

# TOSHIBA INSTALLATION MANUAL

## Digital Inverter Air Conditioner “1 : 1 Model” Connection Interface

Use for Indoor Unit Only  
MODEL : TCB-PCNT30TLE2

### [For Installation Professionals]

- Before installation work, please read this manual thoroughly and install the products correctly.

### Precaution for safety



#### WARNING

- Ask an authorized dealer or qualified installation professional to install/maintain the air conditioner.**  
Inappropriate installation may result in water leakage, electric shock or fire.
- Perform installation work surely based on this Installation Manual.**  
Incomplete installation causes an electric shock or a fire.
- Ask an authorized dealer or qualified installation professional to reinstall 1 : 1 Model Connection Interface.**  
Incomplete installation causes an electric shock or a fire.
- For an electric work, this Installation Manual shall be referred and exclusive circuit shall be necessarily used. The used voltage shall be also match with the rated voltage of the product.**  
If there is capacity shortage of electric circuit or installation work is poor, an electric shock or a fire may be caused.



#### CAUTION

- Using the specified wires, surely connect wires so that external force of wire is not applied to connecting part of the terminals; otherwise disconnection, heating or fire will generate.
- For wiring work, use wires with correct current capacity; otherwise leakage, heating or fire will generate.
- Do not apply an excessive force on the board body, otherwise bending, separation, or disconnection generates resulted in heating or fire.

- After installation work, execute a test run to confirm there is no trouble.  
**And also ask the customers to keep this Manual by themselves.**

### ■ Components

To install the 4 -way cassette type or the Compact 4-way cassette type, 1:1 Model Connection Interface board box (sold separately) is needed.  
For their combination, check the table below.

Model name		1:1 Model Connection Interface board box
4-way cassette	RAV-SM***4UT*	TCB-PX30MUE
	RAV-GM***UT*	
	RAV-RM***UT*	
	RAV-HM***UT*	
Compact 4-way cassette	RAV-SM***4MUT*	TCB-PX30MUE
	RAV-SM***7MUT*	TCB-PX40MUME
	RAV-RM***MUT*	
	RAV-HM***MUT*	

Name	Q'ty	Application
① P.C. board	1	1 : 1 model connection interface board
② U3, U4 terminal block	1	2P terminal block for relay (Uh (U3), Uh (U4))
③ Relay wire (A)	1	For connection of “1 : 1 Model” Connection Interface board with U3, U4 relay terminal block (Blue connector)
④ Relay wire (B)	1	For connection of “1 : 1 Model” Connection Interface board with indoor control board (Red connector)
⑤ Installation Manual	1	This manual
⑥ Spacer (A)	3	For fixing “1 : 1 Model” Connection Interface board (Used when installing P.C. board on sheet metal of the electric parts box of indoor unit)
⑦ Spacer (B)	1	For fixing “1 : 1 Model” Connection Interface board (Required according to shape of indoor unit)
⑧ Screws to fix terminal block	2	For fixing relay terminal block (M4 × 14L)
⑨ Bandling band	3	Used to process wires
⑩ Terminal nameplate	1	To be adhered near the relay terminal block

## Before Installation

This interface corresponds to the digital inverter air conditioner.

Do not use or connect this interface for other type of air conditioner than the above because the indoor P.C. boards of other air conditioners differ from one of the digital inverter air conditioner.

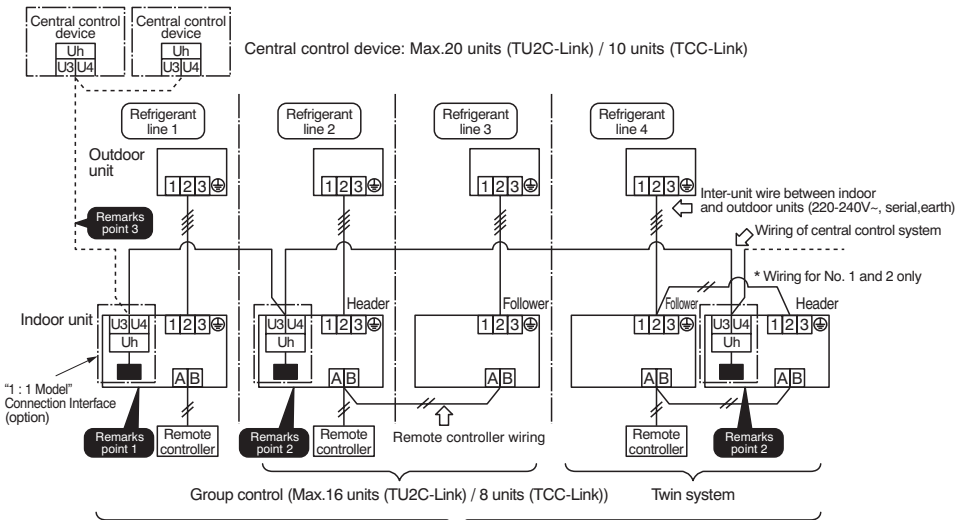
## Wiring Connection

### 1. Wiring connection

#### Remarks

- Point 1)** When controlling the digital inverter air conditioner collectively, "1 : 1 Model" Connection Interface (This option) is required.
- Point 2)** In group control or twin, triple, double twin system, this interface must be connected to Header unit of the indoor unit. (Connection to follower unit is unavailable.)
- Point 3)** Connect the central control devices to wires of the central control system.
- Point 4)** When controlling the digital inverter air conditioner collectively, turn on Bit 1 of SW01 in the line with the least line address No. (OFF has been set up at shipment from the factory.)

**For the digital inverter air conditioner, re-setup of the address from the wired remote controller is required after automatic addressing.**



VRF : Variable Refrigerant Flow

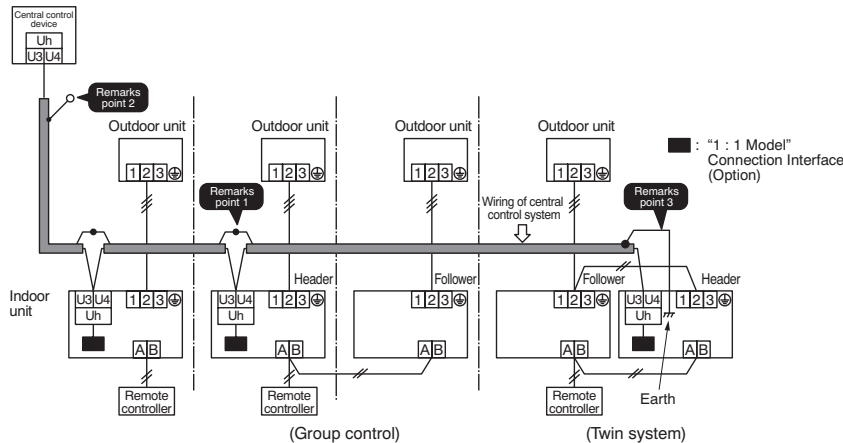
2. Wire Specifications

No. of wires	Size	Specifications
2	Up to 1000m, braided wire 1.25mm <sup>2</sup>	2-core shield wire
	Up to 2000m, braided wire 2.0mm <sup>2</sup>	

- Wire is 2-core and non-polarity.
- The length is same to wire length of the central control system.  
In case of system mixed with VRF type, the length includes all length of control wiring between indoor unit and outdoor units at VRFside.
- To prevent noise defect, use 2-core shield wire.
- Connect shield wires with closed-terminal connection and apply open process (insulation process) to the last termination. For grounding (earth), perform grounding with one point at indoor unit side. (During central control for digital inverter air conditioner only)

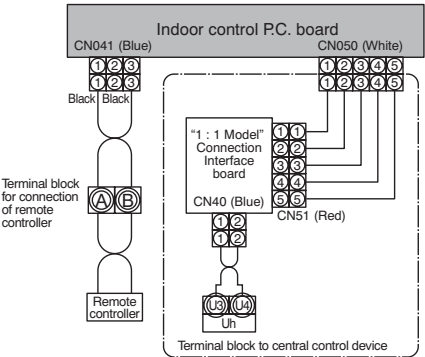
Remarks

- Point 1)** Closed terminal connection of shield wire (Connection of connecting parts of each indoor unit)
- Point 2)** Apply open process (insulation process) to the last termination.
- Point 3)** For grounding (earth), perform grounding with one point at indoor unit side.



3. Wiring Diagram with Indoor Control P.C. Board

For details, refer to installation procedure for each model.



- Parts encircled with chain line are accessories attached to this product.
- [Grey box] indicates control P.C. board, and © indicates terminal block (Characters inside of © mark indicate terminal number.)
- There is no polarity for wire connection to terminal blocks Uh (U3) and Uh (U4).

(NOTE)

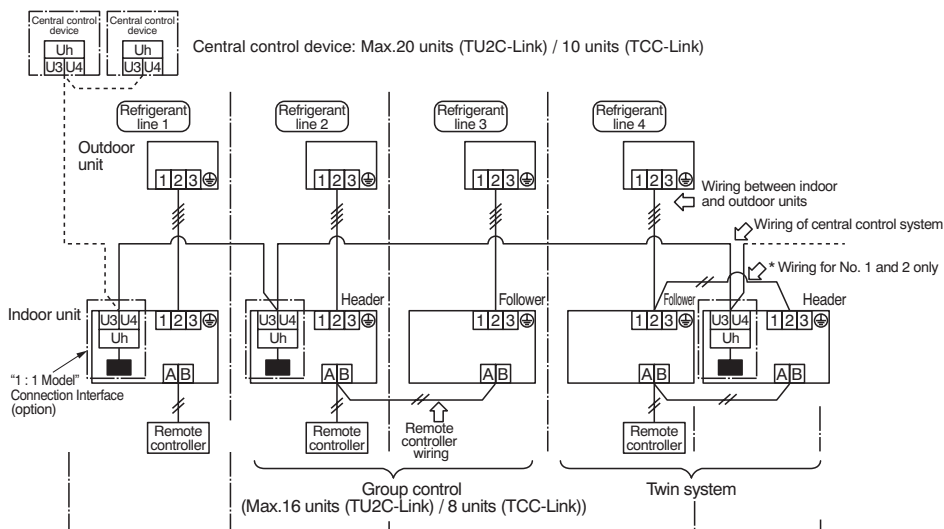
Do not apply voltage to terminals Uh (U3) and Uh (U4). If applying voltage to Uh (U3) and Uh (U4) terminal by mistake, fusing occurs to protect terminals.

After checking wires, exchange connection of connecting connector on "1 : 1 Model" Connection Interface board from CN40 (Blue) to the spare CN44 (Brown).

## Setup of P.C. Board Switch

When the units controlled collectively are all digital inverter air conditioners, it is required to set up the terminator resistor. (Collective control for units without VRF type air conditioner)

- Using SW01, set up the terminator resistor.
- **Set up the terminator resistor to only interface connected to the indoor unit in the line with the least line address No.**



Line address	1	2		4	
SW01 bit 1	ON	OFF		OFF	(OFF when shipped from factory)
SW01 bit 2	OFF	OFF		OFF	(OFF when shipped from factory)
Remarks	Turn on SW01 bit 1.	As status at shipment from factory		As status at shipment from factory	

(Reference) Contents of switch setup

SW01		Terminator resistor	Remarks
Bit 1	Bit 2		
OFF	OFF	None	Mixed with VRF at shipment from factory (Link wiring)
ON	OFF	100Ω	Central control by digital inverter air conditioners
OFF	ON	75Ω	Spare
ON	ON	43Ω	Spare

## Installation Procedure

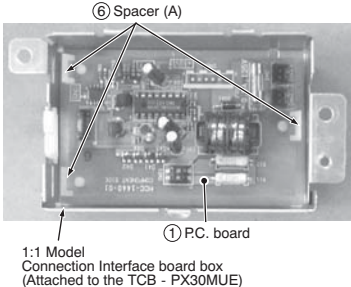
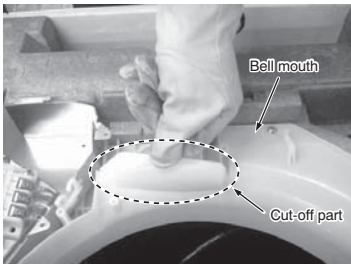
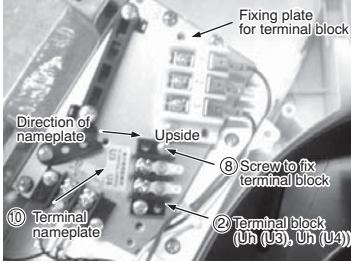
- For installation of "1 : 1 Model" Connection Interface board and removal of relay wire, be sure to wait for a while (approx. 1 minute) after turning off the power supplies of the air conditioner and the collective control devices. If not doing so, "1 : 1 Model" Connection Interface board may be damaged.

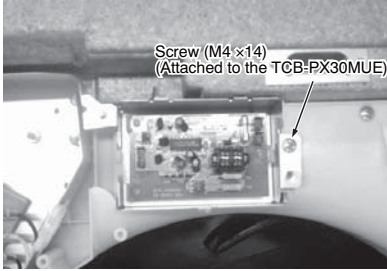
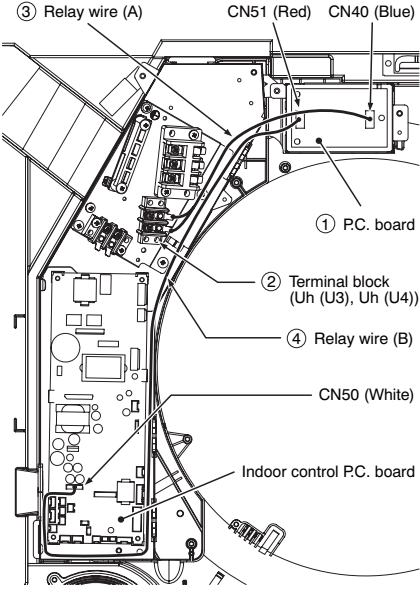
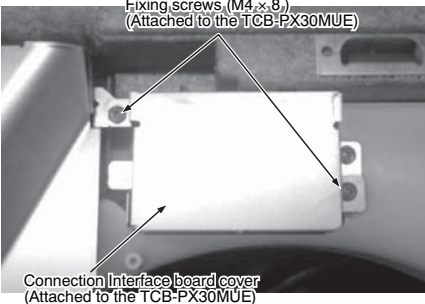
### ■ 4-Way Cassette Type

#### ⚠ CAUTION

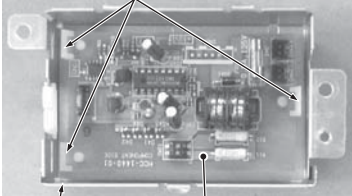
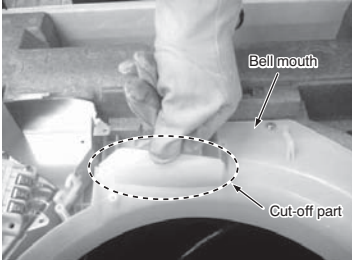
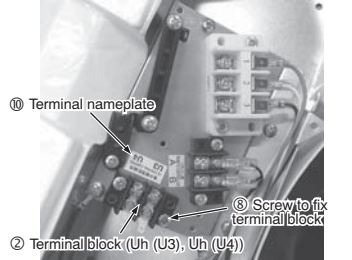
In case to install 1:1 Model Connection Interface, be sure to purchase also "TCB-PX30MUE" sold separately. For installation, 1:1 Model Connection Interface board box of "TCB-PX30MUE" is necessary.

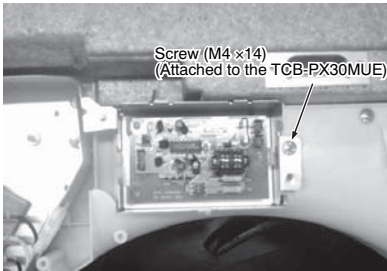
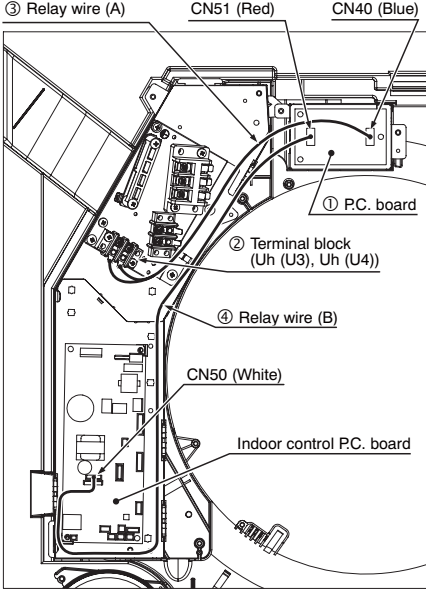
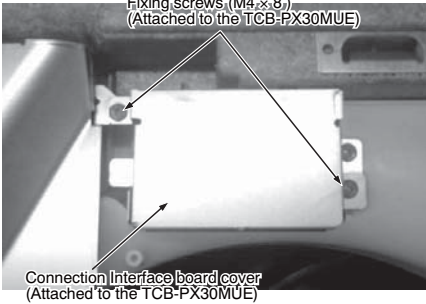
#### (1) RAV-SM \*\*\* 4UT\*, RAV-RM \*\*\* 1UT\*

No.	Procedure	Details
1	Attach spacer (A) ⑥ to 1:1 Model Connection Interface board box of the "TCB-PX30MUE" sold separately, and then install P.C. board ①.	 <p>⑥ Spacer (A)</p> <p>① P.C. board</p> <p>1:1 Model Connection Interface board box (Attached to the TCB - PX30MUE)</p>
2	Cut off a part of the bell mouth, which is enclosed with dotted line shown in the right figure.	 <p>Bell mouth</p> <p>Cut-off part</p>
3	Mount terminal block (Uh (U3), Uh (U4)) ② at the fixing plate position for terminal block as shown in the right figure of the electric parts box, with terminal block fixing screws (M4 × 14 / ) ⑧). Stick the attached terminal nameplate ⑩ at near the terminal block along direction shown in the right figure.	 <p>Fixing plate for terminal block</p> <p>Direction of nameplate</p> <p>Upside</p> <p>⑧ Screw to fix terminal block</p> <p>⑩ Terminal nameplate</p> <p>② Terminal block (Uh (U3), Uh (U4))</p>

No	Procedure	Details
4	<p>Using a screw (M4 × 14) of "TCB-PX30MUE" sold separately, install 1:1 Model Connection Interface board box which was prepared in item No.1 at the position where the bell-mouth was cut off.</p>	
5	<p>Mount the relay wire (A) ③ to Faston terminal on the relay terminal (Uh (U3), Uh (U4)) ② and then connect the connector to CN40 (Blue) of the P.C. board ① .</p> <p>* For wiring connection of the relay wire (A) ③ , there is no plarity.</p> <p>Connect connector of the relay wire (B) ④ from CN50 (White) on the indoor P.C. board to CN51 (Red) on the P.C. board ① .</p>	 <p>* ③ , ④ After wiring connection of the relay wires (A) and (B), fix wirings along the near wirings with banding band so that there is no catching of wires, and etc.</p>
6	<p>Install the Connection Interface board cover of the "TCB-PX30MUE" sold separately with the fixing screws (M4 × 8).</p>	

(2) RAV-GM \*\*\* 1UT\*, RAV-HM \*\*\*\* UT\*, RAV-HM \*\*\*\* UTP\*

No.	Procedure	Details
1	Attach spacer (A) ⑥ to 1:1 Model Connection Interface board box of the "TCB-PX30MUE" sold separately, and then install P.C. board ①.	 <p>⑥ Spacer (A)</p> <p>① P.C. board</p> <p>1:1 Model Connection Interface board box (Attached to the TCB - PX30MUE)</p>
2	Cut off a part of the bell mouth, which is enclosed with dotted line shown in the right figure.	 <p>Bell mouth</p> <p>Cut-off part</p>
3	Mount terminal block (Uh (U3), Uh (U4)) ② at the fixing plate position for terminal block as shown in the right figure of the electric parts box, with terminal block fixing screws (M4 x 14 ℓ ) ③. Stick the attached terminal nameplate ⑩ at near the terminal block along direction shown in the right figure.	 <p>⑩ Terminal nameplate</p> <p>③ Screw to fix terminal block</p> <p>② Terminal block (Uh (U3), Uh (U4))</p>

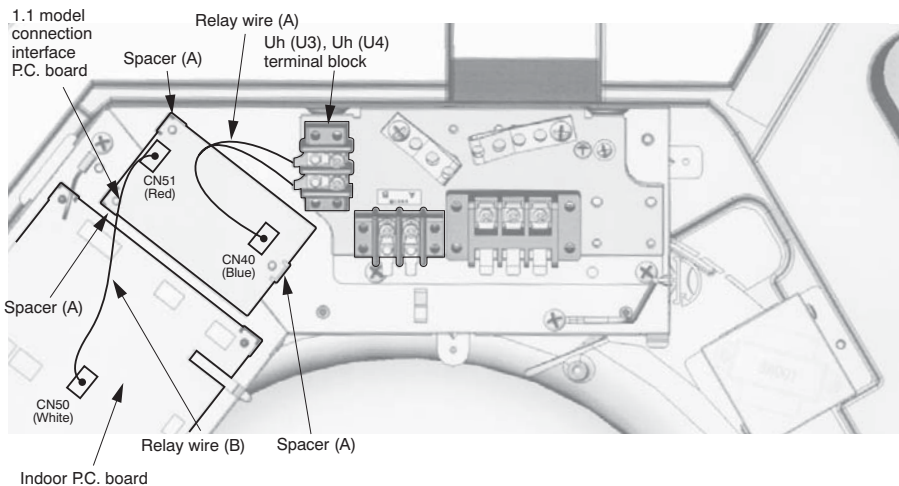
No	Procedure	Details
4	<p>Using a screw (M4 × 14) of "TCB-PX30MUE" sold separately, install 1:1 Model Connection Interface board box which was prepared in item No.1 at the position where the bell-mouth was cut off.</p>	 <p>Screw (M4 × 14) (Attached to the TCB-PX30MUE)</p>
5	<p>Mount the relay wire (A) ③ to Faston terminal on the relay terminal (Uh (U3), Uh (U4)) ② and then connect the connector to CN40 (Blue) of the P.C. board ① .</p> <p>* For wiring connection of the relay wire (A) ③ , there is no plarity.</p> <p>Connect connector of the relay wire (B) ④ from CN50 (White) on the indoor P.C. board to CN51 (Red) on the P.C. board ① .</p>	 <p>③ Relay wire (A)      CN51 (Red)      CN40 (Blue)</p> <p>① P.C. board</p> <p>② Terminal block (Uh (U3), Uh (U4))</p> <p>④ Relay wire (B)</p> <p>CN50 (White)</p> <p>Indoor control P.C. board</p> <p>* ③ , ④ After wiring connection of the relay wires (A) and (B), fix wirings along the near wirings with banding band so that there is no catching of wires, and etc.</p>
6	<p>Install the Connection Interface board cover of the "TCB-PX30MUE" sold separately with the fixing screws (M4 × 8).</p>	 <p>Fixing screws (M4 × 8) (Attached to the TCB-PX30MUE)</p> <p>Connection Interface board cover (Attached to the TCB-PX30MUE)</p>



(3) RAV-SM \*\*\* UT-K, RAV-SM \*\*\* UT-4C

No.	Procedure
1	Using board installing spacer (A), install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate near the relay terminal block.</li></ul>
3	Connect the relay wire (A) from Uh (U3), Uh (U4) terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.

Details



- \* Relay wire (A)  
Connect Uh (U3), Uh (U4) terminal block with "1 : 1 Model" Connection Interface CN40 (Blue). There is no polarity for wire connection.
- Relay wire (B)  
Connect CN50 (White) on indoor control P.C. board with CN51 (Red) on "1 : 1 Model" Connection Interface board.
- When installing "1 : 1 Model" Connection Interface board to electric parts box, insert three board installing spacers (A) into holes of P.C. board.

**CAUTION**

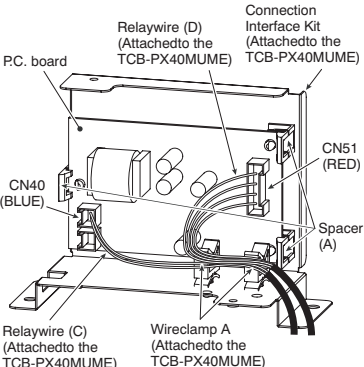
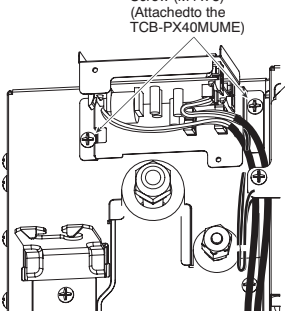
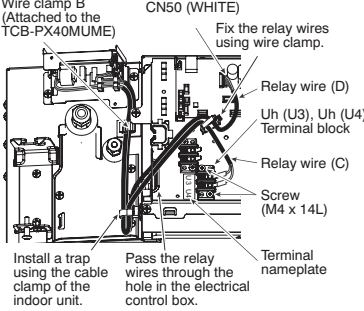
After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

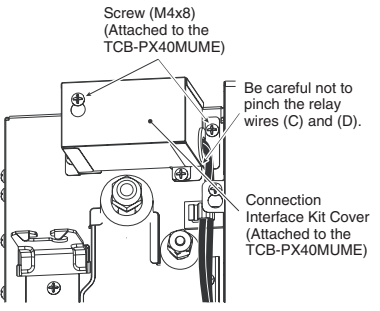
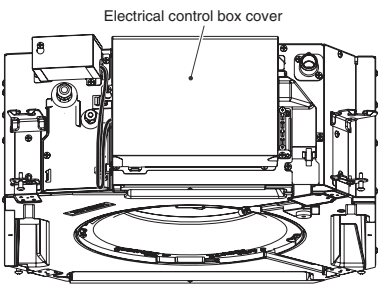
## ■ Compact 4-way Cassette type

### (1) RAV-SM \*\*\* 7MUT\*, RAV-RM \*\*\* 1MUT\*, RAV-HM \*\*\*\* MUT\*

#### CAUTION

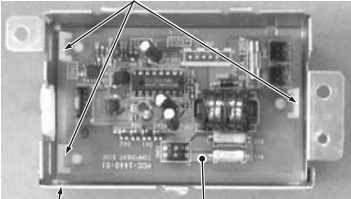
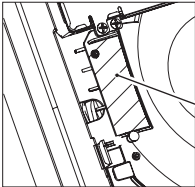
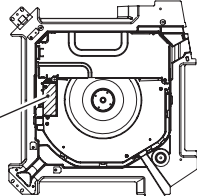
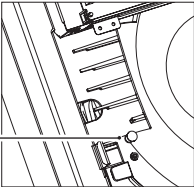
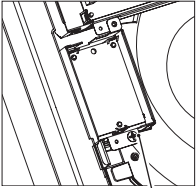
In case to install 1:1 Model Connection Interface, be sure to purchase also "TCB-PX40MUME" sold separately. For installation, 1:1 Model Connection Interface board box of "TCB-PX40MUME" is necessary.

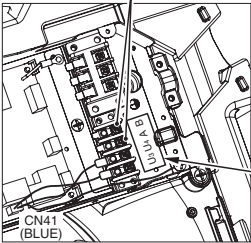
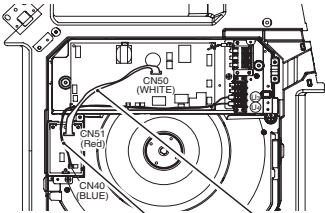
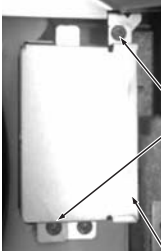
No.	Procedure	Details
1	<ol style="list-style-type: none"> <li>1) Install the spacer (A) and the P.C. board to the Connection Interface Kit of the TCB-PX40MUME (sold separately).</li> <li>2) Install the wire clamp A attached to the TCB-PX40MUME (sold separately) to the Connection Interface Kit.</li> <li>3) Install the relay wire (C) and relay wire (D) attached to the TCB-PX40MUME (sold separately) on the P.C. board and pass them through wire clamp A.</li> </ol>	
2	<p>Use the screws (M4 x 8) attached to the TCB-PX40MUME (sold separately) to install the Connection Interface Kit on the side plate of the indoor unit.</p>	
3	<ol style="list-style-type: none"> <li>1) Remove the electrical control box cover of the indoor unit. Then install the Uh (U3), Uh (U4) terminal block to the electrical control box using the screws (M4 x 14L). <ul style="list-style-type: none"> <li>• Affix the terminal nameplate near the Uh (U3), Uh (U4) terminal block as indicated below.</li> </ul> </li> <li>2) Pass the relay wire (C) through the hole in the electrical control box and connect to the connection terminal of the Uh (U3), Uh (U4) terminal block.</li> <li>3) Pass the relay wire (D) through the hole in the electrical control box and connect to CN50 on the indoor PC board.</li> <li>4) Attach the wire clamp B attached to the TCB-PX40MUME (sold separately) to the side plate of the indoor unit as indicated right figure and clamp relay wires (C) and (D) with it.</li> <li>5) Fix the relay wires (C) and (D) to the cable clamp of the indoor unit and install a trap.</li> </ol>	

No.	Procedure	Details
4	Use the screws (M4 x 8) to install the Connection Interface Kit cover attached to the TCB-PX40MUME (sold separately) .	 <p>Screw (M4x8) (Attached to the TCB-PX40MUME)</p> <p>Be careful not to pinch the relay wires (C) and (D).</p> <p>Connection Interface Kit Cover (Attached to the TCB-PX40MUME)</p>
5	After wiring, be sure to put the electrical control box cover of the indoor unit back. When attaching the cover, be careful not to pinch the relay wires (C) and (D).	 <p>Electrical control box cover</p>

**⚠ CAUTION**

In case to install 1:1 Model Connection Interface, be sure to purchase also “TCB-PX30MUE” sold separately. For installation, 1:1 Model Connection Interface board box of “TCB-PX30MUE” is necessary.

No.	Procedure	Details
1	Attach spacer (A) ⑥ to 1:1 Model Connection Interface board box of the “TCB-PX30MUE” sold separately, and then install P.C. board ①.	 <p>⑥ Spacer (A)</p> <p>① P.C. board</p> <p>1:1 Model Connection Interface board box (Attached to the TCB - PX30MUE)</p>
2	Cut off a part of the bell mouth, which is enclosed with dotted line shown in the right figure.	 <p>Cutting off portion (Shaded area)</p>  <p>After cutting off the slit of bell mouth on the unit, clear up the surface of the slit that there is no burr on the cutting edge.</p> 
3	Using a screw (M4 × 14) of “TCB-PX30MUE” sold separately, install 1:1 Model Connection Interface board box which was prepared in item No.1 at the position where the bell-mouth was cut off.	 <p>Screw (M4 × 14) (Attached to the TCB-PX30MUE)</p>

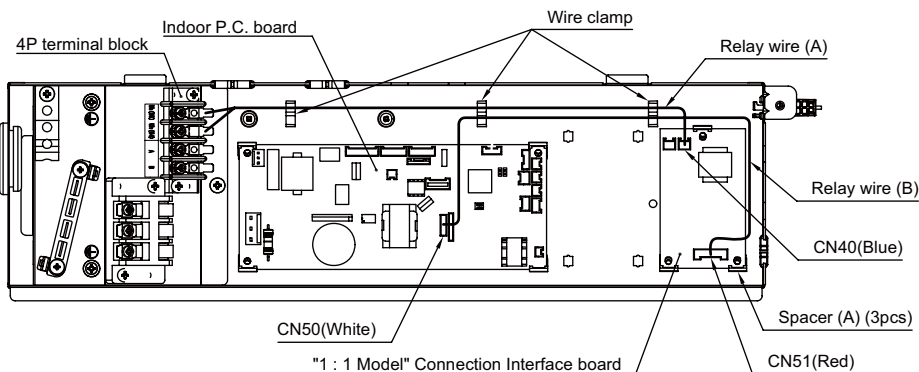
No.	Procedure	Details
4	<p>Remove the 2P terminal block for the communication wire of the electric parts box on the unit, and then replace with the 4P terminal block of the "TCB-PX30MUE" sold separately for the communication wire.</p> <ol style="list-style-type: none"> <li>1) Disconnect the lead wires on the 2P terminal block of the electric parts box .</li> <li>2) Replace the 2P connector with 4P connector on the terminal block.</li> <li>3) Connect the communication wire that are disconnected as shown above steps 1), to the 4P terminal block.</li> <li>4) Stick the terminal nameplate of the "TCB-PX30MUE" (sold separately) at near the 4P terminal block along direction shown in the right figure.</li> </ol>	<p>(A), (B) terminals (Connecting for the Remote Controller)</p>  <p>Terminal nameplate</p> <p>(Attached to the TCB-PX30MUE)</p>
5	<p>Mount the relay wire (A) ③ to Faston terminal on the 4P terminal block (Uh (U3), Uh (U4)) and then connect the connector to CN40 (Blue) of the P.C. board ① .</p> <p>*For wiring connection of the relay wire (A) ③ there is no plarity.</p> <p>Connect connector of the relay wire (B) ④ from CN50 (White) on the indoor P.C. board to CN51 (Red) on the P.C. board ① .</p>	 <p>④ Relay wire (B) ③ Relay wire (A)</p>
6	<p>Using the fixing screws (M4 x 8), attach the Connection Interface board cover of the "TCB-PX30MUE" sold separately.</p>	 <p>Fixing screws (M4 x 8) (Attached to the TCB-PX30MUE)</p> <p>Connection Interface board cover (Attached to the TCB-PX30MUE)</p>

## ■ 1-Way Cassette Type

### (1) RAV-HM \*\*\* U1TP \*

No.	Procedure
1	Using board installing spacer (A) 3 pcs install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	<p>Connect the relay wire (A) from 4P terminal block of the indoor unit at Uh (U3), Uh (U4) to CN40 (Blue) of "1 : 1 Model" Connection Interface board.</p> <p>Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) of "1 : 1 Model" Connection Interface board.</p> <p>Fix the relay wires (A) and (B) to the wire clamp. (See the figure below.)</p>

#### Details



#### \* Relay wire (A)

Connect Uh (U3), Uh (U4) of 4P terminal block (Uh (U3), Uh (U4), A, B) with CN40 (Blue) of "1 : 1 Model" Connection Interface board. There is no polarity for wire connection.

#### \* Relay wire (B)

Connect CN50 (White) on indoor control P.C. board with CN51 (Red) of "1 : 1 Model" Connection Interface board.

\* When installing "1 : 1 Model" Connection Interface board to electric parts box, insert three board installing spacers (A) into holes of P.C. board.

#### CAUTION

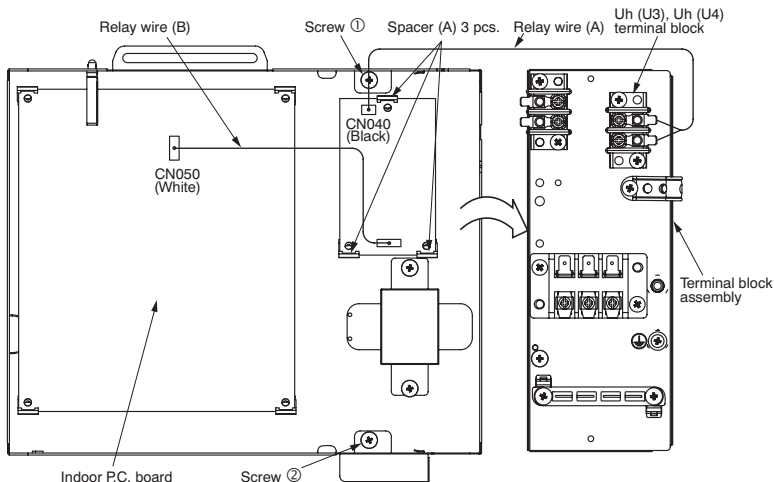
After connection of the relay wires (A) and (B), fix to the wire clamp of the indoor unit and bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

## ■ Concealed Duct type

### (1) RAV-SM \*\*\* 6BT\*, RAV-RM \*\*\* 1BTP\*, RAV-HM \*\*\*\* BTP\*

No.	Procedure
1	Take off screws ① and ② and then remove the terminal block assembly while sliding
2	Using board installing spacer (A) 3 pcs install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
3	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"> <li>When tightening the screws, be sure not to damage wires.</li> <li>Adhere the attached nameplate near the relay terminal block.</li> </ul>
4	Connect the relay wire (A) from Uh (U3), Uh (U4) relay terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN050 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.
5	Return terminal block assembly to the original position and then fix it with screws ① and ②.

#### Details



#### \* Relay wire (A)

Connect Uh (U3), Uh (U4) terminal block with "1 : 1 Model" Connection Interface CN40 (Blue). There is no polarity for wire connection.

#### \* Relay wire (B)

Connect CN050 (White) on indoor control P.C. board with CN51 (Red) on "1 : 1 Model" Connection Interface board.

\* When installing "1 : 1 Model" Connection Interface board to electric parts box of Concealed type air conditioner, insert two board installing spacers (A) into holes of P.C. board (at upper side and lower right of P.C. board) and install one of them to the electric parts box (at lower left of P.C. board) using the board installing spacer (B) of a type which pinches the P.C. board.

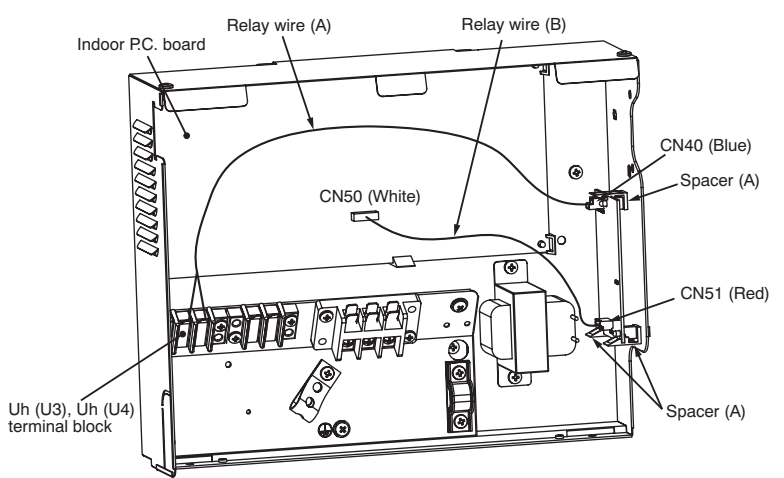
#### ⚠ CAUTION

After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

(2) RAV-SM \*\*\* 4BT\*, RAV-SM \*\* 1BT-4C

No.	Procedure
1	Using board installing spacer (A), install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate near the relay terminal block.</li></ul>
3	Connect the relay wire (A) from Uh (U3), Uh (U4) terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.

**Details**



\* Relay wire (A)  
Connect Uh (U3), Uh (U4) terminal block with "1 : 1 Model" Connection Interface CN40 (Blue). There is no polarity for wire connection.

• Relay wire (B)  
Connect CN50 (White) on indoor control P.C. board with CN51 (Red) on "1 : 1 Model" Connection Interface board.

• When installing "1 : 1 Model" Connection Interface board to electric parts box, insert three board installing spacers (A) into holes of P.C. board.

**⚠ CAUTION**

After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

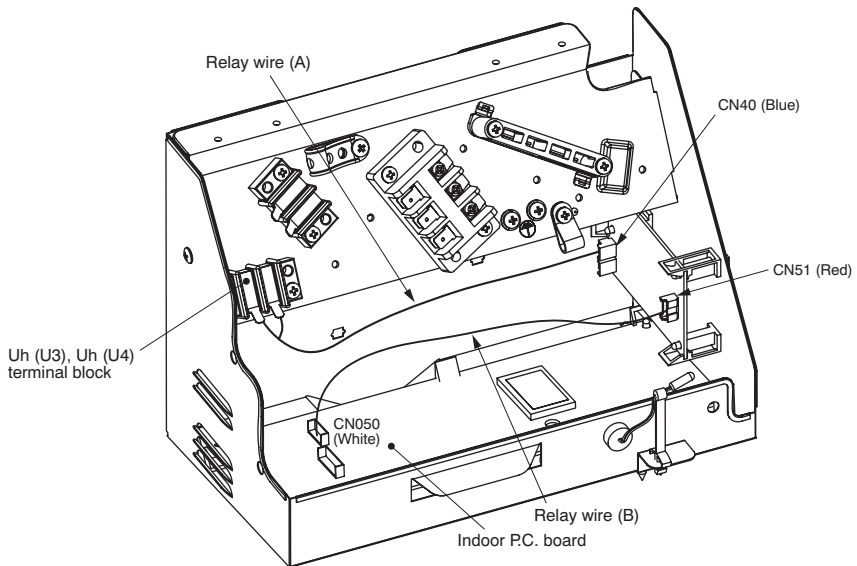


## ■ Slim Duct type

### RAV-SM \*\*\* 4SDT\*, RAV-RM \*\*\* 1SDT\*

No.	Procedure
1	Using board installing spacer (A) 3 pcs install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"> <li>When tightening the screws, be sure not to damage wires.</li> <li>Adhere the attached nameplate near the relay terminal block.</li> </ul>
3	Connect the relay wire (A) from Uh (U3), Uh (U4) relay terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN050 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.

#### Details



**\* Relay wire (A)**

Connect Uh (U3), Uh (U4) terminal block with "1 : 1 Model" Connection Interface CN40 (Blue). There is no polarity for wire connection.

**• Relay wire (B)**

Connect CN050 (White) on indoor control P.C. board with CN51 (Red) on "1 : 1 Model" Connection Interface board.

**\* When installing "1 : 1 Model" Connection Interface board to electric parts box of Concealed type air conditioner, insert two board installing spacers (A) into holes of P.C. board (at upper side and lower right of P.C. board) and install one of them to the electric parts box (at lower left of P.C. board) using the board installing spacer (B) of a type which pinches the P.C. board.**

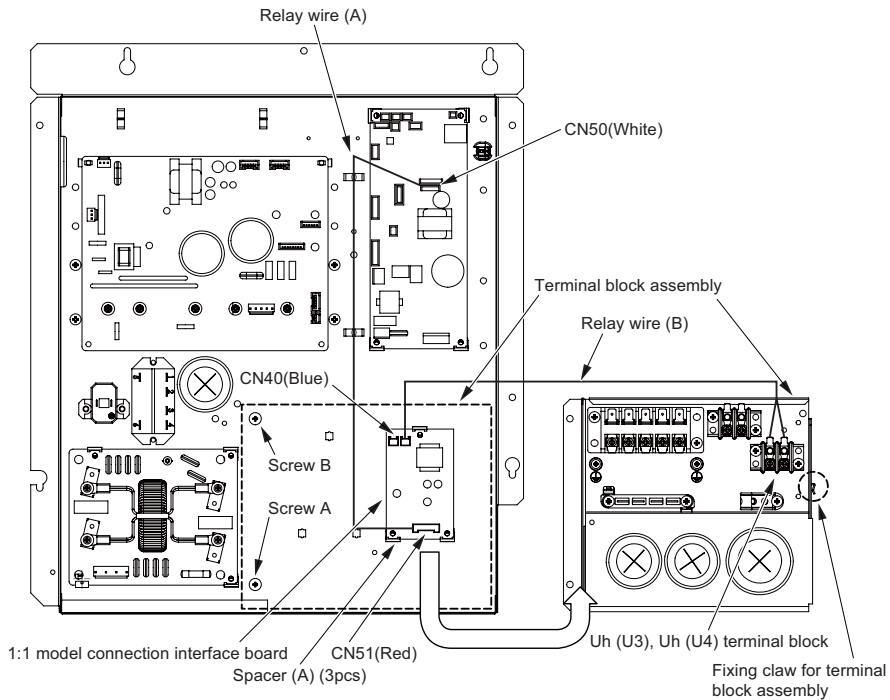
#### **⚠ CAUTION**

After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

■ Concealed Duct High Static Pressure Type (RAV-SM\*\*\*4DTP\*)

No.	Procedure
1	Take off the screws A and B then remove the terminal block assembly.
2	Using board installing spacer (A), install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
3	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate near the Uh (U3), Uh (U4) terminal block.</li></ul>
4	Connect the relay wire (A) from Uh (U3), Uh (U4) terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. There is no polarity for wire connection. Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board. (See the figure below.)
5	Return terminal block assembly to the original position without pinching wires. Confirm to hook the claw of terminal block assembly on the right side. Then screw A and B.

Details



**⚠ CAUTION**

After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

■ Ceiling type

(1) RAV-SM \*\*\* 7CTP\*, RAV-SM \*\*\* 8CTP\*, RAV-RM \*\*\* 1CTP\*, RAV-HM \*\*\*\* CTP\*

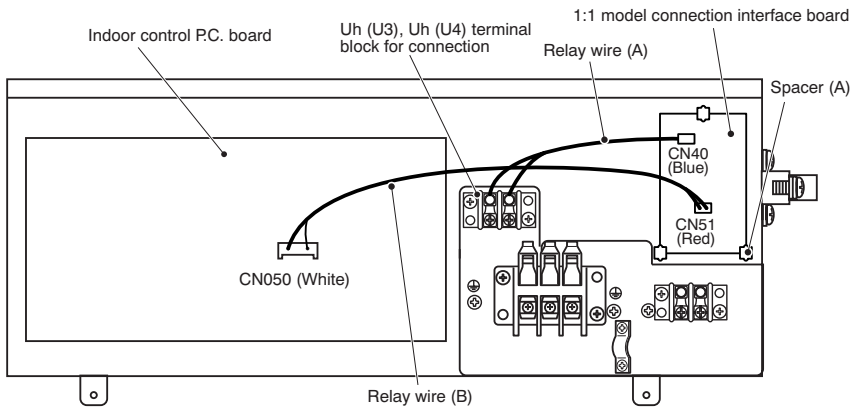
No.	Procedure
1	Using board installing spacer (A), install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate near the relay terminal block.</li></ul>
3	Connect the relay wire (A) from Uh (U3), Uh (U4) terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.

**Details**

(2) RAV-SM \*\*\* 4CT\*, RAV-SM \*\* 1CT-4C

No.	Procedure
1	Using board installing spacer (A), install "1 : 1 Model" Connection Interface board to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate near the relay terminal block.</li></ul>
3	Connect the relay wire (A) from Uh (U3), Uh (U4) terminal block to CN40 (Blue) of "1 : 1 Model" Connection Interface board. Connect the relay wire (B) from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board.

Details



- Relay wire (A)  
Connect Uh (U3), Uh (U4) terminal block with "1 : 1 Model" Connection Interface CN40 (Blue). There is no polarity for wire connection.
- Relay wire (B)  
Connect CN50 (White) on indoor control P.C. board with CN51 (Red) on "1 : 1 Model" Connection Interface board.
- When installing "1 : 1 Model" Connection Interface board to electric parts box, insert three board installing spacers (A) into holes of P.C. board.

**CAUTION**

After connection of the relay wires (A) and (B), bind them with banding band so that wires are not caught in. In this time, be sure not to bind the relay wires (A) and (B) together with the power supply lines such as power cable, earth wire, etc.; otherwise a trouble may be caused.

■ Floor standing type

RAV-RM \*\*\* FT \*, RAV-HM \*\*\*\*\* FT \*

No.	Procedure
1	Using two board installing spacers (A) ⑥ and one spacer (B) ⑦, install "1 : 1 Model" Connection Interface board ① to the position of electric parts box of the indoor unit. (See the figure below.)
2	Using terminal block fixing screws, install Uh (U3), Uh (U4) terminal block ② to the position of electric parts box of the indoor unit. (See the figure below.) <ul style="list-style-type: none"><li>• When tightening the screws, be sure not to damage wires.</li><li>• Adhere the attached nameplate ⑩ near the relay terminal block.</li></ul>
3	Connect the relay wire (A) ③ from Uh (U3), Uh (U4) terminal block ② to CN40 (Blue) of "1 : 1 Model" Connection Interface board ①. Connect the relay wire (B) ④ from CN50 (White) on the indoor P.C. board to CN51 (Red) on "1 : 1 Model" Connection Interface board ①.

Details

## Usage

- Refer to Owner's Manual for the central control devices (BMS-CM1280TLE etc.)

## Other Cautions

- In a group operation, be sure to turn on power supplies of all the indoor units in group control. (Within 3 minutes)  
When power supply of the Header unit is not turned on, there is a possibility that the Header unit exchanges with Follower unit. (If Header unit is exchanged, the central control is unavailable.)

## Address No. Setup

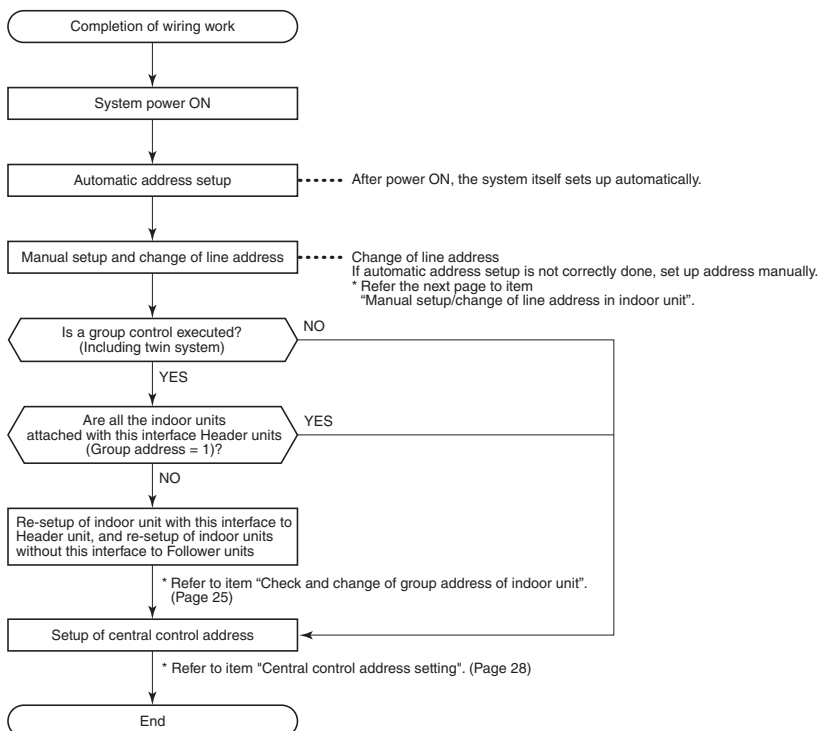
### ■ Outline

To connect the digital inverter air conditioner to TCC-Link / TU2C-Link central control system using this interface, it is required to set up address of each connected indoor unit for central control in the following procedure.

### ⚠ CAUTION

In the following cases, it is necessary to change the DN code setting of the indoor unit using the wired remote controller and change the communication type to TCC-Link in order to operate correctly.

- When performing group control in combination with the indoor unit dedicated to TCC-Link (other than RAV-HM \*\*\* series).
- When connecting to the central control device dedicated to TCC-Link.
- \* Refer to the Installation Manual and Service Manual of the indoor unit.



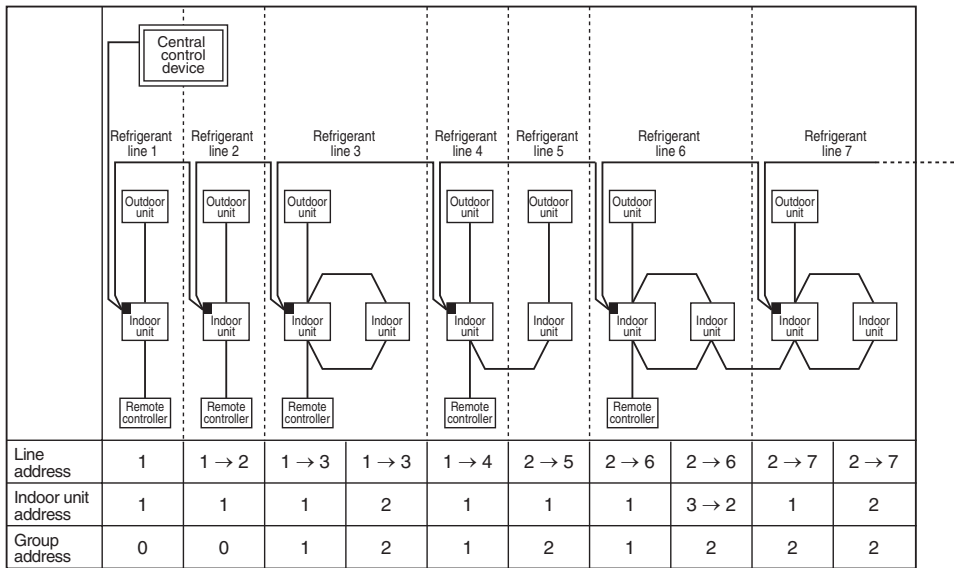
## ■ Manual Setup/Change of Line Address in Indoor Unit

### [TU2C-LINK: 1 ~ 128 refrigerant lines, TCC-LINK: 1 ~ 29 refrigerant lines]

#### (Includes No. of refrigerant lines at Multi system side if mixed)

After the system power supply has been turned on, all the line addresses are allocated to “1” by automatic address setup except group control. Therefore change setup of the line address using the wired remote controller for each refrigerant line.

Change line address for each refrigerant line.



In case of group control including twin, triple, double twin system, the automatic address does not normally work. Set the automatic address again from the wireless remote controller manually.

Line address (1)	1	2	3	3	4	5	6	6	7	7
Indoor unit address	1	1	1	2	1	1	1	2	1	2
Group address	0	0	1	2	1	2	1	2	2	2

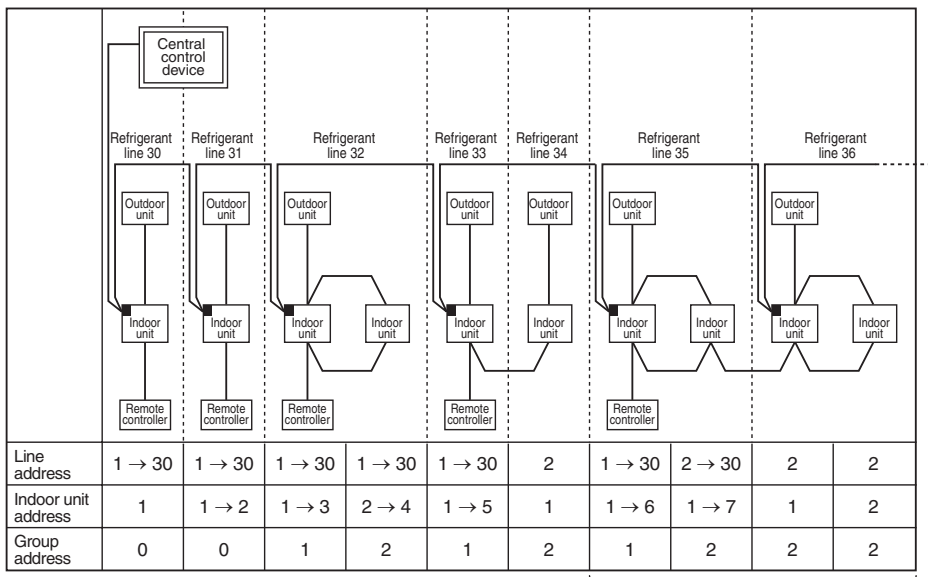
[■ → “1 : 1 Model” connection interface]

- \* For change/setup method by wired remote controller, refer to “Address Setup/Change Method”. (Page 26)
- \* Allocating different numeral value for each refrigerant line, set up the line address so that it does not overlap with other address No. (When controlling collectively VRF type units mixed with digital inverter air conditioner unit, set up numeral value which also differs from line address at VRF type air conditioner side.)

## ■ Manual Setup/Change of Line Address in Indoor Unit

[In case of 30 refrigerant lines or more (Includes No. of refrigerant lines at Multi side if mixed)]

After the system power supply has been turned on, all the line addresses are allocated to "1" by automatic address setup except group control. Therefore change setup of the line address using the wired remote controller for each refrigerant line.



**Point (1)** Set "30" to all the line addresses of indoor units attached with these interface

**Point (2)** Change the indoor address so that the indoor unit numbers do not overlap.

**Point (3)** When the indoor unit attached with this interface is controlled with twin or system, change also line address of the follower unit to "30".

In case of group control including twin, triple, double twin system, the automatic address does not normally work.

Set the automatic address again from the wireless remote controller manually.

Line address (1)	30	30	30	30	30	2	30	30	2	2
Indoor unit address	1	2	3	4	5	1	6	7	1	2
Group address	0	0	1	2	1	2	1	2	2	2

[■ → "1 : 1 Model" connection interface]

\* For change/setup method by wired remote controller, refer to "Address Setup/Change Method". (Page 26)

\* Allocating different numeral value for each refrigerant line, set up the line address so that it does not overlap with other address No. (When controlling collectively VRF type units mixed with digital inverter air conditioner unit, set up numeral value which also differs from line address at VRF type air conditioner side.)



## ■ Check and Change of Group Address of Indoor Unit

In group control or twin, triple, double twin operation, the group address is allocated to indoor unit by automatic address setup after the system power supply has been turned on. From these addresses, "Header unit": "1" and "Follower unit": "2" can be recognized. As the central control device (remote controller) communicates with "Header unit" only, set up the group address from wired remote controller so that the indoor unit attached with the interface becomes "Header unit".

### • Check method for Header unit

Check the indoor unit connected to this interface in advance.

#### <Procedure>

Perform this while the air conditioner is stopped.

1. Follow the address setup procedure using the wired remote controller.
2. The indoor unit in which the fan operates first is the header unit.

### • How to set up Header unit

If the indoor unit with the interface is not a header unit, change it to a header unit.

#### <Procedure>

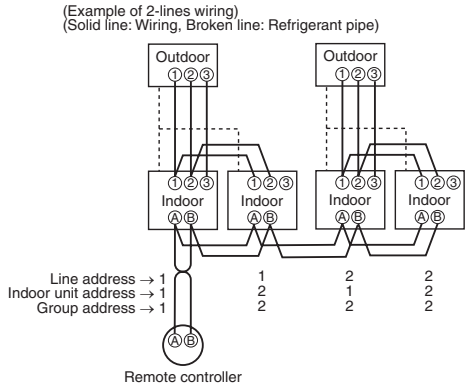
Perform this while the air conditioner is stopped.

Change the group address (CODE No.14) using the wired remote controller.

1. Change CODE No.14 of the indoor unit with the interface from 0002 to 0001.
2. Change CODE No.14 of the header unit that does not have an interface from 0001 to 0002.

## ■ Address Setup/Change Method

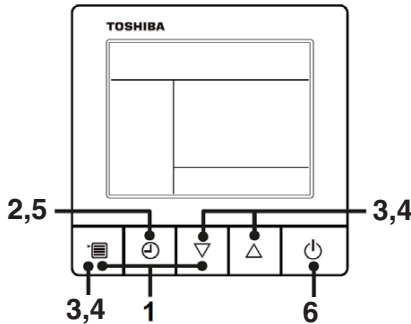
CODE No. (DN)	Item	Description
12	Line address	0001: No.1 to 0128: No.128 ... TU2C-Link 0001: No.1 to 0030: No.30 ... TCC-Link
13	Indoor unit address	0001: No.1 to 0128: No.128 ... TU2C-Link 0001: No.1 to 0030: No.30 ... TCC-Link
14	Group address	0000: Individual 0001: Header unit 0002: Follower unit



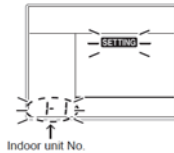
For the above example, perform setting by connecting singly the wired remote controller without remote controller inter-unit wire.

### <RBC-ASCU1\*>

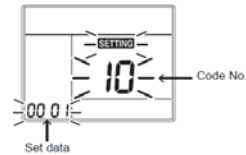
Perform this while the air conditioner is stopped.



2



3,4



**1** Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.

**2** Push the [OFF timer] button to confirm the selected indoor unit.

### <Line address>

**3** Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.12.

**4** Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set a system address.

**5** Push the [OFF timer] button to confirm the SET DATA.

<Indoor unit address>

- 6** Push the [menu] button until the CODE No. flashes. And using the [ ▽ or △ ] buttons, specify the CODE No.13.
- 7** Push the [menu] button until the SET DATA flashes. And using the [ ▽ or △ ] buttons, set an indoor unit address.
- 8** Push the [OFF timer] button to confirm the SET DATA.

<Group address>

- 9** Push the [menu] button until the CODE No. flashes. And using the [ ▽ or △ ] buttons, specify the CODE No.14.
- 10** Push the [menu] button until the SET DATA flashes. And using the [ ▽ or △ ] buttons, set a group address.  
If the indoor unit is individual, set the address to 0000. (header unit : 0001, follower unit : 0002)  
Individual :0000  
Header unit :0001  
Follower unit :0002 } In case of group control
- 11** Push the [OFF timer] button to confirm the SET DATA.
- 12** When all the settings have been completed, push the [ON/OFF] button to return to normal mode.

<RBC-A\*S\*5\*\*\*>

Perform this while the air conditioner is stopped.

- 1 Push the [ MENU] button to display the menu screen.
- 2 Push and hold the [ MENU] button and the [ V ] button at the same time to display the “Field setting menu”.

→ Push and hold the buttons for more than 4 seconds.

- 3 Push the [ ^ ] / [ V ] button to select “7. DN setting” on the “Field setting menu” screen, then push the [ Set ] [ F2 F2] button.

→ The fan and louver of the indoor unit operate.  
When the group control is used, the fan and louver of the selected indoor unit operate.

(Line address)

→ Move the cursor to select “Code(DN)” with the “<” [ F1 F1] button, then set “0012” with the [ ^ ] / [ V ] button.

→ Move the cursor to select “Data” with the “>” [ F2 F2] button, then set Line address “Data” with the [ ^ ] / [ V ] button.

- 4 Push the [ MENU] button to set the other Code(DN) and Data. After “Continue?” is displayed on the screen, push the “Yes” [ F1 F1] button.

(Indoor address)

→ Move the cursor to select “Code(DN)” with the “<” [ F1 F1] button, then set “0013” with the [ ^ ] / [ V ] button.

→ Move the cursor to select “Data” with the “>” [ F2 F2] button, then set Indoor address “Data” with the [ ^ ] / [ V ] button.

- 5 Push the [ MENU] button to set the other Code(DN) and Data. After “Continue?” is displayed on the screen, push the “Yes” [ F1 F1] button.

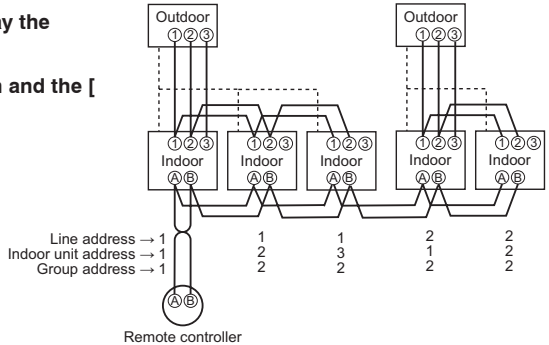
(Group address)

→ Move the cursor to select “Code(DN)” with the “<” [ F1 F1] button, then set “0014” with the [ ^ ] / [ V ] button.

→ Move the cursor to select “Data” with the “>” [ F2 F2] button, then set to “0001” Header unit, and “0002” to Follower unit with the [ ^ ] / [ V ] button.

- 6 Push the [ MENU] button to set the other Code(DN) and Data. After “Continue?” is displayed on the screen, push the “No” [ F2 F2] button to finish the setting operation. Pushing [ Return] button displays “Σ setting” on the screen for a while, then the screen returns to the “Field setting menu” screen.

(Example of 2-lines wiring)  
(Real line: Wiring, Broken line: Refrigerant pipe)



For the above example, perform setting by connecting singly the wired remote controller without remote controller inter-unit wire.

Group address  
Individual : 0000  
Header unit : 0001  
Follower unit : 0002 | In case of group control

## ■ Central control address setting

- Refer to the installation manual of the central control device.
- When groupcontrolling, set the central control address in the header unit of the group.
- Change the central control address (CODE No.33) using the wired remote controller.

## Alarm code when addresses are overlapped

	Procedure	Alarm code
Case 1	<p>When line addresses are overlapped</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Line address : 1 Indoor address : 1 Group address : 0 Central control address : 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Line address : 1 Indoor address : 1 Group address : 0 Central control address : 2</p> </div> </div>	<p><b>Wired remote controller side</b> Line 1: E08 Line 2: E08</p> <p><b>Central remote controller side</b> E08 to Line 1 or Line 2</p>
Case 2	<p>When line addresses are overlapped (Both Line 1 and 2 operate)</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Line address : 1 Indoor address : 1 Group address : 0 Central control address : 1</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Line address : 2 Indoor address : 1 Group address : 0 Central control address : 1</p> </div> </div>	<p><b>Wired remote controller side</b> Line 1: L20 Line 2: L20</p> <p><b>Central remote controller side</b> L20 to Line 1 or Line 2</p>
Case 3	<p>When only one-side Line 2 operates from remote controller, and overlap of the central control address is detected in Case 2</p> <ul style="list-style-type: none"> <li>Line 1: During stop</li> <li>Line 2: Under operation (Overlap of central control address is detected.)</li> </ul> <div style="border: 1px solid black; padding: 10px; margin-top: 20px; width: fit-content;"> <p>Line 1: Alarm code is output even if it stops. Line 2: Alarm code is not output to the central side. (Alarm is displayed on the wired remote controller.)</p> </div>	<p><b>Wired remote controller side</b> Line 1: No alarm Line 2: L20</p> <p><b>Central remote controller side</b> Line 1: No alarm Line 2: L20</p> <p>or</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Line 1: P30 Line 2: No alarm</p> </div>

## This image shows a full page of white paper with horizontal dashed lines, typical of primary school handwriting practice paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

# **Carrier Japan Corporation**

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**EH99845701-A**