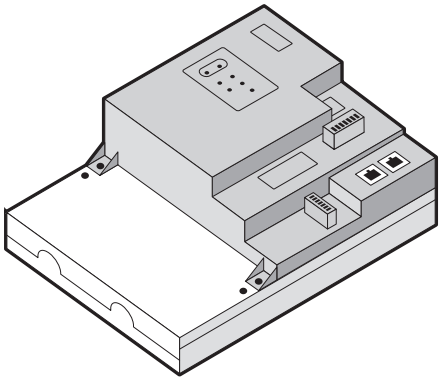
MITSUBISHI ELECTRIC

CE

Air Conditioning Control System
Centralized Controller
EW-50A/EW-50E

Installation and Instructions Manual



Safety notes are marked with ⚠**WARNING** or ⚠**CAUTION**, depending on the severity of possible consequences that may result when the instructions are not followed exactly as stated.
Proper installation is important for your safety and proper functioning of the units. Thoroughly read the following safety precautions prior to installation.

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

1. Safety precautions

► **Thoroughly read the following safety precautions prior to installation.**

► **Observe these precautions carefully to ensure safety.**

► **After reading this manual, pass the manual on to the end user to retain for future reference.**

► **The user should keep this manual for future reference and refer to it as necessary. This manual should be made available to those who repair or relocate the units. Make sure that the manual is passed on to any future air conditioning system user.**

► **All electrical work must be performed by qualified personnel.**

⚠ WARNING	: indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	: indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
CAUTION	: addresses practices not related to personal injury, such as product and/or property damage.

1-1. General precautions

⚠ WARNING

Do not install the controller in areas where large amounts of oil, steam, organic solvents, or corrosive gases (such as ammonia, sulfuric compounds, or acids), or areas where acidic/alkaline solutions or special chemical sprays are used frequently. These substances may significantly reduce the performance and corrode the internal parts, resulting in electric shock, malfunction, smoke, or fire.

To reduce the risk of injury, electric shock, or fire, do not alter or modify the controller.

To reduce the risk of electric shock, malfunction, smoke, or fire, do not touch the electrical parts or USB memory with wet fingers.

To reduce the risk of injury or electric shock, before spraying a chemical around the controller, stop the operation and cover the controller.

To reduce the risk of burns, do not touch the electrical parts with bare hands during and immediately after operation.

To reduce the risk of injury, keep children away while installing, inspecting, or repairing the controller.

Test runs, inspection, and service must be performed by qualified personnel in accordance with this manual. Incorrect use may result in injury, electric shock, malfunction, or fire.

If you notice any abnormality, stop the operation and turn off the controller. Continuing the operation may result in electric shock, malfunction, or fire.

Properly install all required covers to keep moisture and dust out of the controller. Dust accumulation and the presence of water may result in electric shock, smoke, or fire.

To reduce the risk of frostbite, burns, injury, or electric shock, keep the equipment out of the reach of children.

⚠ CAUTION

To reduce the risk of fire or explosion, do not place flammable materials or use flammable sprays around the controller.

To reduce the risk of electric shock or malfunction, do not touch the switches or buttons with a sharp object.

To reduce the risk of injury, electric shock, or malfunction, avoid contact with the sharp edges of certain parts.

To reduce the risk of injury, wear protective gear when working on the controller.

Wear protective gear when working on the controller. High-voltage parts pose a risk of electric shock, and high-temperature parts pose a risk of burns.

1-2. Precautions for unit installation

⚠ WARNING

Do not install the controller where there is a risk of flammable gas leaks. If flammable gas accumulates around the controller, it may ignite and cause a fire or explosion.

Properly dispose of the packing materials. Plastic bags pose a suffocation hazard to children.

Take appropriate safety measures against earthquakes to prevent the controller from causing injury.

To prevent injury, install the controller on a flat surface strong enough to support its weight.

⚠ CAUTION

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

The controller must be installed by qualified personnel according to the instructions detailed in this manual. Improper installation may result in electric shock or fire.

1-3. Precautions for electrical wiring

⚠ WARNING

To reduce the risk of malfunction, smoke, fire, or damage to the controller, do not connect the power cable to the signal terminal block.

To reduce the risk of malfunction, smoke, fire, or damage to the controller, do not apply a power supply voltage in excess of that specified.

Properly secure the cables in place and provide adequate slack in the cables so as not to stress the terminals. Improperly connected cables may break, overheat, and cause smoke or fire.

To reduce the risk of injury or electric shock, switch off the main power before performing electrical work.

Electrical work must be performed by qualified personnel in accordance with local regulations and the instructions provided in this manual. Only use specified cables and dedicated circuits. Inadequate power source capacity or improper electrical work will result in electric shock, malfunction, or fire.

To reduce the risk of electric shock, install an overcurrent breaker and an earth leakage breaker on the power supply. To reduce the risk of electric shock, smoke, or fire, install an overcurrent breaker for each controller.

Only use properly rated breakers (earth leakage breaker, local switch <switch + fuse that meets local electrical codes>, moulded case circuit breaker, or overcurrent breaker). The use of improperly rated breakers or the substitution of fuses with steel or copper wire may result in electric shock, malfunction, smoke, or fire.

To reduce the risk of current leakage, overheating, smoke, or fire, use properly rated cables with adequate current carrying capacity.

Proper grounding must be provided by qualified personnel. Do not connect the protective ground wire to a gas pipe, water pipe, lightning rod, or telephone wire. Improper grounding may result in electric shock, smoke, fire, or malfunction due to electrical noise interference.

⚠ CAUTION

To reduce the risk of short circuits, electric shock, or malfunction, keep wire pieces and sheath shavings out of the terminal block.

To reduce the risk of short circuits, current leakage, electric shock, or malfunction, keep the cables out of contact with controller edges.

To reduce the risk of electric shock, malfunction, or fire, seal the gap between the cable and the end of the conduit tube with putty.

To reduce the risk of injury, do not touch the burrs of the knockout holes.

1-4. Precautions for relocating or repairing the unit

⚠ WARNING

The controller must be repaired or moved only by qualified personnel. Do not disassemble or modify the controller. Improper installation or repair may result in injury, electric shock, or fire.

⚠ CAUTION

To reduce the risk of short circuits, electric shock, malfunction, or fire, do not touch the circuit board with tools or with your hands, and do not allow dust to accumulate on the circuit board.

1-5. Additional precautions

CAUTION

To avoid damage to the controller, use appropriate tools to install, inspect, or repair the controller.

To prevent unauthorized access, always use a security device such as a VPN router when connecting to the Internet.

Take appropriate measures against electrical noise interference when installing the controller in hospitals or radio communication facilities. Inverter, high-frequency medical, or wireless communication equipment as well as power generators may cause the air conditioning system to malfunction. The air conditioning system may also adversely affect the operation of these types of equipment by creating electrical noise.

To avoid malfunction, do not bundle power cables and signal cables together or place them in the same metallic conduit.

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

To avoid deformation and malfunction, do not install the controller in direct sunlight or where the ambient temperature may exceed 55°C (131°F) or drop below -10°C (14°F).

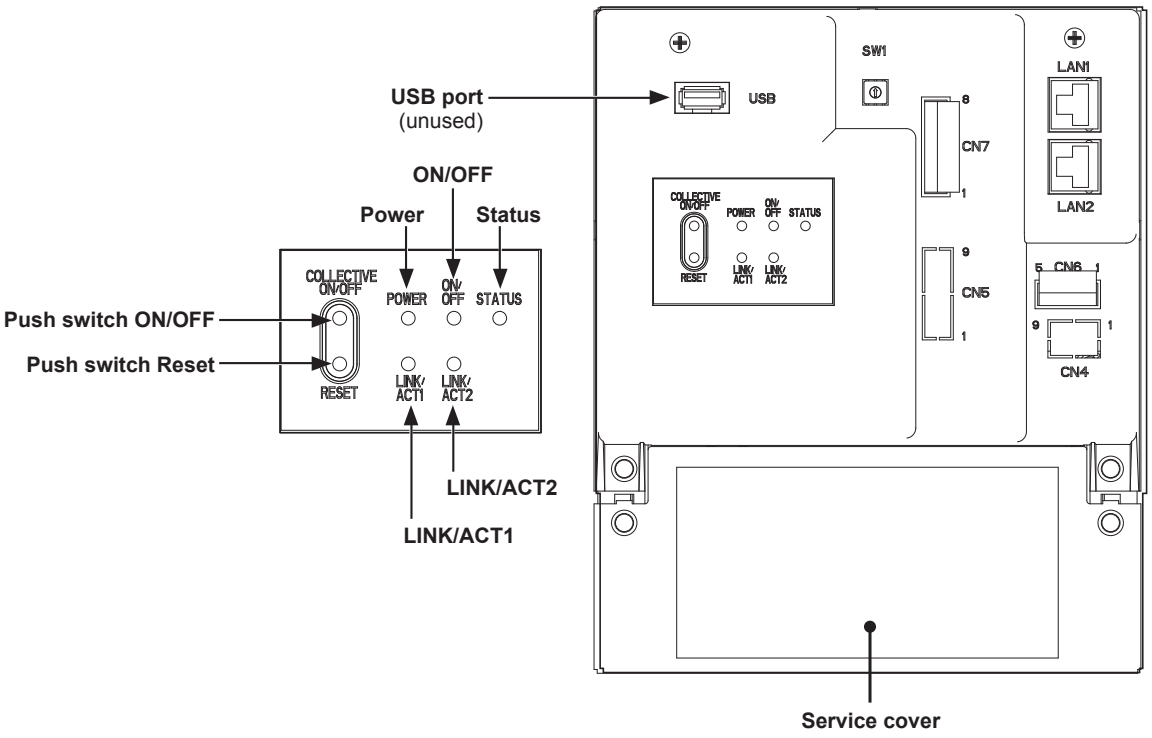
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

2. Introduction

EW-50A/EW-50E is a total management system.
Any connected air conditioning systems can be operated or monitored on the Web browser. EW-50A/EW-50E can also be used as an expansion controller of AE-200A/AE-200E.
By connecting AE-200A/AE-200E, up to 200 indoor units and other equipment can be controlled.
Hereafter, AE-200A and AE-200E, unless otherwise specified, will be called “AE-200.”
Hereafter, AE-50A and AE-50E, unless otherwise specified, will be called “AE-50.”
Hereafter, EW-50A and EW-50E, unless otherwise specified, will be called “EW-50.”

Note: A PC is required to monitor and operate the air conditioning units.
Note: The required licenses vary, depending on the functions to be used. Consult your dealer.
Note: For how to use the Web browser, refer to the Web browser instruction books (separate volume).

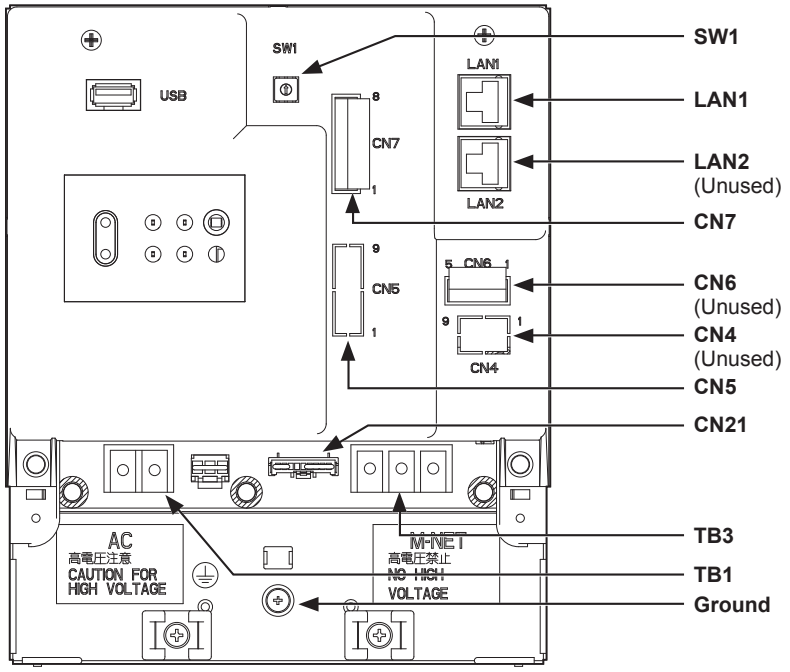
2-1. Part names



Item			Description
LED	Power	Lit in green	Power ON
		Unlit	Power OFF
	ON/OFF	Lit in green	One or more air conditioning units are ON. *1
		Blink in green	One or more air conditioning units or other related equipment are in error.
		Unlit	All air conditioning units are OFF. *1
	Status	Blink in orange	Startup error
		Blink in blue	Software update in progress
		Blink in pink	Software update failed
LINK/ACT1		Blink in orange	Data transmission in progress (LAN1)
LINK/ACT2		–	Unused
Push switch	ON/OFF		Used to turn the connected air conditioning units and the other related equipment ON and OFF all at once.
	Reset		Used to reboot the EW-50. (This will not affect the operation status of the air conditioning units.)
USB port			Unused

*1 The operation status of the other equipment are excluded.

* Back side with the service cover removed

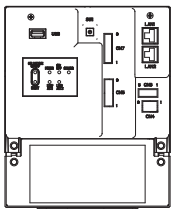
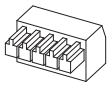
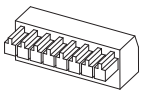
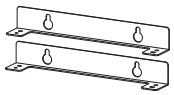
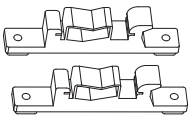
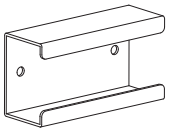
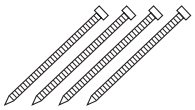


Item	Description
SW1	IP addresses can be easily set with SW1. Refer to section 8-3 “Quick IP address setting” for details.
LAN1	Connects to other units of equipment over the LAN via a HUB.
LAN2	Unused
CN7 (Pulse Input) *1	Connects to metering devices using the supplied connector.
CN6	Unused
CN4	Unused
CN5 (External I/O) *1	Connects to an external input/output adapter PAC-YG10HA-E. (When connecting an external input/output adapter PAC-YG10HA-E, cut out the knockout hole.)
CN21 (M-NET power jumper)	Connects to the M-NET power jumper to supply power (default). * If another system controller is connected to the same M-NET system and the power consumption coefficient is 1.5 or above, disconnect the M-NET power jumper to supply power from the separately-sold power supply unit. (Refer to section 5-2 “M-NET power feeding coefficient” for details.)
TB3 (M-NET A, B, S) (M3.5)	M-NET transmission terminal block Connects to M-NET transmission cables from the outdoor unit. (A, B: Non-polarized, S: Shield)
TB1 (Power source AC L/L1, N/L2) (M3.5)	Connects to the power cable.
Ground (M4)	Connects to the protective ground wire.

*1 Refer to chapter 10 “External input/output” for details.

3. Package contents

The following items are included in the package.

	Package contents		Qty.
(1)	EW-50		1
(2)	Connector (CN6) (Unused)		1
(3)	Connector (CN7) (Used for pulse input)		1
(4)	L-fitting		2
(5)	DIN rail attachment (for attaching DIN rail of 35 mm (1-7/16 in) width)		2
(6)	DIN rail auxiliary bracket		1
(7)	Roundhead screw (M3 × 12) *1 (for fixing DIN rail attachment)		4
(8)	Roundhead screw (M3 × 6) *1 (for fixing DIN rail auxiliary bracket or L-fitting)		4
(9)	Cable tie		4 (Two are spare.)
(10)	Installation and Instructions Manual (this manual) *2		1
(11)	CD-ROM *2 ├ Installation and Instructions Manual (this manual) ├ Instruction Book (Web Browser for Initial Settings) ├ Instruction Book (Web Browser for System Maintenance Engineer) └ Instruction Book (Web Browser for User) **Note** ● The CD-ROM can only be played on a CD-drive or a DVD-drive. Do not attempt to play the CD-ROM on an audio CD player as this may damage your ears and/or speakers. ● Each document is in PDF format. Viewing documents requires a computer with Adobe® Reader® or Adobe® Acrobat® installed. “Adobe® Reader®” and “Adobe® Acrobat®” are registered trademarks of Adobe Systems Incorporated.		1

*1 ISO metric screw thread

*2 For details about the apportioned electricity billing function, refer to the Instruction Book that comes with the “Charge” license.

Notes on the SD card installed on the EW-50

● Do not use the SD card installed on the EW-50 for any other equipment.

4. Specifications

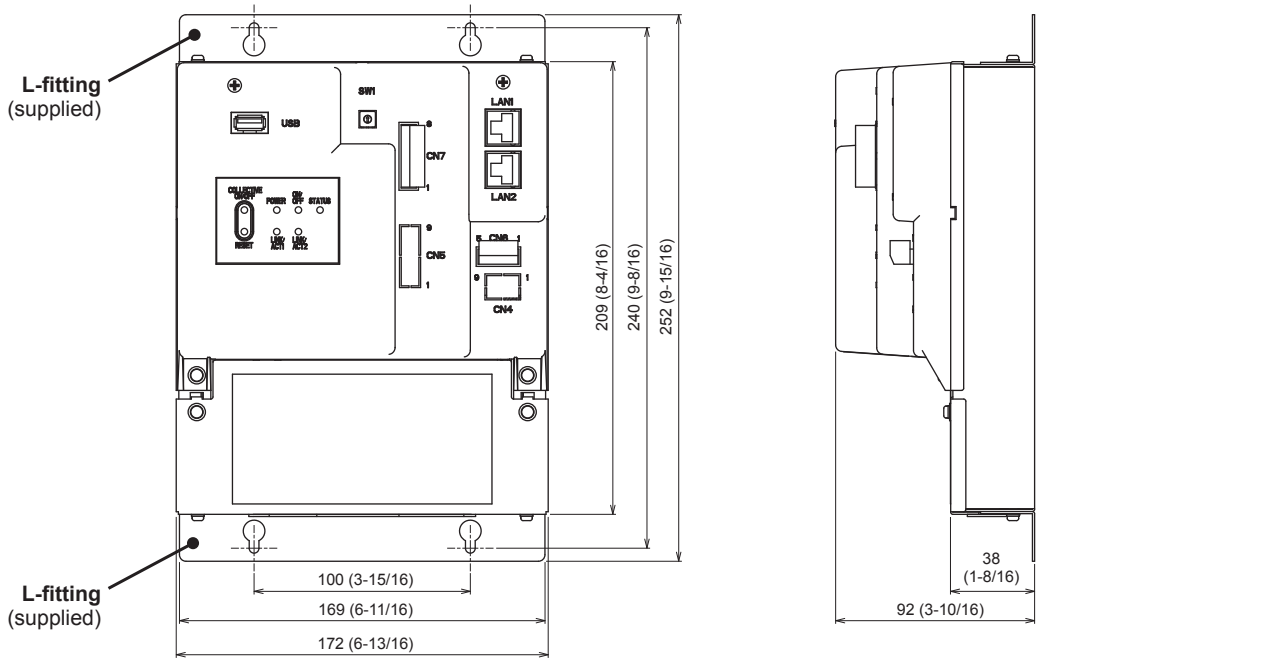
4-1. Product specifications

Item			Specifications
Power supply			100–240 VAC ± 10%; 50/60 Hz Single-phase
M-NET power feeding coefficient			1.5
Ambient conditions	Temperature	Operating temperature range	-10°C – +55°C (+14°F – +131°F)
		Storage temperature range	-20°C – +60°C (-4°F – +140°F)
	Humidity		30%–90% RH (Non-condensing)
Dimensions (W × H × D)			172 × 209 × 92 mm (6-13/16 × 8-4/16 × 3-10/16 in) * 253 × 172 × 92 mm (10 × 6-13/16 × 3-10/16 in) when using L-fittings
Weight			1.7 kg (4 lbs)
Installation conditions			Only in a metal control box indoors

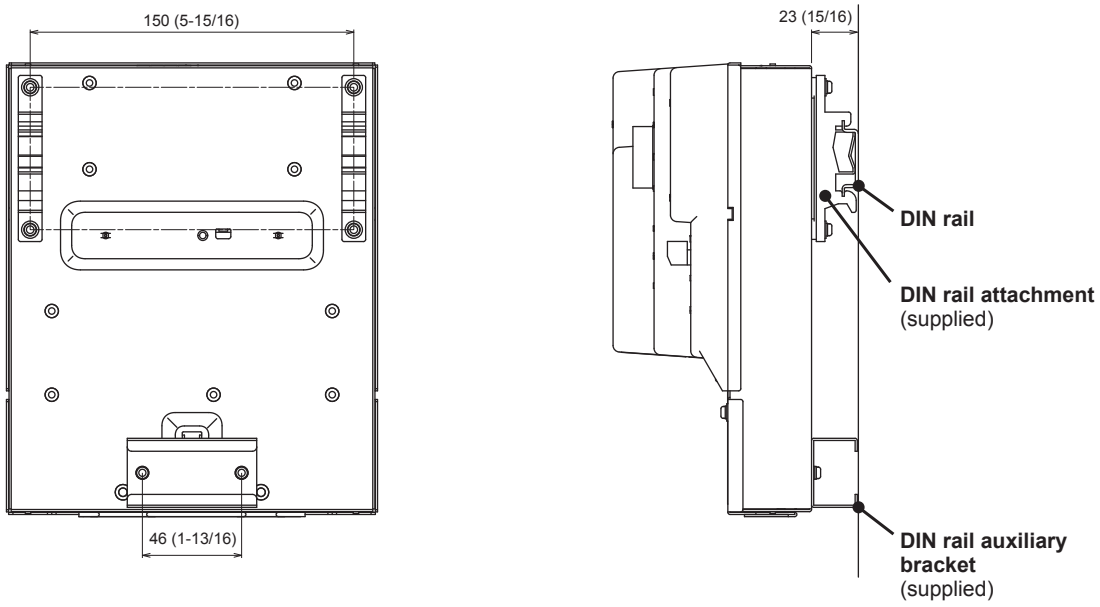
4-2. External dimensions

(1) When using L-fittings

Unit: mm (in)



(2) When using DIN rail



4-3. Product features

The table below summarizes the available functions and settings on the Web browser. Refer to the Web browser instruction books (separate volume) for details.

Function			Description
User's operation functions	Operation*1	ON/OFF	The ON/OFF operation can be performed collectively or for each group or block.
		Operation mode	The operation mode can be switched collectively or for each group or block. (The available operation modes depend on the unit model.)
		Set temperature	The set temperature can be set collectively or for each group or block. (The available set temperatures depend on the unit model.)
		Air direction	The air direction can be changed collectively or for each group or block. (The available air directions depend on the unit model.)
		Fan speed	The fan speed can be changed collectively or for each group or block. (The number of available fan speeds depend on the unit model.) Auto mode is available only on the models that support Auto mode.
		Fan speed (LOSSNAY unit)	The fan speed (3 speeds and Auto) can be changed.
		Fan mode (HWHP unit)	The fan can be set to keep rotating even while the unit is stopped to avoid snow accumulation on the fan guard during the winter.
		Ventilation mode (LOSSNAY unit)	The ventilation mode can be switched.
		Interlocked ventilator (LOSSNAY unit) ON/OFF	Interlocked LOSSNAY units (if any) can be operated or stopped collectively or for each group or block.
		Prohibition of local remote controller operation	Some operations or settings from the local remote controllers can be prohibited collectively or for each group or block.
		Filter sign reset	Filter sign can be reset collectively or for each group or block.
		Schedule	Weekly, annual, and today's schedules can be set collectively or for each group or block.
		Schedule (Available/ Not Avail.)	The scheduled operations can be enabled or disabled.
		Malfunction reset	Displayed errors can be reset.
		Clear malfunction log	Displayed unit errors and communication errors can be cleared.
		External input	Using external contact signals, the following collective operations can be controlled: Demand level, Emergency stop, ON/OFF operation, and Prohibit/Permit local remote controller operation. * A separately-sold external input/output adapter (PAC-YG10HA-E) is required. * Connect the external input/output adapter to each AE-200/AE-50/EW-50.
	Monitor*1	Energy Use Status	Displays and compares the energy-control-related status, such as electric energy consumption, operation time, and outdoor temperature, in a graph.
		Ranking	Displays the rankings in electric energy consumption and the fan operation time of given indoor units in a bar graph.
		Target Value Setting	Sets the target electric energy consumption values for the entire system for the current year, each month, each day of the week, and each block. The set values will be displayed in the graph on the [Energy Use Status] screen and the [Ranking] screen.
		Peakcut Control Status	Displays the average electric power consumption and the control level.
		Condition List	Displays the operation status of each group.
		Prohibition of local remote controller operation	Displays the icon to indicate that the operation is prohibited by the EW-50.
		Measurement List	Displays the readings of the temperature sensor, humidity sensor, and metering device.

Function			Description
User's operation functions	Monitor*1	Malfunction List	Displays the address of the unit in error and error code.
		Filter sign	Indicates that the filter on the unit in a given group is due for cleaning.
		AHC List	Displays the input and output status of Advanced HVAC CONTROLLERs.
		Free Contact List	Displays the ON/OFF status of the indoor unit free contact.
		Malfunction Log	Displays unit errors and communication errors.
		Send Mail Log	Displays a list of error notification e-mail that have been sent.
		Outdoor unit status	Displays outdoor unit capacity value, high pressure, and low pressure of each outdoor unit.
		External output	Outputs signals (ON/OFF, Error) to an external device. * A separately-sold external input/output adapter (PAC-YG10HA-E) is required. * The operation status of general equipment (via a DIDO controller (PAC-YG66DCA)) will not be output.
Initial settings	Operation*1	Date and time	Sets the current date/time and daylight savings time.
		License	Registers license for optional functions.
		Basic System	Sets unit name, unit ID, IP address, subnet mask, gateway, display format, M-NET address, range of prohibited controllers, external input setting, and advanced setting.
		Groups	Registers air conditioning units, Air To Water (PWFY) units, LOSSNAY units, general equipments, remote controllers, and sub system controllers to a group.
		Interlocked LOSSNAY	Interlocks the operation of indoor units and LOSSNAY units.
		Blocks	Registers groups to a block.
Function settings	Functions 1*1	E-Mail	The e-mail server information, EW-50 e-mail information, and e-mail settings for the error notification e-mail function and e-mail communication function can be set.
		Peak Cut	The Peak Cut method and control settings for outdoor and indoor units can be set.
		Measurement	AI and PI controllers, temperature sensor, humidity sensor, and metering device can be registered. The trend data format, error notification e-mail function settings, and e-mail alarm function settings can be set.
		Energy Management Settings	The settings related to energy-use-status display can be made.
	Functions 2*1	Set Temperature Range Limit	The settable temperature range can be set.
		Night Mode Schedule	The start/end times for the Night mode (quiet operation) for outdoor units can be set.
		System-changeover	This function switches the operation modes of the indoor units connected to the same outdoor unit between cooling and heating based on the room temperature and the set temperature. The target outdoor units and details for this function can be set.
	Functions 3*1	External Temperature Interlock	This function adjusts the set temperature based on the temperature difference between the set temperature and the outdoor temperature. A maximum temperature value to be added to the set temperature can be set for each group.
		Night Setback Control	This function performs cooling or heating operation when the room temperature goes outside of the specified temperature range. The start/end times and temperature range can be set for each group.
		Interlock control	Interlock control between the connected devices can be performed by making various settings. Up to 150 interlocking conditions can be set.
		AHC Port Name Settings	The names of the AHC analog/digital input/output ports can be set.
User settings	User settings	Maintenance user	User name and password for maintenance users can be set.
		Building manager	User name, password, and available functions to building managers can be set.

Function		Description
Miscellaneous	Back up settings data	Backed-up settings data can be restored from the PC.
	Import settings data	Backed-up settings data can be restored from a PC.
	Group setting information/ Interlocked LOSSNAY information	The group setting information and interlocked LOSSNAY information are retained in the hardware, even if power is turned off.
	Malfunction log	The malfunction log is retained in the hardware, even if power is turned off.
	Scheduled operations	The scheduled operations set for each group are retained in the hardware, even if power is turned off.
	Current date and time	The current date and time are retained by the built-in capacitor when power is turned off.
	CSV output	The operation data, such as apportioning parameters and power consumption, can be output.
	Software Update	The software can be updated by inserting a CD or USB memory device in which the update file is stored to a PC.
	Time synchronization	Clocks on the controllers and the units that are under the control of the main system controller are synchronized once a day (applicable only to the ones that support this function).

*1 The item and range that can be operated or monitored depend on the unit model.

5. System configuration

5-1. System restrictions

The software version of the AE-200, AE-50, and EW-50 units in a system must be the same. For details about how to update the software, refer to section 11-3 “Software update”.

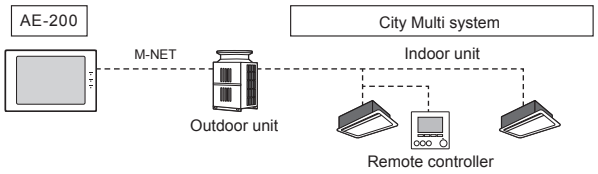
The restrictions vary, depending on the number of the controlled units, model of the connected units, and the functions in use.

5-1-1. When not using an apportioned electricity billing function

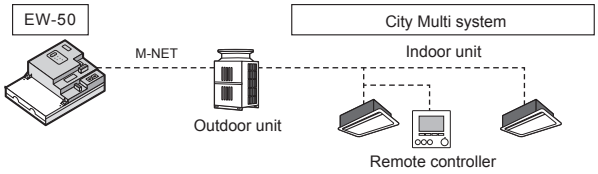
Note: AE-200 is required when using AE-50.

(1) Controlling 50 or fewer units of equipment

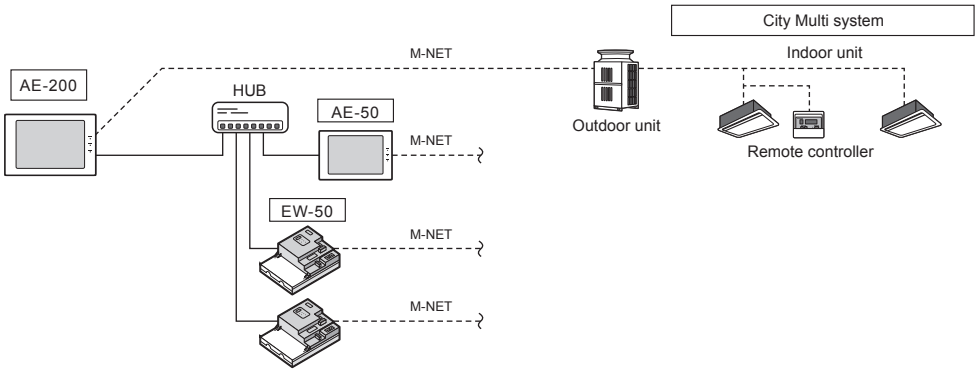
1. AE-200



2. EW-50



(2) Controlling more than 50 units of equipment (with connection to an AE-200 controller)

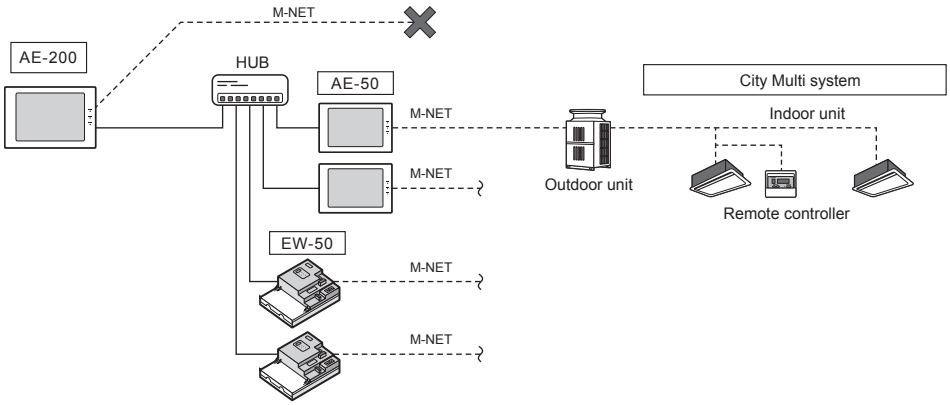


5-1-2. When using an apportioned electricity billing function

Note: AE-200 is required to use a billing function.

Note: AE-200 M-NET cannot be used when a billing function is used.

Note: “Charge” license is required to use a billing function.



5-2. M-NET power feeding coefficient

The EW-50's power feeding coefficient is 1.5.

A power supply unit is not required when the power consumption coefficient of the M-NET equipment (e.g. system controller, PI controller) that will be connected to the centralized control transmission cables is 1.5 or below.

Power feeding coefficient

Product	Power feeding coefficient
EW-50	1.5
Power supply unit (PAC-SC51KUA)	5

Power consumption coefficient

Product	Power consumption coefficient
DIDO controller (PAC-YG66DCA)	1/4
PI controller (PAC-YG60MCA)	1/4
AI controller (PAC-YG63MCA)	1/4
System controller (North America: TC-24B, Europe: AT-50B)	1.5
ON/OFF remote controller (PAC-YT40ANRA)	1

Use a power supply unit and connect the M-NET power jumper as shown in the table below, depending on the system configuration and the power consumption coefficient of the M-NET equipment that will be connected to the centralized control transmission cables.

		Power supply unit	M-NET power jumper (CN21)
System with connection to a sub system controller or other related equipment	Power consumption coefficient ≤ 1.5	Not required	Connect (Connected at factory shipment)
	Power consumption coefficient > 1.5	Required	Disconnect

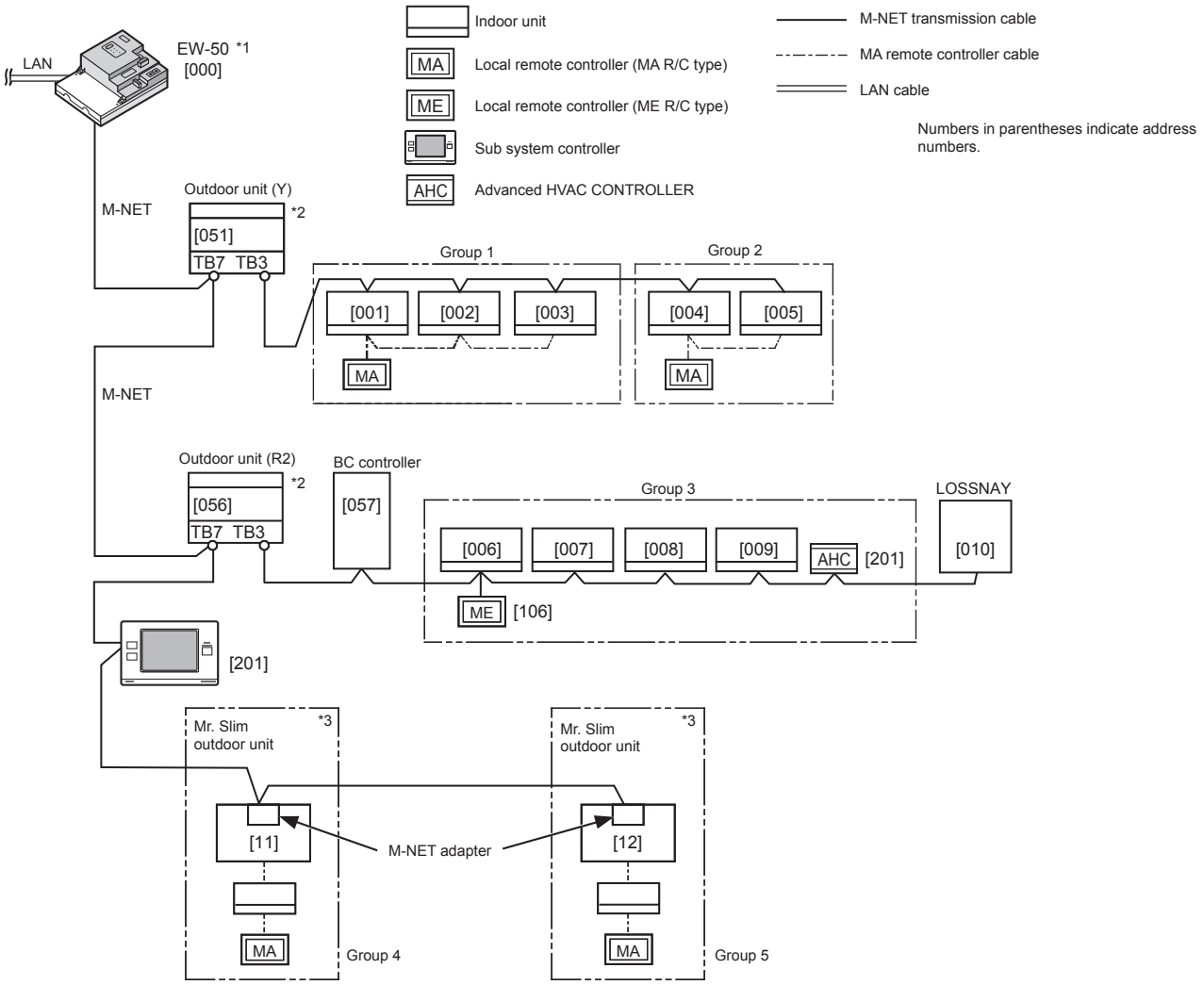
* Leave the M-NET power jumper connected to CN41 on all outdoor units.
* Provide a single point ground for the shield of the centralized control transmission cable. (Provide the appropriate grounding according to local standards.) Refer to section 7-2-2 "M-NET transmission cables (Centralized control transmission cables)" for details.
* Set the centralized control switch (SW5-1 (or SW2-1, depending on the unit model)) on the outdoor unit connected to the M-NET transmission cable to ON.
* Refer to section 2-1 "Part names" for the location of CN21.

5-3. System configuration example

Note

- The figures in (1) through (3) below only show the transmission cable connections. Power cables are omitted.

(1) When the power consumption coefficient of the M-NET equipment that will be connected to the centralized control transmission cables is 1.5 or below



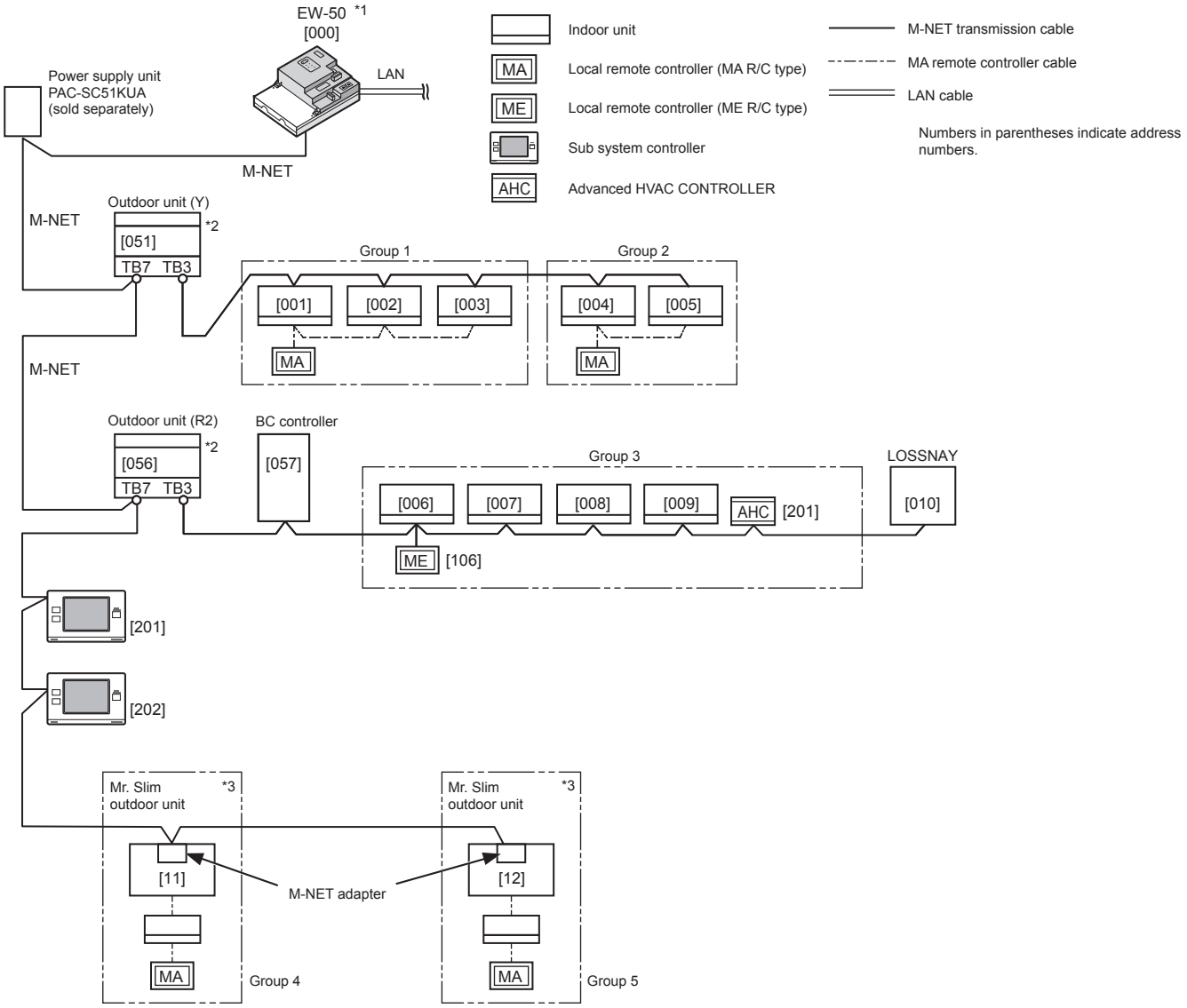
*1 Leave the M-NET power jumper connected to CN21 on the EW-50.

*2 Leave the M-NET power jumper connected to CN41 on all outdoor units.

*3 An M-NET adapter (sold separately) is required to connect the Mr. Slim model of units to the M-NET.

(2) When the power consumption coefficient of the M-NET equipment that will be connected to the centralized control transmission cables is greater than 1.5

Example: When two system controllers (North America: TC-24B, Europe: AT-50B) (power consumption coefficient: 1.5 each) are connected, the power consumption coefficient is 3. In this case, use a power supply unit.



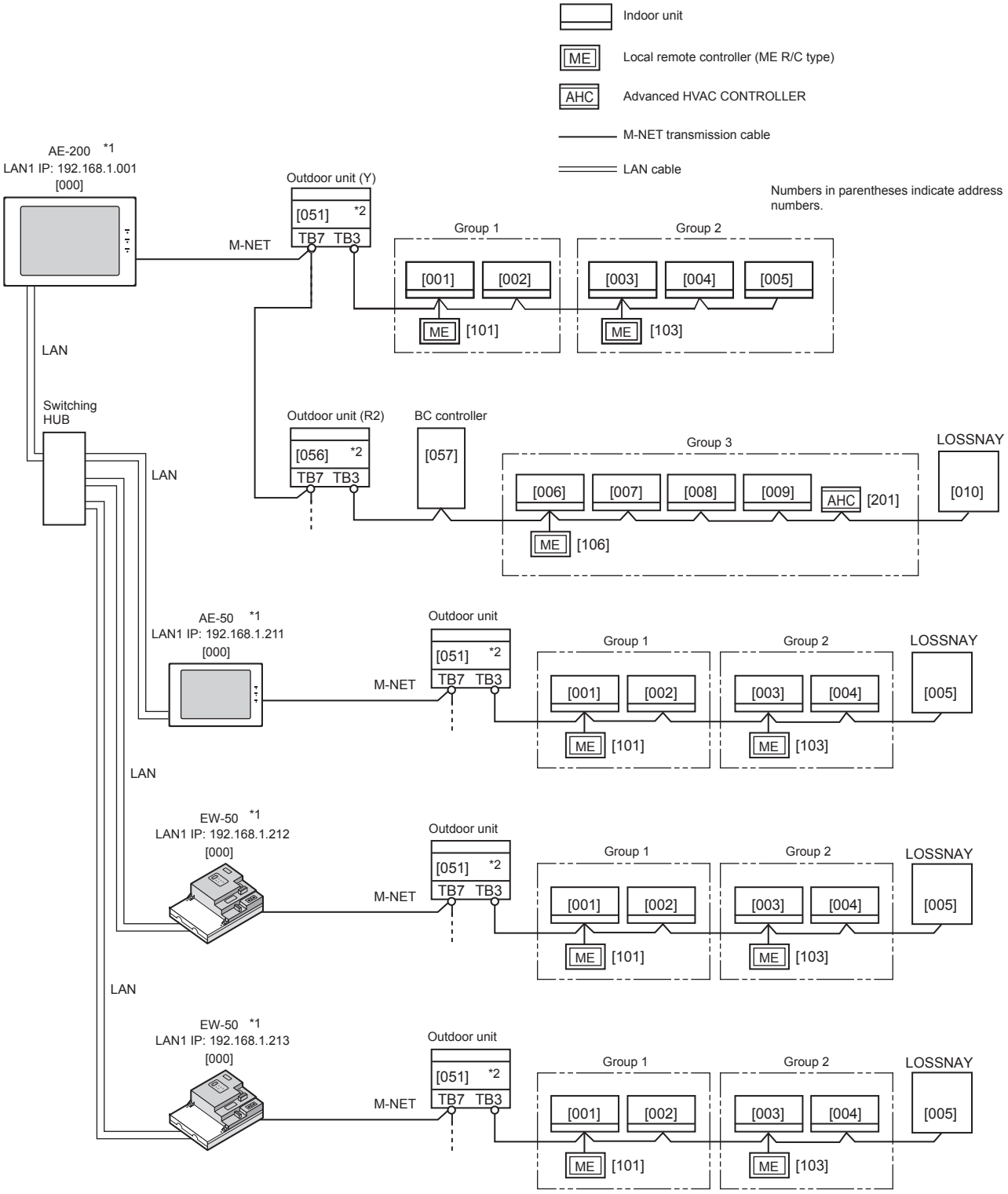
*1 Disconnect the M-NET power jumper (CN21) from the EW-50.

*2 Leave the M-NET power jumper connected to CN41 on all outdoor units.

*3 An M-NET adapter (sold separately) is required to connect the Mr. Slim model of units to the M-NET.

(3) When connecting AE-50/EW-50 controllers (up to four controllers) to an AE-200

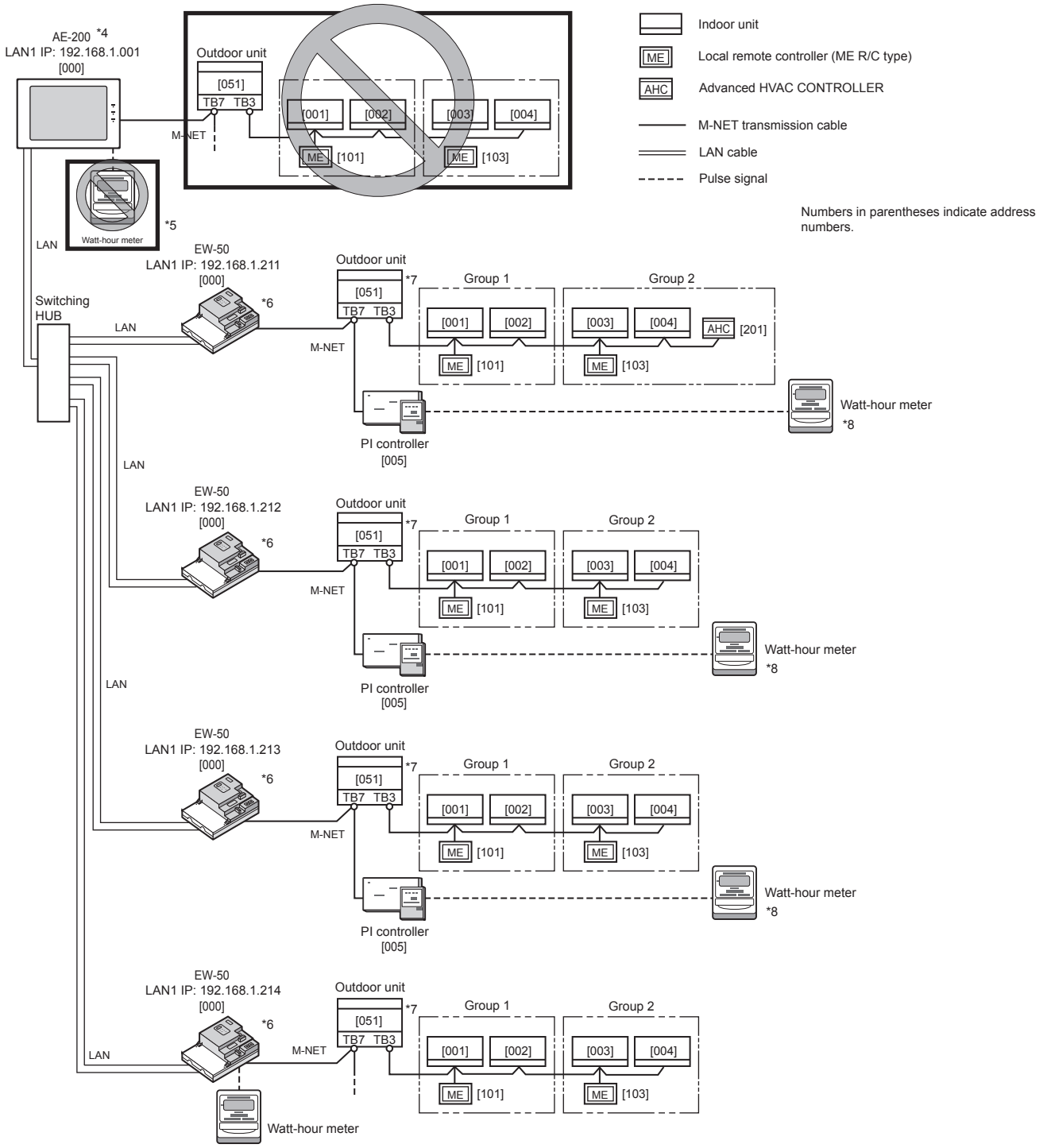
1. When not using an apportioned electricity billing function



*1 Leave the M-NET power jumper connected to CN21 on the AE-200 and EW-50.

*2 Leave the M-NET power jumper connected to CN41 on all outdoor units.

2. When using an apportioned electricity billing function*1*2*3



*1 “Charge” license is required to use a billing function.

*2 AE-200 is required to use a billing function.

*3 Even when a billing function is not used, this system configuration can be used to extend the distance (the length of centralized control transmission cables) between the AE-200 and the air conditioning units.

*4 No air conditioning units can be connected to the AE-200 M-NET system when a billing function is used.

*5 A built-in PI controller on the AE-200 cannot be used for a billing function.

*6 A power supply unit may be required, depending on the system configuration.

*7 Leave the M-NET power jumper connected to CN41 on all outdoor units.

*8 Using a PI controller (PAC-YG60MCA) is recommended instead of a built-in PI controller on the AE-50/EW-50 when using a billing function. (Discrepancies may occur between the built-in PI controller reading and the actual electric energy because the pulse input cannot be obtained during the AE-50/EW-50 power failure, shutoff process, and software update.)

5-4. Number of connectable units

The table below summarizes the number of connectable units in an AE-200/AE-50/EW-50 M-NET system.

Unit type	Number of connectable units
Indoor units, independent OA processing units, LOSSNAY units, DIDO controllers (PAC-YG66DCA), Air To Water (PWFY) units, Advanced HVAC CONTROLLERs, HWHP (CAHV, CRHV) units, AI controllers (PAC-YG63MCA), PI controllers (PAC-YG60MCA)	Up to 50 units (including the interlocked LOSSNAY units)*1*2*3
Indoor units, independent OA processing units, LOSSNAY units, DIDO controllers (PAC-YG66DCA), Air To Water (PWFY) units, HWHP (CAHV, CRHV) units in a group	1–16 units (Indoor units, independent OA processing units, LOSSNAY units, DIDO controllers (PAC-YG66DCA), Air To Water (PWFY) units, and HWHP (CAHV, CRHV) units cannot be combined in one group.)
Remote controllers in a group	0–2 units
System controllers in a group (EW-50 excluded)	0–4 units (Up to four remote and system controllers combined can be assigned to each group.)
Advanced HVAC CONTROLLER in a group	0–1 unit
LOSSNAY unit that can be interlocked with each indoor unit	1 unit
Indoor units that can be interlocked with each LOSSNAY unit	1–16 units

*1 The maximum number of controllable units varies, depending on the number of channels used for the DIDO controller. In a system with connection to Advanced HVAC CONTROLLERs, the number of connectable units is 60 units when using the monitoring function on the Maintenance Tool, and 70 units when not using the monitoring function on the Maintenance Tool.

*2 Each contact of DIDO controller (PAC-YG66DCA) counts as one unit.

*3 Although the maximum settable total number of built-in PI controllers and PI controllers (PAC-YG60MCA) for each AE-200/AE-50/EW-50 is 15, the number of them in a system with connection to one or more AE-50/EW-50 controllers must be 20 or less. (Each built-in PI controller counts as one unit.)

5-5. Setting M-NET address for various devices

Designate the address for each M-NET device. The addresses cannot be overlapped within the same M-NET system.

		Address setting method	M-NET address
Indoor unit		Assign the lowest address to the main indoor unit in the group, and assign sequential addresses to the rest of the indoor units in the same group.	1–50
Outdoor unit		Assign an address that equals the lowest indoor unit address in the same refrigerant system plus 50.	51–100
Auxiliary outdoor unit (BC controller etc.)		Assign an address that equals the address of the outdoor unit in the same refrigerant system plus 1.	52–100
OA processing unit/ LOSSNAY unit		Assign an arbitrary but unused address to each of these units after assigning an address to all indoor units.	1–50
Air To Water (PWFY) unit		Assign the lowest address to the main Air To Water (PWFY) unit in the group, and assign sequential addresses to the rest of the Air To Water (PWFY) units in the same group.	1–50
HWHP (CAHV) unit	Main Box	Assign the lowest address to the main unit in the Main Box in the group, and assign sequential addresses to the sub units in the same Main Box.	1–50
	Sub Box	Assign addresses that equal the addresses of the main and sub units in the Main Box plus 50 to the units in the Sub Box.	51–100
Mr. Slim/M- and P-Series outdoor unit		Make the settings in the same way as with the indoor units. Requires PAC-SF81MA-E/PAC-SF82MA-E (sold separately).	1–50
Room air conditioner		Make the settings in the same way as with the indoor units. Requires MAC-333IF-E/MAC-399IF-E (sold separately).	1–50
M-NET remote controller		Assign an address that equals the address of the main indoor unit with the lowest address in the group plus 100. Add 150 instead of 100 to set the address for a sub remote controller.	101–200
MA remote controller		Address setting is not required. Connection of two remote controllers requires the Main/Sub setting for each controller to be made.	–
Sub system controller		Assign an address that equals the group number of the smallest controlled group plus 200.	201–250
Advanced HVAC CONTROLLER		Assign an address that equals the address of the main indoor unit with the lowest address in the group plus 200. If the address overlaps with the Sub system controller's address, assign an arbitrary but unused address between 201 and 250 to the Advanced HVAC CONTROLLER.	201–250
DIDO controller (PAC-YG66DCA)		Assign an arbitrary but unused address to the controller after completing the address setting for the units with an address between 1 and 50. The number of controllable units varies with the number of channels used.	1–50
PI controller (PAC-YG60MCA)		Assign an arbitrary but unused address to the controller after completing the address setting for the units with an address between 1 and 50.	1–50
AI controller (PAC-YG63MCA)		Assign an arbitrary but unused address to the controller after completing the address setting for the units with an address between 1 and 50.	1–50

[Main and Sub system controllers (M-NET)]

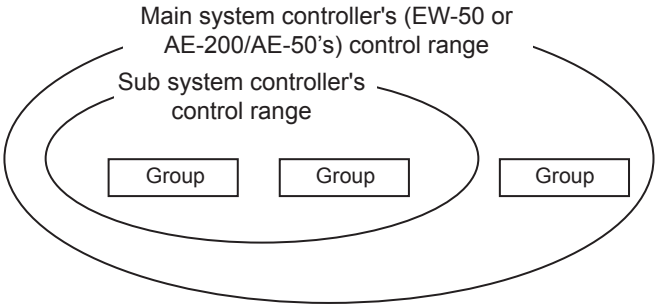
Each group can be controlled by a Main system controller or a Sub system controller.
EW-50 (AE-200/AE-50) is exclusively for use as a Main system controller and cannot be used as a Sub system controller.

Main system controller

Main system controller refers to a system controller that controls all other system controllers including the units they control. If a given system has only one system controller, that controller becomes a Main system controller. Group settings and interlock settings can be made only from a Main system controller.

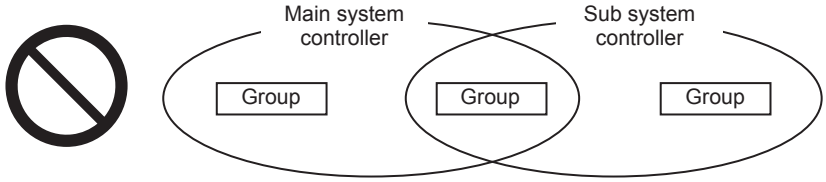
Sub system controller

Sub system controller refers to a system controller that is controlled by a Main system controller.

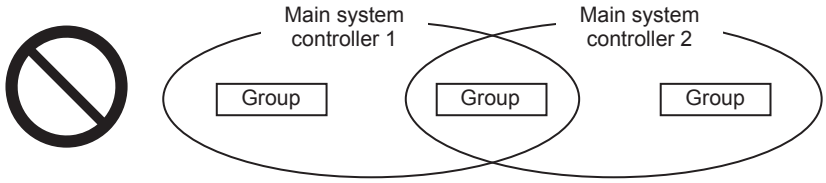


The system cannot be configured as shown in the examples below.

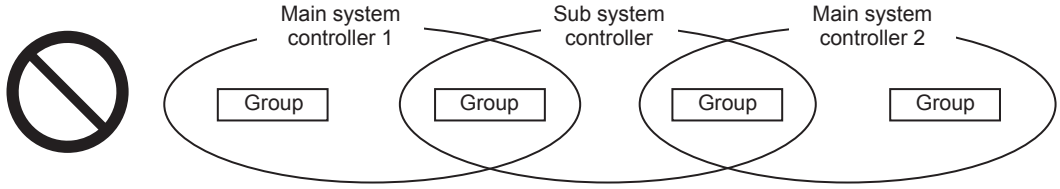
- Groups that are not under the control of a Main system controller cannot be controlled from a Sub system controller.



- Each group cannot be placed under the control of two or more Main system controllers.



- Sub system controllers cannot be placed under the control of two or more Main system controllers.



6. Installation

⚠ WARNING

Test runs, inspection, and service must be performed by qualified personnel in accordance with this manual. Incorrect use may result in injury, electric shock, malfunction, or fire.

Do not install the controller where there is a risk of flammable gas leaks. If flammable gas accumulates around the controller, it may ignite and cause a fire or explosion.

Take appropriate safety measures against earthquakes to prevent the controller from causing injury.

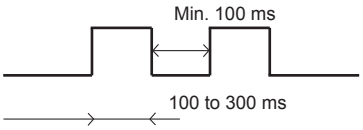
To prevent injury, install the controller on a flat surface strong enough to support its weight.

⚠ CAUTION

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

6-1. Items not included

The following items are required to install the EW-50.

Items not included		Specifications
Locknuts and bushing		Must be suitable for the conduit tube to be used.
Sleeved ring terminal		M3.5 ring terminal (for AC power cables (L/L1, N/L2) and M-NET transmission cables (A, B, S)) M4 ring terminal (for protective ground wire)
AC power cable/Protective ground wire		Type: Sheathed cable (should not be lighter than ordinary sheathed cable IEC 60227.) (designation 60227 IEC 53)*1 Recommended type: VCT, VVF, VVR, or its equivalent Size: 0.75 to 2.00 mm² (ø1.0 to ø1.6 mm), AWG 18 to 14 Protective ground wire color: green/yellow * Use a wire with an appropriate diameter so that the wire can be fixed with the cable tie below the terminal block. A diameter of 10 mm (25/64 in) is recommended.
Transmission cable		Type: Shielded cable ● CPEVS ø1.2 to ø1.6 mm ● CVVS 1.25 to 2 mm² * CPEVS: PE*2 insulated PVC*2 jacketed shielded communication cable * CVVS: PVC*2 insulated PVC*2 jacketed shielded control cable
Relay (for external input)		Contact rating Rated voltage: 12 or 24 VDC Rated current: 0.1 A or above Minimum applied load: DC 1 mA
Relay (for external output)		Operation coil Rated voltage: 12 or 24 VDC Power consumption: Max. 0.9 W
Electrical wire for pulse input		Type: Copper wire that is suitable for the terminal block of the EW-50 Size ● Single wire: ø0.65 to ø1.2 mm, AWG 21 to 16 ● Twisted wire: 0.75 to 1.25 mm², AWG 18 to 16
Watt-hour meter		Must output dry voltage contact pulse for each unit pulse. Output pulse type: Semiconductor relay Pulse width: 100 to 300 ms (Resting interval: Min. 100 ms)  Output pulse unit: 0.1/1.0/10/100 kWh/pulse * An output pulse unit of 1 kWh/pulse or below is recommended.
LAN cable		Category 5 or above straight cable (Max. 100 m (328 ft))
Switching HUB		A communication speed of 100 Mbps or faster is recommended.
Overcurrent breaker (fuse or circuit breaker)	Fuse	Rated current: 3 A * When using a fuse, use it in combination with a switch (rated current: 3 A).
	Circuit breaker	Type: Bipolar (2P2E) Contact distance: Min. 3 mm (1/8 in) Rated current: 3 A
Earth leakage breaker		Type: Bipolar (2P2E) Contact distance: Min. 3 mm (1/8 in) Rated current: 3 A Rated current sensitivity: 30 mA Operation time: Max. 0.1 sec
PC		Refer to the Web browser instruction books (separate volume) for PC requirements.

*1 For the U.S. and Canada: designation NEC (NEPA70) or CEC

*2 PE: Polyethylene, PVC: Polyvinyl chloride

6-2. Items sold separately

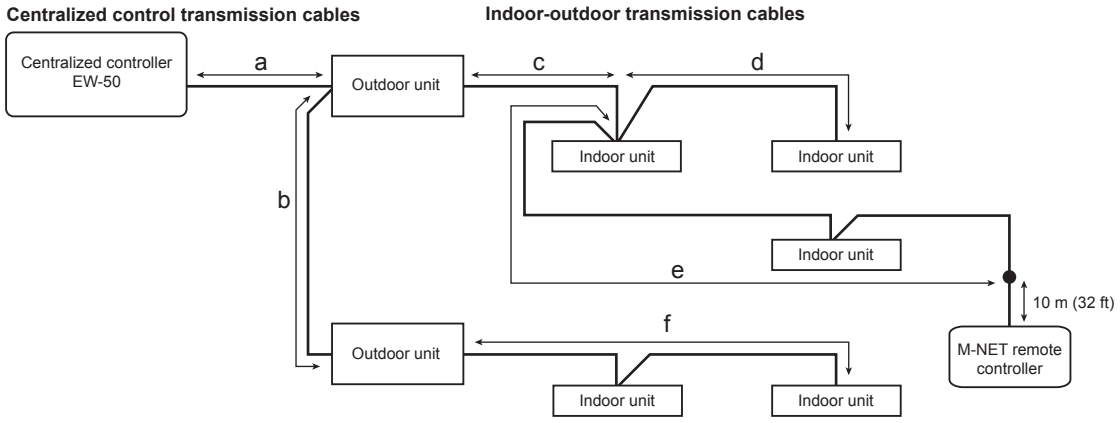
Items sold separately	Model name	Remarks
External input/output adapter	PAC-YG10HA-E	Required when using the external input/output function

6-3. M-NET transmission cable length

Observe the maximum total length of M-NET transmission cables to ensure proper signal transmission to and from the connected equipment over the M-NET transmission cables. If the maximum total length is exceeded, the M-NET signals will be attenuated, resulting in communication error and control failure.

- **Maximum total length of M-NET transmission cables: 500 m (1640 ft)**
- **Maximum total length of power feed: 200 m (656 ft)**

<Example>



(1) Maximum total length of M-NET transmission cables

a + c + d (e)	≤ 500 m (1640 ft)
a + b + f	≤ 500 m (1640 ft)
d (e) + c + b + f	≤ 500 m (1640 ft)

(2) Maximum total length of power feed for the indoor-outdoor transmission cables

f	≤ 200 m (656 ft)
c + d (e)	≤ 200 m (656 ft)

(3) Maximum total length of power feed for the centralized control transmission cables

a	≤ 200 m (656 ft)
a + b	≤ 200 m (656 ft)

Note

- The M-NET remote controller cable length should be 10 m (32 ft) or shorter. The length that exceeds 10 m (32 ft) needs to be included in the maximum total length of M-NET transmission cables (500 m (1640 ft)) and in the maximum total length of the power feed (200 m (656 ft)).
- If the M-NET remote controller cable is shorter than 10 m (32 ft), the length does not need to be included in the maximum total length.

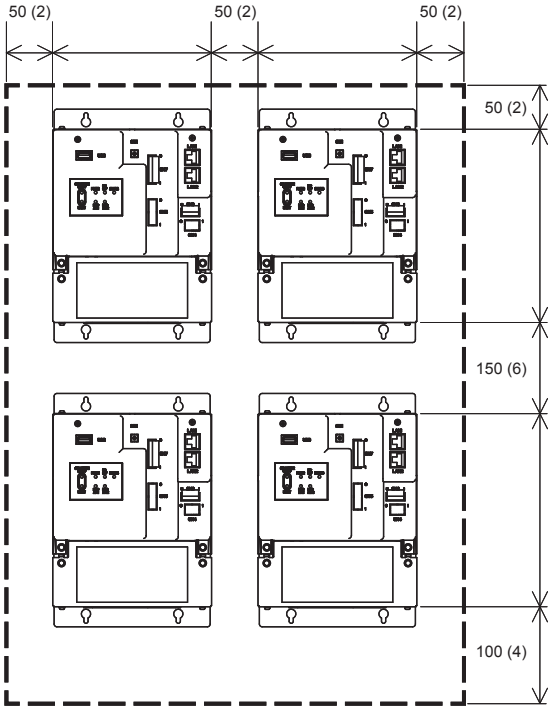
6-4. Installation space

The EW-50 must be installed inside the metal control box.

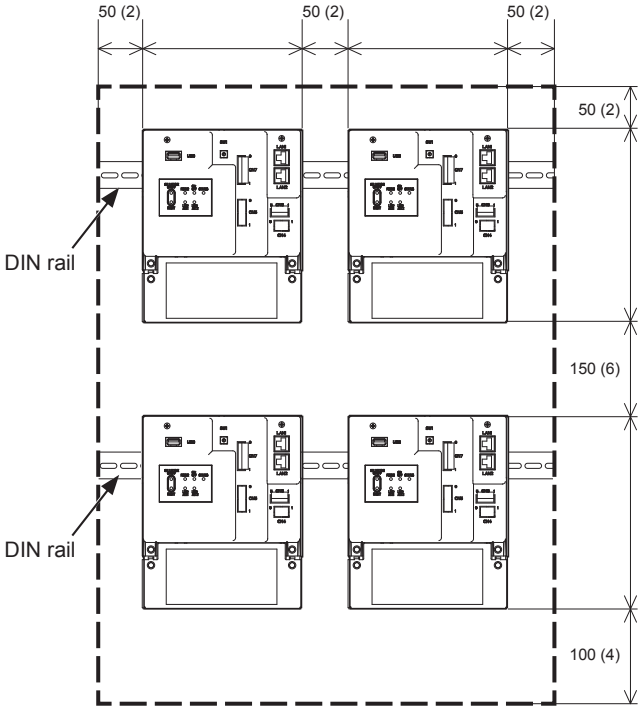
Either the supplied L-fittings or DIN rail attachments can be used for the installation.

Leave a space around the EW-50 as shown in the figure below.

Unit: mm (in)



When using L-fittings



When using DIN rail

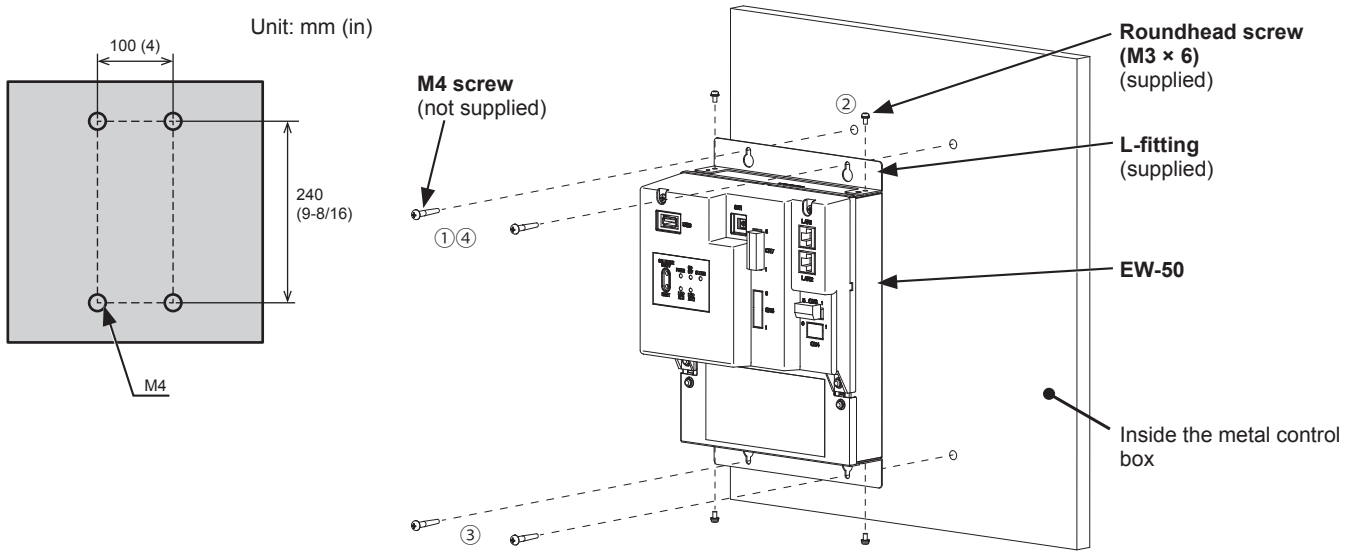
6-5. Installation procedures

Note

- Connect the necessary cables and wires before installing EW-50, referring to chapters 7 and 10.
- Do not install the unit where the unit may continuously receive vibration. The continuous vibration may cause the connectors to disconnect.

6-5-1. Method 1: Installation using L-fittings

1. Have a metal control box ready.
2. Cut screw holes on the surface on which the EW-50 will be installed as shown in the figure below, taking into consideration the installation space.
3. Attach the supplied two L-fittings to the EW-50 with the supplied roundhead screws (M3 × 6).
4. Properly install the EW-50 with the M4 screws (not supplied) inside the metal control box as shown in the figure below.
   - ① Temporarily tighten the top M4 screws.
   - ② Temporarily place the M4 screws through the screw holes at the top of the L-fitting.
   - ③ Tighten the bottom M4 screws.
   - ④ Tighten the top M4 screws.

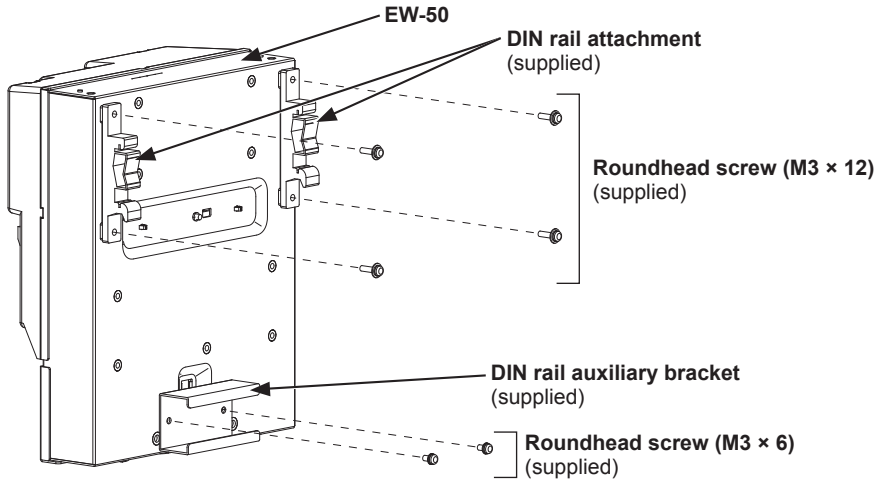


Note

- The EW-50 to which the L-fittings are attached must be fixed to the metal control box with total of four M4 screws to prevent it from falling.
- The surface on which the EW-50 will be installed needs to be strong enough to support its weight (1.7 kg (4 lbs) each).

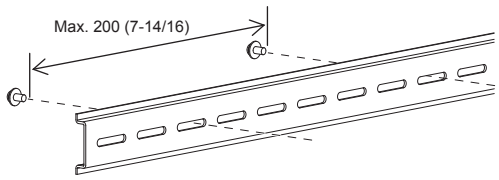
6-5-2. Method 2: Installation using DIN rail

1. Have a metal control box ready.
2. Attach the supplied two DIN rail attachments to the EW-50 with the supplied roundhead screws (M3 × 12).
3. Attach the supplied DIN rail auxiliary bracket to the EW-50 with the supplied roundhead screws (M3 × 6).



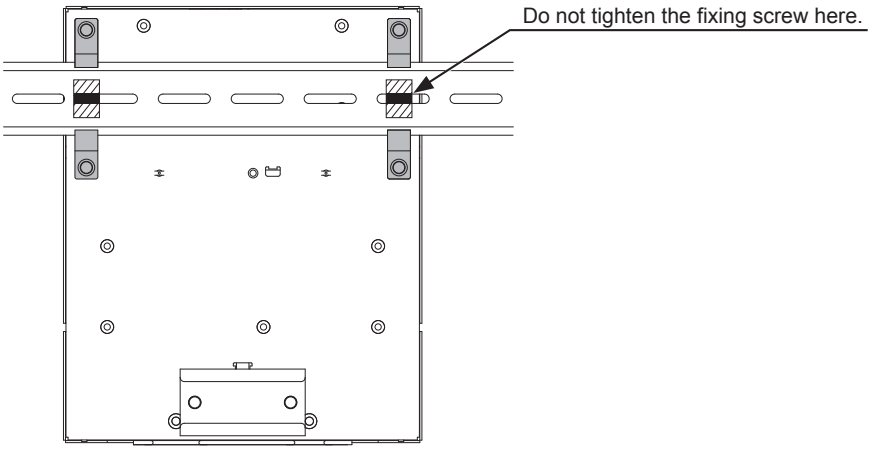
4. Mount the DIN rail (not supplied) to the metal control box.
   * Use a DIN rail of 35 mm (1-7/16 in) width.

Unit: mm (in)

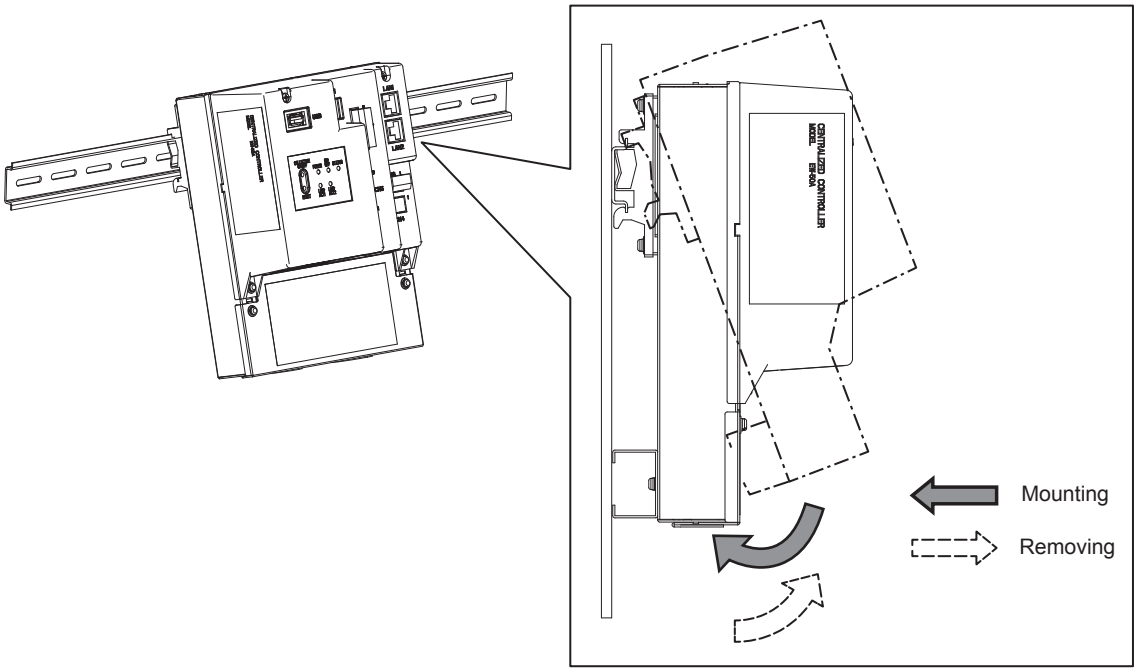


Note

- To secure the strength, the screw pitch must be 200 mm (7-7/8 in) or less when DIN rail is mounted to the metal control box.
- The surface on which the EW-50 will be installed needs to be strong enough to support its weight (1.7 kg (4 lbs) each).
- Do not install the EW-50 where it may receive vibration.
- To avoid the contact of the DIN rail fixing screws with the DIN rail attachment, do not tighten the fixing screws at the shaded areas in the figure below.



[Mounting/removing the EW-50 on/from the DIN rail]



(1) Mounting

1. Hook the upper side of the attachments to the DIN rail.
2. Push the lower part of the EW-50 until it snaps into place.

Note

- Ensure that the DIN rail attachments are fixed securely in place to the DIN rail.

(2) Removing

1. Pull the lower part of the EW-50 toward you.
2. Remove the EW-50 from the DIN rail.

7. Wiring connections

⚠ WARNING

To reduce the risk of malfunction, smoke, fire, or damage to the controller, do not connect the power cable to the signal terminal block.

To reduce the risk of injury or electric shock, switch off the main power before performing electrical work.

Electrical work must be performed by qualified personnel in accordance with local regulations and the instructions provided in this manual. Only use specified cables and dedicated circuits. Inadequate power source capacity or improper electrical work will result in electric shock, malfunction, or fire.

To reduce the risk of electric shock, install an overcurrent breaker and an earth leakage breaker on the power supply. To reduce the risk of electric shock, smoke, or fire, install an overcurrent breaker for each controller.

Proper grounding must be provided by qualified personnel. Do not connect the protective ground wire to a gas pipe, water pipe, lightning rod, or telephone wire. Improper grounding may result in electric shock, smoke, fire, or malfunction due to electrical noise interference.

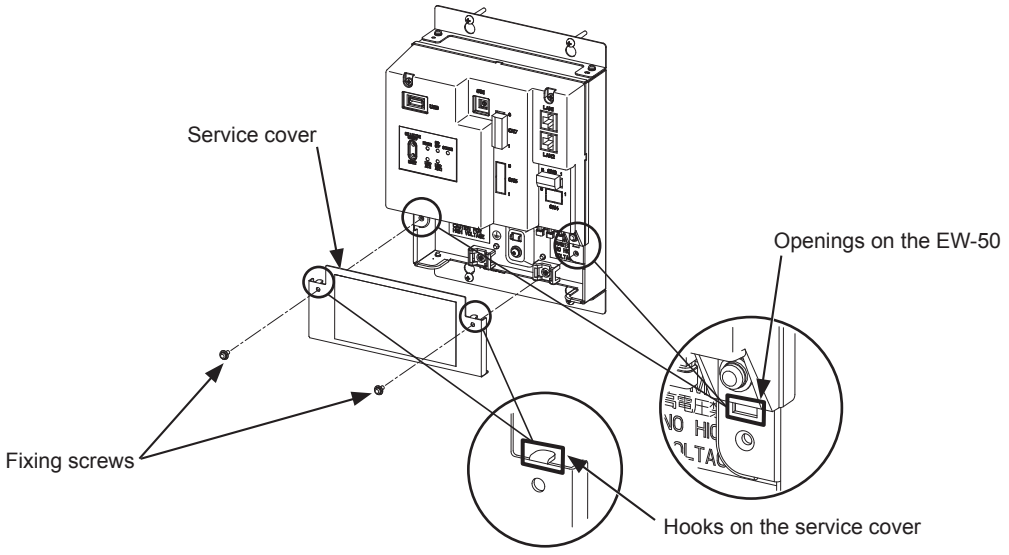
CAUTION

To avoid malfunction, do not bundle power cables and signal cables together or place them in the same metallic conduit.

7-1. Removing/reinstalling the service cover

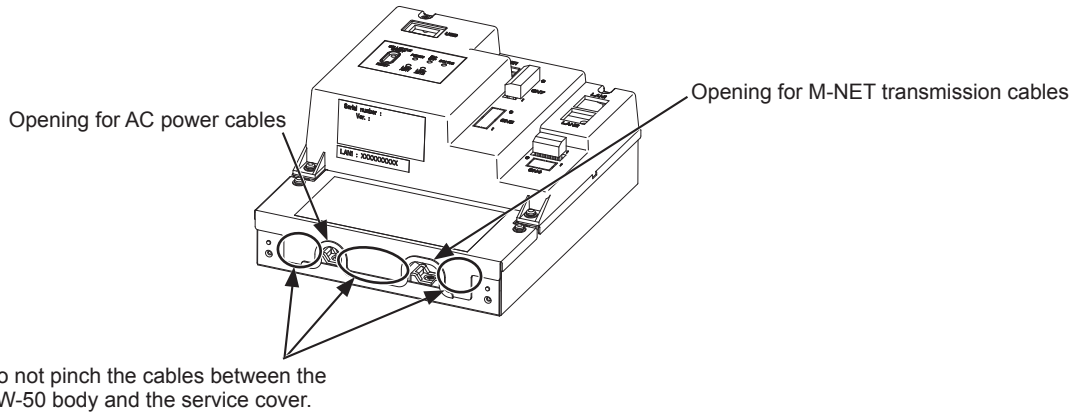
(1) Removing

1. Unscrew the two fixing screws on the service cover.
2. Remove the service cover.

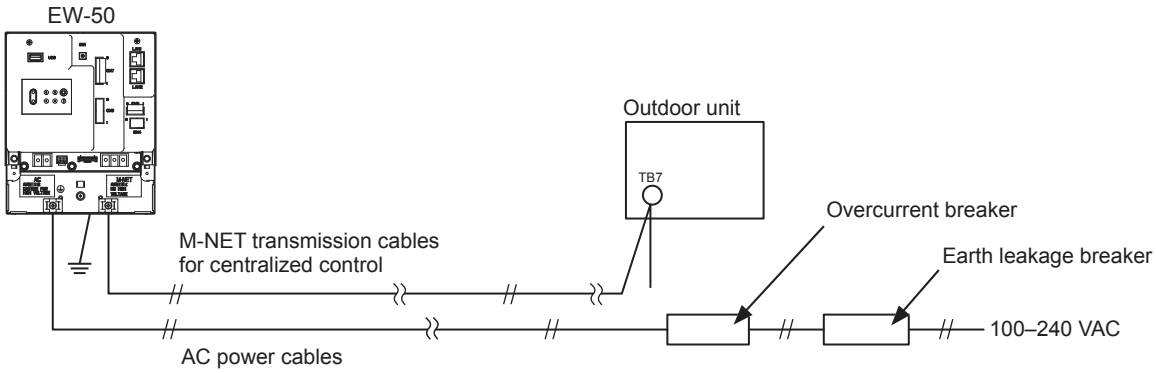


(2) Reinstalling

1. Insert the AC power cables and M-NET transmission cables into the openings, and then insert the hooks to the openings.
   Note: Do not pinch the cables between the EW-50 body and the service cover.
2. Screw down the service panel with the two fixing screws.
3. Check that there are no pinched cables between the EW-50 body and the service cover.

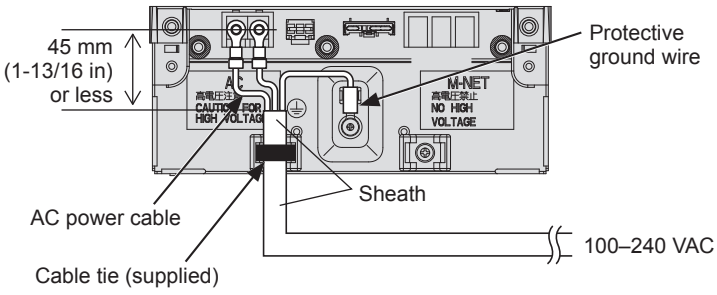


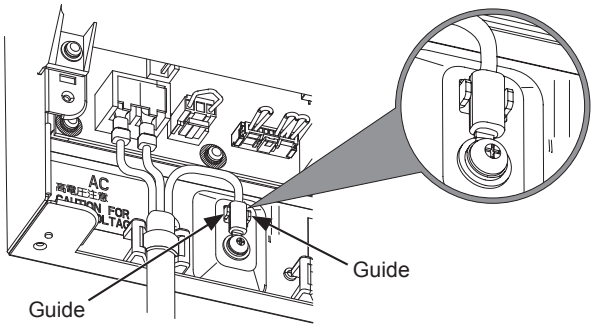
7-2. Connecting AC power cables and M-NET transmission cables



7-2-1. AC power cables and protective ground wire

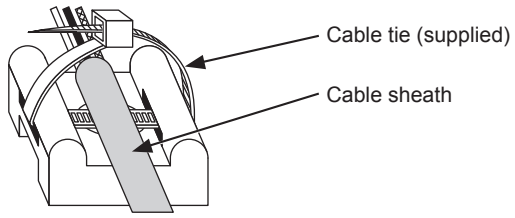
1. Attach M3.5 sleeved ring terminals to the AC power cables, and attach an M4.0 sleeved ring terminal to the protective ground wire.
2. Connect the AC power cables to the power supply terminal block, and connect the protective ground wire to the ground terminal.
   Note: Thread the protective ground wire through the guides to prevent the wire from moving when it is retightened to the ground terminal.
3. Fix the cables in place with the supplied cable tie.





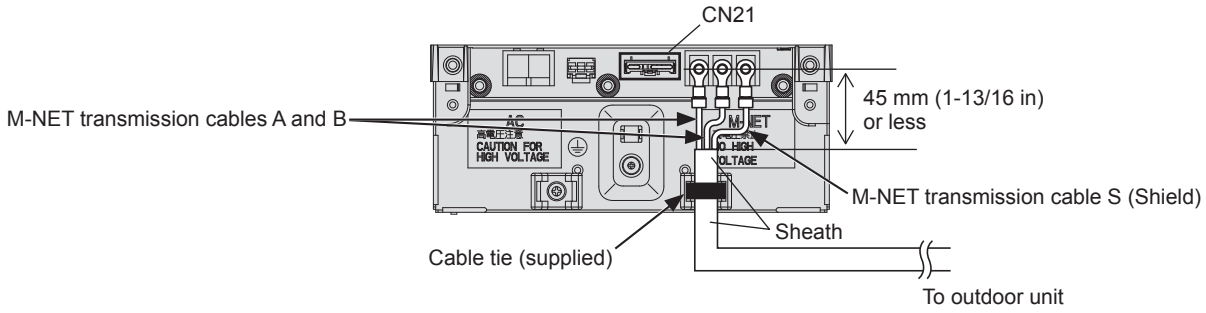
Note

- Make the protective ground wire 25 mm (1 in) longer than the AC power cables (L/L1, N/L2).
- Tighten the terminal screws to a torque of 1.0 to 1.3 N•m.
- Properly fix the cable sheaths in place with the supplied cable ties. The distance between the sheath end and the ring terminal must be 45 mm (1-13/16 in) or less.



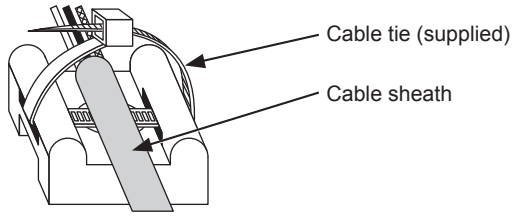
7-2-2. M-NET transmission cables (Centralized control transmission cables)

1. Attach M3.5 sleeved ring terminals to the M-NET transmission cables (A, B, Shield).
2. Connect the M-NET transmission cables to the M-NET terminal block.
3. Fix the cables in place with the supplied cable tie.
4. When the power is supplied from the unit other than the EW-50, disconnect the M-NET power jumper from CN21. (Refer to section 2-1 “Part names” for the location of CN21.)



Note

- Provide a single point ground for the shield of the centralized control transmission cable. (Provide the appropriate grounding according to local standards.)
- When leaving the M-NET power jumper connected to CN21 on the AE-200/AE-50/EW-50, the M-NET S (shield) terminal of TB3 is connected to the ground terminal block on the unit, and the ground is supplied via the protective ground wire.
- When disconnecting the M-NET power jumper from CN21 on the AE-200/AE-50/EW-50, provide a ground point at a power supply unit (PAC-SC51KUA).
- Tighten the terminal screws to a torque of 1.0 to 1.3 N•m.
- Properly fix the cable sheaths in place with the supplied cable ties. The distance between the sheath end and the ring terminal must be 45 mm (1-13/16 in) or less.



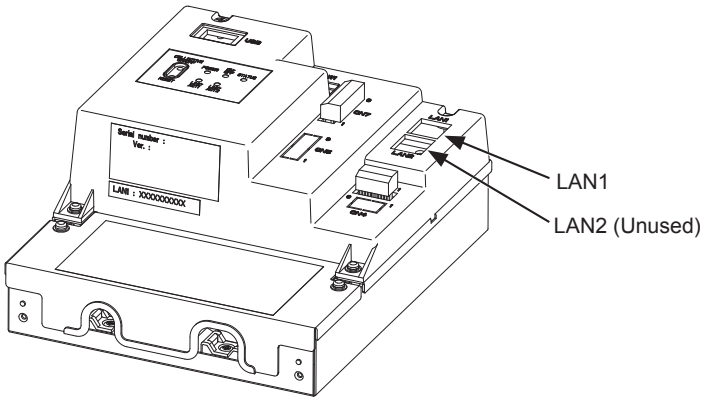
7-3. Connecting the LAN cable

CAUTION

To prevent unauthorized access, always use a security device such as a VPN router when connecting to the Internet.

Connect the LAN cable to the LAN1 port on the EW-50. (The LAN2 port is unused.)

- The LAN cable is not supplied. Use a category 5 or above straight LAN cable.
- Use a switching HUB compatible with 100 BASE.
- The maximum distance between the switching HUB and AE-200/AE-50/EW-50 is 100 m (328 ft).
- The recommended number of connected devices such as gateway, router, layer 3 switch, or HUB between the AE-200/AE-50/EW-50 is four or less. (Transmission round-trip delay time must not exceed one second. If the transmission delay time is long, a communication error may be detected. Check the transmission delay time, referring to section 7-4.)



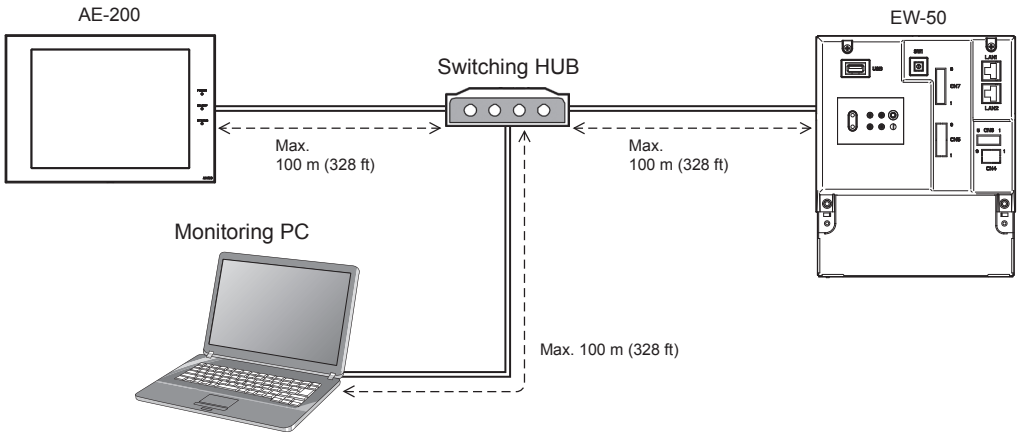
Note

- LAN must be installed before the unit installation. Route the LAN cable to the EW-50 in the same way as the M-NET transmission cables.
- When connecting the EW-50 to an existing LAN, consult the system administrator to decide the IP address.

7-4. Confirming the LAN transmission delay time

Connect a monitoring PC to a device such as HUB that is connected to the AE-200/AE-50/EW-50. Send a command from the PC to the AE-50/EW-50, and receive the response from the AE-50/EW-50. Check the time between sending and receiving on the PC display.

(1) Sample system connection



(2) Checking the transmission delay time

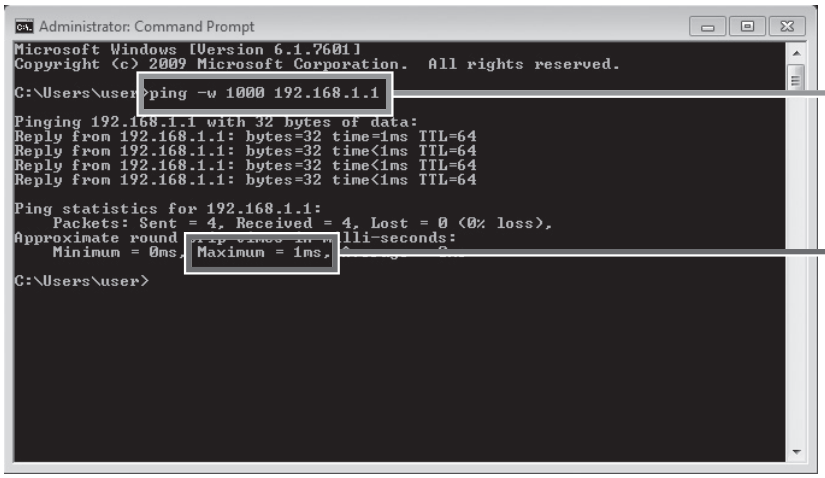
① Click [Start]>[Program]>[Accessories]>[Command Prompt] on the monitoring PC.

② Enter [ping (IP address of AE-200/AE-50/EW-50)], and press the Enter button.
([ping -w 1000 192.168.1.1] is entered on the sample screen below.)

③ Check that the transmission delay time that appears on the screen is 1000 ms or below.
(The transmission delay time is “Maximum = 1 ms” on the sample screen below, which is normal.)
If [Request timed out] appears or the displayed transmission delay time exceeds 1000 ms, consult the network administrator for how to decrease the number of gateway, router, layer 3 switch, or HUB or how to change the network.

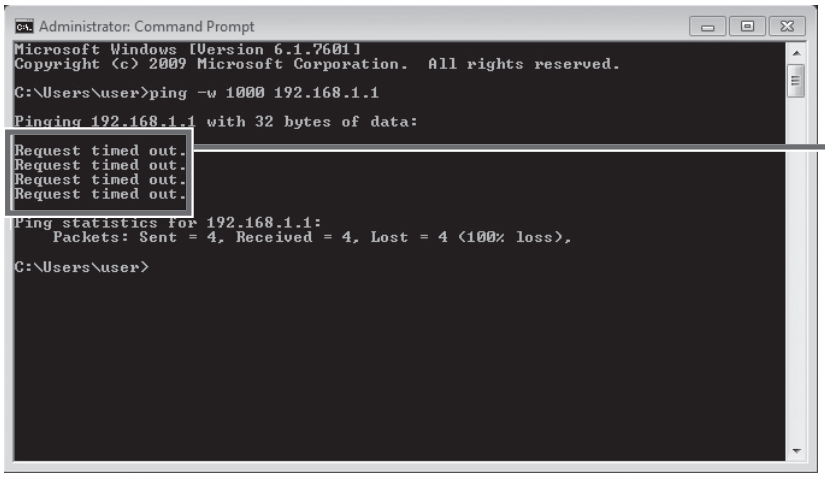
Note

- The IP address of the monitoring PC should not overlap any of the addresses that are assigned to the AE-200/AE-50/EW-50. (Refer to the Instruction Book (Web Browser for Initial Settings) for how to set the IP address of the PC.)
- When connecting to an existing LAN system, which does not use a dedicated LAN, consult the network administrator to obtain the permission to connect the monitoring PC and the temporary IP address for the PC.



Enter [ping -w 1000 192.168.1.1], and press the Enter button.

Check the transmission delay time.
The time should be 1000 ms or below.



If [Request timed out] appears, check the LAN connection status and IP address.

8. Initial settings

Initial settings need to be made for each EW-50 on the Web browser.
Details about the initial settings and other settings and operations are covered in the Instruction Books (Web Browser for Initial Settings, Web Browser for System Maintenance Engineer).

8-1. Logging in to the Web Browser for Initial Settings

(1) Enter the web page address in the address field of the Web browser as follows:
http://[IP address of EW-50]/init/administrator.html
Press the [Enter] key. A login screen will appear.

Note: If the IP address of the EW-50 is [192.168.1.1], the web page address is [http://192.168.1.1/init/administrator.html].

Note: The web page will be displayed in the same language as the operating system on the PC.
The web page can be displayed in other languages by entering the web page address as follows:

Chinese	http://[IP address of EW-50]/init/**zh**/administrator.html
English	http://[IP address of EW-50]/init/**en**/administrator.html
French	http://[IP address of EW-50]/init/**fr**/administrator.html
German	http://[IP address of EW-50]/init/**de**/administrator.html
Italian	http://[IP address of EW-50]/init/**it**/administrator.html
Japanese	http://[IP address of EW-50]/init/**ja**/administrator.html
Portuguese	http://[IP address of EW-50]/init/**pt**/administrator.html
Russian	http://[IP address of EW-50]/init/**ru**/administrator.html
Spanish	http://[IP address of EW-50]/init/**es**/administrator.html

(2) Enter the following default maintenance user name and password in the login screen.

Default user name	Default password
initial	init

8-2. Initial settings on the Web browser

Note: Initial settings for a system with connection to an AE-200 controller differ from those in a system without it. Refer to the Instruction Book (Web Browser for Initial Settings) for details.

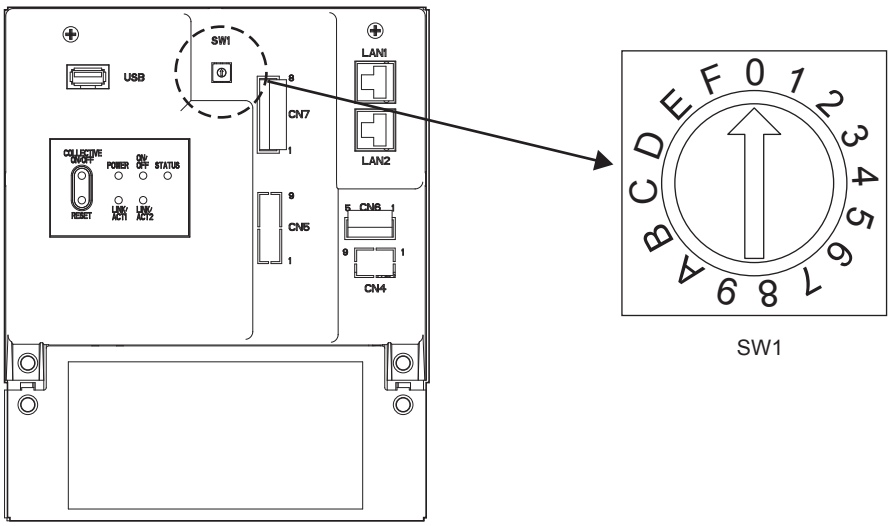
Settings	Details
Date and Time	Current date/time, daylight saving time
Basic System [Default network settings] IP address: 192.168.1.1 Subnet mask: 255.255.255.0 Gateway: 0.0.0.0	Unit Settings, Network Settings (IP address*, Subnet mask, Gateway), Display format, System Configuration Settings (M-NET Settings, External Input Setting, Time Master/Sub) * When connecting the EW-50 to an existing LAN, consult the system administrator to decide the IP address.
Groups	Group name, unit registration
Interlocked LOSSNAY	Interlocked unit registration
Blocks	Block name, group registration
Functions	E-Mail, Peak Cut, Measurement, Set Temperature Range Limit, Night Mode Schedule, System-changeover, External Temperature Interlock, Night Setback Control, Interlock control, Energy Management Settings, AHC Port Name Settings
User Settings	Maintenance User, Building Manager
Utility	Back up/import settings data
License registration	License registration for optional functions

8-3. Quick IP address setting

When connecting an EW-50 to a dedicated LAN system, IP address of the EW-50 can be easily set to an address between 192.168.1.1 and 192.168.1.15 with rotary switch SW1.

When the IP address cannot be set with rotary switch SW1 (e.g., when connecting an EW-50 to an existing LAN, when the EW-50 is used as an expansion controller of AE-200), set the IP address on the Web browser for Initial Settings.

Set SW1 before turning on the power.



SW1

* The arrow on the rotary switch indicates the current setting of the switch. Point the arrow at the desired number.

* To set the address, turn the rotary switch with a precision slotted screwdriver [2.0 mm (2/16 in) (width)] to a torque of less than 19.6 N•m.

SW1	IP address (LAN1)	Subnet mask	Gateway
0	Default 192.168.1.1	Default 255.255.255.0	Default 0.0.0.0
1	192.168.1.1	255.255.255.0	0.0.0.0
2	192.168.1.2		
3	192.168.1.3		
4	192.168.1.4		
5	192.168.1.5		
6	192.168.1.6		
7	192.168.1.7		
8	192.168.1.8		
9	192.168.1.9		
A	192.168.1.10		
B	192.168.1.11		
C	192.168.1.12		
D	192.168.1.13		
E	192.168.1.14		
F	192.168.1.15		

Note

- If you forget the EW-50 IP address, check the IP address that has been entered on the monitoring PC (Web browser or TG-2000A).
- If you forget the EW-50 IP address, you can start EW-50 by changing the SW1 setting and temporarily using a certain IP address (between 192.168.1.1 and 192.168.1.15). The IP address can be changed to an arbitrary IP address by setting the IP address on the Web Browser for Initial Settings, setting the SW1 back to “0”, and rebooting the EW-50. (It is recommended to paste a label with the IP address on the EW-50, so that the IP address is available at all times.)

8-4. Network settings on the Web browser

IP, subnet mask, and gateway addresses can be set on the Web browser. Rotary switch SW1 must be set to “0” (default setting) to make these settings.

When connecting the EW-50 to an existing LAN, consult the system administrator to decide the IP, subnet mask, and gateway addresses.

Refer to the Instruction Book (Web Browser for Initial Settings) for how to make these settings.

9. Test run

9-1. Collective operation ON/OFF

Confirm that the group settings and interlock settings are complete before performing a test run.
It may take approximately five minutes from power on until the local remote controllers become operable.
Refer to the indoor unit Installation Manual for details about a test run.

Note: Perform a test run in the presence of a customer.

Test run procedure

(1) Turn on the power to the EW-50 and all units.
(2) Make sure that the Power LED on the EW-50 is lit.
(3) Log in to the Web Browser for System Maintenance Engineer, and then open the [Monitor/Operation] screen.
* Click [Update] to show the most recent operation conditions.
(4) On the [Monitor/Operation] screen, click [Batch Operations], click [ON], and then click [OK]. The group of units will start an operation.
(5) On the [Monitor/Operation] screen, check the unit icons to see if the units are in operation.
(6) Check for the proper operation of each unit during the test run (e.g., check to see if cold (or warm) air comes out of the supply air outlet on each indoor unit).
(7) After confirming that all units are operating properly, click [Batch Operations] on the [Monitor/Operation] screen, click [OFF], and then click [OK] to stop the units.

10. External input/output

10-1. External signal input/output function

⚠ CAUTION

To reduce the risk of injury, do not touch the burrs of the knockout holes.

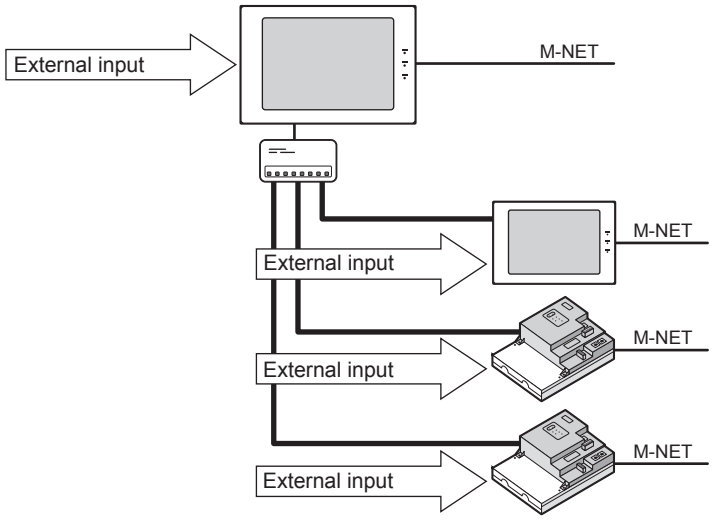
To use external input/output, a separately-sold external input/output adapter (PAC-YG10HA-E) is required.
When connecting an external input/output adapter (PAC-YG10HA-E), cut out the CN5 knockout hole. (Refer to section 2-1 “Part names” for the location of CN5.)

Note

- Connect the external input/output adapter to each AE-200/AE-50/EW-50. (External input signal to AE-200 cannot perform the collective operations (e.g., emergency stop) for AE-50/EW-50 systems.)
- Use caution not to damage the circuit board with tools when cutting out the knockout hole.
- Set the [External Input Setting] setting for each EW-50 on the [Network] screen on the Web browser for Initial Settings.

10-1-1. External signal input function

Using external contact signals (12 or 24 VDC), the following collective operations for all connected air conditioning units can be controlled: Demand level, Emergency stop, ON/OFF operation, and Prohibit/Permit local remote controller operation.



(1) External signal input function setting

Setting mode	Description
[Demand (Level signal)/Not in use] (Factory setting)	Select this mode when inputting a demand level using a level signal, or when not using an external signal input function. A demand signal of four different levels will be input.
[Emergency Stop (Level signal)]	Using a level signal, all the air conditioning units connected to the AE-200 or AE-50/EW-50 will be stopped collectively in an emergency. During an emergency stop, the ON/OFF operation from the local remote controllers will be prohibited, and the ON/OFF operation and Prohibit/Permit settings on the AE-200 or AE-50/EW-50 will be prohibited. A demand signal of three different levels will be input.
[ON/OFF (Level signal)]	Using a level signal, all the air conditioning units connected to the AE-200 or AE-50/EW-50 will be run or stopped collectively. The ON/OFF operation from the local remote controllers will be prohibited, and the ON/OFF operation and Prohibit/Permit settings on the AE-200 or AE-50/EW-50 will be prohibited. Scheduled operations will not be performed.
[ON/OFF/Prohibit/Permit (Pulse signal)]	Using a pulse signal, all the air conditioning units connected to the AE-200 or AE-50/EW-50 will be run or stopped collectively, or the operation from the local remote controllers will be prohibited or permitted collectively.

* General equipment connected via a DIDO controller (PAC-YG66DCA) cannot be collectively run or stopped by using the external signal input function unless [Emergency Stop (Level signal)] is selected and relevant switches on the DIDO controller are set.

* The external input function cannot be used on HWHP (CAHV) units.

(2) External signal input specifications

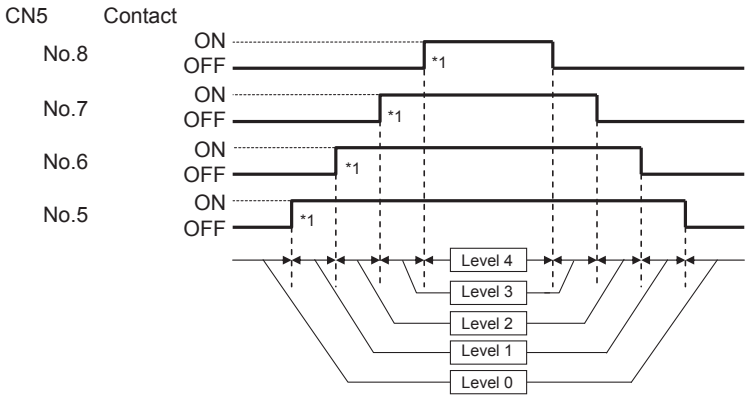
CN5	Lead wire from PAC-YG10HA-E	Demand (Level signal)	Emergency Stop (Level signal)	ON/OFF (Level signal)	ON/OFF/Prohibit/Permit (Pulse signal)
No. 9	Red	External power supply (+12 or +24 VDC)			
No. 8	Gray	Demand level 4	Demand level 4	–	Permit signal
No. 7	Blue	Demand level 3	Demand level 3	–	Prohibit signal
No. 6	Yellow	Demand level 2	Demand level 2	–	OFF signal
No. 5	Orange	Demand level 1	Emergency stop signal, Normal operation signal	ON signal, OFF signal	ON signal

(3) Level signal and pulse signal

(A) Level signal

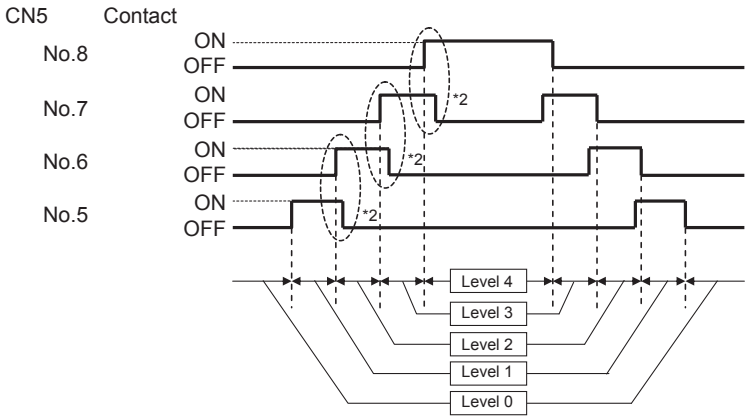
How the demand level is determined

Demand level signal specification: When higher levels' contacts turn on, lower levels' contacts also stay on.



*1 Peak Cut control is performed when the demand level contact turns on. If two different demand levels' contacts turn on at the same time, the Peak Cut control will be performed with the higher level demand.

Demand level signal specification: Only the current levels' contacts turn on.



*2 The specification must be followed in the following order: ① When the level changes, the contact of the level after the change turns on.; ② The contact of the level before the change turns off.

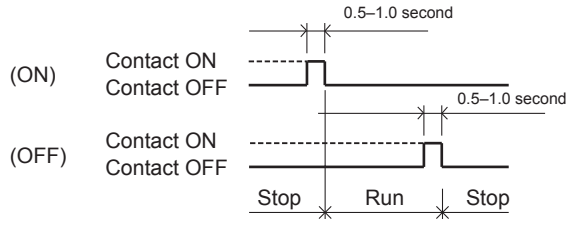
1. If [Emergency stop (Level signal)] is selected, the air conditioning units in normal operation will stop when the contact turns on. Even when the contact turns off, these units will remain stopped. They must be started up manually after the emergency stop is reset.
2. If [ON/OFF (Level signal)] is selected, the air conditioning units that are stopped will start operation when the contact turns on. Conversely, the units that are in operation will stop when the contact turns off.

Note

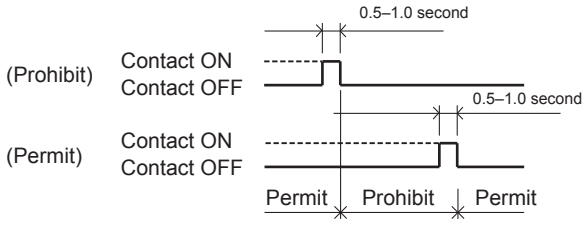
- Even if the Peak Cut control is not performed due to unexpected problems, Mitsubishi Electric will not be responsible for exceeding the maximum power demand.

(4) Pulse signal

(Example) ON/OFF



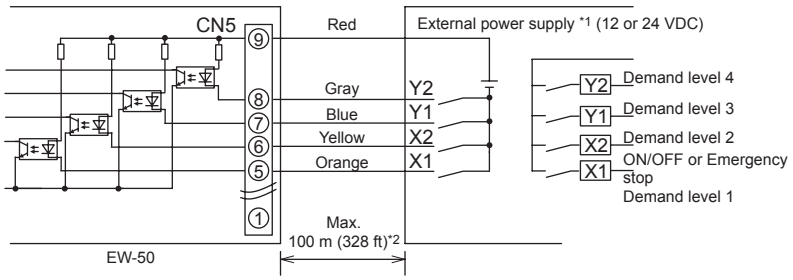
(Example) Prohibit/Permit



1. If the input pulse signal is the same as the current operation status of the air conditioning units, no status change will occur. (For example, if an ON signal is input while the air conditioning units are in operation, the units will continue their operation.)
2. If the operation from the local remote controller is prohibited, ON/OFF status, operation mode, or temperature setting cannot be changed and filter sign cannot be reset from the local remote controller.
3. The pulse width (contact ON) should be between 0.5 and 1.0 second.

(5) Recommended circuit

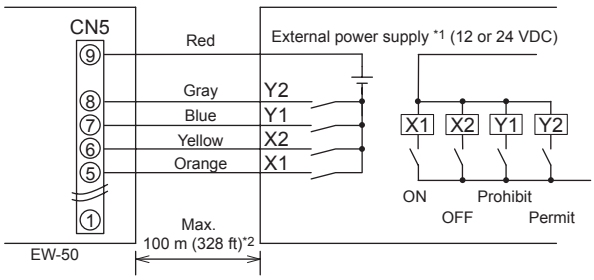
(A) Level signal



Use relays X1, X2, Y1, and Y2 that meet the following specifications.

Contact rating
Rated voltage: 12 or 24 VDC
Rated current: 0.1 A or above
Minimum applied load: DC 1 mA

(B) Pulse signal



*1 Select an external power supply suitable for the relays used. (12 or 24 VDC)
Connect the external power supply in the correct polarity to input and output the signals.
Connect ⑤–⑧ (see the figure at left) to the negative side.

*2 Take sufficient precautions against noise when the cable length is long.

Important

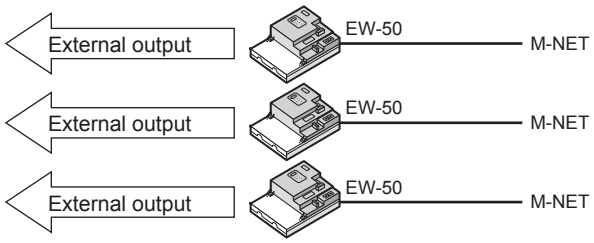
- **Be sure to use an external power supply (12 or 24 VDC) to avoid malfunctions.**
- **Connect the external power supply in the correct polarity to avoid malfunctions.**

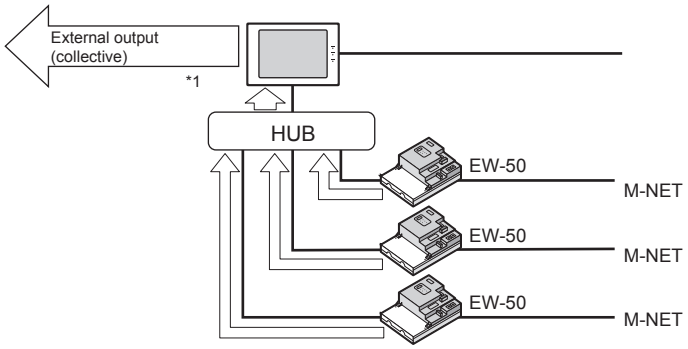
Note

- The relays, DC power supply, and extension cables are not supplied.
- The total length of the lead wire and extension cable should not exceed 100 m (328 ft). (Use an extension cable of 0.3 mm^2 or thicker.)
- Cut the excess cable near the connector, and insulate the end of the unused cable with tape.

10-1-2. External signal output function

An ON signal is output when one or more units are in operation, and an Error signal is output when one or more units are in error. (Operation status (On/Error) of the units that are connected to each EW-50 will be output.)





*1 Operation status of the total management system under the control of AE-200 (including units that are connected to AE-50 and EW-50) can collectively be output.

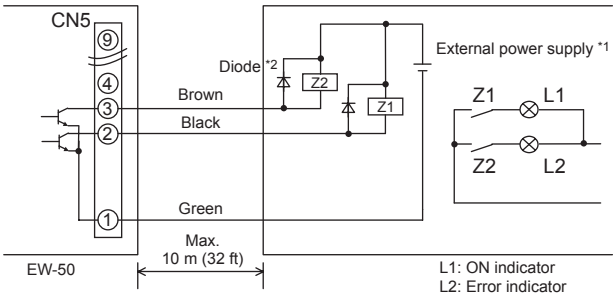
(1) External signal output specifications

CN5	Lead wire from PAC-YG10HA-E	Signal
No. 3	Brown	Error signal, Normal signal
No. 2	Black	ON signal*, OFF signal
No. 1	Green	Common ground for external output (Ground for the external power supply)

* The operation status of general equipment (via a DIDO controller (PAC-YG66DCA)) will not be output.
* The ON signal will be output even during an error.

(2) Recommended circuit

Relay-driven circuit



Use relays Z1 and Z2 that meet the following specifications.

Operation coil
Rated voltage: 12 or 24 VDC
Power consumption: Max. 0.9 W

*1 Select an external power supply suitable for the relays used. (12 or 24 VDC)
Connect the external power supply in the correct polarity to input and output the signals.
Connect ① (shown in the figure at left) to the negative side.

*2 Use a diode at both ends of the relay coils.

Important

- **Be sure to use an external power supply (12 or 24 VDC) to avoid malfunctions.**
- **Connect the external power supply in the correct polarity to avoid malfunctions.**
- **Do not connect the external power supply without relays being connected to the controller (no load).**

Note

- The relays, lamps, DC power supply, diodes, and extension cables are not supplied.
- The total length of the lead wire and extension cable should not exceed 10 m (32 ft). (Use an extension cable of 0.3 mm^2 or thicker.)
- Each element will turn on during operation and when an error occurs.

10-2. Pulse signal input function

Using pulse signals directly input from metering device such as watt-hour meter, billing data and energy management data will be obtained based on the cumulative number of pulse signal input.

Note

- To input pulse signals directly from the metering device to the EW-50, use the connector connected to the EW-50. (A precision screwdriver for M1 screws is required.).

Usability of a built-in PI controller for each function

Function	AE-200	AE-50	EW-50
Apportioned electricity billing function (option)	x*1	V*2	V*2
Energy management	V	V	V
Demand function (option)	V	V	V

(V): Usable, (x): Not usable

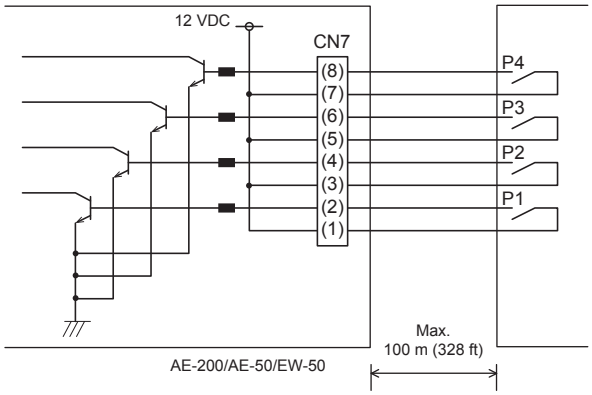
*1 A built-in PI controller on the AE-200 cannot be used for an apportioned electricity billing function. Use a built-in PI controller on the AE-50 or EW-50.

*2 Using a PI controller (PAC-YG60MCA) is recommended instead of a built-in PI controller on the AE-50/EW-50 when using an apportioned electricity billing function. (Discrepancies may occur between the built-in PI controller reading and the actual electric energy because the pulse input cannot be obtained during the AE-50/EW-50 power failure, shutoff process, and software update.)

(1) Pulse signal input specifications

CN7	Signal
No. 7, 8	Metering device 4 (count input)
No. 5, 6	Metering device 3 (count input)
No. 3, 4	Metering device 2 (count input)
No. 1, 2	Metering device 1 (count input)

(2) Recommended circuit



A voltage of 12 VDC is applied to CN7. Do not apply a power voltage from any other power source.

Contact rating
Rated voltage: 12 VDC
Rated current: 0.1 A or above
Minimum applied load: DC 1 mA

Note

- The total length of the lead wire and extension cable should not exceed 100 m (328 ft). (Use an extension cable of 0.3 mm^2 or thicker.)
- Cut the excess cable near the connector, and insulate the end of the unused cable with tape.
- Do not run the signal input cable adjacent to the M-NET transmission and power cables. Do not let the cable form a loop.
- Peel off the sheath to 6 ±1 mm (4/16 ±1/16 in) from the end, and securely insert the cable into the terminal.
- Leave adequate slack in the cables so that the weight of them will not strain the terminal connectors. Use cable clamps or trunk terminals as necessary.

11. Maintenance

11-1. Inspection and maintenance

Air conditioning units including EW-50 controllers may be damaged after long use, resulting in a performance drop or the units becoming a safety hazard. To use them safely and maximize their lives, it is recommended that a maintenance contract with a dealer or qualified personnel be signed. If the contract is signed, service technicians will periodically inspect the units to identify any damage at an early stage, and take appropriate measures.

<Reference> Maintenance/replacement cycle of components

Component	Maintenance/replacement cycle
Controller (EW-50)	10 years

* “Maintenance/replacement cycle” is not a warranty period.

* “Maintenance/replacement cycle” indicates the estimated cycle period in which each component should be replaced or repaired.

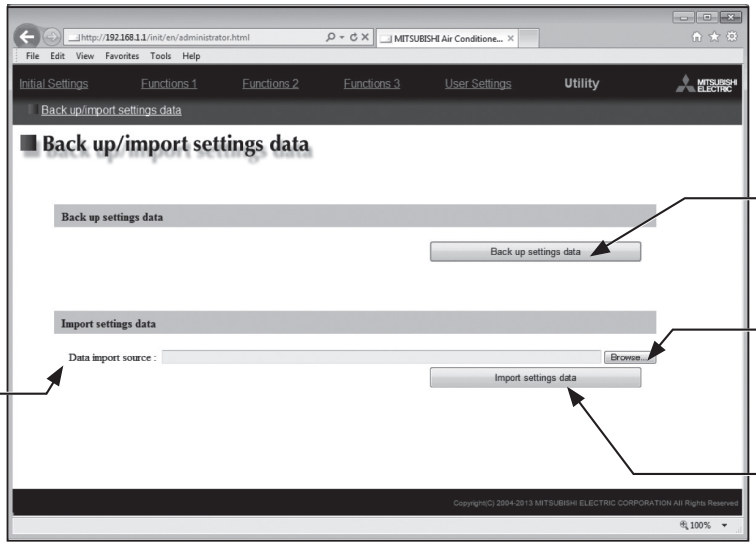
11-2. Back up/import settings data

The settings data that have been made from the Web Browser for Initial Settings can be exported to an HDD as a backup.

The exported data can be imported back to the AE-200/AE-50/EW-50 to restore the previous settings after AE-200/AE-50/EW-50 replacement.

Click [Utility] in the menu bar, and then click [Back up/import settings data] to access the Back up/import settings data screen.

Note: Back up/import settings data function is accessible only if logged in as a maintenance user.

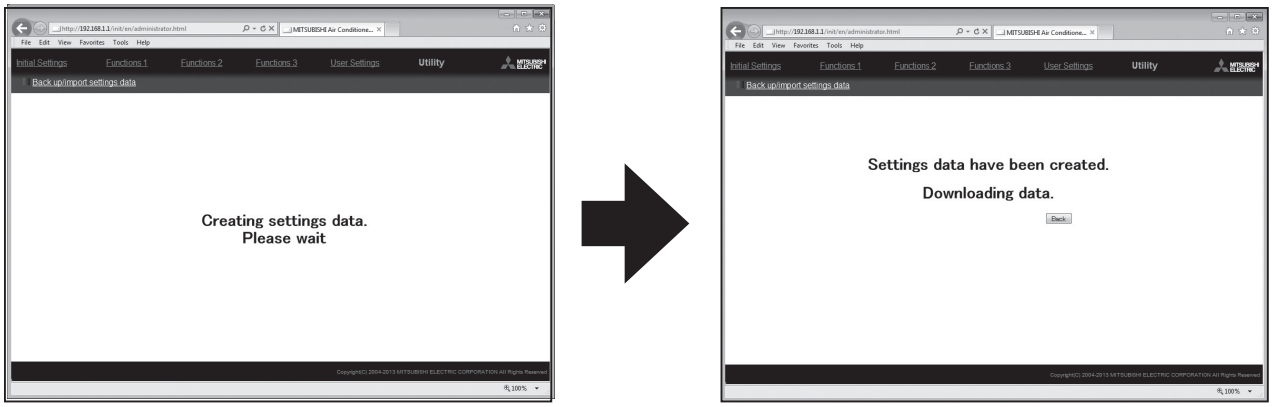


11-2-1. Backing up settings data

(1) To back up the data, click [Back up settings data]. The settings data will be created and the Window’s standard file download dialog will appear.

Note: It will take a few minutes to create the settings data.

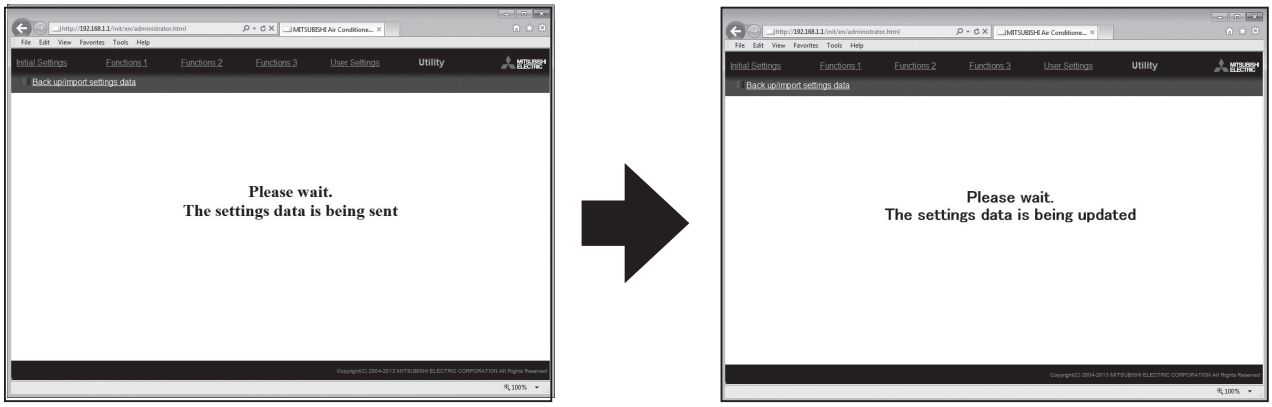
Note: The name of the settings data will be “SettingData.dat”.



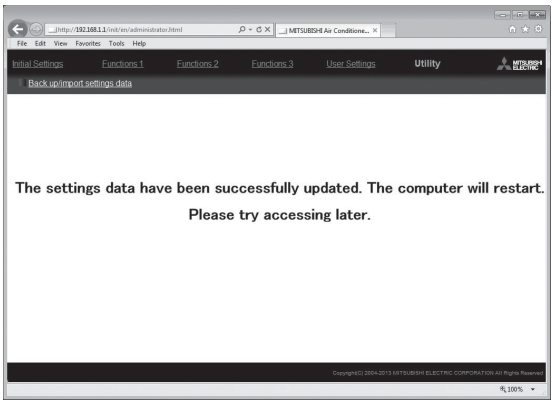
11-2-2. Importing settings data

(1) Click the [Browse...] button to launch the explorer and browse for a file that contains the data to be imported. Select the desired file, and click [Open]. The path to the file to be imported on an HDD will appear in the [Data import source] field.

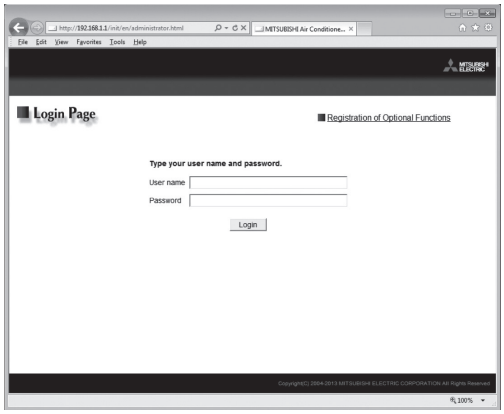
(2) Click [Import settings data] to import the data from an HDD to the EW-50.
Note: It will take a few minutes to import the settings data.



(3) When the settings data has been successfully imported, the EW-50 will restart.

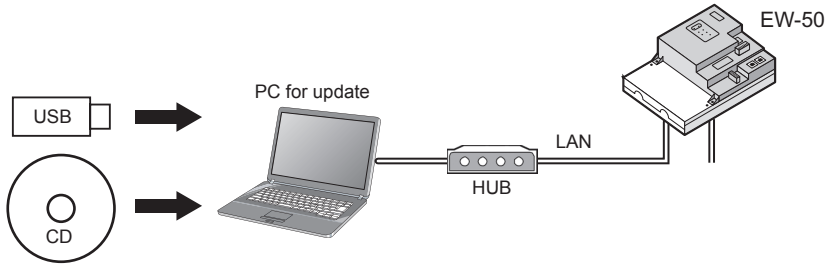


(4) Go back to the login screen and login again.



11-3. Software update

The EW-50 software can be updated by using a Web browser.

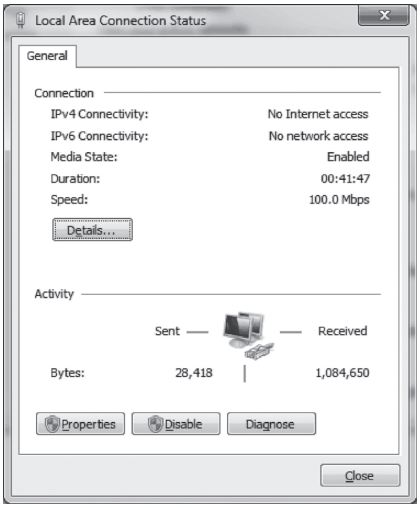


11-3-1. Preparation

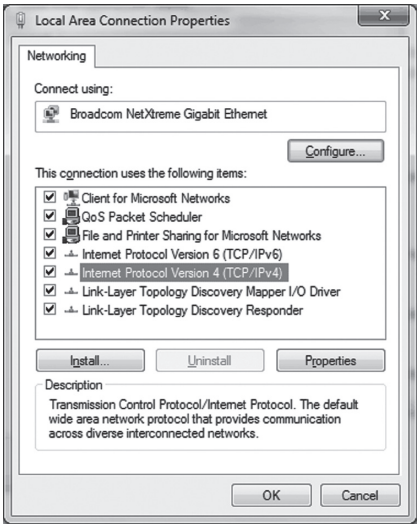
Follow the instructions below to change the IP address of the PC that is used for software update.

Note: When the system is connected to the existing LAN, ask the system administrator for permission before changing the IP address settings and updating the software.

(1) Click [Control Panel] in the Start menu, and click [Network and Sharing Center]>[Local Area Setting].
In the [Local Area Connection Status] window, click [Properties].



(2) Click [Internet Protocol Version 4 (TCP/IPv4)] to select it, and click [Properties].

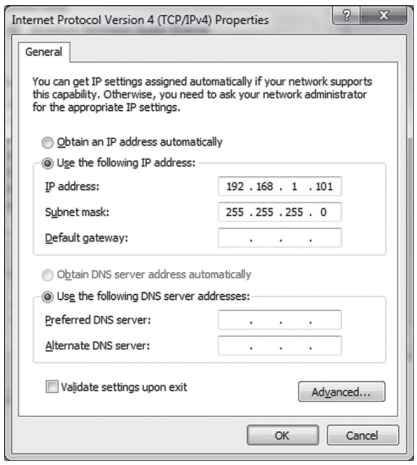


(3) In the [Internet Protocol Version 4 (TCP/IPv4) Properties] window, check the radio button next to [Use the following IP address].
Enter [192.168.1.*] in the [IP address] field. (The number indicated with an asterisk must be different from the IP address of the EW-50 to be updated.)
Leave [255.255.255.0] in the [Subnet mask] field as it is.

Note: If the IP address of the EW-50 is [192.168.1.1], set the same 1st, 2nd, and 3rd numbers and different 4th number, such as [192.168.1.2].

Note: Default IP address of EW-50 is [192.168.1.1].

Note: When performing an update on a PC that is already connected to the existing LAN, [255.255.255.0] may not appear in the [Subnet mask] field. When [255.255.0.0] appears, enter the same 1st and 2nd numbers (192.168) and different 3rd or 4th number of the IP address of the EW-50 in the [IP address] field.



Caution:

Obtain an approval from the client for the following precautions as necessary.

1. The communication between EW-50 and the air conditioning units will stop while the software is being updated. Although the unit in operation may detect a communication error and an error sign may appear on the local remote controllers, the unit will continue its operation and be operable from the local remote controllers.
   * Note that Mr. Slim indoor units or systems with no local remote controllers may detect a communication error and come to an abnormal stop.
2. Record the operation status of the air conditioning units immediately before updating the software. After the software update completes, check the operation status of the units, and manually operate the units as necessary.
3. Some operations and functions, such as scheduled operations, billing function, Peak Cut control, energy management function, will be disabled while the software is being updated. Check the setting details of these functions beforehand, and update the software when it does not affect these functions.
4. If the functions in the table below are used on the TG-2000A, avoid updating the software during the time period indicated in the right column.

TG-2000A function in use	Time period in which the update is prohibited
Electricity charge apportioning function	AM 4:05 – 4:35
Malfunction log backup	AM 0:05 – 0:15
Peak Cut data backup	AM 2:00 – 2:10
Measurement trend data backup	AM 1:05 – 1:15

5. CSV output data (e.g., energy management data) will lose up to 60-minute worth of data.
6. When a built-in PI controller is used, pulse signals cannot be input while the software is being updated.

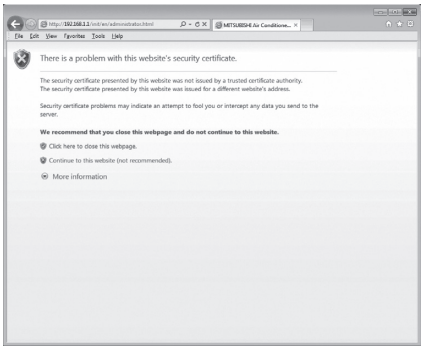
11-3-2. Update procedures

(1) Make sure that the PC that has been set in section 11-3-1 above and the EW-50 to be updated are connected with a LAN cable.

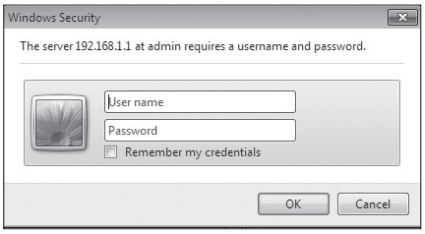
(2) Turn on the power to the EW-50, and insert a CD or USB memory device in which the update file is stored to the PC.

(3) Enter the web page address in the address field of the Web browser as follows:
https://[IP address of each EW-50]/swupdate/Update.html
Press the [Enter] key.
Note: If the IP address of the EW-50 is [192.168.1.1], the web page address is [https://192.168.1.1/swupdate/Update.html].

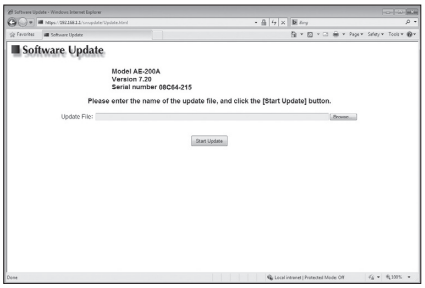
(4) If the security certificate is invalid, a security certificate error page (as shown at right) will appear.
Click [Continue to this website (not recommended)].



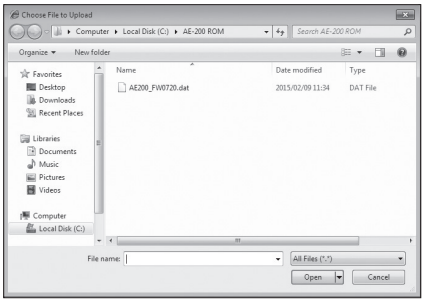
(5) Enter the maintenance user name and the password in the login screen, and click [OK]. (Default user name: initial, Default password: init)

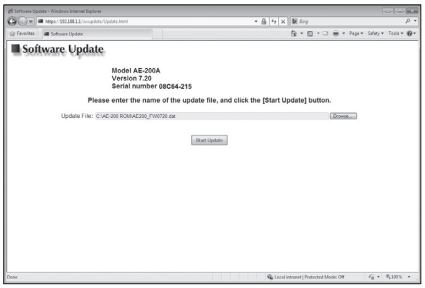


(6) A software update screen will appear.



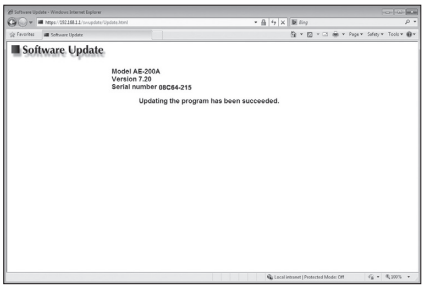
(7) Click the [Browse...] button and select the update file (AExx_ FW####.dat) stored in the CD or USB memory device, and click [Start Update].
Note: The software cannot be downgraded to an earlier version.

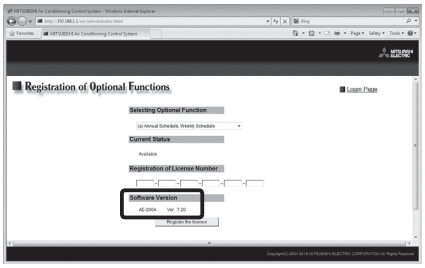




(8) A software update process starts.
Note: It takes about ten minutes to complete the update.
Note: Do not disconnect the LAN cable or turn off the power to the EW-50 while the software is being updated.

(9) The EW-50 will reboot after the update is complete.
Check that the version that will appear on the screen is the same as the version of the update file. Also check that the version displayed on the Web browser (the Registration of Optional Functions screen, via the Web Browser for Initial Settings) is also the same.





If the software update did not properly complete, update the software again. If the problem persists, the EW-50 may be damaged. Consult your dealer.

11-4. Software information

Detailed information about the open source software of the AE-200/AE-50/EW-50 can be checked by accessing the following address:

https://[IP address of each AE-200, AE-50, or EW-50]/license/

* Accessible only if logged in as a maintenance user.

12. Error code list

Error codes and their definitions are shown below. If an error occurs, note the error code and consult your dealer. (A) indicates A-control units.

12-1. M-NET errors

0092	Version combination error
0093	System configuration change warning
0094	“Charge” license not registered
0095	Warning - possibility of damaged metering device
0097	Apportioned calculation data collection error
0100	Equipment abnormality
01*0	Equipment abnormality (PAC-YG66DCA) in system *
01**	Equipment abnormality in system **
0403	Serial transmission trouble
0404	Indoor unit EEPROM error (A)
0701	Combustion circuit abnormality (A)
0702	Combustion heat exchange overheating protection (A)
0703	Accidental fire (A)
0704	Heater abnormality (A)
0705	Seismoscope malfunction (A)
0706	Flame current sensor abnormality (A)
0707	Ignition abnormality (A)
0708	Blower motor rotation abnormality (A)
0709	Oil pump circuit abnormality (A)
0900	Test run
1000	Refrigerant cycle abnormality
10*0	Refrigerant cycle abnormality in line *
1102	Discharge temperature abnormality (TH4) (A)
1108	Inner thermo (49C) operation (A)
11**	Refrigerant cycle temperature abnormality - Common operand: **
1300	Low-pressure abnormality (63L operation) (A)
13**	Refrigerant cycle pressure abnormality - Common operand: **
1500	Refrigerant cycle not operate due to overcharge
1501	Refrigerant cycle not operate due to undercharge (/compressor shell temperature abnormality)
1502	Refrigerant cycle not operate due to liquid back /Low-discharge super heat abnormality (A)
1503	Refrigerant cycle not operate due to coil frost
1504	Refrigerant cycle not operate due to overheat protection
1505	Refrigerant cycle not operate due to compressor vacuum operation protection/refrigerant low temperature abnormality
1506	Refrigerant cycle not operate due to refrigerant pump abnormality
1507	Refrigerant cycle not operate due to composition detection abnormality
1508	Refrigerant cycle not operate due to control valve fault
1509	Refrigerant cycle not operate due to high pressure abnormality (ball valve closed)
1510	Refrigerant cycle - Gas leakage
1511	Refrigerant cycle not operate due to oil slick abnormality
1512	Refrigerant cycle not operate due to a stop of freezing protection function
1513	Refrigerant cycle - Brine freezing
1559	Oil balance circuit abnormality
2000	Water system abnormality (Pump interlock abnormality)
20*0	Water system abnormality in line *
21**	Water system temperature abnormality - Common operand: **
23**	Water system pressure abnormality - Common operand: **
2500	Water system not operate due to water leak
2501	Water system not operate due to water supply suspension
2502	Water system not operate due to drain pump abnormality
2503	Water system not operate due to drain sensor abnormality/float switch function
2504	Water system not operate due to liquid level abnormality
2505	Water system not operate due to cool water valve abnormality
2506	Water system not operate due to warm water valve abnormality
2507	Water system not operate due to dew condensation prevention control activated
2600	Water system operation restricted due to water leak
2601	Water system operation restricted due to water supply suspension/humidifier water supply suspension
2602	Water system operation restricted due to drain pump abnormality
2603	Water system operation restricted due to drain sensor abnormality
2604	Water system operation restricted due to liquid level abnormality
2613	Drop in water flow rate
3152	Air system operation restricted due to inverter control box inner temperature abnormality
3182	Air system operation restricted due to housing inner temperature abnormality
3600	Air system operation restricted due to filter clogging

3601	Air system operation restricted due to filter maintenance
3602	Air system operation restricted due to damper position detecting abnormality
37**	Air system operation humidity abnormality allowance - Common operand: **
38**	Air system operation humidity abnormality - Common operand: **
4000	Electric system abnormality
40*0	Electric system abnormality in line *
4100	Electric system not operate due to overcurrent shut-off
4101	Electric system not operate due to overcurrent protection
4102	Electric system not operate due to open phase /Open phase (T phase) (A)
4103	Electric system not operate due to reversed phase/open phase
4104	Electric system not operate due to electric leak
4105	Electric system not operate due to short circuit
4106	Electric system not operate due to self power supply OFF/power failure
4107	Electric system not operate due to overload
4108	Electric system not operate due to overload protection/OCR51C /Open phase (S phase),51CM connector open (A)
4109	Electric system not operate due to OCR51F
4110	Electric system not operate due to high voltage part
4111	Electric system not operate due to bus current
4112	Electric system not operate due to coil overheat 49°C
4113	Electric system not operate due to heater overheat
4114	Electric system not operate due to fan controller abnormality
4115	Electric system not operate due to power supply synchronism abnormality /Input circuit (board) failure
4116	Electric system not operate due to motor abnormality/speed abnormality
4117	Compressor self-protection function operation (A)
4118	Opposite phase detection circuit (board) failure (A)
4119	Open of 2 or more connectors (A)
4121	Electric system not operate due to trouble in equipment to which a measure against higher harmonics is taken
4123	Electric system not operate due to Inverter output error
4124	Electric system not operate due to damper abnormality
4125	Electric system - Rush-proof circuit abnormality
4200	Inverter abnormality
420*	Inverter abnormality - Inverter No.: *
4210	Inverter overcurrent shut-off
421*	Inverter overcurrent shut-off - Inverter No.: *
4220	Inverter bus voltage insufficiency / Voltage abnormality (A)
422*	Inverter bus voltage insufficiency - Inverter No.: *
4230	Inverter radiating thermostat abnormality
423*	Inverter radiating thermostat abnormality - Inverter No.: *
4240	Inverter overcurrent (overload) protection
424*	Inverter overcurrent protection - Inverter No.: *
4250	Inverter IPM/bus voltage abnormality /Power module abnormality (A)
425*	Inverter IPM abnormality *
4260	Inverter cooling fan trouble
426*	Inverter cooling fan trouble - Inverter No.: *
5000	Sensor trouble
50*0	Sensor trouble in system *
51**	Temperature sensor trouble - Sensor No.: **
5202	Connector (63L) open (A)
52**	Pressure sensor trouble - Sensor No.: **
5300	Current sensor abnormality (A)
53**	Current sensor trouble - Sensor No.: **
54**	Humidity sensor trouble - Sensor No.: **
55**	Gas sensor trouble - Sensor No.: **
56**	Air speed sensor trouble - Sensor No.: **
57**	Limit switch trouble - Switch No.: **
58**	Sensor trouble - Sensor No.: **
59**	Other sensors trouble - Sensor No.: **
6000	System abnormality
6101	System not operate due to abnormality - With response frame
6102	No answer back
6200	Controller H/W abnormality
6201	E2PROM abnormality
6202	RTC abnormality
6204	External memory read/write error
6500	Communication error
6600	Communication error - Address duplicate
6601	Communication error - Polarity unsettled
6602	Communication error - Transmission processor hardware error
6603	Communication error - Transmission line busy
6604	Communication error - No ACK (06H) (communication circuit error)
6605	Communication error - No response frame

6606 Communication error - Transmission processor communication error
6607 Communication error - No ACK return
6608 Communication error - No return of response frame
6609 Communication error
6610 Communication error
6800 Communication error - Other communication errors
6801 Communication error - V-control communication error
6810 Communication error - UR communication error
6811 Communication error - UR communication synchronism not recover
6812 Communication error - UR communication hardware error
6813 Communication error - UR communication status bit detection error
6820 Other communication errors
6821 Other communication errors - Transmission line busy
6822 Other communication errors - No communication ACK
6823 Other communication errors - No response command
6824 Other communication errors - Receive data error
6830 Communication error - MA communication refrigerant address double setting error
6831 Communication error - No MA communication reception error
6832 Communication error - MA communication synchronism not recover
6833 Communication error - MA communication transmission/reception hardware trouble
6834 Communication error - MA communication start bit detection error
6840 Communication error - A control no indoor/outdoor communication/reception abnormality
6841 Communication error - A control indoor/outdoor communication synchronization recovery abnormal
6844 Communication error - A control indoor/outdoor communication incorrect indoor/outdoor wiring connection, excessive number of indoor units (more than five units)
6845 Communication error - A control indoor/outdoor communication incorrect indoor/outdoor wiring connection (telecommunication, disconnection)
6846 Communication error - A control indoor/outdoor communication startup time exceeded
7000 System abnormality
7100 System abnormality - Total capacity error
7101 System abnormality - Capacity code error
7102 System abnormality - Connecting unit number excess
7103 System abnormality - Piping length setting error
7104 System abnormality - Floor height setting error
7105 System abnormality - Address setting over 254
7106 System abnormality - Attribute setting error
7107 System abnormality - Distributor setting error
7108 System abnormality - Refrigerant system setting error
7109 System abnormality - Connection setting error
7110 System abnormality - Refrigerant system connection/connection data unsettled
7111 System abnormality - I/O connection equipment not connected/remote controller sensor abnormality
7112 System abnormality - I/O type setting error
7113 System abnormality - Equipment unsettled
7116 System abnormality - Replace non-wash setting error
7117 System abnormality - Model identification setting error
7130 System abnormality - Different unit model error
7131 System abnormality - Mixed cooling only H/P connection error (Facility PAC)
7132 System abnormality - Multiple entries of operation performance (Facility PAC)
7200 System abnormality - Numeric values unsettled
7201 System abnormality - Numeric values unsettled
73** System abnormality - LON system equipment abnormality

12-2. Errors between AE-200 and AE-50 (EW-50)

6920 No response error
6922 Response ID error
7901 Maximum connectable No. of units exceeded
7902 Connection lock error
7903 Unit information error
7904 System setting error
7905 Version error

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Java is a registered trademark of Oracle and/or its affiliates.

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.

Bu uyarının içeriği sadece Türkiye'de geçerlidir.

- Şirketimizdeki geliştirme faaliyetlerinden dolayı ürün özelliklerinin, haber verilmeksizin değiştirilme hakkı tarafımızda saklıdır.
- Anma değerleri için TS EN 14511 / TS EN 14825 deki iklim şartları ile tarif edilen koşullar esas alınmıştır.
- İç ve dış ortam sıcaklıklarının standartlarda esas alınan değerlerin dışına çıkması durumunda klimanızın ısıtma ve soğutma kapasitelerinin etkilenmesi doğaldır.
- Ürünün üzerinde bulunan işaretlemelerde veya ürünle birlikte verilen diğer basılı dokümanlarda beyan edilen değerler, ilgili standartlara göre laboratuvar ortamında elde edilen değerlerdir. Bu değerler, ürünün kullanım ve ortam şartlarına göre değişebilir.
- Satın almış olduğunuz ürünün kullanım ömrü 10 yıldır. Bu, ürünün fonksiyonunu yerine getirebilmesi için gerekli yedek parça bulundurma süresidir.

Ürünün montajı için Mitsubishi Electric Turkey Elektrik Ürünleri A.Ş. yetkili servisine / bayisine başvurunuz.

Servis İstasyonları ve Yedek Parça Temini :
Cihazınızın bakım, onarım ve yedek parça ihtiyaçları için klimanızı satın aldığınız yetkili satıcıya başvurunuz. Yetkili Servislerimizin listesine **[www.klima.mitsubishielectric.com.tr]** adresinden veya 444 7 500 numaralı telefondan ulaşabilirsiniz.

Ünitenin ihtiyaç duyacağı bakım ve onarım parçaları 10 yıl boyunca üretilecektir.

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

The product at hand is based on the following EU regulations:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- Restriction of Hazardous Substances 2011/65/EU

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

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