DAIKIN

Installation Manual

3P583694-2E EM18A021C

3P583694-2E

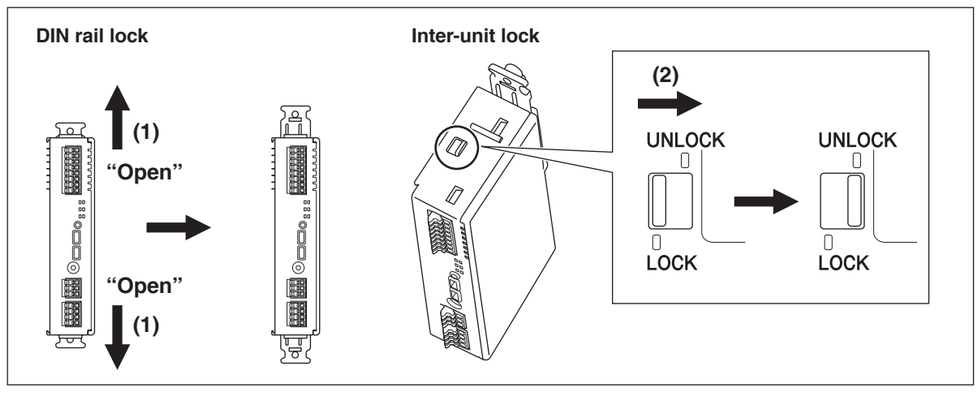
Model : DGE601A53 **<2>**

2 Adding a DGE601A53

This section describes how to add a DGE601A53.
In case of new installation, first add the DGE601A53 to the DGE601A52/DGE601A72.
After that, install both the DGE601A52/DGE601A72 and DGE601A53.

Preparation of the SLOT

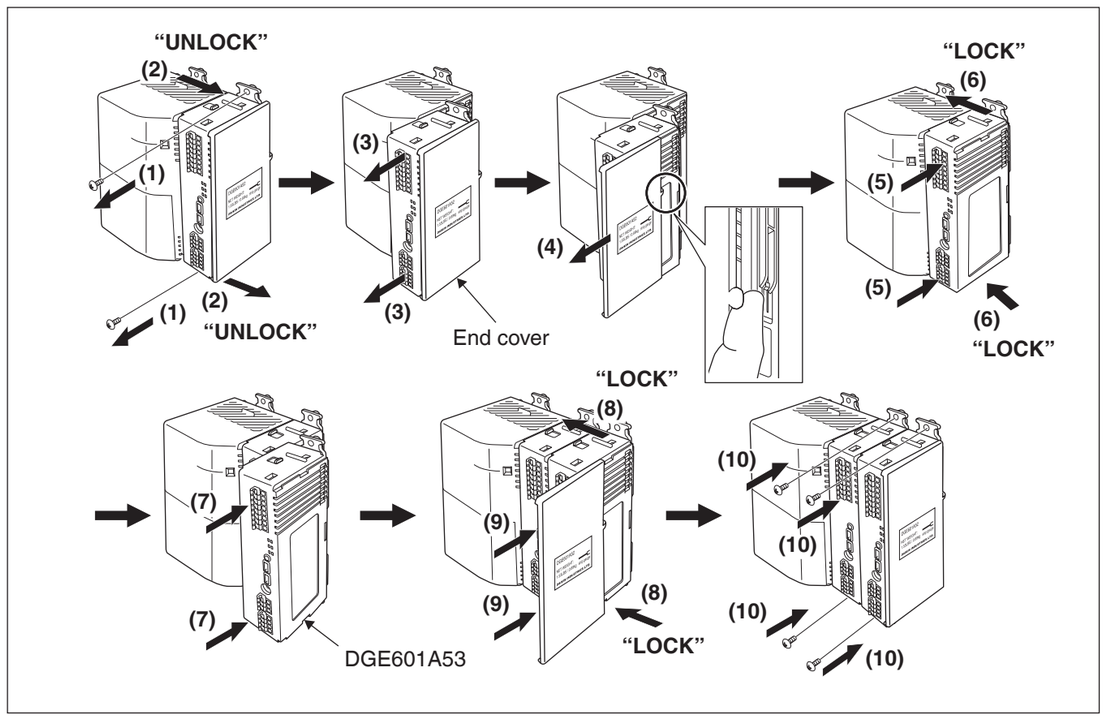
(1) Set the upper and lower DIN rail locks to **"Open"** position.
(2) Set the upper and lower inter-unit locks of the DGE601A53 to the **"UNLOCK"** position.



When mounting with screws

(1) Remove the upper and lower DIN rail lock screws of the DGE601A53 which is furthest from the DGE601A51/ DGE601A71 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

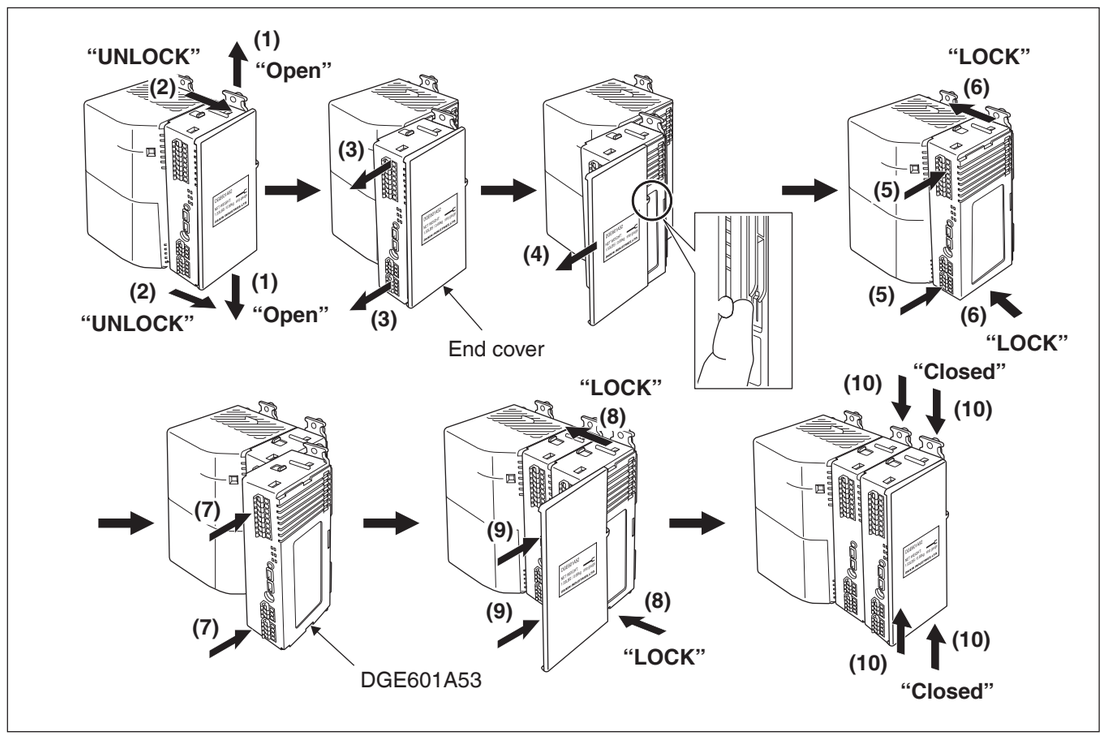
- Turn OFF the **[TERM]** switch of the DGE601A53 which originally had the **[TERM]** switch set to ON.
- Turn ON the **[TERM]** switch of the DGE601A53 which is furthest from the DGE601A51/DGE601A71 or iTM.

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/DGE601A71 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



3 Electrical Wiring

This chapter describes the procedure for connecting the DGE601A53 with the DGE601A52/DGE601A72, DAIKIN air conditioners, and other equipment.

Required procedures

- 3.1 Connecting DIII-NET-compatible air conditioners

Equipment-specific procedures

- 3.2 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 correct 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, the DGE601A52/ DGE601A72 or the DGE601A53 will malfunction.

NOTE

You do not need connect to wires to **"D+"** terminal, **"D-"** terminal in the **[plus ADP IF]** section of added DGE601A53.
These terminals are electrically connected to the slot on left side internally.

3.1 Connecting DIII-NET-compatible air conditioners

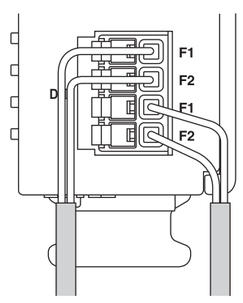
3.1.1 Terminals location

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.

NOTE

- When connecting multiple wires to the terminal of DIII-NET
  Connecting multiple wires to 1 terminal on the DGE601A53 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.

<DIII-NET connecting>



3.1.2 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, AWG 18-16

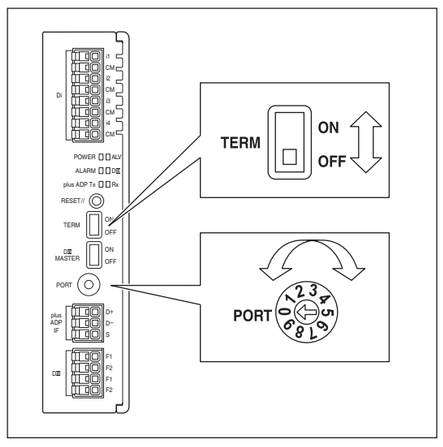
⚠ WARNING

- **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.**
- **The maximum wire distance must be kept to 1000 m (3280 ft.) or less, and the total wire length must be limited to 2000 m (6561 ft.) or less.**
  However, when using a shielded cable, the total wire length must be kept to 1500 m (4921 ft.) or less.

3.1.3 Address setup and termination resistor

For each DGE601A53, a unique address needs to be set.
In case of connecting to the DGE601A51/DGE601A71, 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 DGE601A53 to set an address. Moreover, the termination resistor needs to be set for the DGE601A53 which is the furthest from the DGE601A51/DGE601A71 or iTM.
To set the termination resistor, change the position of the **[TERM]** switch located on the front panel of the DGE601A53 to the **[ON]** position.

<DGE601A53 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/DGE601A71, **“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) twice.

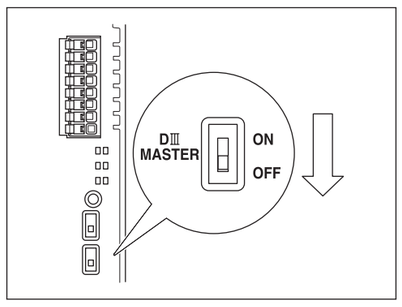
Check and correct the PORT (address), then power on the DGE601A52/DGE601A72 again and restart.
Check the status of the **[ALV]** and **[ALARM]** LEDs.

3.1.4 Precautions for using multiple centralized controllers

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/DGE601A72. The switch in the **[ON]** position sets it as **“MAIN”** and the switch in the **[OFF]** position sets it as **“SUB”**.

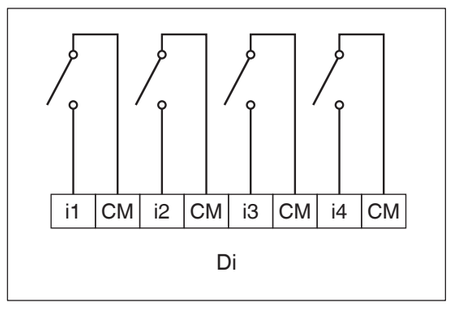


3.2 Connecting an emergency stop input device or electric energy meters

3.2.1 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.

<Schematic drawing of Di connection>



[i1] [i2] [i3] [i4] Pulse input, contact signal input
[CM] Common

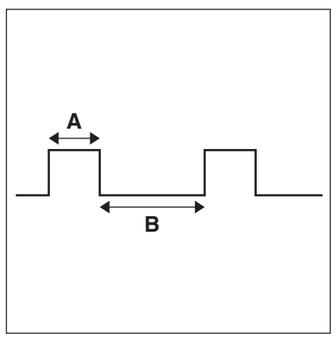
NOTE

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

3.2.2 Wiring specifications

- Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- Core thickness: CPEV cable, FCPEV cable: ϕ0.65-0.9 mm, AWG 22-19
  CVV(S) cable: 0.75-1.25 mm², AWG 18-16
- Cable length: 200 m (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 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.

4 Setting addresses for each air conditioner

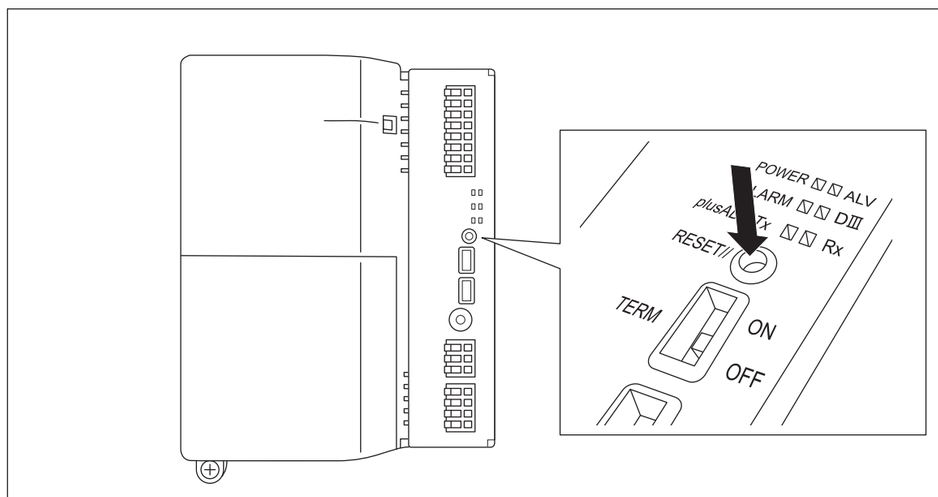
To control and communicate with the air conditioners, a DIII-NET address needs to be set for each air conditioner.
For detailed instructions on how to set addresses, refer to the **“DGE601A52 Installation Manual (3P581074-2)” or “DGE601A72 Installation Manual (3P581074-6)”**.

The installation work of DGE601A53 is complete.

5 Quick Operation Guide

5.1 Restarting the unit

The DGE601A53 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.



⚠ CAUTION

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

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