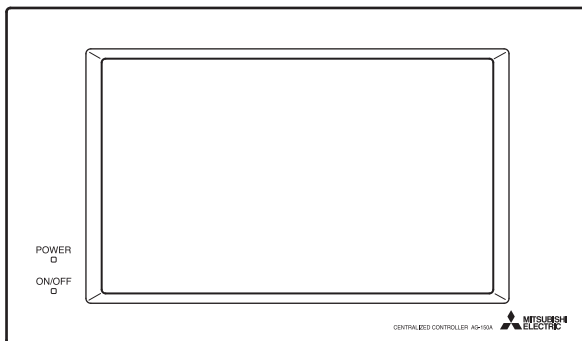


Air-conditioner Network System

Centralized Controller Model: AG-150A

Installation Manual



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Before installing the controller, please read this Installation Manual carefully to ensure proper operation. Retain this manual for future reference.

This manual describes how to install the centralized controller and wiring. Before installing the controller, read the **1 Safety Precautions** section carefully to ensure proper installation.


1 Safety Precautions


Safety symbols used in this manual

The following symbols are used in this manual to indicate the type and severity of potential consequences that may result when given instructions are not followed exactly as stated.

 WARNING	Indicates a risk of death or serious injury.
 CAUTION	Indicates a risk of injury or damage to the controller.

Retain the Installation Manual and the Instruction Book for future reference. Make sure both the Installation Manual and the Instruction Book are passed to any future air condition system users.

 WARNING	
<p>The controller must be professional installed. Improper installation by an unqualified person may result in electric shock or fire.</p> <p>Make sure the controller is securely mounted so that it will not fall.</p> <p>Only use specified cables. Securely connect each cable so that the weight of the cable is not applied to the connectors. Loose or improper connections may result in heat generation or fire.</p> <p>Do not attempt to modify or repair the controller. Modification or improper repair may result in electric shock or fire. Consult your dealer when repairs are necessary.</p>	<p>Securely install the controller according to the installation manual. Improper installation may result in electric shock or fire.</p> <p>Electric work must be performed by authorized personnel according to the local regulations and the instructions detailed in the installation manual. Inadequate circuit capacity or improper installation may result in electric shock or fire.</p> <p>Ask your dealer or an authorized technician to move the controller. Improper installation may result in electric shock or fire or damage to the controller.</p>

 CAUTION	
<p>Do not install the controller where there is a risk of flammable gas. If the leaked gas accumulates around the controller, it may ignite and cause an explosion.</p> <p>Do not use the controller in an environment high in oil, steam, or sulfuric gas. These substances may have adverse effects on the performance of the controller or damage its parts.</p> <p>When installing the controller in a hospital or communication facility, take appropriate measures to reduce noise interference. Inverter equipment, generators, high-frequency medical equipment, or radio communication equipment may interfere with the normal operation of the controller, or the noise from the controller may interfere with the medical practice or cause image distortion and static noise.</p> <p>To prevent over-heating and fire, perform wiring so that the weight of the cable will not strain the connectors.</p> <p>Seal the wire lead-in port with putty to prevent the entry of dew, water, and insects to avoid electric shock or malfunction of the controller.</p> <p>Do not wet the controller. Water may damage the controller and cause an electric shock.</p> <p>Do not install this controller where the ambient temperature exceeds 40°C (104°F) or drops below 0°C (32°F). To prevent deformation and malfunction, install the controller out of direct sunlight.</p> <p>AG-150A should be installed no higher than 1.8 m from the floor.</p> <p>To reduce the risk of electric shock, install and wire the unit with the power to the PAC-SC51KUA power supply unit turned off.</p>	<p>To avoid the risk of electric shock or malfunction of the controller, install the controller in a non-condensing environment. Do not install this controller in a steamy place, such as a bathroom or kitchen.</p> <p>Do not install this controller where an acid or alkaline solution or special chemical spray is used frequently to avoid electric shock or malfunction.</p> <p>Use specified wires with the proper current carrying capacity to prevent current leakage, over-heating, or fire.</p> <p>Do not touch the PCB (Printed Circuit Board) either with your hand or a tool. Keep the PCB dust-free to prevent fire or malfunction.</p> <p>To avoid the risk of electric shock or damage to the controller, do not touch the touch panel or USB storage device connector with wet hands.</p> <p>To avoid the risk of electric shock or damage to the controller, do not press the touch panel with sharp objects.</p> <p>Do not apply an AC voltage or a voltage higher than 32VDC to the M-NET or the Power (24VDC) terminal blocks on the controller to avoid damage to these parts or fire.</p> <p>Use a security device such as a VPN router when connecting the AG-150A to the Internet to prevent unauthorized access.</p>

2 Parts List

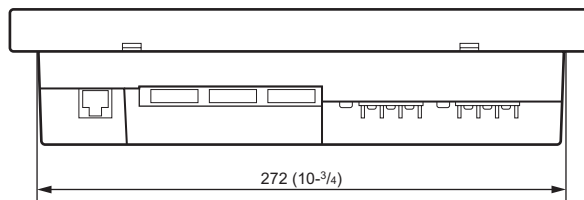
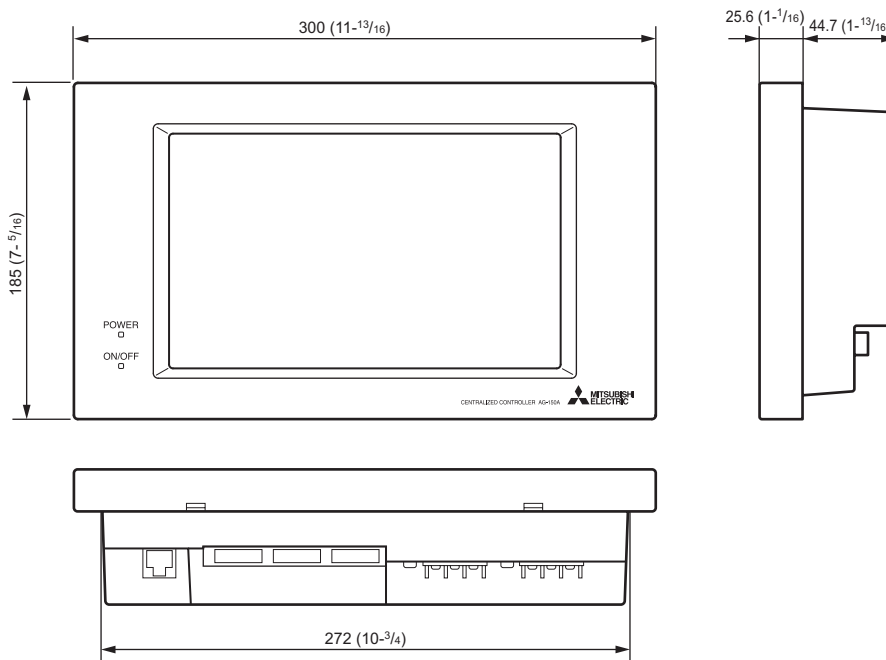
* The Installation Manual and the parts listed below are included with the unit.

No.	Description	Qty.
①	AG-150A Centralized controller	1
②	A type Installation plate	1
③	B type Installation plate	1
④	Wood screw 4.1×16 (For wall mount installations)	4
⑤	M4 flathead screw (M4×40) for attaching the installation plate	4
⑥	M4 roundhead screw for main unit installation	4
⑦	Power cable for the power supply unit (PAC-SC51KUA)	1
⑧	M-NET cable for the power supply unit (PAC-SC51KUA)	1
⑨	Instruction book	1

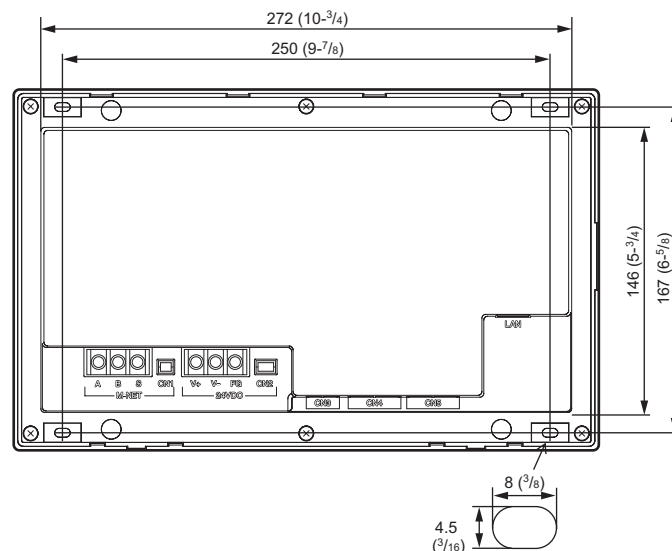
- * If the enclosed screw for attaching the installation plate cannot be used because the wall is too thick, obtain a longer M4 flathead screw that matches the wall thickness.
- * Besides the above parts, purchase a power supply unit (PAC-SC51KUA) that supplies power to the centralized controller (24VDC) and the M-NET transmission line.
- * If the AG-150A is connected to R410A compatible CITY MULTI outdoor unit (except the S series), it can be powered from the outdoor unit. However, the power to the connected outdoor unit is turned off, the AG-150A cannot perform a schedule operation, collect charge data, or perform energy save control.

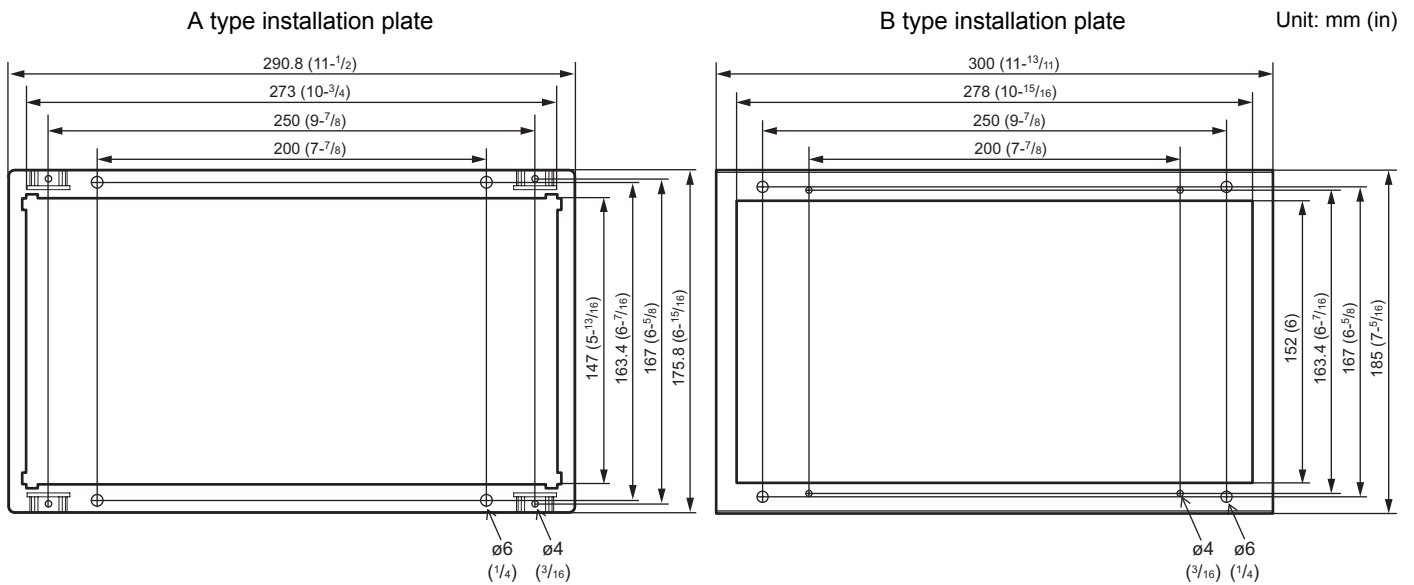
3 External Dimensions

Unit: mm (in)



Back View





4 Product Features

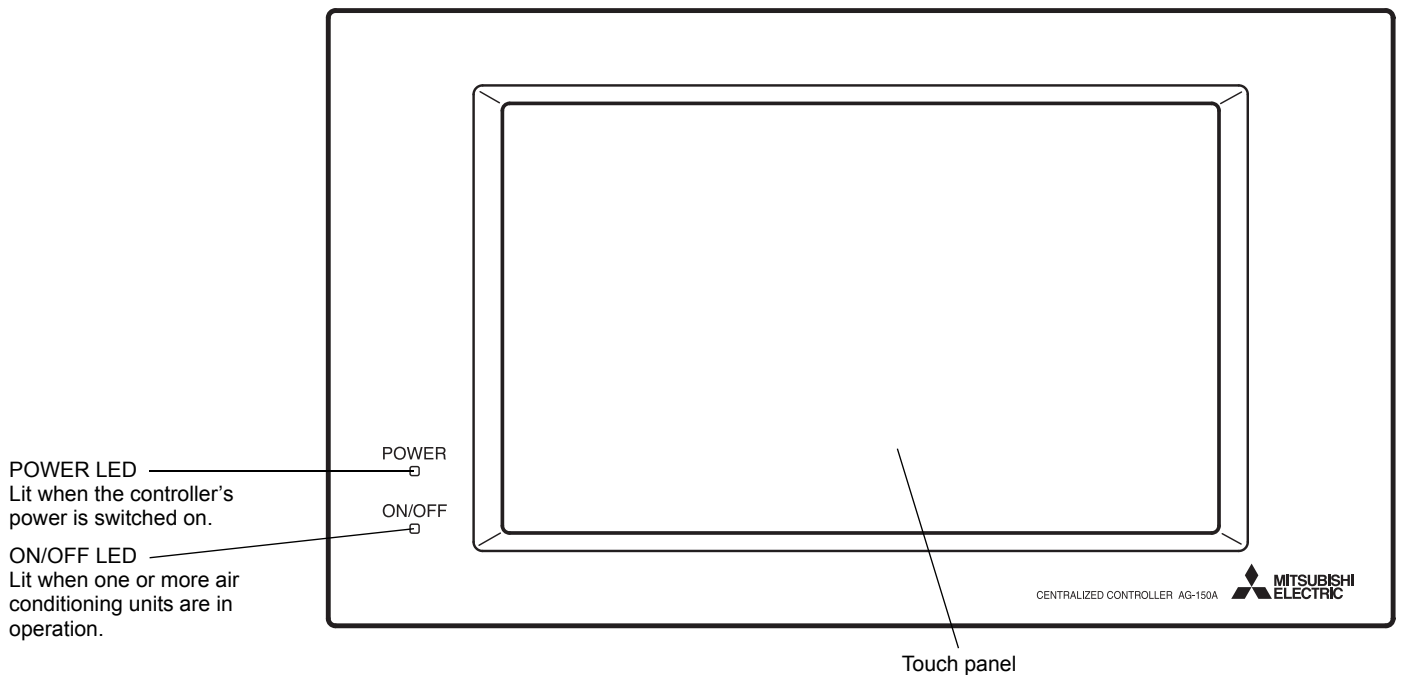
AG-150A is a centralized controller that features advanced functions such as the Web function. Up to 50 indoor units can be monitored and operated from an AG-150A unit.

1. Specification

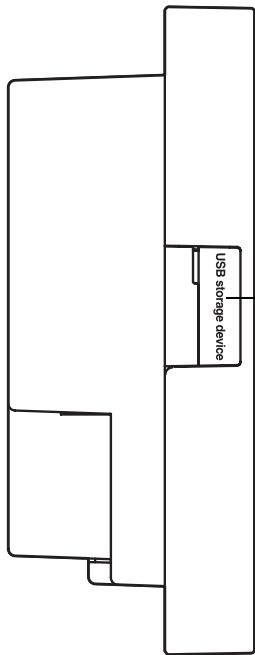
Item	Specifications		
	Power supply	M-NET Terminal	17VDC~32VDC
Controller drive		24VDC	
Temperature	Operating	0~40°C [32~104°F]	
	Non operating	-20~60°C [-4~140°F]	
Humidity	30~90%RH (No condensation)		
Weight	2.1kg [4.6 lbs]		
Dimensions (W × H × D)	300 × 185 × 70.3 [25.6] mm 11-13/16 × 7-5/16 × 2-13/16 [1-1/16] in * []: indicate the thickness from the wall.		

2. Parts names and functions

Front

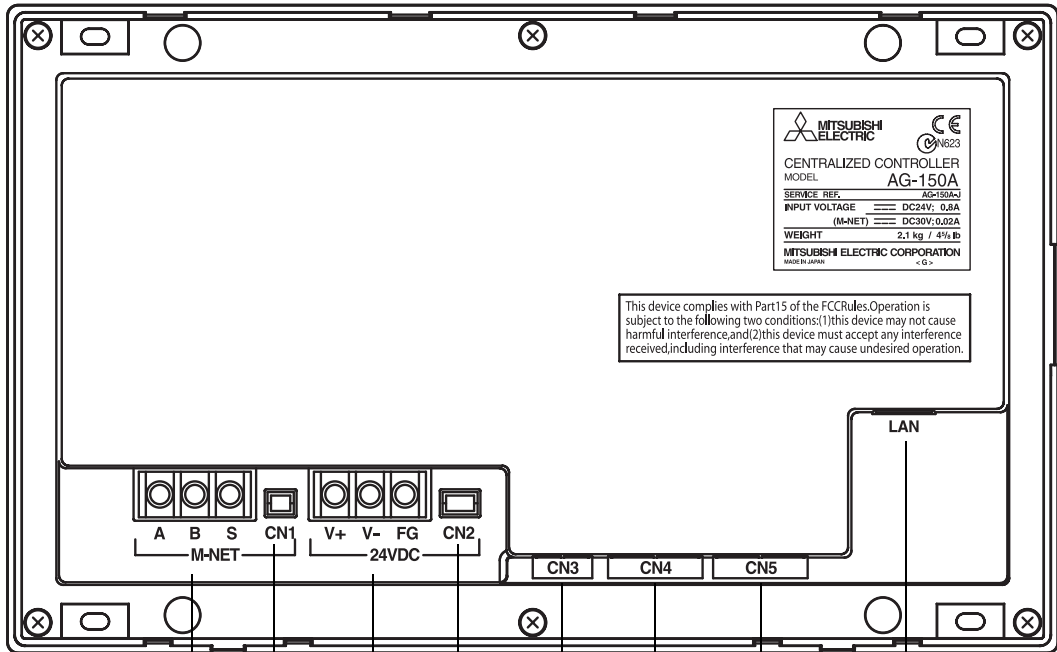


Left view



USB storage device
Connects to a USB storage device to copy data from the AG-150A

Back View



 MITSUBISHI ELECTRIC		 <small>CE</small>
CENTRALIZED CONTROLLER		
MODEL AG-150A		
<small>SERVICE REF. AG-150A-1</small>		
<small>INPUT VOLTAGE</small>		
<small>DC24V: 0.8A</small>		<small>CE</small>
<small>(M-NET) DC30V: 0.02A</small>		<small>CE</small>
<small>WEIGHT 2.1 kg / 4.6 lb</small>		
<small>MITSUBISHI ELECTRIC CORPORATION</small>		
<small>MKEE141A001</small>		

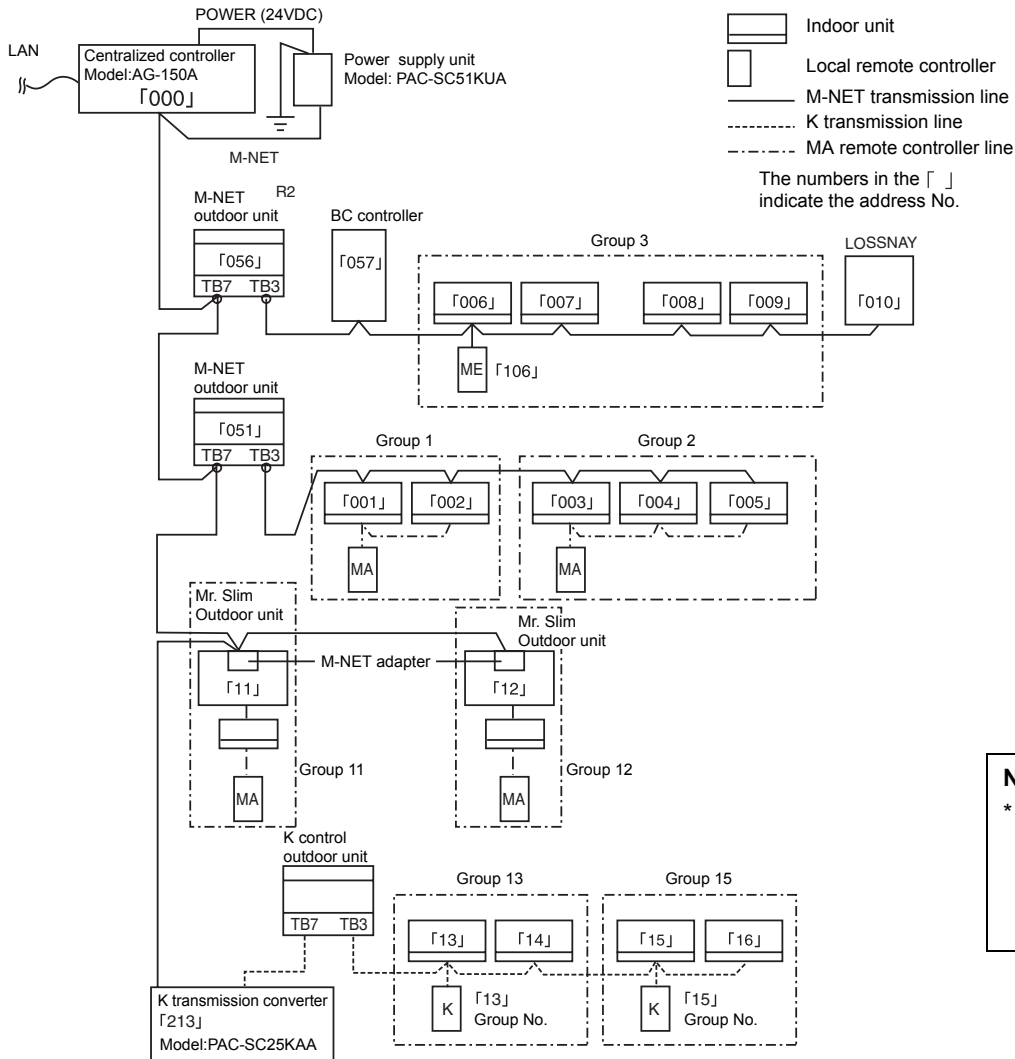
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

- CN3 Unused
- CN4 Unused
- CN5 Connects to PAC-YG10HA external input/output adapter
- LAN Connects to the LAN
- CN2 Connects to the power cable (supplied) when the mounting attachment A-type (PAC-YG85KTB; sold separately) is used to attach the controller.
- V+V-FG Connects to PAC-SC51KUA power supply that supplies 24 VDC power. (V+: +24VDC terminal, V-: 0V terminal, FG terminal: Functional earthing; ground)
- CN1 Connects to the M-NET cable (supplied) when the mounting attachment A-type (PAC-YG85KTB; sold separately) is used to attach the controller.
- A,B,S Connects to the M-NET transmission cable from the power supply (PAC-SC51KUA). (A, B: M-NET transmission cable terminal: non-polarized, S: S terminal)

NOTE

- * M-NET terminal (A, B, S) and CN1 cannot be used simultaneously.
- * Power supply terminal block (V+, V-, FG) and CN2 cannot be used simultaneously.

5 System Diagram



NOTE
 * This diagram does not show the AC power supply wiring. Only the configuration for the transmission line is shown.

* Address setting for each M-NET device (Addresses cannot be duplicated).

	Address setting method	Address
Indoor unit	Set the indoor unit you want to make the main unit in the same group to the minimum address, and sequentially set the indoor unit addresses in the same group.	1~50
Outdoor unit	Minimum indoor unit address in same refrigerant system + No.50 unit.	51~100
BC controller/OS controller	Outdoor unit address in same refrigerant system + No.1 unit. However, for Sub-BC controller, the minimum indoor unit address that connects the local refrigerant piping should be + 50.	52~100
K control side remote controller	Same address as indoor unit main unit	1~50
M-NET remote controller	Set to the minimum indoor unit main address in the same group + 100.	101~200
MA remote controller	Address setting is unnecessary.	-
OA processing unit/LOSSNAY	After setting all the indoor units, set an arbitrary address.	1~50
K transmission converter	Minimum address of K control indoor unit + No.200 unit.	201~250

NOTE

* Apply following precautions when using the K transmission converter (model PAC-SC25KAA; discontinued) and controlling the M-NET model and K control model with the same controller. Refer to the K transmission converter (PAC-SC25KAA) installation manual for details.

- ① Centralized controller address
Always set the controller address to "000".
(Refer to section (8) Initial Setting.)
- ② Centralized controller function selects
Always set the No.3 function selects of the controller to "ON"
(Refer to section (8) Initial Setting.)
- ③ Indoor unit address
Set all M-NET model indoor units from the No.1 unit, then set the K control model addresses.
Indoor unit No.1 unit ~M-NET indoor unit max. address> K control indoor unit minimum address ~50
- ④ K control model group No.
The minimum indoor address No. of that group becomes the group No. (Same for K control side local remote controller.)

6 Installation

⚠ CAUTION

- * Install and wire the unit with the power to the PAC-SC51KUA power supply unit turned off.
- * Do not put the signal wire and power wire in the same conduit.

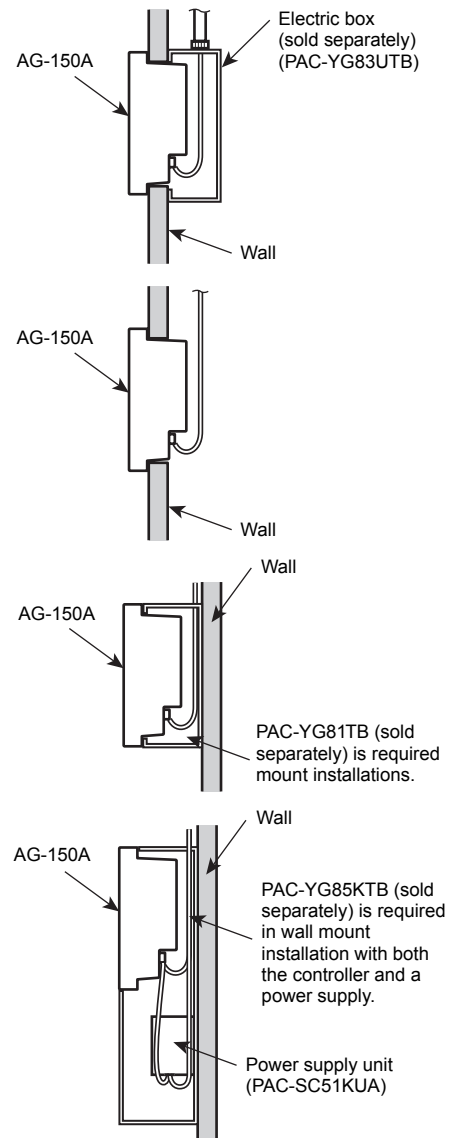
1. Field-supplied Parts

- ① Electric box: PAC-YG83UTB (sold separately) (When following installation method described in section "2. Installation" item ①.)
- ② Mounting attachment: PAC-YG81TB (sold separately) (Required only when following installation method described in section "2. Installation" item ③.)
- ③ Mounting attachment: PAC-YG85KTB (sold separately) (Required only when following installation method described in section "2. Installation" item ④.)
- ④ Locknuts and bushing for the conduit tube.
- ⑤ M-NET transmission cable. (Refer to page 8.)
- ⑥ DC power cable. (Refer to page 8.)

2. Installation

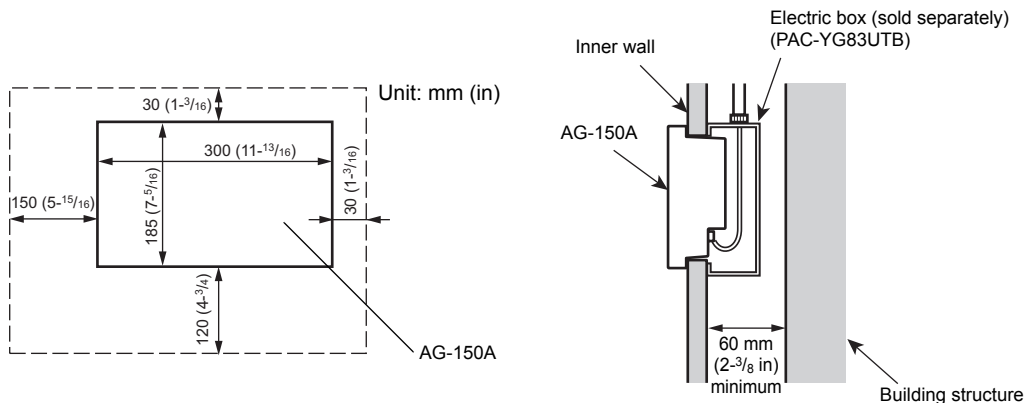
The controller can be installed by following one of the methods below:

- ① By embedding the centralized controller in the wall and mounting it to an electric box
An electric box (PAC-YG83UTB; sold separately) is required.
- ② By embedding the centralized controller in the wall
Method of using two plates included with AG-150A.
- ③ By installing the centralized controller directly on the wall
A mounting attachment (PAC-YG81TB; sold separately) is required.
- ④ By installing the centralized controller and a power supply unit (PAC-SC51KUA; sold separately) inside the mounting attachment on the wall.
A mounting attachment (PAC-YG85KTB; sold separately) is required.



2-1. Wall-Embedded installation with an electric box

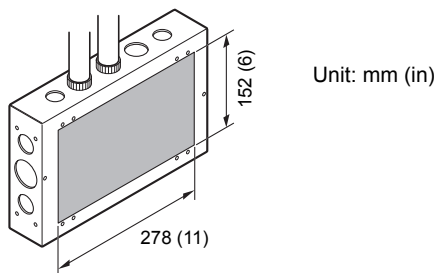
- ① Ensure there is enough space to install the controller as shown below. Wall space and 60 mm (2-3/8 in) of clearance behind the wall are required to mount an electric box.



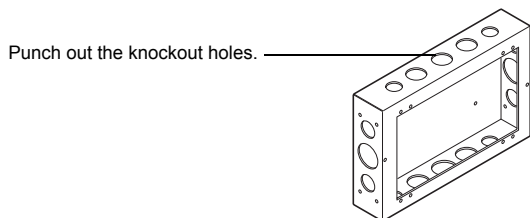
NOTE

- * When installing two or more controllers side-by-side and horizontally ensure that there is at least 180 mm (7-1/8 in) or more between the units.
- * When installing two or more controllers vertically, ensure that there is at least 150 mm (5-15/16 in) between units; otherwise, it will be hard to remove the cover.

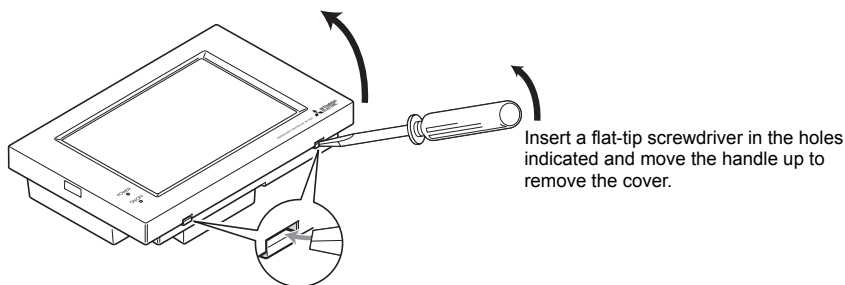
- ② Cut out an opening in the wall as shown in the shaded area in the figure below. (Width × Height: 278 mm (11 in) × 152 mm (6 in)) Follow the dimensions in the figure exactly. If the opening is too large, it will be hard to properly install the unit.



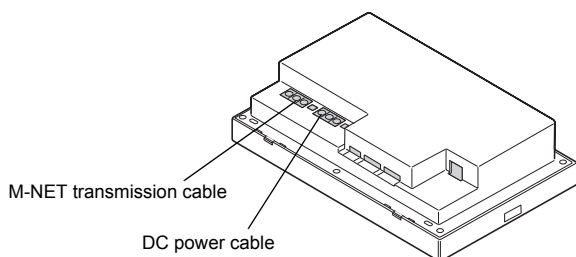
- ③ Punch out the appropriate knockout holes on the electric box depending on how the cable is routed.



- ④ Remove AG-150A surface cover.



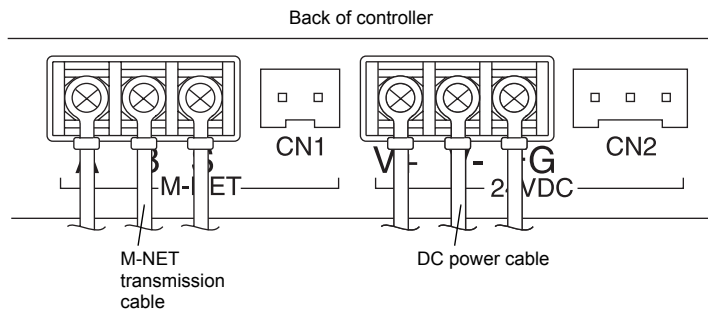
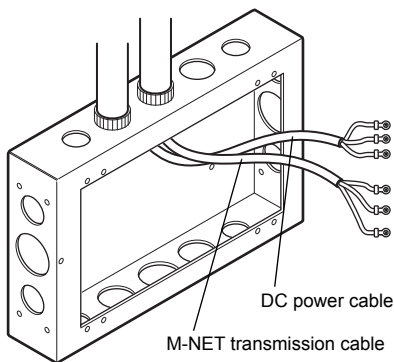
- ⑤ Connect the M-NET transmission cable (centralized control cable that is connected to TB2 of the power-supply unit PAC-SC51KUA) to M-NET transmission cable terminal A and B (Non polarity). Connect the DC power cable from the power supply unit PAC-SC51KUA to the 24VDC power supply terminal block of the controller. There is V+ and V- polarity.



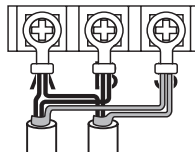
M-NET transmission cable	Type of the cable; Sheathed vinyl cords or cable which comply with the following specifications or equivalent. <ul style="list-style-type: none"> • CPEVS ϕ1.2mm to ϕ1.6mm • CVVS 1.25mm² to 2mm² (AWG16 to 14) * CPEVS; PE insulated PVC jacketed shielded communication cable * CVVS; PVC insulated PVC jacketed shielded control cable PE: Polyethylene PVC: Polyvinyl chloride
DC power cable	The DC power cable should comply with both local standards as well as the power requirement of the unit. Recommended type: 0.75mm ² to 2mm ² (AWG18 to 14), 3-conductor power cable Cable length: Within 50m (164 ft)

CAUTION

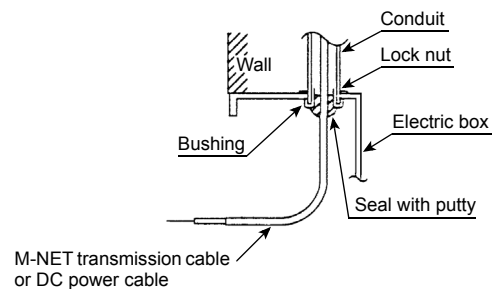
- * Do not connect the AC power cable to the M-NET and POWER (24VDC) terminal blocks of the controller. It may cause a failure.
- * The conduit outlet is only vertical facing. When leading the cable out from above, seal the port so that water does not enter along the transmission cable and DC power supply cable.



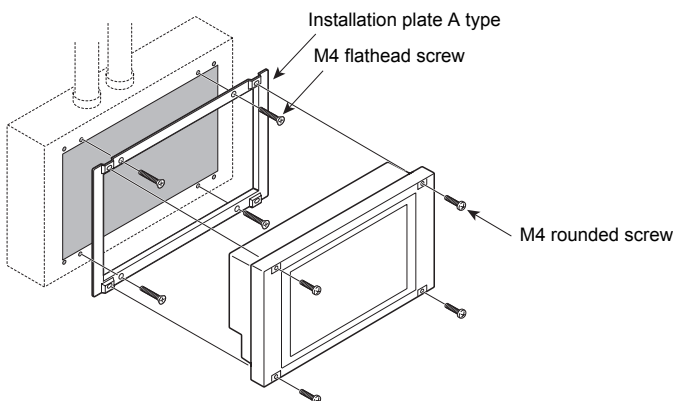
- * When using bridge wiring of the shield, use the S-terminal as shown below.



- ⑥ Securely seal the cable lead-in port with putty to prevent dew, water and insects, etc. from earthing.
- * Seal the space between the electric box and conduit with putty.



- ⑦ Install it on the electric box.



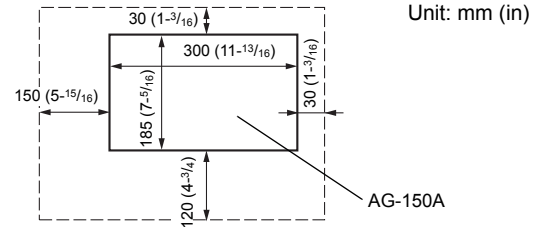
NOTE

- * If the screw provided for the installation plate, cannot be used because of the wall thickness, use an M4 flathead screw that matches the wall thickness.
- * When using an LAN and external signal I/O, refer to section (11) External input/output usage.

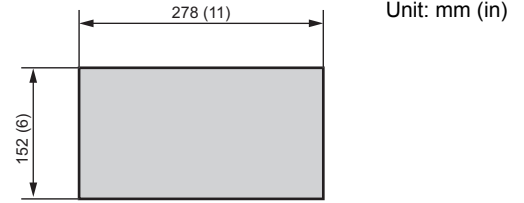
- ⑧ Replace the surface cover.

2-2. Embedding the centralized controller in the wall.

- ① Ensure there is enough space to install the controller as shown in the figure at right.

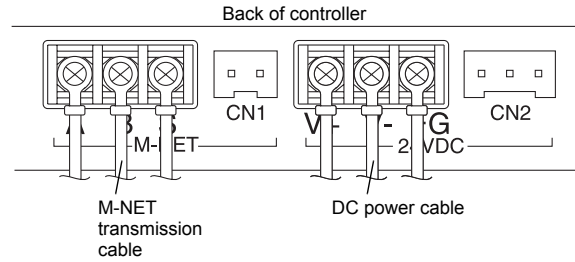
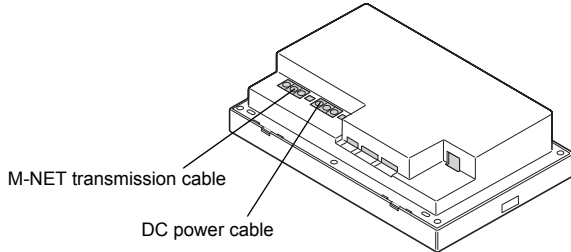


- ② Cut out an opening in the wall as shown in the shaded area in the figure at right. (W × H: 278 mm (11 in) × 152 mm (6 in)) Follow the dimensions in the figure exactly. If the opening is too large, it will be hard to properly install the unit.

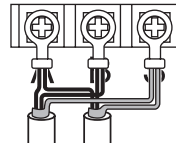


- ③ Remove AG-150A surface cover.

- ④ Connect the M-NET transmission cable (centralized control cable that is connected to TB2 of the power-supply unit PAC-SC51KUA) to M-NET transmission cable terminal A and B. (Non-polarity)
Connect the DC power cable from the power supply unit (PAC-SC51KUA) to the 24VDC power supply terminal block of the controller. There is V+ and V- polarity.

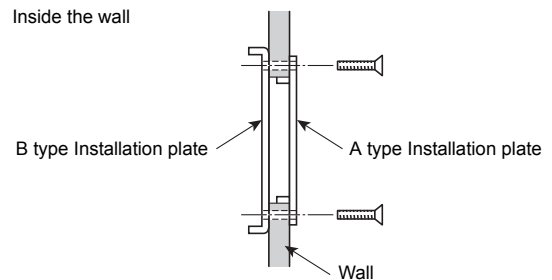
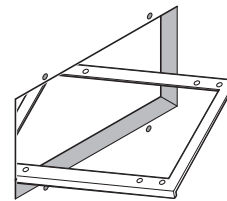


* When using bridge wiring of the shield, use the S-terminal as shown below.

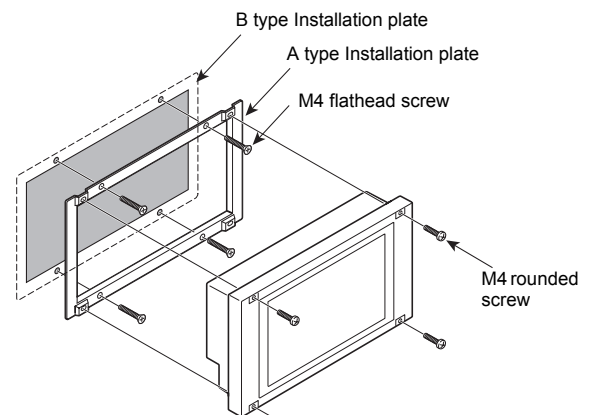


- ⑤ Insert the installation plate (B type) through the hole in the wall and hold it.

- ⑥ Attach the A type installation plate (supplied) to the B type installation plate (supplied) with the M4 flathead screws (supplied), sandwiching the wall between the two plates. Prior to installation, check that the wall is strong enough to support the weight of the controller to prevent the controller from falling.



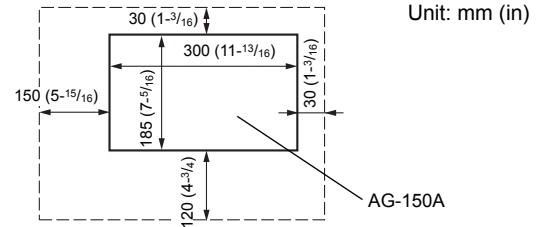
- ⑦ Attach the controller to the A type installation plate with the roundhead screws (supplied).



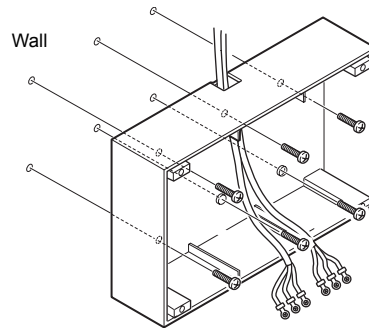
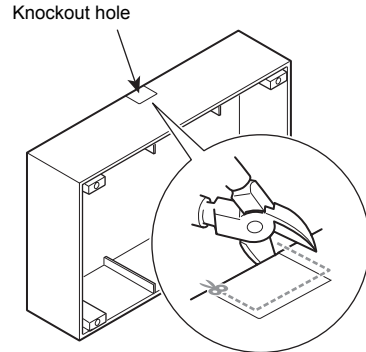
- ⑧ Replace the surface cover.

2-3. Wall-mounting the centralized controller.

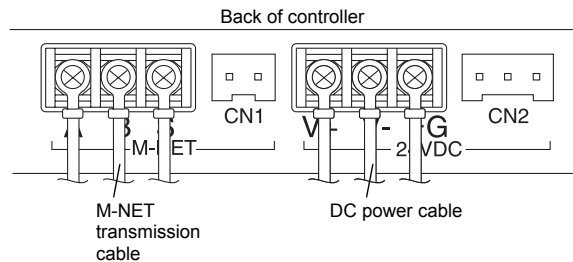
- ① Ensure there is enough space to install the controller as shown in the figure at right.



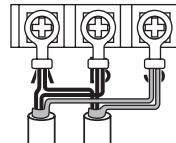
- ② Punch out the appropriate knockout hole, depending on how the wiring is routed.
- ③ Push the M-NET transmission cable, DC power cable through the knockout hole.
- ④ Install the PAC-YG81TB (sold separately; B type mounting attachment) on the wall with the six screws. Prior to installation, check that the wall is strong enough to support the weight of the controller.



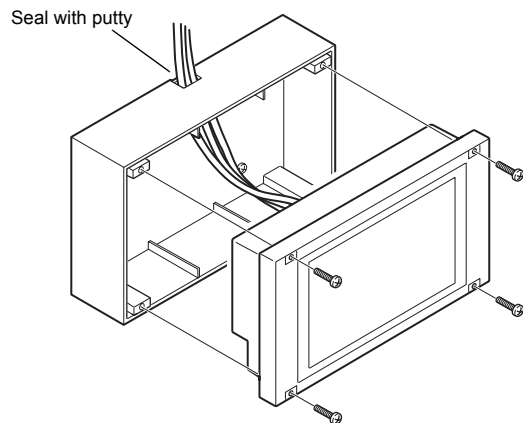
- ⑤ Remove the surface cover.
- ⑥ Connect the M-NET transmission cable (centralized control cable which is connected to TB2 of the PAC-SC51KUA power-supply unit to M-NET transmission cable terminal A and B. (Non-polarity) Connect the DC power cable from the power supply unit (PAC-SC51KUA) to the DC power supply terminal block of the controller. There is V+ and V- polarity.



* When using bridge wiring of the shield, use the S-terminal as shown below.

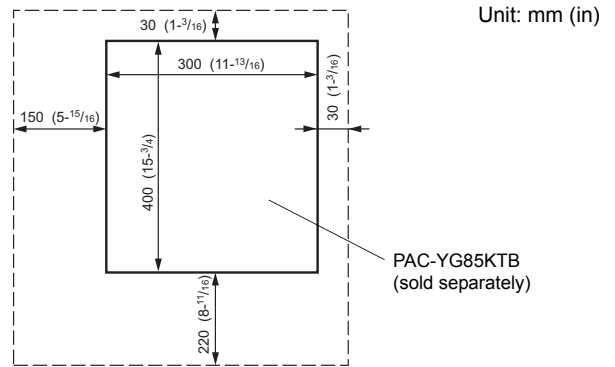


- ⑦ Install the controller on the mounting attachment PAC-YG81TB with the four M4 screws (supplied).
- ⑧ Securely seal the cable lead-in port with putty to prevent dew, water and insect, etc. from entering.
- ⑨ Replace the surface cover.



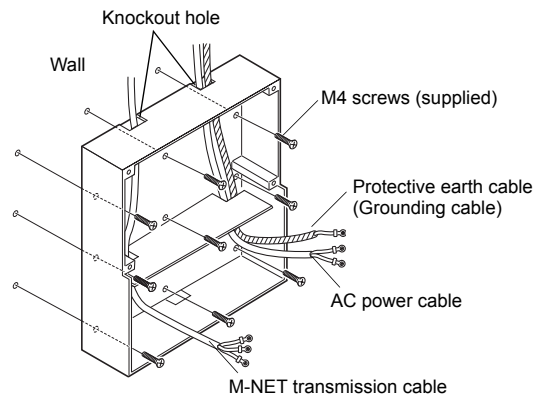
2-4. Installing the centralized controller and a power supply unit (PAC-SC51KUA; sold separately) inside the mounting attachment on the wall

- ① Ensure there is enough space to install the controller as shown in the figure at right.



- ② Install the mounting attachment PAC-YG85KTB (sold separately) on the wall with the four M4 screws (supplied). Prior to installation, check that the wall is strong enough to support the weight of the controller.

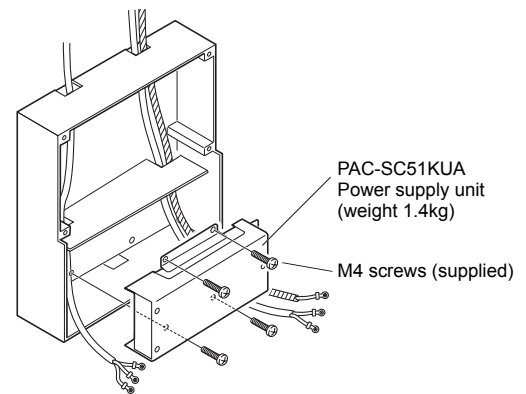
- ③ Punch out the knockout hole on PAC-YG85KTB, and push the AC power cable, protective earth (ground) cable, and M-NET transmission cable through the knockout hole.



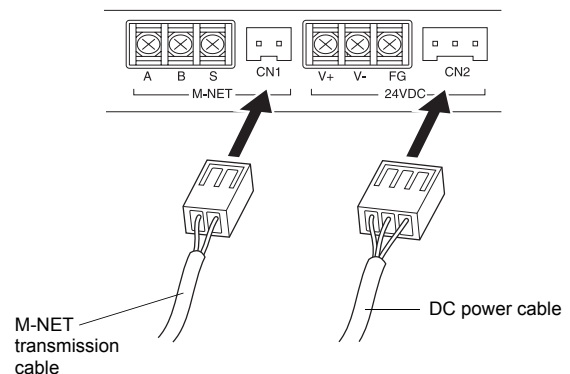
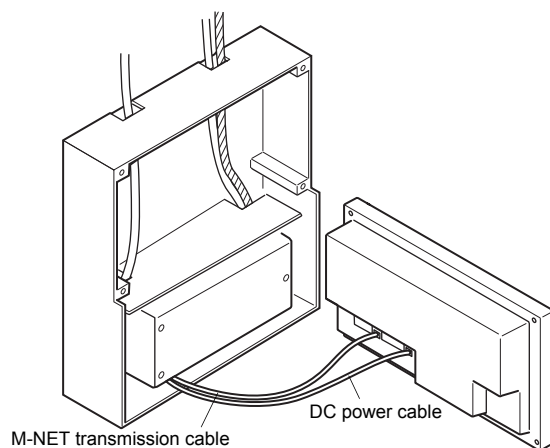
- ④ Install the PAC-SC51KUA power supply unit (sold separately) inside the mounting attachment with the four M4 screws (supplied).

- ⑤ Connect the cables to the PAC-SC51KUA power supply unit. Refer to the PAC-SC51KUA Installation Manual for details.

- ⑥ Seal the knockout hole with putty.

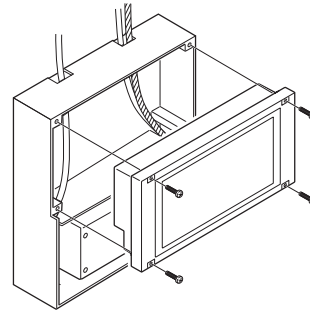


- ⑦ Connect the wiring from the power supply unit to the centralized controller.



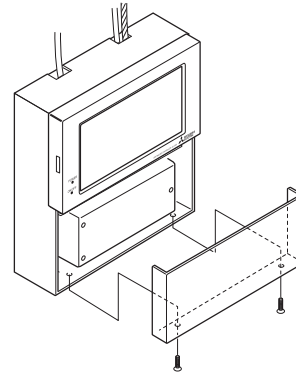
- ⑧ Remove AG-150A surface cover.

- ⑨ Install the centralized controller inside the mounting attachment with the four M4 screws (supplied).



- ⑩ Replace the surface cover.

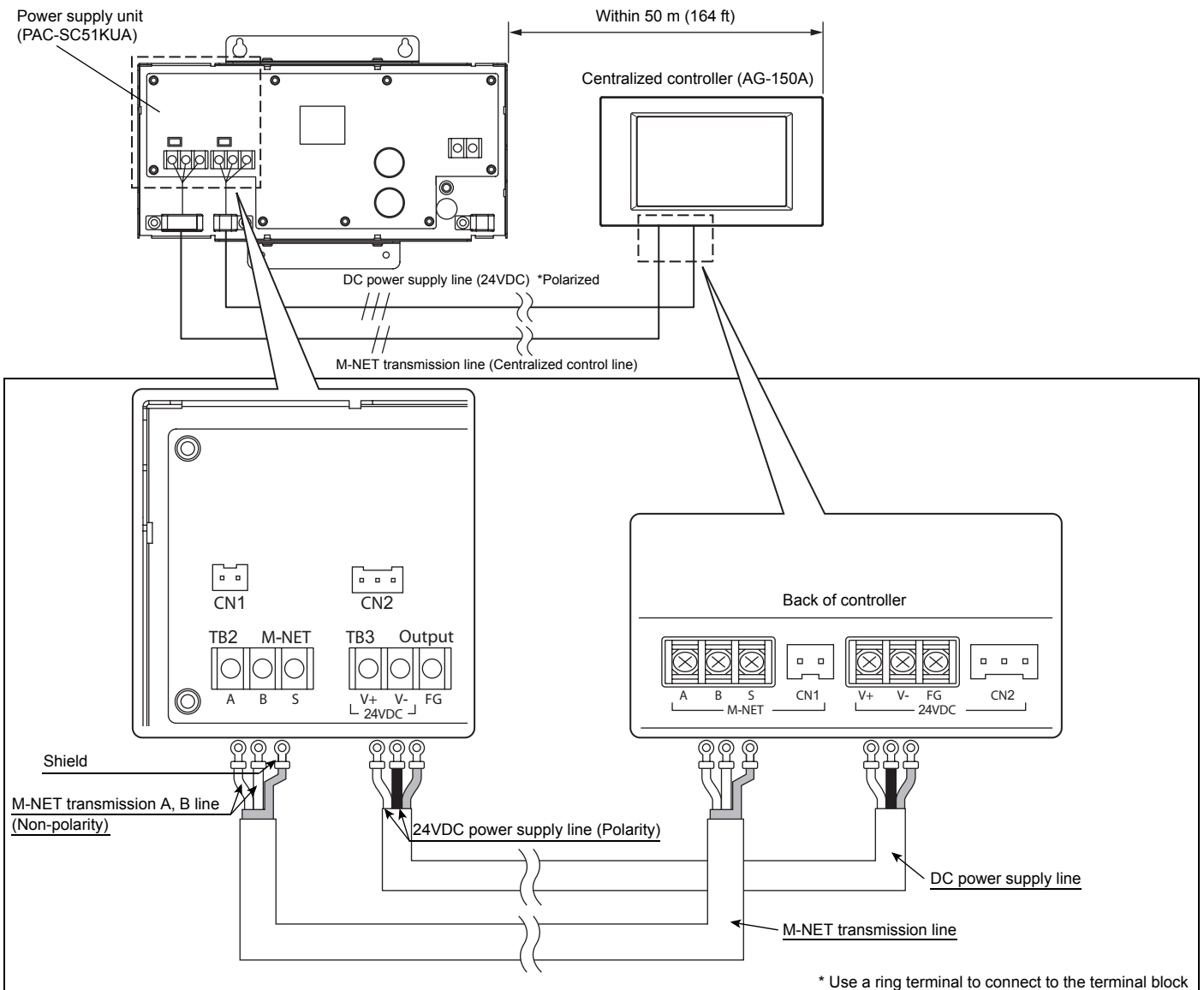
- ⑪ Attach the power supply unit cover with the two screws.



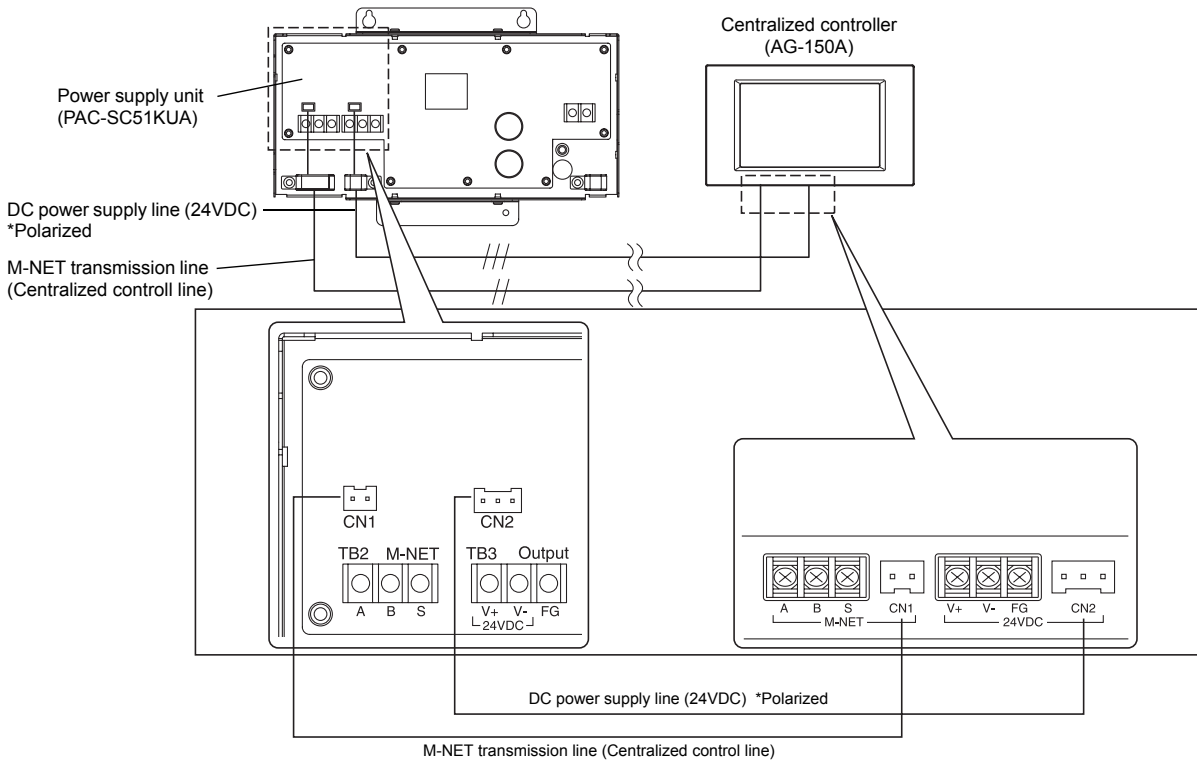
7 Wiring

Choose from the two unit installation methods below.

- ① When installing the AG-150A by following the installation method described in 2-1 through 2-3 in **6 Installation**, connect the cables to the terminal block as shown in the figure below.




- ② Installing the AG-150A by following the installation method described in 2-4 in (6 Installation), DC power line and M-NET transmission cable are connected using a connector as shown figure below. Connectable to the connector using the cable that is supplied with AG-150A.



8 Initial Setting

NOTE

* Choose from three initial setting methods: 1) Making the settings via AG-150A, and 2) Making the setting via the LAN using the Initial Setting Web.
This manual provides the instructions on making the initial settings from AG-150A. Please refer to AG-150A Instruction Book or the Instruction Book that are provided with Initial Setting Web.

- ① Turn on the power supply unit (PAC-SC51KUA) to start up the AG-150A.
 - Language selection screen will appear when power is on.
 - ② Touch the language button on the screen.
 - ③ The Initial Setting screen will appear.
(*The Monitor/Operation window will appear the next time the power is turned on.
Touch the  icon at the right bottom corner to display the Initial Setting Screen.)
- 8-1. Setting the clock
- ① Touch "Date and Time" on the Initial Setting screen.
 - ② Touch the item to be set and change accordingly.
 - ③ Touch the "Save Settings" button to save.
- 8-2. Unit information setting
- ① Touch "Unit Info" on the Initial Setting screen.
 - ② Touch the item to be set and change accordingly.
 - ③ Touch the "Save Settings" button to save.
- 8-3. Network setting
- ① Touch "Network" on the Initial Setting screen, then enter the IP address, M-NET address, and other necessary information.
Enter the IP address to connect AG-150A to the LAN.
 - ② Touch the item to be set and change accordingly.
 - ③ Touch the "Save Settings" button to save.
- 8-4. Group setting
- ① Touch "Groups" on the Initial Setting screen.
 - ② Touch the item to be set and change accordingly.
 - ③ Touch the "Save Settings" button to save.
- 8-5. Miscellaneous settings
- After completing the group setting, make the settings for other items as necessary by touching the specific item on the menu.
- Interlocked operation setting (interlocked operation between LOSSNAY and indoor units)
 - Refrigerant system monitor (monitoring of refrigerant piping connection between indoor and outdoor units)
 - Block setting
 - Floor layout setting
 - User setting

After making the settings for all the items, touch the  icon to return to the Monitor/Operation screen.

9 Test Run

- Before performing a test run, verify that the group setting has been performed and the startup sequence for the interlocked operation setting has been completed.
- It may take approximately 10 minutes from power on until the local remote controller becomes operable. By pressing the operation/ Stop button on the touch panel on AG-150A the remote controller will become operable right away.

Test run procedure

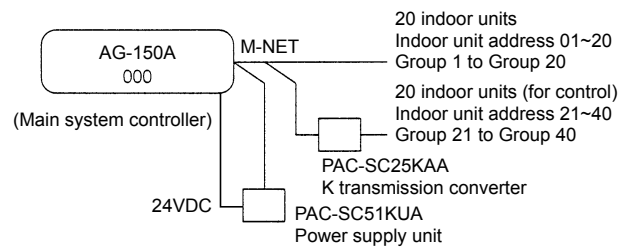
- ① Turn the AG-150A and all air conditioning units on.
- ② Select the group to be tested on the Monitor/Operation screen and run the test.
- ③ Check for proper operation of each air conditioning unit during test run (e.g., check to see if cold (or warm) air comes out of the supply air outlet on each indoor unit)
- ④ After confirming that all units are operating properly, stop the units either from AG-150A or from the remote controllers.

* Please refer to the Install Manual that came with the indoor unit for further details on the test run method.

10 System Configuration Example

1. To control a K control model

- * Set AG-150A address to "000" when a K transmission converter is connected. Always set to the main system controller when the address is "000".
- * Set the address of the K-control indoor units to a larger number than those of the M-transmission models of indoor units.
- * When using a group setting for the K control model, set only the indoor unit that belongs to that group.
- * Set the minimum indoor unit address in the group for the K control model group number.



11 External input/output usage

1. External signal input function

- * External signal input requires the external I/O adapter (PAC-YG10HA) sold separately.

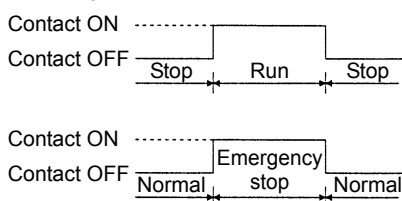
(1) External input

Emergency stop/normal, run/stop and prohibit/enable operation of local remote controllers can be controlled for all grouped air conditioners by using a voltage (12VDC or 24VDC) contact signal from an external source. (Select with an initial settings screen.)

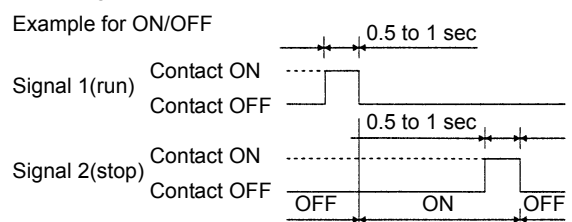
No.	External signal input function	Remarks
1	Do not use the external input signal (factory setting)	-
2	Perform emergency stop/normal with level signal	The local remote controller ON/OFF operation, the controller ON/OFF operation, and prohibit/enable change operation will be prohibited during emergency stop. Timer operation will also be prohibited.
3	Perform ON/OFF with level signal	The local remote controller ON/OFF operation, the controller ON/OFF operation, and prohibit/enable change operation will be prohibited. Timer operation will also be prohibited.
4	Perform ON/OFF, prohibit/enable with pulse signals.	Set the pulse width while the contact is ON to 0.5 to 1 second.

(2) Level signals and pulse signals (12VDC or 24VDC)

(A) Level signal



(B) Pulse signal



* The prohibit/enable input is the same.

(3) External input specifications

CN5	Lead wire	Emergency stop/normal level signal	ON/OFF, level signal	ON/OFF, prohibit/enable pulse signal
No.5	Orange	Emergency stop/normal input	ON/OFF input	ON input
No.6	Yellow	Not used	Not used	OFF input
No.7	Blue	Not used	Not used	Local remote controller operation prohibit input
No.8	Gray	Not used	Not used	Local remote controller operation enable input
No.9	Red	External DC source "+ 12VDC" or "+ 24VDC"		

(A) For level signal

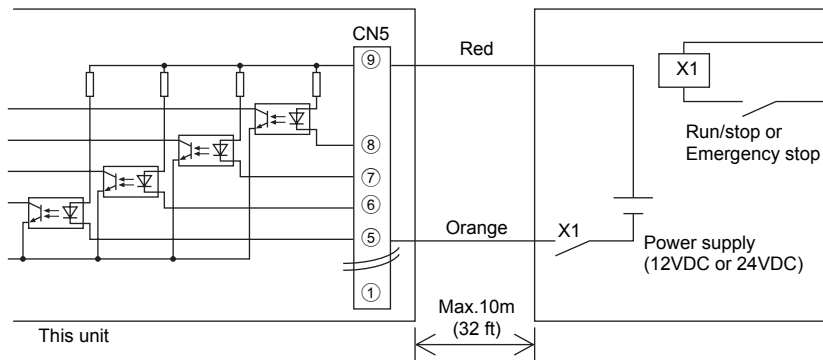
- ① When the emergency stop/normal signal is selected, the status will switch from normal to emergency stop when the external input signal contact changes from OFF to ON, and will change from emergency stop to normal when the contact changes from ON to OFF. Air conditioning units that are stopped will remain off after the emergency stop is cancelled. Start up each indoor unit to manually restore the previous operation.
- ② When the ON/OFF signal is selected, the status will change from OFF to ON when the external input signal contact changes from OFF to ON, and will change from ON to OFF when the contact changes from ON to OFF.

(B) For pulse signal

- ① Even if the ON signal is input during ON, the status will remain ON.
- ② If local remote controller operation is prohibited, the ON/OFF operation mode and temperature setting operations from the local remote controller will be prohibited.
- ③ Set the pulse width (contact ON time) to 0.5 to 1 sec.

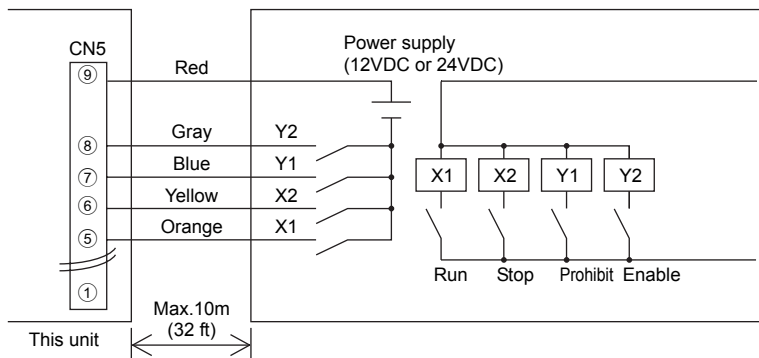
(4) Recommended circuit

(A) For level signal



Use relays X1, X2, Y1, and Y2 that meet the following specifications.
 Contact rating
 Rated voltage $\geq 12\text{VDC}$
 Rated current $\geq 0.1\text{A}$
 Minimum applicable load $\leq 1\text{mA}$ at DC

(B) For pulse signal



- ① The contact relay, DC power source, extension cable, etc., must be prepared on site.
- ② The connection cable can be extended up to 10m (32 ft). Use a 0.3mm² (AWG 22) or larger wire.
- ③ Strip the extra cable near the connector, and insulate the exposed section securely with tape, etc.

2. External signal output function

* External signal output requires the external I/O adapter PAC-YG10HA (sold separately).

(1) External output

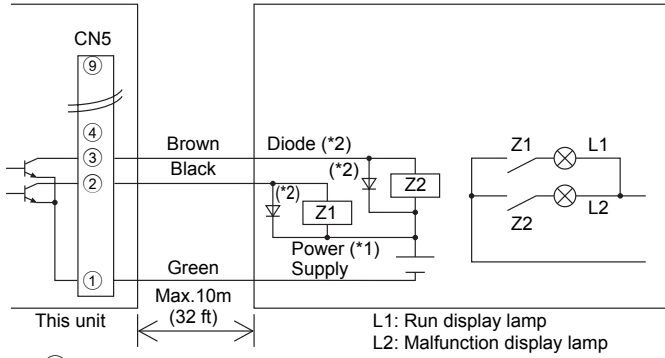
When one or more air conditioners are operating, the "ON" signal will be output, if a malfunction occurs in one or more air conditioners, the "Malfunction" signal will be output.

(2) External output specifications

CN5	Lead wire	Details of each terminal
No.1	Green	Common (External ground)
No.2	Black	ON/OFF
No.3	Brown	Malfunction/normal

- ① The "ON" signal is output even while the "Malfunction" signal is being output.

(3) Recommended circuit

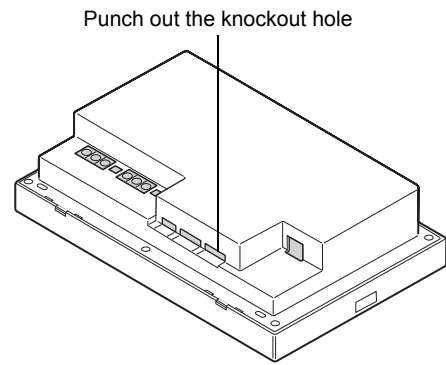


Use Z1 and Z2 relays that meet the following specifications.
 Operation coil
 Rated voltage: 12VDC, 24VDC
 Power Consumption: 0.9W or less
 (*1) Prepare a power supply separately according to the relay being used (12VDC or 24VDC).
 (*2) Always include a diode on both ends of the relay coil.

- ① Each element will turn on while in ON operation or if a malfunction occurs.
- ② The connection cable can be extended up to 10m (32 ft).
- ③ The relays, lamps, diodes and extension cables, etc. must be prepared separately on site.

NOTE

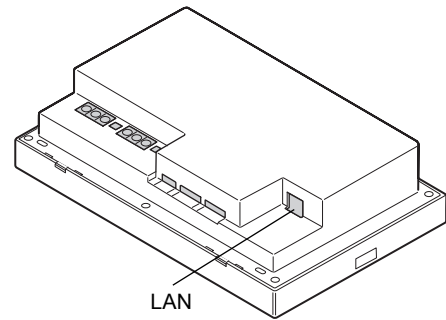
- When connecting the external input/output cables to connector CN5 on the controller, punch out the knockout hole.



3. LAN connection function

When using the LAN connection function, insert the LAN cable to the LAN connector of the controller.

- * Procure the LAN cable on site, and use 100 BASE-T Straight cable.
- * For a description of the IP address setting method, refer to section 8 Initial Setting.
- * LAN is 100 BASE-TX specification.



CAUTION

- * Perform the LAN wiring before controller installation, and wire up to the body by the same method as wiring the M-NET transmission cable.
- * When a LAN is already connected, choose the IP address after consulting with the system administrator, and connect to the LAN body after changing the IP address.
- * Connect AG-150A to a private network.
 Use a security device such as a VPN router when connecting to the Internet.
 (Configure the system in the way that does not allow access from the external sites.)

12 Optional accessories

Parts	Model	Usage	Note
Power supply unit	PAC-SC51KUA	Supplies power to the controller and M-NET transmission cable	
Electric box	PAC-YG83UTB	Use for wall-embed installations	
Mounting attachment A type	PAC-YG85KTB	Use when both the controller and a power supply for the transmission cable (PAC-SC51KUA) are included.	
Mounting attachment B type	PAC-YG81TB	Use for wall-mount installations	
External input/output adapter	PAC-YG10HA	Enables the use of the external input/output function	Required when using the external input/output function
Black surface cover	PAC-YG71CBL	Surface cover	

This product is designed and intended for use in residential,
commercial and light-industrial applications.

The product is based on
the following EU
regulations:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/EC

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.



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WT05368X02
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