

CENTRAL CONTROL SC-SL4-AE, SC-SL4-BE INSTALLATION MANUAL

PJZ012D142

202205

This installation manual describes the installation methods and precautions related to the unit. Use this manual together with the user manuals for the indoor and outdoor units, unit and other optional equipment. Please read this manual carefully before starting the installation work to install the unit correctly. The product is a precision equipment, so please handle it with enough care to prevent the unit damage due to falling and being stepped on. After completing the installation, carry out a test run to confirm that no abnormalities occur, and show customers how to use the unit according to the User's Manual. Please ask customers to keep the Installation Manual on hand.



Note

The user's manual is not included in the package. Please download from the following website.
https://www.mhi-mth.co.jp/en/products/detail/air-conditioner_users_manual.html#controllers2022

Safety precautions

- Please read this manual carefully before the installation work to install the unit correctly. All of the following instructions are important and they are to be strictly followed.

⚠WARNING

Failure to follow these instructions may result in serious consequences such as death, severe injury, etc.

⚠CAUTION

Failure to follow these instructions may cause personal injury or property damage. It could have serious consequences depending on the circumstances.
- The pictograms used in the text have following meanings.

Never do.

Always follow the instructions given.
- Keep this manual in a safe place where you can refer to it whenever necessary. Show this manual to the installer when moving or repairing the unit. When the ownership of this unit is transferred, this "Installation Manual" should be given to the new owner.

⚠WARNING

- ❗ ● Consult your dealer or a professional contractor to install the unit. Improper installation made on your own may cause electric shocks, fire or dropping of the unit.
- ❗ ● Installation work should be performed properly according to this installation manual. Improper installation work may result in electric shocks, fire or break-down.
- ❗ ● Be sure to use accessories and specified parts for installation work. Use of unspecified parts may result in drop, fire or electric shocks.
- ❗ ● Install the unit properly to a place with sufficient strength to hold the weight. If the place is not strong enough, the unit may drop and cause injury.
- ❗ ● Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit. Power source with insufficient and improper work can cause electric shock and fire.
- ❗ ● Shut OFF the main power supply before starting electrical work. Otherwise, it could result in electric shocks, break-down or malfunction.
- ❗ ● Be sure to turn OFF the power circuit breaker before repairing/inspecting the unit. Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.
- ❗ ● Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces. Improper connections or fixing could cause heat generation, fire, etc.
- ❗ ● When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises. It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc. The influences transmitted from the unit to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.
- ❗ ● When wiring, ensure solid connections and fasten specified cables securely so that terminal connections may not be subject to external forces from cables. Incomplete connection or improper connection of terminal wiring may cause electric shock or fire.
- ⊘ ● Do not modify the unit. It could cause electric shocks, fire, or break-down.
- ⊘ ● Do not install the unit in a special environment where inflammable gas could generate, flow in, accumulate or leak. If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.
- ⊘ ● Do not install the unit where water vapor is generated excessively or condensation occurs. It could cause electric shocks, fire, or break-down.
- ⊘ ● Do not use the unit in a place where it gets wet, such as laundry room. It could cause electric shocks, fire, or break-down.
- ⊘ ● Do not operate the unit with wet hands. It could cause electric shocks.
- ⊘ ● Do not wash the unit with water. It could cause electric shocks, fire, or break-down.
- ⊘ ● 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. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- ⊘ ● Cleaning and user maintenance shall not be made by children without supervision.

3 Installation Work

Please install the central control after turning off the power for fear of electric shock. Please arrange or protect the wiring so that excessive force is not applied to the electrical wires.

Installation Place

Please install in an indoor location that is not exposed to electromagnetic waves, water, dust, or other foreign substances. The operating temperature range of this product is from 0°C to 40°C. Install in a location where the ambient temperature remains within the operating temperature range. However, if the operating temperature range is exceeded, be sure to implement corrective measures such as installation of a cooling fan. Be aware that continued usage of this central control outside the operating temperature range can result in operation problems.

Space Required for Installation

<Opening Space for the Installation>

Create a hole in the wall as shown in the figure above. Be sure to check the dimensions required to correctly install the unit.

Insert the installation bracket (rear) into the rear of the wall through the hole, and secure the bracket.

Fasten the installation bracket (front) and installation bracket (rear) as shown in the figure above. The top and bottom of the brackets can be easily identified. Be sure to check the "↑UP" mark to install it right side up.

(1) In case of installing on the control box

- Please use the control box of the size of 300mm × 400mm × 120mm or larger.
- Please be sure to lock the control box to protect persons from electric shock. Avoid usage of heat-retaining materials and heat-insulating materials because these can result in heat buildup and adversely affect the operation of the central control.

Caution

Please do not install devices that can cause the ambient temperature to rise in the same control box. Also, do not install multiple controllers in the same control box. These can cause heat to build up and result in false operation. If multiple central control must be installed in the same control box, take corrective measures to ensure that the temperature in the control box does not rise above 40°C such as by installing cooling fans.

<Service space>

Front of the central control 500mm or larger
Bottom of the central control 100mm or larger

(2) In case of embedding in a wall

Be sure to use the attached installation brackets. Alternatively, you can use SLA3R-BX for SC-SL3N. Please be sure to use for protecting persons from the electric shock. Please check that the sufficient space is available in the wall. When the inside of the wall is divided and have a cavity, please create space more than 0.08m³. Refer to the table below. If there is partition on the left, right, top and bottom of the central control, please create a space that is 105mm or deeper.

	a (height) (mm)	b (width) (mm)	c (depth) (mm)	space (m³)
Example1	900	800	110	0.08
Example2	1800	400	110	0.08
Example3	1000	400	200	0.08
Minimum	600 or larger	400 or larger	110 or larger	

<No partition>

<With partition>

⚠CAUTION

- Do not install the unit at following places.

(1) It could cause break-down or deformation of unit.
 - Where it is exposed to direct sunlight
 - Where the ambient temperature becomes 0 °C or below, or 40 °C or above
 - Where the surface is not flat
 - Where the strength of installation area is insufficient

(2) Moisture may be attached to internal parts of the unit, resulting in a display failure.
 - Place with high humidity where condensation occurs on the unit
 - Where the unit gets wet
- Provide ground connection. The ground line should never be connected to the gas supply piping, the water supply piping, the lightning conductor rod, or the telephone ground. If the grounding is incorrect, it may result in electric shock.
- ❗ ● Be sure to install a leakage breaker at the installation location. If a leakage breaker is not installed, electric shock may result.
- ❗ ● The device is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given the correct supervision and/or instruction.
- ❗ ● Children must be supervised not to play with device.
- ❗ ● Clearances, creepage distances and solid insulation. The primary and secondary wires must be reinforced insulated. Keep the wires at least 5mm apart or add a protective tube to the wires.
- ❗ ● Make sure to remove static electricity before connecting terminals or touching the unit. Use an antistatic wristband or touch the metal part on the back of the device to remove static electricity from your body before connecting the terminals. If static electricity removal is incomplete, it may cause a malfunction.

1 Applicable Models All models for Superlink

2 Accessories Please check the following accessories.

Central control	1 unit
Pan-head screws (M4)	4 pieces for installing on the control box (10mm) 4 pieces for embedding in a wall (40mm)
Pan-head screws (M3)	4 pieces (8mm) for installing the central control

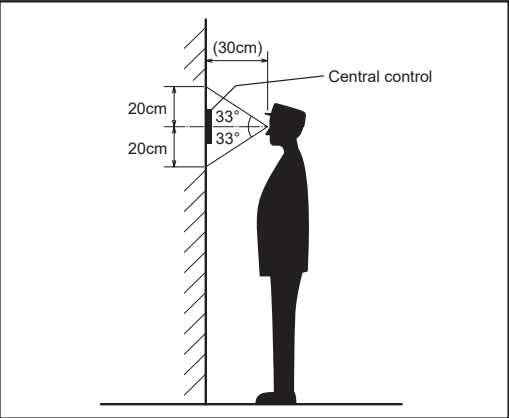
- For SC-SL4-BE

CD-ROM (Energy consumption calculation software)	1 unit
USB Memory	1 unit

Installation Manual (this document)	1 unit
Installation bracket (front)	1 piece
Installation bracket (rear)	1 piece
Round crimping terminal (L)	Large size × 2 pieces
Round crimping terminal (S)	Small size × 6 pieces

Installation Position

Install the central control so that the center of the screen will be at the same height as the eye level of people who will frequently use the unit. The recommended position is that the center of the screen becomes within +33, -33 degrees from eye level.



Installation procedure

- (1) Remove the upper case
- ① Take out two screws using a cross slot screwdriver. (Do not lose the screws)

② Pull the upper case a little forward and push above. Then, upper case can be removed.

Caution

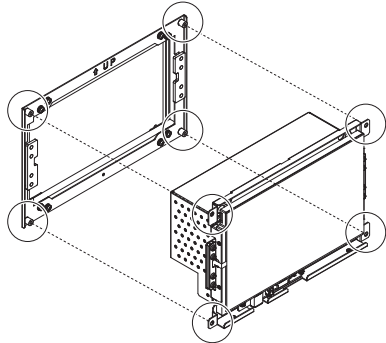
Please do not install facing upward or at a slant.

- Embed signal wire and power supply wire in the wall beforehand.
- Connect wires to the terminal block.
- Confirm power supply voltage and connect correctly.

- (2) Installation outline
- Be sure to use the attached installation brackets.

- In case of embedding in a wall, draw the power supply line and signal line from the opening of the installation bracket in advance.
- Wire separately the power supply wire and the signal wire for preventing malfunctions.

After inserting the SL4 into the opening hole, secure it to the installation bracket (front) with the supplied screws (M3 pan head screws). (See figure below)



Finally, attach the upper case. (Hook at the top and secure the bottom with 2 screws.)

- 4
- Electric Wiring
- For safety reasons, please use the round crimping terminals with insulated sleeves for connecting all wires to the central control.
- Please do the grounding work. Please do not connect earth line with gas pipes, water pipes, lightning rods and grounding line of telephone.

●Please do not turn on the power supply (local switch) until all of the work is completed.

●Please wait at least two minutes after the indoor and outdoor units are turned on before turning on the power supply.

●Except for the central control in the figure, all of the components are obtained at the site (wires, switches, relays, power supply, lamps, etc.)

●Please be sure to build the circuit breaker which is easily accessible with building equipment's wiring.

●Pease be sure to use the supplied round crimped terminals when connecting wires to the power supply terminal block and Superlink terminal block.

●Before connecting the wires, remove the cover of the terminal block. After the work is completed, fix the cover of the terminal block as before. The cover is used to prevent electric shock due to accidental contact.

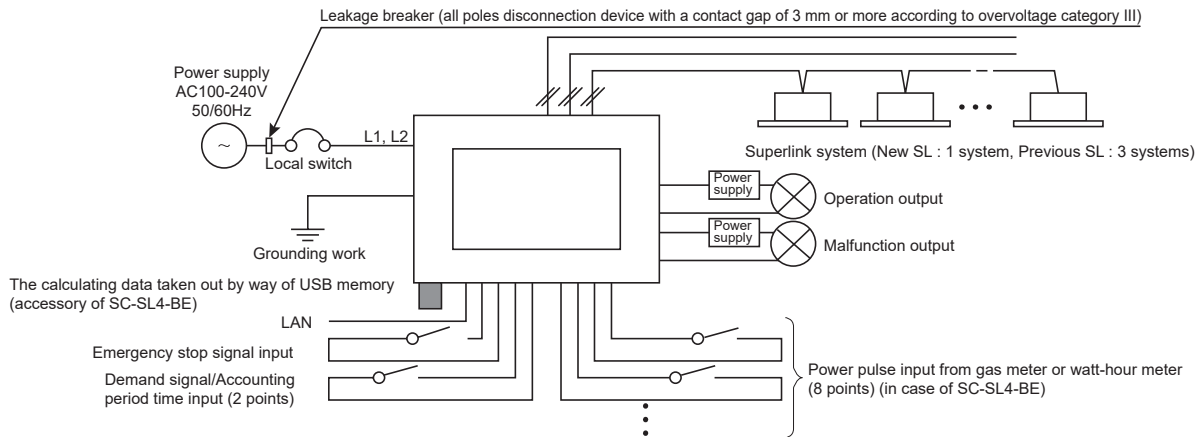
●Please use a gas meter or watt-hour meter, demand input device and emergency stop input device which comply with a relevant IEC Safety Standard.

●Do not use any supply cord lighter than one specified in below.

– Ordinary tough rubber sheathed cord (code designation 60245 IEC 53)


●When pulling out wires from the enclosure, secure or cover the wires with conduit to prevent tension from being applied to the terminals.

Wiring Outline



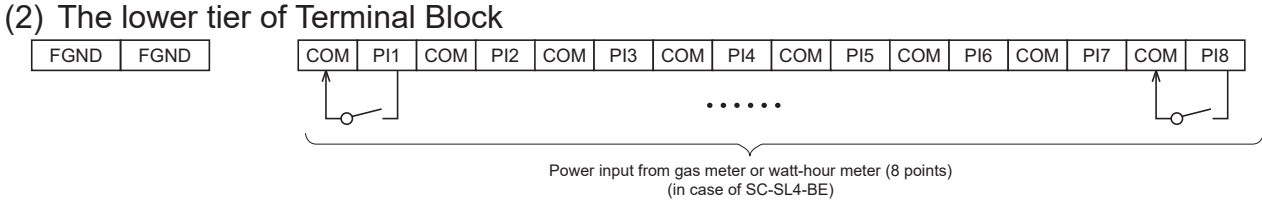
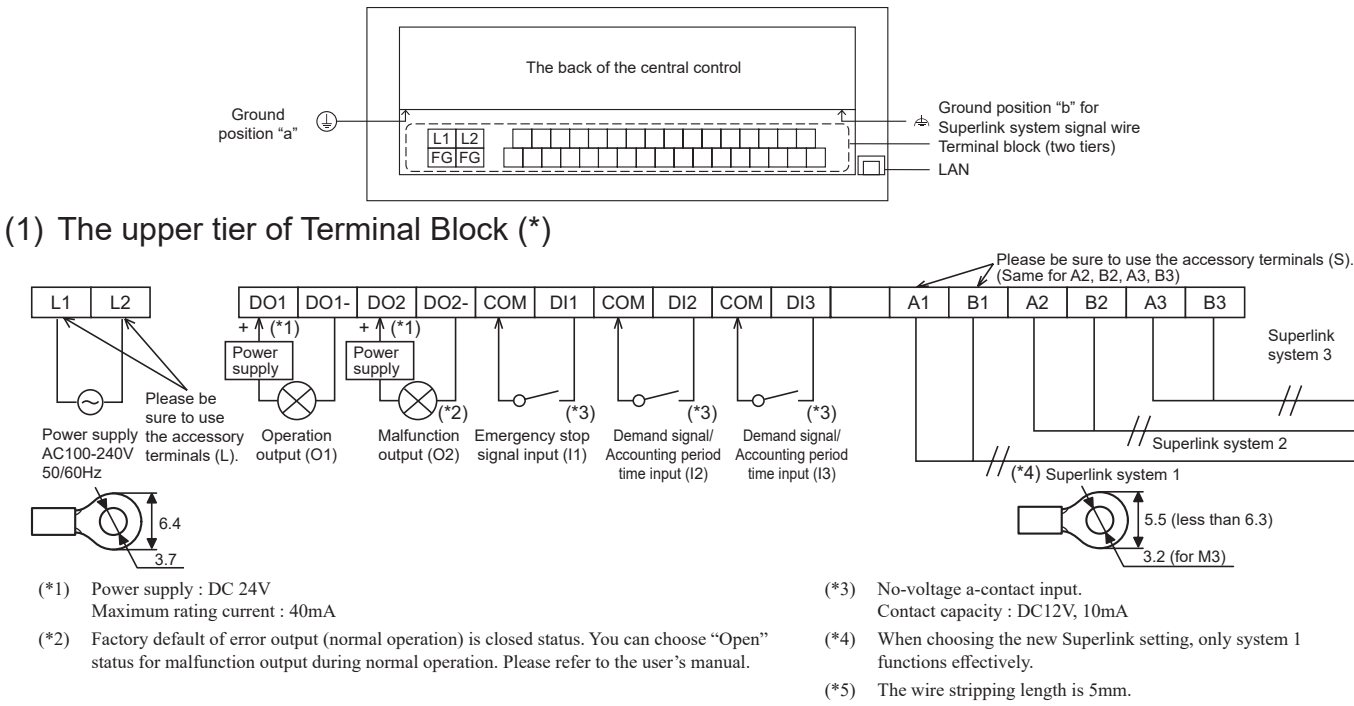
Wiring Specifications

Power supply wire	1.25mm ² (60245 IEC 53)
Local switch	10A
Superlink signal wire (Note 1, Note 2)	Shielded wire (double-core, 0.75mm ² - 1.25mm ²). Max. 1000m per line (Max. distance: 1000m, Total wire length: 1000m)
The wire for operation output, error output, emergency stop and demand input	Shielded wire (double-core, 0.75mm ² - 1.25mm ²). Maximum length: 200m per system
The wire for gas meter or watt-hour meter	Shielded wire (double-core, 0.75mm ² - 1.25mm ²). Maximum length: 200m per system
Grounding wire	0.75mm ² - 6mm ²

Note 1: When this central control is used, use a shielded wire for the Superlink signal wire. Ground both ends of the shielded wire.
(Please wire the ground of the central control at  Ground position "b" of "System Wiring" in the diagram)

Note 2: If the indoor and outdoor units connected to the network are all compatible units with New Superlink, a total wire length of 1500m per line is possible (maximum distance: 1000m). However, be sure to use a 0.75mm² wire diameter if the total wire length exceeds 1000m. For further information, please contact your sales representative or dealer.

System Wiring



- Do not connect power supply wire to another terminal block.

● When you connect by mistake, damage and damage by fire of the electric part are caused, and it is very dangerous. Please check the wiring thoroughly again before turning on power.

● The demand signal input is configured for two points. To configure the 3 level setting, contact your sales representative or dealer.

● Please connect the gas meter or the watt-hour meter that satisfies the specification below.

• the meter with pulse transmitter

• the meter with pulse width of 100ms or more

● The energy consumption calculated by this central control does not conform to OIML, and there are no guarantees concerning the results of the calculations.
- Notice

Please choose the new or previous setting of Superlink (SL) in the display of the main unit. (See user's manual)
It is necessary to change if the connection network is for previous Superlink. Whether the real connection network is new Superlink or previous Superlink depends on the type of connected indoor unit,outdoor unit,etc. Inquire the agents or dealers for more information.
When choosing the new Superlink Communication setting, 1 system wiring can connect up to a maximum of 128 units. Be sure to connect wiring to the Superlink system 1. Be careful not to connect to the Superlink system 2 or 3, as the main unit will not be recognized.
- Power switch
- The power switch is lower front of the central control. After installation is completed, turn the power switch ON.
Note that the central control does not start up unless the power switch is turned ON.
(It is turned ON by factory default.)
- Note

Please peel off the protection sheet of the screen when you pass the central control to the customers.
Before you mount the upper case, please peel off the sheet.
- After checking the wiring and doing power switch operation, when the screen is not displayed, please contact the shop where the central control was purchased. This product consists of the exclusive parts, and you can not exchange the electrical equipment. Please do not disassemble other than what is stated in this instruction manual.
- Other Information
- The MAINTENANCE MENU is provided for dealers and qualified professionals responsible for maintaining the central control units. When logging in with a normal operator's ID, you are not permitted to operate the MAINTENANCE MENU. Please refer to the user's manual.
Please do not disclose the ID and password to anyone except operators. ID : MHI, Password : 123456
The default ID and password can be changed. Please refer to "MAINTENANCE USER SETTING" in the user's manual.