

HITACHI**PC-P1HE**

INSTALLATION AND OPERATION MANUAL
MANUAL DE INSTALACIÓN Y FUNCIONAMIENTO
INSTALLATIONS- UND BETRIEBSHANDBUCH
MANUEL D'INSTALLATION ET DE
FUNCTIONNEMENT
MANUALE D'INSTALLAZIONE E D'USO

MANUAL DE INSTALAÇÃO E DE
FUNCIONAMENTO
BRUGER- OG MONTERINGSVEJLEDNING
INSTALLATIE- EN BEDIENINGSHANDLEIDING
HANDBOK FÖR INSTALLATION OCH ANVÄNDING
ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ ΚΑΙ ΛΕΙΤΟΥΡΓΙΑΣ



Read and understand this manual before using this remote controller. Keep this manual for future reference.
Lea atentamente el presente manual antes de utilizar el sistema de control remoto. Guárdelo para futuras consultas.
Lesen Sie dieses Handbuch gründlich durch, bevor Sie diese einer fernbedienung. Benutzen Sie dieses Handbuch für eventuell auftretende Fragen oder Probleme.
Lisez ce manuel jusqu'à totale compréhension avant d'installer cet télécommande. Conservez ce manuel afin de vous y référer ultérieurement.
Leggere e comprendere il presente manuale prima di utilizzare il comando remoto. Conservare il presente manuale per la consultazione futura.
Leia e compreenda este manual antes de utilizar este controlo remoto. Guarde este manual para referência futura.
Læs denne vejledning grundigt, inden du tager af fjernbetjening. Gem vejledningen til fremtidige opslag.
Lees deze handleiding goed door voordat u de fjärrkontroll gebruikt. Bewaar de handleiding voor later gebruik.
Läs denna handbok noga innan externe bediening används. Spara handboken för framtida bruk.
Διαβάστε προσεκτικά αυτό το εγχειρίδιο πριν τη χρήση του χειριστηρίου . Κρατήστε το εγχειρίδιο για μελλοντική αναφορά.

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DANGER – Immediate hazard which WILL result in severe injury or death.

PELIGRO – Peligros inmediatos que DARÁN como resultado graves lesiones o incluso la muerte.

GEFAHR – Ernsthafte Gefahrenquelle, die zu schweren Verletzungen oder zum Tod führt.

DANGER – Dangers instantanés de blessures personnelles sévères ou de mort.

PERICOLO – Pericolo immediato che AVRÀ come esito lesioni gravi o il decesso.

PERIGO – Problemas imediatos que IRÃO resultar em ferimentos pessoais graves ou morte.

FARE – Overhængende fare, som VIL resultere i alvorlig personskade eller dødsfald.

GEVAAR – Directe gevaren die ernstig persoonlijk letsel of de dood tot gevolg ZULLEN hebben.

FARA – Omedelbar risk som medför svår personskada eller död.

KINAYNO – Άμεσος κίνδυνος που ΘΑ έχει ως αποτέλεσμα σοβαρές σωματικές βλάβες ή θάνατο.



WARNING – Hazards or unsafe practices which COULD result in severe personal injuries or death.

ADVERTENCIA – Peligros o prácticas poco seguras que PODRÁN dar como resultado graves lesiones o incluso la muerte.

WARNUNG – Gefahrenquellen oder leichtfertige Vorgehensweisen, die schwere Verletzungen verursachen oder zum Tod führen können.

AVERTISSEMENT – Utilisation dangereuse ou sans garantie de sécurité qui PEUT provoquer de sévères blessures ou la mort.

AVVERTENZA – Pericoli o azioni pericolose che POTREBBERO avere come esito lesioni fisiche gravi o il decesso.

AVISO – Perigos e procedimentos perigosos que PODERÃO PROVOCAR danos pessoais graves ou morte.

ADVARSEL – Farer eller farlig brug, som KAN resultere i alvorlig personskade eller dødsfald.

WAARSCHUWING – Gevaren of onveilige praktijken die ernstig persoonlijk letsel of de dood tot gevolg KUNNEN hebben.

VARNING – Risker eller osäkra tillvägagångssätt som KAN leda till svåra personskador eller dödsfall.

ΠΡΟΕΙΔΟΠΟΙΗΣΗ – Κίνδυνοι ή επικίνδυνες πρακτικές, οι οποίες ΜΠΟΡΕΙ να έχουν ως αποτέλεσμα σοβαρές σωματικές βλάβες ή θάνατο.



CAUTION – Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

PRECAUCIÓN – Riesgos o prácticas poco seguras que PODRÍAN provocar lesiones personales de menor importancia o daños en el producto u otros bienes.

VORSICHT – Gefahrenquellen oder leichtfertige Vorgehensweisen, die geringfügige Schäden am Produkt oder an Sachen oder leichte Verletzungen verursachen können.

ATTENTION – Utilisation dangereuse ou sans garantie de sécurité qui PEUT provoquer des blessures mineures ou des dommages au produit ou aux biens.

ATTENZIONE – Pericoli o azioni pericolose che POTREBBERO avere come esito lesioni fisiche minori o danni al prodotto o ad altri beni.

CUIDADO – Perigos e procedimentos perigosos que PODERÃO PROVOCAR danos pessoais ligeiros ou danos em produtos e bens.

FORSIGTIG – Farer eller farlig brug, som KAN resultere i mindre skade på personer, produkt eller ejendom.

LET OP – Gevaren of onveilige praktijken die licht persoonlijk letsel of beschadiging van het product of eigendommen tot gevolg KUNNEN hebben.

OBS! – Risker eller farliga tillvägagångssätt som KAN leda till mindre personskador eller skador på produkten eller på egendom.

ΠΡΟΣΟΧΗ – Κίνδυνοι ή επικίνδυνες πρακτικές που ΜΠΟΡΕΙ να έχουν ως αποτέλεσμα ελαφριές σωματικές βλάβες, υλικές ζημιές ή ζημιές στο προϊόν.

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1. SAFETY SUMMARY

**DANGER:**

- DO NOT pour water into the remote controller (hereafter called "controller"). These products are equipped with electrical parts. If poured, it will cause a serious electrical shock.
- DO NOT operate switches by wet hand. It may cause an electrical shock.
- In case that the protective devices often function or the operation switches do not function well, turn OFF the main power supply and contact your service contractor of HITACHI.
- In case that other abnormalities are found, stop the system, turn OFF the main power supply and contact your service contractor of HITACHI.

**WARNING:**

- DO NOT perform installation work and electrical wiring connection by yourself. In case that a service work such as repair, maintenance, etc. is required, contact your service contractor of HITACHI.
- DO NOT modify the electrical wiring. It may cause serious accidents.

**CAUTION:**

- DO NOT install the controller and cable at such places as:
 - where there is oil vapor and the oil is dispersed.
 - where the hot springs are near (in a sulfuric environment).
 - where generation, flowing, staying or leaking of flammable gas is detected.
 - where the sea is near (in the salty environment).
 - an acid or alkaline environment.
 - where children can touch
 - where the air from the air conditioner is directly discharged
- DO NOT install the indoor unit, outdoor unit, controller and cable within approximately 3 meters from strong electromagnetic wave radiators such as medical equipment.
- In case that the controller is installed in a place where there is electromagnetic radiation, shield the controller and cables by covering with the steel box and running the cable through the metal conduit cable.
- In case that there is electric noise at the power source for the Indoor Unit, provide a noise filter.

**CAUTION:**

- *DO NOT use the multi-core wire for electrical wiring. If used, some signals of one system transfer to the other system, the signals interfere each other and it cause the malfunction.*
- *DO NOT use thin shield wire such as CPEVS. Such wires with big electrostatic capacity make the transmission signal dull and the transmission error may occurs in case of long distance wiring.*
- *DO NOT run any cable for transmission and signal along the power line (220-240V, 380-415V).*
- *DO NOT run any cable for transmission and signal along other cables for transmission and signal.*
- *If the cables are required to be run along, keep a distance more than 30 cm between each cables, or insert the cables for each transmission system into the metal conduit tube and ground one end of the conduit tube.*

2. INSTALLATION WORK

2.1. SELECTION OF INSTALLATION PLACE

■ Location of Remote Controller

- Select a suitable place for handling and determine the installation place of the controller with the customer's acceptance.
- Especially in case that a remote control thermostat is used, select the installation place in consideration with the following points:
 - *where the average room temperature can be detected*
 - *where the children can't touch*
 - *where the thermostat is not exposed directly to the sun*
 - *where the heat sources is not near around*
 - *where the thermostat is not affected with the outdoor air by opening and closing doors*
 - *where the air from the air conditioner is directly discharged*
 - *in case of installing the wireless remote control switch onto the wall, keep a distance more than 30 cm from the power line.*

NOTE:

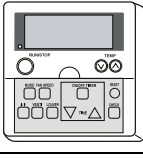


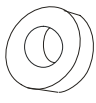
For extension of the connection cable (2-core) between the units in case of simultaneous operation of multiple units, use the control cable (field-supplied) or the extension cable (optional accessory).

When connecting wires, cut the remote control cable at the middle, connect the wires by soldering and insulate them.

For one remote controller, the maximum total length of the cable (including the signal wire between units) is 30 m when using 0.3 mm² cable and 500 m when using the cable thicker than 0.75 mm².

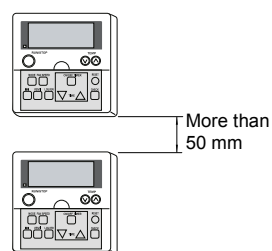
2.2. BEFORE INSTALLATION

Check the contents and the number of the accessories in the packing.

			
Remote Control Switch, for Operation Control	2 screws M4x16L For fixing the Holding Bracket onto the wall	1 Band. For fixing Cable to Ring Core	Ring Core.

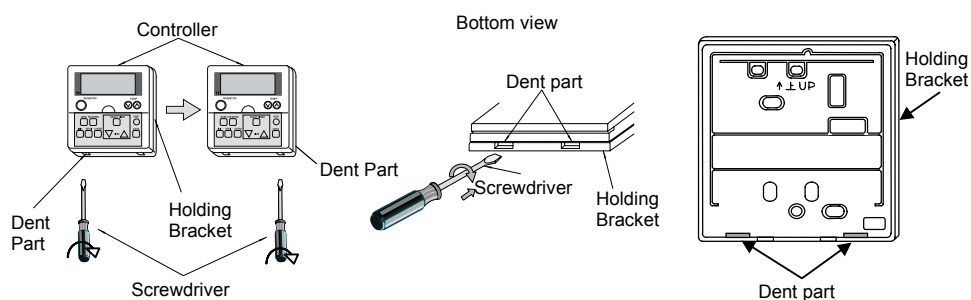
2.3. INSTALLATION SPACE

In case of installing the controllers in vertical line, keep a distance more than 50 mm between the controllers vertically. If the distance is insufficient, the front cover of the controller can not open wide enough



2.4. INSTALLATION PROCEDURE

1. Insert the edge of the flat head screwdriver into the dent parts at the bottom of the holding bracket, push and turn the screwdriver and remove the controller from the holding bracket as shown in the next figure.

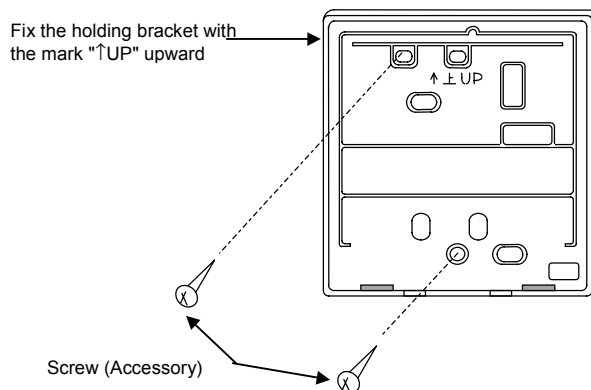


2/4 INSTALLATION WORK

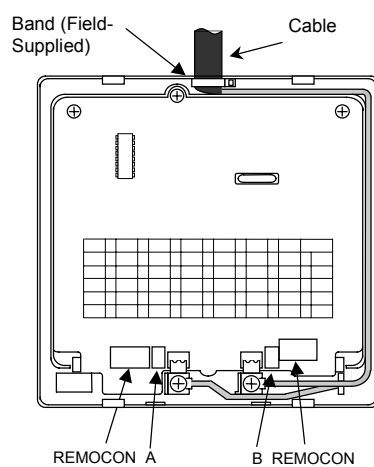
2. Attach the controller to the holding bracket as follows.

■ In case of exposing Remote Control Cable.

1. Fix the holding bracket onto the wall as shown below



2. Attach the stopper to the cable at the inside of the draw-out hole.



3. Lead the cable with its sheath peeled through the groove

4. Peel the insulation at the end of the cable and clamp the M3 solderless terminals

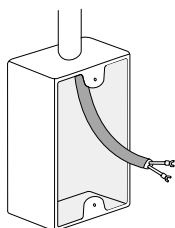
■ When Using Switch Box.

1. Run the cable into Field-Supplied JIS Box (JIS 8336 - 1998)

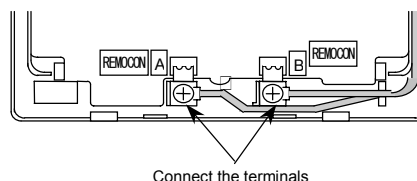
The following 5 types are available.

1. Switch Box for 1 Controller (without Cover)
2. Switch Box for 2 Controllers (without Cover)
3. Switch Box for 1 Controller (with Cover)
4. Switch Box for 2 Controllers (with Cover)
5. Outlet Box (with Cover)

Run the cable through the conduit tube in the wall.

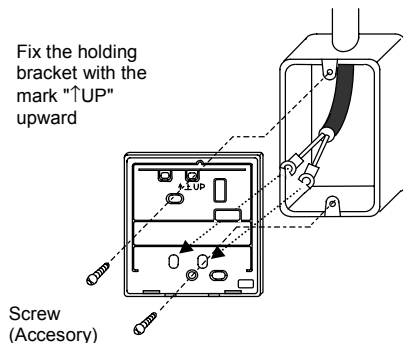


3. Peel the insulation at the end of the cable and clamp the M3 solderless terminals



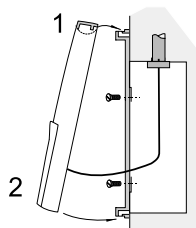
2. Fix the holding bracket to the switch box

Fix the holding bracket with the mark "↑UP" upward



4. Mounting procedures.

1. Insert the hooks of the controller to the holes on the top of the holding bracket.
2. Push the lower part toward the holding bracket.
3. When the click sound is heard, the controller is attached to the holding bracket and the mounting work is finished.

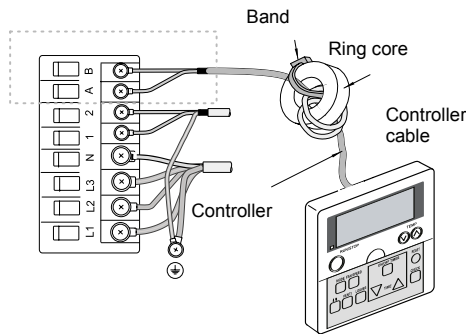


CAUTION:

Pay attention so that the cable may not be slack. If the cable is slack as shown in the above figure, the cable cord (especially the naked part) may be clamped at the hole and it may cause a faulty operation.

3. ELECTRICAL WIRING

3.1. STANDARD WIRING



ATTENTION:

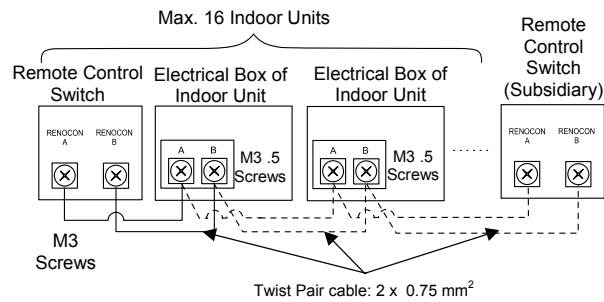
- Attach the ring core (black) (accessory) when installing the unit.
- Insert the controller cable into the ring core 2 turns as shown in the right figure before connecting to the terminal board. If wiring is 0.75 mm² is necessary to peel the outside cover.
- Fix the cable by using the band (accessory)

3.2. ELECTRICAL WIRING FOR MULTIPLE UNITS

This remote control switch can control sixteen units, as the maximum.

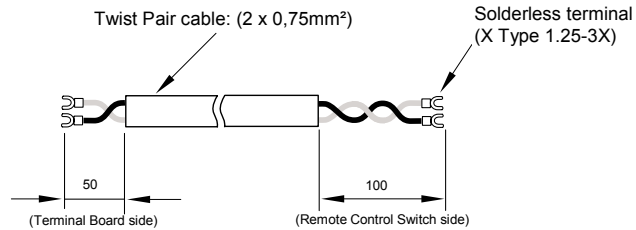
In case of this modification, wiring connection and other works shall be performed as indicated in the following procedures.

Two Remote Controls can be connected in the same unit or unit groups. The second one is Subsidiary Remote Control Switch as indicated below. Check Chapter 5 for more information.

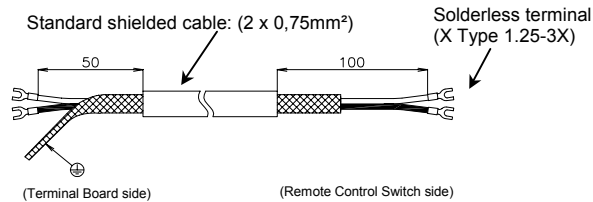


■ Communication cable shall be Field Supplied.

- It should be used twist pair cable $2 \times 0,75 \text{ mm}^2$ (the max. total length is 500 m).



- It can be also used standard shielded cable $2 \times 0,75 \text{ mm}^2$ connecting the shield to Earth at the electrical box side (the max. total length is 500 m).



■ Optional Accessory Cable:

The cables ($2 \times 0.75 \text{ mm}^2$ twist wire) of different length are prepared as an option, which are fitted with connectors.

Remote Control Cable (Option)

Cable Ref.	Cable Model	Length (m)
7E790211	PRC-10E1	10
7E790212	PRC-15E1	15
7E790213	PRC-20E1	20
7E790214	PRC-30E1	30



CAUTION:

- Use the twist (shield) pair cable ($2 \times 0.75 \text{ mm}^2$) as transmitting wire cable for prevention of the malfunction (The total cable length is max. 500m).
When the total cable length is within 30m, other type cable (more than 0.3 mm^2) can be used.
- Keep a distance more than 30 cm between the remote control cable and the transmission wire of Indoor units.

4/8 CHECKING PROCEDURES



CAUTION:

- In the case that multiple indoor units are controlled simultaneously, set the refrigerant cycle number and the address of Indoor units as indicated below.

Address of Indoor Units:

Main unit	1 st unit	2 nd unit	3 rd unit	8 th unit	9 th unit	10 th unit	11 th unit
4 th unit	5 th unit	6 th unit	7 th unit	12 th unit	13 th unit	14 th unit	15 th unit

4. CHECKING PROCEDURES

1. Turn ON the power supply for all the indoor units.
2. Set the "TEST RUN" mode by pressing the "MODE" and "CHECK" switch simultaneously for more than 3 seconds.

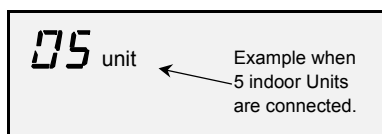


ATTENTION:

In case of the control by using two Remote controllers (Main & Sub), the test running shall be operated by the main controller.

NOTE:

- The completion of the automatic address setting requires 3 to 5 minutes after turning ON the power supply.
- The total number of the connected units is indicated on the liquid crystal display.



- In case that the indicated number is not correct, some abnormalities exist, incorrect wiring, the electric noise, etc.

- Turn OFF the power supply and correct the wiring after checking the following points; (Do not repeat turning ON and OFF within 10 seconds.)
- Power Supply for Indoor Unit is Not Turned ON or Incorrect Wiring.
- Incorrect Connection of Connecting Cable between Indoor Units or Incorrect Connection of Controller Cable
- Incorrect Setting of Rotary Switch (The setting is overlapped.) on the Indoor Units PCB
- Check to ensure that the "Test Run" mode is not set.

3. Canceling "Test Run" Mode

- When the unit is not operating, press the RESET switch.
- When the unit is operating, press the RUN/STOP switch.

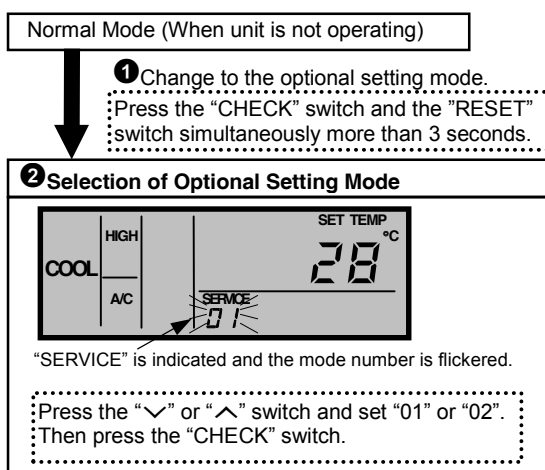


CAUTION:

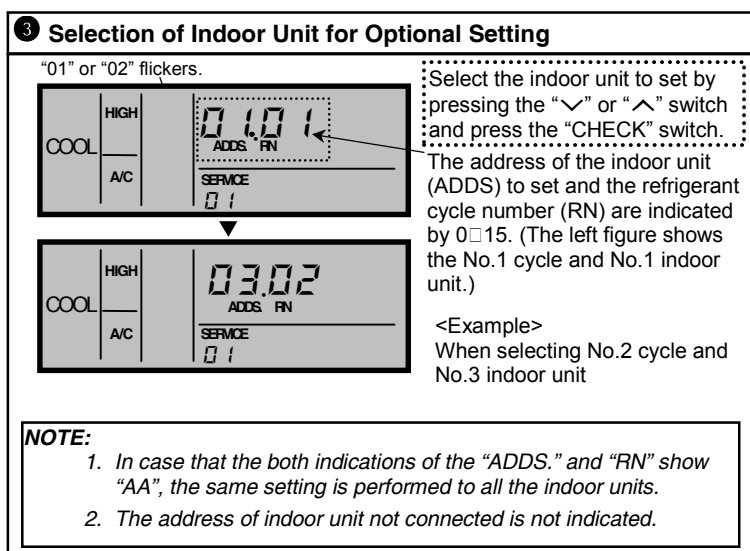
The setting of the indoor unit number can not be performed by the controller. In case of setting the unit number, refer to the item "Address of Indoor Unit" of Item 2 "Electrical Wiring for multiple units" and perform the setting.

5. OPTIONAL SETTING AND INPUT/OUTPUT SETTING OF INDOOR UNIT

5.1. OPTIONAL SETTING MODE



5.2. SELECTION OF INDOOR UNIT



5.3. CHANGING OF OPTIONAL FUNCTIONS AND SETTING CONDITIONS**5.3.1. OPTIONAL SETTING ITEMS****■ Optional Setting Mode (Mode Number "01")**

④ Selection of Optional Setting Items

Item Code of Optional Setting

Select the item code by pressing the "TIME" ▽ or △ switch.

<Example>
When selecting C5
(increasing Fan Speed)

■ Optional Setting Items

(A) Code	Items	Individual Setting Availability	(B) Setting Conditions
b1	Cancel of Adjusting Set Temperature for Heating Operation	A	00: Standard 01: Cancel
b2	Circulator for Heating Operation	A	00: Standard 01: Function
b3	3 Minutes Compressor OFF Guard	A	00: Standard 01: Function
b4	Period for Filter Sign	A	00-04 *1)
b5	Fixing Operation Mode	N	00: Standard 01: Fixed
b6	Fixing Setting Temperature	N	00: Standard 01: Fixed
b7	Fixing Cooling Operation	N	00: Standard 01: Fixed
b8	Automatic Cooling/Heating Operation	N	00: Not Available 01: Available
b9	Fixing Fan Speed	N	00: Standard 01: Fixed
C1	Not Prepared	—	Not Used
C2	Not Prepared	—	Not Used
C3	Not Prepared	—	Not Used
C4	Drain Pump Operation in Heating	A	00: Not Available 01: Available
C5	Increasing Fan Speed	A	Not Used
C6	Increasing Fan Speed When Thermo-OFF in Heating	A	00: Not Available 01: Available

*1), 00: Standard, 01: 100Hours, 02: 1200Hours, 03: 2500Hours, 04: No Indication

■ Optional Setting Items (cont.)

(A) Code	Items	Individual Setting Availability *5)	(B) Setting Conditions
C7	Cancel of 3 Minutes Compressor OFF Guard	A	00: Standard 01: Cancel
C8	Remote Control Thermostat	A	00: Not Available 01, 02: *2)
C9	Not Prepared	—	Not Used
CA	Not Prepared	—	Not Used
Cb	Selection of Manual Stoppage Logic	N	00: A Contact 01: B Contact
CC	Not Prepared	N	00
d1	Power Supply ON/OFF 1	A	00: Not Available 01: Available
d2	Not Prepared	—	Not Used
d3	Power Supply ON/OFF 2	A	00: Not Available 01: Available
E1	Ventilation Mode	A	00-02 *3)
E2	Operation To Increase Air Volume for Ventilation	A	00: Not Available 01: Available
E3	Not Prepared	—	Not Used
E4	Cool Down/Warm Up Period	A	00-02 *4)
E5	Not Prepared	—	Not Used
F1	Automatic Setting of OFF Timer	N	00-24: 0-24 Hours
F2	Remote Control Main- Sub Setting	N	00: Main 01: Sub

*2),01: Changing from Indoor Thermistor to Remote Thermistor, 02: Control with Average Value of Indoor Thermistor and Remote Thermistor

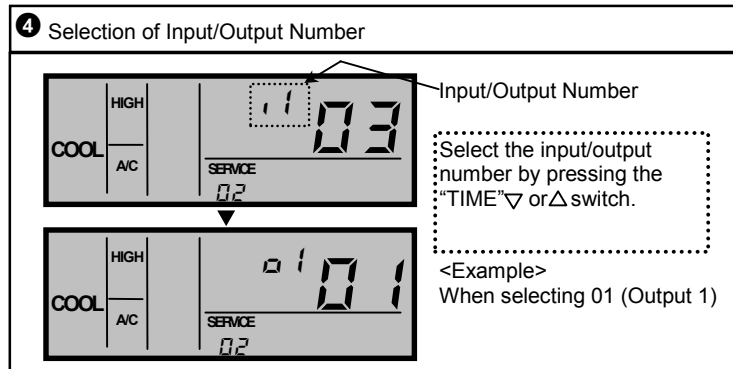
*3),00: Automatic Ventilation, 01: Total Heat Exchanger, 02: Bypass Ventilation (E1-E5: Optional Setting for Total Heat Exchanger)

*4),00: No Cool down / Warm up, 01: 30 min., 02: 60 min.

*5),A: Available, N: Not Available, —: Only Indication

5.3.2. INPUT/OUTPUT NUMBER

■ Input/Output Setting Mode (Mode Number "02")



■ Input and Output Setting Mode and Connector

Setting		Port	Setting at Shipping	
Mode	Indication		Setting Item	Indication
Input 1	, 1	CN3 1-2	Remote ON/OFF 1	03
Input 2	, 2	CN3 2-3	Forbidding Remote Control after Manual Stoppage	06
Output 1	0 1	CN7 1-2	Operation	01
Output 2	0 2	CN7 1-3	Alarm	02
Output 3	0 3	CN8 1-2	Thermo-ON for Heating	06

Indication	Input	Output
00	Not Set	Not Set
01	Room Thermostat (for Cooling)	Operation
02	Room Thermostat (for Heating)	Alarm
03	Remote ON/OFF 1	Cooling
04	Remote ON/OFF 2 (Operation)	Thermo-ON for Cooling
05	Remote ON/OFF 2 (Stoppage)	Heating
06	Forbidding Remote Control after Manual Stoppage	Thermo-ON for Heating
07	Remote Cooling/Heating Change	Total Heat Exchanger
08	Not Set	Not Set

**ATTENTION:**

Write down the contents of the setting in the table printed on the holding bracket.



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