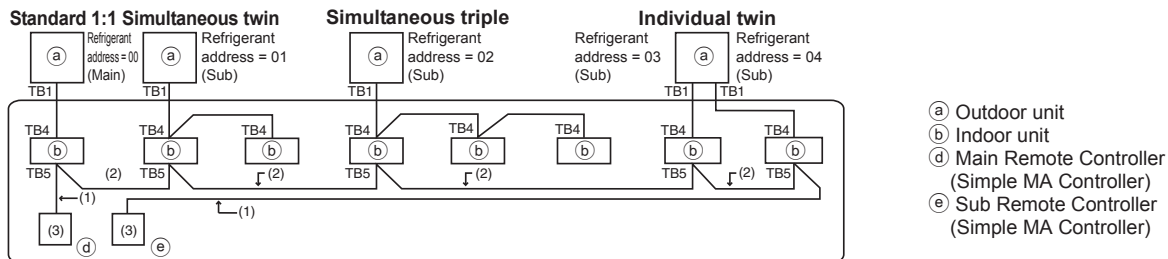
The remote controller wiring depends on the system configuration. Check the system configuration. Wire the remote controller as shown in the example below.

The numbers (1) to (3) in the figure correspond to items (1) to (3) in the following description.

- [1] Connecting the remote controller for each refrigerant system (Standard 1:1, simultaneous twin, simultaneous triple, simultaneous four, individual twin)



- [2] When grouping by different refrigerant systems



- * Set the refrigerant address using the outdoor unit dip switches. (For more information, refer to the outdoor unit installation manual.)
- * All the indoor units enclosed in are controlled as one group.
 - (1) Wiring from remote controller
 - Connect to indoor unit TB5 (remote controller terminal block). (The terminal block has no polarity.)
 - For simultaneous multi type, when mixing various types of indoor units, always connect the remote controller to the indoor unit with the most functions (wind velocity, vane, louver, etc.).
 - (2) When grouping with difference refrigerant systems
 - Group using the remote controller wiring. Connect the remote controller to an arbitrary indoor unit of each refrigerant system you want to group.
 - When mixing different types of indoor units in the same group, always make the outdoor unit connecting the indoor unit with the most functions (wind velocity, vane, louver, etc.) the Main unit (refrigerant address = 00). Also, when the Main unit is the simultaneous multi type, always satisfy the conditions of (1) above.
 - The Simple MA Remote Controller can control up to 16 refrigerant systems as one group.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- (3) Up to two remote controllers can be connected to one group
- When two remote controllers are connected to one group, always set the Main remote controller and Sub remote controller.
 - When only one remote controller is connected to one group, set it as the Main controller. When two remote controllers are connected to one group, set the Main remote controller and Sub remote controller. (For a description of how to set the Main/Sub switch, see step 5 in section (5) How To Install .)

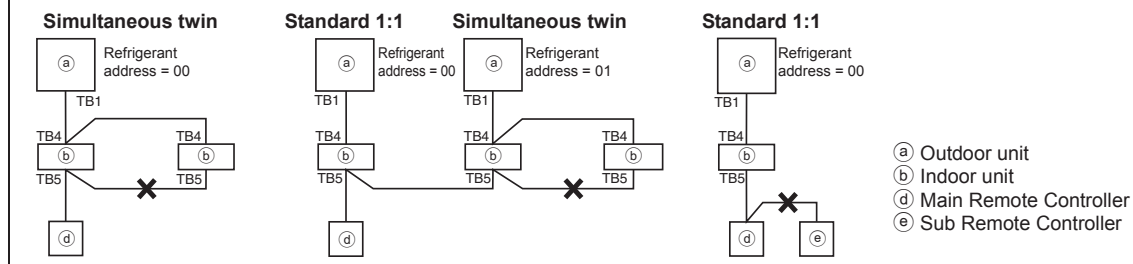
NOTE: When using this Simple MA remote controller in combination with other MA remote controllers, be sure to follow the compatibility rules below.

Indoor unit function	Main remote controller	Sub remote controller	Compatibility
Models applicable for AUTO (dual set point) and SETBACK mode	This Simple MA remote controller	This Simple MA remote controller	Compatible, and AUTO (dual set point) and SETBACK mode can be used depending on the indoor units to be connected.
	Other MA remote controllers	This Simple MA remote controller	Compatible, but AUTO (dual set point) and SETBACK mode cannot be used.
	This Simple MA remote controller	Other MA remote controllers	Incompatible
Models not applicable for AUTO (dual set point) and SETBACK mode	Combination with all of the above		Compatible

- (4) Total length of remote controller wiring
- The Simple MA Remote Controller can be wired up to 200 m (656-1/8 ft).
Procure 0.75 ~ 1.25 mm² (16 ~ 28 AWG), 2-core cable at the installation site.

⚠ CAUTION

- The wiring cannot be connected to TB5 of the indoor unit of the same refrigerant system. If so connected, the system will not operate normally.
- Remote controllers cannot be wired together. Only one wire can be connected to the remote controller terminal block.
- When connecting to TB5, connect up to two wires of the same size to one terminal block.



4 How To Install

This remote controller is for the wall installation. It can be installed either in the switch box or directly on the wall. When performing direct wall installation, wires can be thread through either back or top of the remote controller.

(1) Selecting an installation site

Install the remote controller (switch box) on the site where the following conditions are met.

- A flat surface
- A place where the remote controller can measure the accurate indoor temperature
Sensors to monitor indoor temperature are on the indoor unit and on the remote controller. When the room temperature is monitored with the sensor on the remote controller, the built-in sensor on the Main remote controller monitors the room temperature. When using the sensor on the remote controller, follow the instructions below.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- To monitor the accurate indoor temperature, install the remote controller away from direct sunlight, heat sources, and the supply air outlet of the air conditioner.
- Install the remote controller in a location that allows the sensor to measure the representative room temperature.
- Install the remote controller where no wires are routed around the temperature sensor on the controller. (If wires are routed, the sensor cannot measure accurate indoor temperature.)

Important

Do not install the controller in a place where the difference between the remote controller surface temperature and the actual room temperature will be great.
If the temperature difference is too high, room temperature may not be adequately controlled.

To reduce the risk of malfunctions, do not install the controller in a place where water or oil may come into contact with the controller, or in a condensing or corrosive environments.

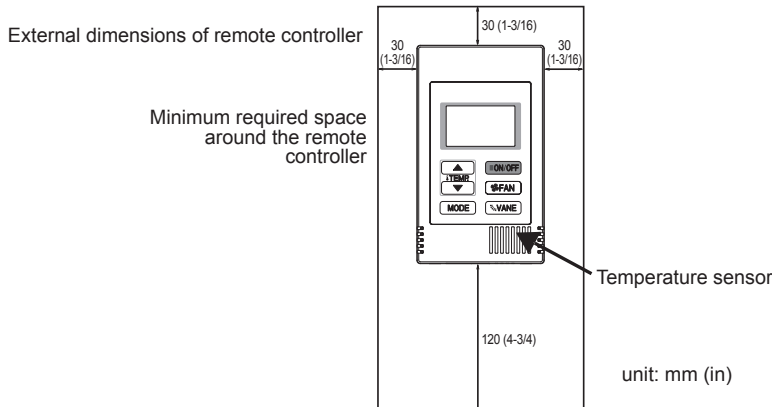
To avoid deformation and malfunction, do not install the remote controller in direct sunlight or where the ambient temperature may exceed 40°C (104°F) or drop below 0°C (32°F).

Do not install the remote controller directly onto electrically conductive objects such as metal plate that has not been painted.

(2) Installation space

Leave a space around the remote controller as shown in the figure shown below, regardless of whether the controller is installed in the switch box or directly on the wall. Removing the remote controller will not be easy with insufficient space.

Also, leave an operating space in front of the remote controller.



(3) Installation work

Controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the installation method.

① Drill a hole in the wall.

■ Installation using a switch box

- Drill a hole in the wall, and install the switch box on the wall.
- Connect the switch box to the conduit tube.

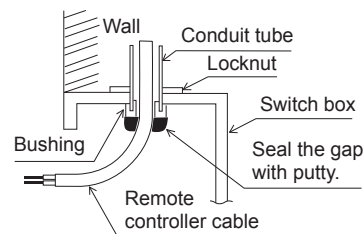
■ Direct wall installation

- Drill a hole in the wall, and thread the cable through it.

② Seal the cable access hole with putty

■ Installation using a switch box

- Seal the remote controller cable access hole at the connection of switch box and conduit tube with putty.



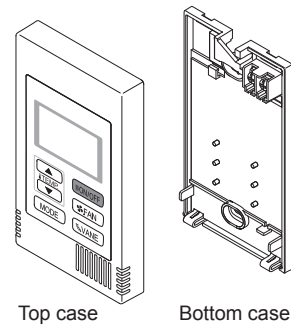
To reduce the risk of electric shock, malfunctions, or fire, seal the gap between the cables and cable access holes with putty.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

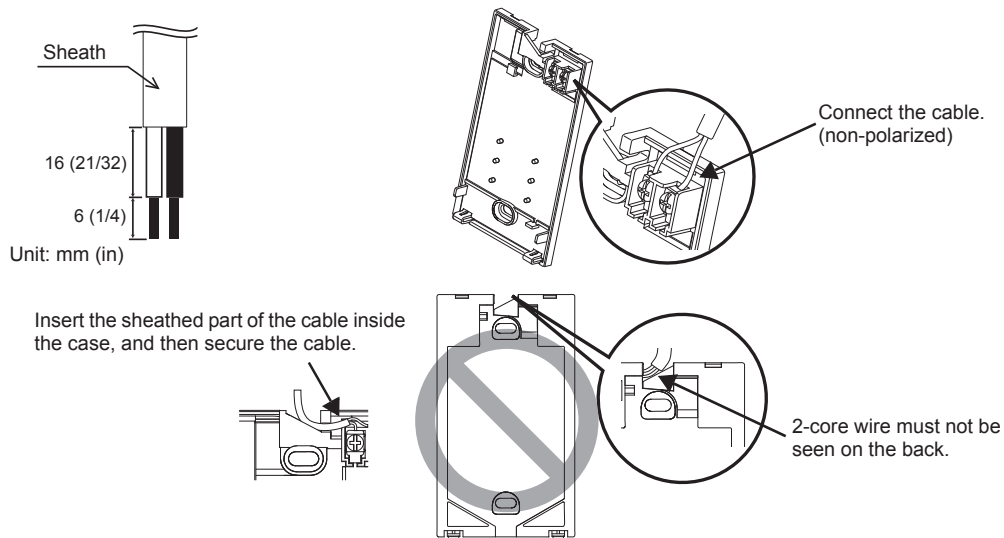
1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- ③ Prepare the bottom case of the remote controller.



- ④ Connect the remote controller cable to the terminal block on the bottom case.

Peel off the remote controller cable sheath as shown below to connect to the terminal block properly. Secure the remote controller cable so that the peeled part of the cable will fit into the case.



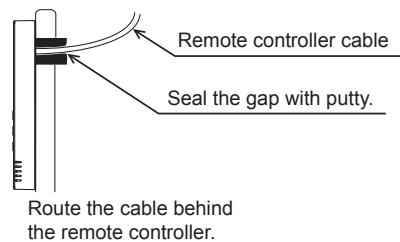
■ Direct wall installation

- Seal the hole through which the cable is threaded with putty.

To reduce the risk of electric shock, shorting, or malfunctions, keep wire pieces and sheath shavings out of the terminal block.

Important

Do not use solderless terminals to connect cables to the terminal block. Solderless terminals may come in contact with the circuit board and cause malfunctions or damage the controller cover.

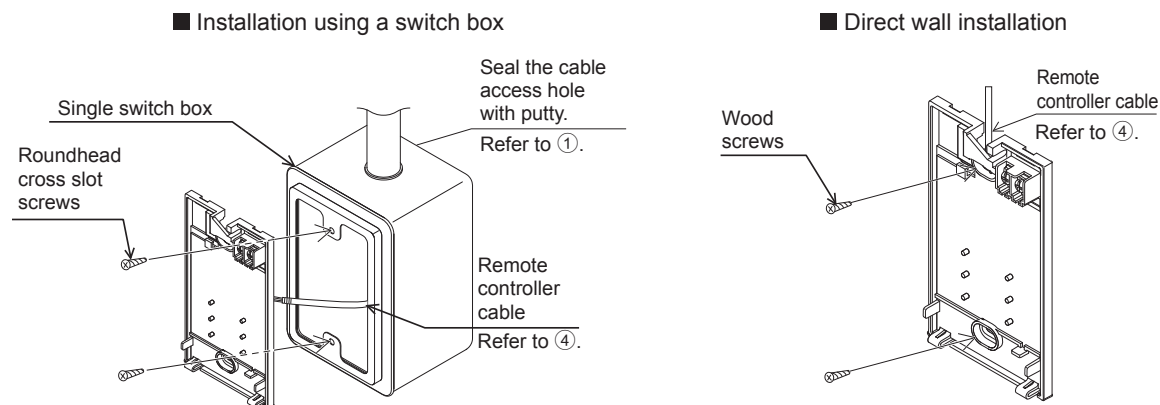


1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

⑤ Install the bottom case.

Be sure to secure two places of the bottom case.



Important

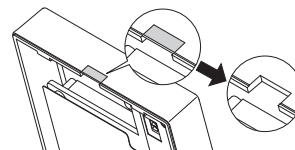
To avoid deformation and damage to the bottom case, do not overtighten the screws.

To avoid damage to the bottom case, do not make holes on it.

⑥ Cut out the cable access hole.

■ Direct wall installation (when running the cable along the wall)

- Cut out the thin-wall part on the cover (the shaded area in the right figure) with a knife or a nipper.
- Thread the cable from the groove behind the bottom case through this access hole.



⑦ Set the dip switches on the top case.

When using two remote controllers in one group, set the dip switches.

When using two remote controllers in one group, specify the main and sub remote controllers using dip switch No. 1 shown below.

- When connecting only one remote controller to one group, it is always the main remote controller. When connecting two remote controllers to one group, set one remote controller as the main remote controller and the other as the sub remote controller.
- The factory setting is "Main".

Setting the dip switches

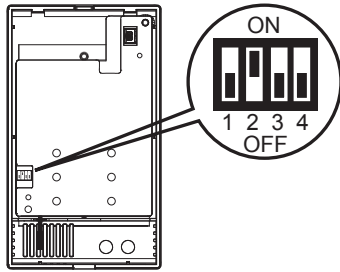
There are switches on the back of the top case. Remote controller Main/Sub and other function settings are performed using these switches. Ordinarily, only change the Main/Sub setting of SW1. (The factory settings are ON for SW1, 3, and 4 and OFF for SW2.)

SW No.	SW contents Main	ON	OFF	Comment
1	Remote controller Main/Sub setting	Main	Sub	Set one of the two remote controllers at one group to "ON".
2	Temperature display units setting	Celsius	Fahrenheit	When the temperature is displayed in [Fahrenheit], set to "OFF".
3	Cooling/heating display in AUTO mode	Yes	No	When you do not want to display "Cooling" and "Heating" in the AUTO mode, set to "OFF".
4	Indoor temperature display	Yes	No	When you do not want to display the indoor temperature, set to "OFF".

Due to continuing improvement, above specification may be subject to change without notice.

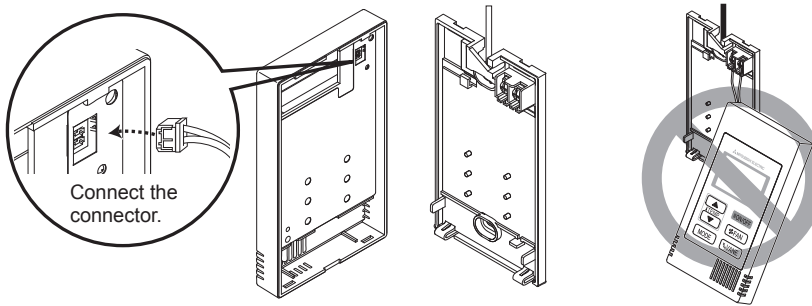
1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.



⑧ Connect the connector to the top case.

Connect the connector on the bottom case to the socket on the top case.



Important

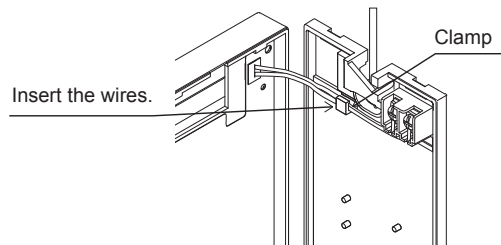
To prevent malfunctions, do not remove the protective sheet or the circuit board from the top case.

To prevent cable breakage and malfunctions, do not hang the top controller casing hang by the cable as shown in the figure above.

⑨ Insert the wires into the clamp.

Important

Hold the wires in place with the clamp to prevent undue force from being applied to the terminal block and causing cable breakage.



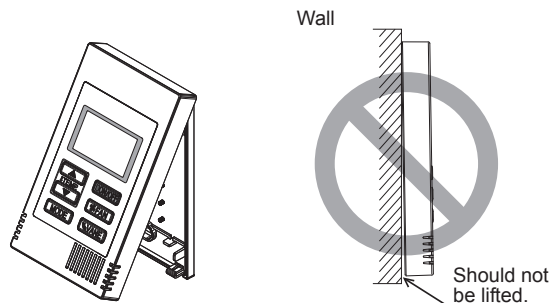
⑩ Install the top case on the bottom case.

Two mounting tabs are at the top of the top case.

Hook those two tabs onto the bottom case, and click the top case into place. Check that the case is securely installed and not lifted.

Important

When attaching the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.

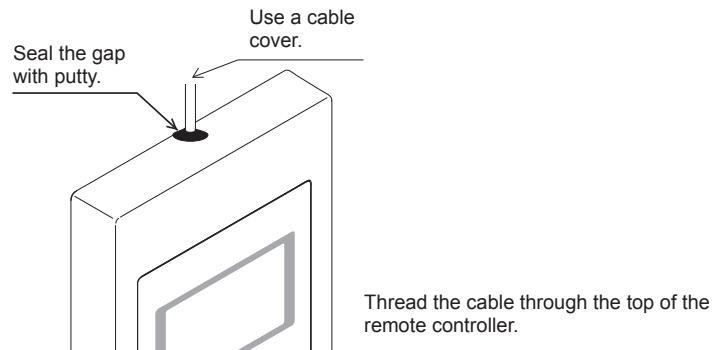


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

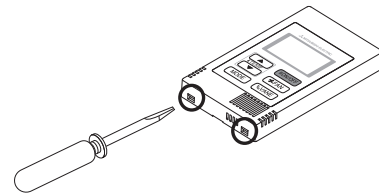
- Direct wall installation (when running the cable along the wall)
 - Thread the cable through the access hole at the top of the remote controller.
 - Seal the cut-out part of the cover with putty.
 - Use a cable cover.



• Uninstalling the top case

① Uninstalling the top case

Insert a flat-tip screwdriver with a blade width of 3-5 mm (1/8-7/32 inch) into the latches at the bottom of the remote controller and lift the latches. Then, pull up the top case.



Important

To prevent damage to the controller casing, do not force the flat-tip screwdriver to turn with its tip inserted in the slot.

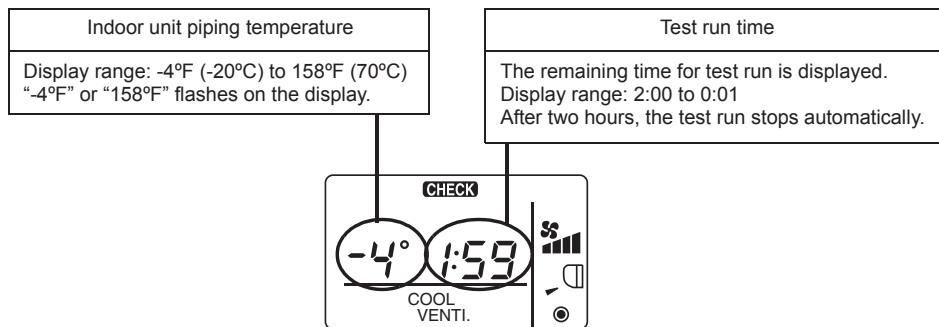
Do not insert the flat-tip screwdriver too far. Doing so will damage the circuit board.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

5 Test Run

1. Before making a test run, refer to the "Test Run" section of the indoor unit installation manual.
2. When the [ON/OFF] button and [TEMP. ▲] button are pressed simultaneously for 2 seconds or longer, test run is performed.
3. Stop the test run by pressing the [ON/OFF] button.
4. If trouble occurred during the test run, refer to the "Test Run" section of the indoor unit installation manual.



6 Ventilation Setting

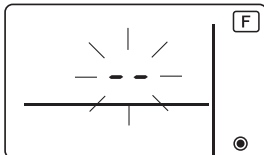
Make this setting only when interlocked operation with LOSSNAY or OA processing unit is necessary with CITY MULTI models.
(This setting cannot be made with M-Series and P-Series air conditioners.)

Perform this operation when you want to register the LOSSNAY or OA processing unit, confirm the registered units, or delete the registered units controlled by the remote controller.

The following uses indoor unit address 05 and LOSSNAY or OA processing unit address 30 as an example to describe the setting procedure.

[Setting Procedure]

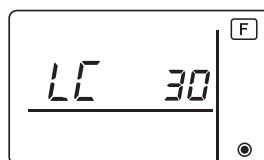
- ① Stop the air conditioner using the remote controller [ON/OFF] button.
- ② Press and hold down the [FAN] and [TEMP. ▼] buttons at the same time for two seconds. The display shown below appears. The remote controller confirms the registered LOSSNAY or OA processing unit addresses of the currently connected indoor units.



- ③ Registration confirmation result
 - The indoor unit address and registered LOSSNAY or OA processing unit address are displayed alternately.



<Indoor unit address and indoor unit display>

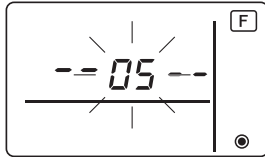


<LOSSNAY address display and LOSSNAY display>

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- When LOSSNAY or OA processing unit are not registered



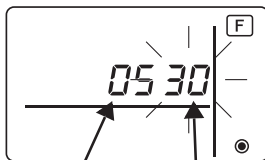
- ④ If registration is unnecessary, end registration by pressing and holding down the [FAN] and [TEMP. ▼] buttons at the same time for two seconds.

If a new LOSSNAY or OA processing unit must be registered, go to step 1. **Registration procedure.**

If you want to confirm another LOSSNAY or OA processing unit, go to step 2. **Confirmation procedure.** To delete a registered LOSSNAY or OA processing unit, go to step 3. **Deletion procedure.**

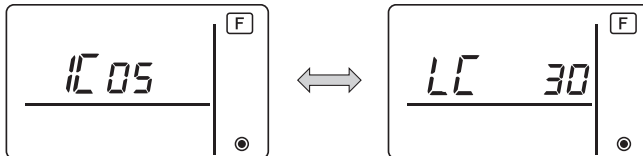
<1. Registration procedure>

- ⑤ Set the address of the indoor unit to be interlocked with the LOSSNAY unit using the [TEMP. ▲] and [TEMP. ▼] buttons. (01 to 50)
- ⑥ After setting, press the [FAN] button and set the Lossnay address you want to register by operating the [TEMP. ▲] and [TEMP. ▼] buttons. (01~50)



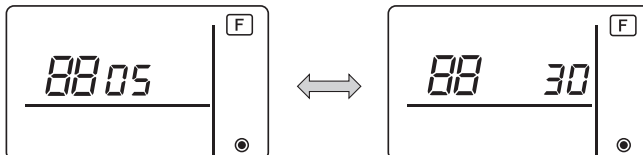
Indoor unit address LOSSNAY or OA processing unit address

- ⑦ Press the [ON/OFF] button, and register the set indoor unit address and LOSSNAY address.
- Registration end display
- The indoor unit address and “IC” and LOSSNAY address and “LC” are alternately displayed.



- Registration error display

If the address is not registered correctly, the indoor unit address and [88], and the registered LOSSNAY (or OA processing unit address) and [88] are alternately displayed.



Cannot be registered because the registered indoor unit or LOSSNAY or OA processing unit does not exist.

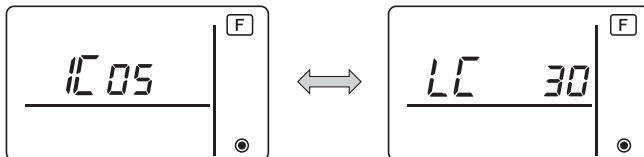
Cannot be registered because another LOSSNAY or OA processing unit was registered at the registered indoor unit.

1. CONTROLS

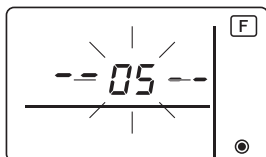
1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

<2. Confirmation procedure>

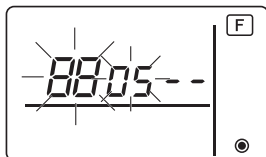
- ⑧ Set the address of the indoor unit connected by the remote controller whose LOSSNAY or OA processing unit you want to confirm using the [TEMP. ▲] and [TEMP. ▼] buttons. (01 to 50)
- ⑨ Press the [ON/OFF] button and [FAN] button simultaneously for 2 seconds, and check the LOSSNAY address registered at the set indoor unit address.
- Confirmation end display (When LOSSNAY is connected.)
The indoor unit address and "IC" and registered LOSSNAY address and "LC" are alternately displayed.



- Confirmation end display (When LOSSNAY or OA processing unit is not connected.)



- Registered indoor unit address does not exist.



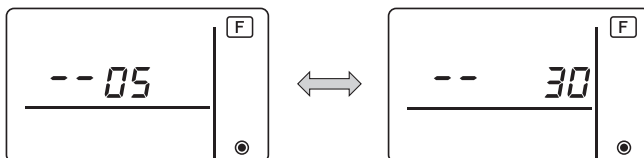
<3. Deletion procedure>

Use this procedure when you want to delete registration of indoor units connected by the remote controller and LOSSNAY or OA processing unit.

- ⑩ Confirm (see **2. Confirmation procedure**) the LOSSNAY or OA processing unit you want to delete and display the indoor units and LOSSNAY or OA processing unit confirmation results.
- ⑪ Press the [TEMP. ▲] and [TEMP. ▼] buttons simultaneously for 2 seconds, and delete registration of the LOSSNAY or OA processing unit address registered at the set indoor unit.

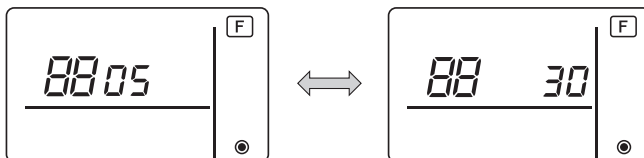
- Deletion end display

Indoor unit address and "--" and registered LOSSNAY or OA processing unit address and "--" are alternately displayed.



- Deletion error display

When deletion was not performed properly.



1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

7 Function Selection for M-Series and P-Series

Make the following settings for M-Series and P-Series if necessary.
(This setting cannot be made with CITY MULTI Control System. To make CITY MULTI indoor unit settings from the remote controller, refer to section (9 Function Selection for CITY MULTI).)

Set the functions of each indoor unit from the remote controller, as required. The functions of each indoor unit can be selected only from the remote controller.

Set the functions by selecting the necessary items from Table 1.

Table1. Function selection contents

(For a detailed description of the factory settings and mode of each indoor unit, refer to the indoor unit installation manual.)

Mode No.	Mode	Settings	Setting No.	Check	Unit numbers
01	Automatic recovery after power failure	Disable	1		Set "00" for the Unit number. These settings apply to all the connected indoor units.
		Enable (Four minutes of standby time is required after the restoration of power.)	2		
02	Thermistor selection (Indoor temperature detection)	Average temperature reading of the indoor units in operation	1		
		Thermistor on the indoor unit to which the remote controller is connected (fixed)	2		
		Built-in sensor on the remote controller	3		
03	LOSSNAY connection	Not connected	1		Set "01" to "04" or "AL" for the Unit number. These settings apply to each indoor unit. • If "01" ("02", "03", "04") is set for the Unit number, the settings apply only to the specified indoor unit regardless of the number of connected indoor units (one through four units). • If "AL" is set for the Unit number, the settings apply to all the connected indoor units regardless of the number of connected indoor units (one through four units).
		Connected (without outdoor air intake by the indoor units)	2		
		Connected (with outdoor air intake by the indoor units)	3		
04	Power voltage	240 V	1		
		220 V, 230 V	2		
05	AUTO mode	Enable (Automatically the unit achieves effective energy saving operation.)	1		
		Disable	2		
07	Filter sign	100 hours	1		
		2500 hours	2		
		Not displayed	3		
08	Fan speed	Silent mode (or standard)	1		
		Standard (or High ceiling 1)	2		
		High ceiling (or High ceiling 2)	3		
09	No. of air outlets	4 directional	1		
		3 directional	2		
		2 directional	3		
10	Installed options (High performance filter)	No	1		
		Yes	2		
11	Vane setting	No vanes (or the vane setting No.3 is effective.)	1		
		Equipped with vanes (The vane setting No.1 is effective.)	2		
		Equipped with vanes (The vane setting No.2 is effective.)	3		

* Static pressure setting can be made by using Mode 08 in combination with Mode 10 depending on the indoor unit model. Refer to the Indoor unit Installation Manual for details.

* For mode numbers other than listed above, refer to the indoor unit installation manual.

NOTE: When the indoor unit functions were changed using the function selection after installation is complete, always indicate the set contents by entering check marks or other marks in the appropriate check field of Table 1.

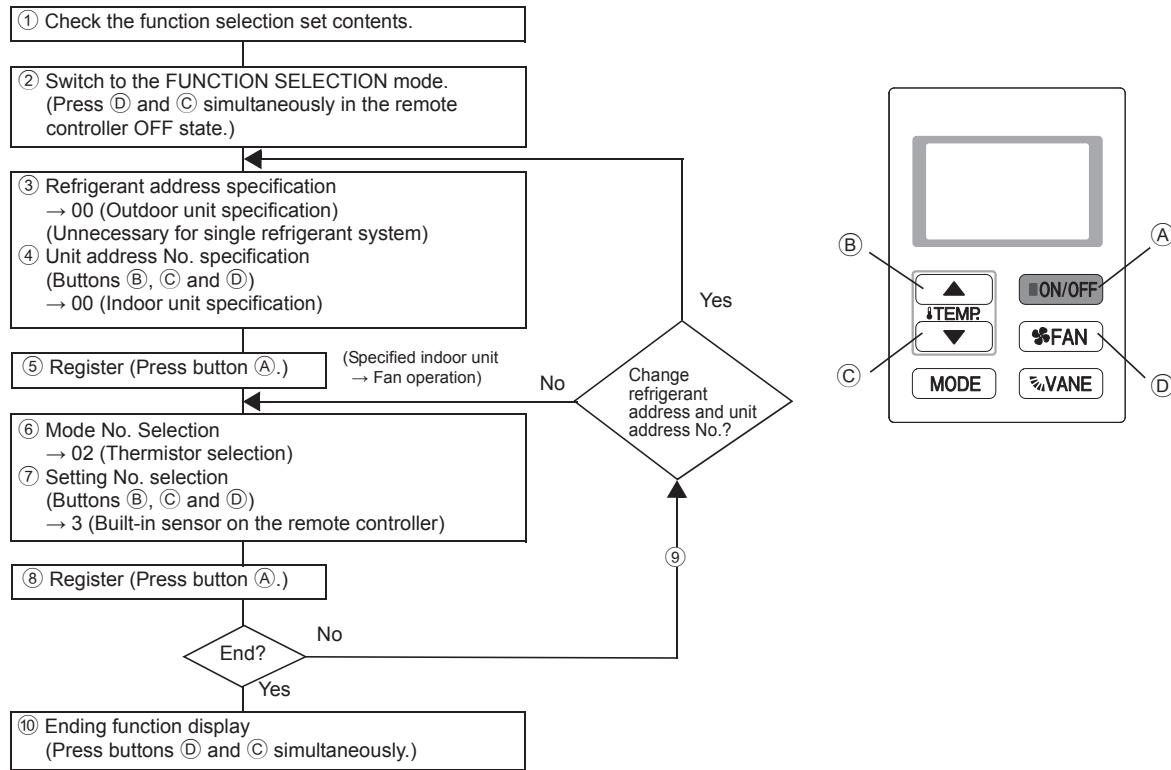
1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

[Function selection flow]

First grasp the function selection flow. The following describes setting of “Thermistor selection” of Table 1 as an example.

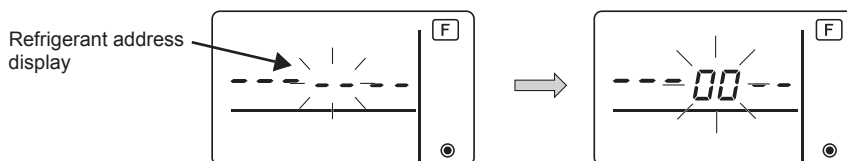
(For the actual setting procedure, see [Setting procedure] ① to ⑩.)



[Setting procedure] (Set only when change is necessary.)

- ① Check the set contents of each mode. When the set contents of a mode were changed by function selection, the functions of that mode also change.
Check the set contents as described in steps ② to ⑦ and change the setting based on the entries in the Table 1 check field. For the factory settings, refer to the indoor unit installation manual.

- ② Set the remote controller to Off.
Press and hold down the ④ [FAN] and the ③ [TEMP. ▼] buttons at the same time for two seconds or longer.
“F (FUNCTION)” blinks for a while, then the remote controller display changes to the display shown below.



- ③ Set the outdoor unit refrigerant address No.
When the ② [TEMP. ▲] and ③ [TEMP. ▼] buttons are pressed, the refrigerant address No. decreases and increases between 00 and 15.
Set it to the refrigerant address No. whose function you want to select.
(This step is unnecessary for single refrigerant system.)

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- * If the remote controller enters the OFF state after the “F” (FUNCTION)” and room temperature displays “88” have flashes for two seconds, communication is probably abnormal. Make sure there are no noise sources near the transmission line.

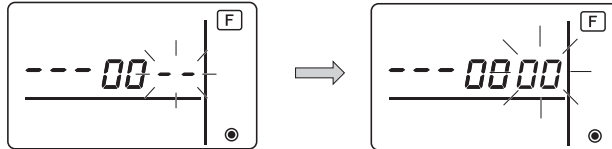
NOTE: If you make a mistake during operation, end function selection by step ⑩ and repeat selection from step ② .

④ Set the indoor unit address No.

Press the ① [FAN] button. The unit address No. display “—” flashes.

When the ② [TEMP. ▲] and ③ [TEMP. ▼] buttons are pressed, the unit address No. changes in the order of 00 ↔ 01 ↔ 02 ↔ 03 ↔ 04 ↔ AL. Set it to the unit address No. of the indoor unit whose functions you want to set.

Unit address No.
display



* When setting mode 1 ~ 6, set the unit address No. to “00”.

* When setting modes 7 to 14:

- When setting for each indoor unit, set the unit address No. to “01-04”.
- When batch setting for all indoor units, set the unit address No. to “AL”.

⑤ Refrigerant address and unit address No. registration

Press the ④ [ON/OFF] button. The refrigerant address and unit address No. are registered. After a while, the mode No. display “—” flashes.

Mode No. display

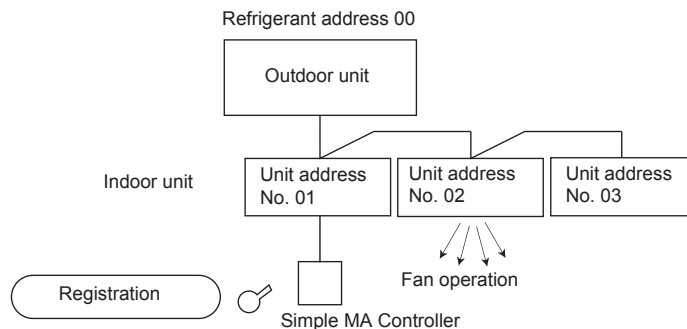


* When “88” flashes at the room temperature display, the selected refrigerant address is not in the system. When “F” is displayed at the unit address No. display, and when it flashes together with the refrigerant address display, the selected unit address No. does not exist. Correctly set the refrigerant address and unit address No. by repeating steps ③ and ④ .



When registered using the ④ [ON/OFF], the registered indoor unit begins fan operation. When you want to know the location of the indoor units of the unit address No. whose functions were selected, check here. When the unit address No. is 00 or AL, all the indoor units of the selected refrigerant address perform the fan operation.

EX): When refrigerant address 00, unit address No. = 02 registered



* When grouping by different refrigerant systems and an indoor unit other than the specified refrigerant address performs the fan operation, the refrigerant address set here is probably duplicated.

Recheck the refrigerant address at the outdoor unit dip switches.

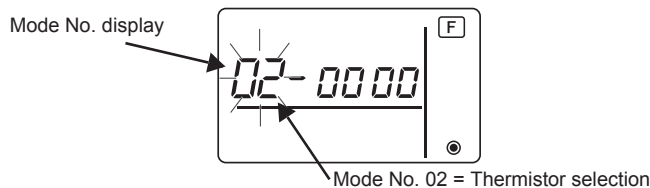
Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

⑥ Mode No. selection

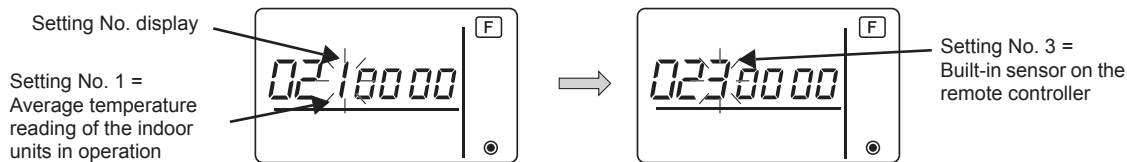
Select the mode No. you want to set with the Ⓑ [TEMP. ▲] and Ⓒ [TEMP. ▼] buttons. (Only the settable mode numbers can be selected.)



⑦ Select the setting contents of the selected mode.

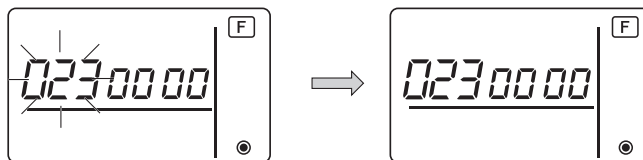
When the Ⓓ [FAN] button is pressed, the current setting No. flashes. Use this to check the currently set contents.

Select the setting No. using the Ⓑ [TEMP. ▲] and Ⓒ [TEMP. ▼] buttons.



⑧ The contents set at steps ③ to ⑦ are registered.

When the Ⓐ [ON/OFF] button is pressed, the mode No. and setting No. flash and registration begins. The flashing mode No. and setting No. change to a steady light and setting ends.



* When “88” flashes at the Mode No. display, communication is probably abnormal.
Make sure there are no noise sources near the transmission line.

⑨ To select more functions, press the Ⓓ [FAN] and repeat steps ③ to ⑧.

⑩ End function selection.

Press and hold down the Ⓒ [TEMP. ▼] and Ⓓ [FAN] buttons at the same time for two seconds or longer.

After a while, the function selection display disappears and the remote controller returns to the air conditioner off display.

* Do not operate the air conditioner from the remote controller for 30 seconds after the end of function selection.

NOTE: When the functions of an indoor unit were changed by function selection after the end of installation, always indicate the set contents by entering check marks or other marks in the appropriate check field of Table 1.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

8 Function Selection for CITY MULTI

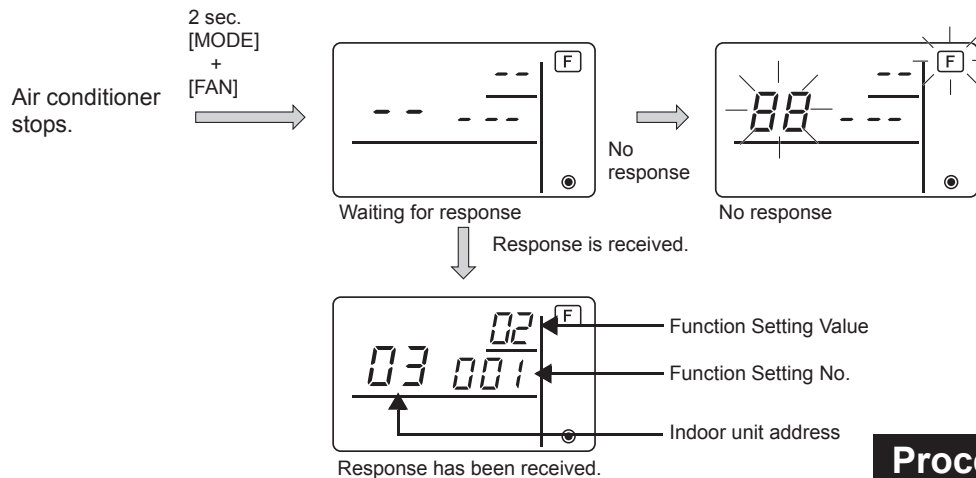
Make this setting only when the function settings need to be changed on CITY MULTI.
(This setting cannot be made with M-Series and P-Series Control System. To make settings for M-Series and P-Series, refer to section (8 | Function Selection for M-Series and P-Series).)

Set the functions of each indoor unit from the remote controller, as required.
Refer to the Indoor unit Installation Manual for factory settings, mode No., and the setting No. of the indoor units.

NOTE: Be sure to write down any settings that you change performing the following steps.

■ Setting the indoor unit Setting Value

- ① Press the [ON/OFF] button to stop the operation of the air conditioner.
- ② Press and hold down the [MODE] and the [FAN] buttons at the same time for two seconds or longer to check the current settings.
- ③ When the response has been received from the indoor unit, the current settings appear. If there is no response, nothing appears.



Procedure A

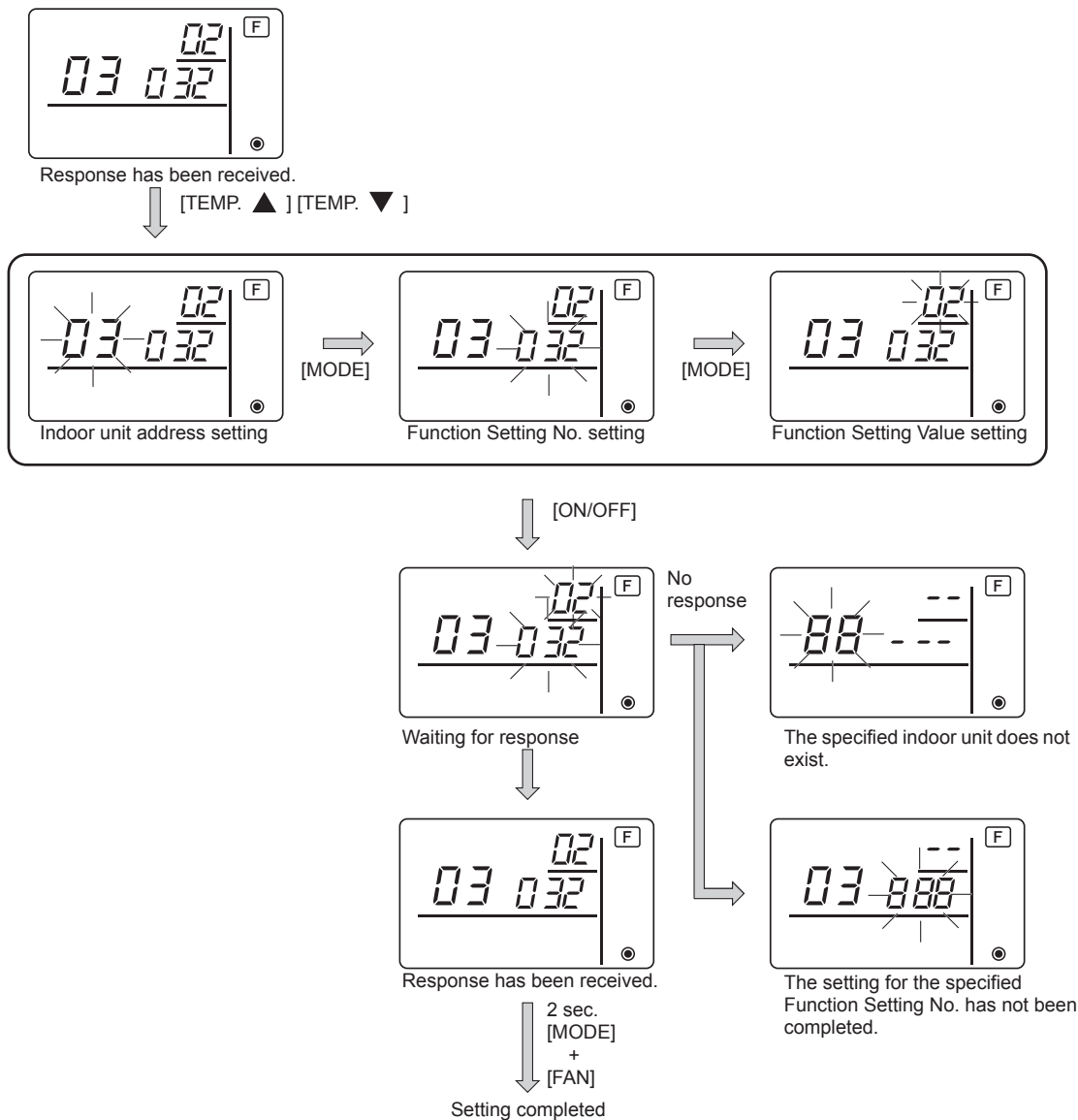
- ④ Press the [TEMP. ▲] and the [TEMP. ▼] buttons to set the address of the indoor unit whose settings to be made. (0 to 50)
- ⑤ Press the [MODE] button, then press the [TEMP. ▲] and the [TEMP. ▼] buttons to set the Function Setting No. to be set. (000 to 255)
- ⑥ Press the [MODE] button, then press the [TEMP. ▲] and the [TEMP. ▼] buttons to set the Function Setting Value. to be set (00 to 15)
- ⑦ Press the [ON/OFF] button to set the settings.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- ⑧ If the set settings need to be changed, repeat steps ④ to ⑦.

To complete the settings, press the [MODE] and the [FAN] buttons at the same time for two seconds or longer.



■ Checking the indoor unit Function Setting Value

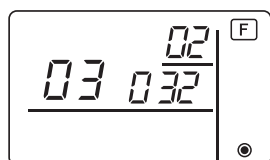
- ① Perform the Procedure A on the previous page.
- ② Press the [TEMP. ▲] and the [TEMP. ▼] buttons to set the address of the indoor unit whose settings to be checked. (0 to 50)
- ③ Press the [MODE] button, then press the [TEMP. ▲] and the [TEMP. ▼] buttons to set the Function Setting No. to be checked. (000 to 255)
- ④ Press the [FAN] button to display the current Function Setting Value.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

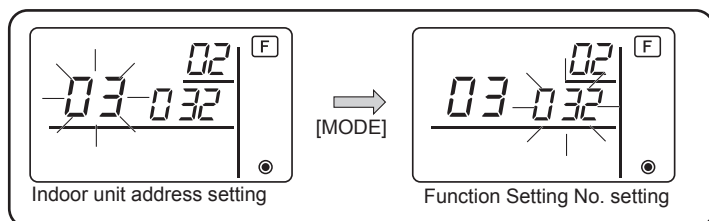
- ⑤ To check the settings, repeat steps ② to ④.

To complete the checking process, press the [MODE] and the [FAN] buttons at the same time for two seconds or longer.

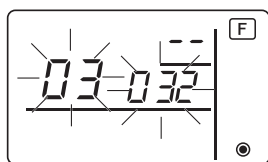


Response has been received.

↓ [TEMP. ▲] [TEMP. ▼]

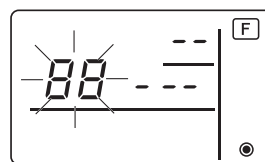


↓ [FAN]



Waiting for response

No response



The specified indoor unit does not exist.

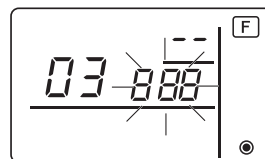
↓ Response is received.

Current setting value →



Response has been received.

No response



The setting for the specified Function Setting No. has not been completed.

9 Self diagnosis

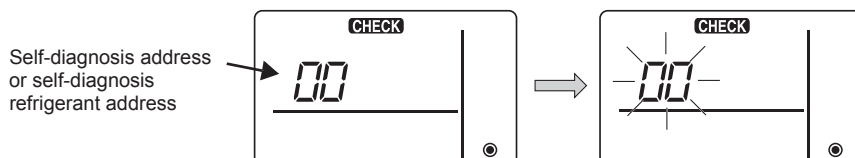
Retrieve the error history of each unit using the Simple MA controller.

- ① Switch to the self-diagnosis mode.

When the (A) [ON/OFF] button and the (C) [TEMP. ▼] button are pressed for 5 seconds or longer, the figure shown below is displayed.

- ② Set the address or refrigerant address No. you want to self-diagnosis.

When the (B) [TEMP. ▲] and (C) [TEMP. ▼] are pressed, the address decreases and increases between 01 and 50 or 00 and 15. Set it to the address No. or refrigerant address No. you want to self-diagnosis.



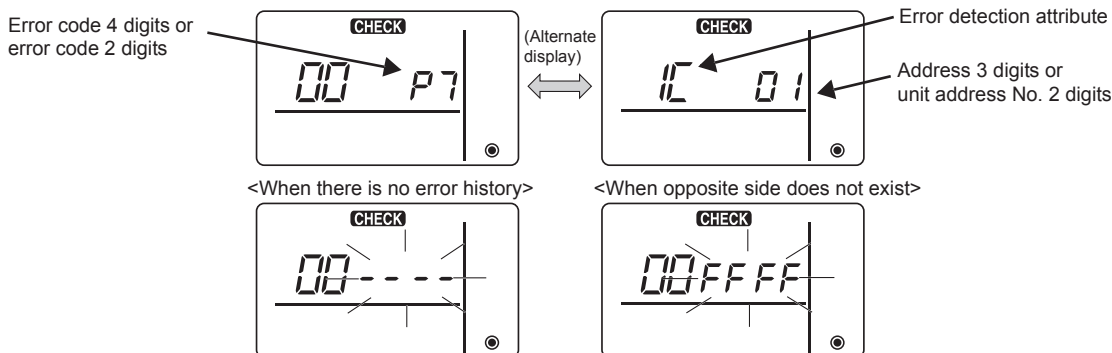
Approximately three seconds after the change operation, the self-diagnosis refrigerant address changes from flashing to a steady light and self-diagnosis begins.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- ③ Self-diagnosis result display <Error history> (For the contents of the error code, refer to the indoor unit installation manual or service handbook.)



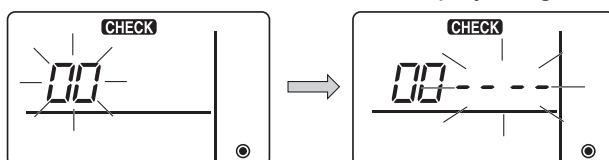
- ④ Error history reset

The error history is displayed in ③ self-diagnosis results display.

When the **(FAN)** button is pressed two times successively within three seconds, the self-diagnosis object address and refrigerant address flash.

When the error history was reset, the display shown below appears.

When error history reset failed, the error contents are displayed again.



- ⑤ Self-diagnosis reset

There are the following two ways of resetting self-diagnosis.

Press the **(ON/OFF)** button and the **(TEMP. ▼)** button simultaneously for 5 seconds or longer. → Resets self-diagnosis and returns to the state before self-diagnosis.

Press the **(ON/OFF)** button. → Self-diagnosis resets and indoor units stop. (When operation is prohibited, this operation is ineffective.)

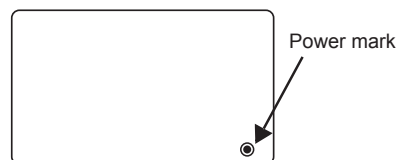
10 Remote Controller Check

When the air conditioner cannot be controlled from the Simple MA controller, use this function to check the remote controller.

- ① First check the power mark.

When normal voltage (DC12V) is not applied to the remote controller, the power mark goes off.

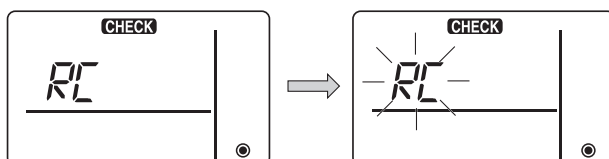
When the power mark is off, check the remote controller wiring and the indoor unit.



- ② Switch to the remote controller check mode.

When the **(TEMP. ▲)** button and **(FAN)** button are pressed simultaneously for 5 seconds or longer, the figure shown below is displayed.

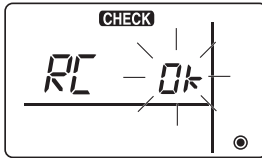
When the **(ON/OFF)** button is pressed, remote controller check begins.



1. CONTROLS

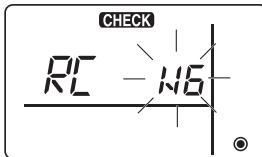
1-3. Simple MA Remote Controller [PAC-YT53CRAU], cont.

- ③ Remote controller check result
<When remote controller is normal>



Since there is no problem at the remote controller, check for other causes.

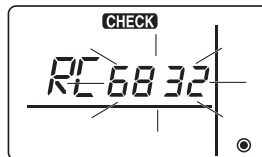
<When remote controller is faulty>



(Error display 1) "NG" flashes → Remote controller send/receive circuit abnormal

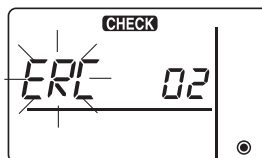
Remote controller switching is necessary.

When the problem is other than the checked remote controller



(Error display 2) "E3" "6833" "6832" flash → Cannot send

There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.



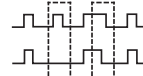
(Error display 3) "ERC" and data error count are displayed → Data error generation

"Data error count" is the difference between the number of bits of remote controller send data and the number of bits actually sent to the transmission line. In this case, the send data was disturbed by the noise, etc. Check the transmission line.



When data error count is 02

Remote controller send data
Send data on transmission line



- ④ Remote controller check reset
When the ② [TEMP. ▲] button and ④ [FAN] button are pressed simultaneously for 5 seconds or longer, remote controller diagnosis is reset and the [HO] and run lamp flash and 30 seconds later the remote controller returns to its state before diagnosis.

1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

How to Use / How to Install

1. Before Installation

1.1. How to Use the SYSTEM CONTROL Interface.

■ Functions

Connecting with M-NET system (Fig. 2-1)

The room air conditioner can be managed centralized or individually by the system controller using M-NET communications control.

Used as wired remote controller (Fig. 2-2)

MA remote controller can be used as a wired remote controller.

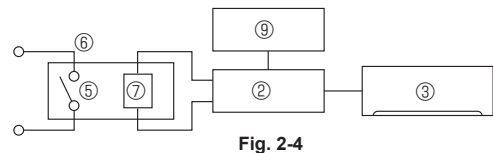
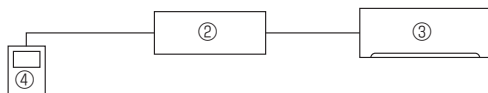
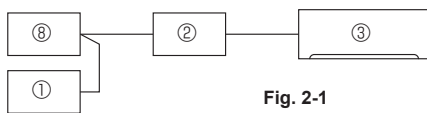
Remote control (Fig. 2-3)

Contact signals enable inputting of ON/OFF, prohibiting/allowing operation, and heating/cooling.

Status indicator output (Fig. 2-4)

Signals of ON/OFF, error/normal, heater ON/OFF, and humidifier ON/OFF are output.

■ Sample System Configuration



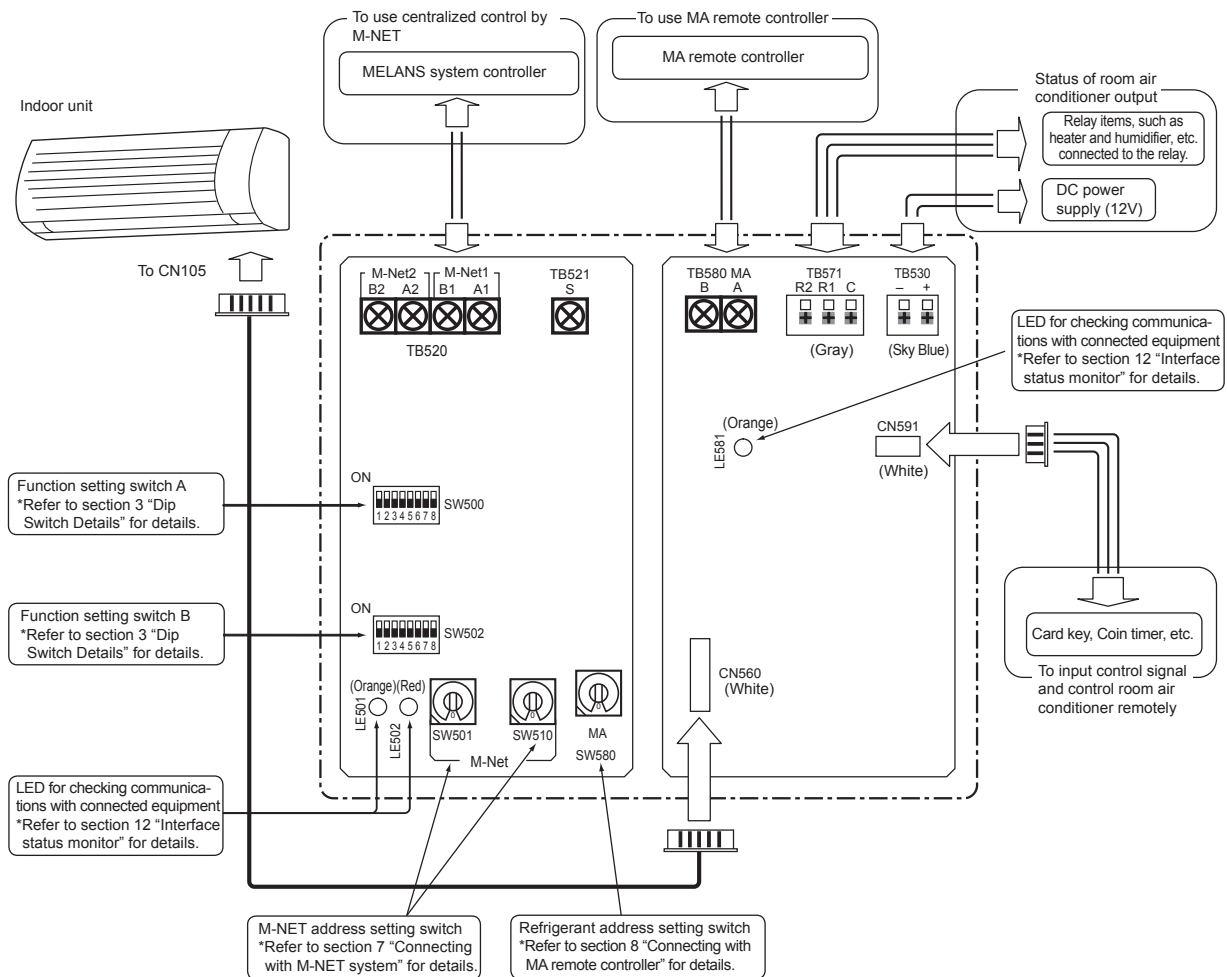
- ① System controller, etc
- ② SYSTEM CONTROL Interface
- ③ Indoor Unit
- ④ MA remote controller
- ⑤ Contact point

- ⑥ Relay
- ⑦ Coil
- ⑧ Power supply unit for M-NET transmission line
- ⑨ External power supply for DC12V

1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

2. Function and electric wiring of interface each part



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

3. Dip Switch Details

Functions	SW No.	Functions	OFF (Factory setting)	ON
Function setting Switch A	SW500-1	Not in use	— (Set to OFF)	—
	SW500-2	Turn on/off with power	Not available	Available
	SW500-3	Room temperature detector	Indoor unit	MA remote controller
	SW500-4	Output setting	Switching output of ON/OFF, error/normal, heater ON/OFF, and humidifier ON/OFF	
	SW500-5			
	SW500-6	Input setting	Input of ON/OFF and prohibiting/allowing operation	Input of ON/OFF and heating/cooling
	SW500-7	Interface status display switching	LE501: Confirmation of communications with indoor unit LE502: Confirmation of communications with M-NET LE581: Confirmation of supplying power to MA remote controller	LE501: Confirmation of communications with MA remote controller LE502: Extinguished LE581: Confirmation of supplying power to MA remote controller
	SW500-8	Not in use	— (Set to OFF)	—
Function setting Switch B	SW502-1	Output switching	DC12V output during operation or error, etc	DC12V output during stop or operating normally, etc
	SW502-2	Input mode	Level contact	Pulse contact
	SW502-3	Setting of range of prohibited operations by contact point	M-NET system controller ON/OFF operation allowed	M-NET system controller ON/OFF operation prohibited
	SW502-4	Input switching	Input mode when level contact	Running or operating machine is prohibited, etc by short circuiting the level contact
			Input mode when pulse contact	ON/OFF is inverted by pressing pulse contact
	SW502-5	Behavior when operation by contact point is prohibited	State before prohibition of operation by contact point	Air conditioner running stop
	SW502-6	Behavior when prohibition of operation by contact point is canceled	State before canceling prohibition of operation by contact point	Running air conditioner
	SW502-7	Not in use	— (Set to OFF)	—
	SW502-8	Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)	No mixture	Mixed

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

4. Parts

Accessory											
①	Interface unit [with connecting cable (5-core)]		1	⑤	Mounting cord clamps (medium)		4	⑨	Fasteners (for joining the wires)		5
②	Screws for mounting 3.5×12		2	⑥	Mounting cord clamps (large)		3	⑩	Lead wires (3-core)		1
③	Cushioning material (with adhesive)		1	⑦	Screws for mounting 3.5 × 12 ④, ⑤ and ⑥ (Use when attaching the clamps to the interface unit)		4	⑪	Screws for mounting 4 × 10 ⑤ (Use when fixing near the room air conditioner)		1
④	Mounting cord clamps (small)		2	⑧	Cable ties		9	⑫	Screws for mounting 4 × 16 ⑤ (Use when joining room air conditioner parts)		1

Item to be Prepare at the Installation Site	
Ⓐ	M-NET communication cable
Ⓑ	Remote control cable (for connecting the ME Remote Controller)
Ⓒ	Remote control cable (for connecting the MA Remote Controller)
Ⓓ	Signal cable (also used as extension cable)
Ⓔ	Related parts sold separately

2-core shield cables CVVS/CPEVS, 1.25mm² [AWG16] or more.*
 • When cross-wired by same terminal box, 1.25mm² [AWG16] is used.
 CPEVS: PE insulated PVC jacketed shielded communication cable
 CVVS: PVC insulated PVC jacketed shielded control cable
 PE: Polyethylene PVC: Polyvinyl chloride

2-core shield cables CVVS/CPEVS*
 • When the distance from the interface unit ① is less than 10m: 0.3mm² [33ft: AWG22] or more.*
 • When the distance from the interface unit ① is not less than 10m: 1.25mm² [33ft: AWG16] or more.*

2-core sheath cable 0.3mm² to 1.25mm²* [AWG22 to 16]*

Sheath cable 0.3mm² [AWG22] or more.*
 • When remote control: The extension cable of Lead wires ⑩
 • When status signal output: The cable for relay connection, or cable for DC power

Prepare the necessary number of parts sold separately as needed for your system.

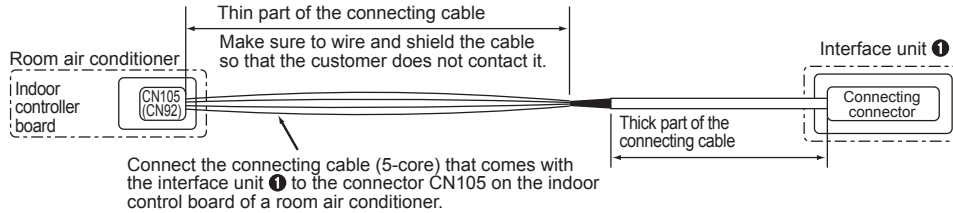
* Please use cable with supplementary insulation.
 Use wires which have insulation more than the MAX voltage.
 MAX voltage is defined according to the law of the country where the interface is used.

1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

5. Connecting the SYSTEM CONTROL Interface to a room air conditioner

- Connect the interface unit ❶ and the indoor control board of a room air conditioner using the connecting cable (5-core) that comes with the interface unit ❶.



Warning

Securely fix the connecting cable in the designated place. Failure to do so may cause an electric shock, fire, or malfunction.

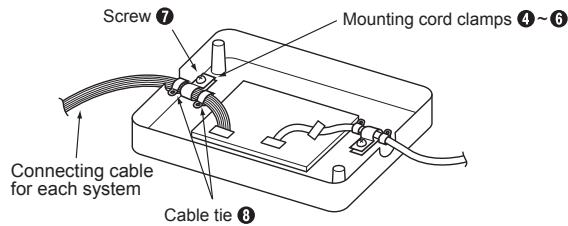
- The connecting cable (5-core) connected to a room air conditioner should be wired according to the room air conditioner installation manual.

Notes

- Extending or shortening the connecting cable (5-core) that comes out of the interface unit ❶ cause it to malfunction. Also, keep the connecting cable (5-core) as far as possible away from the electrical wires and ground wire. Do not bundle them together.
- To prevent the board from being damaged by static electricity, always remove static electricity before starting work.

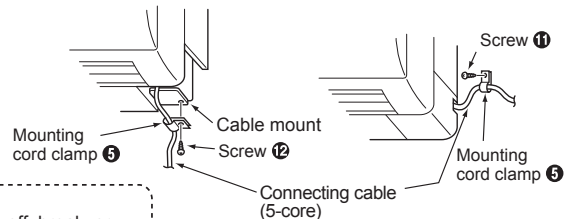
6. Connecting the SYSTEM CONTROL Interface with each system (For details on each system, see the relevant instruction manual.)

- Screw the mounting cord clamp ❹~❻ according to the thickness of the connecting cable used for each system. Fasten the cable tie ❸ as shown in the figure to prevent undesirable movement of the connecting cable.



- The connecting cable (5-core) connected to a room air conditioner should be mounted at the room air conditioner or its vicinity.

If the screw for the cable mount of the room air conditioner cannot be used, replace with the screw for mounting ❷.



Notes

- If the connecting cable is not securely mounted, the connector may come off, break, or malfunction.
- The dip switch (SW500, SW502) and the rotary switch (SW501, SW510, SW580) on the interface unit ❶ do not operate if they are not set correctly.

- Conduct the settings of the interface unit ❶ dip switch (SW500, SW502) and rotary switch (SW501, SW510, SW580) before turning on the power.

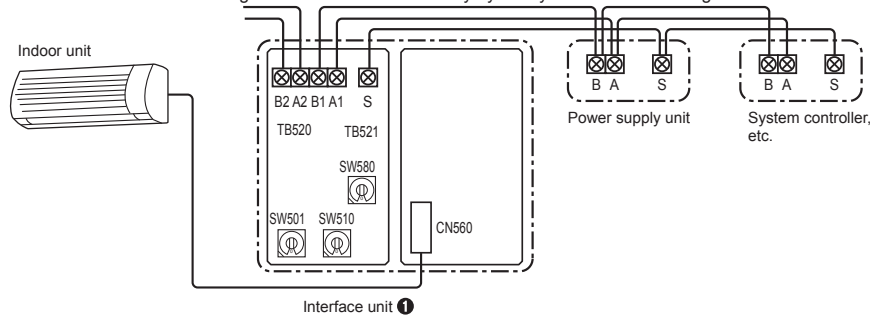
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

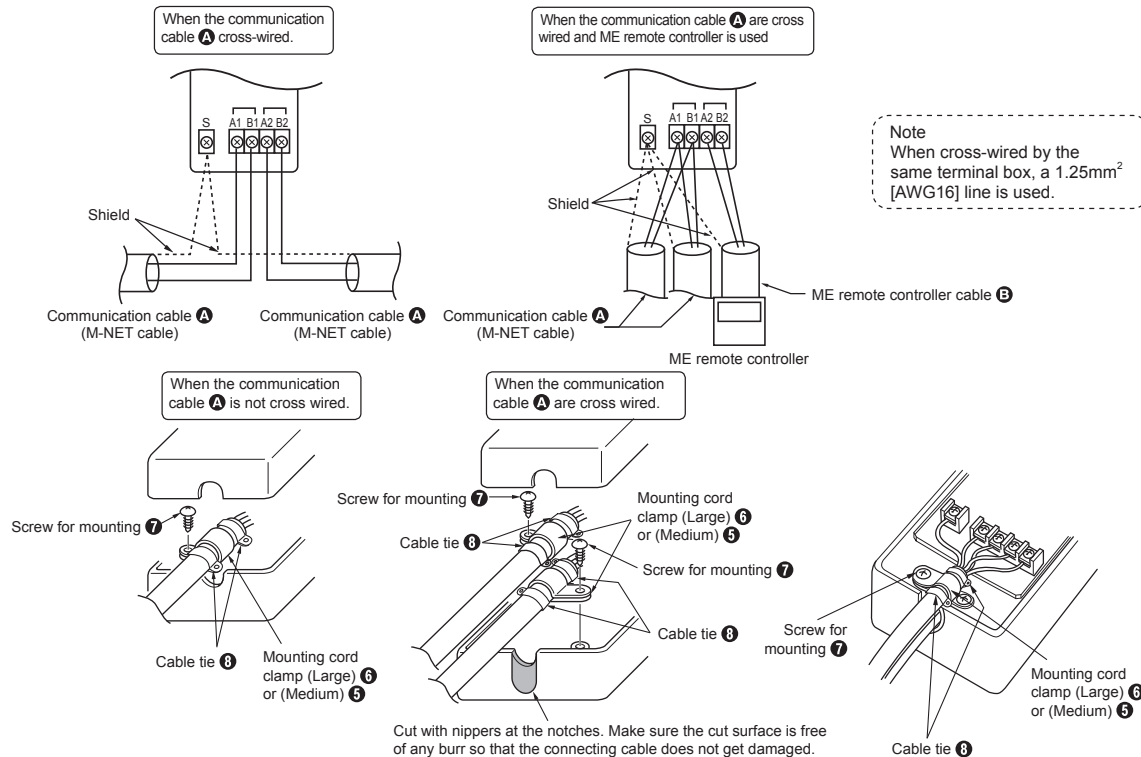
7. Connecting with M-NET system

■ Connecting the SYSTEM CONTROL Interface to M-NET cable

The room air conditioner can be managed centralized or individually by the system controller using M-NET communications control.



- To connect with the system controller and ME remote controller, connect the M-NET communication cable **A** or ME remote control cable **B** with TB520. (It is unpolarized.) Connect 2 core communication cable with A1/B1 or A2/B2. (There will be no problems with connecting to either one.)
- Cross the shield portion of each connecting cable using the S terminal only when cross wiring the communication cables **A**.
- After wiring is complete, mount securely with any of mounting cord clamp **4** to **6**, and fix with cable tie **3** as shown in the figure.



* To prevent penetration by condensation, insects, etc., seal the opening well with putty.

Notes

- Electrical work should be performed in accordance with the Technical Standards Regarding Electrical Equipment and the Interior Wiring Standards.
- Connecting wires and remote control cables should be located as far away from other electrical wiring as possible. Placing them too closely together could cause a malfunction.
- To connect with the M-NET system and MA remote controller, connection is limited to only one unit of the MA remote controller.
- Do not put in the same group as City Multi or P series.
- Test run cannot be conducted from the ME remote controller or the system controller.

■ Setting when M-NET is connected

SW No.	Address	Comments
SW510 SW501	M-NET address 10s position 1s position  	SW510 sets the 10s position of the address and SW501 sets the 1s position of the address. (Address setting can be set from 01 ~ 50.) For example, to set a unit to the address 25, set SW510 to "2" and SW501 to "5." * The figure to the left is for address 1.
SW580	Refrigerant address 	When the MA remote controller is not used, set the refrigerant address (SW580) to "1."

Due to continuing improvement, above specification may be subject to change without notice.

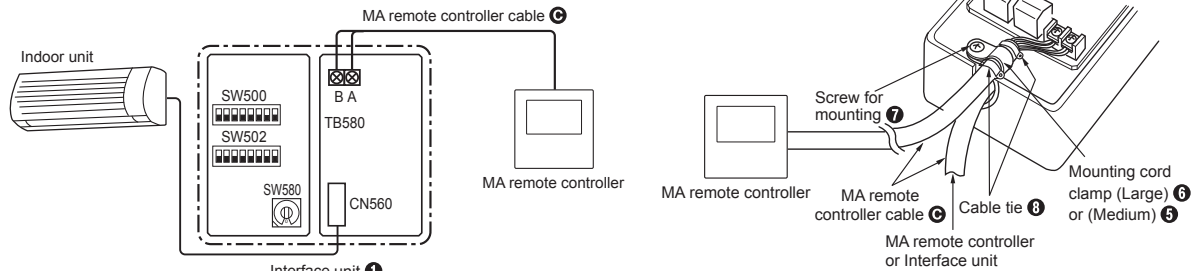
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

8. Connecting with MA remote controller

■ Connecting the SYSTEM CONTROL Interface to MA remote controller

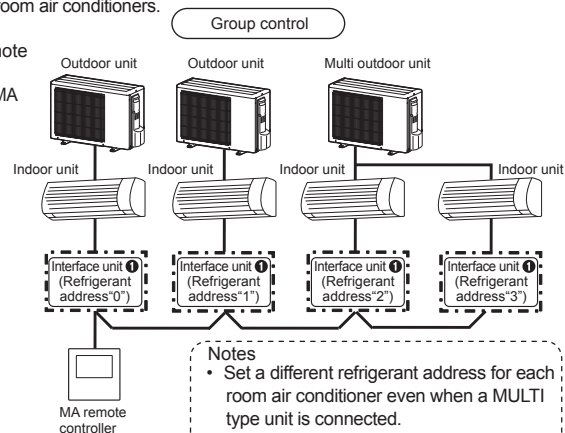
A room air conditioner can be operated with the wired remote control.



- To connect with the MA remote controller, connect the MA remote control cable (C) with TB580. (It is unpolarized.)
- When more than one unit of room air conditioner is operated in a group, make a cross wire connection at TB580 with the MA remote control cable (C).
- The MA remote controller can carry out simultaneous control of up to 16 sets of room air conditioners.
- Up to two MA controllers can be connected in one group.
- Wiring length from the interface at the refrigerant address "0" to the MA remote controller should be less than 10m [33ft].
- To operate the room air conditioner in a group, make the total length of wiring for the MA remote controller less than 50m [164ft].

Notes

- Be sure to set the "Auto Heating/Cooling Display Setting" of the MA remote controller OFF before use.
- * For details on the "Auto Heating/Cooling Display Setting", refer to the MA remote controller instruction manual.
- * When the "Auto Heating/Cooling Display Setting" is ON, the remote controller display may differ from the actual operating status of the unit.
- A test run cannot be initiated using the test run switch on the MA remote controller.
- Group control with CITY MULTI is unable.



Notes

- Set a different refrigerant address for each room air conditioner even when a MULTI type unit is connected.
- When connected to the M-NET system and group control is executed using the MA remote controller, the group setting needs to be set on the M-NET system controller side.

■ Setting when MA remote controller is connected

● Setup of a refrigerant address

SW No.	Refrigerant address	Comments
SW580	Address can be set from 0 to 15 	• Set the refrigerant address of the unit that supplies electric power to the MA remote controller to "0." • When carrying out group operation of two or more room air conditioners, set different refrigerant addresses within the group. *A to F of the rotary switch correspond to refrigerant addresses 10 to 15.

● Setup of Room temperature detector position

Functions	SW No.	Operating details
Room temperature detector position	SW500 	SW500-3: OFF • Temperature detected by suction temperature sensor of the unit is made to be room temperature. SW500-3: ON • Temperature detected by temperature sensor of the remote controller is made to be room temperature.

● Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)

Functions	SW No.	Operating details
P series is mixed in the same group	SW502 	SW502-8: OFF • Set to OFF when P series is not mixed in the same group. SW502-8: ON • Set to ON when P series is mixed in the same group.

Due to continuing improvement, above specification may be subject to change without notice.

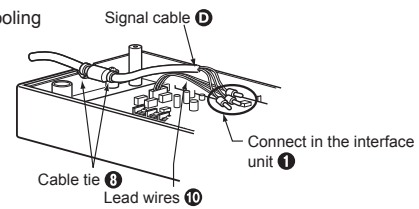
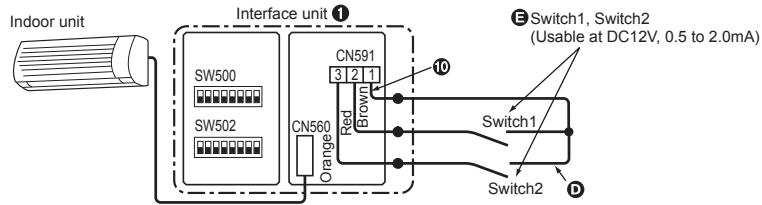
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

9. Remote Control

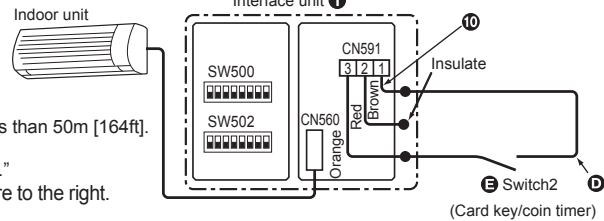
■ Connecting the SYSTEM CONTROL Interface

You can turn room air conditioner on/off, prohibit/allow manual operations, or input of heating/cooling with the ON/OFF switch.



- Connect CN591 with Switch1 and Switch2 as shown in figure above.
- Connect the supplied lead wires (3-core) ⑩ to the connector CN591 on the interface unit.
- Connect the supplied lead wires (3-core) ⑩ to the connecting cable ① in the interface ① as shown in the figure on the right side.
- Wiring length from the interface to the Switch1 and Switch2 should be less than 50m [164ft].
- Procure and wire locally the remote control part including the switches.
- For each connection pattern, refer to "Setting when using remote control."

*When using a Card key/Coin timer, make connections shown in the figure to the right.



1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

■ Setting when using remote control (Select one between No.1 through 5 and set.)

*Set No.1, No.6, and No.7 when using the card key/coin timer.

No.	Functions	SW No.	How to use	Operating details
1	ON/OFF Manual operation prohibited/allowed (Level Contact)		Switch1: ON/OFF Switch2: Manual operation prohibited/allowed	- Unit is turned on when Switch1 has a short-circuit, and off when open. (Regardless of the Switch1 operation condition, the latest operation is prioritized.) - When Switch2 has a short-circuit, manual operation is prohibited,* and when open, manual operation is allowed. - When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. *When manual operation is prohibited, ON/OFF operation of the wireless remote controller, the MA remote controller, and the ME remote controller is prohibited. (Operation from Switch1 and M-NET system controller is possible.)
2	ON/OFF Manual operation prohibited/allowed (Pulse Contact)		Switch1: ON/OFF Switch2: Manual operation prohibited/allowed	- Every time Switch1 is pressed, ON/OFF is switched over. (Regardless of the Switch1 operation condition, the latest operation is prioritized.) - Every time Switch2 is pressed, the manual operation prohibited*/the manual operation allowed is switched over. *When the manual operation is prohibited, ON/OFF operation of the wireless remote controller, the MA remote controller, and the ME remote controller is prohibited. (Operation from Switch1 and M-NET system controller is possible.)
3	ON/OFF Remote operation/ Manual operation (Level Contact)		Switch1: ON/OFF Switch2: Remote operation/ Manual operation	- Unit is turned on when Switch1 has a short-circuit, and off when open. - When Switch2 has a short-circuit, only Switch1 is enabled (remote operation)*, when open, only Switch1 is disabled (manual operation). - When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. *In remote operation, ON/OFF operation from the wireless remote controller, the MA remote controller, the ME remote controller, and the M-NET system controller cannot be used.
4	ON, OFF (Pulse Contact)		Switch1: ON Switch2: OFF	- Unit is turned on no matter how many times Switch1 is pressed. - Unit is turned off no matter how many times Switch2 is pressed. And regardless of the Switch1, Switch2 operation condition, the latest operation is prioritized. - ON/OFF operation from the wireless remote controller, the ME remote controller, the MA remote controller, and the M-NET system controller is enabled.
5	Heating/cooling input (Level Contact)		Switch1: ON/OFF Switch2: Heating/Cooling	- Unit is turned on when Switch1 has a short circuit, and off when open. - Heating runs when Switch2 has a short circuit, and cooling runs when open. - When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. * As for ON/OFF operation and heating/cooling operation from the wireless remote controller, MA remote controller, ME remote controller, system controller, Switch1, and Switch2, the latest operation is prioritized.

■ Setting operation (Valid only for No.1 and No.2. The following 2 functions can be used at the same time.)

No.	Functions	SW No.	How to use	Operating details
6	Behavior when operation is prohibited.		Operational status of room air conditioner when manual operation is prohibited can be set.	SW502-5: OFF • When manual operation is prohibited by Switch2, operational status is maintained as that before manual operation is prohibited. SW502-5: ON • When manual operation is prohibited by Switch2, the room air conditioner turns off.
7	Behavior when prohibition of operation is canceled.		Operational status of room air conditioner when prohibition of manual operation is canceled can be set.	SW502-6: OFF • When prohibition of manual operation is canceled by Switch2, operational status is maintained as that before cancelation. SW502-6: ON • When prohibition of manual operation is canceled by Switch2, the room air conditioner turns on.

■ Setting operation (Valid only for No.1 and No.2. The following 2 functions can be used at the same time.)

No.	Functions	SW No.	How to use	Operating details
6	Behavior when operation is prohibited.		Operational status of room air conditioner when manual operation is prohibited can be set.	SW502-5: OFF • When manual operation is prohibited by Switch2, operational status is maintained as that before manual operation is prohibited. SW502-5: ON • When manual operation is prohibited by Switch2, the room air conditioner turns off.
7	Behavior when prohibition of operation is canceled.		Operational status of room air conditioner when prohibition of manual operation is canceled can be set.	SW502-6: OFF • When prohibition of manual operation is canceled by Switch2, operational status is maintained as that before cancelation. SW502-6: ON • When prohibition of manual operation is canceled by Switch2, the room air conditioner turns on.

Due to continuing improvement, above specification may be subject to change without notice.

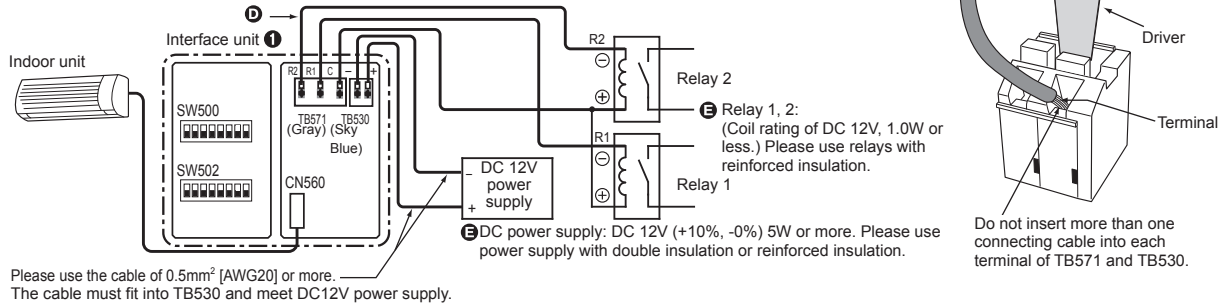
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

10. Setting Signal Output

■ Connecting the SYSTEM CONTROL Interface

Each relay can be turned ON/OFF by synchronizing with the room air conditioner's ON/OFF, error/normal, Heater ON/Heater OFF, and Humidifier ON/Humidifier OFF.



Notes

- Connecting terminal TB530 for power supply is polarized, so confirm proper polarity of the terminals before connecting.
- Do not connect DC12V from the DC power supply to TB571.
- Confirm polarity when using a diode built-in relay. C of TB571 is electropositive potential $\oplus$, and R1 and R2 are negative potential $\ominus$.

- For TB571 and TB530, insert wiring after inserting the flathead screwdriver into the terminal.
- Appropriate electric wire for TB571 and TB530 is as follows. Stranded wire: 0.3mm² to 1.25mm² [AWG22 to 16] Solid wire: ϕ 0.4mm to ϕ 1.2mm [ϕ 1/64in. to ϕ 3/64in.]
- Peeling dimension of the electric wire for TB571 and TB530 is 7mm to 10mm [9/32in. to 25/64in.].
- Wiring length from the interface to Relay 1 and Relay 2 should be less than 50m [164ft].

■ Setting when using Status Signal Output

Functions	SW No.	Operating details
ON/OFF, Error/ Normal Output	SW500 SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • Relay 2 is on when room air conditioner is in error, and off when room air conditioner is operating normally. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
ON/OFF, Heater Control Output	SW500 SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • When the air conditioner runs in the heating (automatic heating) mode and room temperature becomes the set temperature - 4.5 °F (2.5 °C) or lower, the Relay 2 (heater) turns on. When the air conditioner runs in a mode other than the heating (automatic heating) or it is OFF, or when room temperature becomes the set temperature or higher, the Relay 2 (heater) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
ON/OFF, Humidifier Control Output	SW500 SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • When the air conditioner runs in the heating (automatic heating) mode, Relay 2 (humidifier) turns on. When the air conditioner runs in a mode other than heating (automatic heating) or it is OFF, Relay 2 (humidifier) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
Heater Control, Humidifier Control Output	SW500 SW502 	SW502-1: OFF • When the air conditioner runs in the heating (automatic heating) mode and room temperature becomes the set temperature - 4.5 °F (2.5 °C) or lower, Relay 1 (heater) turns on. When the air conditioner runs in a mode other than the heating (automatic heating) or it is OFF, or when room temperature becomes the set temperature or higher, Relay 1 (heater) turns off. • When the air conditioner runs in the heating (automatic heating) mode, Relay 2 (humidifier) turns on. When the air conditioner runs in a mode other than heating (automatic heating) or OFF, Relay 2 (humidifier) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.

Due to continuing improvement, above specification may be subject to change without notice.

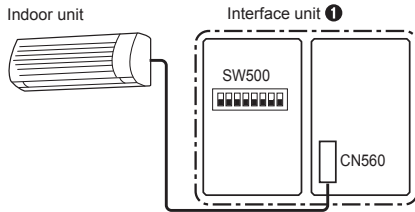
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

11. Turn on/off with power

The room air conditioner turns on when power is supplied.

- When using for the first time, set to the operational status of your choice with the remote controller and leave the power off for 1 minute.
- * When not used for a long period of time, you should set to the operational status of your choice again with the remote controller.



Notes

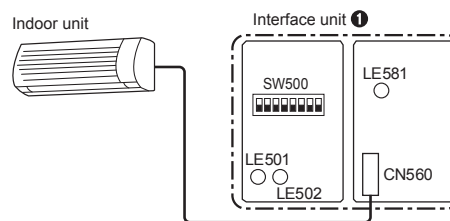
- The turn on/off with power function cannot be used when connected to multiple outdoor units.
- When starting two or more room air conditioners by using the turn on/off with power function, make the system so they do not recover simultaneously. (To avoid inrush current, start sequentially.)

Setting when using Turn on/off with power

Functions	SW No.	Operating details
Turn on/off with power		SW500-2: OFF • After the power is supplied, the room air conditioner resumes working in the previous running condition. When AUTO RESTART FUNCTION is not set to the room air conditioner, it remains off. SW500-2: ON • The room air conditioner turns on when power is supplied.

12. Interface status monitor

You can check the status of the interface unit by the LED lamp on the interface unit ① board.



- Use the table below to check communications. If communications cannot be carried out normally, check that the relevant communications line is not disconnected from the connector or terminal box.

Functions	SW No.	Operating details
Interface status monitor		SW500-7: OFF • LE501 (Orange): When blinking at an interval of about 1 second, the Interface unit is communicating normally with the room air conditioner. When the lamp is off, the Interface unit is not communicating normally with the room air conditioner. • LE502 (Red): When blinking at an interval of about 1 minute, the Interface unit is communicating normally with the M-NET controller. When the lamp is off, the Interface unit is not communicating normally with the M-NET controller. SW500-7: ON • LE501 (Orange): When blinking at an interval of about 10 second, the Interface unit is communicating normally with the MA remote controller. When the lamp is off, the Interface unit is not communicating normally with the MA remote controller. • LE502 (Red): Extinguished * LE581 (Orange) displays the following status irrespective whether SW500-7 is on or off. • When lit, power is supplied to the MA remote controller from the Interface unit ①. When extinguished, power is not supplied.

Due to continuing improvement, above specification may be subject to change without notice.

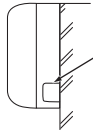
1. CONTROLS

1-4. System Control Interface [MAC-333IF-E], cont.

13. Mounting the SYSTEM CONTROL Interface Unit

Notes

- The Interface unit ❶ should be placed in a location where the connecting cable (5-core) from the interface unit ❶ can reach an indoor unit.
- The device will not function properly the connecting cable is extended, so the connecting cable (5-core) should not be extended.
- Mount the interface unit ❶ securely to a pillar or wall using 2 or more screws ❷.



Attach the connecting cable (5-core) of the interface unit ❶ here. Store extra connecting cable (5-core) in the ductwork space behind the air conditioner.

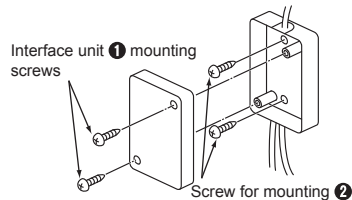
If there is any slack in the connecting cable (5-core), use a fastener ❸ to keep it in place.

■ When Mounting Directly to a Wall

Mount the interface unit ❶ case to the wall using the mounting screws ❷.

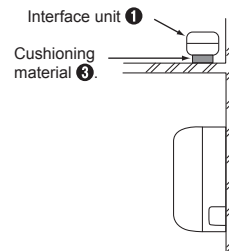


When the interface unit ❶ is mounted above an indoor unit, it should be positioned 40 mm [1-9/16in.] or more away from the unit to ensure that ceiling grills can be removed.



■ When mounting the interface unit inside a ceiling

When mounting the interface unit ❶ inside a ceiling or wall, install an access door to facilitate maintenance.



* When mounting the interface unit ❶ using a cushioning material ❸, be sure to mount it in a location where it will not fall.

14. Notes Regarding Use

The following control information should be thoroughly explained and provided to the users of this device. (Please provide these instructions to the user once the installation is complete.)

This Interface unit ❶ operates room air conditioners using the controls of a City-Multi or P series, but there are several limitations imposed as a result of the functional differences between room air conditioners and packaged air conditioners.

1. When operating the system using a System Controller, MA Remote Controller, or ME Remote Controller these operations will not appear on the display of the wireless remote controller.
2. When original dehumidification mode is set with the remote controller attached to the room air conditioner, "Dry" is displayed because there is no mode corresponding to dehumidification on the MA remote controller, ME remote controller, and the system controller.
3. Because the temperature range of the room air conditioners is broader than a System Controller, MA Remote Controller, or ME Remote Controller, when the room air conditioners is set to lower than 17°C (63°F) or higher than 30°C (87°F), the temperature display on the a System Controller, MA Remote Controller, or ME Remote Controller will show the minimum or maximum temperature that can be set. (For example, even if the room air conditioner is set to cool a room to 16°C (61°F), the display on a System Controller, MA Remote controller, or ME Remote Controller may read "17°C" (63°F)).
4. Timer operations should be set using only the remote controller that came with the room air conditioners or the a System Controller, MA Remote Controller, or ME Remote Controller. If both are used to set the timer to the same time, the timer will not function properly.
5. When "Manual operation prohibited" (ON/OFF, setting temperature, operation mode) is set with the system controller, the corresponding operation by the remote controller attached to the room air conditioner is not accepted, but allowed operation is reflected. A beep sounds during operation to confirm reception.
6. A part of functions including the operation of horizontal air blow direction cannot be used from the ME remote controller, the system controller, and the MA remote controller.

15. Specifications

Indoor unit side	Input voltage	12V $\overline{\text{---}}$
	Power consumption	1.8W
	Input current	0.15A
Power supply unit side	Input voltage	12V $\overline{\text{---}}$
	Power consumption	4.8W
	Input current	0.4A

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E]

Photo



Descriptions

Allows for a Mitsubishi Electric indoor unit to communicate with to the kumo cloud™ app and web.

Applicable Models

- | | |
|------------------------------|-----------------------------|
| ■ MSZ-FH06/09/12/15NA | ■ SLZ-KA09/12/15NA |
| ■ MSZ-FH18NA2 | ■ SEZ-KD09/12/15/18NA4 |
| ■ MSZ-EF09/12/15/18NAW(B)(S) | ■ MVZ-A09/12/15/18/24AA4 |
| ■ MSZ-GL06/09/12/15/18/24NA | ■ PKA-A12/18HA6 |
| ■ MSZ-D30/36NA | ■ PKA-A24/30/36KA6 |
| ■ MSY-GL09/12/15/18/24NA | ■ PCA-A24/30/36/42KA6 |
| ■ MSY-D30/36NA | ■ PLA-A12/18/24/30/36/42BA6 |
| | ■ PEA-A12/18AA6 |
| | ■ PEAD-A24/30/36/42AA5 |
| | ■ PVA-A30/36/42AA4 |

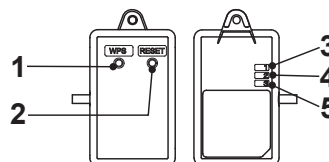
Specifications

Input Voltage	DC12.7V (from indoor unit)
Power consumption	MAX 2W
Size W×H×D (mm,inch)	89×48.6×19.2, 3.5×1.9×0.8
Weight	105g, 3.7oz (including cable)
RF channel	1ch ~ 11ch
Radio protocol	IEEE 802.11b/g/n (20)
Encryption	AES
Authentication	PSK

Components

①	Interface unit [with connecting cable (5-core)]		1	④	Mounting cord clamp		1
②	Screw for mounting 3.5×16		1	⑤	Fastener (for bundling the wires)		1
③	Screw for mounting 4×16		1				

No	Item	Description
1	WPS switch	It activates WPS.
2	RESET switch	It resets the system and ALL settings.
3	LED1 (Green)	It shows the wireless communication state.
4	LED2 (Orange)	It shows the PAC-WHS01WF-E state.
5	LED3 (Green)	It shows the local communication state.



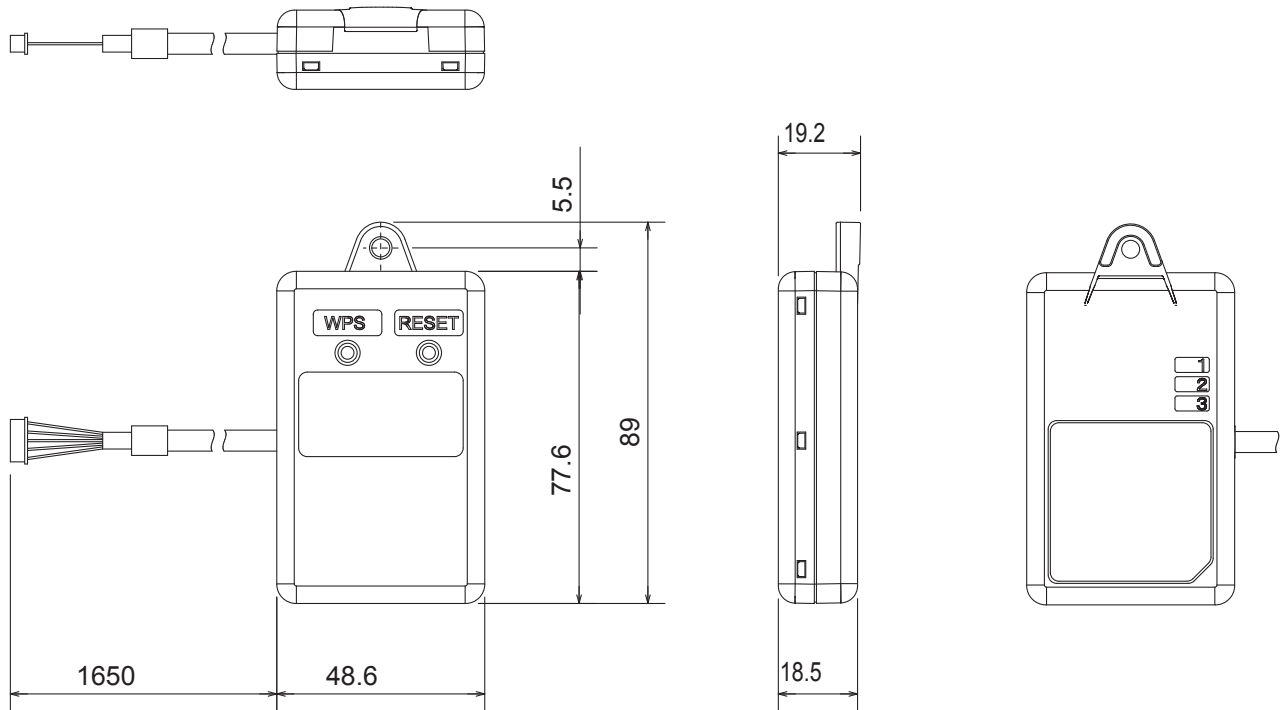
Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

Dimensions

Unit : mm



Mitsubishi Electric's Wi-Fi Interface is designed for communication to Mitsubishi Electric's Wi-Fi service.

Third party Wi-Fi interface cannot connect to Mitsubishi Electric's Wi-Fi service.

Mitsubishi Electric is not responsible for any (i) underperformance of a system or any product; (ii) system or product fault; or (iii) loss or damage to any system or product; which is caused by or arises from connection to and/or use of any third party Wi-Fi interface or any third party Wi-Fi service with Mitsubishi Electric equipment.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

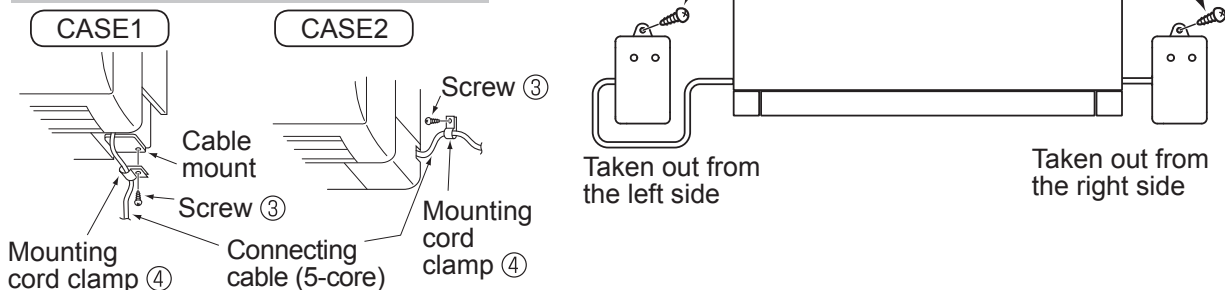
How to Use / How to Install

1. Connecting the Wi-Fi interface

(For details on each system, see the relevant instruction manual.)

- Before dismantling the indoor unit Turn off and verify the power has been disconnected to the Complete air-conditioning system.
- Dismantle the indoor unit in accordance with the service manual and locate CN105 on the Main control PCB
- The connecting cable (5-core) connected to a room air conditioner (CN105) should be mounted at the room air conditioner or its vicinity.
- Cable length outside air conditioner: less than 50 cm, 19.7 inch.

Do not install the Wi-Fi interface inside the indoor unit.



Establishing Wi-Fi connection

After connecting the Wi-Fi interface to the air conditioner and reassembling the system, the Wi-Fi interface must register with the access point or Wi-Fi router (to communicate with the server). For this Wi-Fi interface, the use of WPS-Push is recommended. (Refer to 6.)

- 1) Hold down the WPS switch on the Wi-Fi interface for about 2 seconds to activate WPS-Push. When WPS-Push on the Wi-Fi interface is ready to communicate with the access point, LED 1 blinks at a 0.5-second interval.
- 2) Activate WPS-Push on the access point.
- 3) When WPS-Push is successfully enabled, LED 1 lights up for 5 seconds. If it failed, LED 2 lights up for 5 seconds, so try again from step 1.

Main Causes that WPS failed are as follows.

Communication distance (from the Wi-Fi interface to access point), access point settings (encryption, authentication, limit of connections, etc.)

Refer to the instruction manual for more information.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

2. LED pattern

● :ON ○ :OFF ☼ :Blinking

Description	LED1	LED2	LED3
Power is ON or software downloaded	☼ (0.5-sec interval)	☼ (0.5-sec interval)	☼ (0.5-sec interval)
ALL settings reset	●	●	●
WPS activated (PBC)	☼ (0.5-sec interval)	○	○
WPS activated (PIN)	☼ (0.2-sec interval)	○	○
WPS enabled	● (5-sec)	○	○
WPS failed	○	● (5 sec)	○
Server and access point communication connected, and air conditioner communication failed	☼ (once or twice every 5 sec)	☼ (0.5-sec interval)	○
Server and access point communication connected, and air conditioner communication connected	☼ (once or twice every 5 sec)	○	☼ (once every 5 sec)
Server and access point communication connected, and air conditioner communication starting up	☼ (once or twice every 5 sec)	○	●
Server communication failed, and air conditioner communication connected	○	☼ (0.5-sec interval)	☼ (once every 5 sec)
Server communication or access point communication failed, and air conditioner communication starting up	○	☼ (0.5-sec interval)	●
Server communication or access point communication failed, and air conditioner communication failed	○	☼ (0.5-sec interval)	○
Access point communication failed, and air conditioner communication connected	○	○	☼ (once every 5 sec)
Access point communication failed, and air conditioner communication starting up	○	○	●

3. Switch Function

(1) WPS switch

The WPS switch is used for pairing the Wi-Fi interface with the access point. There are two types of WPS: push button configuration (WPS-Push) and PIN code method (WPS-PIN).

- WPS-Push

Hold down the WPS switch for 2 seconds to start WPS-Push pairing.

When WPS-Push is enabled on the Wi-Fi interface, LED1 starts flashing green (0.5-sec interval) and the pairing can be completed by enabling WPS-Push on the access point.

- WPS-PIN

Hold down the WPS switch for 15 seconds to start WPS-PIN pairing.

When WPS-PIN is enabled on the Wi-Fi interface, LED1 starts flashing green (0.2-sec interval) and the pairing can be completed by enabling WPS-PIN on the access point.

Before using WPS-PIN, the PIN code of the Wi-Fi interface needs to be set on the access point.

This product is only compatible with the access point that supports WPS.

(2) RESET switch

- Hold down the RESET switch for 2 seconds to reboot the system.

- Hold down the RESET switch for 15 seconds to initialize the Wi-Fi interface to the factory default.

When the Wi-Fi interface is reset to the factory default, ALL the configuration information will be lost. Take great care in implementing this operation.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

Photo



Descriptions

Allows a HVAC Thermostat or I/O Controller to control a Mitsubishi Electric Cooling & Heating CITY MULTI® or M-Series or P-Series indoor unit.

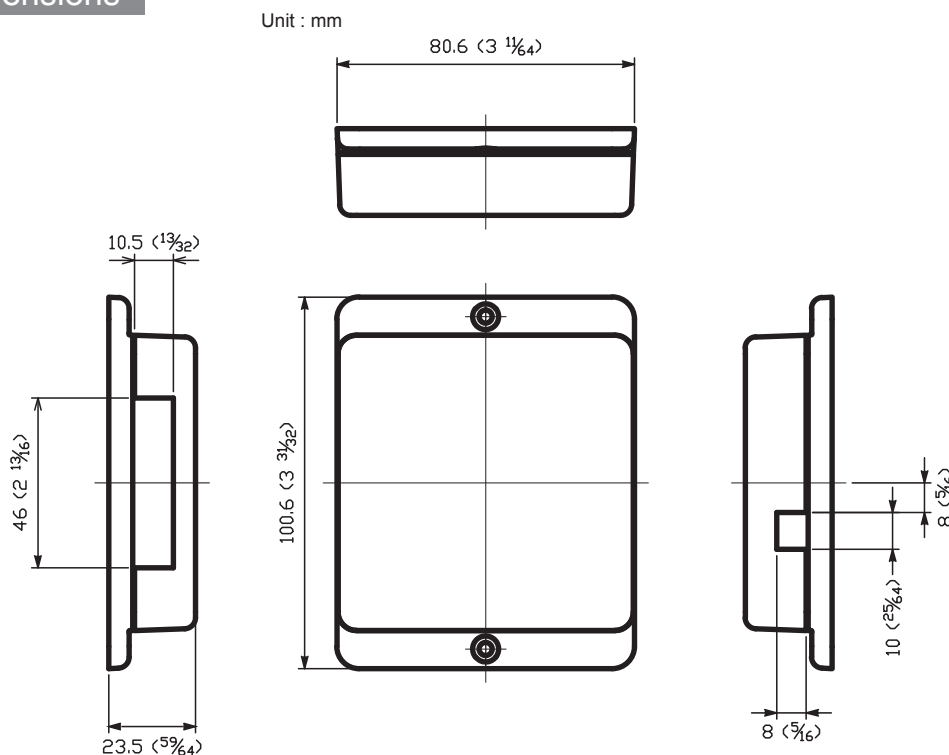
Applicable Models

■ MSZ-FH06/09/12/15NA	■ PKA-A12/18HA6
■ MSZ-FH18NA2	■ PKA-A24/30/36KA6
■ MSZ-EF09/12/15/18NAW(B)(S)	■ PAC-A24/30/36/42KA6
■ MSZ-GL06/09/12/15/18/24NA	■ PLA-A12/18/24/30/36/42BA6
■ MSZ-D30/36NA	■ PEA-A12/18AA6
■ MSY-GL09/12/15/18/24NA	■ PEAD-A24/30/36/42AA5
■ MSY-D30/36NA	■ PVA-A30/36/42AA4
■ SLZ-KA09/12/15NA	
■ SEZ-KD09/12/15/18NA4	
■ MVZ-A09/12/15/18/24AA4	

Specifications

Indoor unit mode	Cool, Heat, Fan, and Off
Provide 3 input terminals to control fan speed control	High, Medium, Low
Addressing	No addressing required
Connection	CN105 - IT Terminal
Dimensions(H x W x D) [in]	3.96 x 3.17 x 0.93
Terminal Block	20 - 30 VAC Rated

Dimensions



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

System Configuration

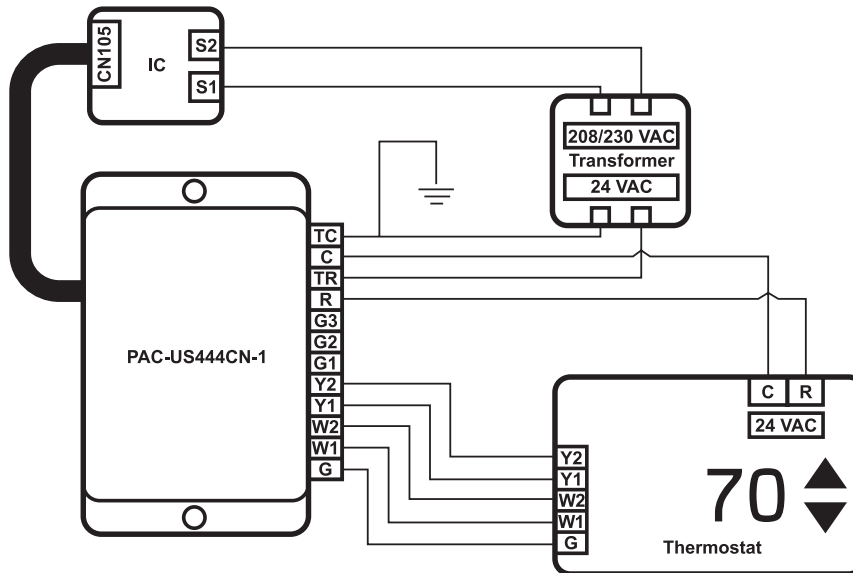
Warning: Thermostat should be configured for use with a conventional system (not heat pump).

Note: When either Y2 or W2 is left unconnected, it is recommended to set SW2-6 to the OFF position.

1. All wiring shown should be performed with 18 AWG thermostat wire.
2. Terminals on the PAC-US444CN-1 support 20-30VAC.
3. High/medium/low fan signals are optional, and may not be available on all thermostat models.
4. W2 and Y2 signals are optional, and may be omitted for single-stage thermostats.

Example 1: Two-stage Cooling and Heating

Note: When both Y2 and W2 are connected, it is recommended to set SW2-6 to the ON position.

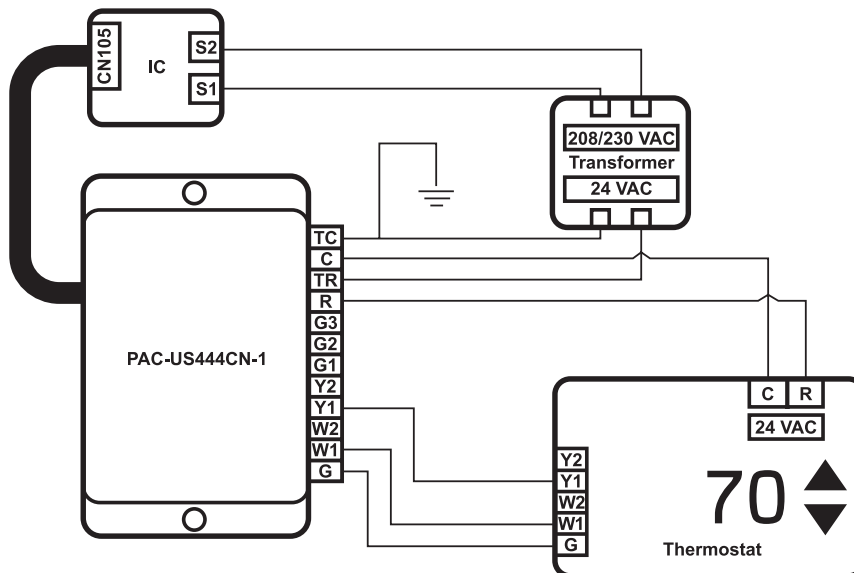


1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

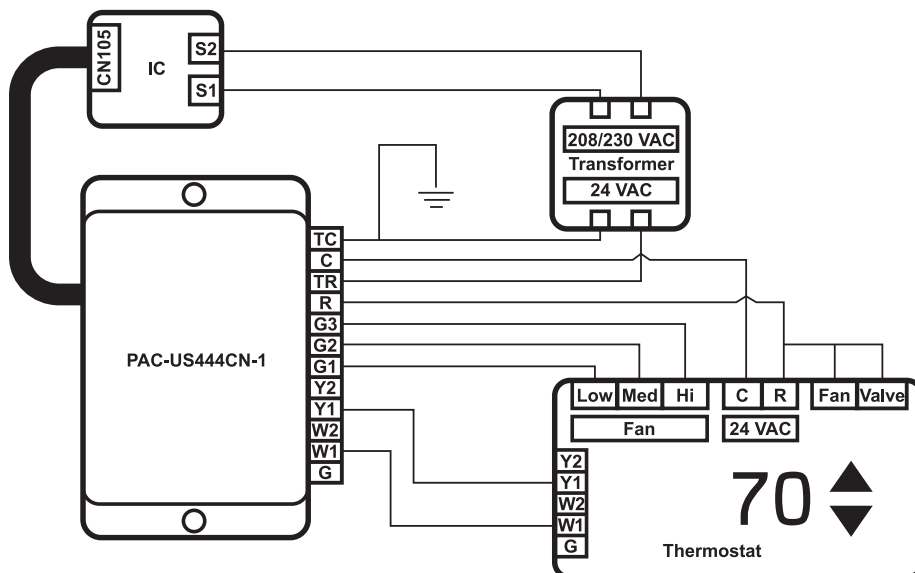
Example 2: Single-stage Cooling and Heating

Note: When either Y2 or W2 is left unconnected, it is recommended to set SW2-6 to the OFF position.



Example 3: Single-stage Cooling and Heating with Dedicated Fan Speed Relays

Note: When connecting only first stage signals (Y1/W1), it is recommended to set SW2-6 to the OFF position.



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

Example 4: Single-stage Cooling with Alternate Primary Heating Source

Note: For this configuration, it is recommended to set SW2-6 to the OFF position.

Follow the wiring from example 2, with the following adjustments:

1. Connect thermostat W1 to the alternate heat source.
2. Connect the thermostat W2 terminal to the PAC-US444CN-1 W1 terminal.

Connector	Purpose	Purpose
TC	Common (In)	C
C	Common (Out)	C
TR	24VAC (In)	R
R	24VAC (Out)	R
G3	Fan High	High Fan Speed
G2	Fan Medium	Medium Fan Speed
G1	Fan Low	Low Fan Speed
Y2	Y2	Stage 2 Cooling
Y1	Y1	Stage 1 Cooling
W2	W2	Stage 2 Heating
W1	W1	Stage 1 Heating
G	G	Fan

1. CONTROLS

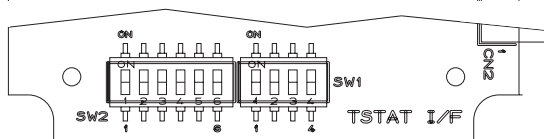
1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

How to Use / How to Install

1. Choose a place where to install the PAC-US444CN-1. The device provides two mounting holes that can be used to mechanically affix the case to a solid surface. Double-sided tape may be used to affix the device. When using tape, ensure that the tape is approved for use within the anticipated operating temperature ranges.
2. Install the transformer, as necessary, per building code and manufacturer's installation instructions.
3. Connect the PAC-US444CN-1 cable to the connector CN105 on the indoor unit control board.
4. Connect PAC-US444CN-1 terminals using 18 AWG wire.

Device Configuration

Initial settings can be configured via the two banks of dip switches on the circuit board, SW1 and SW2. The circuit board can be accessed by unfastening the four screws on the back of the case.



DIP Switch Definitions (Factory default is OFF for all switches):

Delayed Off

SW1-1/2: After reaching thermostat set point, the unit will continue to run for a set period of time in order to improve efficiency. The period of time is set by adjusting SW1-1 and SW1-2 according to the following table:

SW1-1	SW1-2	Result
OFF	OFF	5 minutes (Default)
ON	OFF	10 minutes
OFF	ON	30 minutes
ON	ON	0 minutes

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

SW1-3/4: The indoor unit fan speed can be adjusted via the following settings:

SW1-3	SW1-4	Result
OFF	OFF	Auto (Default)
ON	OFF	Medium
OFF	ON	High
ON	ON	Custom Auto

Note: Custom Auto provides more comfortable fan speed operation vs. the more efficient Auto (default).

Two-Stage Thermostat Operation

SW2-6: Adjusts indoor unit operation during stage 1 heating and stage 1 cooling according to the following table:

SW2-6	Operation during stage 1
OFF	Full capacity
ON	The capacity is adjusted so that the room temperature is adjusted (heated or cooled) at a fixed rate.

Note: When either Y2 or W2 is left unconnected, it is recommended to set SW2-6 to the OFF position. When both Y2 and W2 are connected, it is recommended to set SW2-6 to the ON position.

Static Pressure Settings

SW2-1, SW2-2, SW2-3: These adjust the static pressure function settings of the indoor unit according to the following table:

DIP switch position on PAC-US444CN-1			Indoor Unit Settings			
SW2-1	SW2-2	SW2-3	Mode 8	Mode 10	Mode 23	Mode 11
OFF	OFF	OFF	Not set	Not set	Not set	Not set
OFF	OFF	ON	Not set	Not set	Not set	Not set
OFF	ON	OFF	2	1	Set by SW2-4	2
OFF	ON	ON	2	2	Set by SW2-4	2
ON	OFF	OFF	1	1	Set by SW2-4	2
ON	OFF	ON	1	2	Set by SW2-4	2
ON	ON	OFF	3	1	Set by SW2-4	2
ON	ON	ON	3	2	Set by SW2-4	2

**Refer to the appropriate Indoor Unit Installation Manual for Mode 8 and Mode 10 function setting definitions.*

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

CN24 Operation During Defrost

SW2-4: Adjusts Mode 23 function settings according to the following table:

SW2-4	Result	Fan and CN24
OFF	Setting 2 (Default)	ON
ON	Setting 1	OFF

**Refer to the appropriate Indoor Unit Installation Manual for Mode 23 function setting definitions.*

Fan Speed During Heating Mode, Thermal Off

SW2-5: Adjusts Mode 25 initial setting (fan speed in thermal off for heating) according to the following table:

SW2-5	Result
OFF	Extra low (Default)
ON	Set by Thermostat Interface

In addition, the adapter also affects the following function settings of the connected indoor unit:

Mode	When using the adapter
Mode 1 (auto recovery after power failure)	Always enabled
Mode 2 (room temperature detection location)	Unused (room temperature detected by the connected thermostat)
Mode 24 (heat offset for height)	Unused

Additional function settings not addressed by the thermostat interface may be configured by temporarily connecting an MA remote controller.

Grouping

The connection of more than one PAC-US444CN-1 to a single set of thermostat dry-contacts is not supported.

Temperature Sensing

The PAC-US444CN-1 relies upon both the dry-contact thermostat and the indoor unit's thermistors in order to monitor room temperature. The thermostat's temperature sensing is used to set the room temperature. The indoor unit thermistor is used when calculating cooling and heating rates of change.

1. CONTROLS

1-5. Wireless Adapter [PAC-WHS01WF-E], cont.

Usage

Operate the third-party thermostat per the manufacturer's instructions. During normal operation, the connection of Mitsubishi remote controllers (e.g. MA/ME) is not supported, as they will interfere with the correct operation of the PAC-US444CN-1.

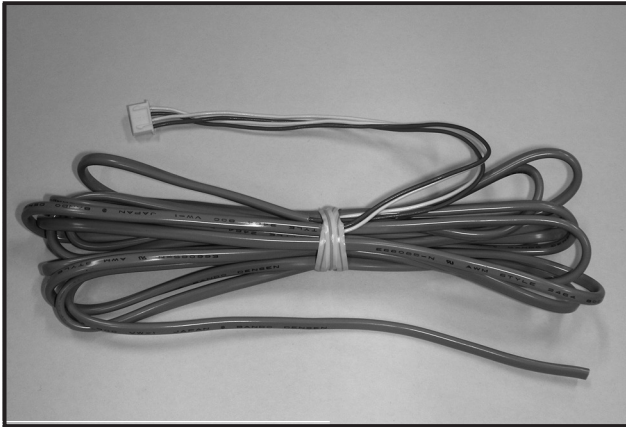
Notes:

1. The indoor unit will limit the internal temperature control set point based on the indoor unit specification.
2. Fan signals G1,G2,G3, when energized, take precedence over SW1-3&4.
3. Only fan speeds available on the IDU can be set by the Thermostat Interface.
4. The G signal is used only for operating the IDU in ventilation mode when all cooling and heating signals are disabled.
5. When all cooling and signals are disabled, energizing G will place the IDU into ventilation mode.

1. CONTROLS

1-6. T-STAT Interface [PAC-US444CN-1]

Photo



Descriptions

This product is an adapter which inputs the incoming signals from an open/close switch to the air conditioner and outputs the ON/OFF signals from the air conditioner to the back-up heater.

Applicable Models

■ MFZ-KJ09/12/15/18NA

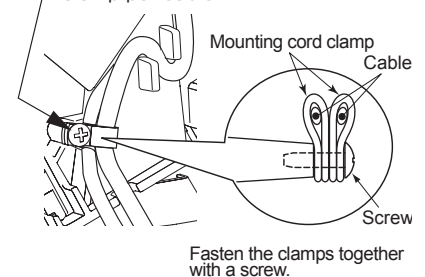
Specifications

Model name		MAC-1702RA-E	MAC-1710RA-E
Size	Length	2 m	10 m
	Diameter	4.48 mm x 3.09 mm	4.48 mm x 3.09 mm
Material	Cable core	Tinned annealed copper wire	Tinned annealed copper wire
	Insulation	Heat-resistant PVC	Heat-resistant PVC
	Sheath	Heat-resistant PVC	Heat-resistant PVC
Weight		72 g	360 g
Standards	Standards	UL2464	UL2464
	Name	2464 2CFB #23	2464 2CFB #23

Accessory

	Part name	Illustration	Q'ty
①	Mounting cord clamp ※		2
②	Screw for mounting 4×16		1
③	Fastener (for bundling the wires)		1

※ Use one mounting cord clamp per cable.

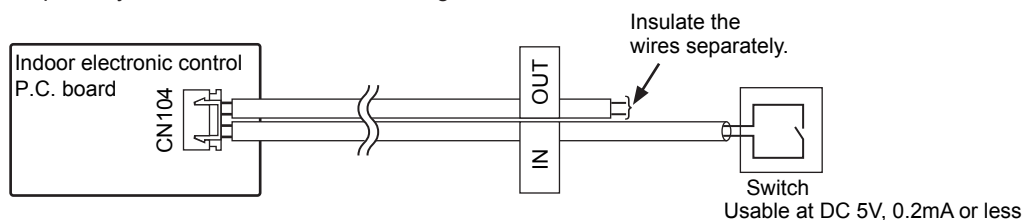


How to Use / How to Install

1. Card key/Window connection with the open/close switch

1. How to connect the open/close switch

- Connect the connector to CN104 on the indoor electronic control P.C. board.
- Connect the electrical wires with the tag of "IN" to the switch.
- Separately insulate the wires with the tag of "OUT".



2. Operation details

- Opening the switch stops operation of the air conditioner.
A remote controller is enabled even the switch is open. To disable the remote controller, cut JR88 on the indoor electronic control P.C. board.
- When the switch closes, the ON/OFF operation from the remote controller is enabled.

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

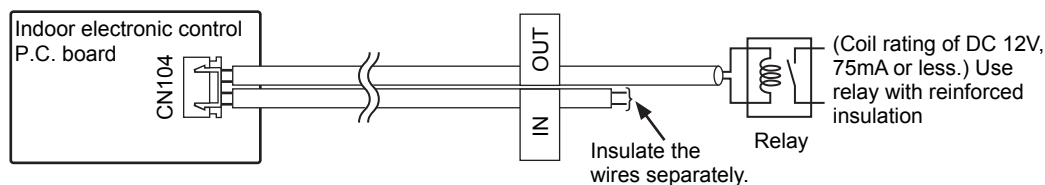
1-6. T-STAT Interface [PAC-US444CN-1], cont.

System Configuration

2. Back-up heating function

1. How to connect the relay

- Connect the connector to CN104 on the indoor electronic control P.C. board.
- Connect the electrical wires with the tag of "OUT" to the relay.
- Separately insulate the wires with the tag of "IN".



2. Operation details

(1) Starting conditions

When both a) and b) are satisfied, the relay turns ON.

a) The HEAT mode is selected. (The unit operates in the HEAT mode when the AUTO operation is selected.)

b) In the figure below, the conditions for ON are satisfied. (**NOTE 1**)

(2) Releasing conditions

When either a) or b) is satisfied, the relay turns OFF.

a) The modes other than HEAT are selected. (The unit operates in the mode other than HEAT when the AUTO operation is selected.)

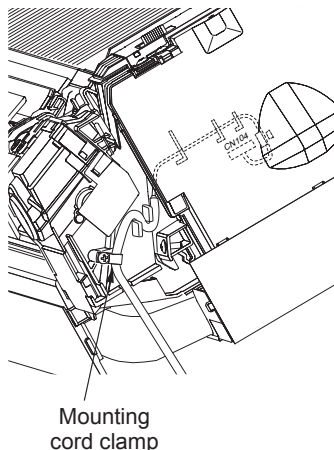
b) In the figure below, the conditions for OFF are satisfied. (**NOTE 1**)

NOTE 1: Relay (heater) turns ON or OFF by the difference between room temperature and set temperature.

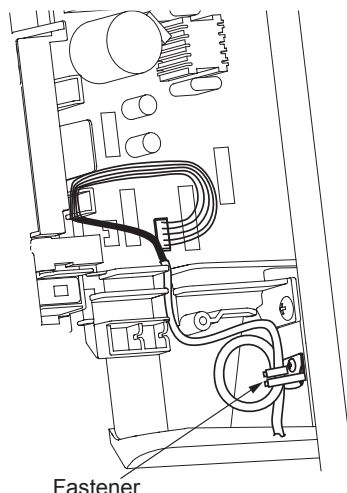
	Relay(heater)	Room temperature minus set temperature(Initial)	Room temperature minus set temperature (During operation)
When the ambient temperature is more than 0°C	ON -----	-2.5°C or less -----	↑ ----- ↓ -2.5°C 0°C
	OFF -----	more than -2.5°C -----	
When the ambient temperature is 0°C or less	ON -----	-1.5°C or less -----	↑ ----- ↓ -1.5°C 0°C
	OFF -----	more than -1.5°C -----	

Connecting an connector cable to the air conditioner

Models for which the mounting
cord clamp is used



Models for which the fastener
is used

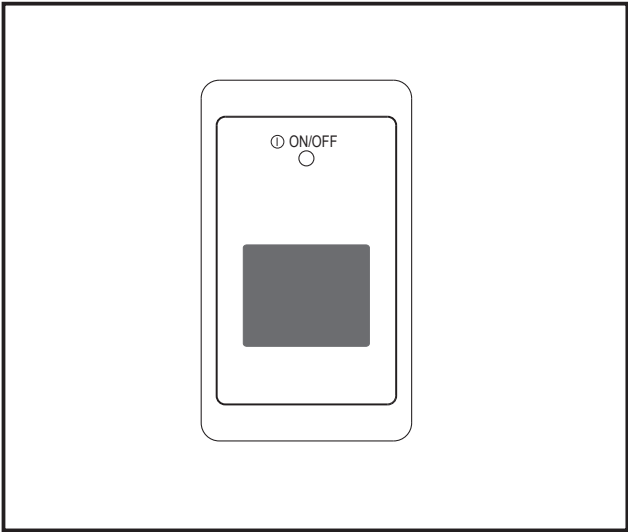


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-7. Signal Receiver [PAR-SA9CA-E]

Photo



Descriptions

Enables the use of wireless remote controller.

Applicable Models

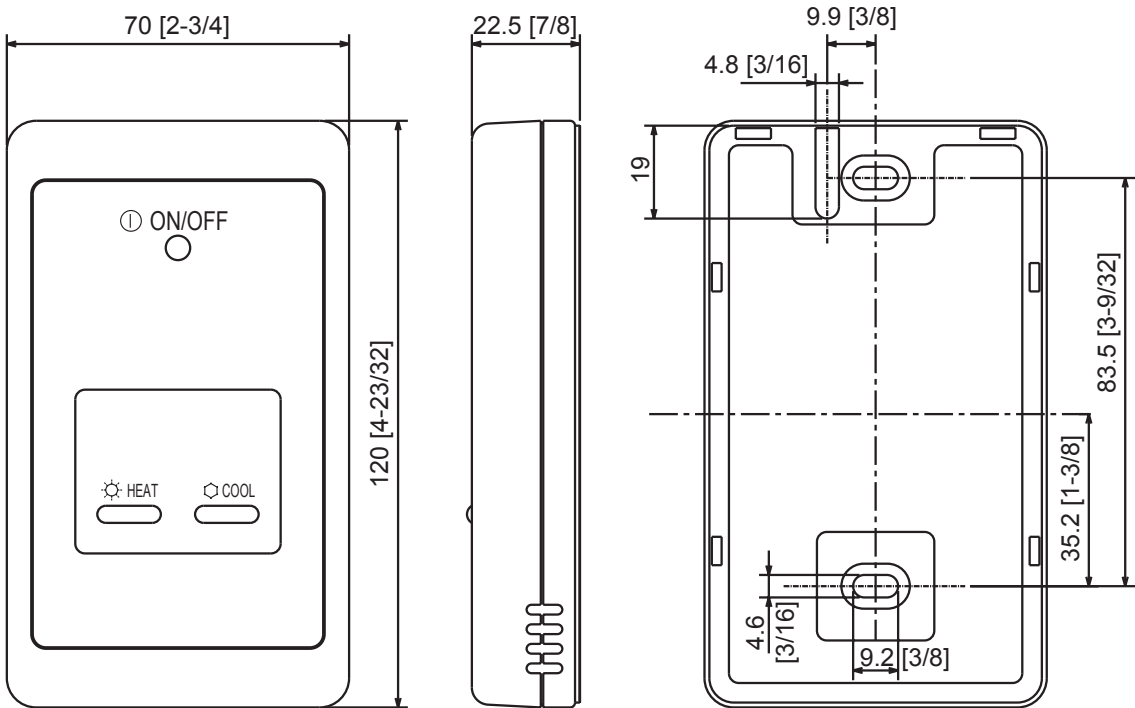
- SEZ-KD09/12/15/18NA4
- PEA-A12/18AA6
- PEAD-A24/30/36/42AA5
- PVA-A30/36/42AA4

Specifications

Item	Content
external dimensions	120(H)×70(W)×22.5(D) mm
Weight	0.2kg
Power	DC12V (supplied from indoor unit control)
Tempreture	0 ~ 40°C Humidity : 30 ~ 90%RH (no condensing)
Material	ABS
Colour (Munsell)	White Grey (4.8Y7.92/0.66)

Dimensions

Unit : mm [in.]



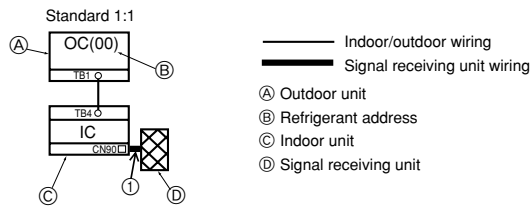
Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

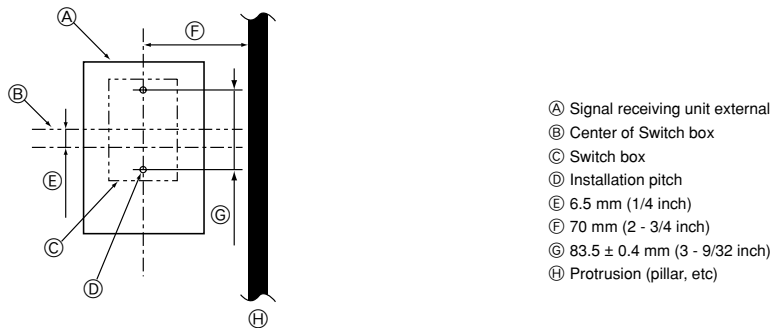
1-7. Signal Receiver [PAR-SA9CA-E], cont.

How to Use / How to Install

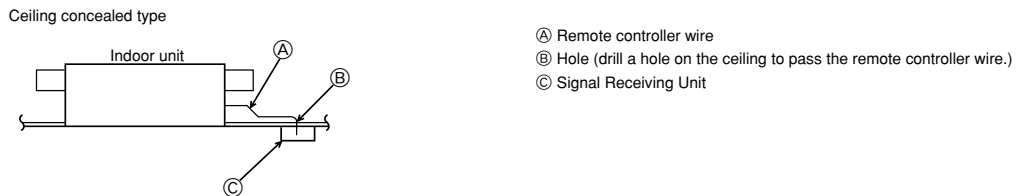
[Fig. 8-7]



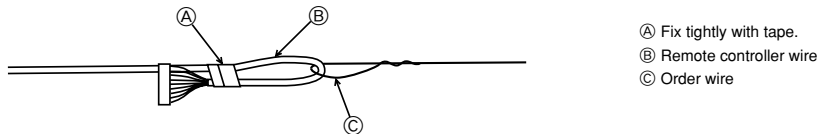
[Fig. 8-8]



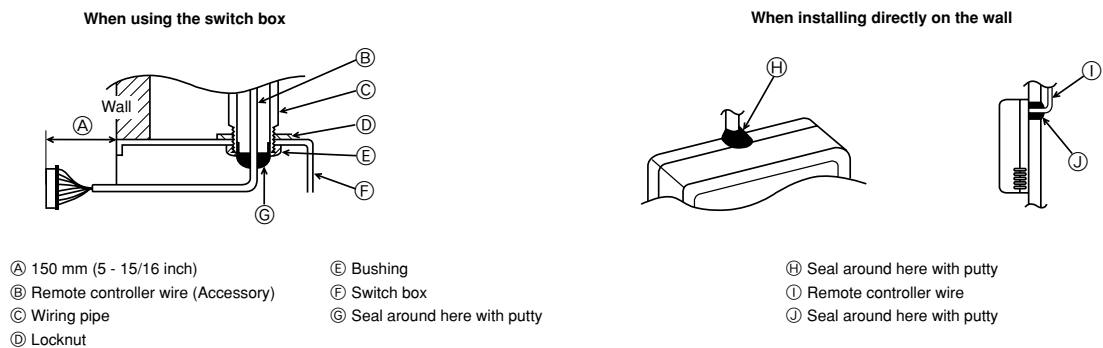
[Fig. 8-9]



[Fig. 8-10]



[Fig. 8-11]

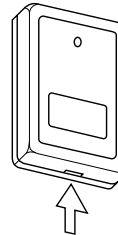
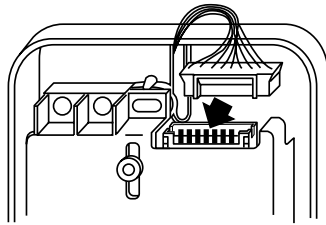


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

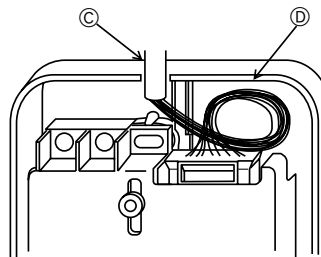
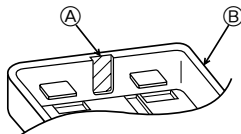
1-7. Signal Receiver [PAR-SA9CA-E], cont.

[Fig. 8-12]



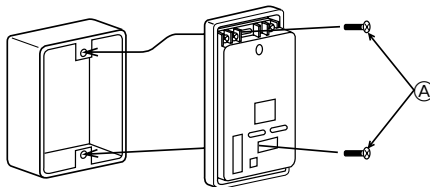
Insert the minus screwdriver toward the arrow pointed and wrench it to remove the cover.
A flat screwdriver whose width of blade is between 4 and 7mm (5/32 - 9/32inch) must be used.

[Fig. 8-13]



- Ⓐ Thin-wall portion
- Ⓑ Bottom case
- Ⓒ Remote controller wire
- Ⓓ Conducting wire

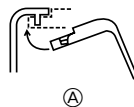
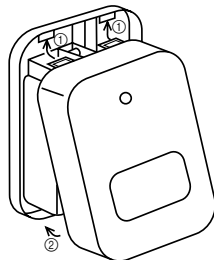
[Fig. 8-14]



- Ⓐ Screw (M4 x 30)

* When installing the lower case directly on the wall or the ceiling, use wood screws.

[Fig. 8-15]



- ① Hang the cover to the upper hooks (2 places).
- ② Mount the cover to the lower case
- Ⓐ Cross-section of upper hooks

Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-7. Signal Receiver [PAR-SA9CA-E], cont.

Signal Receiving Unit

1) Sample system connection

[Fig. 8-7]

Only the wiring from the signal receiving unit and between the remote controllers is shown in [Fig. 8-7]. The wiring differs depending on the unit to be connected or the system to be used.

For details on restrictions, refer to the installation manual or the service handbook that came with the unit.

1. Connecting to Mr. SLIM air conditioner

(1) Standard 1:1

- ① Connecting the signal receiving unit
Connect the signal receiving unit to the CN90 (Connect to the wireless remote controller board) on the indoor unit using the supplied remote controller wire. Connect the signal receiving units to all the indoor units.

2) How To Install

[Fig. 8-8] to [Fig. 8-15]

1. Common items for "Installation on the ceiling" and "Installation on the switch box or on the wall"

[Fig. 8-8]

- Ⓐ Signal receiving unit external Ⓔ 6.5 mm (1/4 inch)
- Ⓑ Center of Switch box Ⓕ 70 mm (2 - 3/4 inch)
- Ⓒ Switch box Ⓖ 83.5 ± 0.4 mm (3 - 9/32 inch)
- Ⓓ Installation pitch Ⓗ Protrusion (pillar, etc)

[Fig. 8-9]

- Ⓐ Remote controller wire
- Ⓑ Hole (drill a hole on the ceiling to pass the remote controller wire.)
- Ⓒ Signal Receiving Unit

(1) Select the installation site.

The following must be observed.

- ① Connect the signal receiving unit to the indoor unit with the supplied remote controller wire. Note that the length of the remote controller wire is 5 m (16 ft). Install the remote controller within the reach of the remote controller wire.
- ② When installing on either the switch box or the wall, allow space around the Signal Receiving Unit as shown in the figure in [Fig. 8-8].
- ③ When installing the Signal Receiving Unit to the switch box, the Signal Receiving Unit slipped downward for 6.5 mm (1/4 inch) as right illustrated.
- ④ Parts which must be supplied on site.
Switch box for one unit
Thin-copper wiring pipe
Lock nut and bushing
- ⑤ The thickness of the ceiling to which the remote controller is installed must be between 9 mm (3/8 inch) and 25 mm (1 inch).
- ⑥ Install the unit on the ceiling or on the wall where the signal can be received from the wireless remote controller.
The area where the signal from the wireless remote controller can be received is 45 ° and 7 m (22 ft) away from the front of the signal receiving unit.
- ⑦ Install the signal receiving unit to the position depending on the indoor unit model.
- ⑧ Connect the remote controller wire securely to the order wire. To pass the remote controller wire through the conduit, follow the procedure as shown in [Fig. 8-10].

[Fig. 8-10]

- Ⓐ Fix tightly with tape. Ⓒ Order wire
- Ⓑ Remote controller wire

Note:

- The point where the remote controller wire is connected differs depending on the indoor unit model.
Take into account that the remote controller wire cannot be extended when selecting the installation site.
- If the Signal Receiving Unit is installed near a fluorescent lamp specially inverter type, signal interception may occur.
Be careful for installing the Signal Receiving Unit or replacing the lamp.

(2) Use the remote controller wire to connect it to the connector (CN90) on the controller circuit board on the indoor unit.

Refer to the 2) Setting the Pair Number Switch for details on controller circuit board on the indoor unit.

(3) Seal the Signal Receiving Unit cord lead-in hole with putty in order to prevent the possible entry of dew, water droplets, cockroaches, other insects, etc.

[Fig. 8-11]

- Ⓐ 150 mm (5 - 15/16 inch)
- Ⓑ Remote controller wire (Accessory)
- Ⓒ Wiring pipe
- Ⓓ Locknut
- Ⓔ Bushing
- Ⓕ Switch box
- Ⓖ Seal around here with putty

- When installing on the switch box, seal the connections between the switch box and wiring pipe with putty.

Ⓗ Seal around here with putty

① Remote controller wire

② Seal around here with putty

- When opening a hole using a drill for Signal Receiving Unit wire (or taking the wire out of the back of the Signal Receiving Unit), seal that hole with putty.

- When routing the wire via the portion cut off from the upper case, equally seal that portion with putty.

(4) Install the remote control wire to the terminal block. [Fig. 8-12]

(5) Installing hole when the Signal Receiving Unit is installed on the wall direct.

[Fig. 8-13]

- Cut the thin-wall portion inside the bottom case (oblique section) by a knife or a nipper.
- Take out the connected remote controller wire to the terminal block through this space.

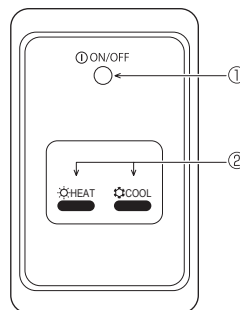
(6) Install the lower case on the switch box or directly on the wall. [Fig. 8-14]

Mounting the cover [Fig. 8-15]

⚠ Caution:

- Insert the cover securely until the clicking sound is made. If not doing so, the cover may fall.

■ Emergency Operation for Wireless Remote-controller



- ① **ON/OFF lamp** (lit when unit is operating; unlit when unit is not operating)

② **Emergency operation**

In cases where the remote control unit does not operate properly, use either the COOL or HEAT button on the wireless remote control signal receiver to toggle the unit on or off. On cooler only units, pushing the HEAT button toggles the fan on and off.

Pressing the COOL or HEAT button selects the following settings.

Operation mode	COOL	HEAT
Preset temperature	24 °C/75 °F	24 °C/75 °F
Fan speed	High	High

1. CONTROLS

1-8. Wireless Remote Controller [PAR-FL32MA-E]

Photo



Descriptions

Wireless remote controller for P series and SEZ models.
(The receiver is necessary.)

Applicable Models

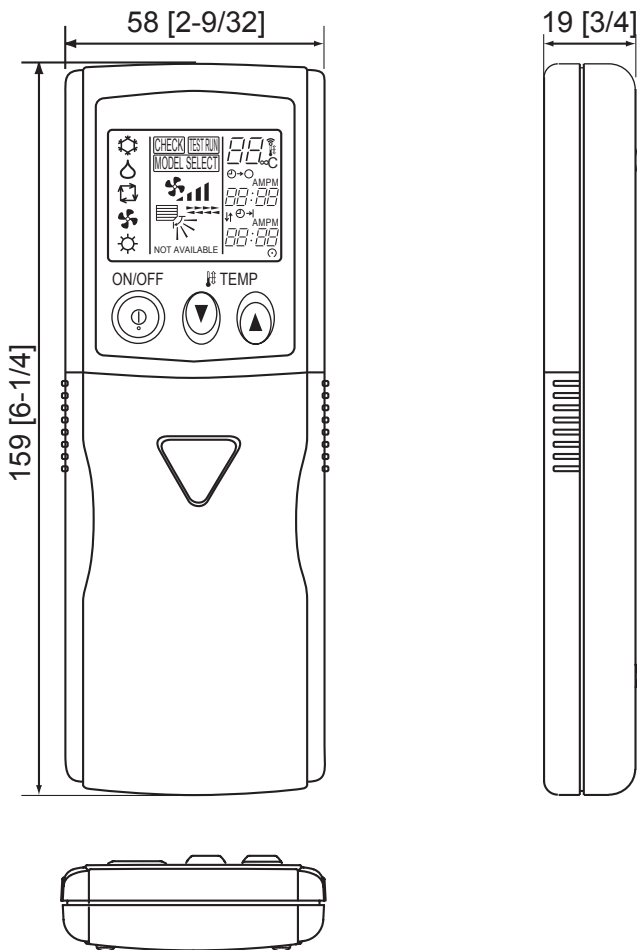
- | | |
|------------------------|-----------------------------|
| ■ SEZ-KD09/12/15/18NA4 | ■ PLA-A12/18/24/30/36/42BA6 |
| ■ PKA-A12/18HA6 | ■ PEA-A12/18AA6 |
| ■ PKA-A24/30/36KA6 | ■ PEAD-A24/30/36/42AA5 |
| ■ PCA-A24/30/36/42KA6 | ■ PVA-A30/36/42AA4 |

Specifications

Accessory	"AAA" LR03 alkaline batteries: 2pcs
	4.1×16 tapping screws: 2

Dimensions

Unit : mm [in.]

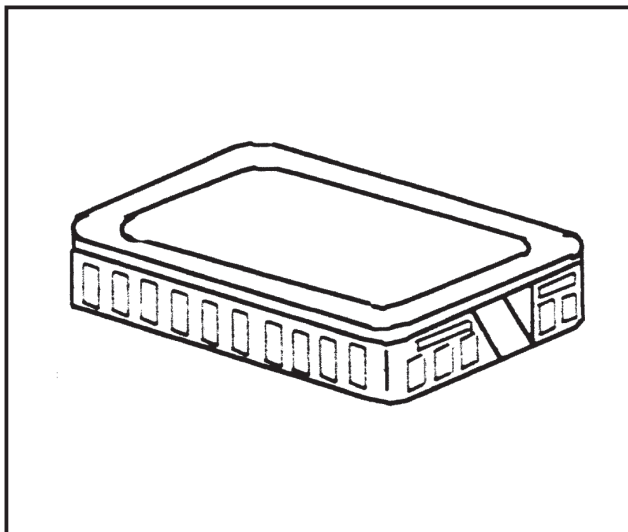


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-9. Remote Sensor [PAC-SE41TS-E]

Figure



Descriptions

Enables to pick up the room temperature at the remote position.

Applicable Models

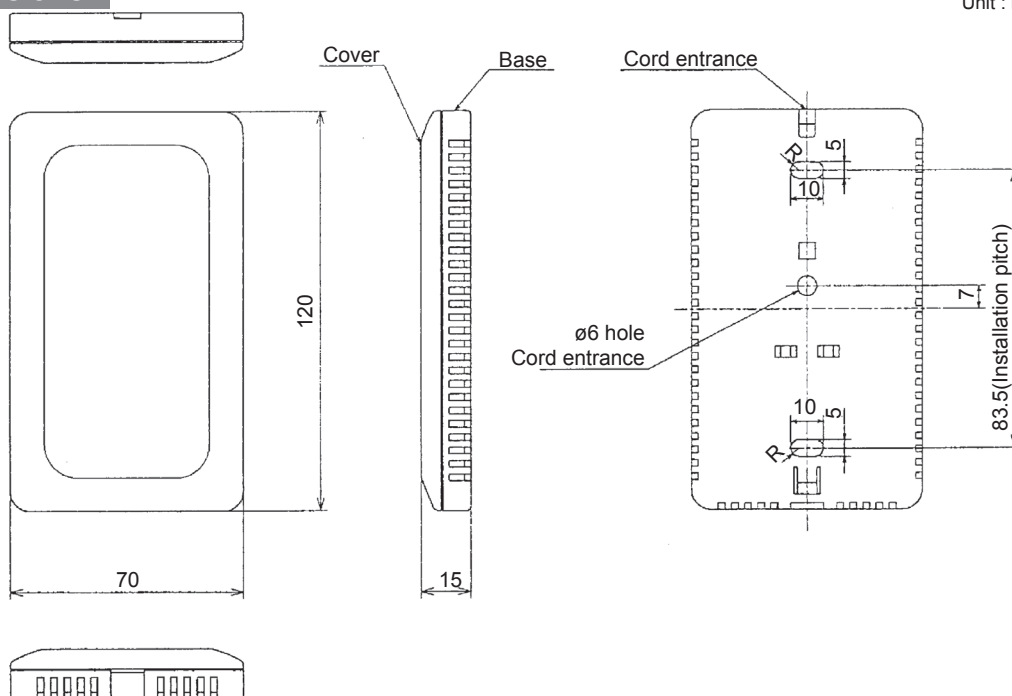
- SLZ-KA09/12/15NA
- SEZ-KD09/12/15/18NA4
- PKA-A12/18HA6
- PKA-A24/30/36KA6
- PCA-A24/30/36/42KA6
- PLA-A12/18/24/30/36/42BA6
- PEA-A12/18AA6
- PEAD-A24/30/36/42AA5
- PVA-A30/36/42AA4

Specifications

External dimensions (mm)	120 (H) x 70 (W) x 15 (D)
Exterior	White gray (Munsell 4.48Y 7.92/0.66) Material: ABS resin
Operating conditions	Temperature: -20 to 65°C Humidity: 30 to 90% RH (no condensation)
Installation method	Mounting on single-type switch box (JIS C8336) or directly mounting on wall
Accessory	2-wire cable (12m), Connector with post, Fixing screw (x2)
When combining with environmental measurement controller	
Temperature measuring range	-20 to 65°C
Measurement resolution	0.1°C (10 to 35°C), 0.5°C (other temperature ranges)

Dimensions

Unit : mm



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-9. Remote Sensor [PAC-SE41TS-E], cont.

How to Use / How to Install

1 How to Install

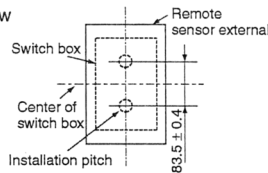
(1) Determine the installation of the remote sensor (switch box).
The following items must be observed.

① Select a place where the remote sensor will detect an average temperature of the room, and where the sensor will not be subject to direct sunlight, heat sources, or the blow-off from the air conditioner, etc.

② Install the sensor within the length of the cable provided (12m).
(The cable cannot be extended. If extended, it may cause misoperation due to noise.)

③ The following parts must be procured at the site.

- Cross-recessed pan head screw
M4 Tow screws
- Single switch box
- Thin steel conduit
- Lock nut, bushing



(2) Connect the wires.

• Connect the 2-core cable to the terminal block in the lower case.
Peel the sheath of the 2-core cable as shown in Fig.1, and correctly wire it as shown in Fig.2.

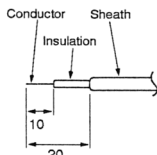


Fig.1

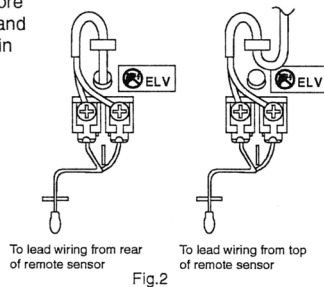


Fig.2

• The wiring connection of the indoor unit's electrical box and remote sensor is shown in Fig.3. There are three methods of connecting the 2-core cable to the electrical box.

Exchange 2-core cable (connector 20)

- ① When using the connector attached to the end of the 2-core cable as it is.
- ② When cutting the connector attached to the end of the 2-core cable and connecting the cable to the terminal block in the I.B. (Indoor Board).
- ③ When using the enclosed post for connection and convert cable.

The above three methods are used according to the indoor unit being used. If the 2-core cable is to be embedded in the wall, follow Fig.4.

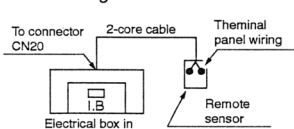


Fig.3

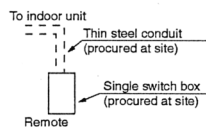
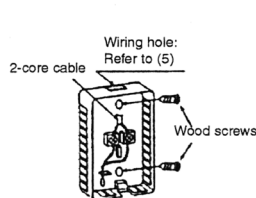


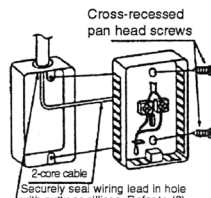
Fig.4

(3) Install the lower case on the wall or switch box.

NOTE The recommended tightening torque for installing the 2-core cable to the terminal block is 1.17N·m.



To install on wall



To install on switch box

CAUTION

- If the screws are tightened too hard, the case may break or deform.
- Install the sensor on a flat wall. If installed on a bumpy wall, the case may break or trouble may occur.

(4) Fit the upper case.

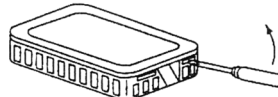


Catch the two upper claws first, and fit the case as shown on the left.

CAUTION

- Securely fit the case until a catching sound is heard. It may drop off if it is not fitted securely.

To remove the case, fit a flat-flap screwdriver into the claw section as shown below, and move the screwdriver in the direction of the arrow.

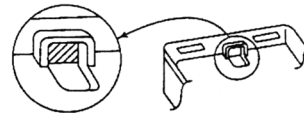


CAUTION

- Do not turn the screwdriver when it is fit into the claw section as the claws may be broken.

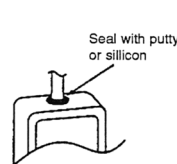
(5) Wiring hole for direction installation on wall, etc.

Cut the thin section (shaded section) of the lower case with a knife or pair of nippers, etc. The 2-core cable connected to the terminal block is led out from here.

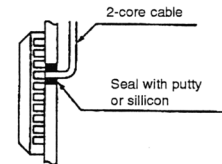


(6) Securely seal the wiring lead hole with putty or silicon to prevent dew, water drops, cockroaches and other insects from entering.

- When installing directly on the wall, seal the section cut on the lower case with putty or silicon.
If the wiring is to be passed through a hole in the wall (when leading the wiring from the rear of the remote sensor), seal the hole in the same manner.
- When installing on a switch box, seal the connection of the switch box and conduit with putty or silicon.

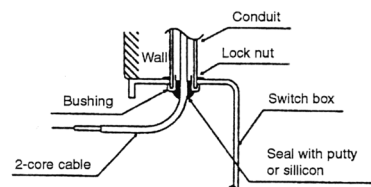


To lead wiring from top of remote sensor.



To lead wiring from rear of remote sensor.

To install directly on wall



To use switch box

2 Setting of indoor unit

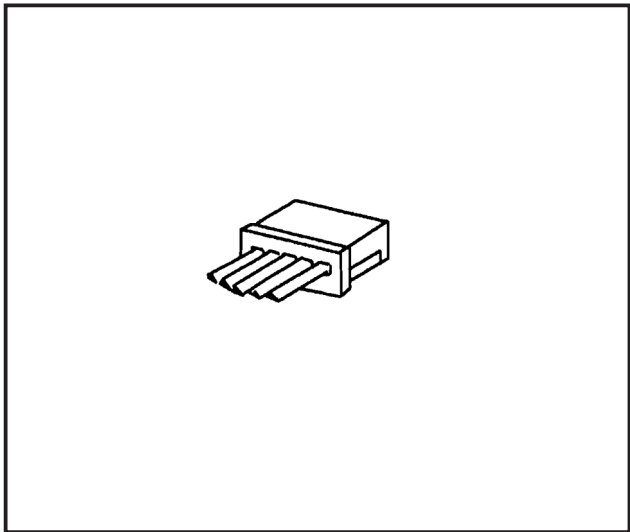
When the remote sensor is connected to the indoor unit and room temperature detection position is changed, reset the setting of "Set temp. 4-deg. up" in the heating mode as shown below.

- ① K control models : DIP switch Nos 1-6 on the control PCB of the indoor unit.
- ② M-NET control models : DIP switch Nos 3-8 on the control PCB of the indoor unit.
- ③ A control models : Refer to A-control air-conditioners SERVICE TECHNICAL GUIDE.

1. CONTROLS

1-10. Connector Cable for Remote Display [PAC-SA88HA-E/PAC-725AD-E]

Figure



Descriptions

- This adapter enables control of several units with a multiple remote control display.

Applicable Models

- | | |
|-----------------------------|------------------------|
| ■ SLZ-KA09/12/15NA | ■ PEA-A12/18AA6 |
| ■ SEZ-KD09/12/15/18NA4 | ■ PEAD-A24/30/36/42AA5 |
| ■ PKA-A12/18HA6 | ■ PVA-A30/36/42AA4 |
| ■ PKA-A24/30/36KA6 | |
| ■ PCA-A24/30/36/42KA6 | |
| ■ PLA-A12/18/24/30/36/42BA6 | |

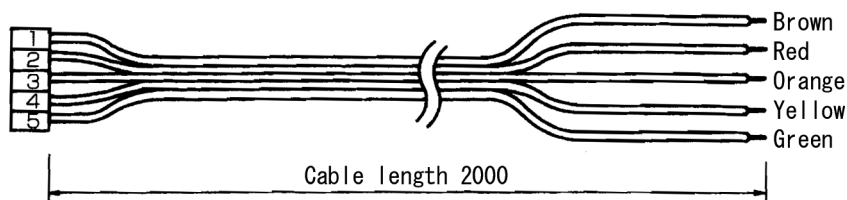
Specifications

Function	Connecting cable to output status signal of the air conditioner, and ON/OFF by external (pulse) signal.
Input signal	Pulse signal (no voltage instantaneous ON contact) Pulse duration 200m/s or more.
Connector	5P (connector to CN51 or CN52 on indoor unit control board)
Cable type	5-wire vinyl cable, for extension: sheathed vinyl cord or cable (0.5 to 1.25mm²)
Cable length	2m (max. 10m when extended locally)
Output capacity	DC12V 75mA (Max 0.9W)

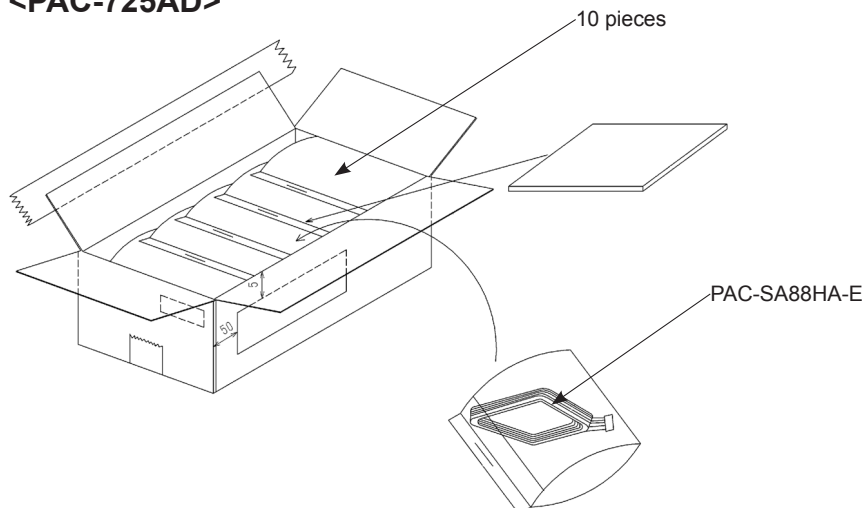
Dimensions

Unit : mm

<PAC-SA88HA-E>



<PAC-725AD>



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-10. Connector Cable for Remote Display [PAC-SA88HA-E/PAC-725AD-E], cont.

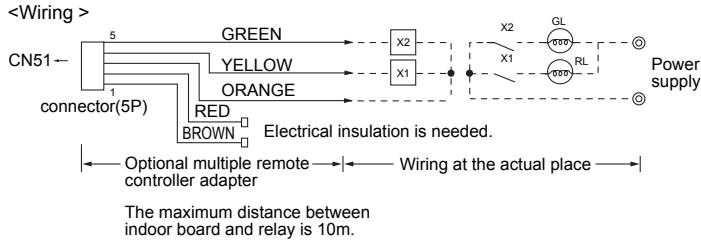
How to Use / How to Install

MULTIPLE REMOTE CONTROL DISPLAY

You can control several units with a multiple remote control display, by wiring an optional multiple remote controller adapter (PAC-SA88HA-E) with relays and lamps on the market.

How to wire

- (1) Connect the multiple remote controller adapter to the connector CN51 on the indoor controller board.
- (2) Wire three of the five wires from the multiple remote controller adapter as shown in the figure below.



[Notes on Signs]

X1:Relay (for operation lamp)

X2:Relay (for check lamp)

RL:Operation Lamp

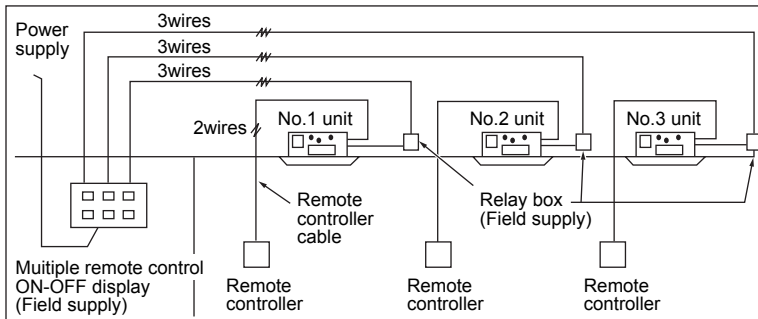
GL:Check Lamp

[Field supplied parts]

Relays:12V DC with rated coil power consumption below 0.9W.

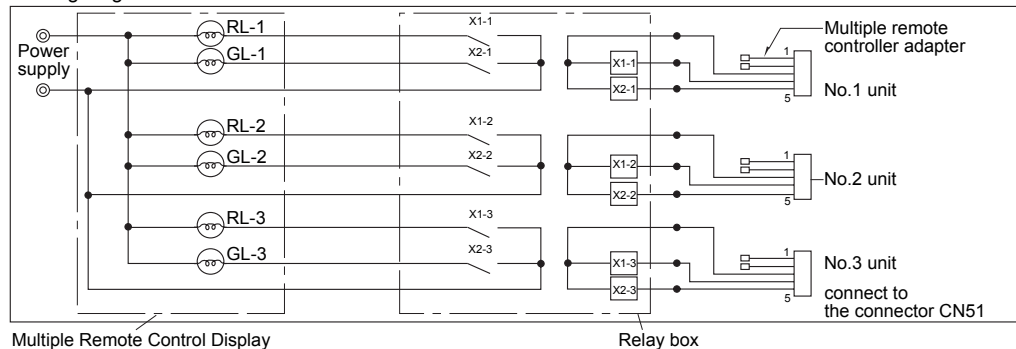
Lamps:Matching to power supply voltage.

<System>



(Operation check)

<Wiring diagram>

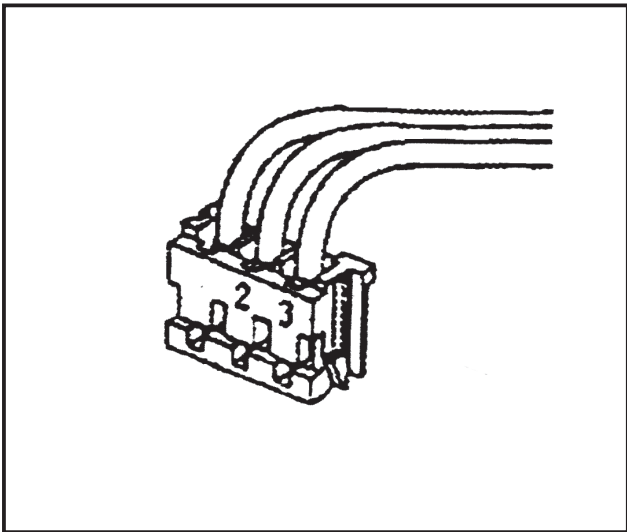


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-10. Remote On/Off Adapter [PAC-SE55RA-E]

Figure



Descriptions

- Operation other than ON/OFF (adjustment of temperature, fan speed, and air direction, for example) can be performed even when remote controller operation is prohibited.

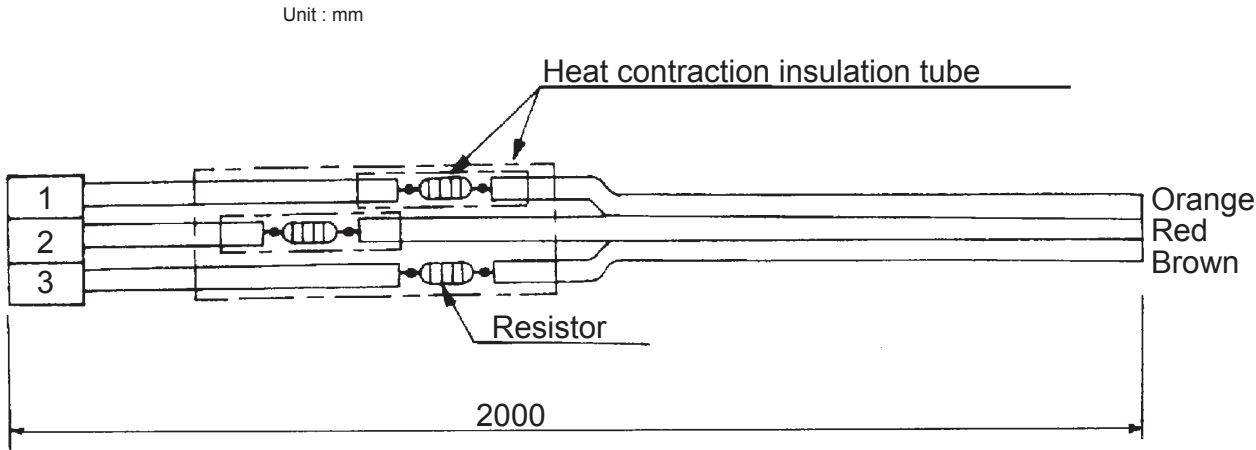
Applicable Models

- | | |
|-----------------------------|------------------------|
| ■ SLZ-KA09/12/15NA | ■ PEA-A12/18AA6 |
| ■ SEZ-KD09/12/15/18NA4 | ■ PEAD-A24/30/36/42AA5 |
| ■ PKA-A12/18HA6 | ■ PVA-A30/36/42AA4 |
| ■ PKA-A24/30/36KA6 | |
| ■ PCA-A24/30/36/42KA6 | |
| ■ PLA-A12/18/24/30/36/42BA6 | |

Specifications

Function	ON/OFF by external signal External signal ON (remote control disabled) / OFF (remote control enabled) switch able
Input signal	No-voltage contact (ON/OFF level signal)
Connector	3P (connected to CN32 on outdoor unit control board)
Cable type	3-wire cable, for extension: Sheathed vinyl cord or cable (0.5 to 1.25mm ²)
Cable length	2m (max. 10m when extended locally)

Dimensions



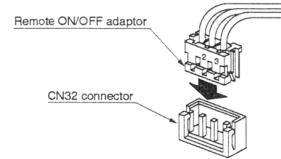
1. CONTROLS

1-10. Remote On/Off Adapter [PAC-SE55RA-E], cont.

How to Use / How to Install

1 Connecting to the Indoor Unit

1. Connect to the connector CN32 on the indoor controller board.
2. Press the connector for the remote ON/OFF adaptor into the CN32 connector.
The connector can only be connected in one direction only. Do not force the connection.



2 Locally Procured Wiring

With the remote ON/OFF adaptor, variations of connection method with the locally installed circuit will provide different types of operating configurations.

Example: External timer operation, remote control operation

1. Basic Connection Method

SW1 - Operating switch

Performs operation/stopping of indoor unit.

SW2 - Selecting switch

For selecting whether the operation/stopping is to be performed by external circuit or remote control.*

* Also includes system controller (central controller).

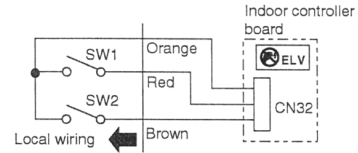
2. Switch Settings (Refer to table at right for details.)

SW2 - If on.

- Operation/stopping cannot be controlled from remote controller.
- Other operations (such as temperature settings and changing fan speed) can be performed.
- Operation/stopping can be performed by SW1.

SW2 - If off.

- Operations can be performed from remote controller.
- Operation/stopping cannot be performed by SW1.

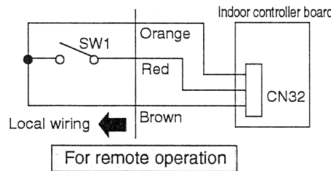


		SW2	
		ON	OFF
Remote controller	ON	Cannot perform operation/stopping	Can perform operation/stopping
	OFF	Operation	Cannot perform operation/stopping

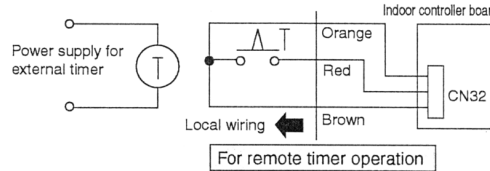
3 Examples of Usage

In either case, there is a 5 to 6 second delay from the time when the operating command is sent until the unit operates.

1. To perform operation/stopping by only remote operation or external timer and to prohibit operation/stopping by the remote controller, use the following circuits.

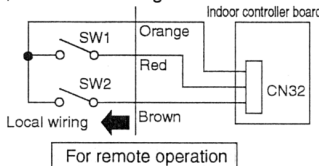


For remote operation

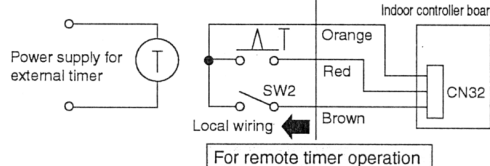


For remote timer operation

2. To perform operation/stopping by remote operation or external timer and allow operation/stopping by the remote controller, use the following circuits.

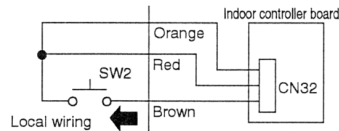


For remote operation



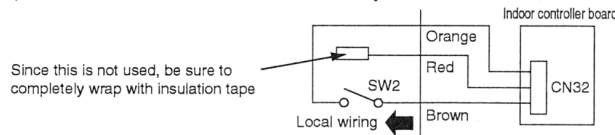
For remote timer operation

3. To start operation by remote operation and then freely use remote controller, use the following circuit.



Use a momentary switch (a switch that is turned on manually and turns off automatically) for SW2.
Press SW2 (for 1 second or more) and the operation starts. After this, the remote controller can be used for operations.

4. To permit/prohibit the use of the remote controller by an external circuit.

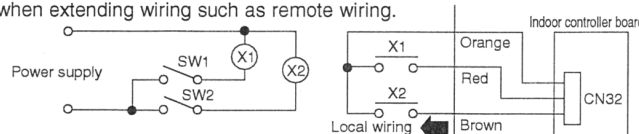


If SW2 is on, operation cannot be performed by the remote controller.
If SW2 is off, operation is permitted.

4 Wiring Restrictions

Keep the length of wire from the circuit board of the indoor unit within 10 meters. Excessive length could cause improper operation.

Use a transit relay when extending wiring such as remote wiring.

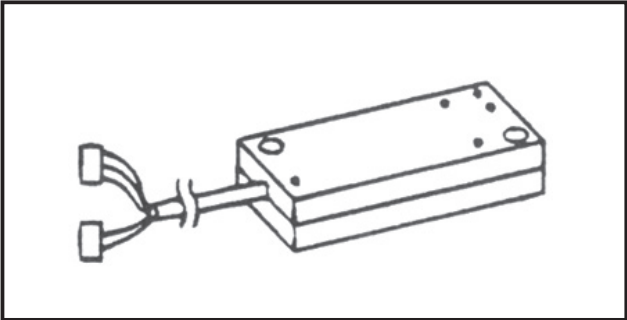


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-11. Remote Operation Adapter [PAC-SF40RM-E]

Figure



Descriptions

Extraction of non-voltage contact output.
*Use of optional [Remote Operation Adapter] and "remote display panel" Part to be provided at your site) provides non-voltage contact outputs of signals (operation, error) and operation/stop input function.
Unable to use with wireless remote controller. (except for PKA-RP-HAL/KAL)

Applicable Models

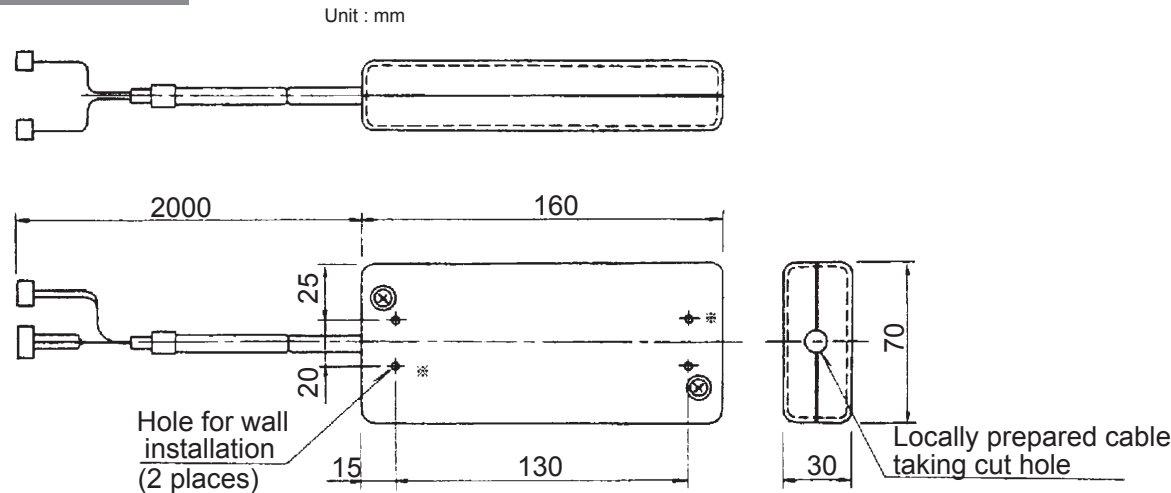
- SLZ-KA09/12/15NA
■ SEZ-KD09/12/15/18NA4
- PCA-A24/30/36/42KA6
■ PLA-A12/18/24/30/36/42BA6
■ PEA-A12/18AA6
■ PEAD-A24/30/36/42AA5
■ PVA-A30/36/42AA4

Specifications

Power	Supplied from indoor unit	
External dimensions (mm)	160 x 70 x 30	
Exterior	Material: ABS resin, Color: Gray (Munsell 3.07Y 6.16/0.33)	
Weight	200g	
Operating conditions	Indoor only Temperature: 0 to 40°C, Humidity: 35 to 85%RH (no condensation)	
Connecting cable (indoor unit)	5-wire (3 + 2) cable with connector (9-pin, 4-pin)	
Output signal	No-voltage "a" contact (relay contact method)	
	Number of Contacts	2 (Operation / Alarm)
	Contact capacity	200V AC (30V DC)/1A or less
	Minimum load	10mA
Input signal	Pulse signal (instantaneous non-voltage "a" contact), pulse width: 200ms or more	
	Number of Contacts	1 (start/stop)
Input/output signal cable (locally prepared)	Type	CV, CVS, or equivalent sheathed vinyl cord/cable
	Diameter	Twisted: 0.5 to 1.25mm ² , Single: Φ0.65 to Φ1.2mm
	Distance	Output signal cable: Max. 100m Input signal cable: Max. 10m (Extension relay must be used when exceeding 10m)

* This kit cannot be used with a wireless remote controller.
Water leakage alarm will not be displayed if the unit is built into the ceiling (PDH)

Dimensions



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

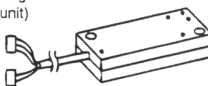
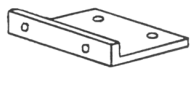
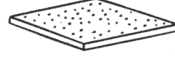
1-11. Remote Operation Adapter [PAC-SF40RM-E], cont.

How to Use / How to Install

1 Confirming the Supplied Parts

(1) Parts Provided

Check that the box includes the following parts in addition to this installation manual.

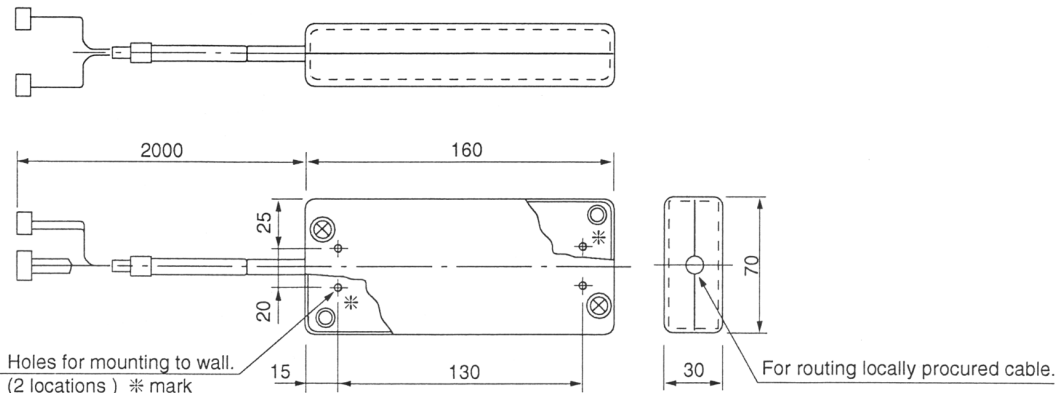
Parts	① Remote operation adaptor unit	② Cord clamp	③ Wall mount bracket
Shape	(with 2 meter wire for connecting with indoor unit) 	(Use this clamp if the local wiring is too thick to be held by the clamp inside the main unit.) 	
Quantity	1	1	1
Parts	④ Screws for mounting ③	⑤ Cushion material	⑥ Tie-wrap
Shape	 3.5 x 12 (Black)	(With adhesive on both sides.) 	(Use this for bundling lead wires.) 
Quantity	4	1	5
Parts	⑦ Cord clamp	⑧ Screws for mounting ⑦	⑨ Screws for mounting main unit
Shape		 3.5 x 12 (Black)	 3.5 x 12 (Black)
Quantity	5	5	2

(2) Locally Procured Parts

Note : Please keep LVD. LVD;Low Voltage Directive (EC Directive of Europe)
Apply some countermeasure for wiring and relay not to be touched from outside.
① Wiring should be covered by the insulation tube. ② Use relay with EU regulation.

Item	Part Name	Model & Specifications
External output function	External signal output wire	Use a vinyl cord with sheath or cable Electric wire type: CV, CVS or equivalent Electric wire size: 0.5 mm ² to 1.25 mm ² Single wire: ϕ 0.65 mm to ϕ 1.2 mm
	Display lamp, etc.	No-voltage contact AC 220 to 240 V (DC30V), 1A or less
External input function	External signal input wire	Use a vinyl cord with sheath or cable Electric wire type: CV, CVS or equivalent Electric wire size: 0.5 mm ² To 1.25 mm ² (Single wire: ϕ 0.65 mm to ϕ 1.2 mm)
	Switch	No-voltage momentary contact (Operation $\leftrightarrow$ Stop is switched by input of a pulse of 200 ms or more)

2 External Dimension Drawing

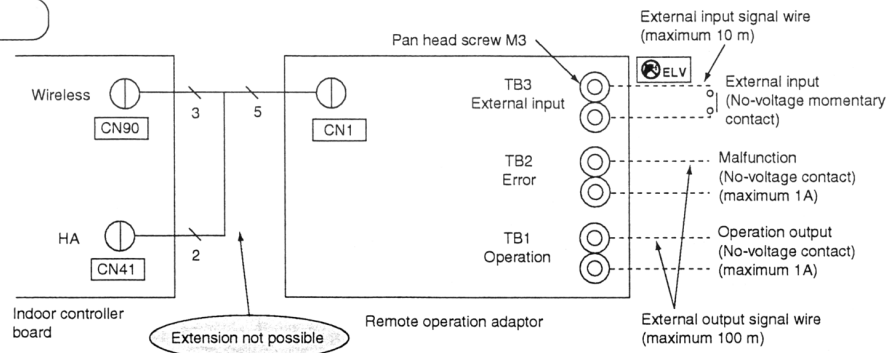


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-11. Remote Operation Adapter [PAC-SF40RM-E], cont.

3 Wiring



⚠Caution

- 1) TB3 is a dedicated terminal for contact input. Do not apply voltage. Applying voltage will cause damage to the circuit board inside the indoor unit controller.
- 2) Always use the cable provided for connecting the unit to the indoor unit. Never make modifications to extend this cable. Extensions could cause the cable to be affected by external noise which could lead to mis-operation. If an extension is needed, refer to specification chart in "6. Product Specifications" and follow it when extending the external signal wire.

<Connecting to the indoor unit>

- ① If external output functions are used Insert the 9-electrode (3 core) side of the cable provided into CN90 on the controller circuit board for the indoor unit.
- ② If external input functions are used Insert the 4-electrode (2 core) side of the cable provided into CN41 on the controller circuit board for the indoor unit.

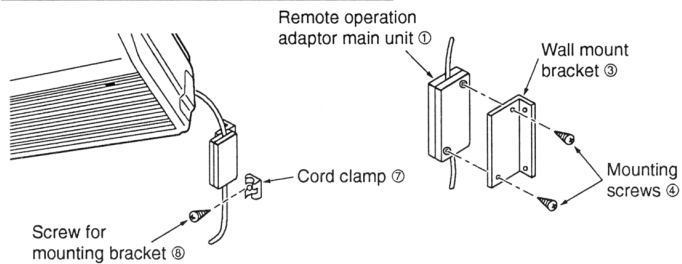
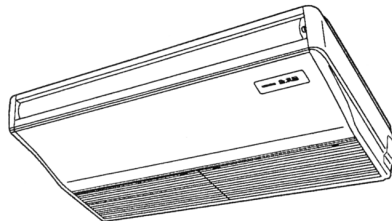
※ The connector can only be inserted in one direction. Be sure to check that the connector is in the proper direction before inserting. Forcing the connector will cause damage.

4 How to Install

There are three ways to mount the remote operation adaptor main unit: [A] Using mounting bracket, [B] Mounting directly, and [C] Using the cushion material.

(1) Installation Example (Suspended Type)

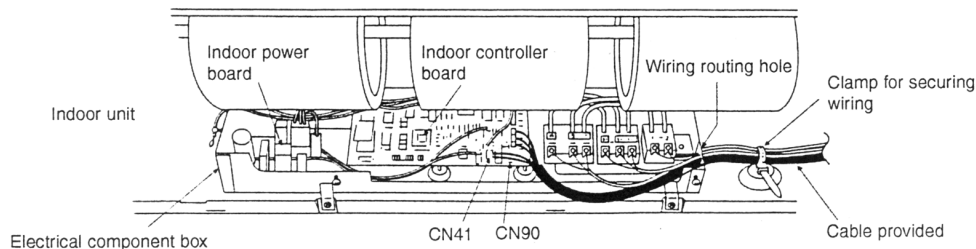
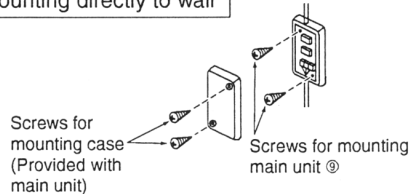
[A] Mounting to wall mounting bracket



⚠Caution

- 1) When mounting the remote operation adaptor main unit, be sure to use the mounting hardware to mount it to a wall or beam so that an inspection port is available for servicing.
- 2) If there is any loose remaining wire after installation, use a tie-wrap ⑥ to bundle it.

[B] Mounting directly to wall

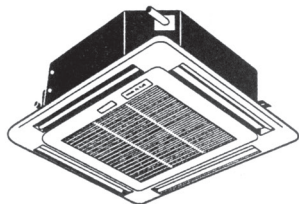


Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-11. Remote Operation Adapter [PAC-SF40RM-E], cont.

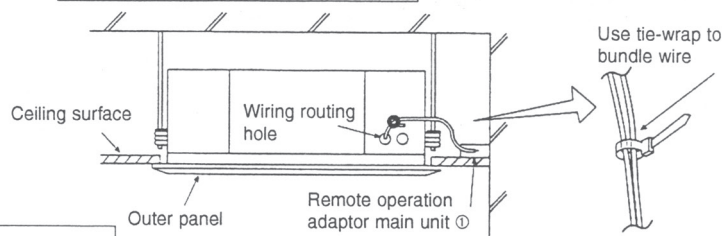
(2) Installation Example 2 [Cassette Type]



⚠ Caution

- 1) When mounting the remote operation adaptor main unit, be sure to use the mounting hardware to mount it to a wall or beam so that an inspection port is available for servicing.
- 2) If there is any loose remaining wire after installation, use a tie-wrap ⑥ to bundle it.

[A] If recess-mounted into ceiling



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1.12. System Control Interface [PAC-IF01MNT-E]

Descriptions

A-control MXZ models can be connected to "M-NET" through optional M-NET converter so that they can be monitored / controlled effectively and meticulously.

Applicable Models

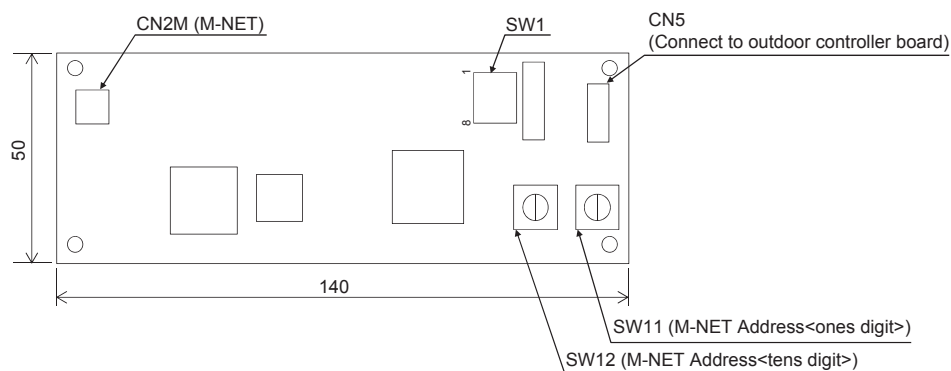
■ MXZ-3C24/3C30/4C36/5C42NA2

Specifications

Power	Supplied from power supply unit
Power consumption	0.8 W (at 30 V DC)
Operating conditions	Mounted inside the electrical utility box of outdoor unit. (Temperature: -20 to 60°C , humidity: 90% or less (no condensation))
Weight	0.3kg

Dimensions

Unit: mm



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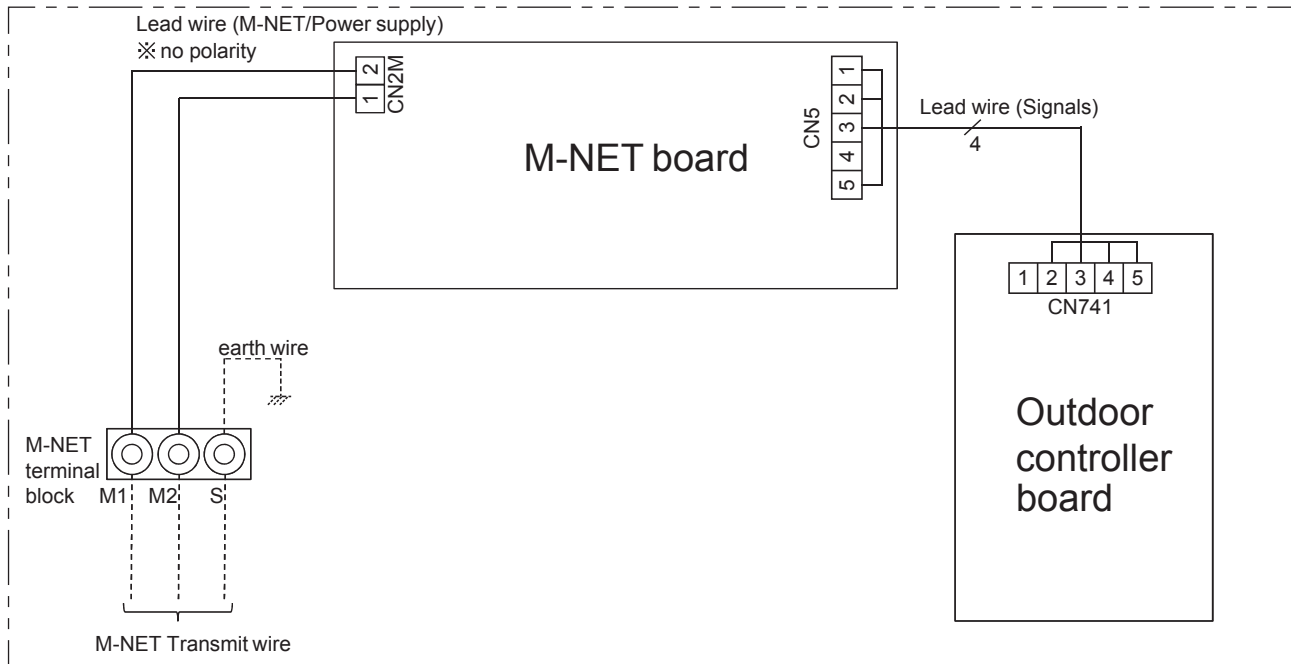
1. CONTROLS

1-12. System Control Interface [PAC-IF01MNT-E], cont.

How to Use / How to Install

1. Wiring diagram

The electrical box of outdoor unit.



Due to continuing improvement, above specification may be subject to change without notice.

1. CONTROLS

1-12. System Control Interface [PAC-IF01MNT-E], cont.

Attention for M-NET connection

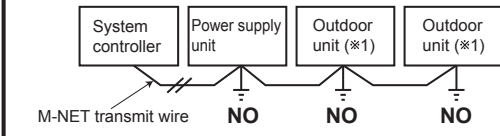
Pay attention to the next points for wiring of shielded wires.

⚠ CAUTION

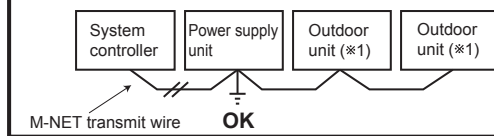
The shielded wires of M-NET transmission should be connected with the ground wire at any only one place of the unit to be connected.

•It can cause the transmission error due to noise.
Centralized control remote controller reads "0403" "6607" error.

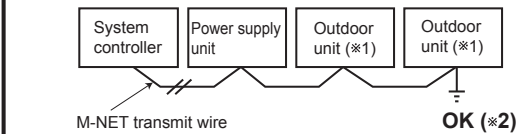
Bad example (Multiple ground of shielded wire)



Good example (One spot ground of shielded wire)



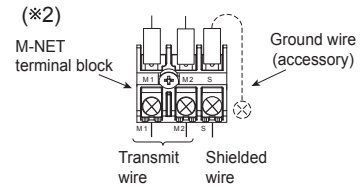
Good example (One spot ground of shielded wire)



(※1) Refer to the appendix List of Models to check the applicable models.

(※2) In case that the outdoor unit is grounded, connect the ground wire supplied as accessory to the S terminal (secondary) of M-NET terminal block and M-NET Ground terminal inside of electric box with using screws supplied.

(※3) If the shield and earth are grounded in two or more locations, electrical circuit is generated through them, and a potential difference is created because of the impedance difference between or among the ground locations. This may cause noise in the shield. Ground at only one point, then no circuit is created and no noise gets in.



1.Parts List

3. Switch setting

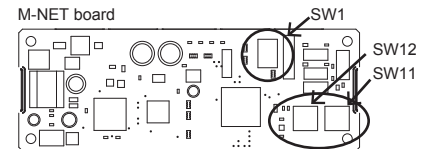
Before installation

Set M-NET address on M-NET board in advance before installing on the electrical box.

(1) M-NET head address setting

The setting should be done by rotary switches SW11 and SW12 on M-NET board. (Factory settings are all Zero)

Make sure to set M-NET address within the range of 01 to 50. When installing two or more outdoor units, do not use the same number more than once for M-NET address.



M-NET address No.		1	2	50
Switch setting	SW 11 (ones digit)			
	SW 12 (tens digit)			

(2) Indoor unit connection switch setting

Set each indoor unit to ON or OFF with SW1.

◆M-NET address setting

Starting with the M-NET head address set with SW11 and SW12, the M-NET address is automatically allocated in numerical order to each indoor unit which is connected.

Connection Setting	
Switch	
Setting	ON Indoor connect
	OFF No connection
Indoor Unit	SW1 -1 -2 -3 -4 -5 -6 (-7) (-8)
	A B C D E F - -

(SW1-7,8 not use)