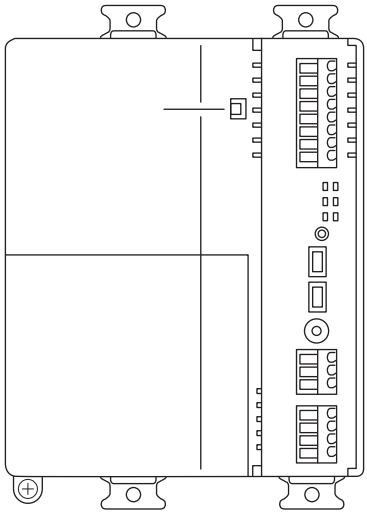
DAIKIN

Installation Manual

Model : DGE601A52



3P581074-2D

Safety Precautions

Also see the installation manual provided with the equipment that you connect.

Please read these "SAFETY PRECAUTIONS" carefully before installing the unit, and be sure to install the unit correctly.

- The installation manual and the **"SAFETY PRECAUTIONS"** contain important information regarding safety. Be sure to observe all precautions.

⚠ **WARNING**	Failure to follow these instructions properly may result in personal injury or loss of life.
⚠ **CAUTION**	Failure to observe these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

- After completing the installation, conduct a trial run to check for faults, and explain to the customer how to operate the unit and take care of it with the aid of the operation manual. Ask the customer to store the installation manual along with the operation manual for future reference.

⚠ **WARNING**
• **Ask your dealer or other qualified personnel to take installation work.** Do not attempt to install the unit yourself. Improper installation may result in an electric shock or fire.
• **Do not relocate or reinstall the unit yourself.** Improper installation work may result in an electric shock or fire. Ask your local dealer to carry out the relocation and reinstallation of the unit.
• **Install the unit in accordance with the instructions in this installation manual.** Improper installation may result in an electric shock or fire.
• **Be sure to use only the specified accessories and parts for the installation work.** Failure to use the specified parts may result in the DGE601A52 falling, an electric shock, or fire.
• **Install the unit on a foundation strong enough to withstand the weight of the unit.** A foundation of insufficient strength may result in the equipment falling and causing injury.
• **Always perform the installation work with the power supply shut off.** Touching energised electric parts causes an electric shock.
• **Do not disassemble, modify or repair the unit.** An electric shock or fire may be caused.
• **Make sure that all wiring is secured, that the specified wires are used, and that there is no strain on the terminal connections or wires.** Improper connection or securing of wires may result in abnormal heat build-up or fire.
• **The choice of materials and installations must comply with the applicable national and international standards.**

⚠ WARNING

- **Carry out the installation work taking earthquakes into account.**
  Failure to do so during installation work may result in the unit falling and causing accidents.
- **Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local laws and regulations and this installation manual.**
  An insufficient power supply capacity or improper electrical construction may lead to an electric shock or fire.
- **When wiring the power supply position the wires so that the electric parts box lid can be securely fastened.**
  Improper positioning of the electric parts box lid may result in an abnormal heat build-up, an electric shock, or fire.
- **Be sure to earth the unit.**
  Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead.
  Imperfect earthing may result in an electric shock or fire.
- **Install an earth leakage breaker, as required.**
  Failure to install an earth leakage breaker may result in an electric shock or fire.
- **This unit 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 unit.**
  This equipment is not suitable for use in locations where children are likely to be present.

⚠ CAUTION

- **Be very careful when transporting the unit.**
- **Safely dispose of the packing materials.**
  Tear apart and throw away plastic packaging bags so that children will not play with them. If children play with a plastic bag which was not torn apart, they face the risk of suffocation.
- **This unit is a class B product.**
- **In a domestic environment, this product may cause radio interference.**
  In such cases, the user may be required to take adequate measures.
- **Disposal requirements: the dismantling of the unit and of other parts must be done in accordance with relevant local and national legislation.**
- **Fill wiring intake hole with putty.**
  Entry of water or insects may result in electric leakage or malfunction.
- **Do not operate with wet hands.**
  An electric shock and malfunction may be caused.
- **Do not wash the unit with water.**
  An electric shock or fire may be caused.
- **Install the unit, its power cord, and its wiring at least 1 m away from televisions or radios.**
  This is to prevent picture interference and noise. (Depending on the incoming signal strength, a distance of 1 m may not be sufficient to eliminate noise.)
- **Do not install the unit in the following places.**

1. **In places with a high concentration of mineral oil spray or vapour (e.g. a kitchen).**
   Plastic parts will deteriorate, parts may fall off and water leakage could result.
2. **Near machinery emitting electromagnetic radiation.**
   Electromagnetic radiation may disturb the operation of the control system and result in a malfunction of the unit.
3. **In places where flammable gas may leak, where there is carbon fibre or ignitable dust suspensions in the air, or where volatile flammables such as paint thinner or gasoline are handled.**
   Operating the unit in such places may result in fire.
4. **In places with high temperatures or where the unit is exposed to direct flames.**
   Abnormal heat build-up or firing may be caused.
5. **In moist areas or places that are exposed to water.**
   Water entering the unit may cause electric shock and malfunction.

Contents

1 Before Installation

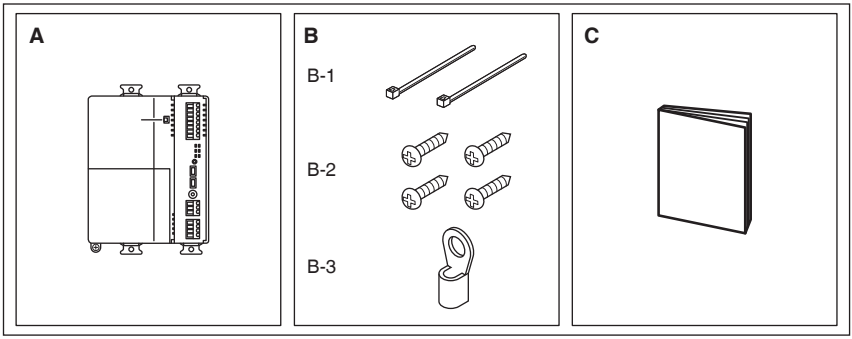
Before you start installing, make the following preparatory checks.

- Check that the DGE601A52 comes with all accessories.
- Confirm where the terminals and switches of the DGE601A52 are located.
- Check that an appropriate space for installing the DGE601A52 is available.

1.1 Checking that all accessories are included

Based on the following accessory list, check that all accessories for the DGE601A52 are included.
If there is any missing or defective part, contact the DAIKIN dealer where you purchased the product.

<Accessories included with DGE601A52>

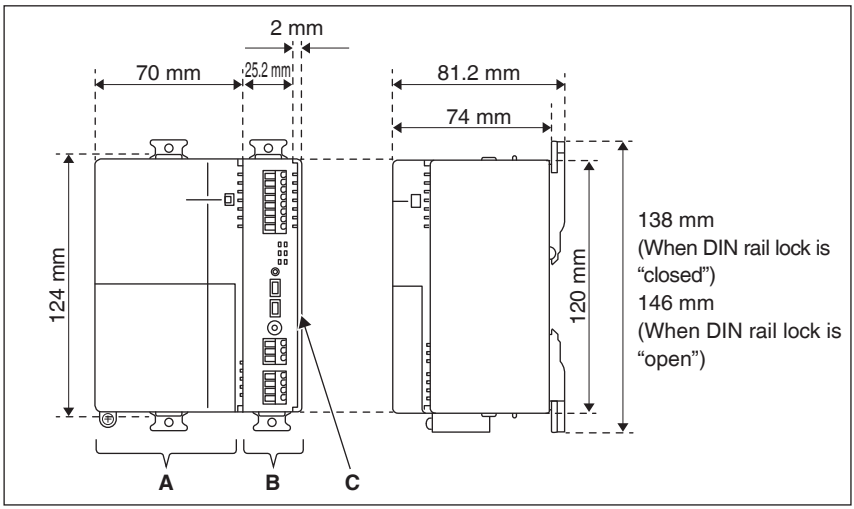


A DGE601A52, 1 pc.

B (B-1) Clamp for fixing power supply cable, 2 pcs.
(B-2) Wood screw (3 mm diameter x 15 mm length) for securing the body, 4 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 DGE601A53

C End cover

1.3 Understanding terminals and switches

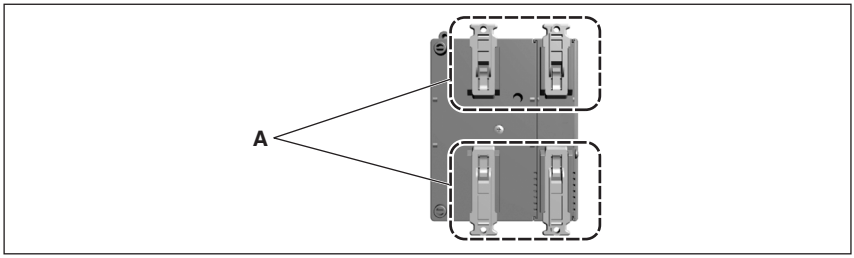
Understand the arrangement of terminals and switches on the unit to facilitate the installation procedure.

For details including the cable type, terminal size, and precautions, refer to **"3. Electrical Wiring"**.

1.3.1 Rear face

On the rear face of the DGE601A52 there is a DIN rail lock for use when installing on a DIN rail.

<Rear face>

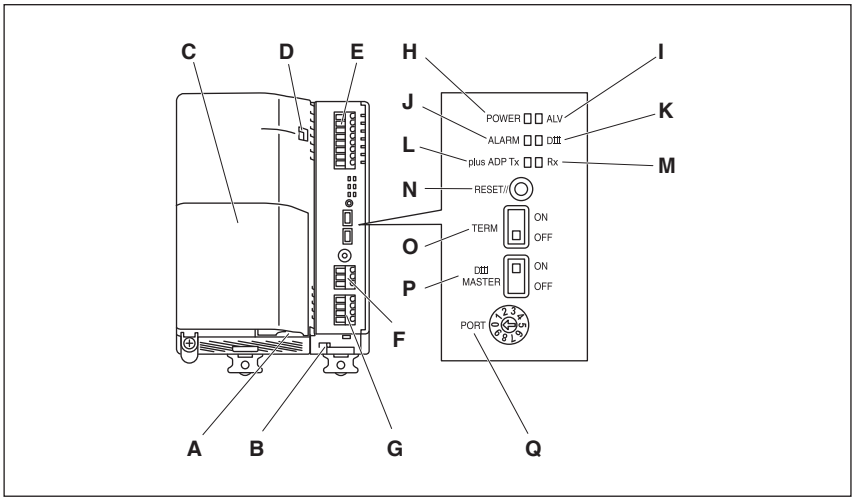


A DIN rail lock

1.3.2 Front face

All the terminals used during installation are located on the front face of the DGE601A52. The power supply terminals are covered with a terminal cover for safety.
In addition to these terminals, several switches and LEDs are also located on the front face of the DGE601A52.

<Front face of DGE601A52>



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 DGE601A53.
C	[Power supply unit]	Terminals for the connection of the power supply. These terminals are covered with a protective cover. A singe phase 100 to 240 V AC (at 50/60 Hz) power supply voltage is required.
D	[DC OUT] LED	LED (Green) When DC output is normal, this LED is lit.
E	[Di]	Terminals for stopping air conditioner operation by an external signal in case of an emergency, or for connecting electric energy meters.

F	[plus ADP IF]	Terminals for connecting a DGE601A51, intelligent Touch Manager (referred to as iTM below), DGE601A52, or iTM plus adaptor.
G	[DIII]	Terminals for connecting the **"DIII-NET"** communication line, for communication with the DAIKIN air conditioners.
H	[POWER] LED	LED (Green) When the power is turned on, this LED is always lit.
I	[ALV] LED	LED (Green) When the CPU is operating normally, this LED blinks.
J	[ALARM] LED	LED (Red) When the body is operating normally, this LED is unlit.
K	[DIII] LED	LED (Orange) When communication with DIII-NET is being carried out, this LED blinks.
L	[plus ADP Tx] LED	LED (Green) When DIII plus ADP data is being sent, this LED is lit.
M	[Rx] LED	LED (Orange) When DIII plus ADP data is being received, this LED is lit.
N	[RESET//] switch	Switch for restarting the DGE601A52.
O	[TERM] switch	Switch for activating the termination resistor, in case you want to connect the DGE601A52 with another DGE601A52, DGE601A51, iTM, iTM plus adaptor (using the plus ADP IF terminal). (Factory default: OFF)
P	[DIII MASTER] switch	Switch for changeover of DIII-NET MAIN/SUB. (Factory default: ON) ON: MAIN OFF: SUB
Q	[PORT] dial switch	Dial switch for setting the port number of the DGE601A52. Possible settings are from 3 to 8 if connecting to DGE601A51, and from 2 to 8 when connecting to iTM.

The table below shows the status of the ALV/ALARM LEDs during normal operation and in case of failure.

NOTE

LED status and operation

Operating condition	ALV	ALARM
Normal	Blinking	Unlit
Hardware failure	Unlit	Lit
Address failure	Lit	Lit
DGE601A51, iTM and DGE601A52 communication failure	Lit	Blinking

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 Precautions"**)
- Mounting direction: Vertical only

1.4.2 Environmental conditions

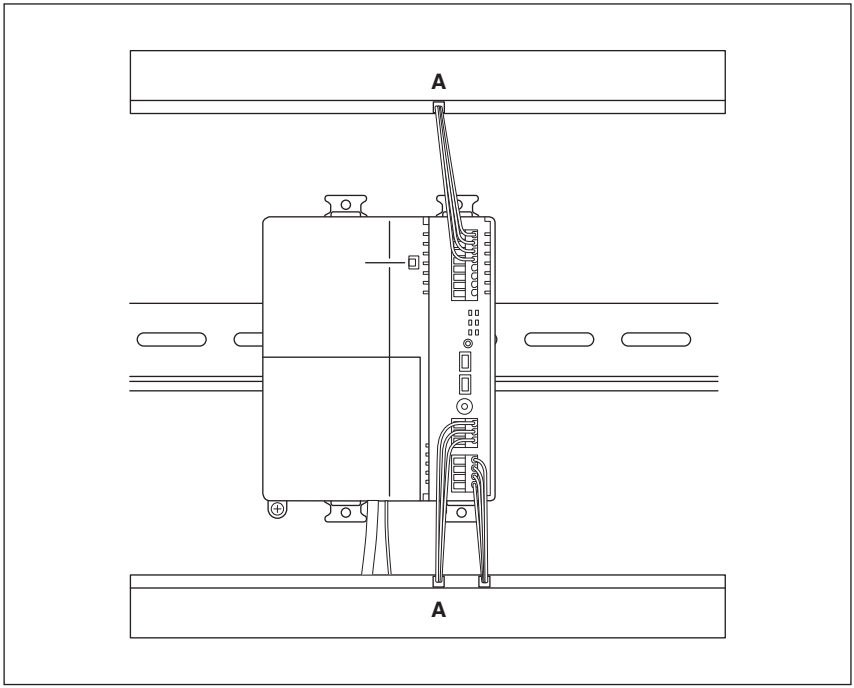
Check that the installation environment meets the following conditions.

- Ambient temperature: -10 to 50°C
- Ambient humidity: 85% RH or less (without condensation)
- DGE601A52 operation is not affected by electromagnetic waves.

1.4.3 Wiring of cables

For an example of DGE601A52 cable wiring, refer to the cable wiring diagram (example) shown below.

<Cable wiring diagram (example)>



A Cable duct

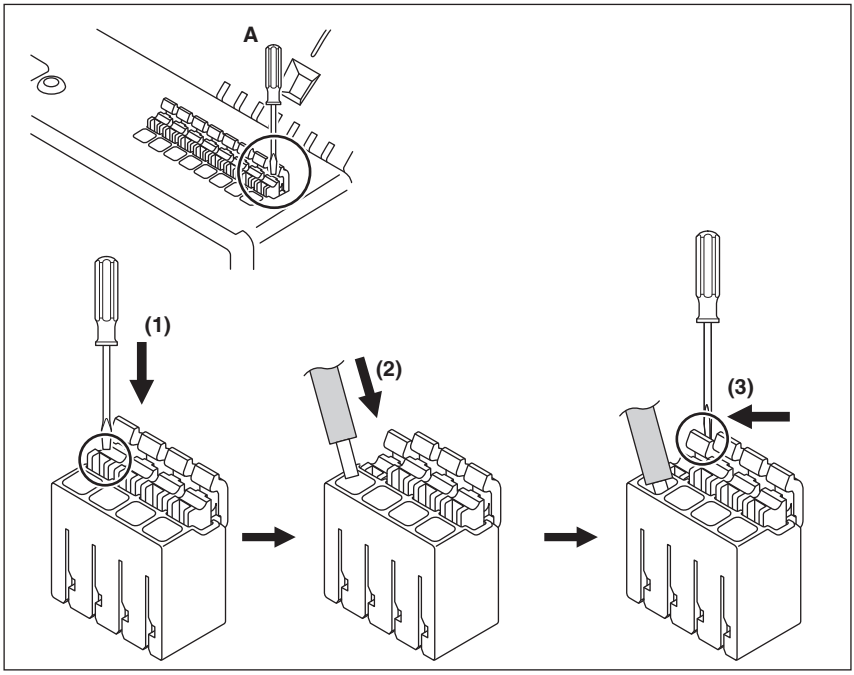
Wiring to each terminal

When wiring to **[plus ADP IF]**, **[DIII]**, and **[Di 1-4]**, 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 cable into the open insertion port.
(3) Move the opening knob forward and down and insert the cable.
(4) Make sure that the connected cable has not come out.

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

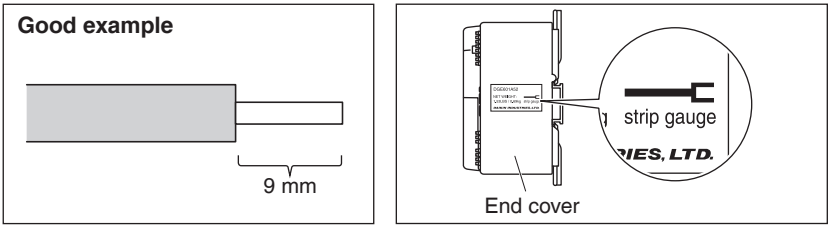
<How to wire to the terminal block>

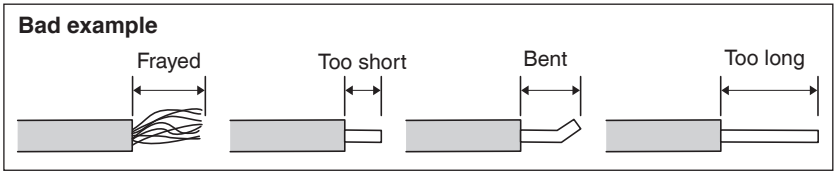


A Precision flat-head screwdriver

Make the length of the peeled portion of the cable 9 mm.
Refer to the **[strip gauge]** on the end cover.
When peeling, be careful not to scratch the finish of the exposed part of the cable.

<Cable peeling allowance>





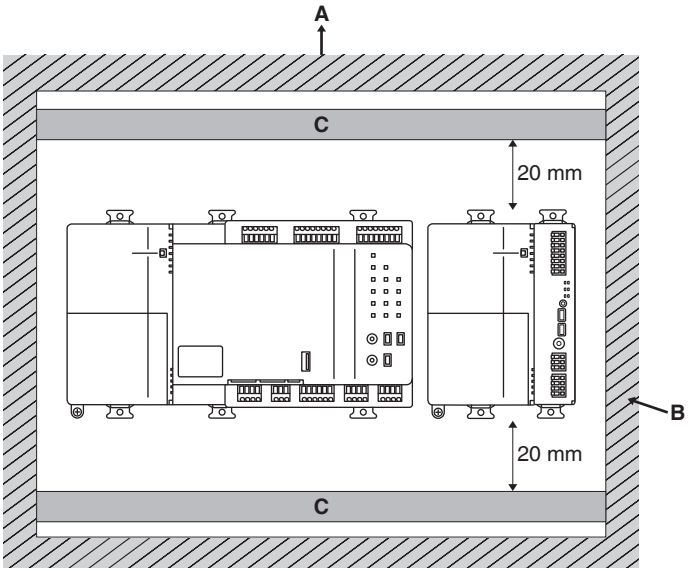
1.4.4 Required space

The figure shown below indicates the space required for installation.

- There is a minimum clearance of 20 mm from the top edge and 20 mm from the bottom edge
- Close contact in a lateral direction is possible, if attaching a DGE601A51 or similar

Required installation space

<DGE601A52 installation space>



A Top

B Wall

C Cable duct

Do not install DIN rails vertically.

1.5 Equipment which can be connected to the DGE601A52

The DGE601A52 can be connected to the following equipment.

- DGE601A51
- iTM
- iTM plus adaptor

2 Installation

You can install the DGE601A52 in 2 ways.

- DIN rail mounting
- Screw-mounting to control enclosure

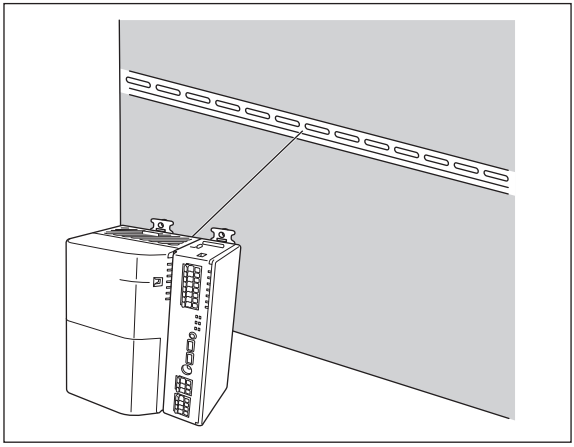
In case of new installation, first add the DGE601A53 to the DGE601A52. After that, install both the DGE601A52 and DGE601A53.

2.1 DIN rail mounting

2.1.1 Installation procedure

Mount to a 35 mm DIN rail.

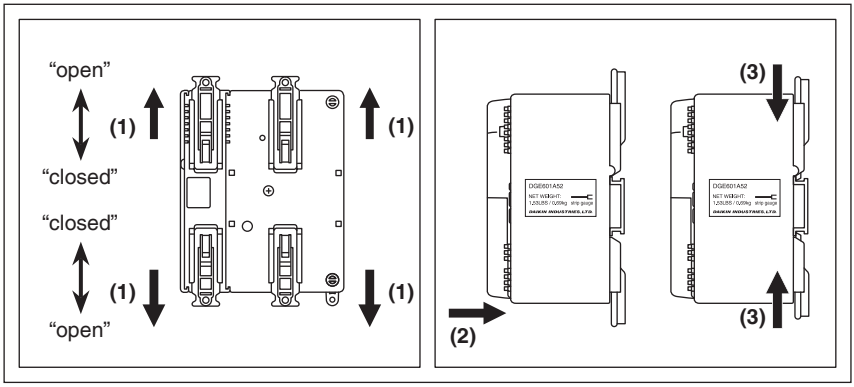
<Mounting to DIN rail>



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 DGE601A52 against the DIN rail.
(3) Set all upper and lower DIN rail locks to the “closed” position.

<Steps for mounting to DIN rail>



NOTE

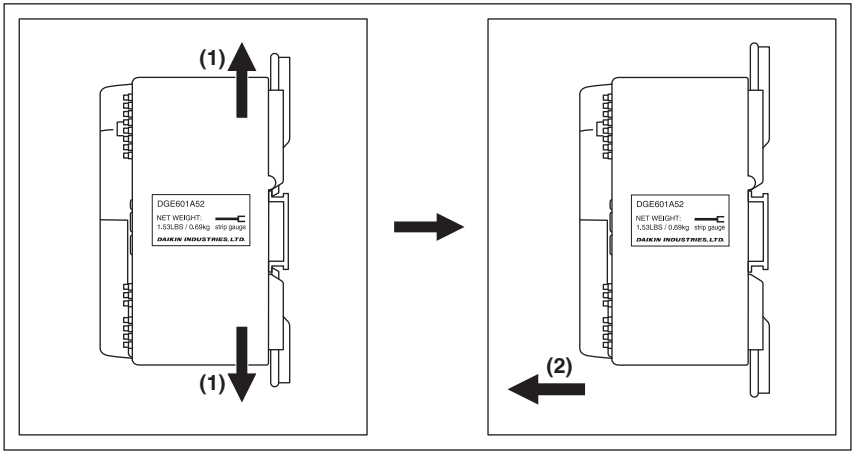
If you need to make the mounting stronger, use DIN rail fasteners.

2.1.2 Removal from DIN rail

(1) While supporting the DGE601A52 with your hand, set all upper and lower DIN rail locks to the “open” position.

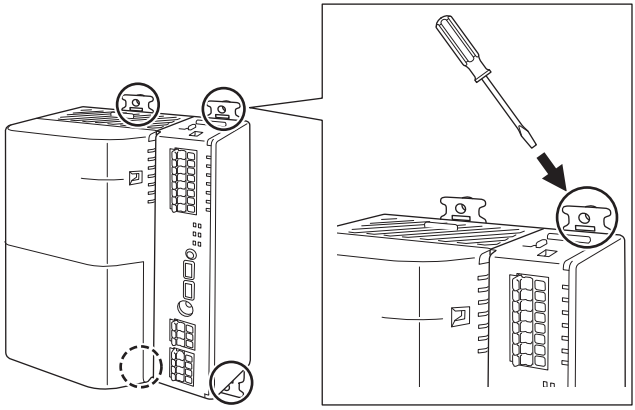
(2) Remove the DGE601A52 from the DIN rail.

<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 4 supplied screws for securing the body. 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 **“2.1.1 Installation procedure”**.)

2.2.1 Accessory parts

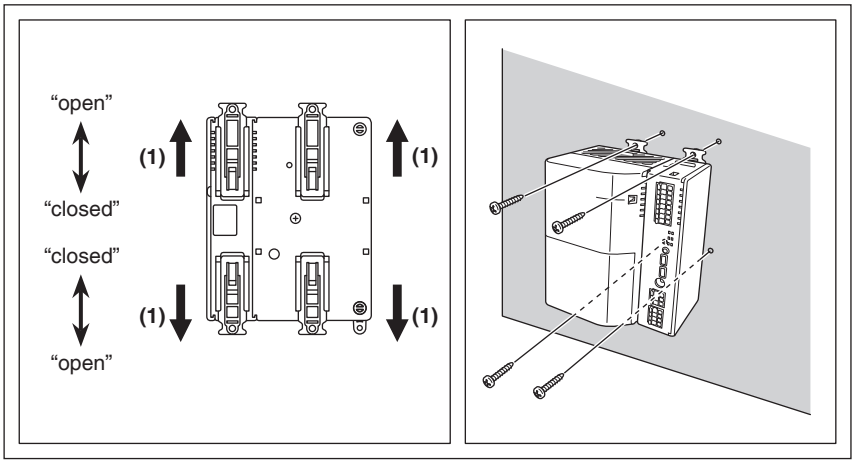
To mount to the control enclosure, use the following accessory mounting parts.

- Wood screw (3 mm diameter x 15 mm length) for securing the body, 4 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>



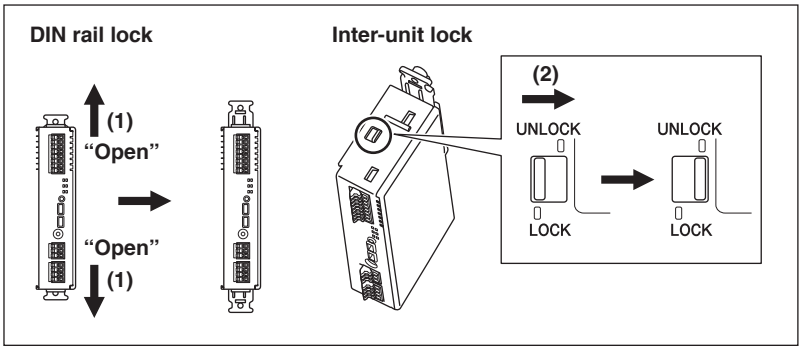
2.3 Adding a DGE601A53

This section describes how to add a DGE601A53.

Preparation of the SLOT

(1) Set the upper and lower DIN rail locks to **"Open"** position.

(2) Set the upper and lower inter-unit locks of the DGE601A53 to the **"UNLOCK"** position.

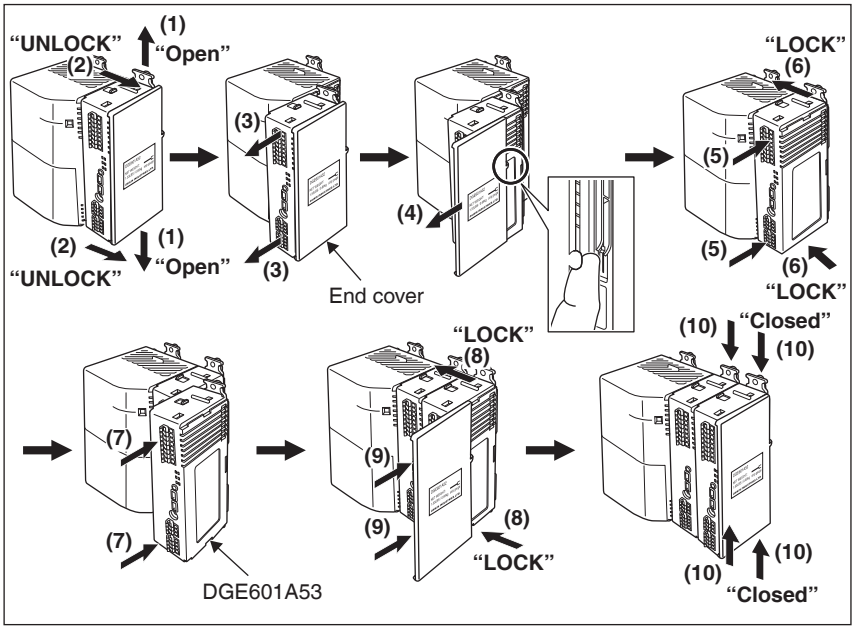


Steps for adding the DGE601A53

DIN rail mounting

(1) Set the upper and lower DIN rail locks to the **"Open"** position on the DGE601A53 which is furthest from the DGE601A51 or iTM.
(2) Set the upper and lower inter-unit locks to **"UNLOCK"**.
(3) Pull out the DGE601A53 a little bit.
(4) While pushing the knob attached to the edge of the end cover outward with your finger, pull the end cover off and remove it.
(5) Return the DGE601A53 to the original position.
(6) Set the upper and lower inter-unit locks to **"LOCK"**.
(7) Slide in the DGE601A53 to be added along the SLOT rail.
(8) Set the upper and lower inter-unit locks to the **"LOCK"** position.
(9) Attach the end cover.
(10) Set all the upper and lower DIN rail locks to the **"Closed"** position.

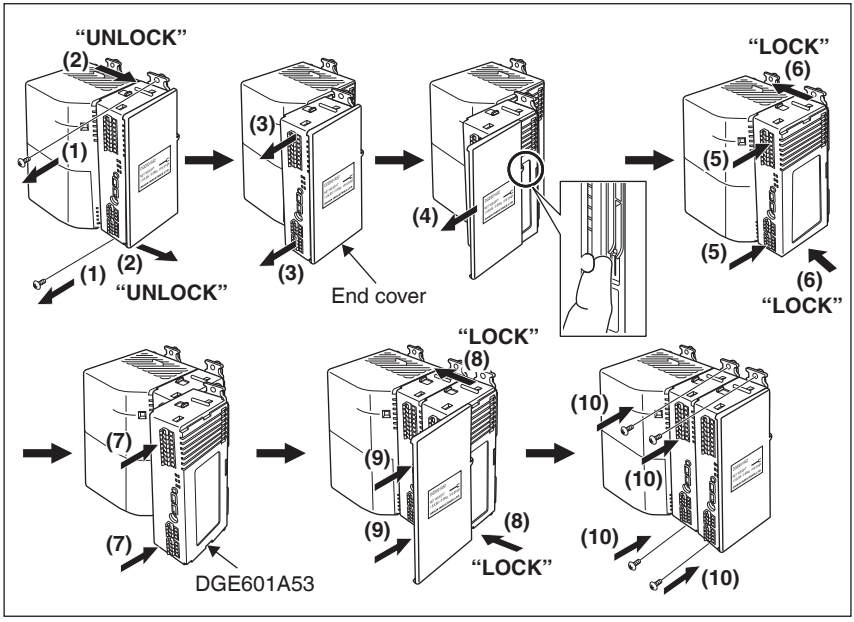
Steps for adding the SLOT



When mounting with screws

(1) Remove the upper and lower DIN rail lock screws of the DGE601A53 which is furthest from the DGE601A51 or iTM.
(2) Set the upper and lower inter-unit locks to **"UNLOCK"**.
(3) Pull out the DGE601A53 a little bit.
(4) While pushing the knob attached to the edge of the end cover outward with your finger, pull the end cover off and remove it.
(5) Return the DGE601A53 to the original position.
(6) Set the upper and lower inter-unit locks to **"LOCK"**.
(7) Slide in the DGE601A53 to be added along the SLOT rail.
(8) Set the upper and lower inter-unit locks to the **"LOCK"** position.
(9) Attach the end cover.
(10) Secure all the screw holes on the upper and lower DIN rail locks with screws.

Steps for adding the SLOT



NOTE

- Turn OFF the **[TERM]** switch of the DGE601A53 which originally had the **[TERM]** switch set to ON.
- Turn ON the **[TERM]** switch of the DGE601A53 which is furthest from the DGE601A51 or iTM.

3 Electrical Wiring

This chapter describes the procedure for connecting the DGE601A52 to the DGE601A51, DAIKIN air conditioners, and other equipment. In addition to air conditioners, the DGE601A52 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 to the DGE601A51, or equivalent equipment
- 3.2 Connecting DIII-NET compatible air conditioners
- 3.4 Connecting the power supply

Equipment-specific procedures

- 3.3 Connecting an emergency stop input device or electric energy meters

WARNING

- **Do not turn on the power supply before all wire connections are completed. When there is an earth leakage breaker or a local switch installed in the circuit, make sure that the circuit is securely interrupted. Otherwise, an electric shock may result.**
- **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 authorised 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 DGE601A52 will malfunction.

3.1 Connecting to the DGE601A51, or equivalent equipment

The DGE601A52 is an option for systems featuring the DGE601A51 or iTM, allowing these systems to control more air conditioners than would otherwise be possible. As an option, the DGE601A52 cannot be used standalone, and requires a connection to the DGE601A51 or iTM.

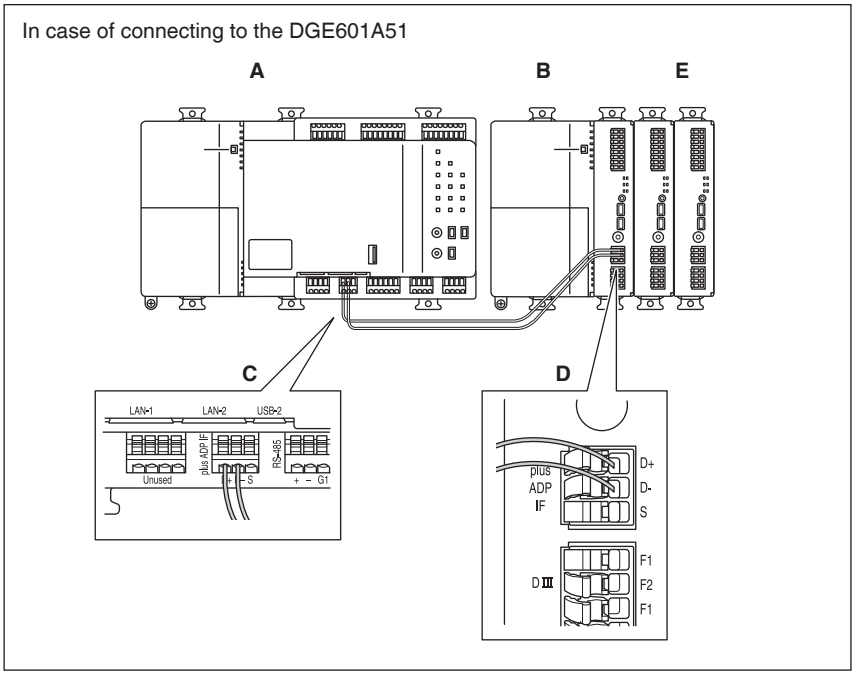
WARNING

- **Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.**
- **Do not clamp high-current cables together with low-current cables.**

3.1.1 Terminals location and schematic connection diagram

Connect the terminals located in the **[plus ADP IF]** section of the DGE601A52 to the corresponding terminals located in the **[plus ADP IF]** section of your DGE601A51.
Note that these terminals have polarity.
Be sure to connect the positive wire to the **"D+"** terminal and the negative wire to the **"D–"** terminal, respectively.
In addition, the DGE601A51 must be connected as a terminal to the wiring.

<Terminals location and schematic connection diagram>



A DGE601A51 (For details, refer to **"DGE601A51 Installation Manual (3P581074-1)"**)

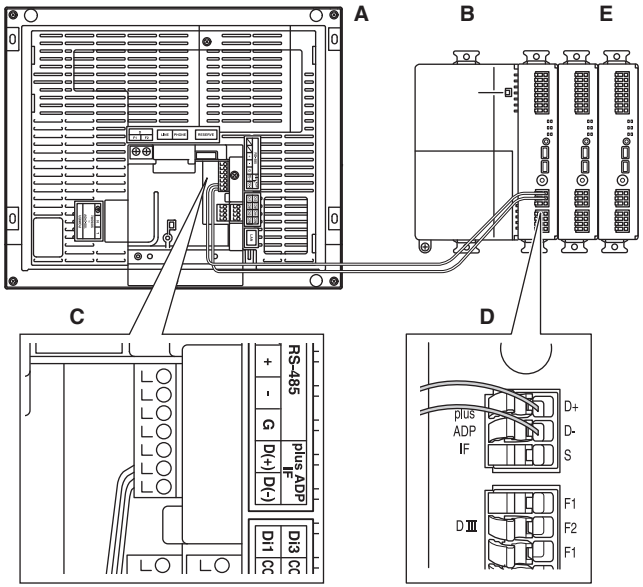
B DGE601A52

C plus ADP IF (DGE601A51)

D plus ADP IF (DGE601A52)

E DGE601A52/DGE601A53 on which termination resistor must be enabled
(For details on DGE601A53, refer to **"DGE601A53 Installation Manual (3P583694-4)"**.)

In case of connecting to the iTM



A iTM
(For details on iTM, refer to **"intelligent Touch Manager Installation Manual (3P291714-1)"**)

B DGE601A52

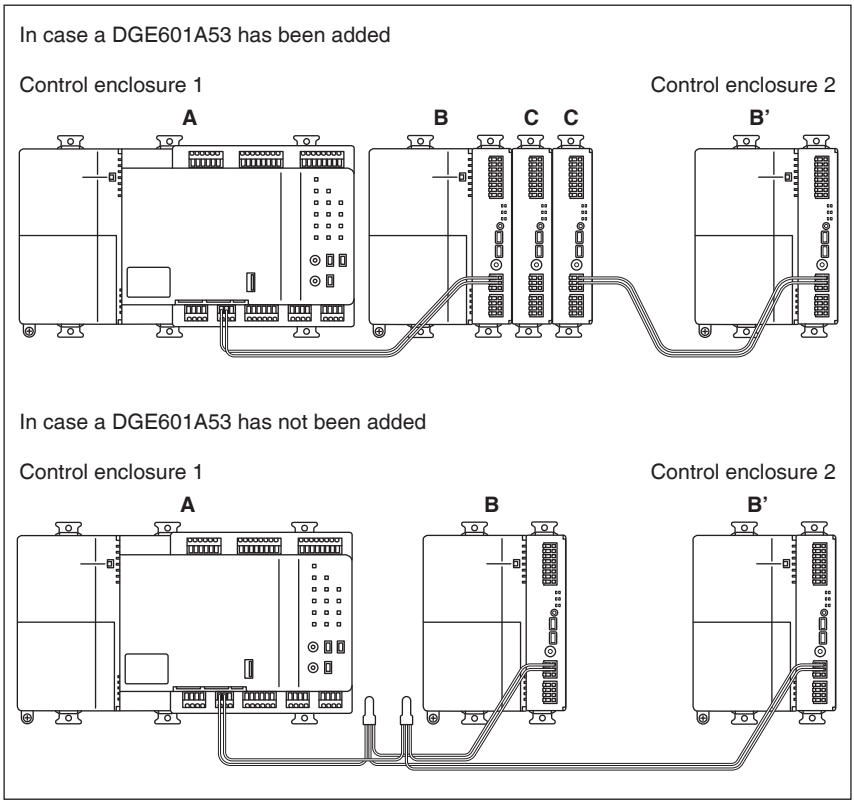
C plus ADP IF (iTM)

D plus ADP IF (DGE601A52)

E DGE601A52/DGE601A53 on which termination resistor must be enabled
(For details on DGE601A53, refer to **"DGE601A53 Installation Manual (3P583694-4)"**.)

When adding a DGE601A52 in another location
In case a DGE601A53 has been added, wire from the last SLOT.
In case a DGE601A53 has not been added, tighten the wires together.

<Schematic connection diagram of adding a DGE601A52>



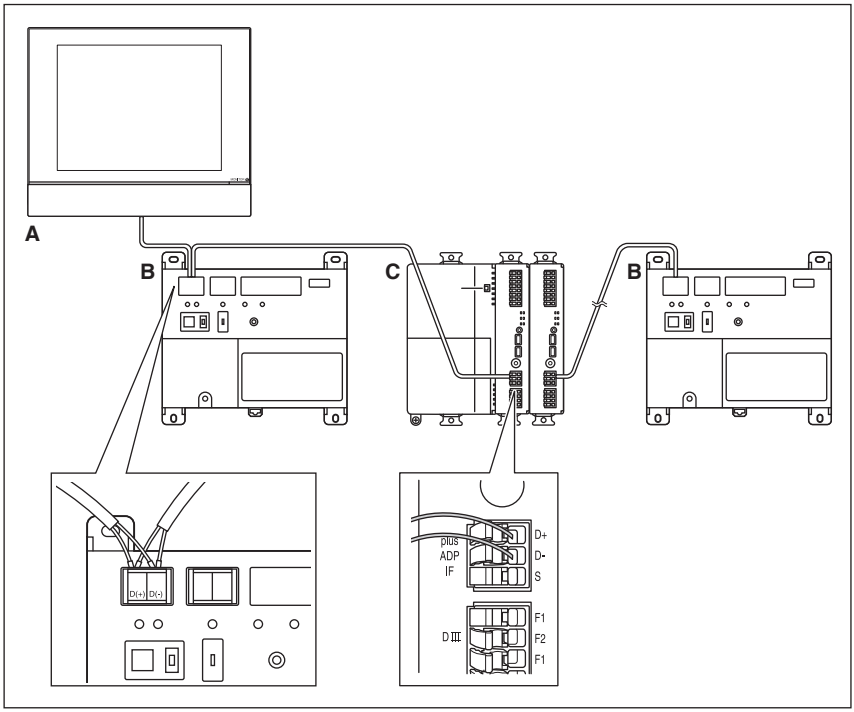
A DGE601A51/iTM

B DGE601A52

B' Added DGE601A52

C DGE601A53

In case of connecting to the iTM, the DGE601A52 and the iTM plus adaptor can be used together.



A iTM

B iTM plus adaptor

C DGE601A52

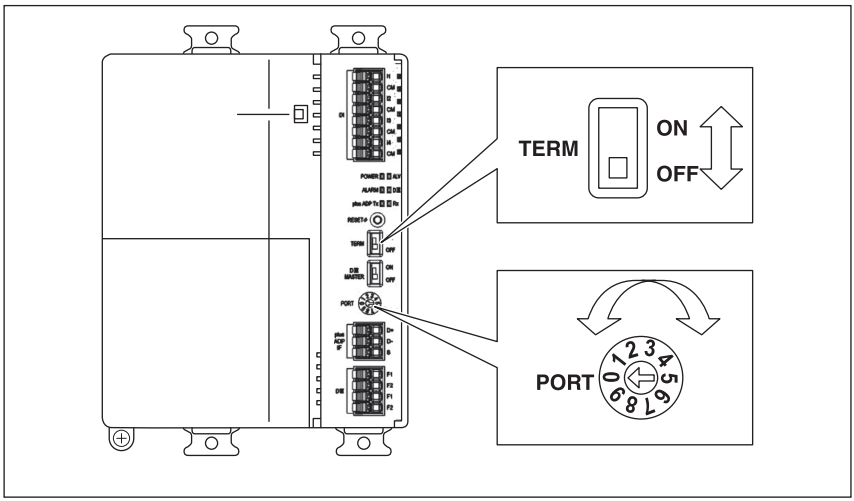
3.1.2 Wiring specifications

- Cable type: CPEV or FCPEV cable
- Core thickness: ϕ0.65 - 0.9 mm
- Cable length: 50 m or less

3.1.3 Address setup and termination resistor

For each DGE601A52, a unique address needs to be set.
In case of connecting to the DGE601A51, set a number between **"3"** and **"8"**.
In case of connecting to the iTM, set a number between **"2"** and **"8"**.
Use the **[PORT]** switch located on the front face of each DGE601A52 to set an address.
Moreover, the termination resistor needs to be set for the DGE601A52 which is the furthest DGE601A52 from the DGE601A51 or iTM.
To set the termination resistor, change the position of the **[TERM]** switch located on the front face of the DGE601A52 to the **[ON]** position.

<PORT(ADDRESS) and TERM>



NOTE

If both the **[ALV]** and **[ALARM]** LEDs are lit when powering on the unit after installation, then probably something went wrong with the PORT (address) assignment:

- You set an invalid PORT address (in case of DGE601A51, **"0"**, **"1"**, **"2"**, and **"9"** are not allowed, and in case of iTM, **"0"**, **"1"**, and **"9"** are not allowed.)
- You used the same PORT (address) 2 times.

Check and correct the PORT (address), then power on the DGE601A52 again and restart.
Check the status of the **[ALV]** and **[ALARM]** LEDs.

3.2 Connecting DIII-NET compatible air conditioners

DIII-NET is an original DAIKIN air conditioner communication protocol.
Using DIII-NET, you can centrally control multiple DIII-NET-compatible air conditioning devices by connecting them to your DGE601A51 or iTM.
1 DGE601A52 allows you to connect 64 additional air conditioners.
Using all 8 DIII ports, you can connect and control a total of 512 indoor units, at maximum.

WARNING

- **Be sure to perform 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.**

NOTE

The setting range of DIII address for the air conditioners controlled via the DGE601A52 is from **"1-00"** to **"4-15"**.
The DGE601A51 or iTM adds a DIII-NET port number to each address for identification. For example, **"2:1-00"** and **"3:1-02"**.

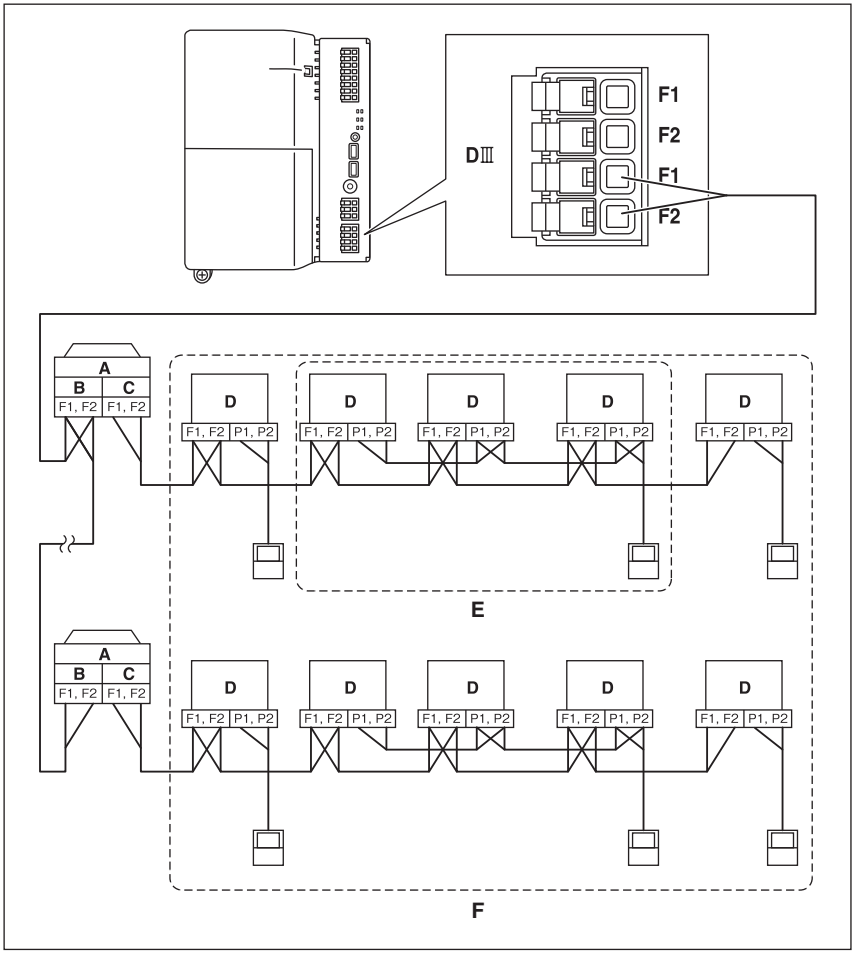
3.2.1 Terminals location and schematic wiring diagram

To connect the DIII-NET communication line, use the **[F1]** and **[F2]** terminals that are located on the front face and indicated with **[DIII]**. These 2 terminals do not have polarity.
An example of connecting more than 2 air conditioning devices is shown in the following schematic connection diagram.

WARNING

Make sure that the wires that you connect to the [F1] and [F2] terminals are not power wires.
Inadvertently connecting power wires to these terminals will result in a failure of the air conditioner or DGE601A52.

<Schematic connection diagram with air conditioners>



A Outdoor unit

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.

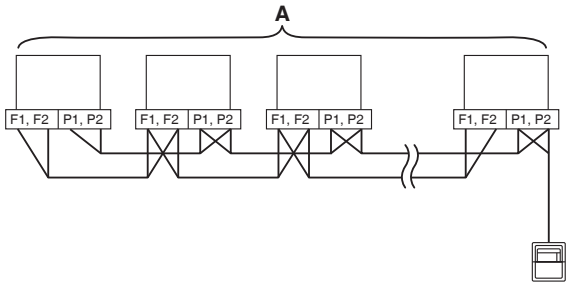
F A remote controller group can connect a maximum of 64 groups (64 indoor units) to each DIII-NET communication line.

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

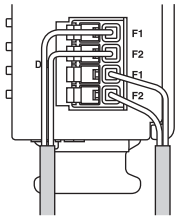
NOTE

<DIII-NET connecting>

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

  Connecting multiple wires to 1 terminal on the DGE601A52 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.



3.2.2 Wiring specifications

- Cable type: 2-core vinyl-insulated vinyl-sheathed cable/vinyl cabtyre cable or 2-core shielded cable
- Core thickness: 0.75 - 1.25 mm²

⚠ CAUTION

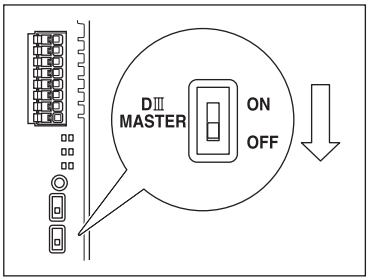
- **Do not use multicore cables with 3 or more cores.**
- **When using a shielded cable, connect only one end of each shield wire to the earth.**
- **Keep at a distance of 50 mm or more from power supply cable.**
- **The maximum wire distance must be kept to 1000 m or less, and the total wire length must be limited to 2000 m or less.**
  However, when using a shielded cable, the total wire length must be kept to 1500 m or less.

3.2.3 Precautions for using multiple centralised controllers

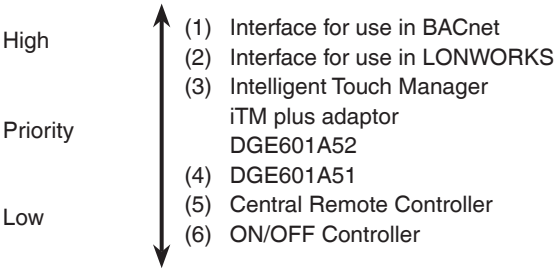
"Centralised controller" refers to the equipment (e.g. the DGE601A51) that controls multiple air conditioners. Besides the DGE601A51, DAIKIN's product portfolio includes a wide range of centralised controllers suitable for different applications or building sizes, which can be used in combination to construct an optimal air conditioning control system. If multiple centralised controllers are connected on the DIII-NET network, 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 MASTER>

The **[DIII MASTER]** switch is located on the front face of the DGE601A52. The switch in the **[ON]** position sets it as **"MAIN"** and the switch in the **[OFF]** positions sets it as **"SUB"**.



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



Centralised controllers that cannot be connected to the same network as the DGE601A52:

- CALCULATE UNIT
- intelligent Processing Unit
- Parallel Interface
- Intelligent Touch Controller
- DIII-NET Plus Adapter
- Residential Central Remote Controller
- Schedule Timer
- Wiring Adaptor for Electrical Appendices (1) (KRP2)

3.3 Connecting an emergency stop input device or electric energy meters

The DGE601A52 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.

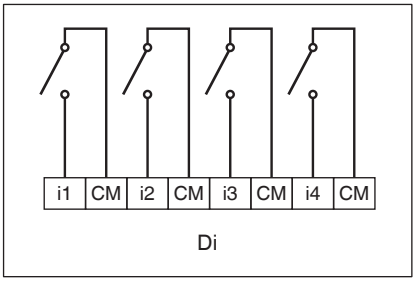
WARNING

- **Be sure to perform the operation during power-off conditions. Not doing so may cause an electric shock.**
- **Do not clamp high-current cables together with low-current cables.**

3.3.1 Terminals location and schematic connection diagram

Connect the contact input lines or pulse signal lines to the **[i1] [i2] [i3] [i4] [CM]** terminals of Di located on the upper part of the front face.
Each terminal has a different function.
[i1] [i2] [i3] [i4] Pulse input, contact signal input
[CM] Common
However, the function settings for terminals (**[i1]** to **[i4]**) can be changed later. For how to change the function settings, refer to the **"Commissioning Manual"**.

<Schematic drawing of Di connection>



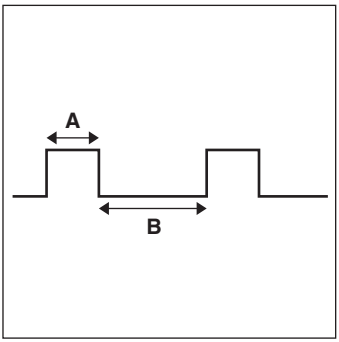
NOTE

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

3.3.2 Wiring specifications

- Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- Core thickness: CPEV cable, FCPEV cable: ϕ0.65 - 0.9 mm
  CVV(S) cable: 0.75 - 1.25 mm^2
- Cable length: 200 m 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 energisation 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.

3.4 Connecting the power supply

Connect the DGE601A52 to a power supply.

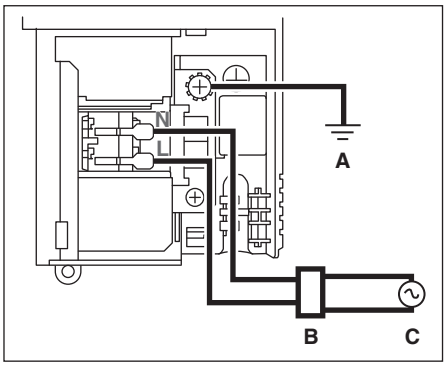
WARNING

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.

3.4.1 Terminals location and schematic connection diagram

Connect the power supply to the three terminals, L (Live), N (Neutral), and earth.

<Schematic power connection diagram>



A Earth

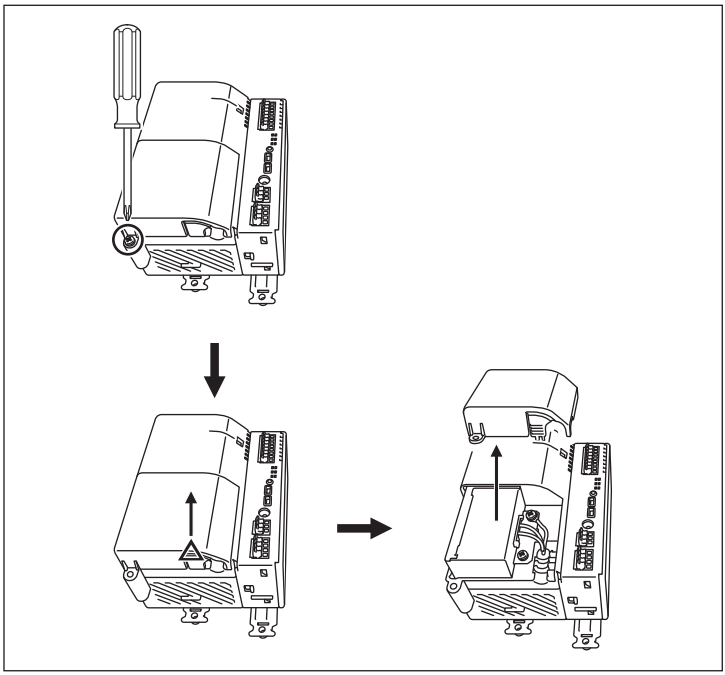
B Earth leakage breaker

C Power supply 100 - 240 V AC 50/60 Hz

Steps for connection

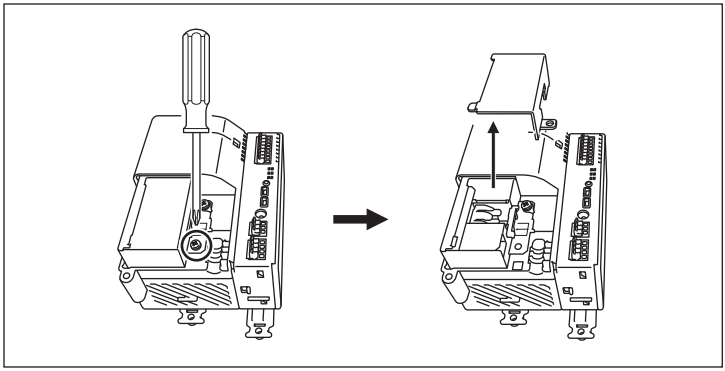
(1) Remove the screw from the power supply cover, push the area marked with a triangle in the direction of the arrow, and remove the cover.

<Removing the power supply cable cover>



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

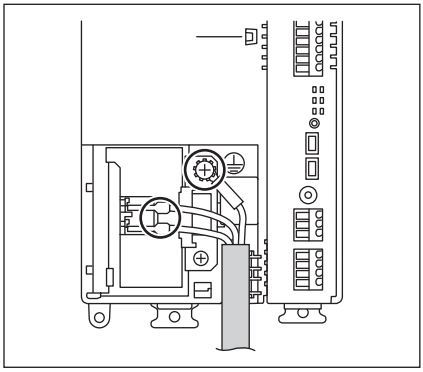
<Removing the power supply terminal block cover>



WARNING

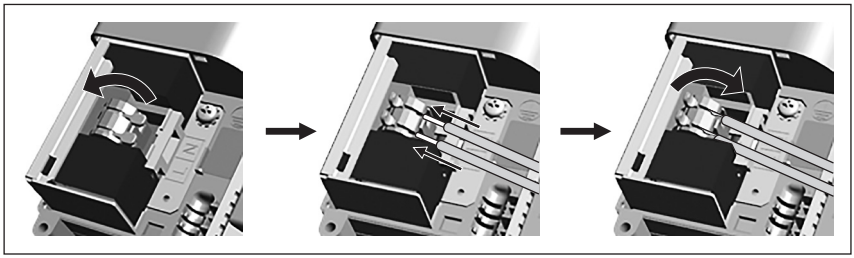
HAZARDOUS VOLTAGE
Can cause electric shock.
Be sure to turn the power supply off before removing the power supply terminal block cover.

<Connecting the power supply wire>



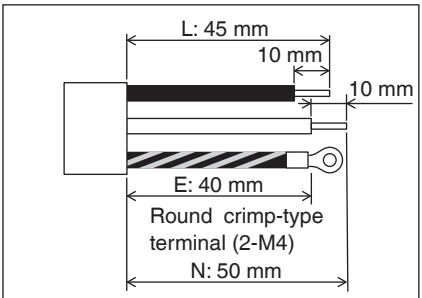
How to connect to the power supply terminal block
Lift the knob on the power supply terminal block to set it to the open position, then insert the L wire and N wire into the terminal block. Continue to push up the knob until you feel it click. After insertion, push down the knob on the power supply terminal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

<Power supply terminal block>



Peel away the sheath and coating of the power wire to match the dimensions shown below. You can also refer to a **[strip gauge]** on the terminal block cover for the coating peeling allowance.

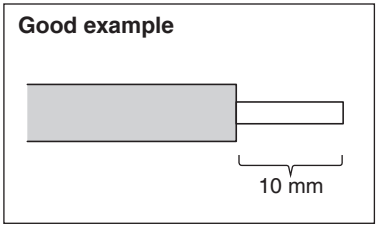
<Power wire (sheath, coating)>

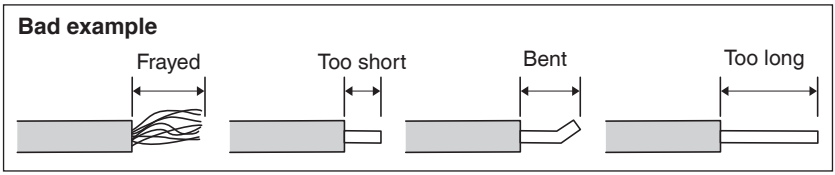


*** Use the included round crimp-type terminal (2-M4) for the end of the earth wire only (field supply possible)**

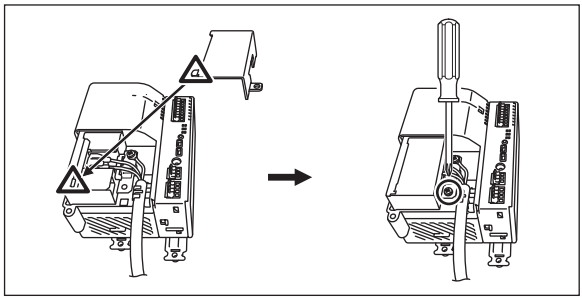
<Terminal block cover>

When peeling, be careful not to scratch the finish of the exposed part of the cable.



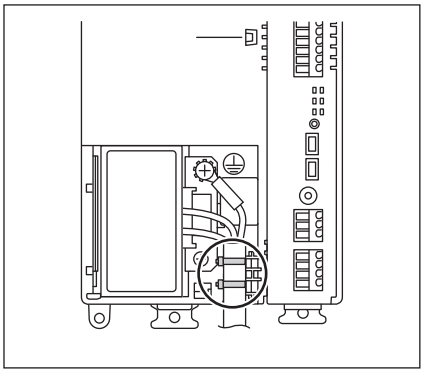


(3) While engaging the tab in the area marked with a triangle, attach the terminal block cover and secure it with the screw.

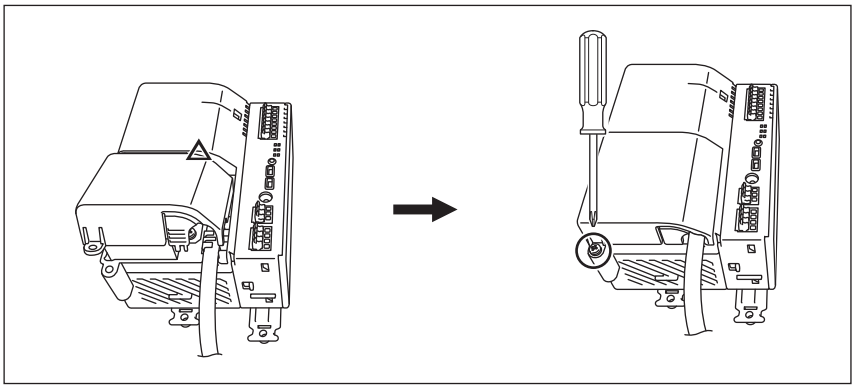


(4) Secure the sheath portion in 2 places with clamps.
Facing the front of the unit, insert the clamps from the right side and secure.
Firmly tighten until the power wire does not move anymore.

<Secure with clamps>



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



3.4.2 Wiring specifications

- Cable type: Ordinary tough rubber sheathed cord (60245 IEC 53) equivalent or higher
  Ordinary polyvinyl tough chloride sheathed cord (60227 IEC 53) equivalent or higher
- Core thickness: Power wire: 1.0 - 2.0 mm²
  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 100 to 240 V AC (at 50/60 Hz)
- Electric power consumption: Less than 3 W (per 1 unit)
- Earth leakage breaker: Rated current 10 A (Rated sensitivity current 30 mA operating time 0.1 sec or less)
  3 mm minimum contact gap and all-pole disconnection

⚠ CAUTION

- **Be sure to install an earth leakage breaker capable of shutting down the power supply to the entire system, as required.**
- **Turning on/off the earth leakage breaker turns on/off the power supply to the DGE601A52.**
- **Select an earth leakage breaker that offers protection against overcurrent and short-circuit. When the earth leakage breaker only serves as earth device, make sure to also install a wiring interrupter.**
- **The power supply requires earth leakage breaker installation and earth wire connection. After installing an earth leakage breaker, be sure to connect only the DGE601A52 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 1.0 - 2.0 mm² that complies with local standards and is rated at 300 V AC or higher.

4 Setting addresses for each air conditioner

The **"DIII-NET system"** makes use of **"DIII-NET addresses"**, unique control addresses used to identify each air conditioning group that is part of the system.
You set **"DIII-NET 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.

4.1 Setting addresses with wired remote controller (BRC1H*)

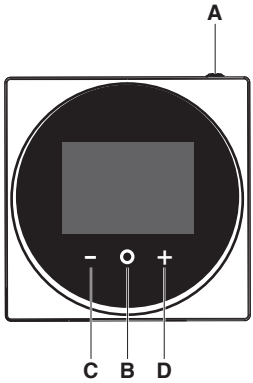
This section describes wired remote controller BRC1H*.

NOTE

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

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 addresses

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

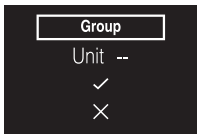
<Step 4>

NOTE

[Group] is not displayed when the DGE601A51 is not powered on.
Power on the DGE601A51 and wait for a while before trying to operate the remote controller.
[Group] is also not displayed when the DGE601A51 is not communicating with the indoor units normally. Check that the cables are connected correctly.

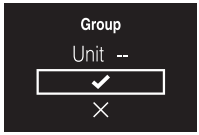
5. Using the − and + buttons, move to ✓.

<Step 5>



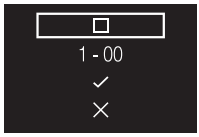
6. Press the ○ button.
   The current address setting is displayed.

<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 address.)

<Step 8>

9. Press the ○ button.

<Step 9>

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

<Step 10>

11. Press the ○ button.

<Step 11>

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

<Step 12>

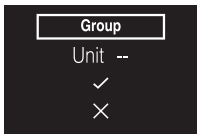
13. Press the ○ button.

<Step 13>

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

<Step 14-1>

<Step 14-2>

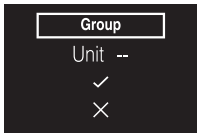


Setting "Remote controller group SUB" DIII-NET addresses

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

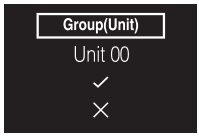
1. Press the ○ button.

<Step 1>



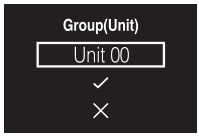
2. Using the − and + buttons, move to Group(Unit).
   Press the ○ button.

<Step 2>



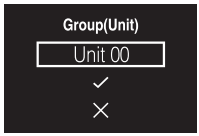
3. Using the − and + buttons, move to the Unit 00.

<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 address.)

<Step 9>

10. Press the ○ button.

<Step 10>

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

<Step 11>

12. Press the ○ button.

<Step 12>

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

<Step 13>

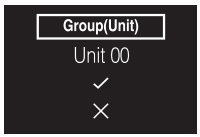
14. Press the ○ button.

<Step 14>

15. Using the − and + buttons, move to ✓.
Press the ○ button. (The DIII-NET 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.

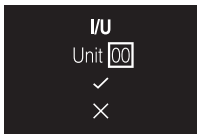
<Step 3>

4. Press the ○ button.

<Step 4>

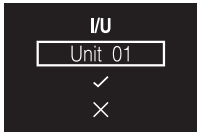
5. Using the − and + buttons, select the Unit No. you want to set.

<Step 5>



6. Press the ○ button.

<Step 6>

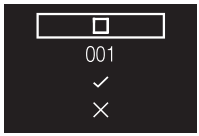


7. Using the − and + buttons, move to ✓.
   Press the ○ button. (The unit No. is confirmed.)

<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>

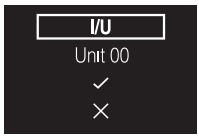
14. Press the ○ button.

<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 **"4.3 Setting 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>

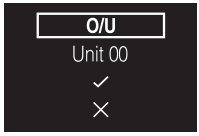
10. Press the ◯ button.

<Step 10>

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

<Step 11-1>

<Step 11-2>

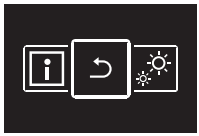


12. Using the − and + buttons, move to ☒
Press the ○ button.

<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>

4.2 Setting addresses with navigation remote controller (BRC1E*)

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

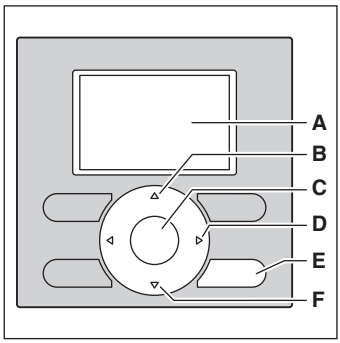
NOTE

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

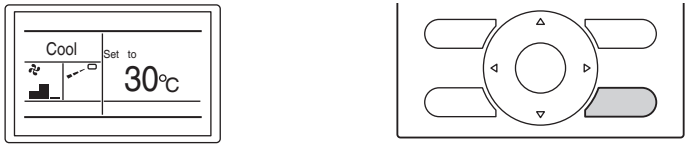
You cannot perform the following procedure when the display backlight is off.
In this case, press any key to turn on the backlight before starting the procedure.

Setting "Remote controller group MAIN" DIII-NET addresses

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

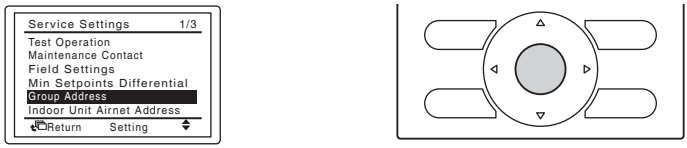
1. Press and hold the Cancel button for 4 seconds or more.
   The **[Service Settings]** menu is displayed.

<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

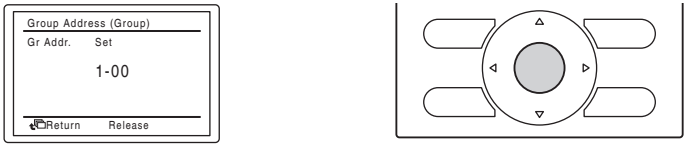
The **[Group Address]** menu is not displayed when the DGE601A51 is not powered on.
Power on the DGE601A51 and wait for a while before trying to operate the remote controller. The **[Group Address]** menu is also not displayed when the DGE601A51 is not communicating with the indoor units normally. Check 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>

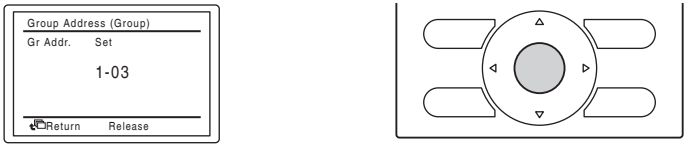


5. Using the Up/Down buttons, select the address you want to set.

<Step 5>

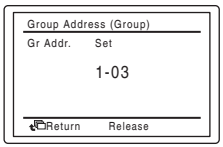
6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the DIII-NET address is set.

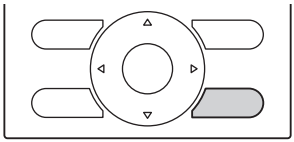
<Step 6>



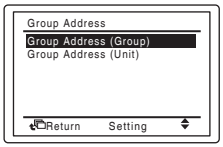
7. Press the Cancel button 1 time. You will now return back to the display shown in Step 7-2.

<Step 7-1>





<Step 7-2>

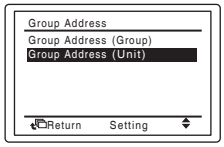


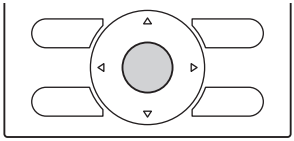
Setting "Remote controller group SUB" DIII-NET addresses

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

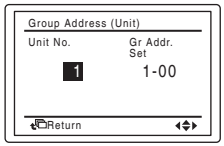
<Step 1>

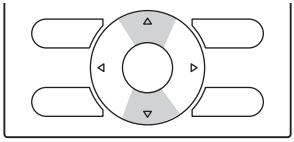




2. Using the Up/Down buttons, select the **[Unit No.]** you want to set.

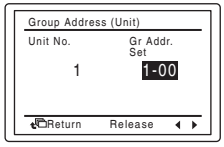
<Step 2>

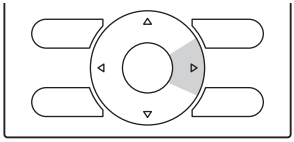




3. Press the Right button and move to the **[Gr Addr.]**.

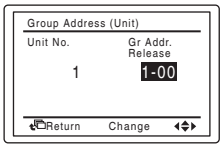
<Step 3>

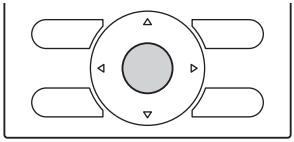




4. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

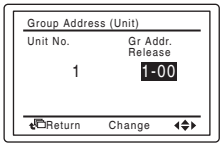
<Step 4>

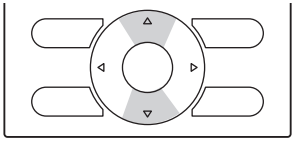




5. Using the Up/Down buttons, select the address you want to set.

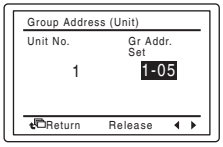
<Step 5>

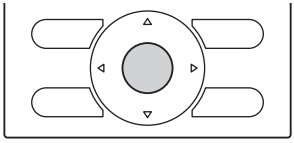




6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the DIII-NET address is set.

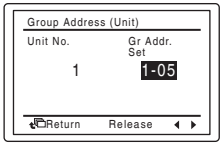
<Step 6>

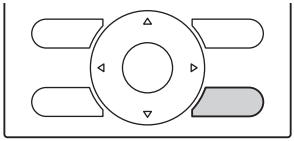




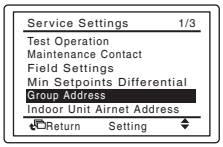
7. Press the Cancel button 2 times. You will now return back to the display shown in Step 7-2.

<Step 7-1>





<Step 7-2>

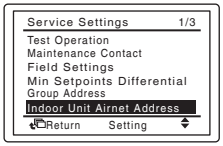


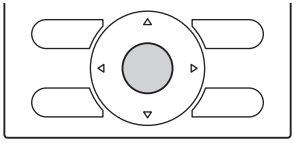
Setting indoor unit Airnet addresses

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.

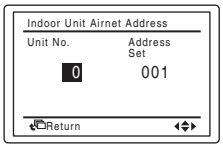
<Step 1>

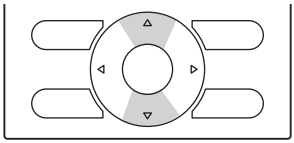




2. Using the Up/Down buttons, select the **[Unit No.]** you want to set.

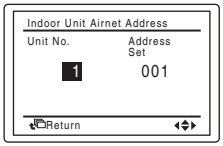
<Step 2>

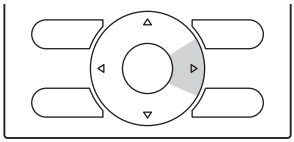




3. Press the Right button, move to the **[Address]**.

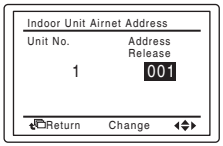
<Step 3>

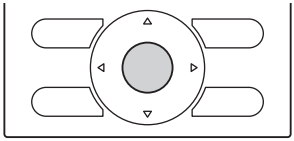




4. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

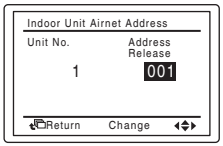
<Step 4>

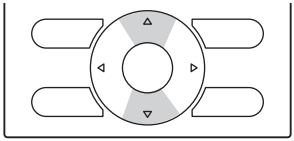




5. Using the Up/Down buttons, select the Airnet address you want to set.

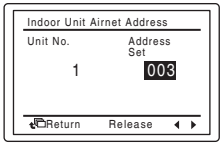
<Step 5>

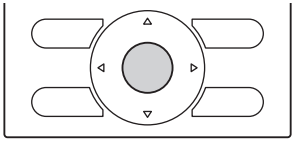




6. Press the Menu/OK button.
   The indication changes from **[Release]** to **[Set]**, and the Airnet address is set.

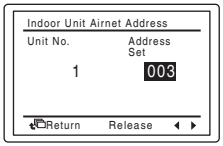
<Step 6>

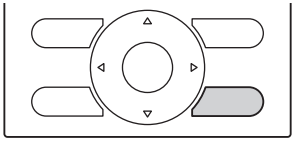




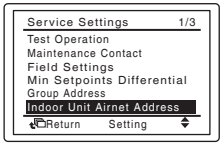
7. Press the Cancel button 1 time. You will now return back to the display shown in Step 7-2.

<Step 7-1>





<Step 7-2>



Setting outdoor unit Airnet addresses

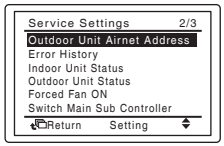
This section describes how to set outdoor unit Airnet addresses.

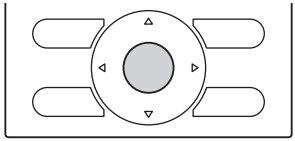
In the following cases, refer to **"4.3 Setting address on the outdoor unit"** and set an Airnet address for the outdoor unit.

- 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.

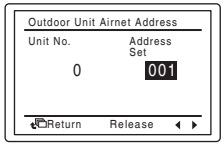
<Step 1>

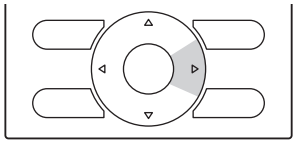




2. Press the Right button, move to the **[Address]**.

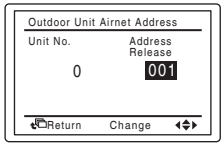
<Step 2>

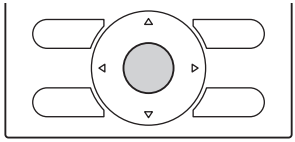




3. If an address is already **[Set]**, press the Menu/OK button to release the current address setting. The mode indication changes from **[Set]** to **[Release]**, and you are now ready to change the address.

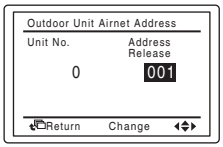
<Step 3>

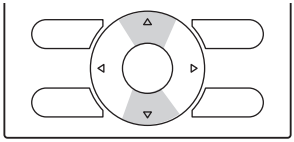




4. Using the Up/Down buttons, change the Airnet address.

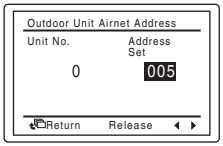
<Step 4>

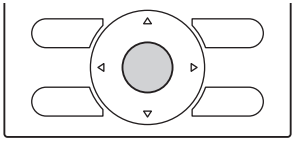




5. Press the Menu/OK button.
   The mode indication changes from **[Release]** to **[Set]**, and the Airnet address is set.

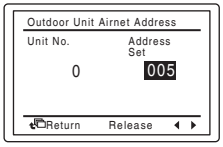
<Step 5>

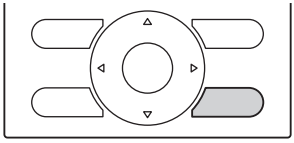




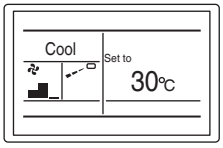
6. Press the Cancel button 2 times. You will now return back to the display shown in Step 6-2.

<Step 6-1>





<Step 6-2>

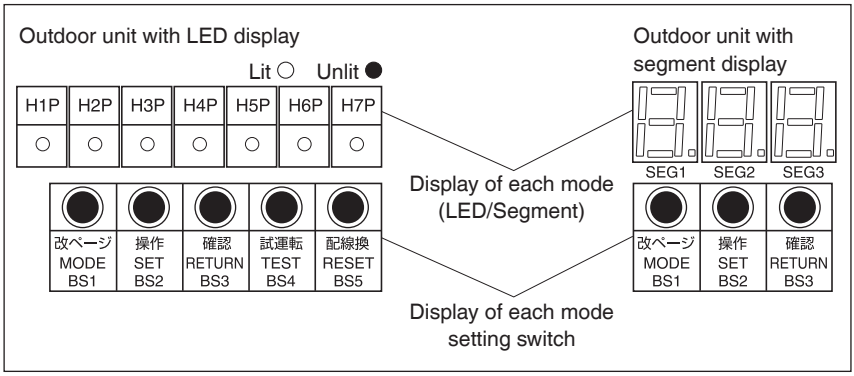


4.3 Setting address on the outdoor unit

Setup on the outdoor unit

To use the DGE601A51, 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>



4.3.1 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.

4.3.2 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		
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
demand setting (enabled)	○	●	●	●	●	○	●	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.

4.3.3 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		
	H1P	H2P	H3P	H4P	H5P	H6P	H7P	SEG1	SEG2	SEG3
Outdoor unit AIRNET address setting	○	●	●	○	○	●	○	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.

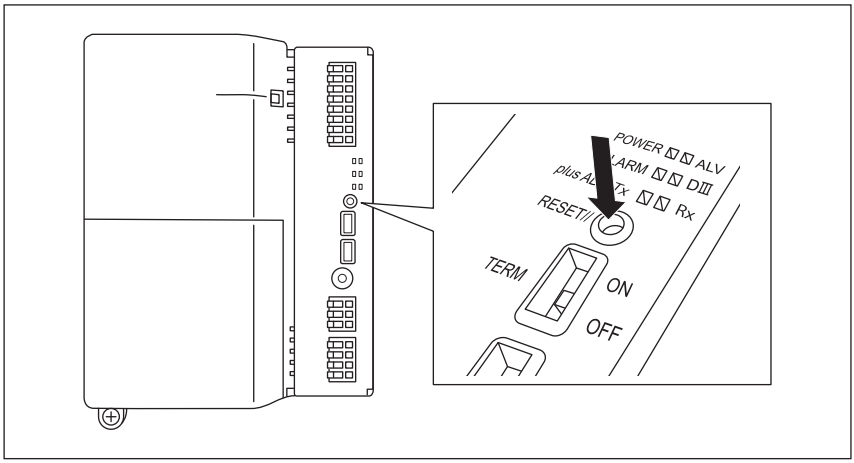
The installation work of DGE601A52 is complete.

5 Quick Operation Guide

5.1 Restarting the unit

The DGE601A52 can be restarted by pressing the **[RESET//]** button.
Operate the **[RESET//]** button using a thin rod or similar item.
Only the slot whose **[RESET//]** button has been pressed will restart.

<RESET>



CAUTION

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