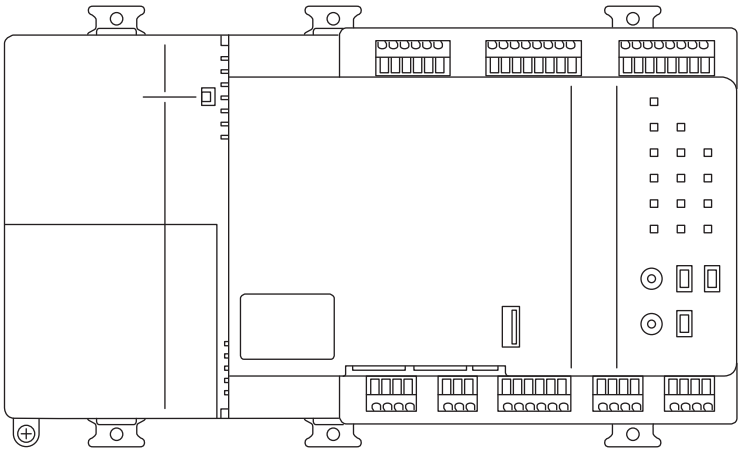
DAIKIN

Installation Manual

Model : DGE601A71

Daikin HERO Pro Edge



3P581074-5E

Disclosure

To the User in USA

Part 15 of FCC

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The FCC responsible party is Daikin Comfort Technologies North America, Inc. and may be contacted by calling (855)-324-5461, or at 19001 Kermier Rd., Waller, TX 77484. (www.daikinac.com)

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To the User in CANADA

CAN ICES-003(B)/NMB-003(B)

This Class B digital apparatus complies with CAN ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Safety Considerations

All phases of the field-installation, including, but not limited to, electrical, piping, safety, etc. must be in accordance with manufacturer's instructions and must comply with national, state, provincial and local codes.

Read these **SAFETY CONSIDERATIONS** carefully before installing the unit.
After completing the installation, ensure that the unit operates properly during the startup operation.
Train the customer to operate and maintain the unit. Inform customers that they should store this Installation Manual with the User's Manual for future reference.
Always use a licensed installer or contractor to install this product. Improper installation can result in electrical shock, fire, or explosion.
Meanings of **WARNING**, **CAUTION**, and **NOTE** Symbols.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
⚠ **NOTE**	Indicates situations that may result in equipment or property-damage accidents only.

⚠ **WARNING**
• **Only qualified personnel must carry out the installation work.**
• **Consult your Daikin dealer regarding relocation and reinstallation of the unit.** Improper installation work may result in electric shocks or fire.
• **Install the unit in accordance with the instructions in the installation manual.** Improper installation may cause electric shocks or fire.
• **Use only specified accessories and parts for installation work.** Failure to use specified parts may result in electric shocks, fire, or the unit falling.
• **Before touching electrical parts, turn off the unit.**
• **Do not disassemble, reconstruct, or repair.** Electric shock or fire may occur.
• **Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires.** Improper connections or installation may result in fire.

⚠ CAUTION

- **Keep water out of the unit.**
- **To avoid electric shock due to entry of water or insects, fill the wiring through-hole with putty.**
- **Do not wash the unit with water as it may result in electrical shocks or fire.**

- **Do not touch the unit buttons with wet fingers.**
  Touching the buttons with wet fingers can cause an electric shock.

- **Do not install the unit in the following locations:**

(a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen.
Plastic parts may deteriorate and fall off.

(b) Where corrosive gas, such as sulfurous acid gas, is produced.

(c) Near machinery emitting electromagnetic waves.
Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.

(d) Where flammable gas may leak, where there is carbon fiber or ignitable dust suspensions in the air, or where volatile flammables such as thinner or gasoline are handled.
Operating the unit in such conditions can cause a fire.

(e) High temperature area or directly flamed point.
Heating and/or fire can occur.

(f) Moist area, where there is exposure to water.
If water enters the inside of the unit, it may cause electric shock and electrical components may fail.

⚠ NOTE

- **Install the control wires for the unit at least 3.5 feet (1 meter) away from televisions or radios to prevent image interference or noise.**
  Depending on the radio waves, a distance of 3.5 feet (1 meter) may not be sufficient to eliminate the noise.

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1 Before Installation

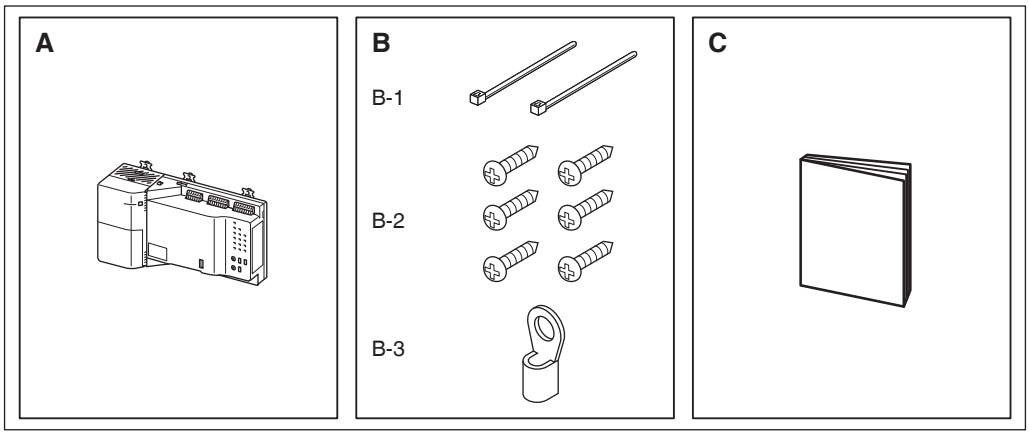
Before you start installing, make the following preparatory checks.

- Check that the DGE601A71 came with all accessories.
- Confirm where the terminals and switches of the DGE601A71 are located.
- Check that an appropriate space for installing the DGE601A71 is available.
- Check for mounting type DIN Rail or Screw mounting. DIN rail thickness is 1-3/8 in. (35mm).

1.1 Checking that all accessories are included

Based on the following accessory list, check that all accessories for the DGE601A71 are included.
If there is any missing or defective parts, contact the DAIKIN dealer where you purchased the product.

<Accessories included with DGE601A71>

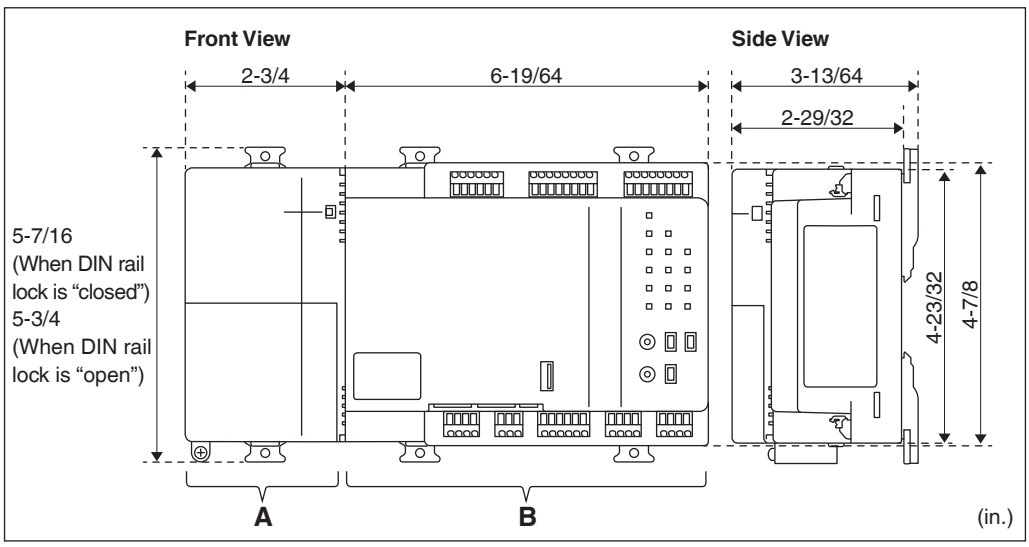


A DGE601A71, 1 pc.

B (B-1) Zip ties for securing the power supply cable, 2 pcs.
(B-2) Wood screw (1/8 in. diameter x 19/32 in. length) for securing the body, 6 pcs.
(B-3) Round crimp-type terminal (2-M4), 1 pc.

C Installation manual (This manual), 1 pc.

1.2 Understanding external dimensions



A Power supply unit

B Main unit

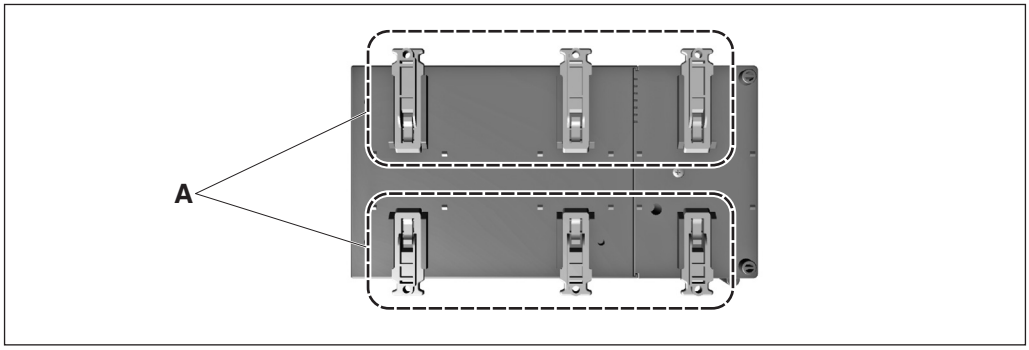
1.3 Understanding terminals and switches

Understand the arrangement of terminals and plan how to route the cable and in which order to connect its wires to facilitate the installation procedure.
For connection details including the cable type and terminal size, refer to **"3. Electrical Wiring"**.

1.3.1 Rear face

On the rear face of the DGE601A71 there is a DIN rail lock for use when installing on a DIN rail.

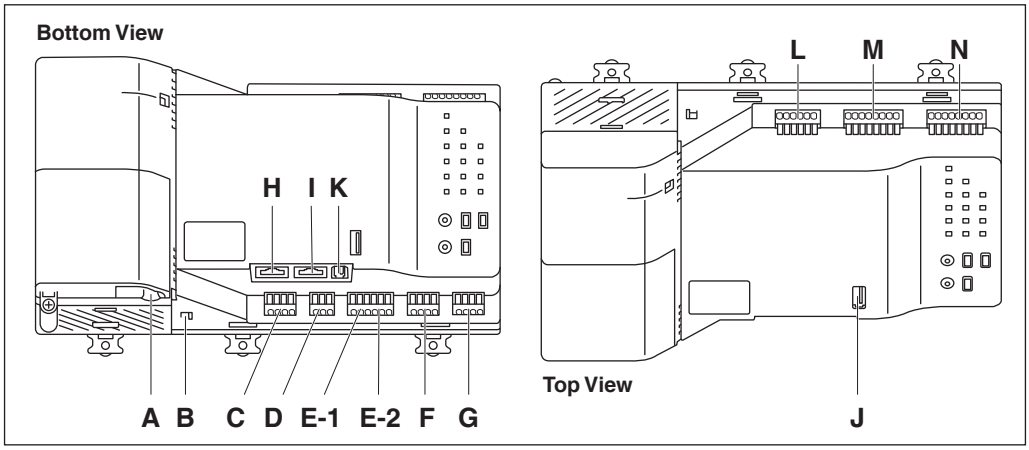
<Rear face>



A DIN rail lock

1.3.2 Front face

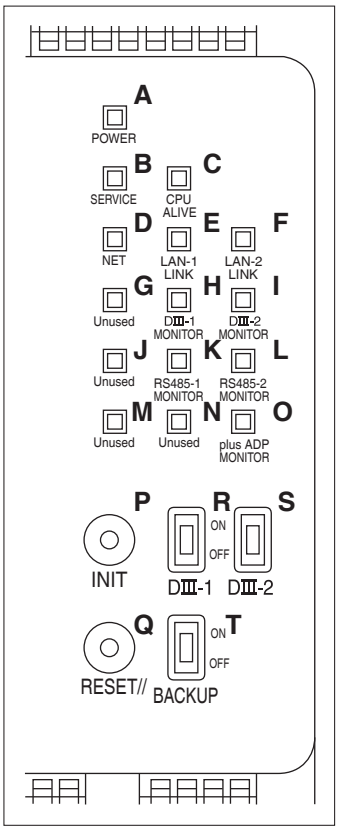
<DGE601A71>



Explanation of each part

Symbol	Name	Explanation
A	[Intake for power supply cable]	Intake for power supply cable.
B	[Inter-unit lock]	Knob for locking the power supply unit and main unit.
C	[Unused]	Unused.
D	[plus ADP IF]	Terminals for connecting the DGE601A72, when the system needs to control more than 128 indoor units.
E-1	[RS-485]	Terminal for connecting to a WAGO I/O modules.
E-2	[RS-485]	Terminal for connecting open network (option).
F	[DIII-1]	Terminals for connecting to the **"DIII-NET"** communication line, for communication with the DAIKIN Heating, ventilation and air conditioning equipment.
G	[DIII-2]	
H	[LAN-1]	Port for connecting to a cloud system.
I	[LAN-2]	Port for connecting to a local network.
J	[USB-1]	Unused.
K	[USB-2]	
L	[Do]	Used when controlling a device that can be operated by an external signal input.
M	[Di1-4]	Terminals for stopping air conditioner operation by an external signal in case of an emergency, or for connecting power meters.
N	[Di5-8]	

<LEDs and switches>



Explanation of each part

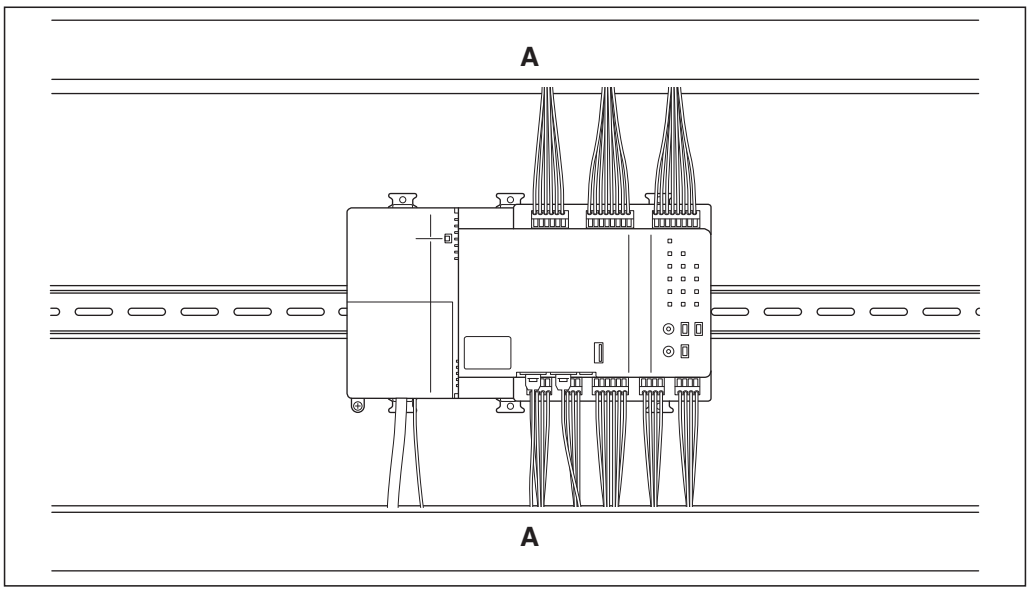
Symbol	Name	Explanation
A	[POWER] LED	LED (Green) indicates power is turned ON/OFF. Lit: Power is turned ON Unlit: Power is turned OFF
B	[SERVICE] LED	Indicates that the registration of the DGE601A71 in the cloud is complete and that service has started. Unlit: Waiting for service to begin, or service has been stopped Lit: Normal operation
C	[CPU ALIVE] LED	LED (Green) indicates that the DGE601A71 is operating normally. Blinking: Normal
D	[NET] LED	LED (Green) indicates the cloud connection status. Unlit: Stopped/Error Lit: Normal
E	[LAN-1 LINK] LED	LED (Green) indicates that the hardware connection between the DGE601A71 and equipment connected to the LAN is in a normal state. (LAN-1) Lit: Connected Blinking: Transmitting or receiving data
F	[LAN-2 LINK] LED	LED (Green) indicates that the hardware connection between the DGE601A71 and equipment connected to the LAN is in a normal state. (LAN-2) Lit: Connected Blinking: Transmitting or receiving data

Symbol	Name	Explanation
G	[Unused] LED	Unused.
H	[DIII-1 MONITOR] LED	LED (Orange) blinks when data is being transmitted or received over the DIII-NET communication line. (DIII-1) Blinking: Transmitting or receiving data
I	[DIII-2 MONITOR] LED	LED (Orange) blinks when data is being transmitted or received over the DIII-NET communication line. (DIII-2) Blinking: Transmitting or receiving data
J	[Unused] LED	Unused.
K	[RS485-1 MONITOR] LED	LED (Orange) indicates communication status of RS485. (RS485-1) Lit: Transmitting or receiving data
L	[RS485-2 MONITOR] LED	LED (Orange) indicates communication status of RS485. (RS485-2) Lit: Transmitting or receiving data
M	[Unused] LED	Unused.
N	[Unused] LED	Unused.
O	[plus ADP MONITOR] LED	LED (Orange) indicates communication status of DGE601A72. Lit: Transmitting or receiving data
P	[INIT] switch	Unused.
Q	[RESET//] switch	Push switch for forced restart of the DGE601A71.
R	[DIII-1] switch	Switch for changeover of DIII-NET MAIN/SUB. (DIII-1) (Factory default: ON) ON: MAIN OFF: SUB
S	[DIII-2] switch	Switch for changeover of DIII-NET MAIN/SUB. (DIII-2) (Factory default: ON) ON: MAIN OFF: SUB
T	[BACKUP] switch	Switch that turns the power of the backup battery ON/OFF. (Factory default: OFF)

1.3.3 Wiring of cables

For an example of DGE601A71 cable wiring, refer to the cable wiring diagram (example) shown below.

<Cable wiring diagram (example)>



A Cable duct

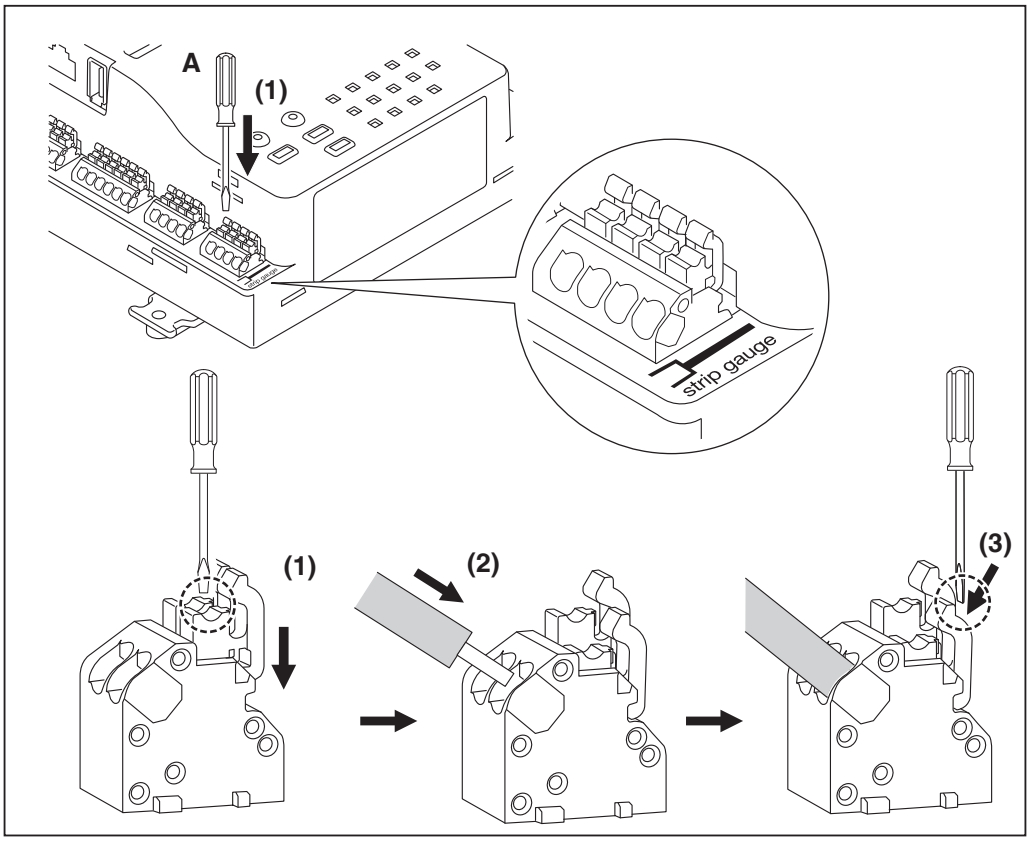
Wiring to each terminal

When wiring to **[plus ADP IF]**, **[RS-485]**, **[DIII-1]**, **[DIII-2]**, **[Do]**, **[Di 1-4]**, and **[Di 5-8]**, perform operations on the terminal block and carry out the wiring as shown below.

(1) Push in the opening knob with a precision flat-head screwdriver and open the insertion port.
(2) Insert the wire into the open insertion port.
(3) Move the opening knob forward and down and insert the wire.
(4) Make sure that the connected wire has not come out.

When using stranded wire, make sure that no strands are protruding.

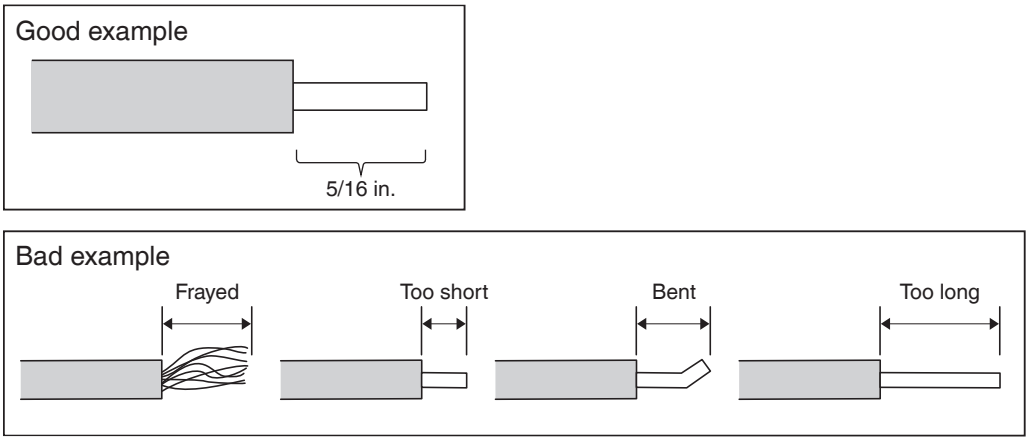
<How to wire to the terminal block>



A Precision flat-head screwdriver (Maximum width of screw driver is 3/32 in.)

Make the length of the stripped portion of the wire 5/16 in.
Refer to the **[strip gauge]** on the unit.
When stripping the wire, be careful not to scratch the finish of the exposed part of the wire.

<Wire stripping allowance>



1.4 Determining installation place

Be sure to install in a place that meets the conditions described in 1.4.1 to 1.4.3 below.

1.4.1 Installation place and mounting direction

Below are the description of the installation place and mounting direction. Be sure to confirm the requirements.

- Installation place: Indoor and inside a control enclosure (lockable, or unable to be opened without special tools) (For details, refer to **"CAUTION"** in **"Safety Considerations"**)
- Mounting direction: Vertical only

1.4.2 Environmental conditions

Check that the installation environment meets the following conditions.

- Ambient temperature : 14 to 122°F
- Ambient humidity : 85% RH or less (without condensation)
- DGE601A71 operation is not affected by electromagnetic waves.

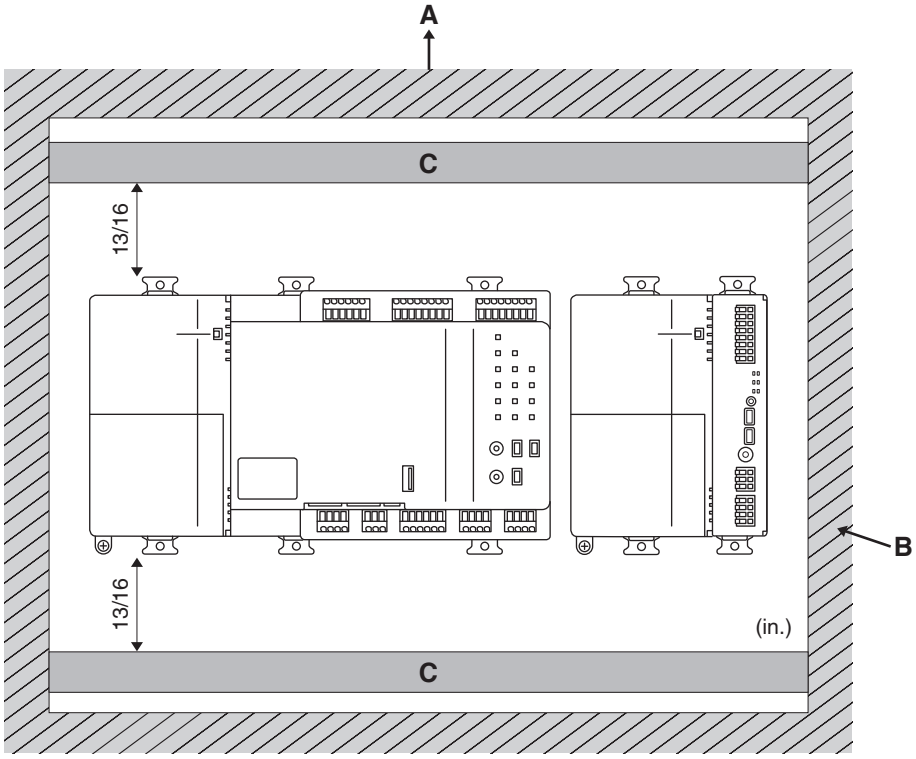
1.4.3 Required space

The figure shown below indicates the space required for installation.

- There is a minimum clearance of 13/16 in. from the top edge and 13/16 in. from the bottom edge
- Close contact in a lateral direction is possible, if attaching a DGE601A72 or similar

<DGE601A71 installation space>

Required installation space



A Top

B Wall

C Cable duct

Do not install DIN rails vertically.

2 Installation

You can install the DGE601A71 in 2 ways.

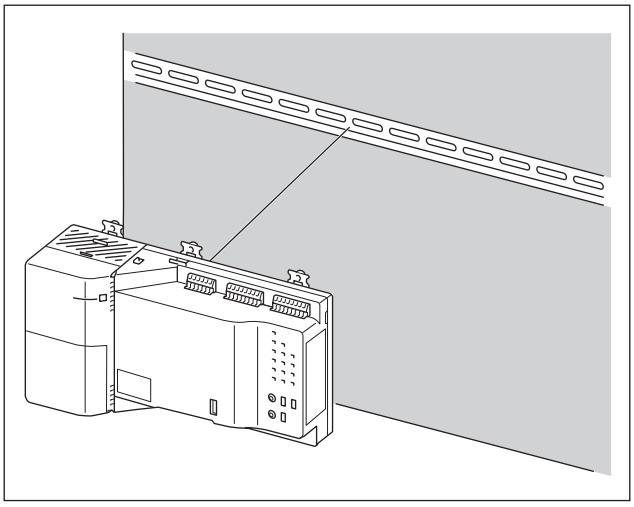
- DIN rail mounting
- Screw-mounting to control enclosure

2.1 DIN rail mounting

2.1.1 Installation procedure

Mount to a 1-3/8 in. DIN rail.

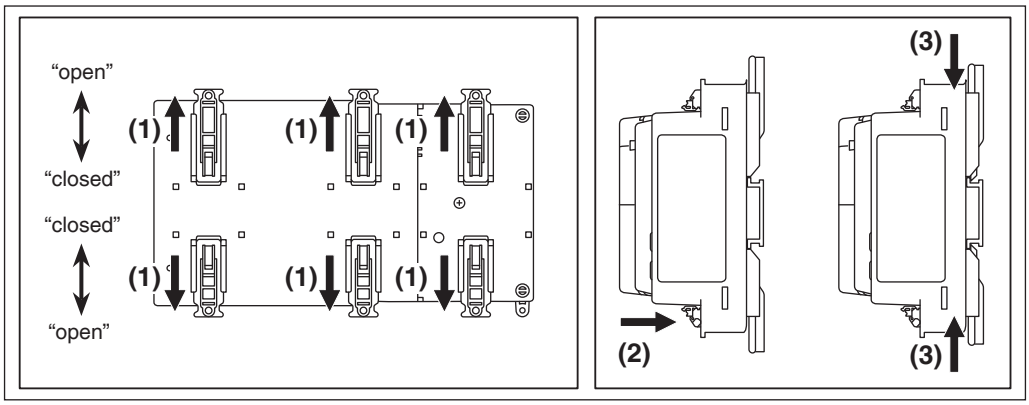
<Mounting to DIN rail>



Do not use screws to secure the unit onto the DIN rail.

(1) Set all upper and lower DIN rail locks to the “open” position.
(2) Press the DGE601A71 against the DIN rail.
(3) Set all upper and lower DIN rail locks to the “closed” position.

<Steps for mounting to DIN rail>



NOTE

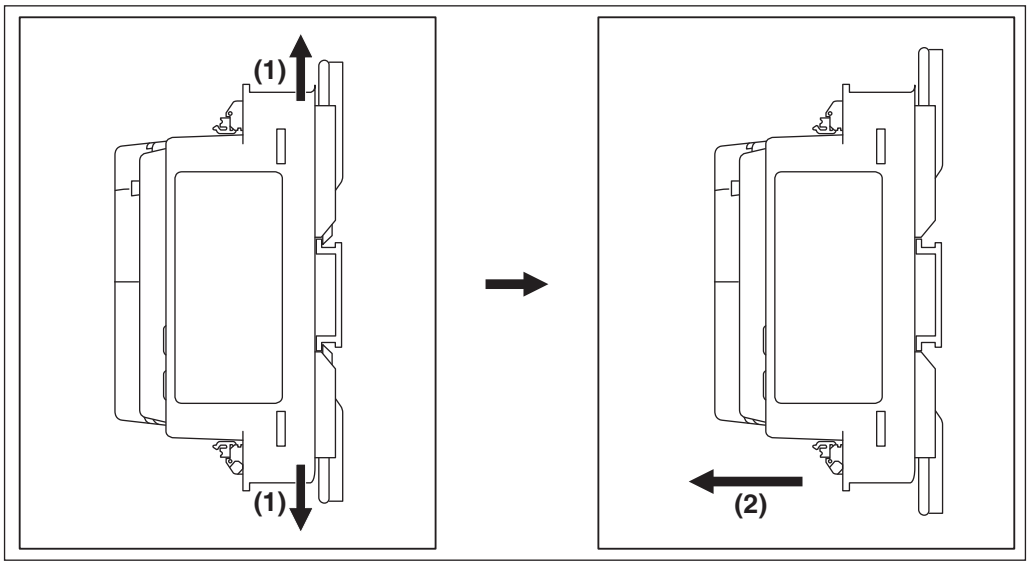
If you need to make the mounting stronger, use DIN rail fasteners.

2.1.2 Removal from DIN rail

(1) While supporting the DGE601A71 with your hand, set all upper and lower DIN rail locks to the “open” position.

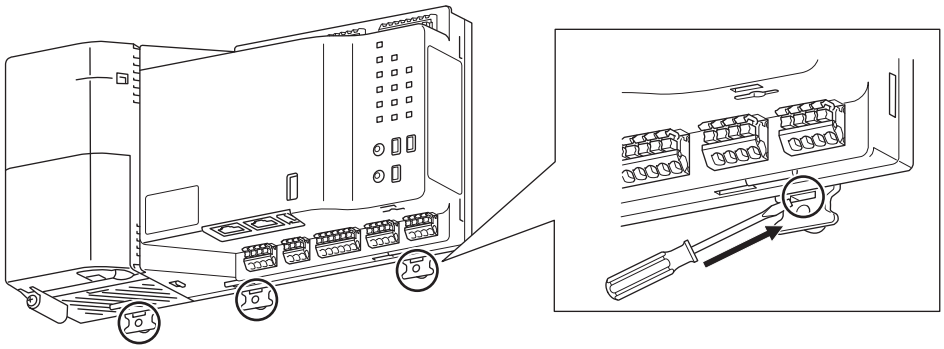
(2) Remove the DGE601A71 from the DIN rail.

<Steps for removal from DIN rail>



NOTE

When removing from DIN rails, if the work area is narrow and you cannot operate the DIN rail locks with your fingers, the DIN rail locks can be operated by inserting a flat-head screwdriver into the area marked with a circle.



2.2 Screw-mounting to control enclosure

Secure to the control enclosure using the 6 supplied wood screws.
When securing with screws, secure with all DIN rail locks set to the “open” position.
(For opening and closing the DIN rail locks, refer to **“2.1 DIN rail mounting”**.)

2.2.1 Accessory parts

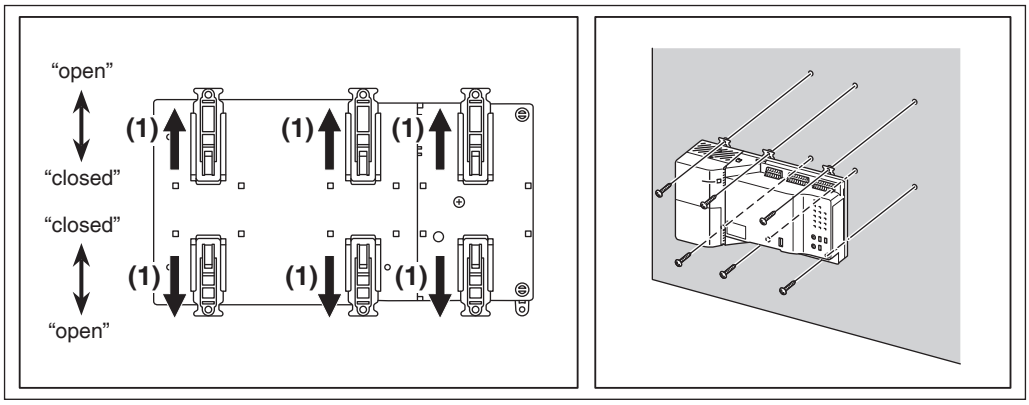
To mount to the control enclosure, use the following accessory mounting parts.

- Wood screw (1/8 in. diameter x 19/32 in. length) for securing the body, 6 pcs.

2.2.2 Installation procedure

(1) Set all DIN rail locks to the “open” position.
(2) Secure with screws through all DIN rail lock screw holes.

<Steps for mounting to control enclosure>



3 Electrical Wiring

This chapter describes the procedure for connecting the DGE601A71 to DAIKIN Heating, Ventilation, Air Conditioner and other equipment. In addition to air conditioners, the DGE601A71 can connect to a wide range of equipment. However, the required connection procedures vary depending on the equipment to be connected.

Required procedures

- 3.1 Connecting DIII-NET-compatible air conditioners
- 3.6 Connecting a LAN cable
- 3.7 Connecting the power supply

Equipment-specific procedures

- 3.2 Connecting a DGE601A72
- 3.3 Connecting a WAGO I/O module
- 3.4 Connecting an emergency stop input device or power meters
- 3.5 Connecting to equipment which inputs output contact points

⚠ WARNING

- **Do not turn on the power supply before all wire connections are completed. When there is an overcurrent circuit breaker or a local switch installed in the circuit, make sure that the circuit is securely interrupted. Otherwise, an electric shock may result.**
- **After the wiring is completed, double-check that all wires are connected correctly before turning on the power supply. If not connected correctly, there is a possibility of malfunction.**
- **All wiring must be performed by an authorized electrician.**

⚠ CAUTION

Be sure to confirm that the power supply cable is not connected to anything except for the unit's power supply terminals. If the power supply cable is connected incorrectly, the air conditioner or the DGE601A71 will malfunction.

3.1 Connecting DIII-NET-compatible air conditioners

DIII-NET is an original DAIKIN Heating, Ventilation and Air Conditioner communication protocol.
Using the DIII-NET, you can centrally control multiple DAIKIN DIII-NET-compatible air conditioning devices by connecting them to your DGE601A71.

⚠ WARNING

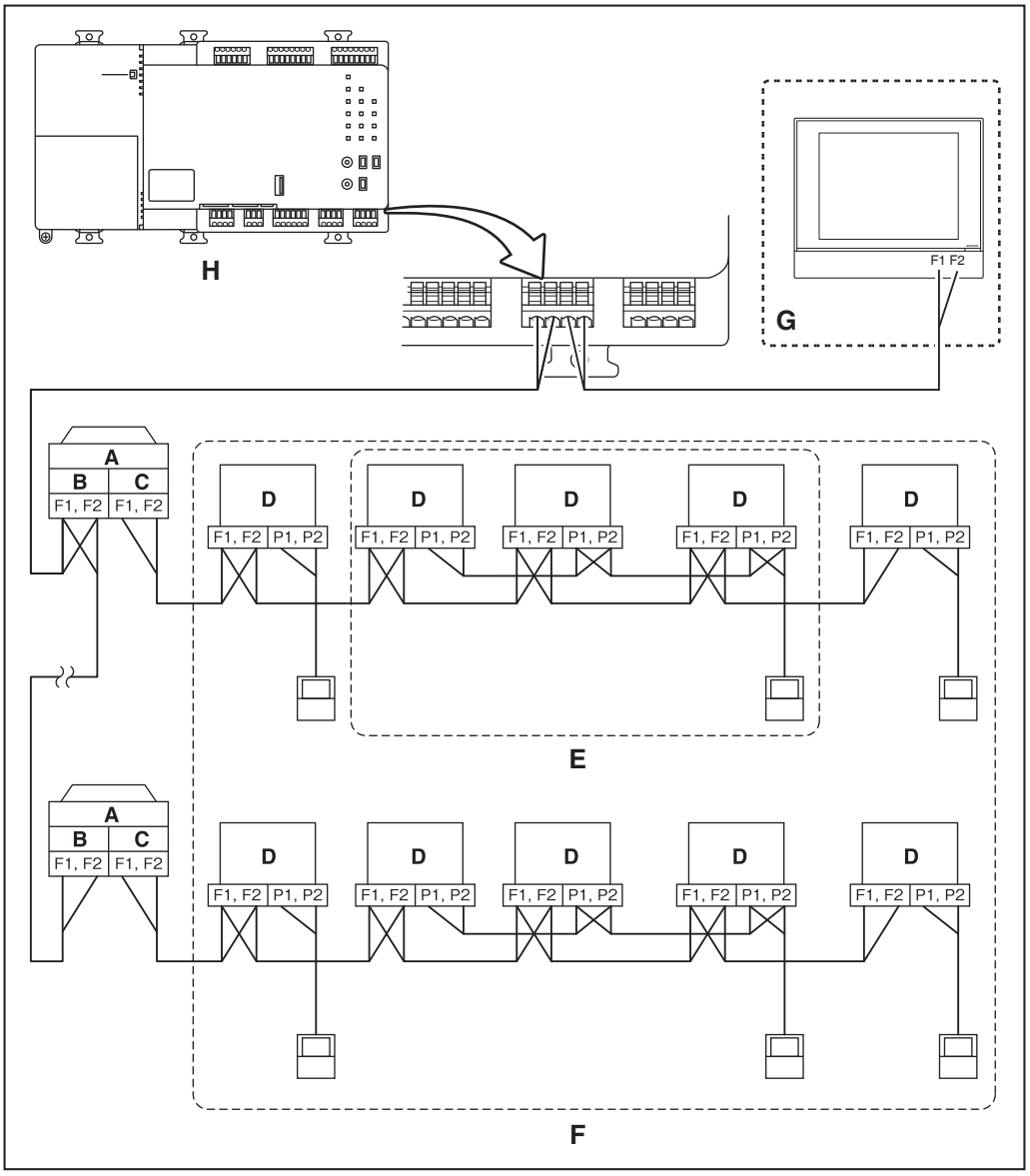
- **Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.**
- **To the extent possible, route the high-current cable of the power supply cable and the low-current cable of the communication cable so that they remain separate and are not side-by-side.**

3.1.1 Terminal locations and schematic connection diagram

To connect the DIII-NET communication line, use **[F1]** and **[F2]** terminals that are located on the front face and indicated with **[DIII-1]** and **[DIII-2]**. These 2 terminals have no polarity.

An example of connecting more than two air conditioning devices is shown in the following schematic connection diagram.

<Schematic connection diagram with air conditioners>



A Outdoor unit (Maximum of 7 outdoor systems each DIII-NET communication line)

B OUT - OUT communication (terminal)

C IN - OUT communication (terminal)

D Indoor unit

E A maximum of 16 indoor units can be connected to 1 remote controller group.

F A remote controller group can connect a maximum of 64 groups (64 indoor units) to each DIII-NET communication line.

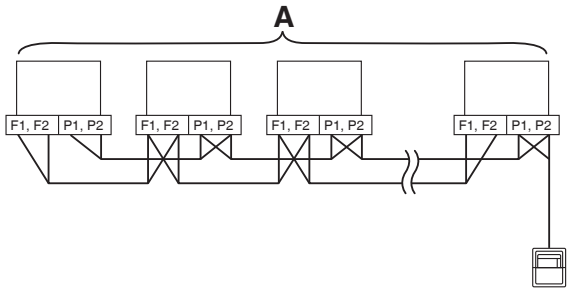
G When connecting an additional centralized controller

H DGE601A71

NOTE

- What's a remote controller group?

  1 remote controller can simultaneously control a maximum of 16 indoor units.
  This capability is referred to as group control. A remote controller group is a group of indoor units controlled under the same remote controller.
  <Schematic drawing of a remote controller group>



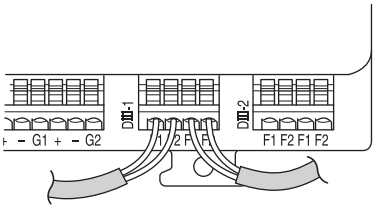
A Max. 16 indoor units

NOTE

<DIII-NET connecting>

- When Connecting multiple wires to the terminal of DIII-NET

  Connecting multiple wires to 1 terminal on the DGE601A71 terminal block is not possible.
  If you want to connect multiple wires, connect the mark (F1 or F2) you want to connect to the terminal with the same mark as shown in the figure on the right.



3.1.2 Wiring specifications

- Cable type: 2-core vinyl-insulated vinyl-sheathed non-shielded cable/vinyl cabtyre non-shielded cable
- Core thickness: AWG 18-16

⚠ CAUTION

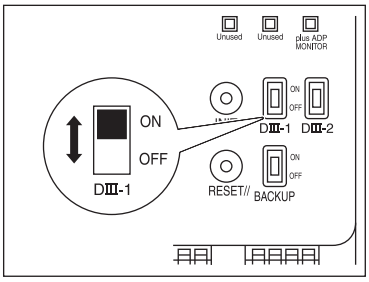
- **Do not use multicore cables with 3 or more cores.**
- **The maximum wire distance must be kept to 3280 ft. or less, and the total wire length must be limited to 6561 ft. or less.**

3.1.3 Precautions for using multiple centralized controllers

"Centralized controller" refers to the equipment (e.g. the DGE601A71) that controls multiple air conditioners. Besides the DGE601A71, DAIKIN's product portfolio includes a wide range of centralized controllers suitable for different applications or building sizes, which can be used in combination to construct an optimal air conditioning control system. If multiple centralized controllers are connected on the DIII-NET network, you must set the **"MAIN (MASTER)"** and **"SUB (SLAVE)"** relationship for those controllers.
Set only one of those controllers as **"MAIN (MASTER)"**, and the other controllers as **"SUB (SLAVE)"**.

<DIII-1/DIII-2>

The **[DIII-1]** and **[DIII-2]** switches are located on the front face of the DGE601A71. The switches in the **[ON]** position set it as **"MAIN"** and the switches in the **[OFF]** position set it as **"SUB"**.



When installing multiple centralized controllers, set only the highest-priority controller as **"MAIN (MASTER)"** and all other controllers as **"SUB (SLAVE)"** according to the following order of priority.

High
Priority
Low

(1) Interface for use in BACnet
(2) Interface for use in LONWORKS
(3) Intelligent Touch Manager
iTM plus adaptor
DGE601A72
(4) DGE601A71
(5) Central Remote Controller
(6) ON/OFF Controller

Modbus interface and BACnet MS/TP interface are not subject to the order of priority.

Centralized controllers that cannot be connected to the same network as the DGE601A71:

- intelligent Processing Unit
- Intelligent Touch Controller
- DIII-NET Plus Adapter
- Residential Central Remote Controller
- Schedule Timer
- Group Control Adapter PCB (KRP4)

3.2 Connecting a DGE601A72

If the system needs to control many air conditioners, use DGE601A72 to connect them.
You can connect up to 64 air conditioners to 1 DIII port. Because it is possible to connect to 2 ports on 1 DGE601A71, the number of indoor units you can control with 1 DGE601A71 is up to 128.
By using DGE601A72 or DGE601A53, you can add 64 indoor units.
Using all 8 DIII ports, you can connect and control a total of 512 indoor units at maximum.

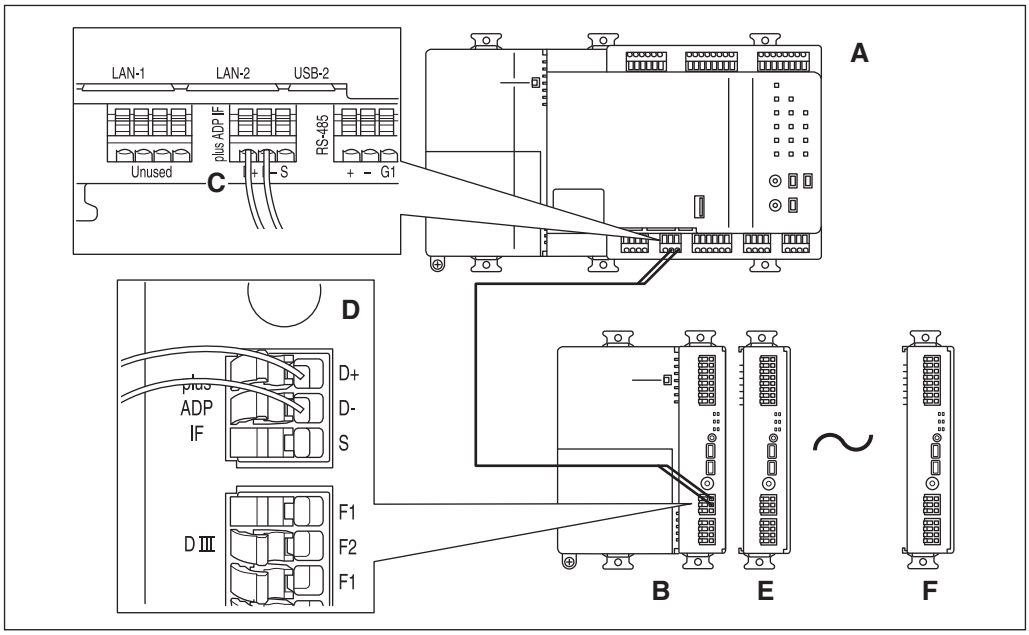
⚠ WARNING

Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.

3.2.1 Terminal locations and schematic connection diagram

Connect the DGE601A72 to the **[plus ADP IF]** terminals located on the front face. Be sure to connect the positive wire to the **"D+"** terminal and the negative wire to the **"D–"** terminal, respectively, as these terminals have polarity.
The DGE601A71 must be connected as a terminal to the wiring.

<Terminal locations and schematic connection diagram>



A DGE601A71
B DGE601A72
C plus ADP IF (DGE601A71)
D plus ADP IF (DGE601A72)
E DGE601A53
F DGE601A72/DGE601A53 on which termination resistor must be enabled (For details, refer to **"DGE601A72 Installation Manual (3P581074-6)"** or **"DGE601A53 Installation Manual (3P583694-2)"**.)

3.2.2 Wiring specifications

- Cable type: CPEV or FCPEV cable
- Core thickness: AWG 22-18
- Cable length: 164 ft. or less

3.3 Connecting a WAGO I/O module

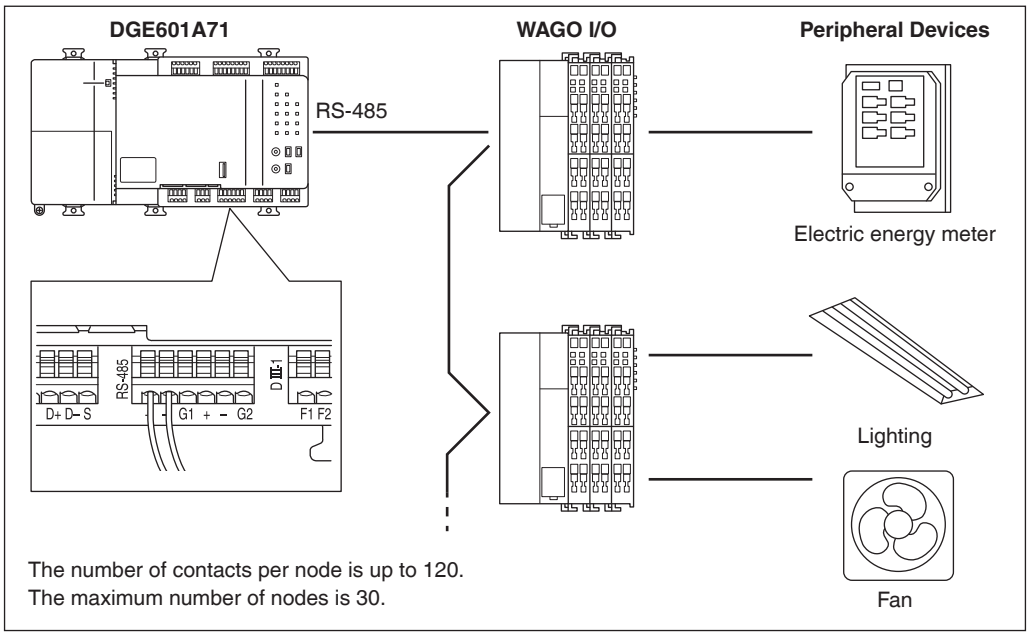
In combination with the I/O module, the DGE601A71 can connect a maximum of 960 points for controlling non-DAIKIN peripheral devices such as lighting equipment.
Connect the DGE601A71 to the termination of the RS-485 wiring.

⚠ WARNING

Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.

3.3.1 Terminal locations and schematic connection diagram

<Schematic drawing of I/O module connection>



Connect the WAGO I/O module to the RS-485 terminals located on the front face. As these terminals have polarity, be sure to connect the positive (+) core wire to the "+" (positive) terminal and the negative (–) core wire to the "–" (negative) terminal, respectively.

3.3.2 Wiring specifications

- Cable type: CPEV or FCPEV cable
- Core thickness: AWG 22-20
- Cable length: 1640 ft. or less

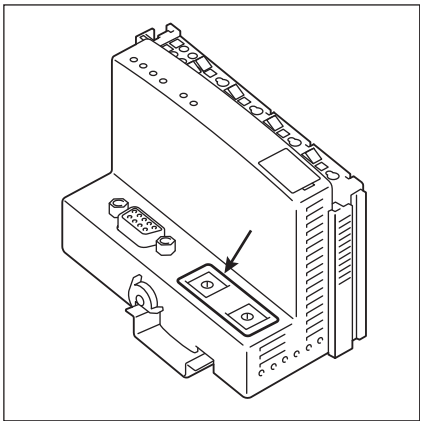
⚠ CAUTION

- **When using a shielded cable, be sure to connect the cable to the G (ground) terminal.**
- **Do not connect a shielded cable and an unshielded cable.**

3.3.3 Address setup

The bus coupler located at the left end of nodes has rotary switches for setting the addresses.
Set a unique address for each node.
For details, refer to the **"Commissioning Manual"**.

<WAGO Bus coupler>



3.4 Connecting an emergency stop input device or power meters

The DGE601A71 can perform operations such as an emergency stop of the air conditioners according to an external signal input device, and an electricity usage calculation for each air conditioner according to the pulse inputs from a power meter.

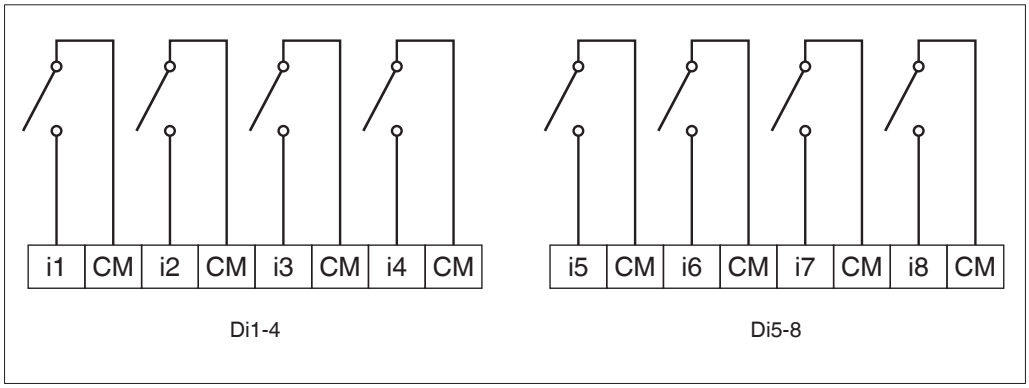
WARNING

Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.

3.4.1 Terminal locations and schematic connection diagram

Connect the contact input lines or pulse signal lines to the **[i1] [i2] [i3] [i4] [i5] [i6] [i7] [i8] [CM]** terminals of Di1-4 or Di5-8 located on the upper part of the front face.
Each terminal has a different function.
[i1] Emergency stop input
[i2] [i3] [i4] [i5] [i6] [i7] [i8] Pulse input, contact signal input
[CM] Common
However, the function settings for these terminals (**[i2]** to **[i8]**) can be changed later. For how to change the function settings, refer to the **"Commissioning Manual"**.

<Schematic drawing of Di connection>



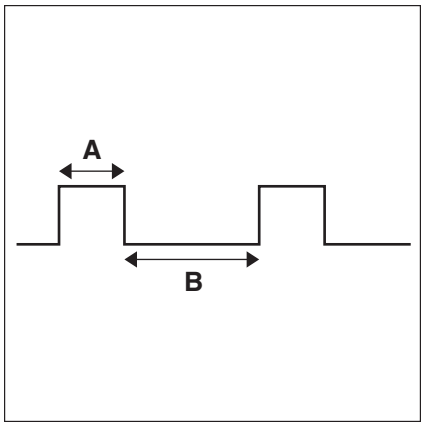
NOTE

When using open-collector type outputs, connect **[CM]** to the negative side.

3.4.2 Wiring specifications

- Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- Core thickness: CPEV cable, FCPEV cable: AWG 22-18
  CVV(S) cable: AWG 18-16
- Cable length: 656 ft. or less

<Pulse width>



A Pulse width: 20 to 400 ms

B Pulse interval: 100 ms or more

⚠ CAUTION

- **The contact connected to the contact input terminal must be capable of handling 10 mA at 16 V DC.**
- **If an instantaneous contact is used for triggering an emergency stop, use one that has an energized time of 200 ms or more.**

NOTE

Once the emergency stop input signal is turned on, all air conditioners stop and do not restart until the emergency stop input is cleared.

3.5 Connecting to equipment which inputs output contact points

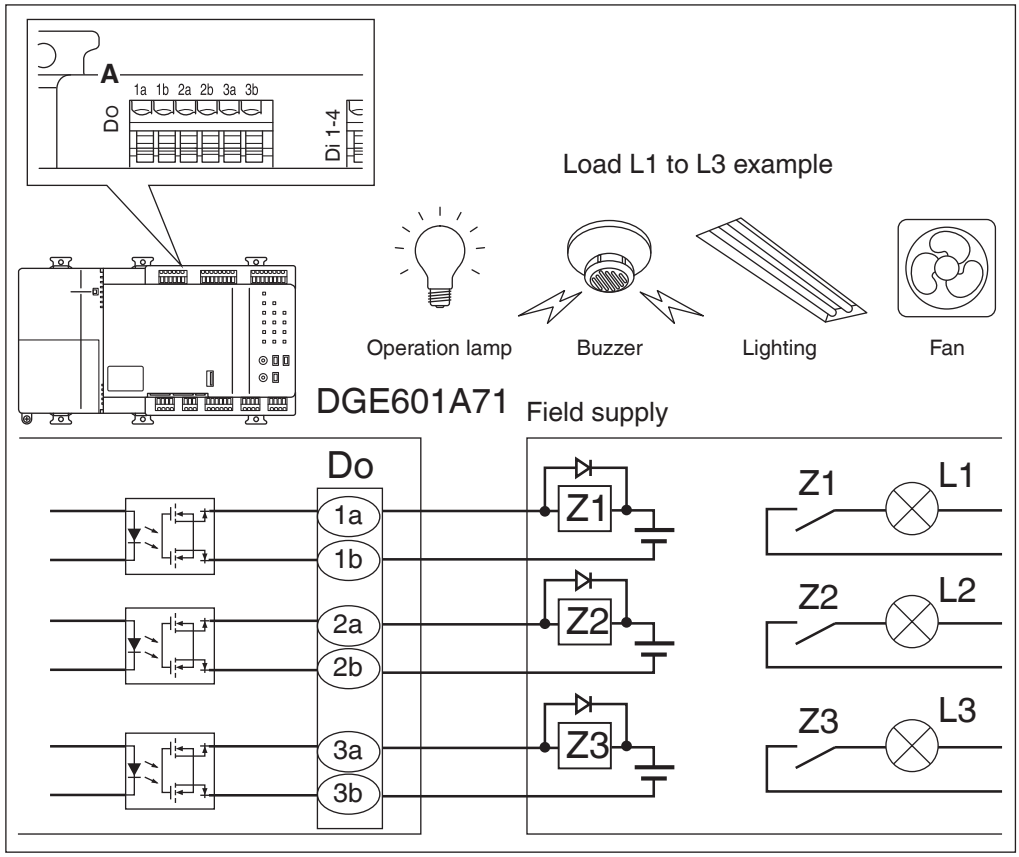
By way of the output contact points on the DGE601A71, you can control other equipment, by connecting to the contact input points on the other equipment.

WARNING

Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.

3.5.1 Terminal locations and schematic connection diagram

<Schematic drawing of Do connection>



A Digital Output (DO) contacts

Connect the contact output lines to the **[1a] [1b] [2a] [2b] [3a] [3b]** terminals of Do located on the upper part of the front face.

Connect **[1a]** to **[1b]**, **[2a]** to **[2b]**, and **[3a]** to **[3b]**.

Be sure to insert a diode on both ends of the relay coil. (A diode built-in type is recommended)

Contact point specifications

- Non-voltage contact point
- Voltage: 24 V DC Maximum load current: 50 mA

3.5.2 Wiring specifications

- Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- Core thickness: CPEV cable, FCPEV cable: AWG 22-18
  CVV(S) cable: AWG 18-16
- Cable length: 656 ft. or less

3.6 Connecting a LAN cable

By way of ports **[LAN-1]** and **[LAN-2]**, you can connect the DGE601A71 to a network.

NOTE

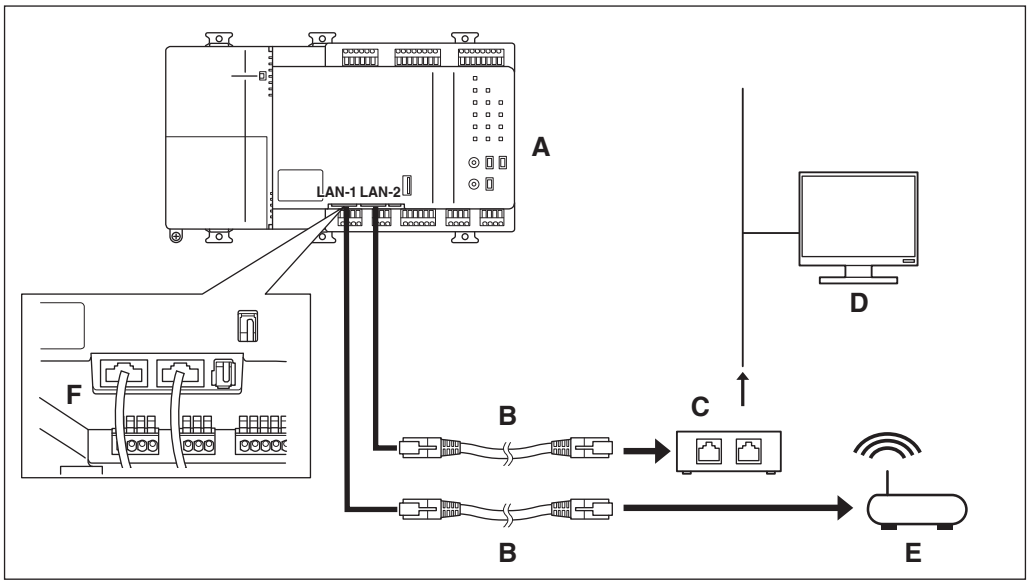
For how to connect to a network, contact your network administrator.

3.6.1 Terminal locations and schematic connection diagram

Using a LAN cable, connect the **[LAN-1]** port and **[LAN-2]** port to the network hub.
The role of each port is as follows.

- **[LAN-1]** port: For connecting to a cloud system
- **[LAN-2]** port: For connecting to a local network

<LAN connection schematic diagram>



A DGE601A71
B LAN cable
C Network Switch
D Monitoring panel
E Router
F LAN-1/LAN-2

3.6.2 Wiring specifications

- Applicable cable standard: LAN-1 100Base-TX
  LAN-2 100Base-TX or 10Base-T
- Connector standard: RJ-45

3.7 Connecting the power supply

Connect the DGE601A71 to a power supply.

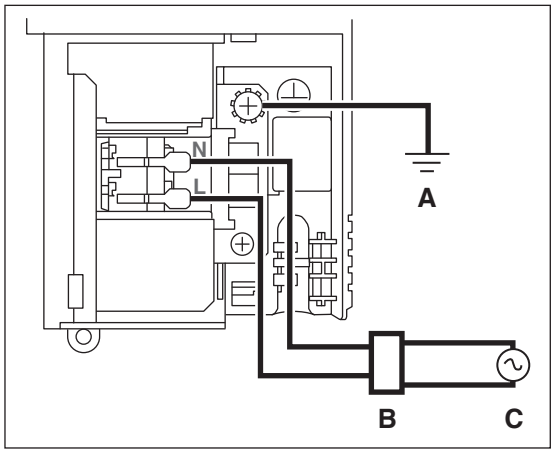
⚠ WARNING

Be sure to perform the operation during power-off conditions. Do not turn the power supply on until all connections are made. Not doing so may cause an electric shock.

3.7.1 Terminal locations and schematic connection diagram

Connect the 24 V AC power supply to the 3 terminals, L (Live), N (Neutral), and earth.

<Schematic power connection diagram>

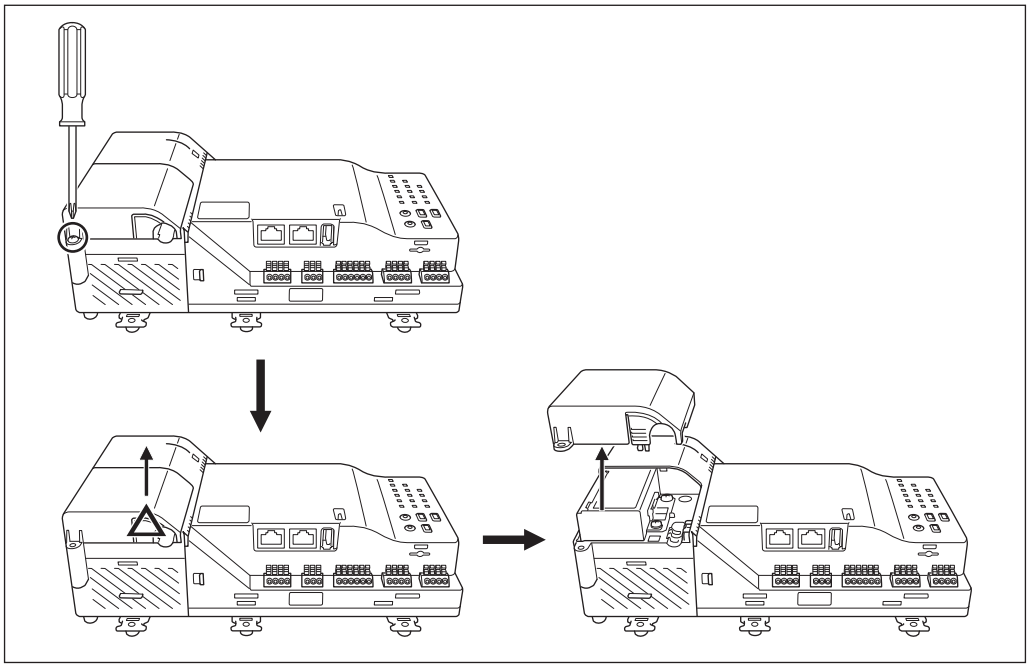


A Earth
B Overcurrent circuit breaker
C Power supply 24 V AC 60 Hz

Steps for connection

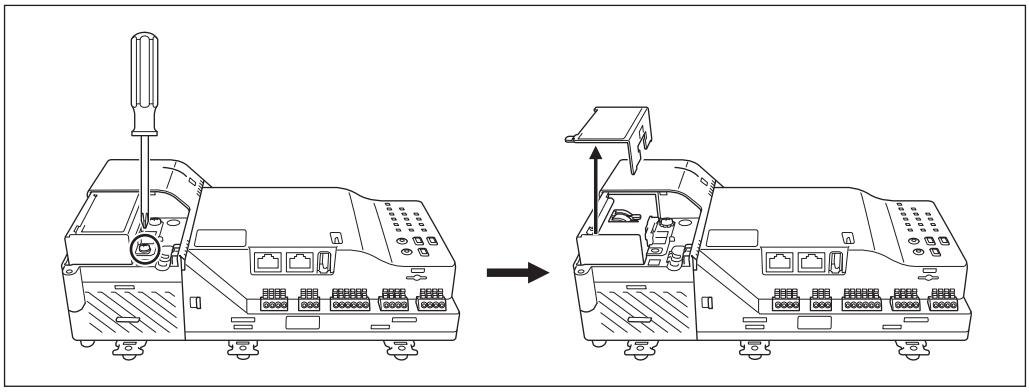
(1) Remove the screw from the power supply cable cover, push the area marked with a triangle in the direction of the arrow, and remove the cover.

<Removing the power supply cable cover>



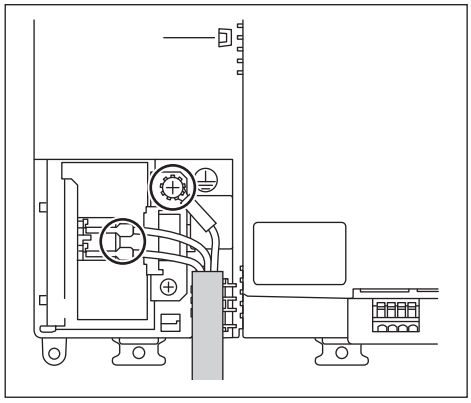
(2) Remove the screw from the power supply terminal block cover, and remove the cover.

<Removing the power supply terminal block cover>



(3) Secure the earth wire onto the sheet metal earth terminal with the screw, and connect the L wire and N wire to the terminal block.

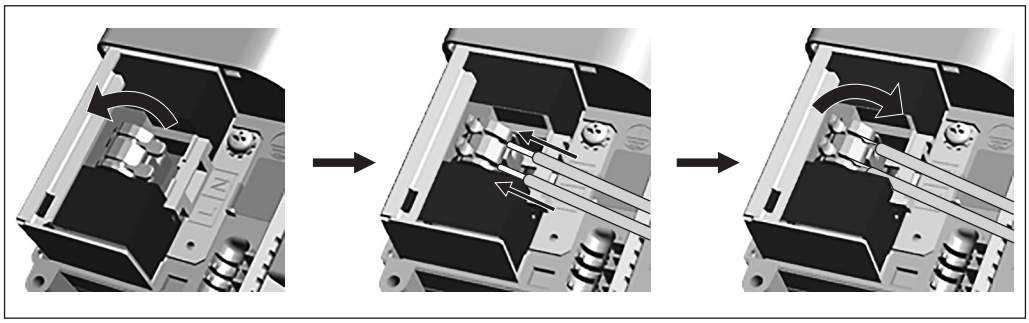
<Connecting the power supply cable>



How to connect to the power supply terminal block

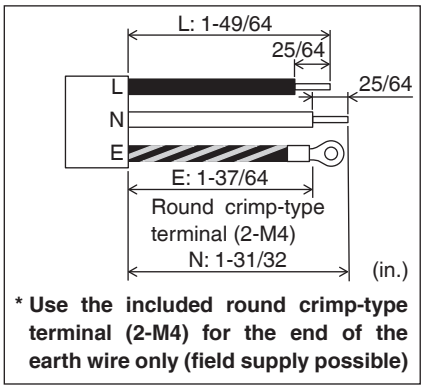
Lift the knob on the power supply terminal block to set it to the open position, then insert the L wire and N wire into the terminal block. Continue to push up the knob until you feel it click. After insertion, push down the knob on the power supply terminal block securely and completely.

<Power supply terminal block>



Strip away the sheath and coating of the power supply cable to match the dimensions shown below. You can also refer to the terminal block cover for the coating stripping allowance.

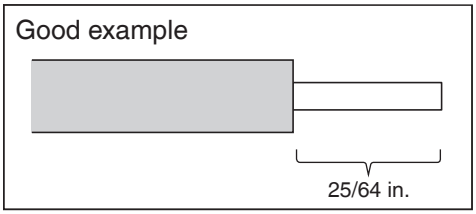
<Power supply cable (sheath, coating)>

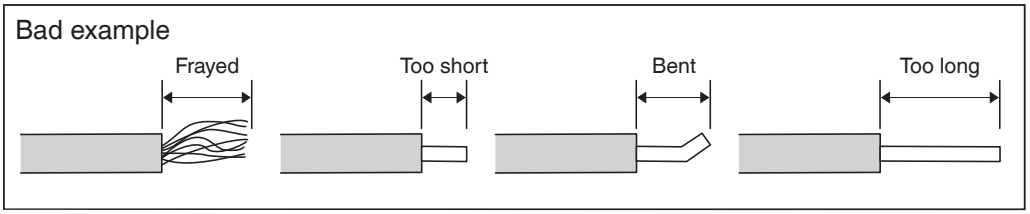


*** Use the included round crimp-type terminal (2-M4) for the end of the earth wire only (field supply possible)**

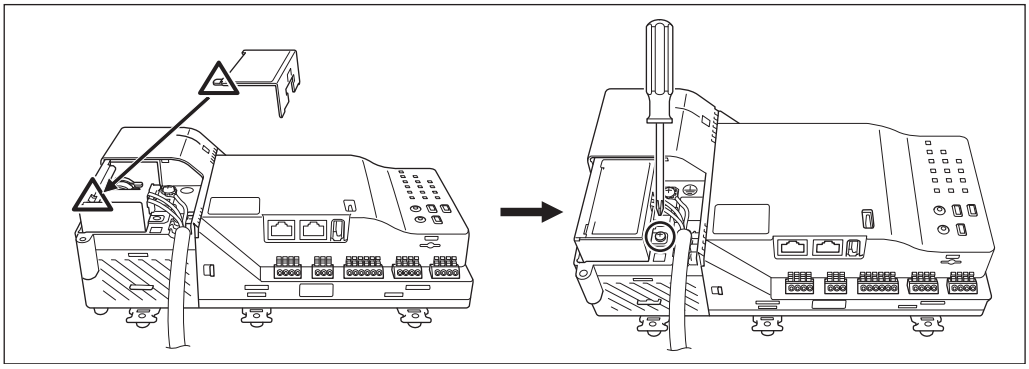
<Terminal block cover>

When striping the wire, be careful not to scratch the finish of the exposed part of the wire.



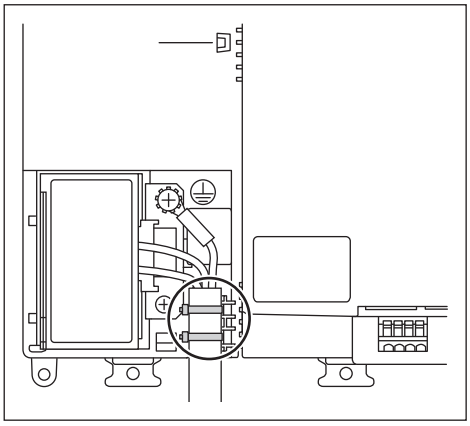


(4) While engaging the tab in the area marked with a triangle, attach the terminal block cover and secure it with the screw.

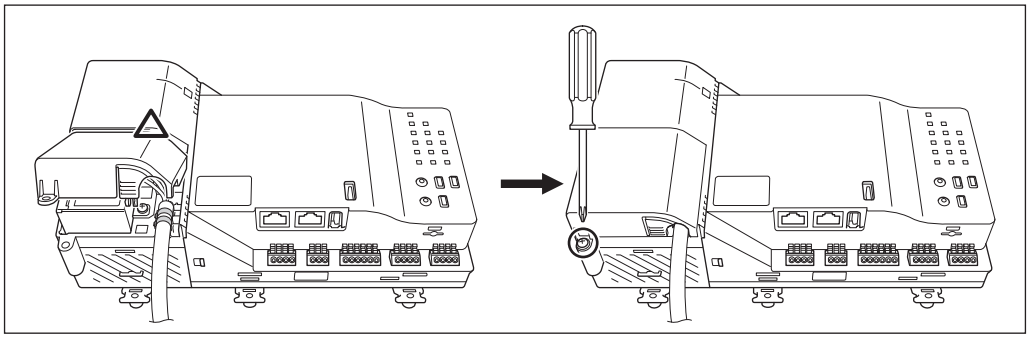


(5) Secure the sheath portion in 2 places with clamps.
Facing the front of the unit, insert the zip ties from the right side and secure.
Firmly tighten until the power supply cable does not move anymore.

<Secure with zip ties>



(6) Hook the power supply cover onto the tab in the area marked with a triangle, close the cover, and secure it with the screw.



3.7.2 Wiring specifications

- Cable type: The wiring should be selected in compliance with local laws and regulations.
  Recommended cable types are as follows.
  Ordinary tough rubber sheathed cord (60245 IEC 53) equivalent or higher
  Ordinary polyvinyl chloride sheathed cord (60227 IEC 53) equivalent or higher
- Core thickness: Power wire: AWG 18-14
  Earth lead: Size must comply with local codes and be the same thickness as the power wire.
- Earth lead terminal treatment: Be sure to use a round crimp-type terminal (2-M4).
- Power supply voltage: Single phase 24 V AC (at 60 Hz)
- Electric power consumption: 23 W, 36 VA
- Overcurrent circuit breaker: Rated current 10 A (Rated sensitivity current 30 mA operating time 0.1 sec or less)
  1/8 in. minimum contact gap and all-pole disconnection

⚠ CAUTION

- **Be sure to install an overcurrent circuit breaker capable of shutting down the power supply to the entire system, as required.**
- **Turning on/off the overcurrent circuit breaker turns on/off the power supply to the DGE601A71.**
- **Select an overcurrent circuit breaker that offers protection against overcurrent and short-circuit.**
- **The power supply requires overcurrent circuit breaker installation and earth wire connection. After installing an overcurrent circuit breaker, be sure to connect only the DGE601A71 to it.**
- **To prevent accidents due to wire breakage or disconnection, secure the power supply cables with clamps.**
- **Be sure to connect the earth wire.**
- **Do not connect the earth wire to gas or water pipes, lighting rods, or telephone earth wires.**
- **Replace the unit when the unit cannot be turned on due to the blowing of the electrical fuse.**

NOTE

A power supply cable is not provided with the unit.
Use a 3-core power supply cable with a core thickness of AWG 18-14 that complies with local laws and regulations and is rated at 300 V AC or higher.

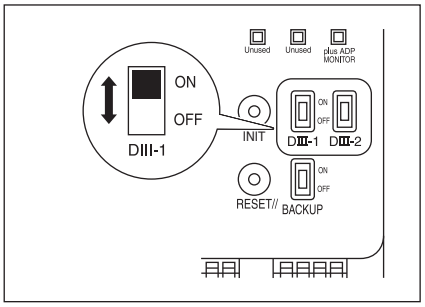
4 Initial Setup

After checking that all connections are completed, start the DGE601A71 basic setup. The basic setup refers to the preparative settings for controlling the operation of your air conditioning system.

4.1 DIII-NET MAIN/SUB switch setting

It is necessary that the settings match the settings of the air conditioning system connected to the DGE601A71.
The switch is set to **[ON]** by default.

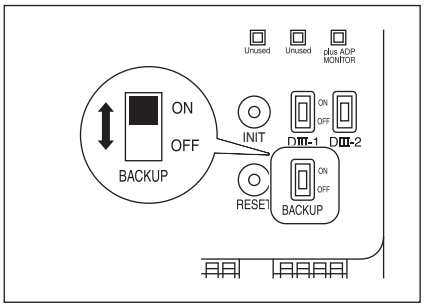
<DIII-1/DIII-2 switch>



4.2 Setting backup battery to ON

To retain the settings even in the event of a power outage, the DGE601A71 has a built-in battery. Because this battery is disabled by default, make sure to first set the backup battery switch to **[ON]**. If the power supply is left off for a long period of time (six months or more), turn OFF the backup battery switch.
Otherwise the battery will run out and the time will be reset. However, the time will sync with HERO Cloud when the DGE601A71 boots.

<BACKUP switch>



4.3 Turning on the power supply for DGE601A71 and air conditioners

Turn on the power supply for the DGE601A71 and the devices that are connected to the DGE601A71.
First turn on the power supply for the air conditioners and then for DGE601A71.
After a while, it will be possible to set a DIII-NET group address.
Set the DIII-NET group addresses using the remote controller of the air conditioner.
For details, refer to **"5 Setting addresses for each air conditioner"**.

⚠ CAUTION

Before turning on the power supply, double-check that all installations and connections are completed correctly.

5 Setting addresses for each air conditioner

The **"DIII-NET system"** makes use of **"DIII-NET group addresses"**, unique control addresses used to identify each air conditioning group that is part of the system.
You set **"DIII-NET group addresses"** manually with the remote controller of the air conditioners. There are several remote controller types, and the setting method differs depending on the type. This section describes the two most commonly used types of remote controller.

5.1 Setting addresses with wired remote controller (BRC1H*)

This section describes wired remote controller BRC1H*.

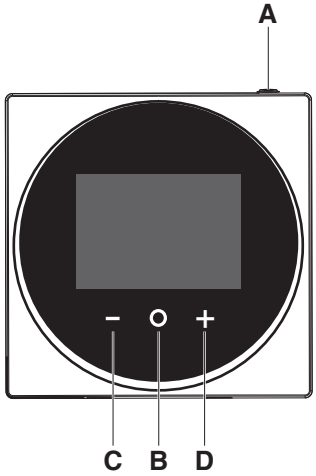
NOTE

For how to set addresses for ventilation equipment (Heat Reclaim Ventilation units) and various adaptors, refer to their respective documentation.

5.1.1 Setting addresses using the wired remote controller BRC1H* main unit

Names of buttons

Below are the names of the buttons and display of wired remote controller (BRC1H*).



A ⏻ ON/OFF
Turn ON/OFF the system.

B ENTER/ACTIVATE/SET
- From the homescreen, enter the main menu.
- From the main menu, enter one of the submenus.
- From their respective submenu, activate an operation/ventilation mode.
- In one of the submenus, confirm a setting.

C − CYCLE/ADJUST
- Cycle left.
- Adjust a setting (default: decrease).

D + CYCLE/ADJUST
- Cycle right.
- Adjust a setting (default: increase).

The operation procedure of the wired remote controller is as follows.
The operation steps will be explained in the following order. **"Remote controller group MAIN"**, **"Remote controller group SUB"**, **"Indoor unit Airnet address"**, **"Outdoor unit Airnet address"**.

NOTE

You cannot perform the following procedure when the display backlight is off.
In this case, press any key to turn on the backlight before starting the procedure.

Setting "Remote controller group MAIN" DIII-NET group addresses

This section describes how to set **"Remote controller group MAIN"** DIII-NET group addresses.

1. From the homescreen, press and hold the ○ button.
   Information is displayed.

<Step 1>

2. Press and hold the − and ○ buttons.
   The menu is displayed.

<Step 2>

3. Using the − and + buttons, move ⊙ to the centre of the screen.

<Step 3>

4. Press the ○ button.
   The selected screen is displayed.

<Step 4>

NOTE

[Group] is not displayed when the DGE601A71 is not powered on.
Power on the DGE601A71 and wait for a while before trying to operate the remote controller.
[Group] is also not displayed when the DGE601A71 is not communicating with the indoor units normally. Check that the cables are connected correctly.

5. Using the − and + buttons, move to ✓.

<Step 5>

6. Press the ○ button.
   The current address setting is displayed.

<Step 6>

7. Using the − and + buttons, move to □.
   Press the ○ button.

<Step 7>

8. Press the + button to put a check ☑ in the box. (It is now possible to edit the DIII-NET group address.)

<Step 8>

9. Press the ○ button.

<Step 9>

10. Using the − and + buttons, move to the DIII-NET group address.

<Step 10>

11. Press the ○ button.

<Step 11>

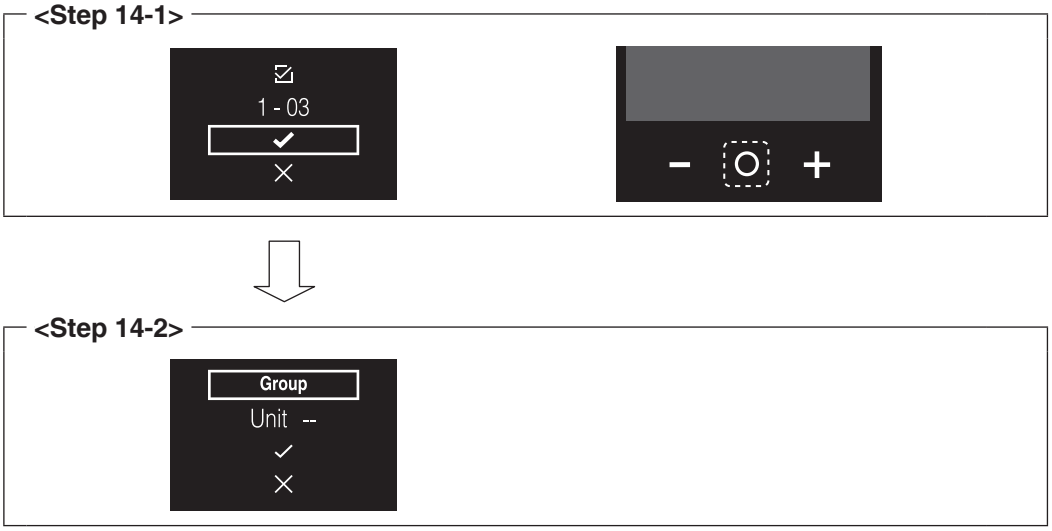
12. Using the − and + buttons, select the address you want to set.

<Step 12>

13. Press the ○ button.

<Step 13>

14. Using the − and + buttons, move to ☑.
Press the ○ button. (The DIII-NET group address is confirmed.)



Setting "Remote controller group SUB" DIII-NET group addresses

This section describes how to set **"Remote controller group SUB"** DIII-NET group addresses.
Set them if necessary.

1. Press the ○ button.

<Step 1>

2. Using the − and + buttons, move to Group(Unit).
   Press the ○ button.

<Step 2>

3. Using the − and + buttons, move to the Unit 00.

<Step 3>

4. Press the ○ button.

<Step 4>

5. Using the − and + buttons, select the Unit No. you want to set.

<Step 5>

6. Press the ○ button.

<Step 6>

7. Using the − and + buttons, move to ✔.
   Press the ○ button. (The unit No. is confirmed.)

<Step 7>

8. Using the − and + buttons, move to □.
   Press the ○ button.

<Step 8>

9. Press the + button to put a check ☑ in the box. (It is now possible to change the DIII-NET group address.)

<Step 9>

10. Press the ○ button.

<Step 10>

11. Using the − and + buttons, move to the DIII-NET group address.

<Step 11>

12. Press the ○ button.

<Step 12>

13. Using the − and + buttons, select the address you want to set.

<Step 13>

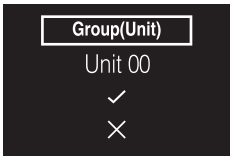
14. Press the ○ button.

<Step 14>

15. Using the − and + buttons, move to ☑.
Press the ○ button. (The DIII-NET group address is confirmed.)

<Step 15-1>

<Step 15-2>



Setting indoor unit Airnet addresses

This section describes how to set indoor unit Airnet addresses.

1. Press the ○ button.

<Step 1>

2. Using the − and + buttons, move to I/U.
   Press the ○ button.

<Step 2>

3. Using the − and + buttons, move to the Unit 00.

<Step 3>

4. Press the ○ button.

<Step 4>

5. Using the − and + buttons, select the Unit No. you want to set.

<Step 5>

6. Press the ○ button.

<Step 6>

7. Using the − and + buttons, move to ✓.
   Press the ○ button. (The unit No. is confirmed.)

<Step 7>

8. Using the − and + buttons, move to □.
   Press the ○ button.

<Step 8>

9. Press the + button to put a check ☑ in the box. (It is now possible to change the Airnet address.)

<Step 9>

10. Press the ○ button.

<Step 10>

11. Using the − and + buttons, move to the Airnet address.

<Step 11>

12. Press the ○ button.

<Step 12>

13. Using the − and + buttons, select the address you want to set.

<Step 13>

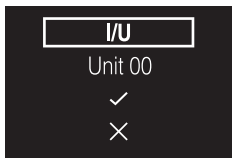
14. Press the ○ button.

<Step 14>

15. Using the − and + buttons, move to ✓.
Press the ○ button. (The Airnet address is confirmed.)

<Step 15-1>

<Step 15-2>



Setting outdoor unit Airnet addresses

This section describes how to set outdoor unit Airnet addresses.

In the following cases, refer to **"5.3 Setting Airnet address and demand address on the outdoor unit"** and set an Airnet address for the outdoor unit.

- Multiple systems exist in 1 remote controller group.
- O/U is not displayed

1. Press the ○ button.

<Step 1>

2. Using the − and + buttons, move to O/U.
   Press the ○ button.

<Step 2>

3. Using the − and + buttons, move to ✓.
   Press the ○ button.

<Step 3>

4. Using the − and + buttons, move to ☐.
   Press the ○ button.

<Step 4>

5. Press the + button to put a check ☑ in the box. (It is now possible to edit the Airnet address.)

<Step 5>

6. Press the ○ button.

<Step 6>

7. Using the − and + buttons, move to the Airnet address.

<Step 7>

8. Press the ○ button.

<Step 8>

9. Using the − and + buttons, change the Airnet address.

<Step 9>

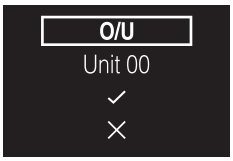
10. Press the ○ button.

<Step 10>

11. Using the − and + buttons, move to ✓.
Press the ○ button. (The Airnet address is confirmed.)

<Step 11-1>

<Step 11-2>



12. Using the − and + buttons, move to ☒.
    Press the ○ button.

<Step 12>

13. Using the − and + buttons, move to ⮌.
    Press the ○ button. You will now return back to the homescreen.

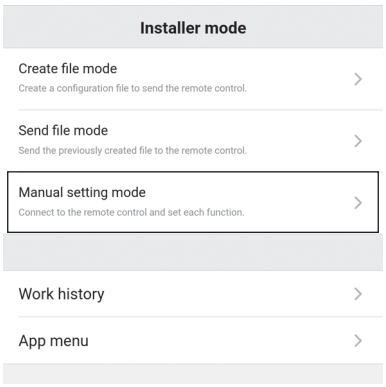
<Step 13-1>

<Step 13-2>

5.1.2 Setting addresses using the Madoka Quickset

For how to use the Madoka Quickset, please refer to the Madoka Quickset manual.
This section describes setting addresses.

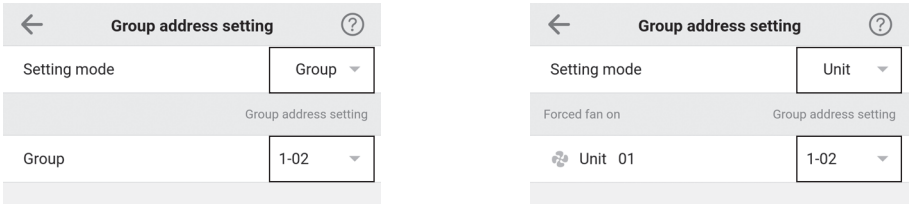
1. Select **[Manual setting mode]** from **[Installer mode]**.



2. Select **[RC settings]**.

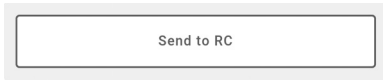
3. Select **[Group address setting]**. (Setting the DIII-NET group address)
   For indoor units in the remote controller group “MAIN”, leave the Setting mode as **[Group]** and then set the DIII-NET group address.
   For indoor units in the remote controller group “SUB”, change the Setting mode to **[Unit]** and then set the DIII-NET group address.

<Step 3-1>



After all settings are complete, tap **[Send to RC]**.

<Step 3-2>

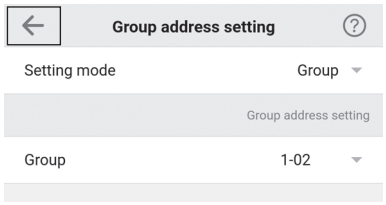


NOTE

To set the DIII-NET group address, the DGE601A71 must be ON and it must be able to communicate with the indoor unit.

4. Tap ← to return to the previous screen. Next, set the Airnet address.

<Step 4>



5. Select **[Airnet address setting]**.

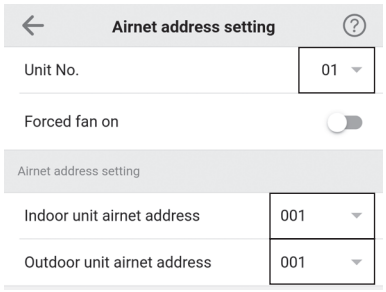
NOTE

In the following cases, refer to **"5.3 Setting Airnet address and demand address on the outdoor unit"** and set an Airnet address for the outdoor unit.

- Multiple systems exist in 1 remote controller group.
- **[Airnet address setting]** is not displayed.

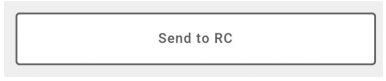
Set the Unit No. and then set the Airnet addresses for the indoor and outdoor units.

<Step 5-1>



After all settings are complete, tap **[Send to RC]**.

<Step 5-2>



This completes the DIII-NET group address and Airnet address configuration process.

5.2 Setting addresses with navigation remote controller (BRC1E*)

This section describes how to set addresses using navigation remote controller BRC1E*.

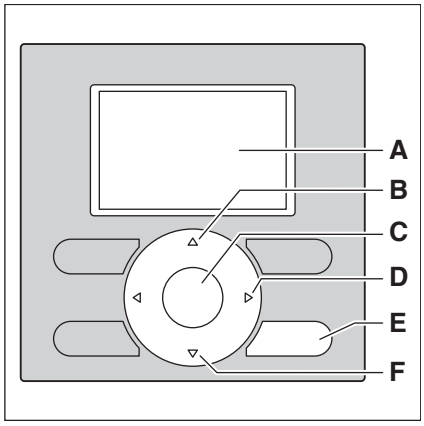
NOTE

For how to set addresses for ventilation equipment (Heat Reclaim Ventilation units) and various adaptors, refer to their respective documentation.

Names of buttons and display

Below are the names of the buttons and display of navigation remote controller BRC1E*.

A Liquid-crystal display (with backlight)
B Up button ▲
C Menu/OK button
D Right button
E Cancel button
F Down button ▼



The operation procedure of the navigation remote controller is as follows.
The operation steps will be explained in the following order. **"Remote controller group MAIN"**, **"Remote controller group SUB"**, **"Indoor unit Airnet address"**, **"Outdoor unit Airnet address"**.

NOTE

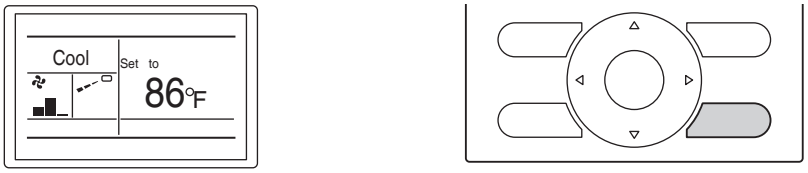
You cannot perform the following procedure when the display backlight is off.
In this case, press any key to turn on the backlight before starting the procedure.

Setting "Remote controller group MAIN" DIII-NET group addresses

This section describes how to set **"Remote controller group MAIN"** DIII-NET group addresses.

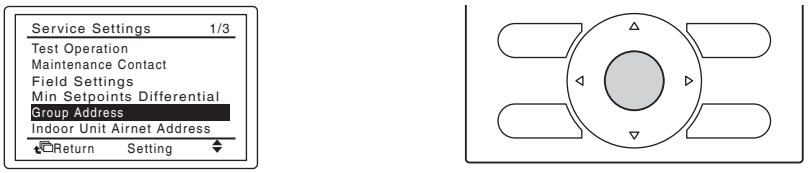
1. Press and hold the Cancel button for 4 seconds or more.
   The **[Service Settings]** menu is displayed.

<Step 1>



2. Using the Up/Down buttons, select **[Group Address]** and press the Menu/OK button.
   The **[Group Address]** menu is displayed.

<Step 2>

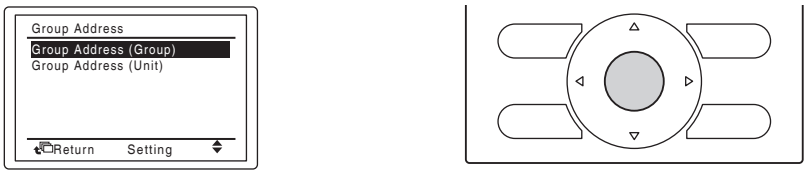


NOTE

The **[Group Address]** menu is not displayed when the DGE601A71 is not powered on. Power on the DGE601A71 and wait for a while before trying to operate the remote controller. The **[Group Address]** menu is also not displayed when the DGE601A71 is not communicating with the indoor units normally. Check that the cables are connected correctly.

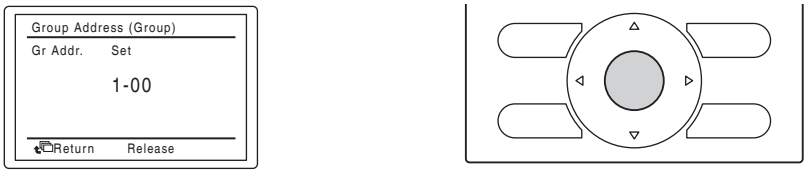
3. Using the Up/Down buttons, select **[Group Address (Group)]** and press the Menu/OK button. The current address setting is displayed.

<Step 3>



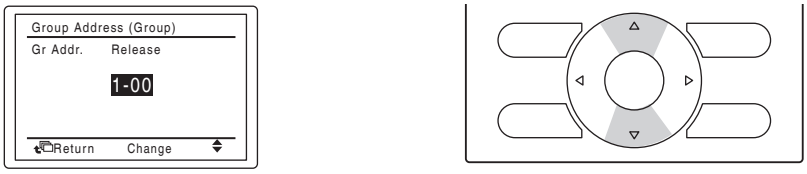
4. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The mode indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

<Step 4>



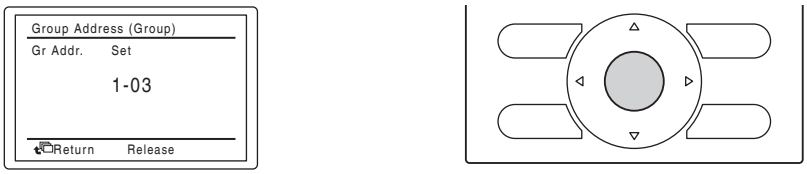
5. Using the Up/Down buttons, select the address you want to set.

<Step 5>



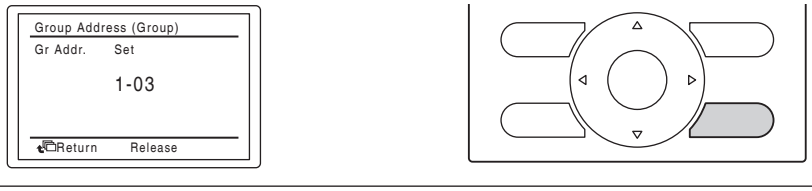
6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the DIII-NET group address is set.

<Step 6>

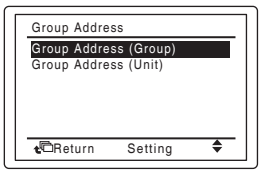


7. Press the Cancel button 1 time. You will now return back to the display shown in Step 7-2.

<Step 7-1>



<Step 7-2>

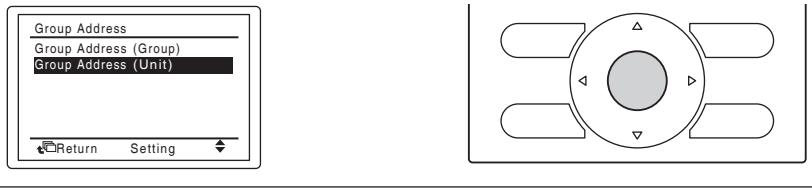


Setting "Remote controller group SUB" DIII-NET group addresses

This section describes how to set **"Remote controller group SUB"** DIII-NET group addresses.
Set them if necessary.

1. Using the Up/Down buttons, select **[Group Address (Unit)]** and press the Menu/OK button. The current address setting is displayed.

<Step 1>



2. Using the Up/Down buttons, select the **[Unit No.]** you want to set.

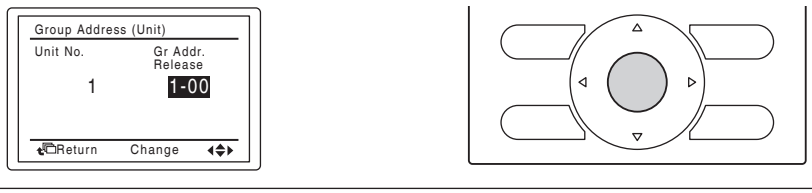
<Step 2>

3. Press the Right button and move to the **[Gr Addr.]**.

<Step 3>

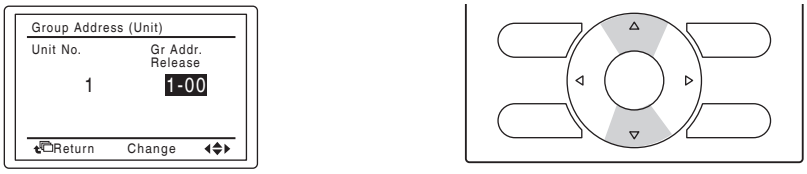
4. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

<Step 4>



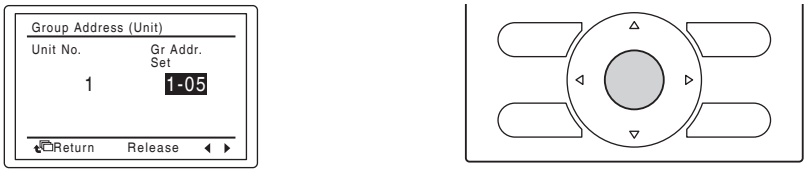
5. Using the Up/Down buttons, select the address you want to set.

<Step 5>



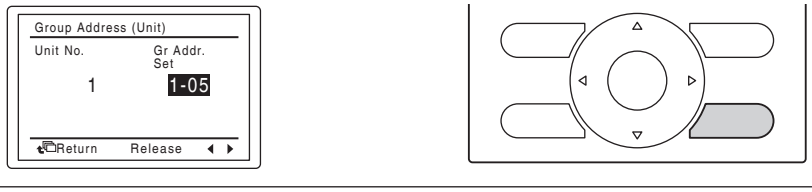
6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the DIII-NET group address is set.

<Step 6>

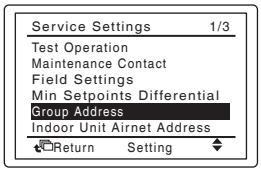


7. Press the Cancel button 2 times. You will now return back to the display shown in Step 7-2.

<Step 7-1>



<Step 7-2>

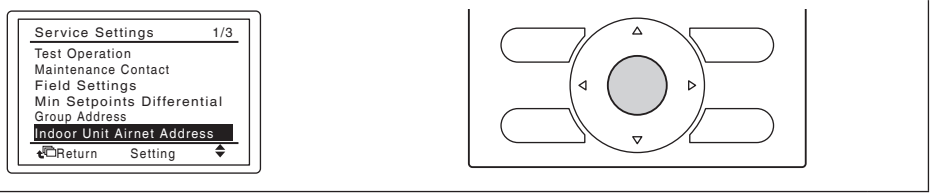


Setting indoor unit Airnet addresses

This section describes how to set indoor unit Airnet addresses.

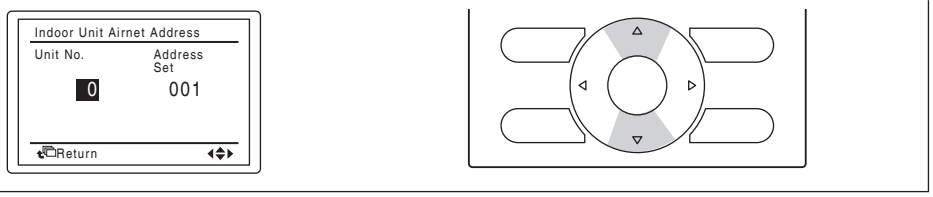
1. Using the Up/Down buttons, select **[Indoor Unit Airnet Address]** and press the Menu/OK button. The current Airnet address setting is displayed.

<Step 1>



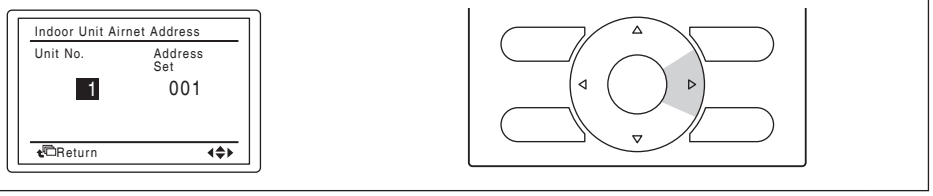
2. Using the Up/Down buttons, select the **[Unit No.]** you want to set.

<Step 2>



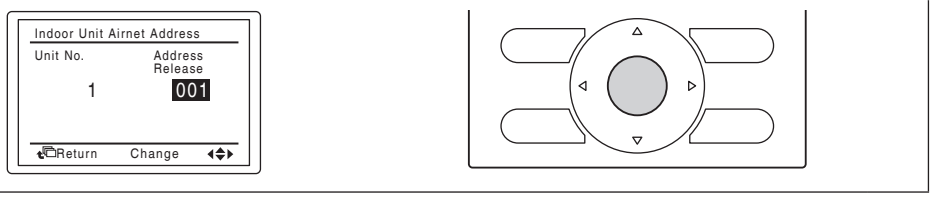
3. Press the Right button, move to the **[Address]**.

<Step 3>



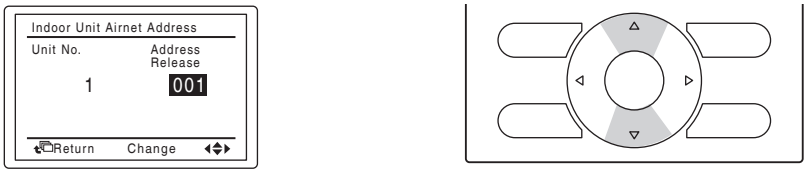
4. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

<Step 4>



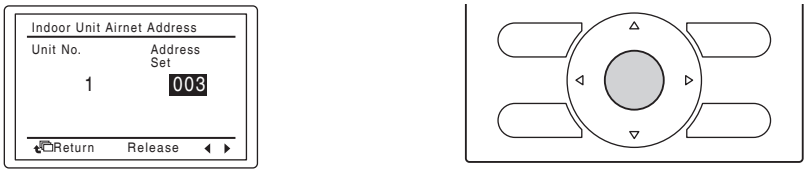
5. Using the Up/Down buttons, select the Airnet address you want to set.

<Step 5>



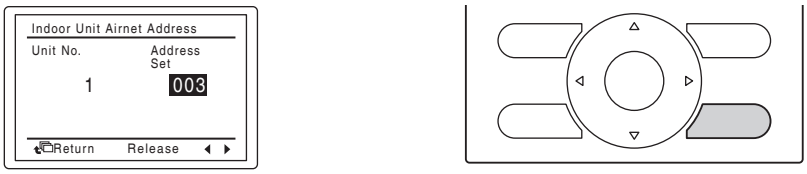
6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the Airnet address is set.

<Step 6>

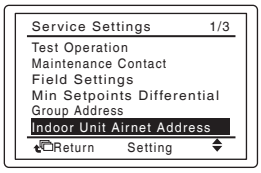


7. Press the Cancel button 1 time. You will now return back to the display shown in Step 7-2.

<Step 7-1>



<Step 7-2>



Setting outdoor unit Airnet addresses

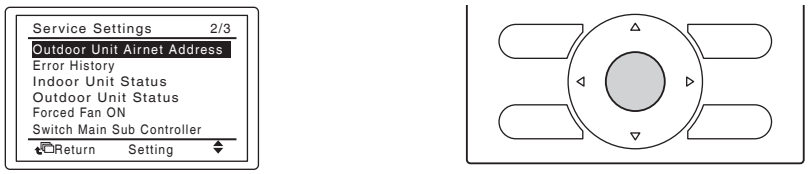
This section describes how to set outdoor unit Airnet addresses.

In the following cases, refer to **"5.3 Setting Airnet address and demand address on the outdoor unit"** and set an Airnet address for the outdoor unit.

- Multiple systems exist in 1 remote controller group.
- **[Outdoor Unit Airnet Address]** is not displayed on the service settings display.

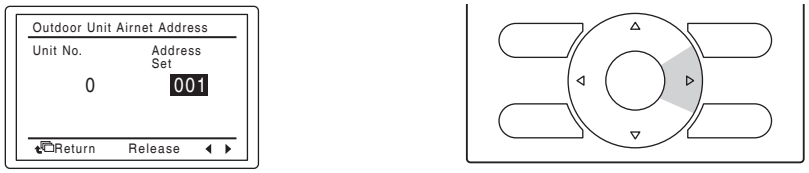
1. Using the Up/Down buttons, select **[Outdoor Unit Airnet Address]** and press the Menu/OK button.
   The current Airnet address setting is displayed.

<Step 1>



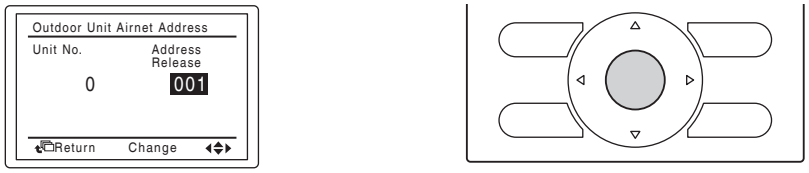
2. Press the Right button, move to the **[Address]**.

<Step 2>



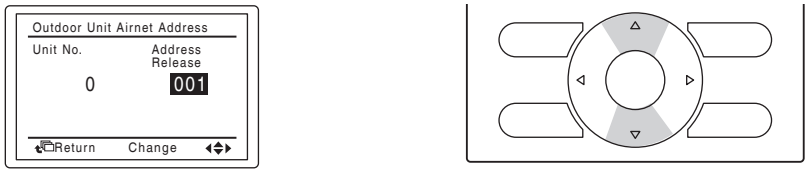
3. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The mode indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

<Step 3>



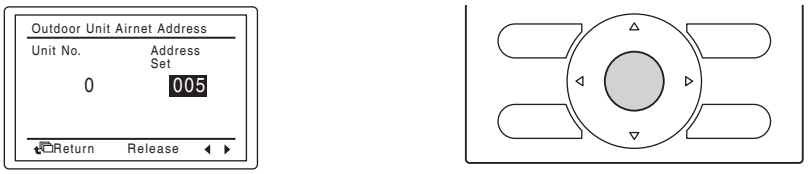
4. Using the Up/Down buttons, change the Airnet address.

<Step 4>



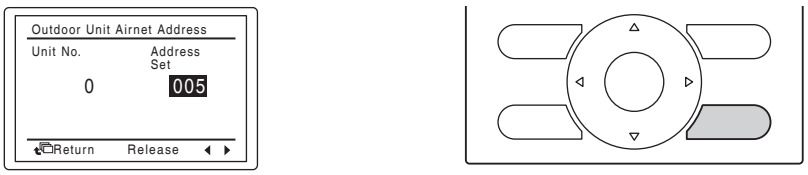
5. Press the Menu/OK button.
   The mode indication changes from **[Release]** to **[Set]**, and the Airnet address is set.

<Step 5>

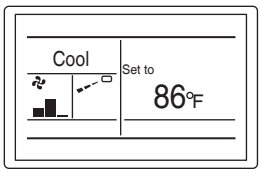


6. Press the Cancel button 2 times. You will now return back to the display shown in Step 6-2.

<Step 6-1>



<Step 6-2>

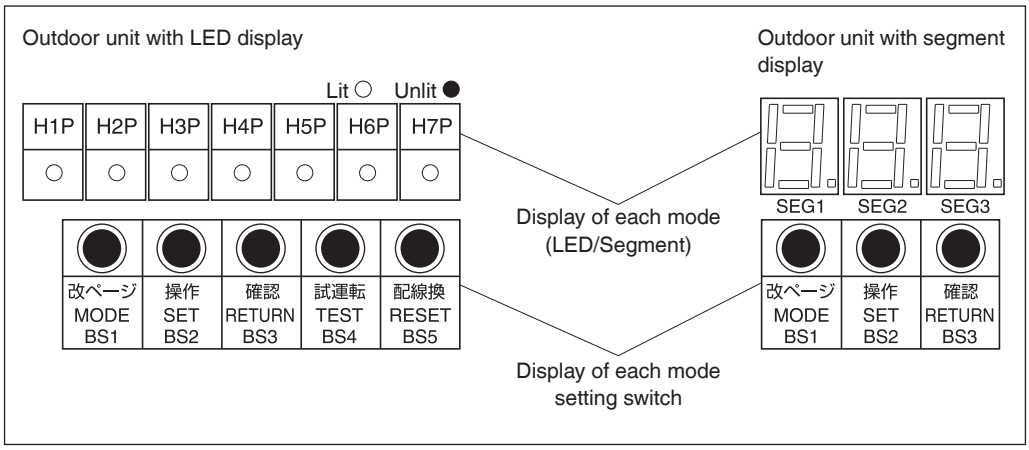


5.3 Setting Airnet address and demand address on the outdoor unit

Setup on the outdoor unit

To use the DGE601A71, you need to set an Airnet address for the outdoor unit.
Also, you need to set a demand address and enable demand setting if necessary.
To set the address of an outdoor unit, you can use the push buttons located on the unit's printed circuit board.
The current setting or operating status of an outdoor unit is indicated by the outdoor unit's LED or segment display.
For details, refer to the service manual of the air conditioner.

<LEDs (segment) and setting switches for each mode>



5.3.1 Steps for setting the outdoor unit Airnet address

If you cannot set the outdoor unit Airnet address with the remote controller, follow the procedure below to perform setting.

1. Press the **BS1** button for 5 seconds or more.
   The LEDs and segments will be in the state shown below.

LED (segment) display									
Outdoor unit of the LED display							Outdoor unit of the segment display		
H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
○	●	●	●	●	●	●	2	0	0

2. Press the **BS2** button 13 times. (Select the setting value.)
3. Press the **BS3** button.
   You can now find out the current AIRNET address setting by the LED (segment).
4. Press the **BS2** button to change to any Airnet address.
   (Set the Airnet address number within the range of 1 to 63.)
5. Press the **BS3** button 2 times to confirm the AIRNET address setting.
6. Press the **BS1** button 1 time to return to the normal mode.

5.3.2 Setting the demand address and enabling demand setting

Set the demand address.

1. Press the **BS1** button for 5 seconds or more.
   The LEDs and segments will be in the state shown below.

LED (segment) display									
Outdoor unit of the LED display							Outdoor unit of the segment display		
H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
○	●	●	●	●	●	●	2	0	0

2. Press the **BS2** button 2 times. (Select the setting item.)
3. Press the **BS3** button.
   You can now find out the current demand address setting by the LED (segment).
4. Press the **BS2** button to change to any demand address.
   (Set the demand address number within the range of 0 to 31.)
5. Press the **BS3** button 2 times to confirm the demand address setting.

Next, enable demand setting.

6. Press the **BS2** button 12 times. (Select the setting item.)
7. Press the **BS3** button.
   You can now find out the currently set value (enabled/disabled) by the LED (segment).
8. If it is disabled, press the **BS2** button 1 time to enable it.
   The LEDs and segments will be in the state shown below.

Setting items	LED (segment) display									
	Outdoor unit of the LED display							Outdoor unit of the segment display		
demand setting (enabled)	H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
	○	●	●	●	●	○	●	0	0	1

9. Press the **BS3** button 2 times to confirm the set value.
10. Press the **BS1** button 1 time to return to the normal mode.

NOTE

If you want to use the demand control of the External Control Adapter for Outdoor Unit, you do not need to perform this setting.

5.3.3 Setting items LED (segment) display

When you press the **BS2** button and select setting items, the LED (segment) display will be in the state shown below.

Setting items	Outdoor unit of the LED display							Outdoor unit of the segment display		
Outdoor unit AIRNET address setting	H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
	○	●	●	○	○	●	○	2	1	3
demand address setting	○	●	●	●	●	○	●	2	0	2
demand setting Enabled/Disabled	○	●	●	○	○	●	●	2	1	2

The address setting of the outdoor unit is complete.

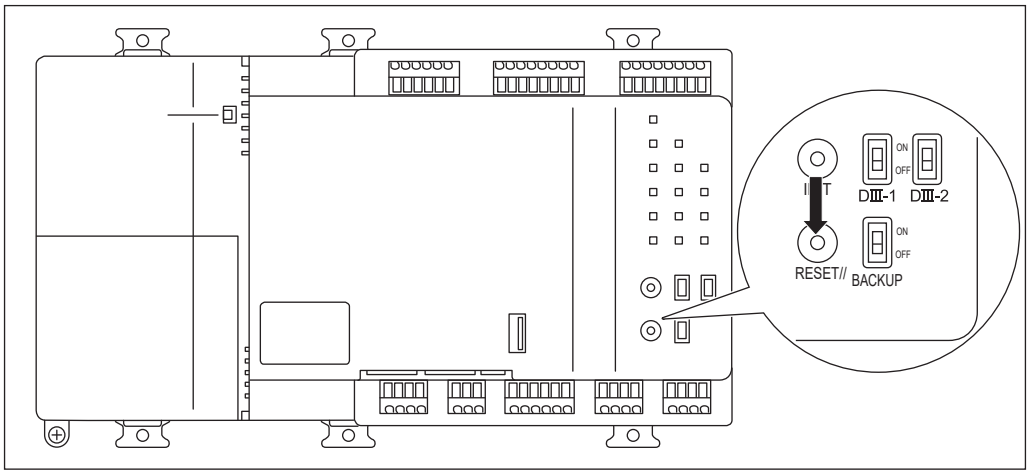
The installation work of DGE601A71 is complete.

6 Quick Operation Guide

6.1 Resetting the unit

The DGE601A71 can be restarted by pressing the **[RESET//]** button.
Operate the **[RESET//]** button using a thin rod or similar item.

<RESET>



⚠ CAUTION

Do not perform the operation with a pointed item. Doing so may result in malfunction.