

MHI

Manual No. '12-SC-T-184

TECHNICAL MANUAL

Collection data

AIR-CONDITIONER CONTROL SYSTEM

**INTERFACE KIT
SC-GIFN-E**

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General Purpose Interface for SC-GIFN-E(Optional Parts)

- Be sure to read this manual before starting installation, and follow the instructions.
- Refer also to the instruction manuals for the indoor unit and outdoor unit.

Safety Precautions

- Be sure to read this section thoroughly and strictly follow the installation instructions.
- Precautions have been classified under "⚠ WARNING" and "⚠ CAUTION." Items that have a high risk of leading to serious consequences, such as death and injury, when installation is performed improperly are listed in the "⚠ WARNING" section. Note that it is possible that the items listed in the "⚠ CAUTION" section may also lead to serious consequences depending on conditions. Items in both sections cover important safety information. Please abide by them.
- After installation, perform a test run to check that there are no abnormalities. Then, explain the operating procedure to the customer according to the instruction manual. Ask the customer to save this instruction manual.
- To perform maintenance on the general purpose machine, turn off the power in advance.

⚠ WARNING

- Ask your dealer or a professional to have the product installed. If you install the product incorrectly, electric shock or fire may result.
- Follow the instructions in this manual to securely install the product. Incorrect installation can cause electric shock or fire.
- Be sure to use the supplied accessories and specific components for the installation. If you don't use specific components, electric shock or fire may result.
- Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country. Incorrect construction can cause electric shock or fire.
- Use appropriate wires and make secure connections. Make sure that external force from wires is not applied to terminals. Incomplete connections can cause heating or fire.

⚠ CAUTION

- Ground the product.
Do not connect the ground wire to gas piping, water piping, lightning rod, or grounding wire of telephones. Incomplete grounding can cause electric shock.
- Do not install the product in the following places.
 1. An environment filled with oil or an environment where oil spray or steam is abundant, such as a kitchen.
 2. An environment where sulfuric acid gas or other corrosive gases are present.
 3. An environment where machines that generate electromagnetic waves are present. Electromagnetic waves may cause errors in the control system, hindering proper operation.
 4. An environment where flammable gases may leak or an environment where volatile flammable substances such as thinner and gasoline are handled. If such gases leak and accumulate around the device, ignition may result.

1 Applicable Models

General purpose equipment such as PAC for industry, pumps, and fans

2 Accessories (Check the following accessories.)

Interface, four attachment screws (W101D45×016), and instruction manual

3 Feature

You can start/stop and monitor (operation and error display) the applicable models indicated in 1 from the centralised controller.

4 Model

SC-GIFN-E , AC220V-240V power supply

5 Control Switch

You can use SW3 and SW4 on the interface PWB Assy to change the following control parameters.

Change them at the site if necessary. We recommend that you use a precision screwdriver to change the settings.

Switch	Symbol	Setting	Control detail
SW3	1	ON	Old superlink connection (*1)
		OFF(factory setting)	New superlink connection
	2	ON	Hundred's place[1]
		OFF(factory setting)	Hundred's place[0]
SW4	1	ON	Pulse output (*2)
		OFF(factory setting)	Level output
	2	ON	Reserved
		OFF(factory setting)	

(*1) If the network you are connecting to is the old superlink, you must change this setting.

Whether the actual network is the new superlink or the old superlink depends on the type of indoor units, outdoor units, etc. Check with the agent or dealer.

(*2) For details on switching the level/pulse output, see 6.

6 Output Switch

You can switch between level output and pulse output by changing the SW4-1 setting on the interface PWB Assy.

Select level output or pulse output in accordance with the specifications of the general purpose equipment that you are connecting to.

SW4-1	OFF	ON
Start/stop command output	Level output	Pulse output
Output waveform	<p>Start/stop command output</p> <p>General purpose equipment operating state</p>	<p>Start/stop command output</p> <p>General purpose equipment operating state</p>

7 Wiring

Cautions when setting the address

- Set the address in the range of 000 to 047 when you are connecting to the old superlink (when SW3-1 is ON) and 000 to 127 when you are connecting to the new superlink (when SW3-1 is OFF). (The factory default setting is 000.)
- Make sure that you do not select an address of another device already connected to the network.
- Automatic address setting is not available. Set addresses manually.

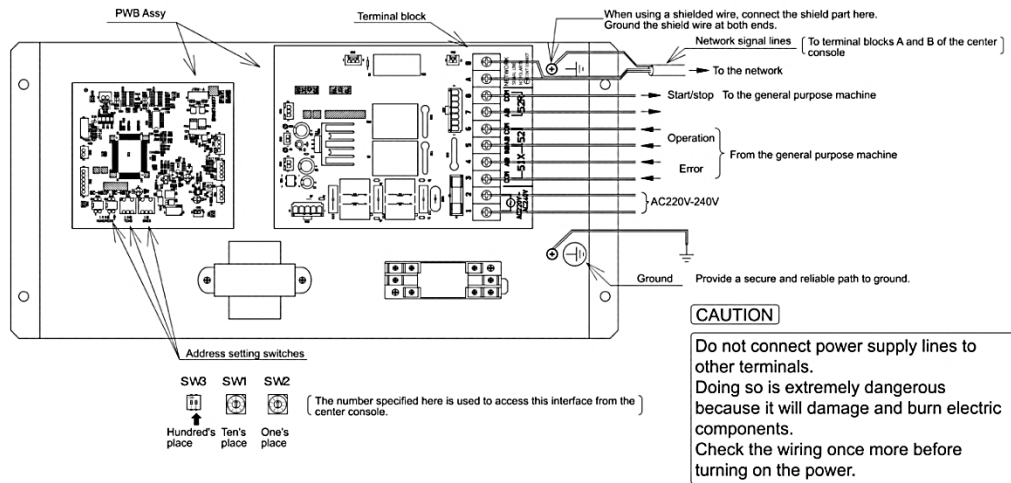
[Power Supply line Specification]

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Only use the wires specified below for the power lines and other lines connected to the general purpose machine.
 - Braided cord(cord designation 60245 IEC 51)
 - Ordinary tough rubber sheathed cord(cord designation 60245 IEC 53)
 - Flat twin tinsel cord(cord designation 60227 IEC 41)
- Use wires whose nominal cross-sectional area is 0.75 mm² or more for the power lines and other lines connected to the general purpose machine.
- Make the ground wire from the wiring entrance to the interface connection area longer than the power supply lines.

[Signal Line Specifications]

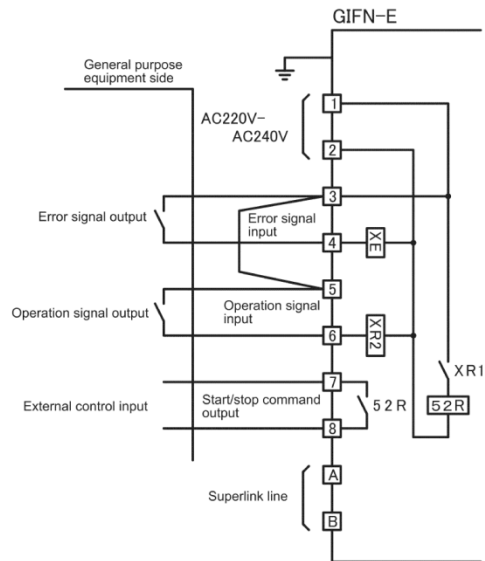
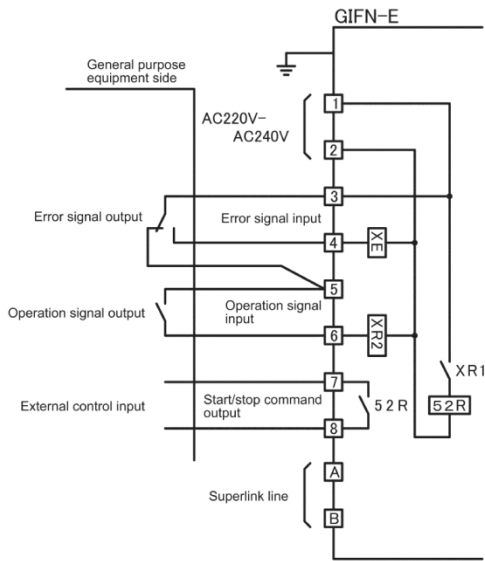
Communication mode	Old superlink connection	New superlink connection
Wire type	MVVS	MVVS
Wire diameter	0.75mm ² - 1.25mm ²	0.75mm ² / 1.25mm ²
Signal wire (total length)	Up to 1000m	Up to 1500m or 1000m(*3)
Signal wire (max. length)	Up to 1000m	Up to 1000m

(*3) Up to 1500 m when the wire diameter is 0.75 mm² and up to 1000 m when the diameter is 1.25 mm².
Do not use 2.0 mm². Doing so can cause operation errors.



8 Electric Wiring Diagram

1. To detect either operation or error only
2. To detect both operation and error Connect terminal blocks 3 and 5.



(Note) □ denotes a terminal block. The number inside the □ denotes a terminal number or symbol.

9 Interface Installation

Use the supplied screws to install the interface above the ceiling or to a wall near the PAC for industry or general purpose equipment.

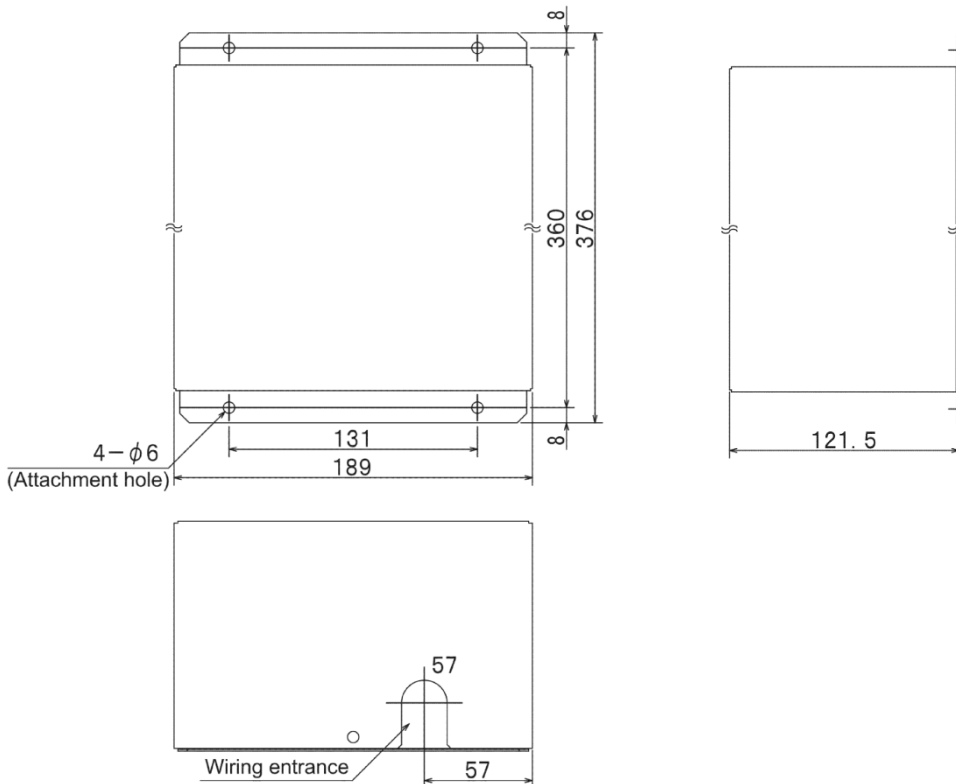
If you are installing the interface to a wall, arrange the interface so that the terminal block (wiring entrance) is facing down.

Installation location

Install the interface in a location where it will not be affected by electromagnetic waves and away from water and dust.

The operating temperature range of this product is 0°C to 40°C. Install this product where the ambient temperature falls within the operating temperature range. If the ambient temperature exceeds the range, take measures for cooling such as installing a fan.

Note that using the product outside the operating temperature range can cause a malfunction.



! Insert a circuit breaker* in the power supply line.

There is risk of electric shock. Make sure that the power is turned off before performing work.
Install the interface or provide support so that excessive force is not applied to the electrical wiring.
Exercise caution not to damage the PWB Assy with screwdrivers and other objects.
The PWB Assy is easily damaged by static electricity. Discharge any static electricity that has built up on your body.
(You can discharge static electricity by touching a grounded device.)

* Use an all-pole circuit breaker whose contact gap is at least 3 mm.

10 Connectable centralized controller and gateway for connection

SC-GINFN-E can connect to the following SL options.

The SL option which is connected shall be confirmed whether the SL option is connectable or not when you connect it.

And please switch SW3-1 by new/old super link option.

Please refer to 5.Switch control regarding the details.

Option for new super link	Option for old super link
<ul style="list-style-type: none">▪ SC-SL1NA-E▪ SC-SL2NA-E▪ SC-SL3NA(-AE/-BE)▪ SC-SL4(-AE/-BE)▪ SC-BGWN Series▪ SC-WGWN Series▪ SC-LGWN Series	<ul style="list-style-type: none">▪ SC-SLA1 Series▪ SC-SLA2 Series▪ SC-SLA3 Series▪ SLA200 Series▪ CHC-MJ Series▪ CHC-MF Series▪ SC-BGW Series▪ SC-WGW Series▪ SC-LGW Series

11 The number of connectable general purpose equipment

One applicable unit can only connect with per general purpose equipment.

Some of the general purpose equipment can operate plural unit by connecting among each of the general purpose equipments.

Please refer to the instruction manual of the general purpose equipment regarding the details.

12 Display

As for the Web Gateway (SC-WGWN) or centralized controller (SC-SL2N/3N), the current operating status can also be shown in the screen by the SC-GIFN-E in case of connecting to our indoor unit as well. However, the SC-GIFN-E can turn off and turn on the general purpose equipment only, instruction of the air flow control or instruction of the setting temperature which are possible to control when those are connected to our indoor units, those instructions can not be accepted because those are invalid items. Notations are shown in the screen as follows when those invalid items are instructed.

Display of Web gateway

Item	Initial display	Display when instructed
Operation mode	Off(*1)	Display as being instructed
Anomalous status	Normal	
Air flow rate	No Data	Display as being instructed
Setting temperature	? deg	Display as being instructed
Room temperature	Lower than 0deg	
Remote controller operation	Unlock	Display as being instructed
Filter sign	Off	Display as being instructed
Error code	-	

(*1) Icon in Overview Monitor Screen is displayed automatically.

Display of SL2N/3N

Item	Initial display	Display when instructed
Operation mode	Off	Display as being instructed (*2)
Anomalous status	-	Display as being instructed (*2)
Air flow rate	-	Display as being instructed (*2)
Setting temperature	-	Display as being instructed (*2)
Room temperature	-	Display as being instructed (*2)
Remote controller operation	-	
Filter sign		
Error code		

(*2) Instructed display returns to initial state after 2 minutes.

AIR-CONDITIONER CONTROL SYSTEM



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