

TOSHIBA

FILE NO. A04-007

APPLICATION CONTROL MANUAL

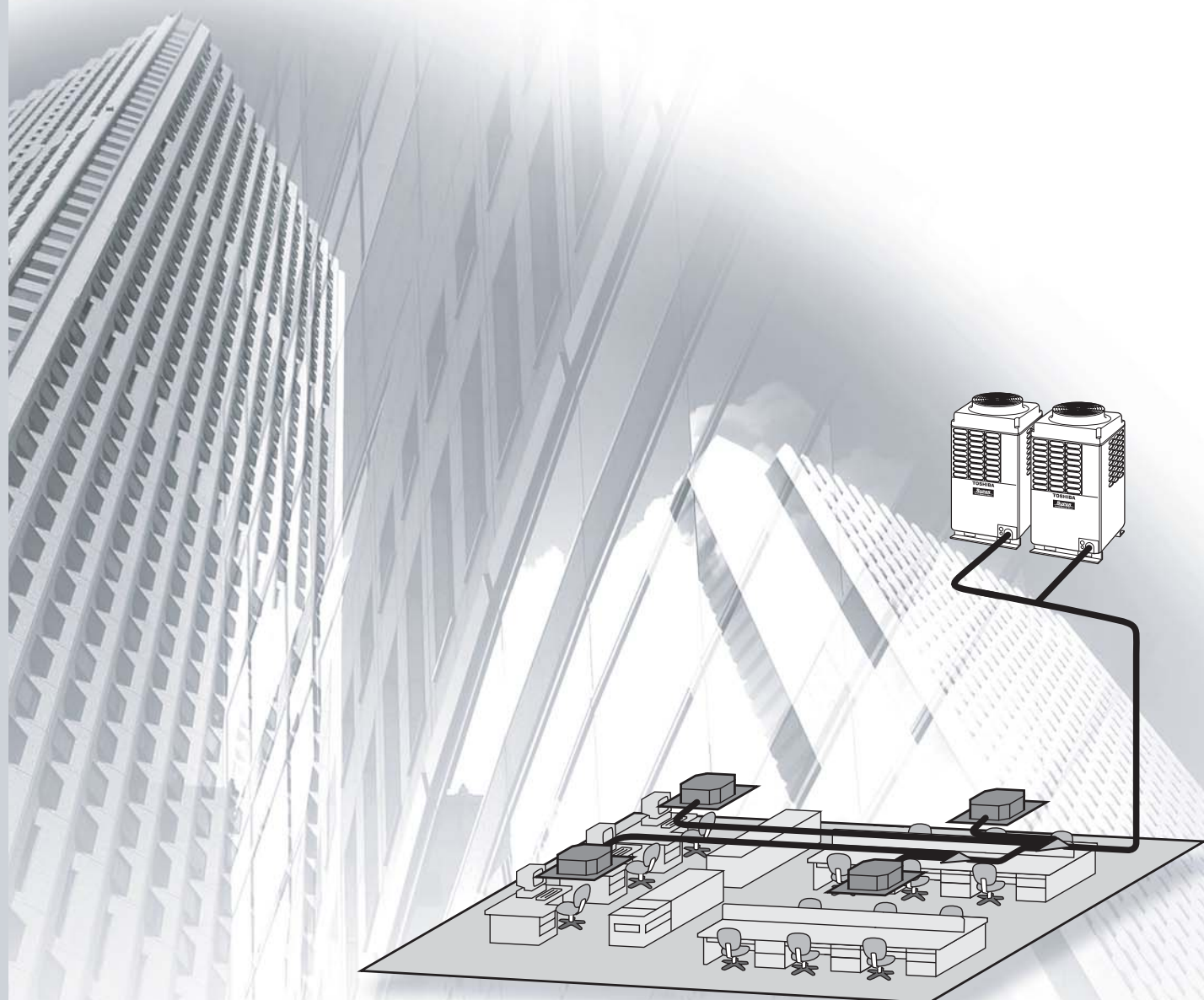
Super Modular Multi System

Heat Pump Type
Cooling Only Type



Super Heat Recovery Multi System

Heat Recovery Type



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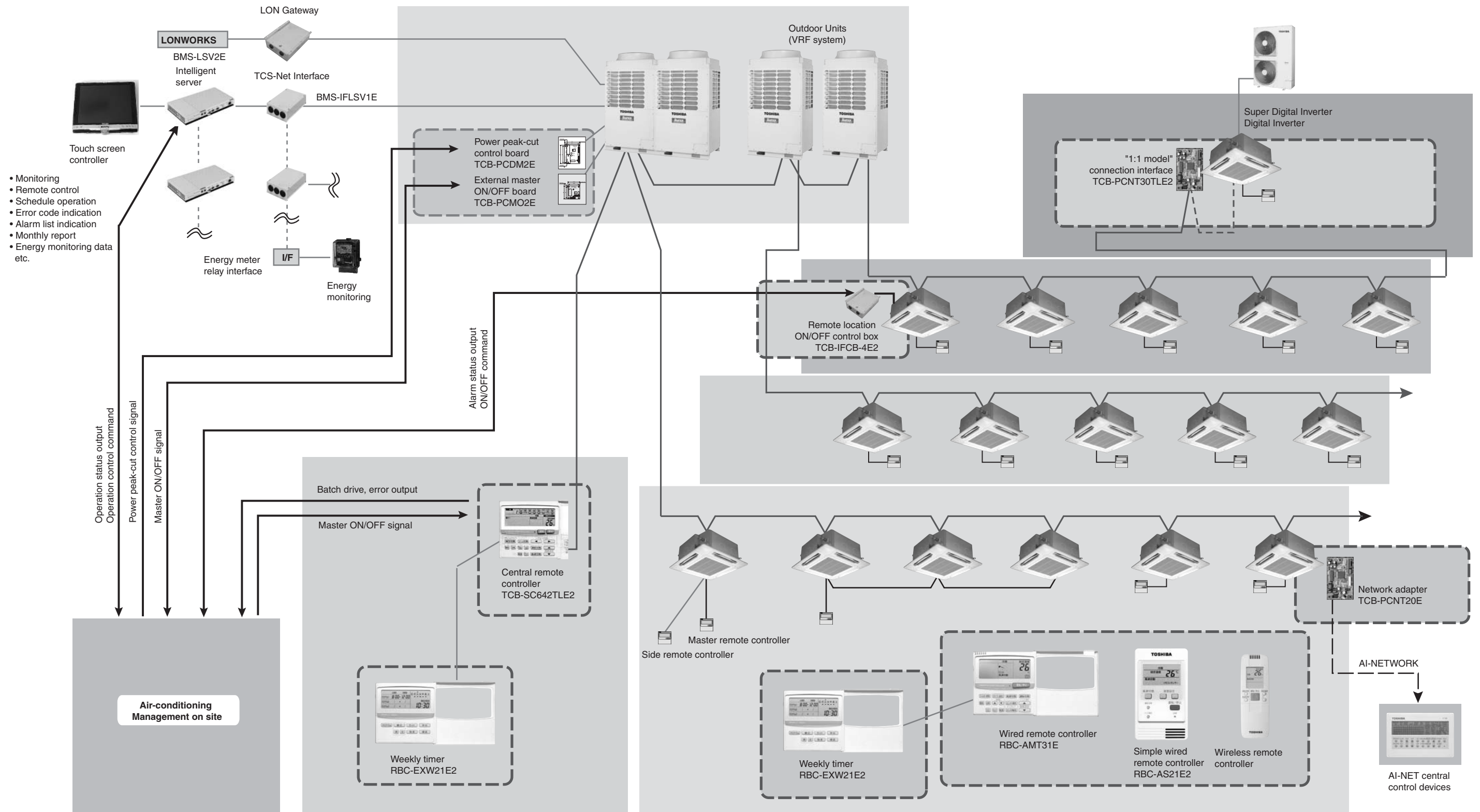
5 Dimensional drawing

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OUTLINE OF SYSTEM AND APPLICATION CONTROL

- 1-1 Outline of application control**
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 - 1-9-2 LONWORKS**
 - 1-9-3 Windows based central controller (Tentative)**
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1-1 Outline of application control

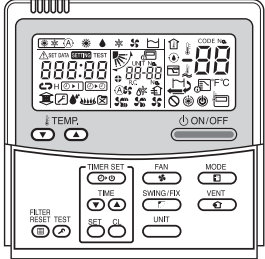
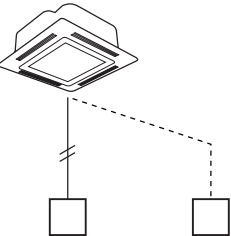
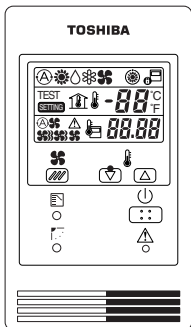
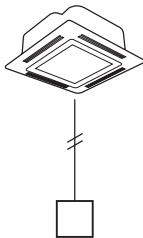
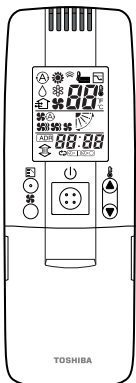
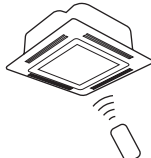


*1 BACnet™ : ANSI/ASHRAE135-1995, A Data Communication Protocol for Building Automation and Control Networks.
 *2 LoNWoRKs® : Registered trademark Echelon Corporation.

1-2 List of application control models and setting

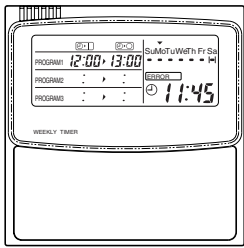
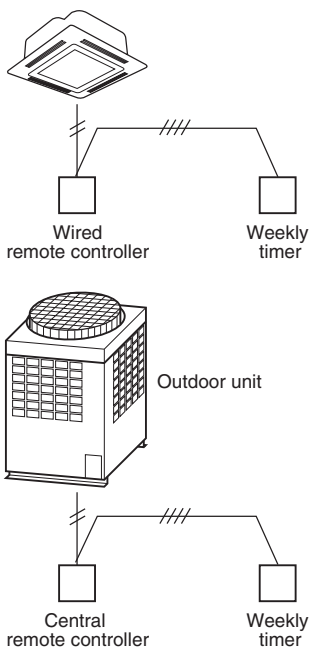
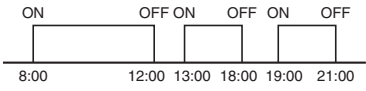
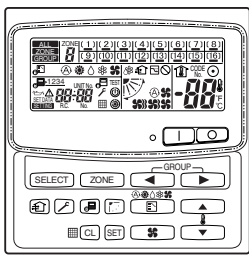
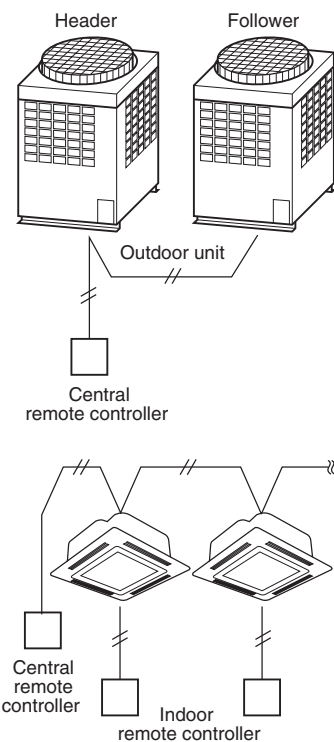
Appliance name	Model name	Contents of application control	Connecting device or setting method	Reference No.
Remote Controller				1-3 1-4
Wired remote controller	RBC-AMT21E RBC-AMT31E	•Individual control •Group control •Two remote control	Indoor unit	
Simple wired remote controller	RBC-AS21E RBC-AS21E2			
Wireless remote controller kit	TCB-AX21U(W)-E TCB-AX21U(W)-E2	•Individual control •Two wireless control •Two remote control (wired & wireless)	For 4-way sir discharge cassette type	
	RBC-AX22CE RBC-AX22CE2		For under ceiling type	
	TCB-AX21E TCB-AX21E2		For other type	
Weekly timer	RBC-EXW21E RBC-EXW21E2	•Weekly schedule operation (main remote controller + weekly timer)	Wired remote controller	
Central remote controller	TCB-SC642TLE TCB-SC642TLE2	•Central control of Max.64 or units	Outdoor unit (Indoor unit)	
		•Weekly schedule operation (central remote controller + weekly timer)		
		•Central control without indoor remote controller		
		•Central control with "1:1 model"		
ON-OFF controller	TCB-CC163TLE TCB-CC163TLE2	•ON-OFF remote control of Max.16 or units	Outdoor unit (Indoor unit)	
		•Weekly schedule operation (ON-OFF remote controller + weekly timer)		
		•ON-OFF remote control without indoor remote controller		
		•ON-OFF remote control with "1:1 model"		
Application controls for indoor unit				1-5
Function change of indoor unit		Setting functions necessary to perform applied control at the local site.	Item code (DN) setting from wired remote controller	
Ventilation fan control from remote controller		Ventilation fan start/stop operation from wired remote controller.	Setting from wired remote controller and relay wiring (local supply)	
Leaving-ON prevention control		Control to prevent Leaving-ON of indoor unit.		
Demand control from indoor unit		Thermo-OFF operation by relay signal	Relay wiring (local supply)	
Remote sensor	TCB-TC21LE TCB-TC21LE2	Remote sensing of indoor air temperature	Indoor unit	
Application controls for outdoor unit				1-6
Outdoor fan high static pressure shift		Change of outdoor fan control when connecting a duct to discharge port of outdoor unit.	Switch setting on outdoor interface P.C. board	
Control for cooling/heating priority		Change operation mode priority		
Specific indoor unit priority control		Specific indoor unit has the priority for operation mode.	Item code (DN) setting from wired remote controller	
Optional P.C. board of outdoor unit				1-7
Power peak-cut control board	TCB-PCDM2E	Power peak-cut (Standard function)	Inverter assembly of the header outdoor unit	
		Power peak-cut (Expansion function)		
External master ON/OFF control board	TCB-PCMO2E	Snowfall fan control		
		External master ON/OFF control		
		Night operation (sound reduction) control		
		Operation mode selection control		
Optional devices connected to the indoor unit				1-8
Remote location ON/OFF control box	TCB-IFCB-4E	•Monitoring from outside •ON/OFF command from external signals	Indoor unit	
Network adapter	TCB-PCNT20E	Central control with AI-Network system	Indoor unit	
"1:1 model" connection interface	TCB-PCNT30TLE TCB-PCNT30TLE2	Central control with "1:1 model" (link Toshiba Digital Inverter system and Super Digital Inverter system)	Indoor unit	
Application control for network				1-9
Touch screen controller system	BMS-TP5120ACE etc.	Combination of touch screen and local server (monitoring, remote operation, etc)	Central control wiring	
LONWORKS	TCB-IFLN640TLE etc.	LONWORKS interface connected to building management computer	Central control wiring	
Windows based central controller		Local server is "Plug-in" into customer's personal computer	Central control wiring	
BACnet	BMS-LSV2E etc.	Local server is connected under the BACnet network.	Central control wiring	

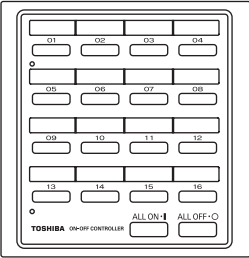
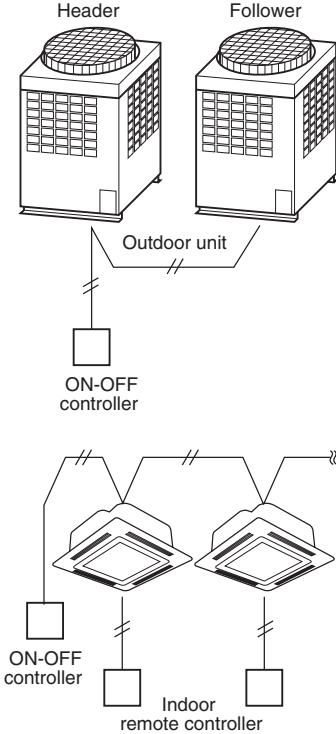
1-3 Remote controller

Name	Model name	Appearance	Application	Function	Reference No.
Wired remote controller	RBC-AMT21E RBC-AMT31E		Connected to indoor unit  Wired remote controller Wired remote controller (In case of control by 2 remote controllers)	- Start / Stop - Changing mode - Temperature setting - Air flow changing - Timer function - Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated. - Combined with the weekly timer, weekly schedule operation can be operated. - Filter sign Displays automatically maintenance time of indoor filter. Filter sign flashes. - Self-diagnosis function Pressing "CHECK" button displays the cause of the fault/error based on the check code. - Control by 2 remote controllers is available. Two remote controllers can be connected to one indoor unit. The indoor unit can then be operated separately from the two different places.	1-4 4-1-1
	RBC-AS21E RBC-AS21E2		Connected to indoor unit  Simple remote controller	- Start / Stop - Temperature setting - Air flow changing - Check code display	1-4 4-1-2
Wireless remote controller kit	TCB-AX21U (W)-E TCB-AX21U (W)-E2		Connected to indoor unit 	- Start / Stop - Changing mode - Temperature setting - Air flow changing - Timer function Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated. - Control by 2 remote controllers is available. Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different places. - Check code display	1-4 4-1-3
	RBC-AX22CE RBC-AX22CE2			TCB-AX21U (W)-E2 (For 4-way Air Discharge Cassette) RBC-AX22CE2 (For Under Ceiling, 1-way Air Discharge Cassette)	
	TCB-AX21E TCB-AX21E2			TCB-AX21E2 (For 2-way Air Discharge Cassette, Concealed Duct Standard, Slim Duct, Floor Standing Cabinet, Floor Standing)	

Wireless remote controller kit (Kit includes Hand set and receiver unit)

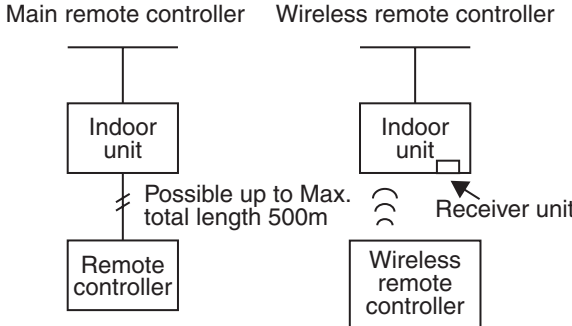
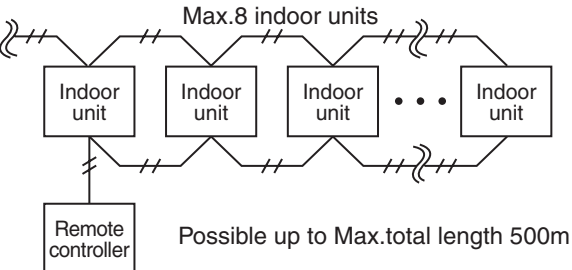
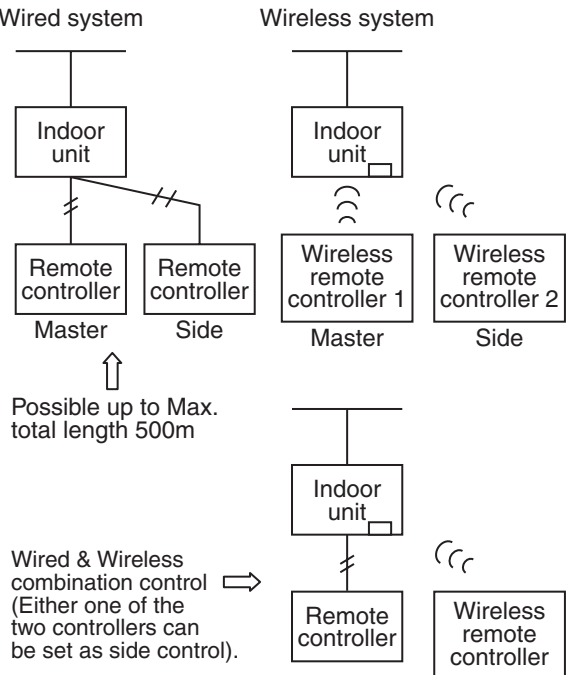
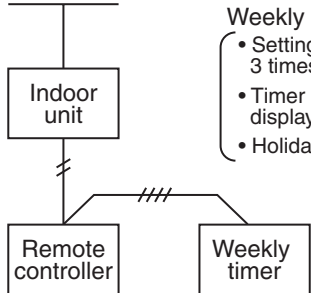
	Outlook and function	Reference No.
Wireless remote controller	 Wireless remote controller (Common for all indoor unit types)	4-1-3
Sensor unit (receiver unit)	 TCB-AX21U(W)-E TCB-AX21U(W)-E2 (for 4-way Air Discharge Cassette type) 186W x 186D (Mounted to the corner of ceiling panel)	
	 TCB-AX22CE TCB-AX22CE2 (For Under Ceiling, 1-way Air Discharge Cassette) 130W x 65H (Mounted to the display position behind the front cover)	
	 TCB-AX21E TCB-AX21E2 (For 2-way Air Discharge Cassette, Hi-wall 1series, Concealed Duct Standard, Slim Duct, Floor Standing Cabinet, Floor Standing) 70W x 120H (Placed on the wall,etc)	

Name	Model name	Appearance	Application	Performance	Reference No.
Weekly timer	RBC-EXW21E RBC-EXW21E2		Connected to central remote controller and wired remote controller  Wired remote controller Weekly timer Outdoor unit Central remote controller Weekly timer	- Weekly schedule operation - Setting different start / stop times for each day of the week - ON / OFF can be easily set 3 times a day.  "CHECK" "PROGRAM" "DAY" button enables setting copy. - Two schedule patterns for the a week can be specified. (Summer schedule and winter schedule, etc.) "CANCEL" "DAY" button enables holiday setting. - If power supply fails, the setting contents are stored in the memory for up to 100 hours.	1-4 4-1-4
Central remote controller	TCB-SC642TLE TCB-SC642TLE2		Connected to outdoor unit, indoor unit  Header Follower Outdoor unit Central remote controller Central remote controller Indoor remote controller	- Individual control of up to 64 indoor units. - Individual control for max. 64 indoor units divided 1 to 4 zone. (Up to 16 indoor units for each zone) - Up to 16 outdoor header units are connectable. 4 types of central control settings to inhibit individual operation by remote controller can be selected. - Setting for one of 1 to 4 zones is available. - Usable with other central control devices (Up to 10 central control devices in one control circuit) - Two control mode selectivity (Central controller mode Remote controller mode) - Setting of simultaneous ON/OFF 3 times per day combined with the weekly timer.	1-4-4 4-2

Name	Model name	Appearance	Application	Performance	Reference No.
ON-OFF controller	TCB-SC163TLE TCB-SC163TLE2		Connected to outdoor unit, indoor unit 	- Individual control of up to 16 indoor units. - Connection by 2 remote controllers is available. - Setting of simultaneous ON/OFF 3 times per day combined with the weekly timer.	1-4-4 4-3

1-4 Application controls for remote controller

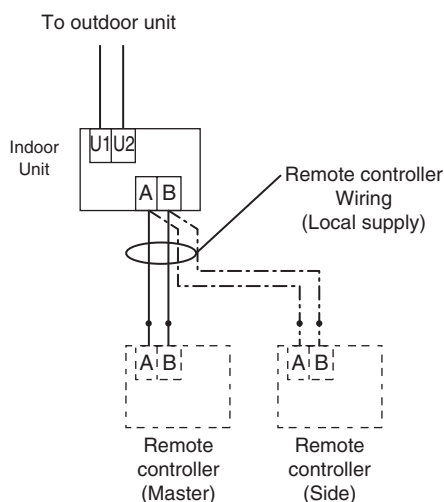
1-4-1 Applications for indoor remote controller

	Basic function	System diagram	Model
1	Individual control (Air conditioner is individually operated at a distance.)		- Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2 - Wireless remote controller kit TCB-AX21U(W)-E2 RBC-AX22CE2 TCB-AX21E2
2	GROUP control (One remote controller can control a group of up to a maximum of 8 indoor units. Operating on the same setting)		- Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2
3	Two remote control (Air conditioner is controlled by two remote controllers in two locations.)		- Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2 - Wireless remote controller kit TCB-AX21U(W)-E2 RBC-AX22CE2 TCB-AX21E2
4	Control by weekly timer (Weekly schedule operation)	 Weekly timer function - Setting of ON-OFF 3 times par day - Timer operation time is displayed. - Holiday period	- Wired remote controller RBC-AMT21E RBC-AMT31E + - Weekly timer RBC-EXW21E2

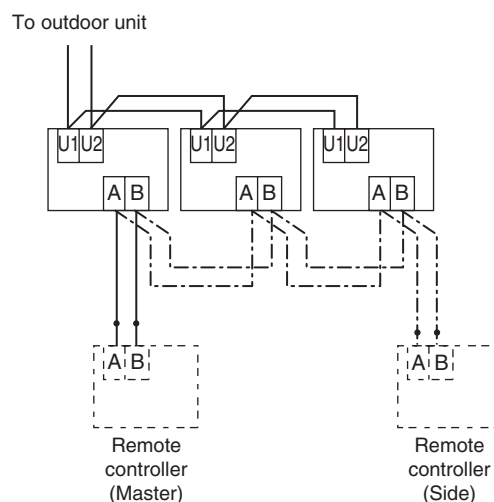
1-4-2 Two remote controllers

This control is for one or more indoor units that are controlled by two separate remote controllers.
(Max. two remote controllers can be connected.)

● One indoor unit operated by two remote controllers



● Group control operated by two remote controllers



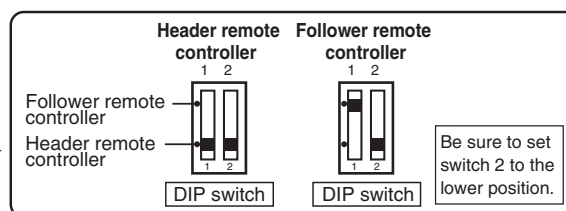
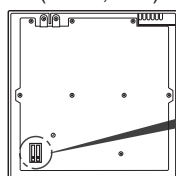
(Setting method for side remote controller)

In case of wired remote controller

Change the remote controller address connector on the side of the remote controller on the P.C. board.

(In case of remote controller [RBC-AS21E2], refer to “4-1-2 Simple wired remote controller”)

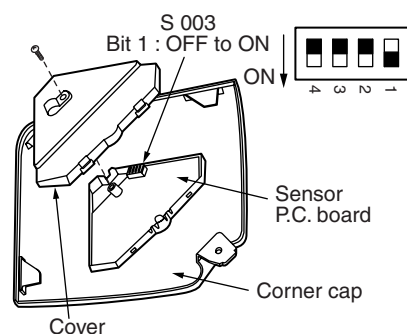
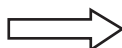
Remote controller (inside, rear)



In case of wireless remote controller

Turn No.3 on DIP switch [S003] on sensor P.C. board from OFF to ON.

In case of 4-way cassette type
(For others, refer to installation manual of wireless remote controller kit or “4-1-3 Wireless remote controller kit”)



(Operation)

- 1) Operation mode can be changed by “last push priority”.
- 2) In case of using a timer, connect the timer to either remote controller.

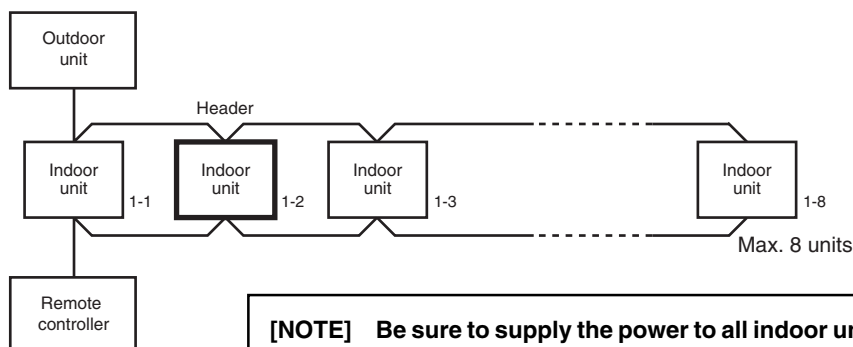
1-4-3 Group control

Maximum of 8 indoor units can be controlled by one remote controller within a group control.

Twin change or triple control of a 1 by 1 model (Toshiba Digital inverter, Super digital inverter) corresponds to one group control.

The Header indoor unit controls the indoor air temperature based on the setting temperature of the remote controller.

System sample



[NOTE] Be sure to supply the power to all indoor units within the group control.
If the power isn't supplied to the header indoor unit, communication between indoor units and remote controller can't be performed.

[1] Display range of remote controller

Remote controller reflects the setting range of header indoor unit.

Setting range : Operation mode, Air Volume setting, Setting temperature

[NOTE] Do not set the concealed duct high pressure type (AID-P***H, MMD-P***1H) as the header indoor unit.

⇒ Set another type of indoor unit as the header indoor unit.

- In the case that the concealed duct high static pressure type is the header indoor unit, the remote controller display will be as follows.

Operation mode : [AUTO] [HEAT] [COOL] [FAN], no [DRY] mode

Air volume selection : [HIGH]

- In case of [DRY] mode, duct type keeps [FAN] mode.

[NOTE] Do not set the cooling only model as the header indoor unit.

⇒ Set heat pump model as header indoor unit.

- [AUTO] [HEAT] mode can't be operated.

[2] Remote location control (HA)

Both header and follower indoor units can respond by remote location control (HA) signals.

Master ON/OFF control can be conducted for all indoor units within the same group.

[NOTE] Don't input two or more HA signals to one group.

[3] Address setting

All indoor units within the same group must be turned on when automatic address setting is conducted.

If the power supply is turned on three minutes later than when you begin the automatic address setting, reboot will occur and the automatic address setting will begin again.

[NOTE.1] Ensure that all electrical and wiring work is carried out correctly.

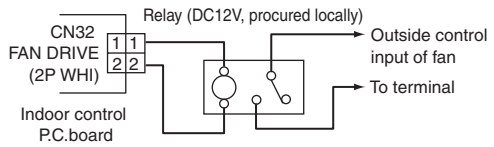
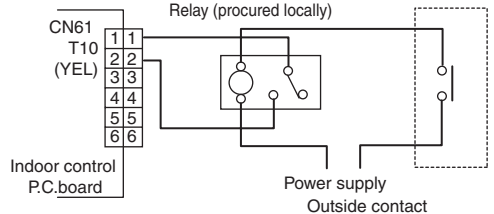
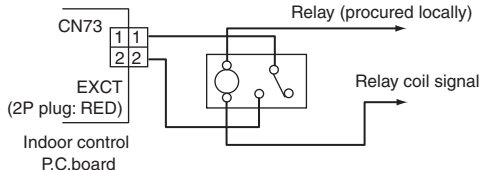
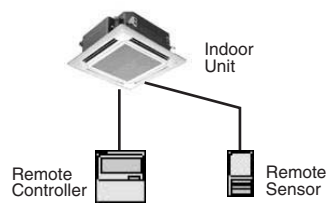
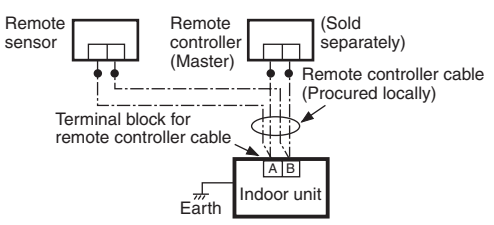
[NOTE.2] Reconfirm the line / indoor / group address one by one.

1-4-4 Application controls for central remote controller

	Basic function	System diagram	Model	Reference No.
1	Central management controller for 64 units	Function of central remote controller - Individual control up to 64 indoor units. - Individual control for a max of 64 indoor units divided in to 4 zones. (Up to 16 indoor units for each zone.) - Up to 16 outdoor header units are connectable. 4 off selectable settings to restrict individual operation of remote controller. - Setting for one of 1 to 4 zones is available. - Can be used with other central control devices (Up to 10 central control devices with in one control circuit) - Two selectable modes Central controller mode/Remote controller mode - Setting of simultaneous ON/OFF 3 times per day of the week combined with a weekly timer.	- Central remote controller TCB-SC642TLE2 - ON-OFF controller TCB-CC163TLE2 Indoor remote controller - Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2	4-2
2	Central remote controller + Weekly timer (Weekly operation schedule can be set by connecting a weekly timer to the central remote controller)		- Central remote controller TCB-SC642TLE2 - ON-OFF controller TCB-CC163TLE2 + - Weekly timer RBC-EXW21E2 Indoor remote controller - Wired remote controller RBC-AMT21E RBC-AMT31E - or - Simple wired remote controller RBC-AS21E2	4-2

	Basic function	System diagram	Model	Reference No.
3	Central remote control without indoor remote controller	U3, U4 Outdoor unit Power supply Single phase 220/230/240V Central remote controller U1, U2 Indoor unit (When grouping operation is performed by connecting multiple indoor units to 1 line, the indoor remote controller is required.) Example of grouping operation U3, U4 Outdoor unit U1, U2 Power supply Single phase 220/230/240V Central remote controller Indoor remote controller is required (Group) Available U3, U4 Outdoor unit U1, U2 Power supply Single phase 220/230/240V Central remote controller (Group) Available	- Central remote controller TCB-SC642TLE2 - ON-OFF controller TCB-CC163TLE2 - Indoor remote controller - Wired remote controller RBC-AMT21E RBC-AMT31E	4-2
4	Central management control with "1 : 1 model"	Power supply Central remote controller U3, U4 Header unit Super MMS U1, U2 Indoor unit Indoor remote controller "1:1 model" connection interface * 1 * TOSHIBA Digital Inverter System and Super Digital Inverter System	- Central remote controller TCB-SC642TLE2 - ON-OFF controller TCB-CC163TLE2 "1 : 1 model" connection interface TCB-PCNT30TLE2 (RAV-SM561KRT-E, SM801KRT-E are not compatible) - Indoor remote controller - Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2	4-2

1-5 Application controls of indoor unit

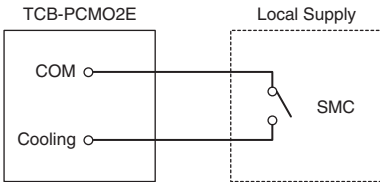
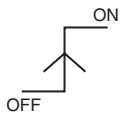
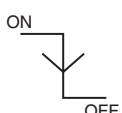
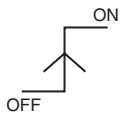
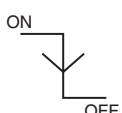
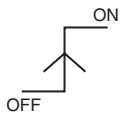
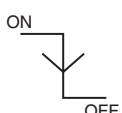
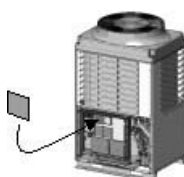
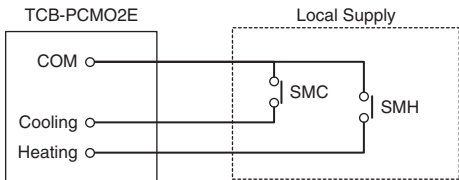
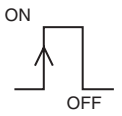
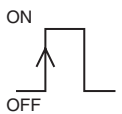
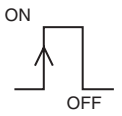
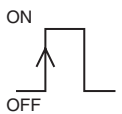
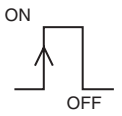
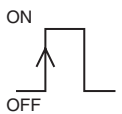
No	Control name	Function		Reference No.
1	Function change	Required functions to enable the applied control of the system. (Ex. Setup of TA sensor, body TA sensor / remote controller sensor)	Item code (DN) setting from wired remote controller	4-4-1
2	Ventilation fan control from remote controller	ON/OFF control can be operated from the wired remote controller when the Heat Exchange Ventilator or ventilation fan is installed in the system. 	Setting from wired remote controller + Relay wiring (local supply)	4-4-2
3	Leaving-ON prevention control	Using a door switch or card entry system etc, the leaving-ON of the indoor unit can be prevented, this is done by the setting of the remote controller and relay wiring. 	Setting from wired remote controller + Relay wiring (local supply)	4-4-3
4	Demand control	Thermostat-OFF operation by relay signal. • Wiring example 	Relay wiring (local supply)	4-4-4
5	Remote sensor (TCB-TC21LE2) 	Air temperature sensing at a distance.  [NOTE] Do not change the TA sensor on the remote controller sensor by using item code (DN) setting.	Remote sensor (TCB-TC21LE2)	4-4-5

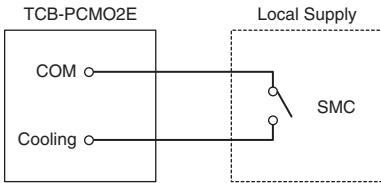
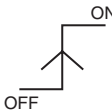
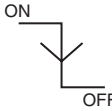
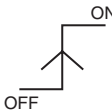
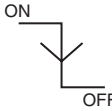
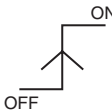
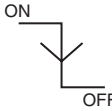
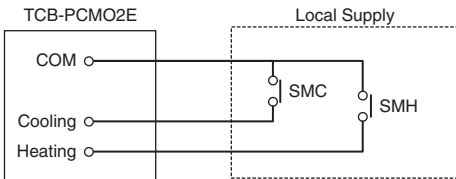
1-6 Application controls of outdoor unit

No	Control name	Function	Setting method	Reference No.
1	Outdoor fan high static pressure shift	Increases outdoor fan speed so that a duct with the maximum outside static pressure of 35Pa can be installed.	Switch setting on outdoor interface P.C. board	4-5-1
2	Cooling priority, heating priority control	Cooling priority or heating priority can be selected. (Setup at shipment : heating priority)		4-5-2
3	Specific indoor unit priority control	Only one indoor unit can be set as priority for changeover of operation mode.	Switch setting on outdoor interface P.C. board + Item code (DN) setting from wired remote controller	4-5-3

1-7 Application controls by the optional P.C. board of outdoor unit

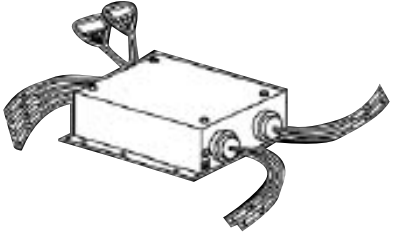
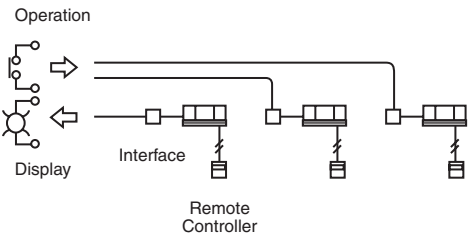
Model name	Appearance	Function	Reference No.																																					
TCB-PCDM2E	 Size : 71 x 85 (mm)	[1] Power peak-cut Control ● Feature The upper limit capacity of the outdoor unit is restricted based on the outdoor power peak selected setting. ● Function Two control settings are selectable by setting SW07 on the interface P.C. board on the header outdoor unit. TCB-PCDM2E ON COM OFF COM Local Supply SW1 SW2	4-6-1																																					
	Application  * Install the optional P.C. board in the inverter assembly of the outdoor header unit. [Standard function] SW07-2 OFF <table><tr><th colspan="2">Input</th><th colspan="2">SW07-1</th></tr><tr><th>SW01</th><th>SW02</th><th>OFF</th><th>ON</th></tr><tr><td>ON</td><td>OFF</td><td>0% (stop)</td><td>Up to 60%</td></tr><tr><td>OFF</td><td>ON</td><td>100% (Normal)</td><td>100% (Normal)</td></tr></table> [Additional function] SW07-2 ON <table><tr><th colspan="2">Input</th><th colspan="2">SW07-1</th></tr><tr><th>SW01</th><th>SW02</th><th>OFF</th><th>ON</th></tr><tr><td>OFF</td><td>OFF</td><td>100% (Normal)</td><td>100% (Normal)</td></tr><tr><td>ON</td><td>OFF</td><td>Up to 80%</td><td>Up to 85%</td></tr><tr><td>OFF</td><td>ON</td><td>Up to 60%</td><td>Up to 75%</td></tr><tr><td>ON</td><td>ON</td><td>0% (stop)</td><td>Up to 60%</td></tr></table> • Ensure that terminal contacts are fixed and secure. • Do not turn on SW1 and SW2 terminals simultaneously.	Input		SW07-1		SW01	SW02	OFF	ON	ON	OFF	0% (stop)	Up to 60%	OFF	ON	100% (Normal)	100% (Normal)	Input		SW07-1		SW01	SW02	OFF	ON	OFF	OFF	100% (Normal)	100% (Normal)	ON	OFF	Up to 80%	Up to 85%	OFF	ON	Up to 60%	Up to 75%	ON	ON	0% (stop)
Input		SW07-1																																						
SW01	SW02	OFF	ON																																					
ON	OFF	0% (stop)	Up to 60%																																					
OFF	ON	100% (Normal)	100% (Normal)																																					
Input		SW07-1																																						
SW01	SW02	OFF	ON																																					
OFF	OFF	100% (Normal)	100% (Normal)																																					
ON	OFF	Up to 80%	Up to 85%																																					
OFF	ON	Up to 60%	Up to 75%																																					
ON	ON	0% (stop)	Up to 60%																																					

Model name	Appearance	Function	Reference No.									
TCB-PCMO2E	 Size : 55.5 x 60 (mm)	[2] Snowfall fan control ● Feature Outdoor fan is operated from the snowfall signal received from the outside. ● Function  SMC : Cooling mode select input (switch) <table border="1"><thead><tr><th>Terminal</th><th>Input signal</th><th>Operation</th></tr></thead><tbody><tr><td rowspan="2">SMC</td><td></td><td>Snowfall fan control (Operates outdoor fan.)</td></tr><tr><td></td><td>Normal operation (Releases control)</td></tr></tbody></table> This control is activated when a input signal increases or decreases. (The increasing or decreasing signal needs to be held for a minimum of 100m/ sec in order to activate the control).	Terminal	Input signal	Operation	SMC		Snowfall fan control (Operates outdoor fan.)		Normal operation (Releases control)	4-6-2	
	Terminal	Input signal	Operation									
SMC		Snowfall fan control (Operates outdoor fan.)										
		Normal operation (Releases control)										
Application  * Install the optional P.C. board in the inverter assembly of the outdoor header unit.												
TCB-PCMO2E		[3] External master ON/OFF control ● Feature The outdoor unit starts or stops the system. ● Function  SMC : Input signal for start SMH : Input signal for stop <table border="1"><thead><tr><th>Terminal</th><th>Input signal</th><th>Operation</th></tr></thead><tbody><tr><td>SMC</td><td></td><td>Starts all indoor units.</td></tr><tr><td>SMH</td><td></td><td>Stops all indoor units.</td></tr></tbody></table> • Ensure that terminal contacts are fixed and secure. This control is activated when a input signal increases or decreases. (The increasing or decreasing signal needs to be held for a minimum of 100m/ sec in order to activate the control).	Terminal	Input signal	Operation	SMC		Starts all indoor units.	SMH		Stops all indoor units.	4-6-3
	Terminal	Input signal	Operation									
SMC		Starts all indoor units.										
SMH		Stops all indoor units.										

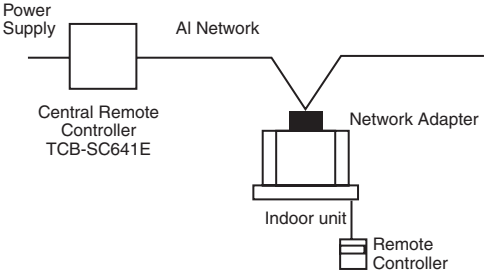
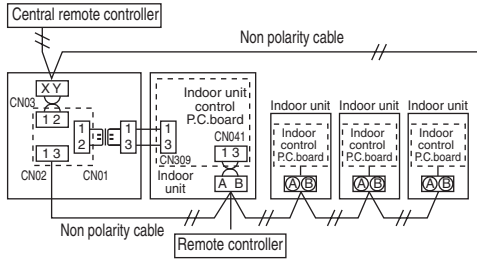
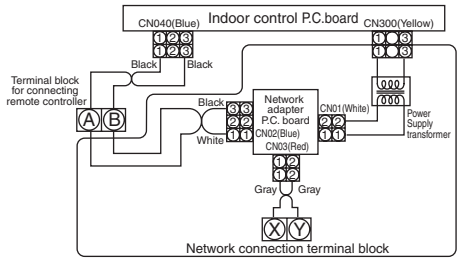
Model name	Appearance	Function	Reference No.								
TCB-PCMO2E	 Size : 55.5 x 60 (mm)	[4] Night operation (Sound reduction) control ● Feature Sound level can be reduced by restricting the compressor and fan speeds. ● Function  SMC : Cooling mode designated input switch <table border="1"><thead><tr><th>Terminal</th><th>Input signal</th><th>Operation</th></tr></thead><tbody><tr><td rowspan="2">SMC</td><td></td><td>Night operation (sound reduction) control</td></tr><tr><td></td><td>Normal Operation</td></tr></tbody></table> This control is activated when a input signal increases or decreases. (The increasing or decreasing signal needs to be held for a minimum of 100m/ sec in order to activate the control).	Terminal	Input signal	Operation	SMC		Night operation (sound reduction) control		Normal Operation	4-6-4
	Terminal	Input signal	Operation								
SMC		Night operation (sound reduction) control									
		Normal Operation									
 * Install the optional P.C. board in the inverter assembly of the outdoor header unit.	[5] Operation mode selection control ● Feature This control can restrict the selectable operation mode. ● Function  SMC : Cooling mode designated input switch SMH : Heating mode designated input switch <table border="1"><thead><tr><th>SMC</th><th>SMH</th><th>Selected operation mode</th></tr></thead><tbody><tr><td>ON</td><td>OFF</td><td>Only cooling mode permitted</td></tr><tr><td>OFF</td><td>ON</td><td>Only heating mode permitted</td></tr></tbody></table> Ensure terminal contacts are securely fixed.	SMC	SMH	Selected operation mode	ON	OFF	Only cooling mode permitted	OFF	ON	Only heating mode permitted	4-6-5
SMC	SMH	Selected operation mode									
ON	OFF	Only cooling mode permitted									
OFF	ON	Only heating mode permitted									

1-8 Application control of optional devices connectable to indoor units

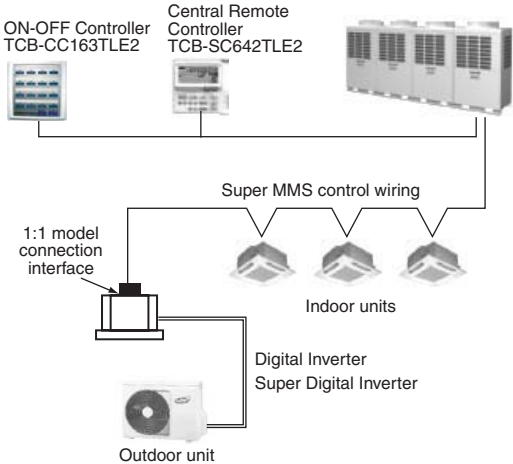
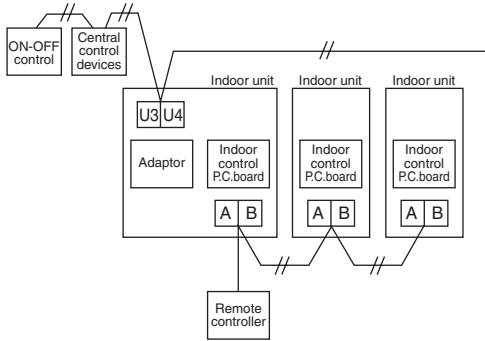
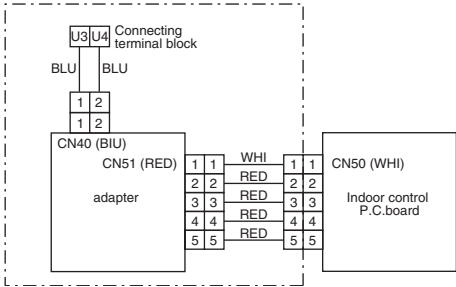
[1] Remote location ON/OFF control box

Model name	Appearance	Features	Reference No.
TCB-IFCB-4E2		Start and stop of the air conditioner is possible by a external signal and indication of operation/ alarm externally.	4-7-1
	Application	Function	
		- Monitoring ON/OFF status (for indoor unit) Alarm status (system & indoor unit stop) - ON/OFF command Air conditioner can be turned ON/OFF by the external signals. The external ON/OFF signals will initiate the signals shown below. 	

[2] Network adapter

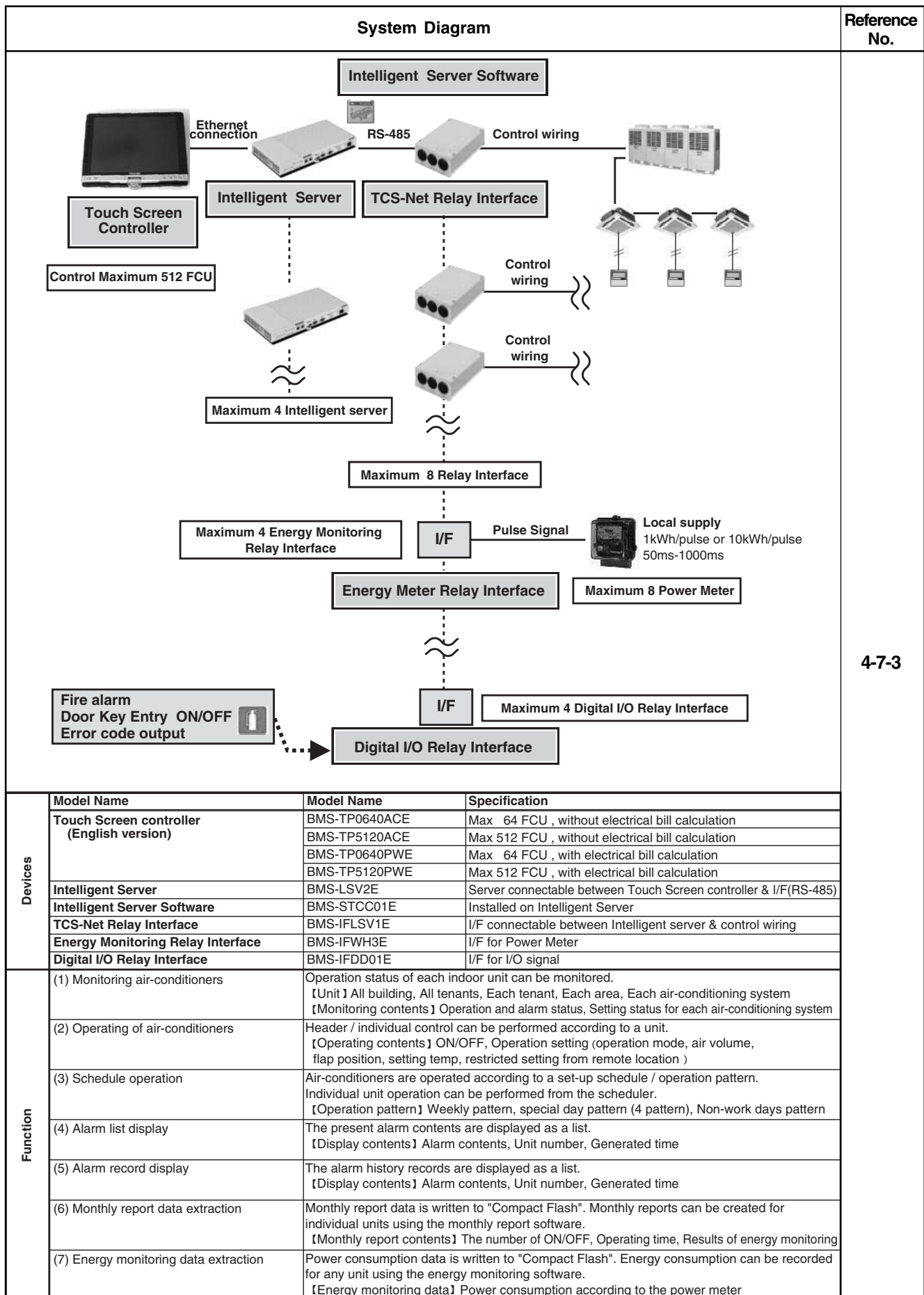
Model name	Appearance	Features	Reference No.
TCB-PCNT20E		Indoor units of VRF system are controlled by AI-NETWORK central remote controller. Connectable indoor units per group.	4-7-2
	Application	Connection of cables	
	Install optional P.C. board in E-parts of indoor unit. 	 Wiring diagram of indoor P.C. board 	

[3] “1:1 model” connection interface

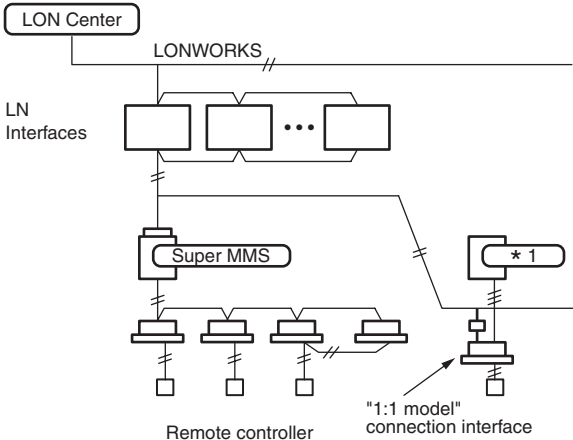
Model name	Appearance	Features	Reference No.
TCB-PCNT30TLE2	 Install optional P.C. board in E-parts of the indoor unit.	● Link adapter for “1:1 model” to enable connection to VRF system network 1:1 model : Super digital inverter Digital inverter	4-7-3
	Application 	Connection of cables 	
		Wiring diagram of indoor P.C. board 	

1-9 Application control for network

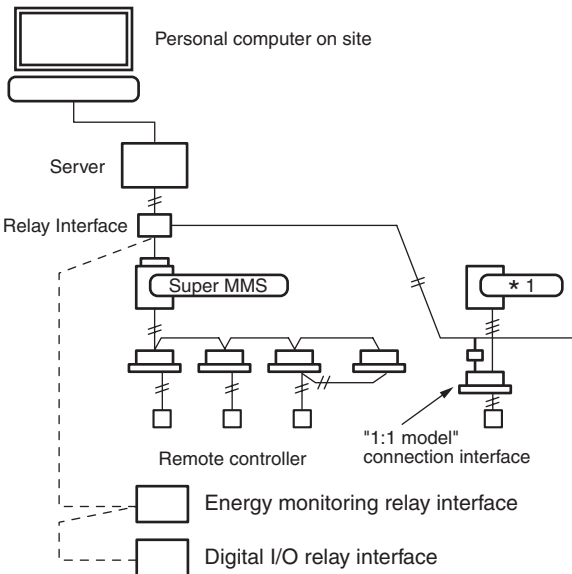
1-9-1 Touch screen controller system



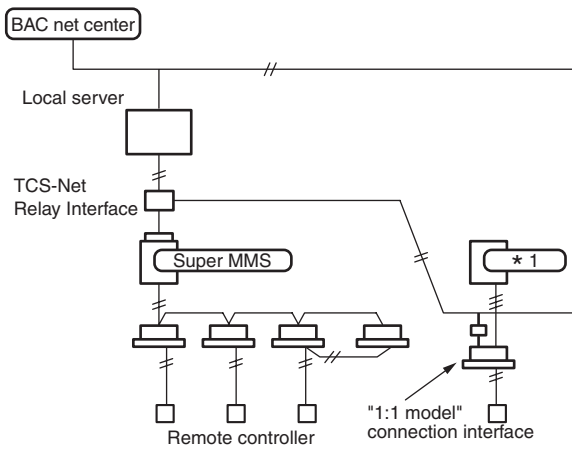
1-9-2 LONWORKS

System diagram	Model	Reference No.
 *1 TOSHIBA Digital Inverter System and Super Digital Inverter System The LONWORKS interface is to be connected between a building management computer and a Super HRM, Super MMS system. [LONWORKS Gateway] ■ Command • Operation : ON/OFF • Mode : Cool/Heat/Fan • Temperature setting • Fan Speed setting ■ Monitor • Operation : ON/OFF • Mode : Cool/Heat/Fan/failure • Temperature setting • Room temperature	• LN Interface TCB-IFLN640TLE2 • “1 : 1 model” connection interface TCB-PCNT30TLE2 (RAV-SM561KRT-E, SM801KRT-E are not compatible) Indoor remote controller • Wired remote controller RBC-AMT21E RBC-AMT31E or • Simple wired remote controller RBC-AS21E2	4-8-2

1-9-3 Windows based central controller (Now Planning)

System diagram	Model	Reference No.
 Personal computer on site Server Relay Interface Super MMS Remote controller "1:1 model" connection interface Energy monitoring relay interface Digital I/O relay interface *1 TOSHIBA Digital Inverter System and Super Digital Inverter System		4-8-3

1-9-4 BACnet

System diagram	Model	Reference No.
 BAC net center Local server TCS-Net Relay Interface Super MMS Remote controller "1:1 model" connection interface *1 TOSHIBA Digital Inverter System and Super Digital Inverter System The local server shall be connected under the BACnet network, and connected to the Super HRM, Super MMS system through the interface.	- BACnet local server BMS-LSV2E - TCS-Net Relay Interface BMS-IFLSV1E "1 : 1 model" connection interface TCB-PCNT30TLE2 (RAV-SM561KRT-E, SM801KRT-E are not compatible) Indoor remote controller - Wired remote controller RBC-AMT21E RBC-AMT31E - Simple wired remote controller RBC-AS21E2	4-8-4

(Note) For "1-9-1" to "1-9-4", details of specification were not available at the time of publication. For further information (set up, adjustment), consult your sales subsidiary.

2

SYSTEM WIRING DIAGRAM AND CONTROL WIRING METHOD

- 2-1 Applicable model and connectable units**
- 2-2 System wiring diagram**
 - 2-2-1 For VRF system only**
 - 2-2-2 For combined system with “1:1model”**
- 2-3 Design of control wiring**
- 2-4 Earth method of shield wiring**
 - 2-4-1 For VRF system only**
 - 2-4-2 For combined system with “1:1model”**
- 2-5 General requirements for control wiring**

2-1 Applicable model and connectable units

1) Applicable model

- VRF system Super modular multi system (Super MMS)
Super heat recovery multi system (Super HRM)
- 1:1 model Super digital inverter, Digital inverter

2) The number of connectable units

[1] For only VRF system

	Connected unit	No. of units	Note
1	Outdoor unit (Header unit)	Up to 16 units	
2	Outdoor unit (Follower unit)	Up to 3 units	In the same refrigerant system
3	Indoor unit	Up to 64 units	• Max 64 units in case of group control* • Max. 48 units for one refrigerant system
4	Group control for indoor units	Up to 8 units	
5	Central control device	Up to 10 units	• Central remote controller

* A Follower indoor unit in a group control must be counted as one indoor unit.

[2] For combined system with Digital Inverter / Super Digital Inverter

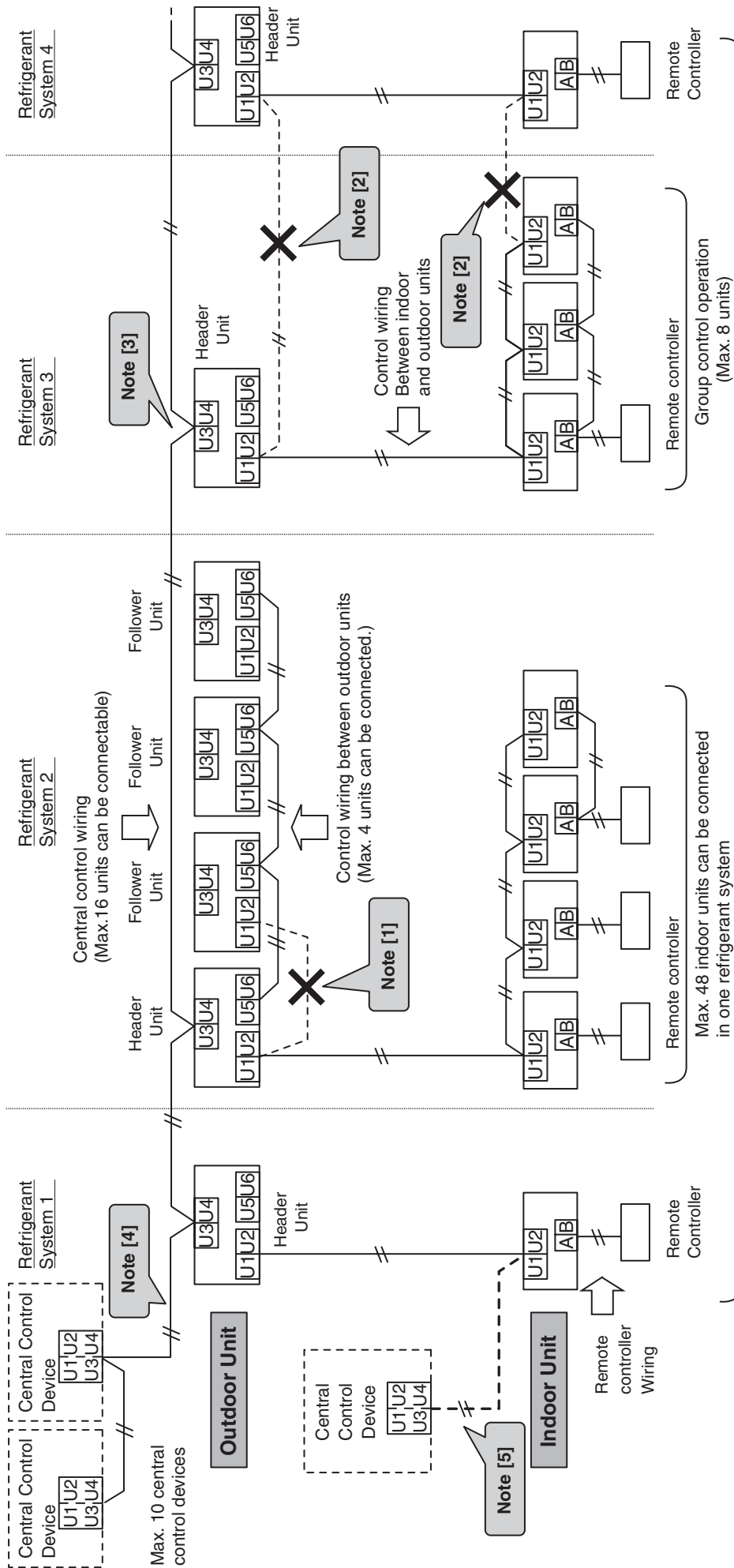
	Connected unit	No. of units	Note
1	Outdoor unit (Header unit for VRF system)	Up to 16 units	
2	Outdoor unit (Follower unit for VRF system)	Up to 3 units	In the same refrigerant system
3	Indoor unit	Up to 64 units	• Max. 64 indoor units for both systems. * For 1:1 model, follower indoor units of twin control and group control must not be counted. • For VRF system, Max. 48 indoor units in one refrigerant system.
4	Group control for indoor units	Up to 8 units	
5	Central control device	Up to 10 units	• Central remote controller

* Max. 64 refrigerant system can be controlled in total. (VRF and 1:1 model combination).
(However, for VRF system, up to 16 refrigerant system are connectable.)

* "1:1 model" interface connection is connected to the indoor units.

2-2 System wiring diagram

2-2-1 For VRF system only

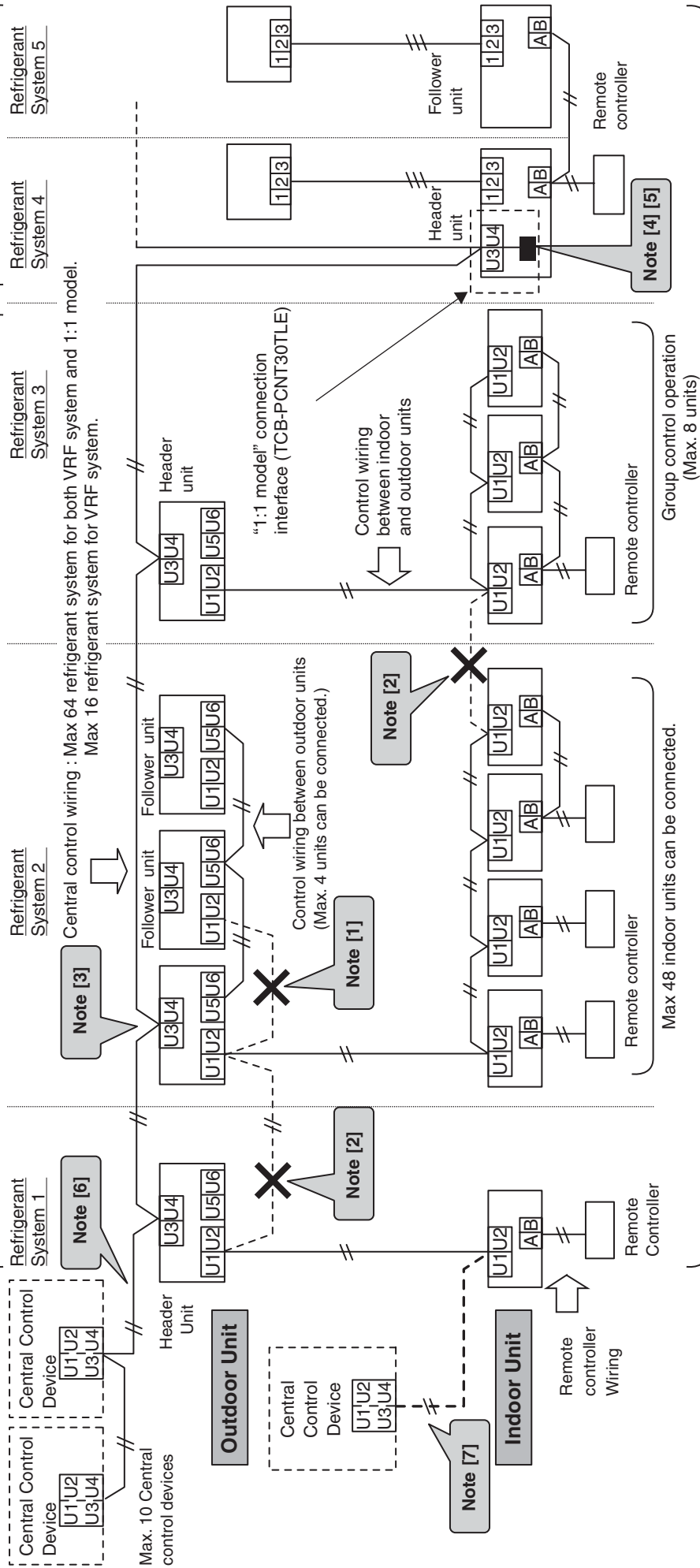


Note) [1] Do not connect indoor/outdoor control wiring to more than one outdoor unit.
 (The connection of the indoor/outdoor control wiring will automatically set the outdoor unit as the header unit.)
 [2] Do not connect the control wiring between indoor and outdoor units to other refrigerant systems.
 [3] Connect central the control wiring to the outdoor header unit.
 [4] Connect central control devices to central control wiring.
 [5] Central control the devices can be connected to control wiring of indoor and outdoor units.

2-2-2 For combined system with “1:1 model”

“1:1 model” (Super digital Inverter, Digital Inverter)

VRF system



Note) [1] Do not connect indoor/outdoor control wiring to more than one outdoor unit.
 (The connection of the indoor/outdoor control wiring will automatically set the outdoor unit as the header unit.)
 [2] Do not connect control wiring between indoor and outdoor units to other refrigerant systems.
 [3] Connect the central control wiring to the outdoor header unit.
 [4] When “1:1 model” is controlled by a central control device, “1:1 model” a connection interface will be necessary.
 [5] In case of twin control on a 1:1 model, connect “1:1 model” Interface connection to the indoor header unit.
 [6] Connect central control devices to the central control wiring.
 [7] Central control devices can also be connected to the control wiring between the indoor and outdoor units.

* In case of 1:1 model, Re-address setup is necessary for wired controllers. (For details, refer to “3-2-10”).

2-3 Design of control wiring

1. All control wiring is 2-core and non-polarity wire.
2. Ensure use of shielded wire for the following wiring to prevent noise issues.
 - Outdoor-outdoor / indoor-indoor / outdoor-indoor control wiring, Central control wiring.

Control wiring between indoor and outdoor units (L1,L2,L3),

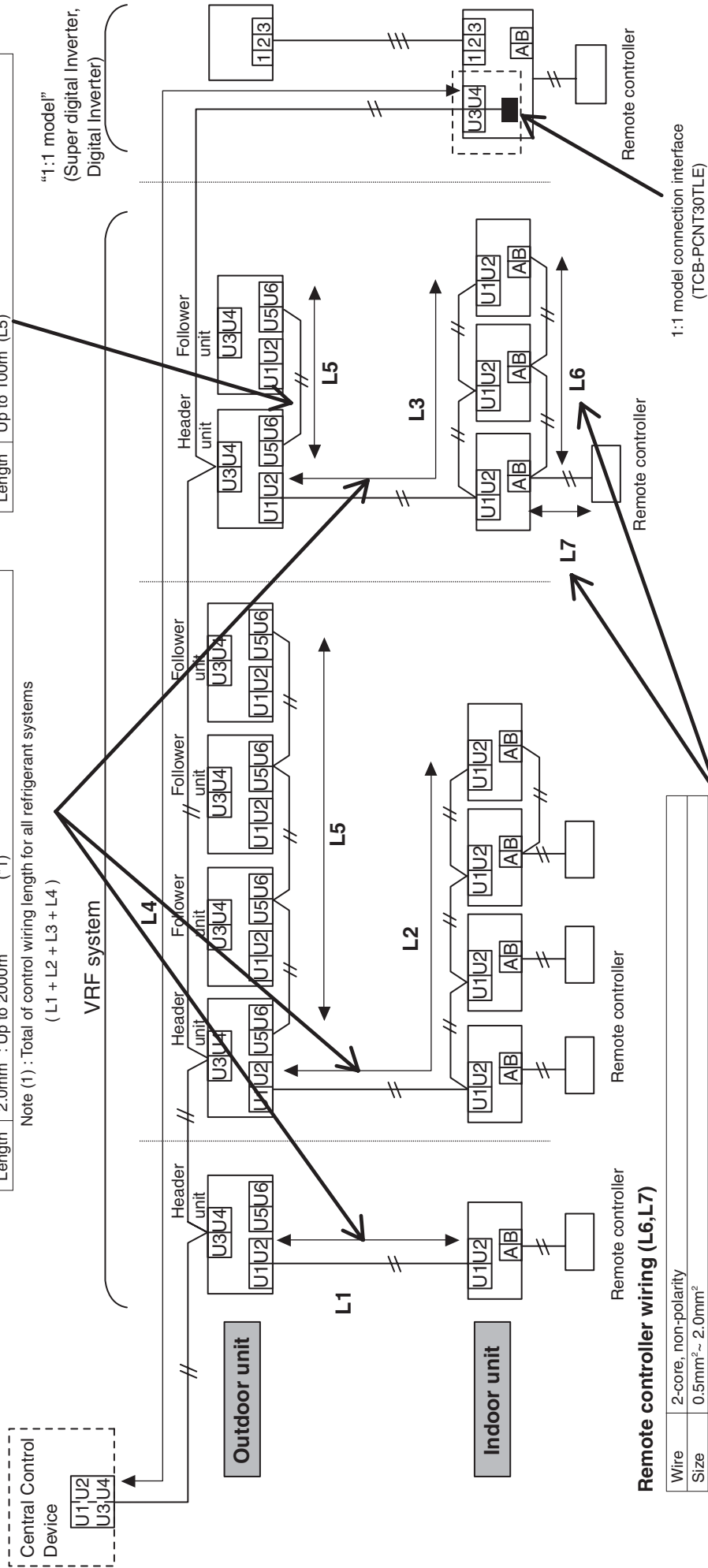
Central control wiring (L4)

Wiring	2-core, non-polarity
Type	Shield wire
Size	1.25mm ² : Up to 1000m
Length	2.0mm ² : Up to 2000m (*1)

Note (1) : Total of control wiring length for all refrigerant systems

(L1 + L2 + L3 + L4)

VRF system



Control wiring between outdoor units (L5)

Wiring	2-core, non-polarity
Type	Shield wire
Size	1.25mm ² ~ 2.0mm ²
Length	Up to 100m (L5)

"1:1 model"
(Super digital Inverter,
Digital Inverter)

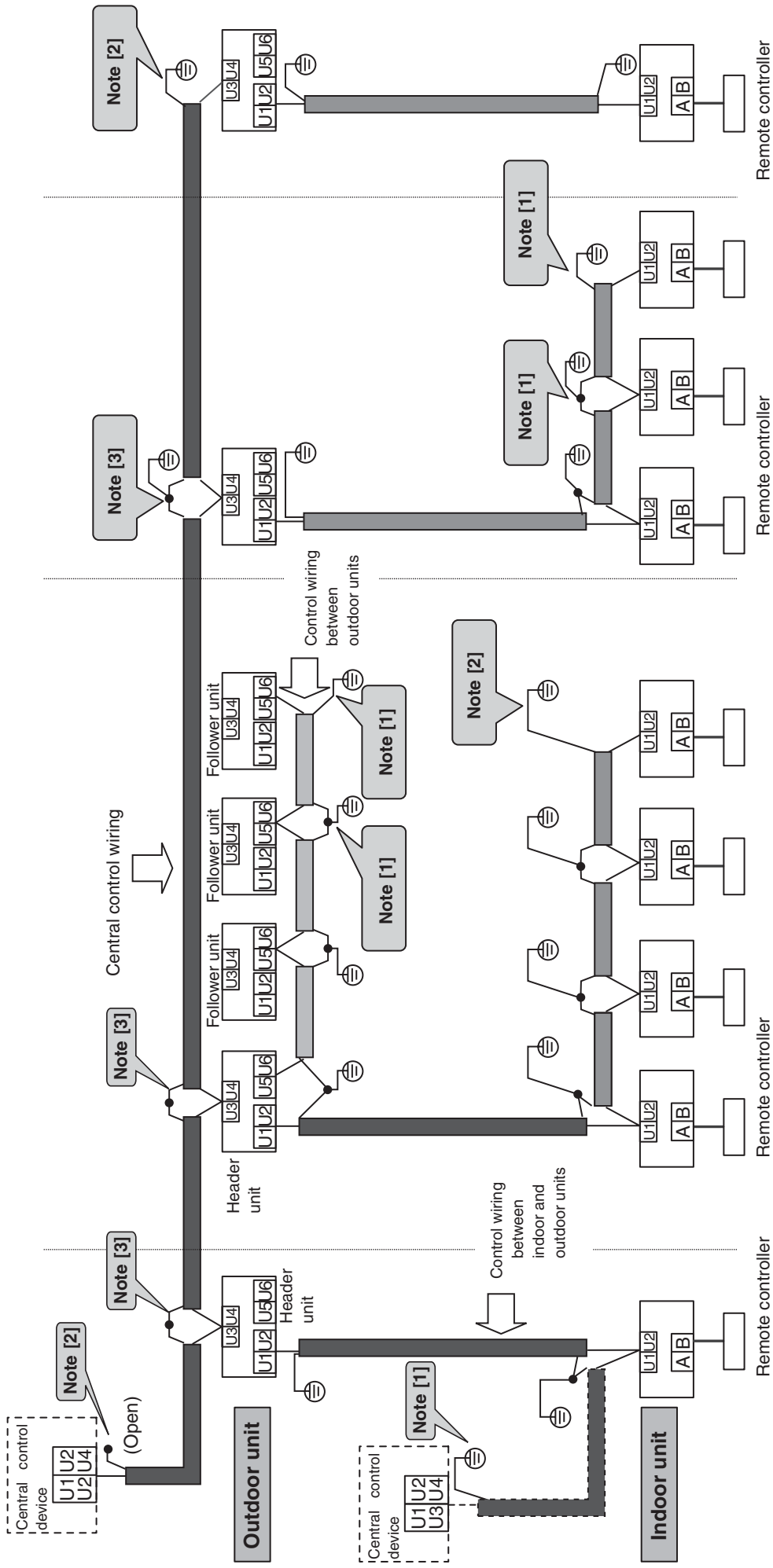
1:1 model connection interface
(TCB-PCNT30TLE)

Remote controller wiring (L6,L7)

Wire	2-core, non-polarity
Size	0.5mm ² ~ 2.0mm ²
Length	Up to 500m (L6 + L7) Up to 400m when wireless remote controller exists in a group control. Up to 200m total length of control wiring between indoor units (L6)

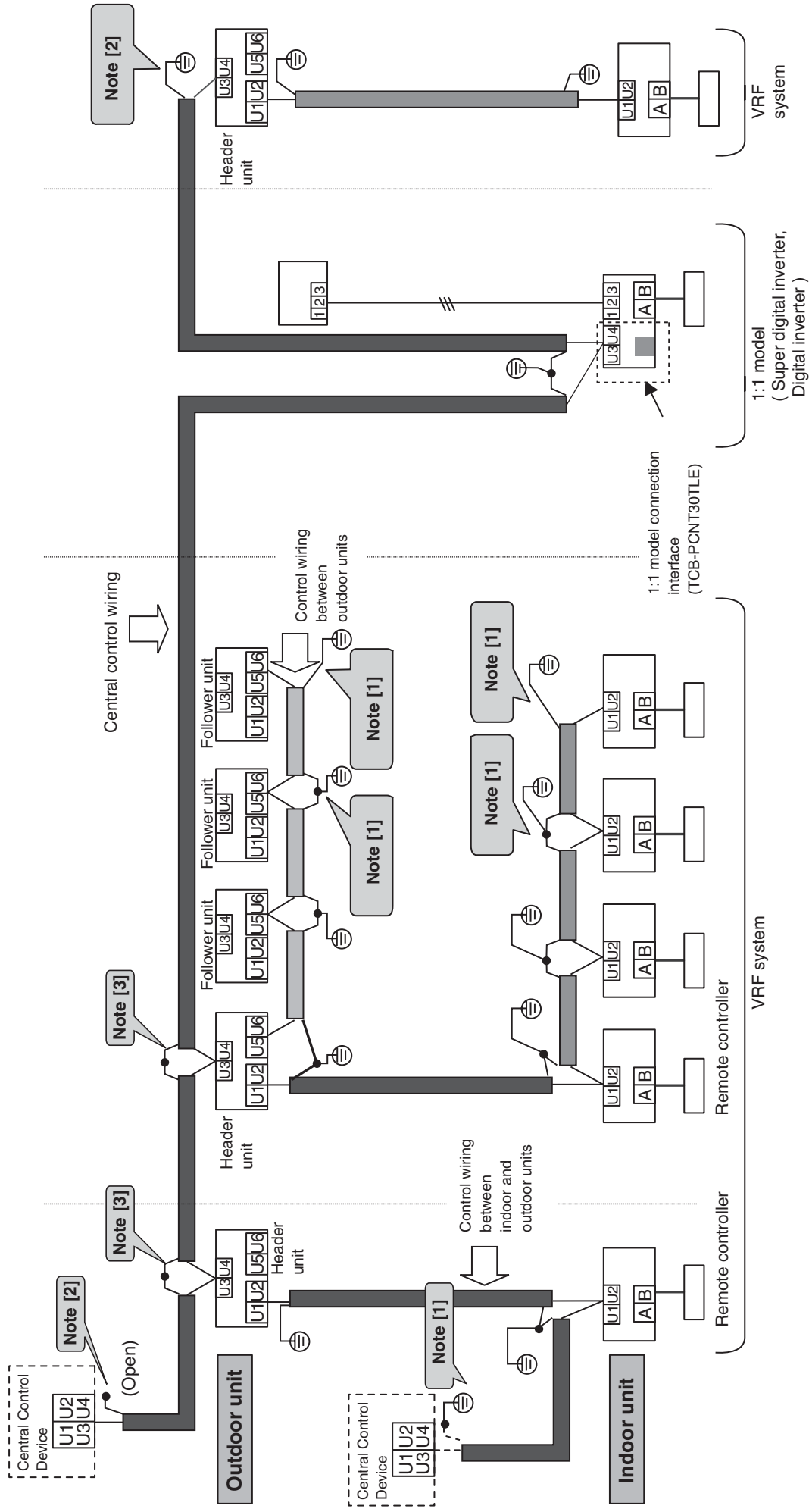
2-4 Earth method of shield wiring

2-4-1 For VRF system only



Note) [1] Be sure to close (connect) the end of the shielded wires, and perform the functional grounding for the end of wires which are connected to both indoor and outdoor units.
 [2] For the shield wires which are connected between the central remote controller and the outdoor units, perform the functional grounding at only one end of central control wiring. Leave the other end of the wire at its final termination as an open wire.
 [3] For the shield wires which are connected only between header outdoor units.

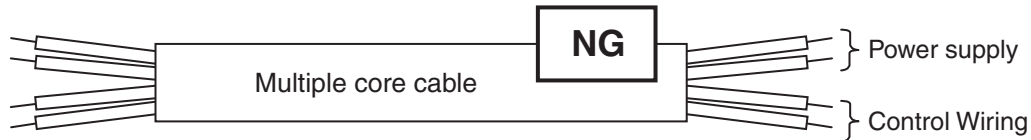
2-4-2 For combined system with “1:1 model”



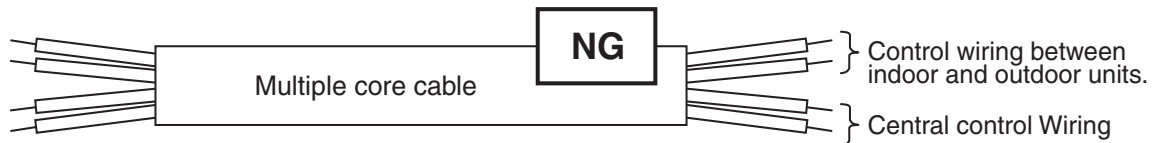
Note) [1] Be sure to close (connect) the end of the shielded wires, and perform the functional grounding for the end of wires which are connected to both indoor and outdoor units.
 [2] For the shield wires which are connected between the central remote controller and the outdoor units, perform the functional grounding at only one end of central control wiring. Leave the other end of the wire at its final termination as an open wire.
 [3] For the shield wires which are connected only between header outdoor units.

2-5 General requirements for control wiring

- 1) Separate the control wiring and the power supply line to prevent malfunction.
- 2) Power supply line of the air conditioner must be a minimum of 50mm.
- 3) 300mm or more must be needed from other power source.
- 4) Ensure the shielded wires on both the indoor and outdoor units are grounded.
- 5) Control wiring and power supply line should not be wired in the same multiple core cable.



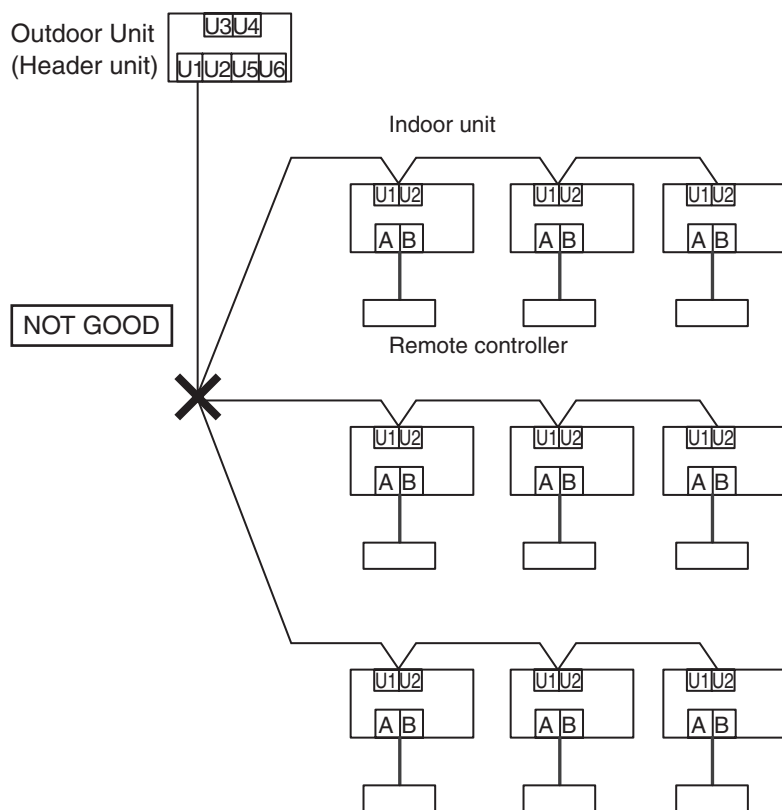
- 6) Do not wire two or more control wires in the same multiple core cable.



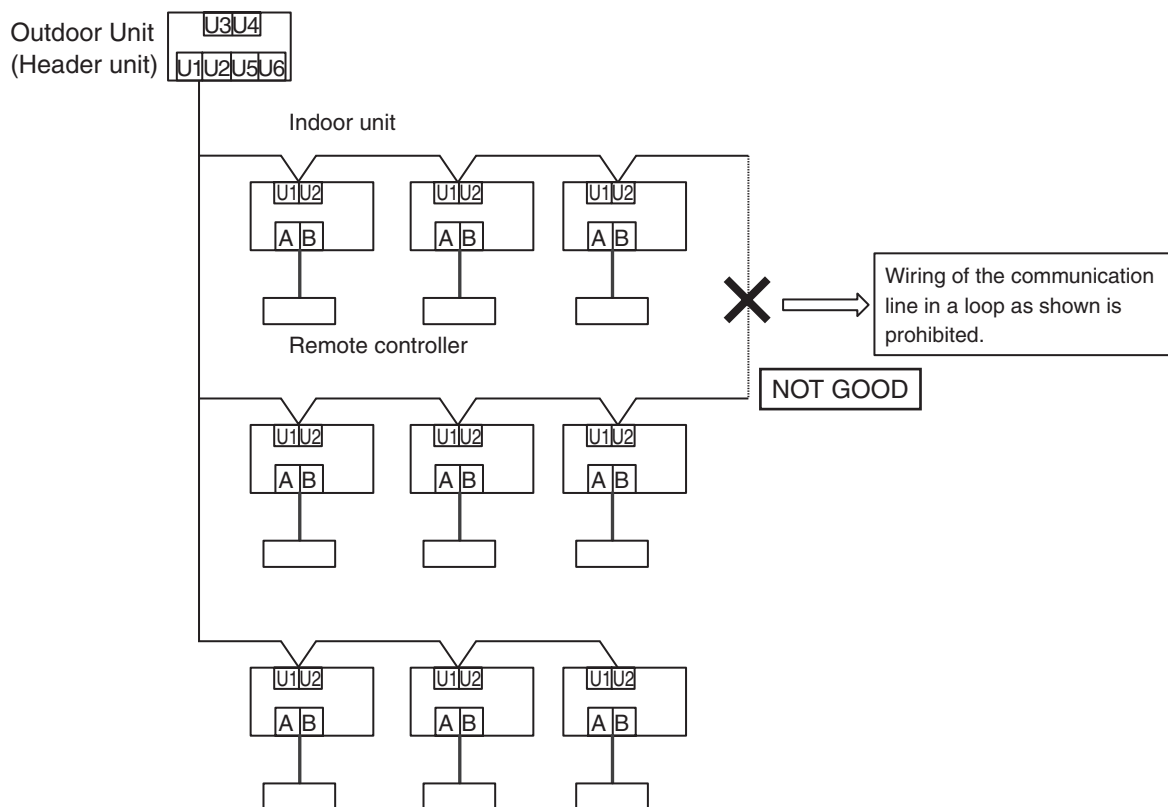
- 7) When high harmonic devices are located near to the air conditioner, the air conditioner must be re-located to a minimum of 3m from these devices.

NOTE

Connection of four or more control wires to one terminal is prohibited.

**NOTE**

Looped wiring of control wires is prohibited.



3

ADDRESS SETUP

3-1 Definition of address

3-2 Address setup procedure

3-2-1 Check at main power-ON

3-2-2 Automatic address setup

3-2-3 Manual address setup from remote controller

3-2-4 Confirmation of indoor unit address and position by using the remote controller

3-2-5 Change of indoor address from wired remote controller

3-2-6 Address setup example (VRF system)

3-2-7 Clearance of address (return unit address status to default factory shipment position)

3-2-8 Additional and address-undefined units (System extension etc)

3-2-9 How to set central control address

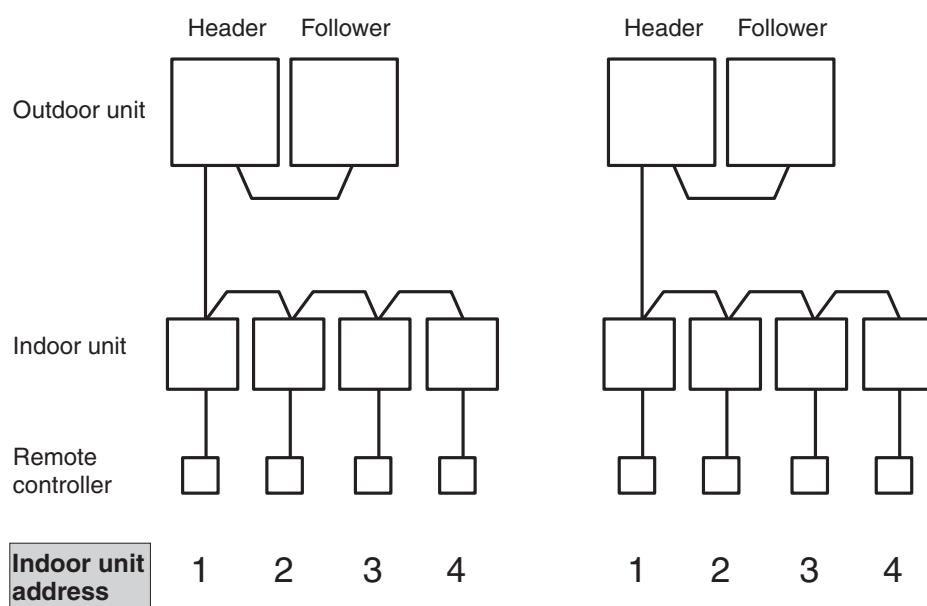
3-2-10 Address re-setup for central control of the super-digital inverter and the digital inverter units

3-2-11 Indoor address change example (Super-digital inverter and digital inverter)

3-1 Definition of address

Indoor unit address

- “Indoor unit address” This enables the outdoor unit to recognize each individual indoor unit.
An unique address is allocated to every indoor unit within a refrigeration system.

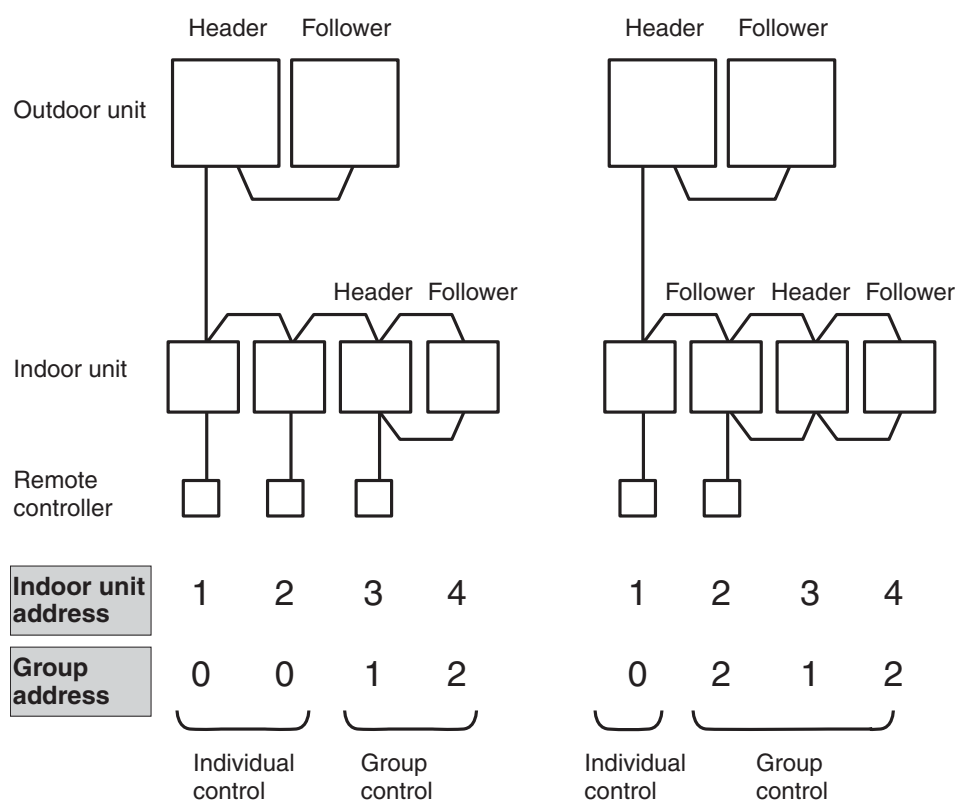


Group address

- “Group address” This is the address that recognizes the group control and determines the header indoor unit and follower indoor unit.

Group address and the header indoor unit is decided automatically when the automatic address setting is performed.
(Which indoor unit becomes the header unit is indefinite when automatic address setting is performed.)

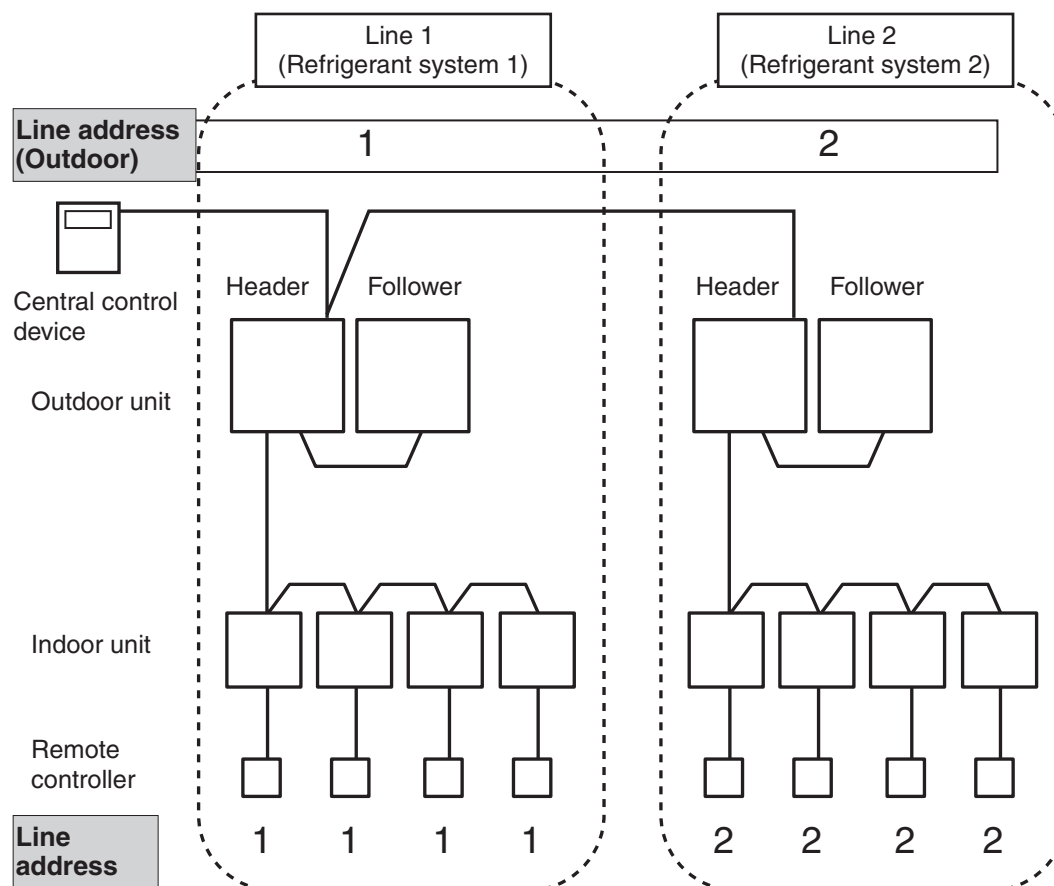
Indoor unit of individual control : Group address = 0
Header indoor unit of group control : Group address = 1
Follower indoor unit of group control : Group address = 2



Line address (System address)

- “Line address” is the address in which the line (refrigerant system) indoor units are connected.

This line address is set by a switch setting on the interface P.C. board on the header outdoor unit. Factory setting : Line address is '1'.

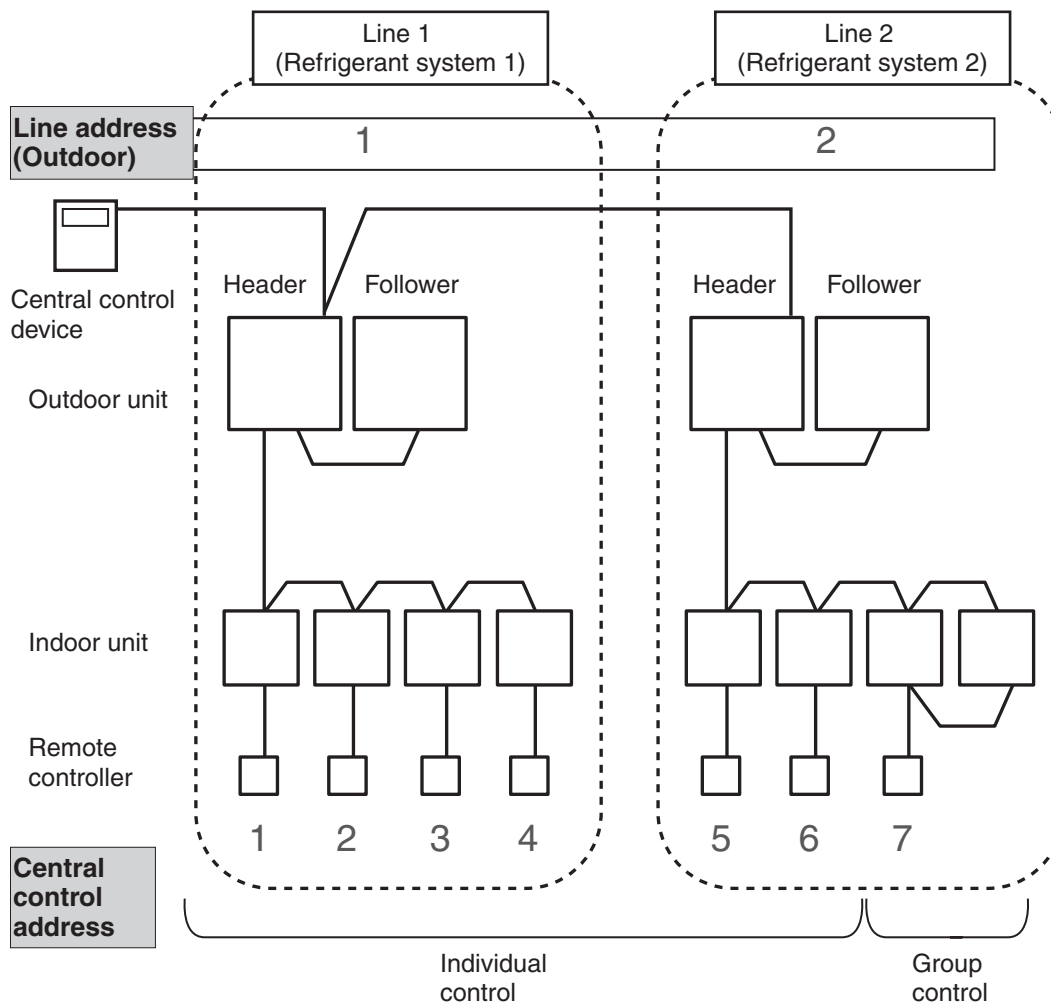


Central control address

- “Central control address” is used to make the central control devices recognize each indoor unit.

This address can be set from the central control devices either automatically or manually, or from wired remote controller devices manually.

In the case of group control in the VRF systems, one central control address is allocated to each indoor unit in a group control.



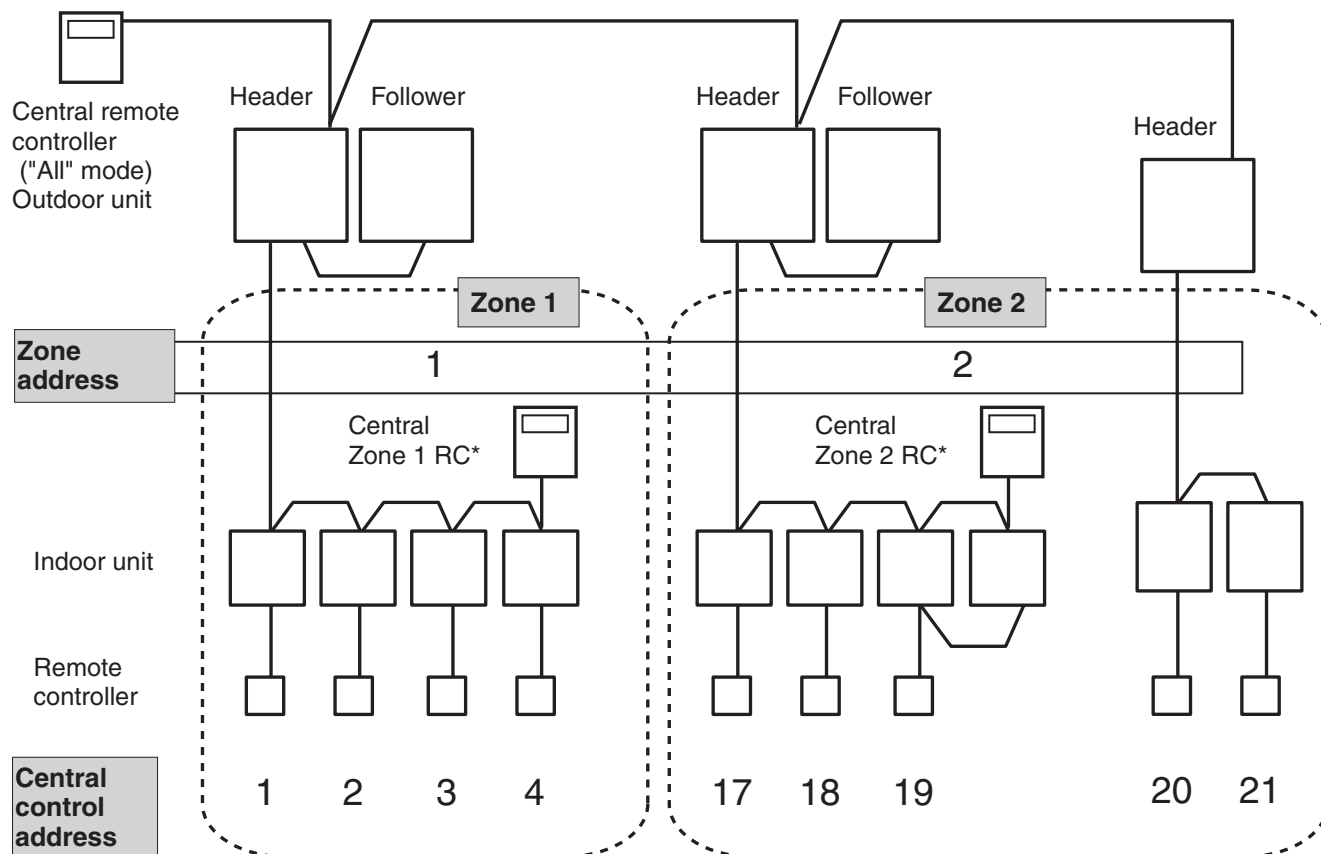
Zone address (Zone No.)

- "Zone address" is to be set when the central remote controller is used for each zone.
Zone address is set by a switch setting on the central remote controller.

Central remote controller can divide all indoor units into a max. 4 zones.

The zone to which the indoor unit belongs is decided by its central control address.

Central control address	Zone No.
1 to 16	Zone 1
17 to 32	Zone 2
33 to 48	Zone 3
49 to 64	Zone 4



* RC: Remote controller

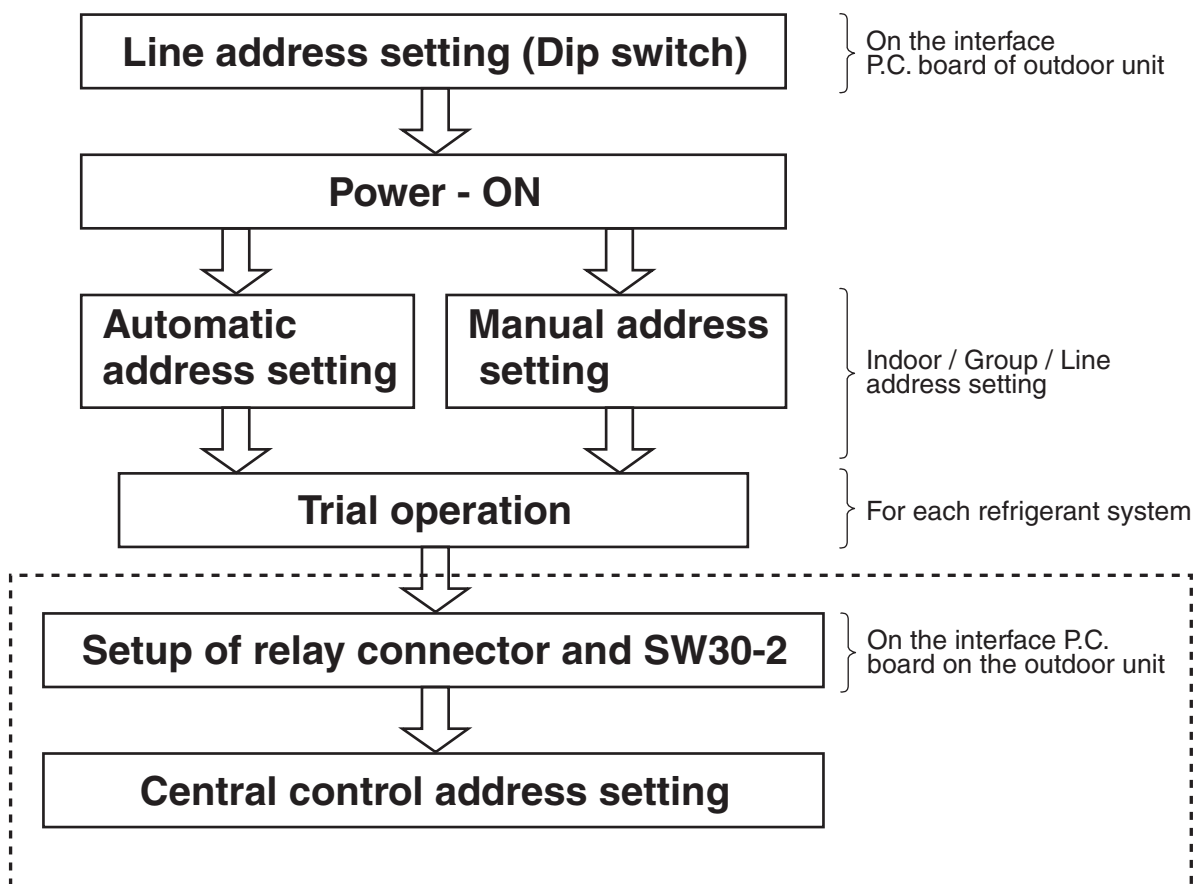
3-2 Address setup procedure

In this air conditioner, it is required to set up address the indoor unit before starting the unit. Set up the units address according to the following setup procedure.

CAUTIONS

1. Set up the address after the wiring work has been completed.
2. Be sure to turn on the power in order of the indoor unit → outdoor unit. If turning on the power in the reverse order, a check code [E19-00] (Error of No. of header units) is displayed. When a check code is displayed, turn on the power again, butt in the correct order.
3. It requires a maximum of 10 minutes (Usually, approx. 5 minutes) to set up automatically an address to 1 line.
4. To set up an address automatically, the setup of the outdoor side is necessary.
(Address setup cannot be performed by power-ON only.)
5. To set up an address, it is unnecessary to operate the air conditioner.
6. Manual address setup is also available besides automatic setup.
Automatic address : Setup from SW15 on the interface P.C. board on the header unit
Manual address : Setup from the wired remote controller (RBC-ATM21E, RBC-AMT31E)
* It is temporarily necessary to set the indoor unit 1 by 1.

Address setting flow



*Only when a central control is used.

3-2-1 Check at main power-ON

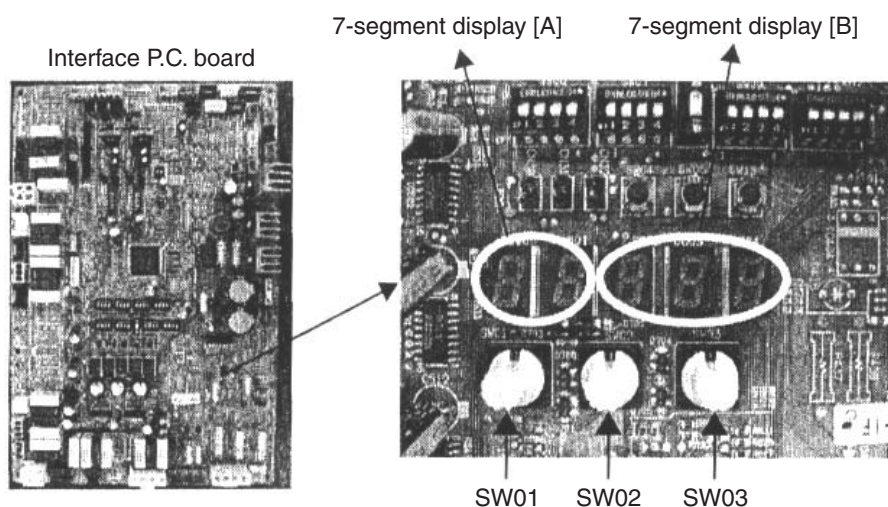
After turning on the main power to the indoor units and the outdoor unit in which the refrigerant system is to be tested, firstly check the following items in each outdoor and indoor unit.

(After turning on the main power, be sure to check in order of indoor unit → outdoor unit.)

Check on outdoor unit

1. Check that all the rotary switches, SW01, SW02, and SW03 on the interface P.C. board on the header outdoor unit are set to "1".
2. If a error code is displayed on the 7-segment [B] display, investigate and remove the cause of the fault code.
3. **Check that [L08] is displayed on the 7-segment display [B]** on the interface P.C. board on the header outdoor unit. (L08: Indoor address unset up)

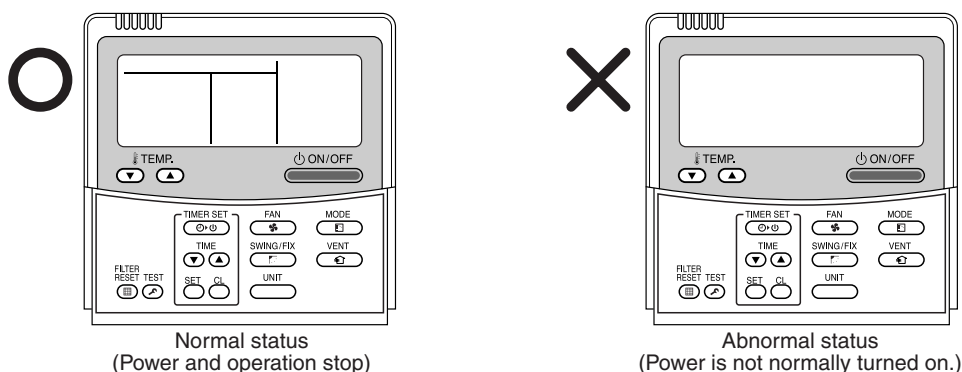
(If the address setup operation has already been completed during service time, etc, the above check code will not be displayed and only [U1 ---] is displayed on the 7-segment display [A] and [B].)



Check on indoor unit

1. Display check on the remote controller (In case of the wired remote controller)

Check that a frame as shown in the following left figure is displayed on the LC display section of the remote controller.



If a frame is not displayed as shown in the above right figure, the power to the remote controller is not normally turned on. Therefore check the following items.

- Check power supply to the indoor unit.
- Check wiring between the indoor unit and the remote controller.
- Check that the wiring connections to the indoor control P.C. board are correct and that there are no stray wire ends that may be causing a short circuit.
- Check that the transformer for the indoor microcomputer is functioning correctly.
- Check indoor control P.C. board failure.

3-2-2 Automatic address setup

Without central control : Go to address setup procedure 1

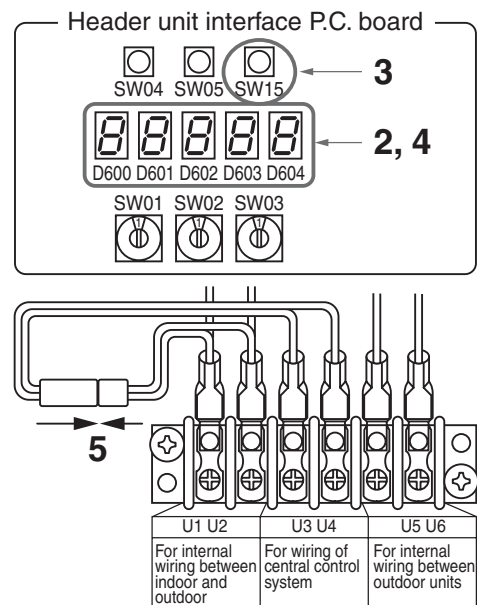
With central control : Go to address setup procedure 2

Note When central control is performed in a single refrigerant system go to procedure 1.

(Example)	In case of central control in a single refrigerant system	In case of central control over refrigerant systems
Address setup procedure	To procedure 1	To procedure 2
Cable systematic diagram		

Address setup procedure 1

- Turn on the power to the indoor/outdoor units.
(In order of indoor → Outdoor)
- After approx. 1 minute, check that **U. 1. L08 (U. 1. flash)** is displayed in the 7-segment display section on the interface P.C. board of the header outdoor unit.
- Push SW15 and start the automatic set up of the address.
(Max. 10 minutes for 1 refrigerant system (Usually, approx. 5 minutes))
- When the count **Auto 1 → Auto 2 → Auto 3** is displayed in the 7-segment display section, and it changes from **U. 1. - - - (U. 1. flash)** to **U. 1. - - - (U. 1. light)**, the setup has been completed.
- When using a central control, connect a relay connector between U1, U2 and U3, U4 terminals in the header unit.**



REQUIREMENT

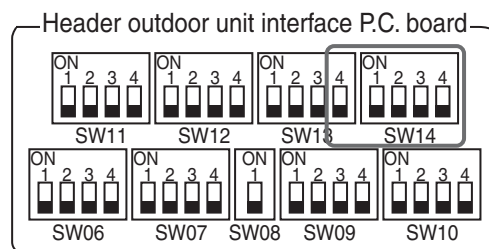
- When a group control is performed over the multiple refrigerant systems, be sure to turn on the power supplies to all of the indoor units connected, so that the address set-up can be completed correctly.
- If turning on the power for each refrigerant system to set up address, a header indoor unit is must be set for each line. Therefore, an alarm code "L03" (Duplicated indoor header units) will be displayed during in operation after the address setup has been completed. In this case, change the group address using the wired remote controller so that only one header indoor unit is set up.

(Example)	Group control over multiple refrigerant systems
Wiring systematic diagram	

Address setup procedure 2

- Using SW13 Bit4 and SW14 Bit1-4 on the interface P.C. board on the header outdoor unit in each system, set up the line (system) address for each system.
(At shipment the address is set to 1 from the factory)

Note) Be careful not to duplicate with any other refrigerant systems.



Line (system) address switch on outdoor interface P.C. board

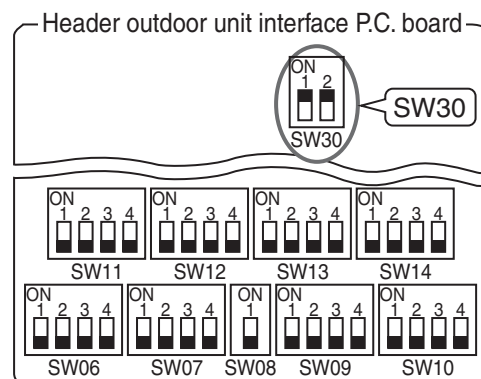
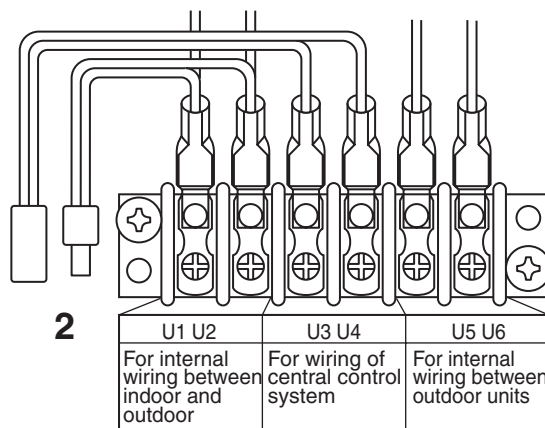
(○: Switch ON, ×: Switch OFF)

Line address	SW13				SW14			
	1	2	3	4	1	2	3	4
1				×	×	×	×	×
2				×	○	×	×	×
3				×	×	○	×	×
4				×	○	○	×	×
5				×	×	×	○	×
6				×	○	×	○	×
7				×	×	○	○	×
8				×	○	○	○	×
9				×	×	×	×	○
10				×	○	×	×	○
11				×	×	○	×	○
12				×	○	○	×	○
13				×	×	×	○	○
14				×	○	×	○	○

Line address	SW13				SW14			
	1	2	3	4	1	2	3	4
15				×	×	○	○	○
16				×	○	○	○	○
17				○	×	×	×	×
18				○	○	×	×	×
19				○	×	○	×	×
20				○	○	○	×	×
21				○	×	×	○	×
22				○	○	×	○	×
23				○	×	○	○	×
24				○	○	○	○	×
25				○	×	×	×	○
26				○	○	×	×	○
27				○	×	○	×	○
28				○	○	○	×	○

: Is not used for setup of line address. (Do not change setup.)

- Check that the relay connectors between U1U2 and U3U4 terminals are disconnected in all the header outdoor units to which the central control is connected.
(At shipment from factory: No connection exists.)
- Turn on the power to the indoor/outdoor units.
(In order of indoor → outdoor)
- After approx. 1 minute, check that 7-segment display is **U.1.L08 (U.1. flash)** on the interface P.C. board of the header outdoor unit.
- Push SW15 and start the setup of the automatic address.**
(Max. 10 minutes for 1 refrigerant system (Usually, approx. 5 minutes))
- When the count **Auto 1 → Auto 2 → Auto 3** is displayed in 7-segment display section, and it changes from **U.1. - - - (U.1. flash)** to **U.1. - - - (U.1. light)**, the setup has finished.
- Procedure 4. to 6. are to be repeated in all other refrigerant systems.
- How to set up terminator resistor (SW30)
When the address set-up has finished for each refrigerant line, place the "terminator" resistor (SW30) into the control line. Then turn off SW30-2 on the interface P.C. boards for all the header outdoor units of a system that are connected to the central control. However DO NOT include the system with the least amount of address numbers.
- Connect the relay connector between U1U2 and U3U4 on the header outdoor unit for each refrigerant system.



10. Then set up the central control address.

(For the central control address setup, refer to the installation manual of the central control devices.)

	1		2		3	
Before address setup during setup of address						
After address setup						
Outdoor interface P.C. board	Header unit	Follower unit	Header unit	Follower unit	Header unit	Setup at shipment from factory
SW13, 14 (Line address)	1	(Setup is unnecessary.)	2	(Setup is unnecessary.)	3	1
SW30-2 Terminator resistor of indoor/outdoor communication line/central control communication line	ON	(Setup is unnecessary.)	OFF after address setup	(Setup is unnecessary.)	OFF after address setup	ON
Relay connector	Connect short after address setup	Open	Connect short after address setup	Open	Connect short after address setup	Open

Indoor side (Automatic setup)

Line address	1	1	2	2	3
Indoor unit address	1	2	1	2	1
Group address	0	0	1	2	0

Point

Relay connector — NOTE —

Never connect a relay connector until the address setup for all the refrigerant lines have been completed, otherwise the unit addresses cannot be set-up correctly.

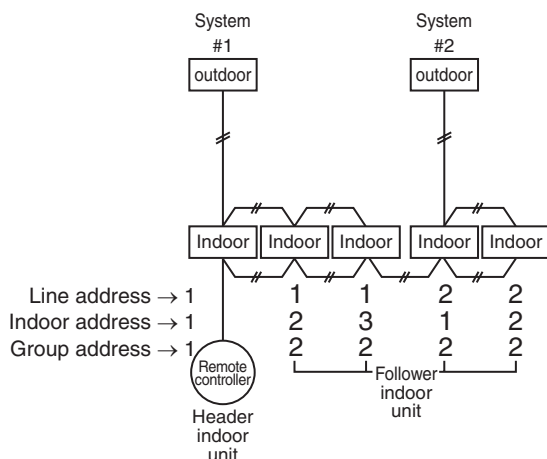
3-2-3 Manual address setup from the remote controller

In cases where you have a requirement to address a unit prior to completing the electrical installation and where the outdoor unit has yet to be commissioned. (manual set-up from wired remote controller)

Arrange one indoor unit and one remote controller set to 1 by 1.

Turn on the power.

(Wiring example in 2 systems)



In the above example, of no inter-unit wire the address after you have individually connected the wired remote controller.

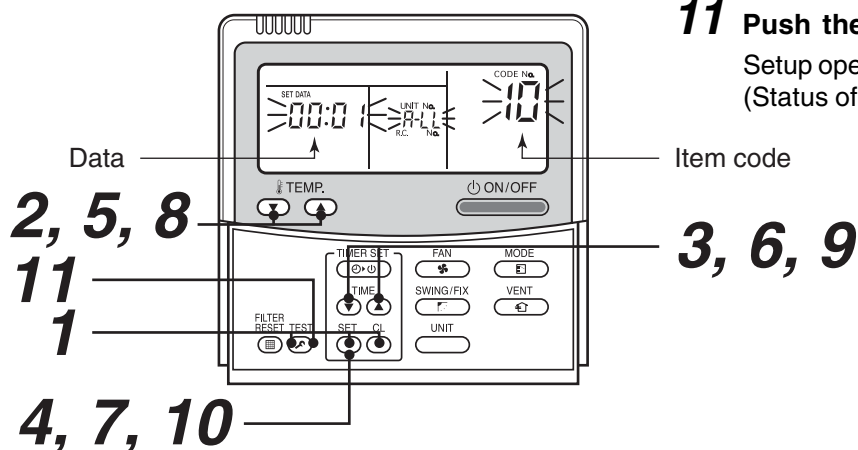
Group address

Individual : 0000
Header unit : 0001
Follower unit : 0002

In case of group control

Operation procedure

1 → 2 → 3 → 4 → 5 → 6 →
7 → 8 → 9 → 10 → 11 End



1 Push simultaneously the **SET** + **CL** + **TEST** buttons for 4 seconds or more.

LCD changes to flashing.

(Line address)

2 Using the **TEMP.** buttons, set **12** to the item code.

3 Using the **TIME** buttons, set up the line address.

(Match it with the line address on the interface P.C. board of the header unit in the identical refrigerant system.)

4 Push the **SET** button.

(OK when display goes on.)

(Indoor address)

5 Using the **TEMP.** buttons, set **13** to the item code.

6 Using the timer time **TIME** buttons, set up the indoor address.

7 Push the **SET** button.

(OK when display goes on.)

(Group address)

8 Using the **TEMP.** buttons, set **14** to the item code.

9 Using the **TIME** buttons, set Individual = 0000, Header unit = 0001, Follower unit = 0002.

10 Push the **SET** button.

(OK when display goes on.)

11 Push the **TEST** button.

Setup operation has finished.

(Status of unit will return to normal stop status.)

Note 1)

When setting the line address from the remote controller, do not use addresses 29 and 30.

The address 29 and 30 cannot be set up in the outdoor unit. Therefore if they are incorrectly set up, a check code [E04] (Indoor/outdoor communication circuit error) will be displayed.

3-2-4 Confirmation of indoor unit address and position by using the remote controller

Confirmation of indoor unit address and the position

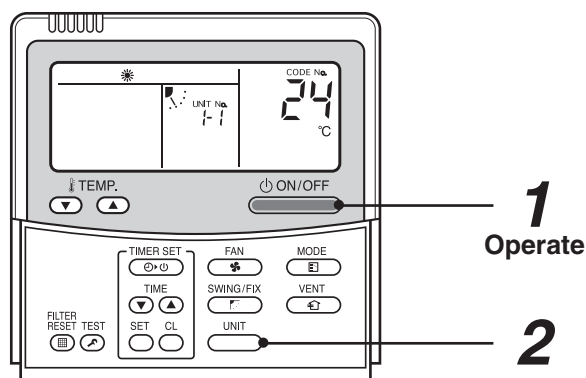
1. When you wish to know the indoor address and position of a unit within a system.

Procedure (while the air conditioner is in operation)

1 If the unit stops, push the  button.

2 Push the  button.

The unit NO  is displayed on the LCD. (Disappears after several seconds) The displayed unit No indicates the line address and the indoor address. (If there are other indoor units connected to the same remote controller (Group control unit), unit unit No is displayed every time you push the  button.)



Operation procedure

1 → 2

2. When you want to know the position of the indoor unit using its address

- To confirm the unit numbers in a group control;

Procedure (while the air conditioner is not in operation)

The indoor unit numbers in a group control will be successively displayed and the corresponding indoor fan is turned on. (The air conditioner must not be in operation for this procedure to work.)

1 Push the  +  buttons simultaneously for 4 seconds or more.

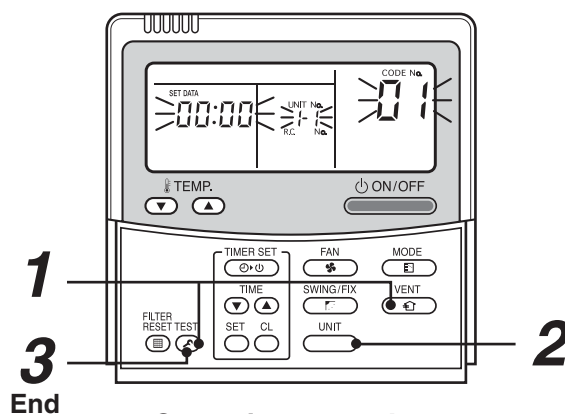
- Unit No  is displayed.
- The fans of all the indoor units within the group control are turned on.

2 For every push of the  button, the indoor unit numbers in the group control are successively displayed.

- The first unit No. displayed will be the address of the header unit.
- Only the fan of the selected indoor unit will operate.

3 Push the  button to complete the procedure.

All of the indoor units within the group control will stop.



Operation procedure

1 → 2 → 3 End

- To confirm all the unit numbers from an arbitrary wired remote controller;

Procedure (while the air conditioner is not in operation)

All indoor units within the same refrigerant system can be confirmed, once an outdoor unit is selected. The indoor unit numbers are then successively displayed. With each unit display its fan will be turned on.

- 1** Push the + buttons simultaneously for 4 seconds or more.

Line 1, item code (Address Change) is displayed. (Select the outdoor unit.)

- 2** Using the + buttons, select the line address.

- 3** Using the button, confirm the selected line address.

- The indoor unit address, which is connected to the refrigerant pipe of the selected outdoor unit is displayed and the fan is turned on.

- 4** For every push of the button, the indoor unit numbers in the identical pipe are successively displayed.

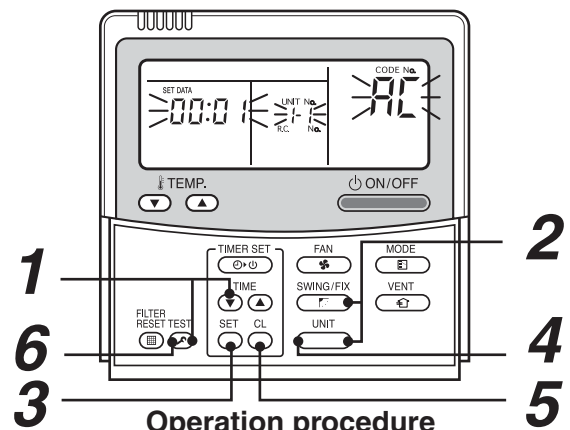
- Only the fan of the selected indoor unit will operate.

[To select another line address]

- 5** Push the button to return to procedure 2.

- The indoor address of another line can then be successively confirmed.

- 6** Push the button to complete the procedure.



Operation procedure

1 → 2 → 3 →
4 → 5 → 6 End

3-2-5 Change of indoor address from wired remote controller

Change of indoor address from wired remote controller

- To change the indoor address in an individual operation (Wired remote controller : Indoor unit = 1 : 1) or group control (When the setup operation with automatic address has finished, this change is available.)

Procedure (while the air conditioner is not in operation)

- 1** Push simultaneously the + + buttons for 4 seconds or more.

(Firstly the unit No. that indicates the header indoor unit within the group control will be displayed)

- 2** In group control, select an indoor unit No to be changed by pushing the button.

(The fan of the selected indoor unit will turn on.)

- 3** Using the buttons, set to the item code.

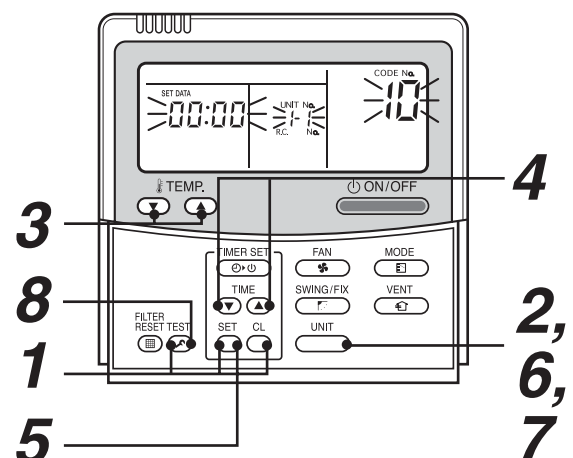
- 4** Using the buttons, change the displayed setup data to your requirements.

- 5** Push the button.

- 6** Using the button, select the next unit No. that is to be changed. Repeat the procedure 4 to 6 and change the indoor address so that they will not be duplicated.

- 7** After the above change, push the button to confirm the changed contents.

- 8** If it is acceptable, push the button to complete.



Operation procedure

1 → 2 → 3 → 4 →
5 → 6 → 7 → 8 End

• **To change all the indoor addresses from an arbitrary wired remote controller.**

(When the setup operation for the automatic address has finished, this change is available.)

Contents : Using an arbitrary wired remote controller, the indoor unit address can be changed for each same refrigerant system.

*** Change the address in the address check/change mode.**

Procedure (while the air conditioner is not in operation)

1 Push the + buttons simultaneously for 4 seconds or more.

(Line 1, item code  (Address Change) will be displayed).

2 Using the + buttons, select the line address.

3 Push the button.

- The indoor unit address, which is connected to the refrigerant system of the selected outdoor unit is displayed and the fan is turned on.

The current indoor address will be displayed on the setup data. (Line address is not displayed.)

4 The indoor address of the setup data moves up/down by the buttons.

Change the setup data to a new address.

5 Push the button to determine the setup data.

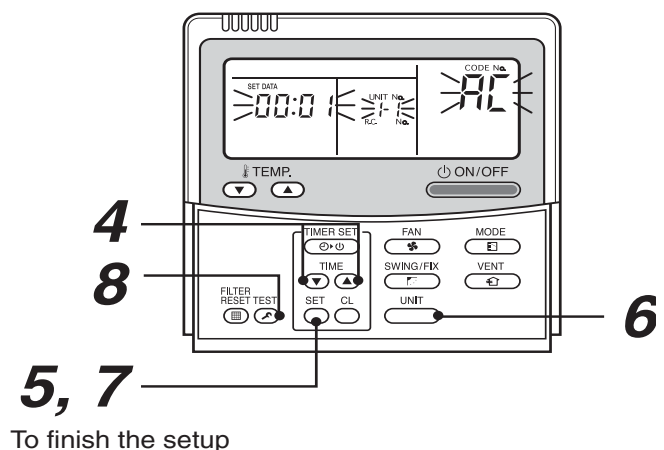
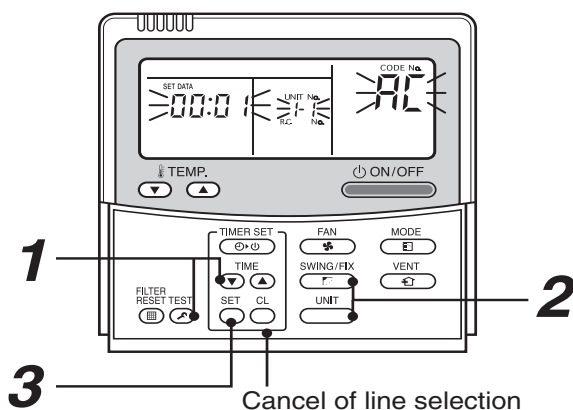
6 For every push of the button, the indoor unit numbers in the identical pipe are successively displayed. Note Only the fan on the selected indoor unit operates.

Repeat the procedure **4** to **6** and ensure that there are no duplications of indoor addresses.

7 Push the button.

(all of the displays on the LCD will go on)

8 Push the button to complete the procedure.



Operation procedure

1 → **2** → **3** → **4** →
5 → **6** → **7** → **8** End

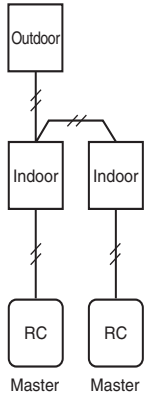
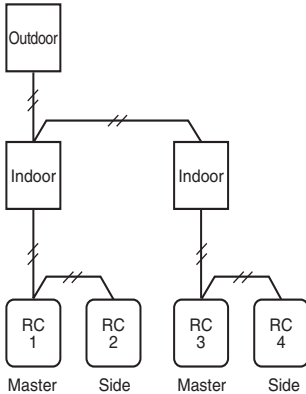
Note. If a unit No. cannot be called up, no outdoor unit exists within the system.

Push the  button, and then select a line according to procedure **2**.

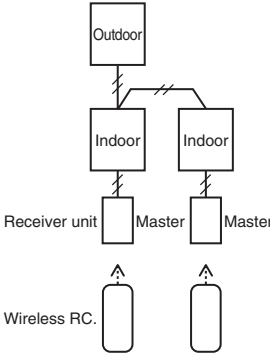
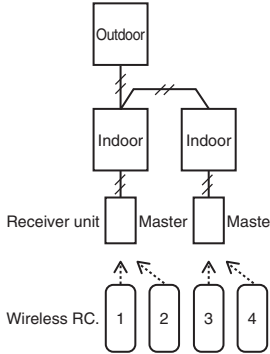
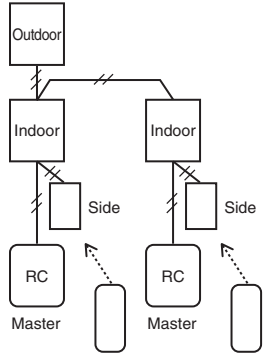
3-2-6 Address setup example (VRF system)

[Automatic address / Manual address setup example]

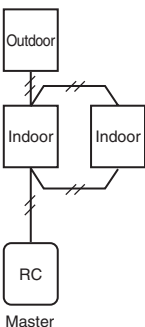
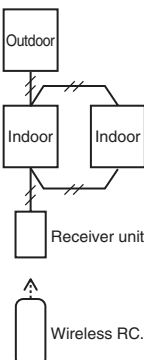
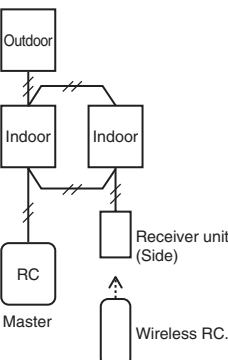
Individual control

Automatic address setting		Available		Available	
Outdoor	Line address	1		1	
Configuration					
Indoor	Line address	1	1	1	1
	Indoor unit address	1	2	1	2
	Group address	0	0	0	0

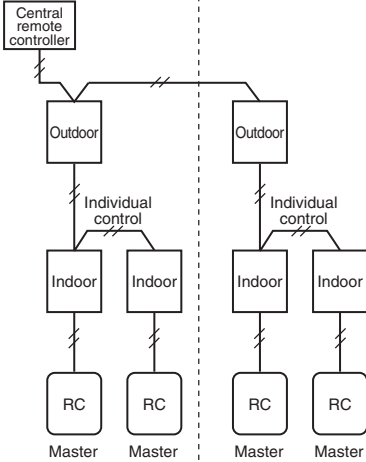
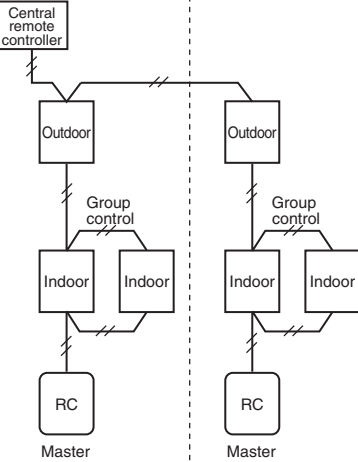
* RC: Remote controller

Automatic address setting		Available		Available		Available	
Outdoor	Line address	1		1		1	
Configuration							
Indoor	Line address	1	1	1	1	1	1
	Indoor unit address	1	2	1	2	1	2
	Group address	0	0	0	0	0	0

Group control

Automatic address setting		Available		Available		Available	
Outdoor	Line address	1		1		1	
Configuration							
Indoor	Line address	1	1	1	1	1	1
	Indoor unit address	1	2	1	2	1	2
	Group address	1	2	1	2	1	2

Central control (Multiple refrigerant systems)

Automatic address setting		Available				Available			
Outdoor	Line address	1		2		1		2	
Configuration									
		Master		Master		Master		Master	
		1		2		1		2	
		Indoor		2		1		2	
Line address		1		2		1		2	
Indoor unit address		1		2		1		2	
Group address		0		0		1		2	

Group control over other refrigerant systems

Automatic address setting		Available (*1)							
Outdoor	Line address	1		2			1		
Configuration		The diagram illustrates a network configuration. At the top, three 'Outdoor' units are shown. Each outdoor unit is connected to a pair of 'Indoor' units. These indoor units are interconnected in a chain-like structure. At the bottom, a 'RC Master' unit is connected to the first indoor unit of the first pair.							
Indoor	Line address	1	1	2	2	2	3	3	
	Indoor unit address	1	2	1	2	3	1	2	
	Group address	1	2	2	2	2	2	2	
	Group address	1	2	1 → 2*	2	2	1 → 2*	2	

*1

For group control within a refrigeration system automatic address setting is available only when all indoor units connected to a group control are turned on during address setting.

If an automatic address setting is conducted under the conditions of power-ON only within the refrigerant system, it may cause the error code "L03" (Duplicated indoor header units) to be displayed. This is because the system believes there is more than one header unit within the group. In this case, change the group address by a wired remote controller so that only one indoor unit becomes the header unit within one group control.

→ It is necessary to change the group address as marked with * when an automatic address setting is conducted under the conditions of power-ON only within the refrigerant system in which the address is to be set up.

Automatic address setting		Available (*1)							
Outdoor	Line address	1		2			1		
Configuration									
Indoor	Line address	1	1	2	2	2	3	3	
	Indoor unit address	1	2	1	2	3	1	2	
	Group address	1	2	2	2	2	2	2	
Group address		1	2	1 → 2*	2	2	1 → 2*	2	

*1

For group control within a refrigeration system automatic address setting is available only when all indoor units connected to a group control are turned on during address setting.

If an automatic address setting is conducted under the conditions of power-ON only within the refrigerant system, it may cause the error code "L03" (Duplicated indoor header units) to be displayed. This is because the system believes there is more than one header unit within the group. In this case, change the group address by a wired remote controller so that only one indoor unit becomes the header unit within one group control.

→ It is necessary to change the group address as marked with * when an automatic address setting is conducted under the conditions of power-ON only within the refrigerant system in which the address is to be set up.

3-2-7 Clearance of address (return unit address status to default factory shipment position)

Method 1

An address can be individually cleared from a wired remote controller.

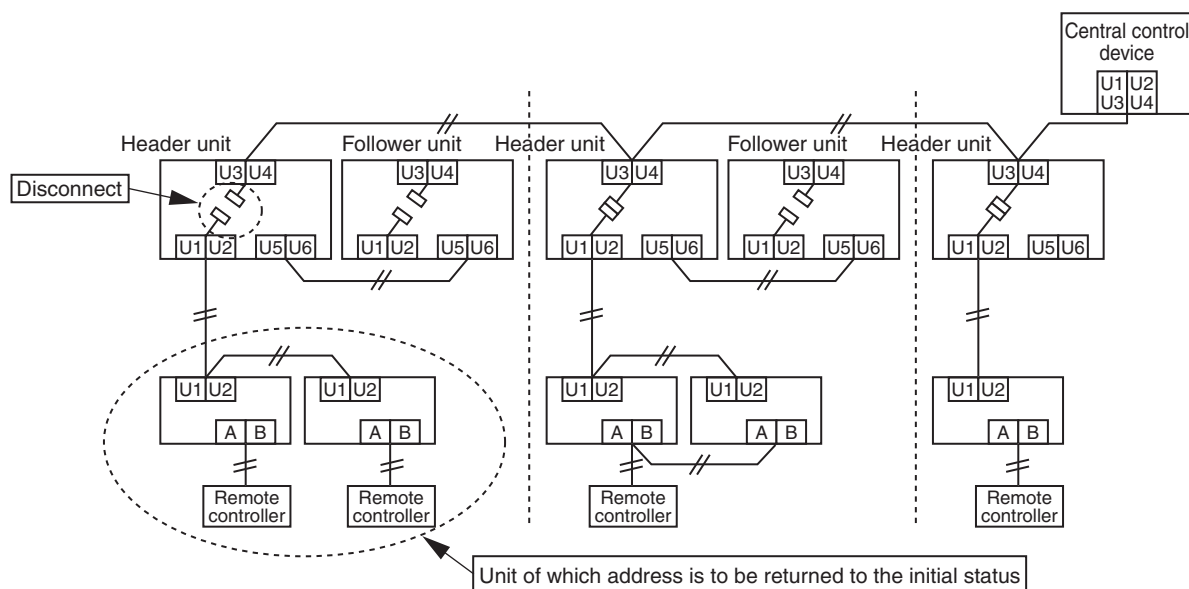
“0099” is set up to line address, indoor address, and group address data from the remote controller.

(For the setup procedure, refer to the abovementioned address setup from the remote controller.)

Method 2

Clear the indoor addresses in the same refrigerant line from the outdoor unit.

1. Turn off the power to the complete refrigerant line that is to be returned to its original factory default address. Then change the header unit to the following status -
 - 1) Remove the relay connector between [U1U2] and [U3U4].
(If it has been already removed, then leave it as it is.)
 - 2) Turn ON SW30-2 on the interface P.C. board on the header outdoor unit if it is OFF.
(If it is already ON, leave it as it is.)



2. Turn on the indoor/outdoor power for the refrigeration line whose addresses has just been cleared. After approx. 1 minute, check that “U.1. - - -” is displayed. Then execute the following operation on the interface P.C. board for the header outdoor unit of which address is to be cleared in the refrigerant system.

SW01	SW02	SW03	SW04	Address which can be cleared
2	1	2	After checking that “A.d.buS” is displayed on 7-degment display, push SW04 for 5 seconds or more.	Line + Indoor + Group address
2	2	2	After checking that “A.d.nEt” is displayed on 7-degment display, push SW04 for 5 seconds or more.	Central control address

3. After “A.d. c.L.” has been displayed on 7-degment display, return SW01/SW02/SW03 to 1/1/1.
4. When the address clearing has been completed correctly “U.1.L08” will be displayed on 7-degment display. If “A.d. n.G.” is displayed on 7-degment display, there is a possibility that the refrigeration line is connected with another. Check the relay connector between [U1U2] and [U3U4] terminals again.

NOTE) Warning, Failure to carry out these instructions correctly could result in the erasure of other refrigerant line addresses.

5. After the completion of the above steps, set-up the address/addresses again.

3-2-8 Additional and address-undefined units (System extension etc)

In the event that an indoor unit is setup with either an undefined address or additional units are added due to system extension, follow the methods below. Note this method can also be used for replacement P.C. board's etc.

Method 1

Set up an address individually from a wired remote controller.

(Line address, Indoor address, Group address and Central control address)

For the setup method, refer to the above “Manual address setup from the remote controller”.

Method 2

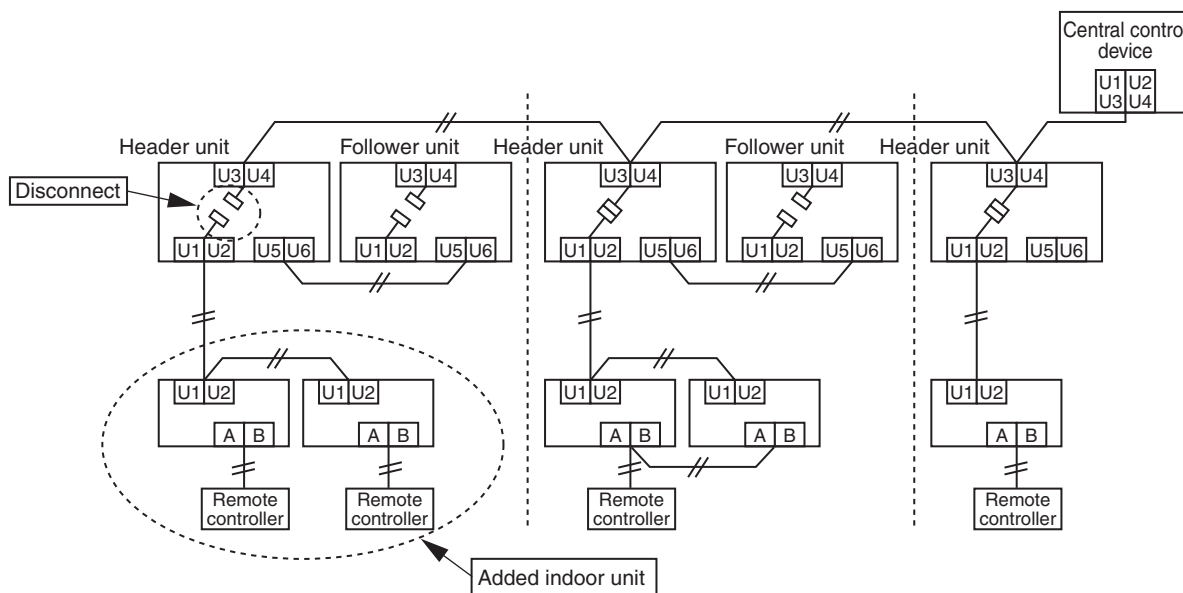
Set up an address from the outdoor unit.

- * Do not proceed to change the address of units that are already identified. Set-up only those units whose address is yet undefined. The allocation of the addresses will begin at the lowest available number and then continue upwards.

Setup procedure

Arrange the outdoor header units in the refrigerant line to the indoor units that are to be added. (Figure below)

1. Remove the relay connector between [U1U2] and [U3U4].
 2. Turn ON SW30-2 on the interface P.C. board on the outdoor header unit side if it is OFF.
- * Turn off the power, and then execute the operation.



3. Turn on the indoor/outdoor power for all additional units, who's address set-up has yet to be completed. After approx. 1 minute, check that “U.1.---” is displayed on 7-segment display.
4. Execute the following operation on the interface P.C. board on the header outdoor unit.

SW01	SW02	SW03	SW04
2	14	2	After checking that “In. At” is displayed on 7-segment display, and then push SW04 for 5 seconds or more.

“AUTO1” → “AUTO2” → “AUTO3” ... is counted and displayed on 7-degment display.

5. When “U.1. - - -” is displayed on the 7-segment display, the setup operation has finished. Turn off the indoor/outdoor power.
6. Return the following setup as before.
 - Relay connector
 - SW30-2
 - SW01, 02, 03

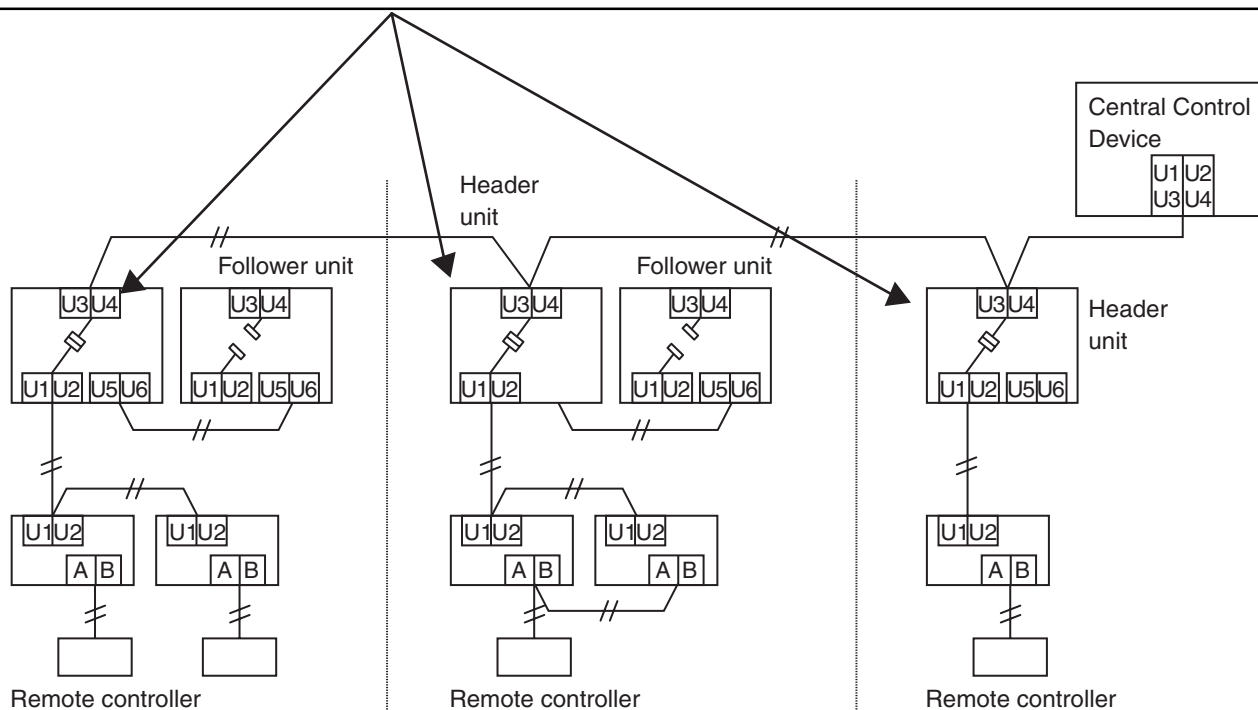
3-2-9 How to set the central control address

(Note)

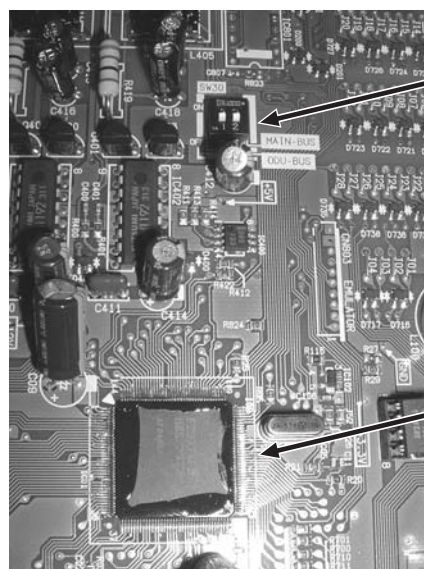
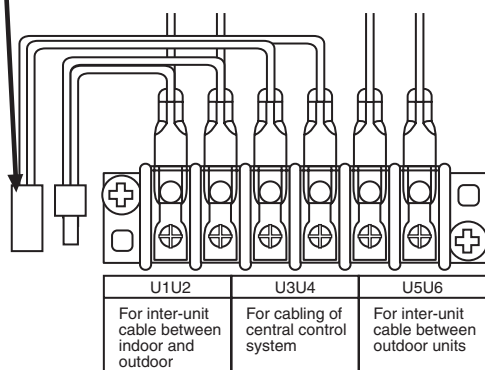
- 1) Perform only after the setting of the indoor and outdoor unit addresses (Indoor/group/line address).
- 2) Three setting address methods can be selected.
 - ① **Manual setting from the wired main remote controller (RBC-AMT21E, RBC-AMT31E)**
 - ② **Manual setting from the central control remote controller (TCB-SC642TLE2)**
 - ③ **Automatic setting from the central remote controller (TCB-SC642TLE2)**

REQUIREMENT

- Be sure to reconfirm the following status for all header outdoor units before the central control address setting.
 - [1] Check that the relay connectors between [U1,U2] and [U3,U4] terminals are disconnected in all header outdoor units to which the central control is connected.
(At the shipment from factory : No connection of connector)
 - [2] SW30-2 should be OFF in all header UNITS except the header unit with the least line address number. (At the shipment from factory : Set to ON)
- Correct address setting can't be conducted without the setting status shown above.
- The procedure shown above should be conducted after the address setting of all the indoor and outdoor units.



Relay connector

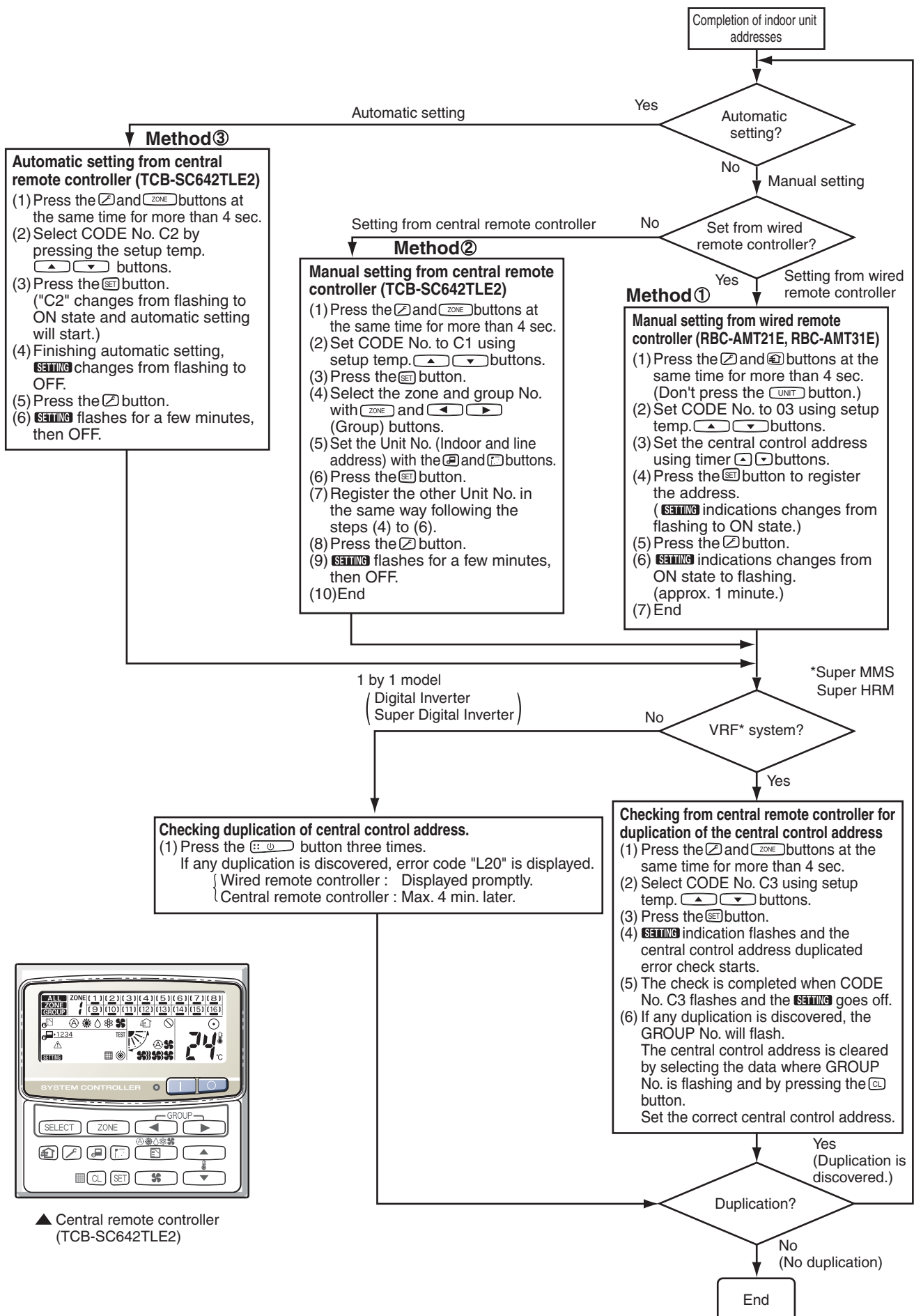


Terminator resistor (SW30)
Left :SW30-1
Right :SW30-2

CPU

Interface P.C. board on the outdoor unit.

Flow chart of setting central control address



3-2-10 Address re-setup for the central control of the super-digital inverter and the digital inverter units

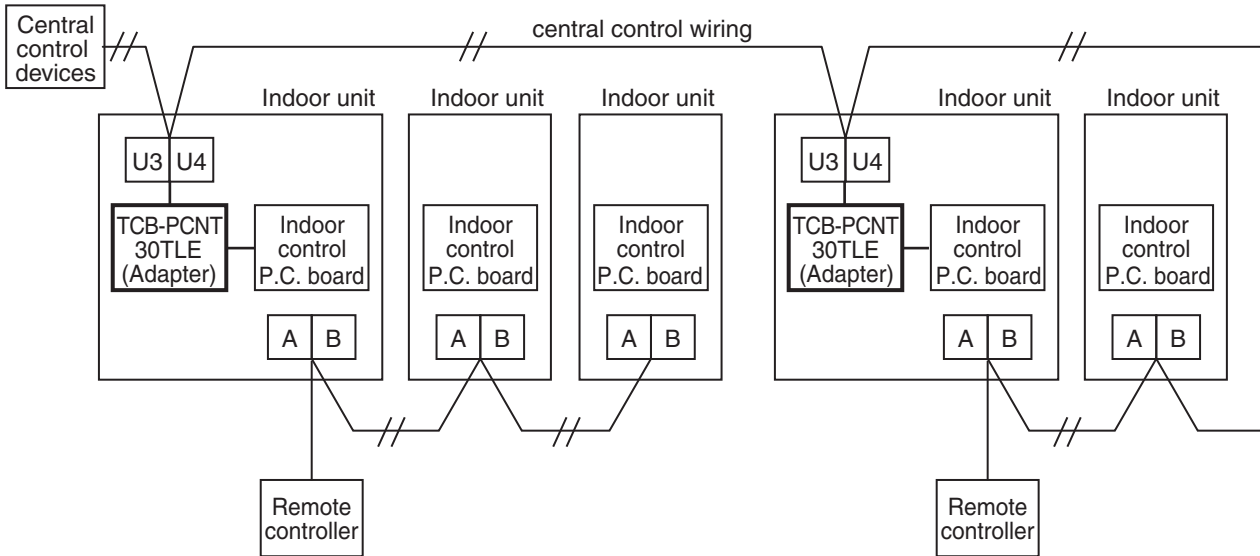
POINT 1

When controlling the super-digital inverter and the digital inverter, the adaptor named “1:1 model” connection interface (TCB-PCNT30TLE2) is necessary.

1. Cabling connection of control wiring

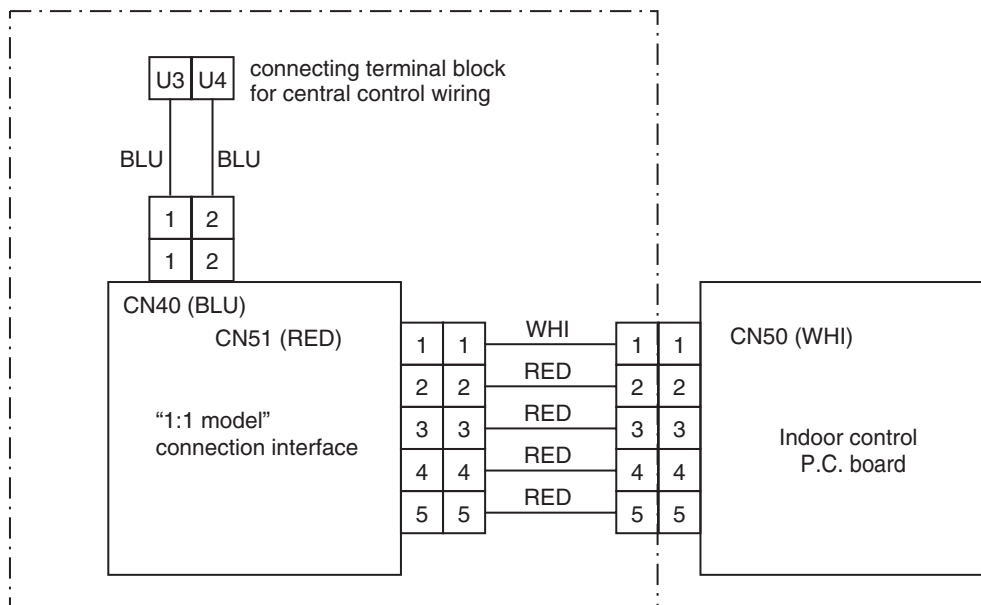
Attach an adaptor per 1 group in the group control operation (including individual control).

Connect the adaptor to the header indoor unit in the group control. (For details, see **POINT 3.**)



2. Cabling connection diagram with indoor control P.C. board

- For details, refer to Installation Manual.

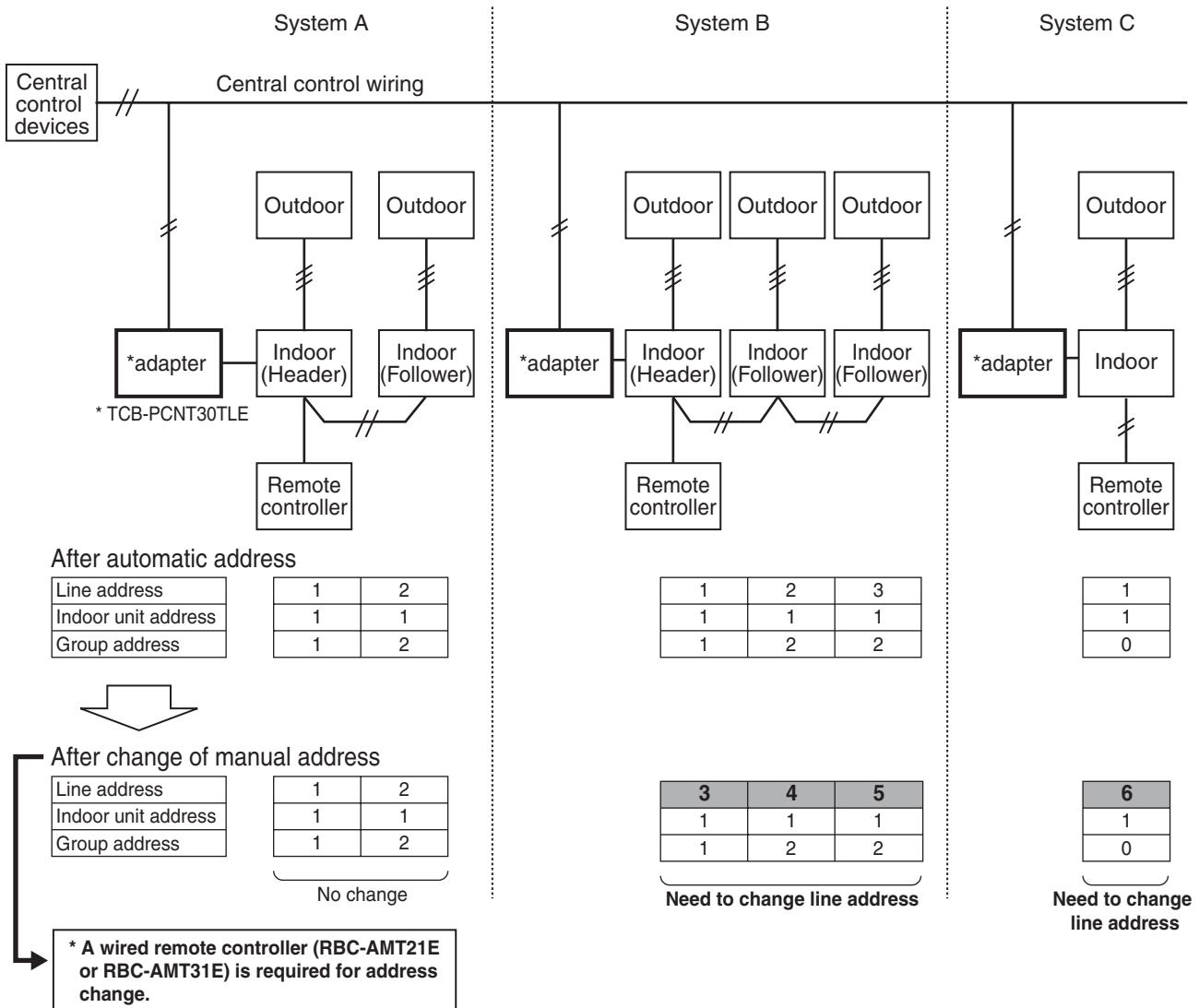


- Parts included in the single-point chain line are optional accessories.
- There is no polarity on the cables connected to U3 and U4 terminals.

POINT 2

After automatic address setup, it is necessary to change the line address from the wired remote controller for each system.
(Manual re-setup)

Reason : After automatic address setup, all of the line addresses will become “1” except in a group control and then a duplicated address error “E08” will be outputted.

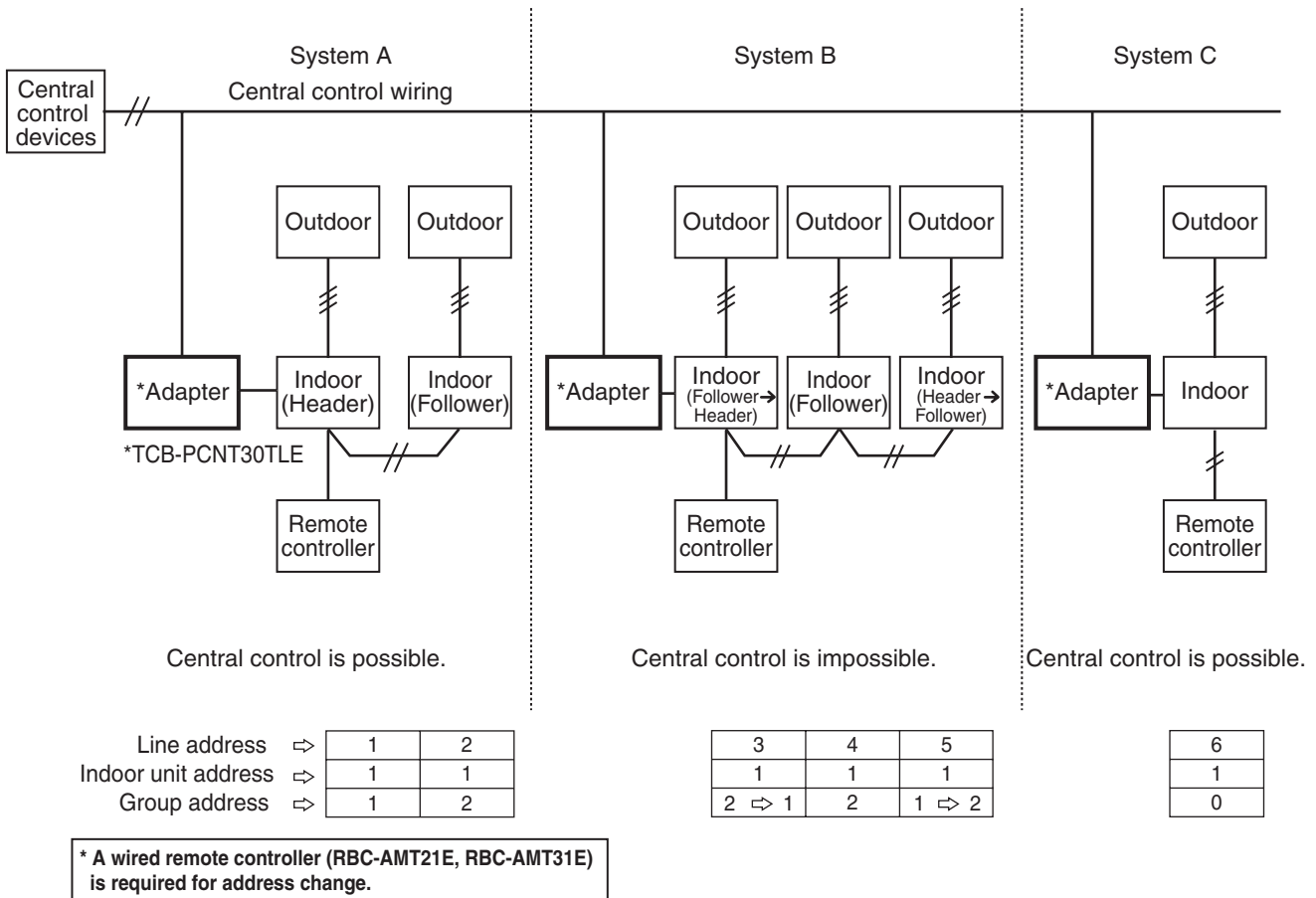


- Set up a line address for each refrigerant system.
- Set up a line address so that it is not duplicated with other systems.
(If the central control is conducted with VRF systems, set up a line address so that it is not also duplicated with line address of the VRF systems.)
- When performing a central control of over 30 systems, the address setup method needs to be changed.
(including a VRF system)

POINT 3

When the central control is performed for indoor units using twin control in a group operation, it may be required to change the group address. (Adapter is attached to the header indoor unit.)

Reason : The central control device communicates with each individual indoor unit, the header indoor unit of the group control and the header indoor unit of the twin control. However, as the address is automatically set up, which unit will become the header unit is indefinite. Therefore if the unit attached with adapter does not become the header indoor unit, the central control function will become unavailable.



How to check the group address (Header/Follower indoor unit setup)

* Check the group address after confirming which unit is attached with the adapter.

Procedure When the air conditioner is not in operation

- 1 Push the SET + CL + TEST buttons simultaneously for 4 seconds or more.
- 2 The indoor unit in which the fan is turned on is the header indoor unit.



Indoor unit in which the fan is turned on = Indoor unit with the adapter : To **Case 1**
 Indoor unit in which the fan is turned on ≠ Indoor unit with the adapter : To **Case 2**

Case 1

(In the case that the indoor unit in which the fan is turned on and the unit with the adapter are the same)

3 As the central control is available, push button. (Setup is determined.)

When pushing the  button, the display disappears and the status returns to the normal stop status.

(The operation on the remote controller is not accepted for approx. 1 minute after the  button has been pushed.)

If the operation on the remote controller is not accepted for 1 minute or more after the  button has been pushed, an incorrect address setup is considered.

In this case, automatic address is performed again after approx. 5 minutes or more. Set up the group address again starting from procedure 1.

Case 2

(In the case that the indoor unit in which the fan is turned on and the unit from procedure 1 with the adapter is different)

The central control is unavailable, therefore change the address using the following procedure.

Indoor unit without the adapter : Header indoor unit → Follower indoor unit.

3 Using the buttons, select Item code 14.

4 Check the setup data is 0001 and change the setup data from 0001 to 0002 using the buttons.

5 Push the button. In this time, the setup has finished if the display changes from flashing to lighting.

Indoor unit with the adapter : Follower indoor unit → Header indoor unit.

6 Push the button to turn on the fan of the indoor unit attached with the adaptor.

7 Using the buttons, select Item code 14.

8 Check the setup data is 0002 and change the setup data from 0002 to 0001 using the buttons.

9 Push the button.

Confirmation of re-set up

In this time, the setup has finished if the display changes from flashing to lighting.

10 When the above setup operation has finished, push the button to select the indoor unit of which the setup has been changed. Using the buttons, specify the Item code 14 and check the changed contents.

Pushing the  button enables you to clear the setup contents up to this point.

(In this case, repeat the procedure from 1.)

11 Push the button. (Setup is determined.)

When pushing the  button, the display disappears and the status returns to the normal stop status.

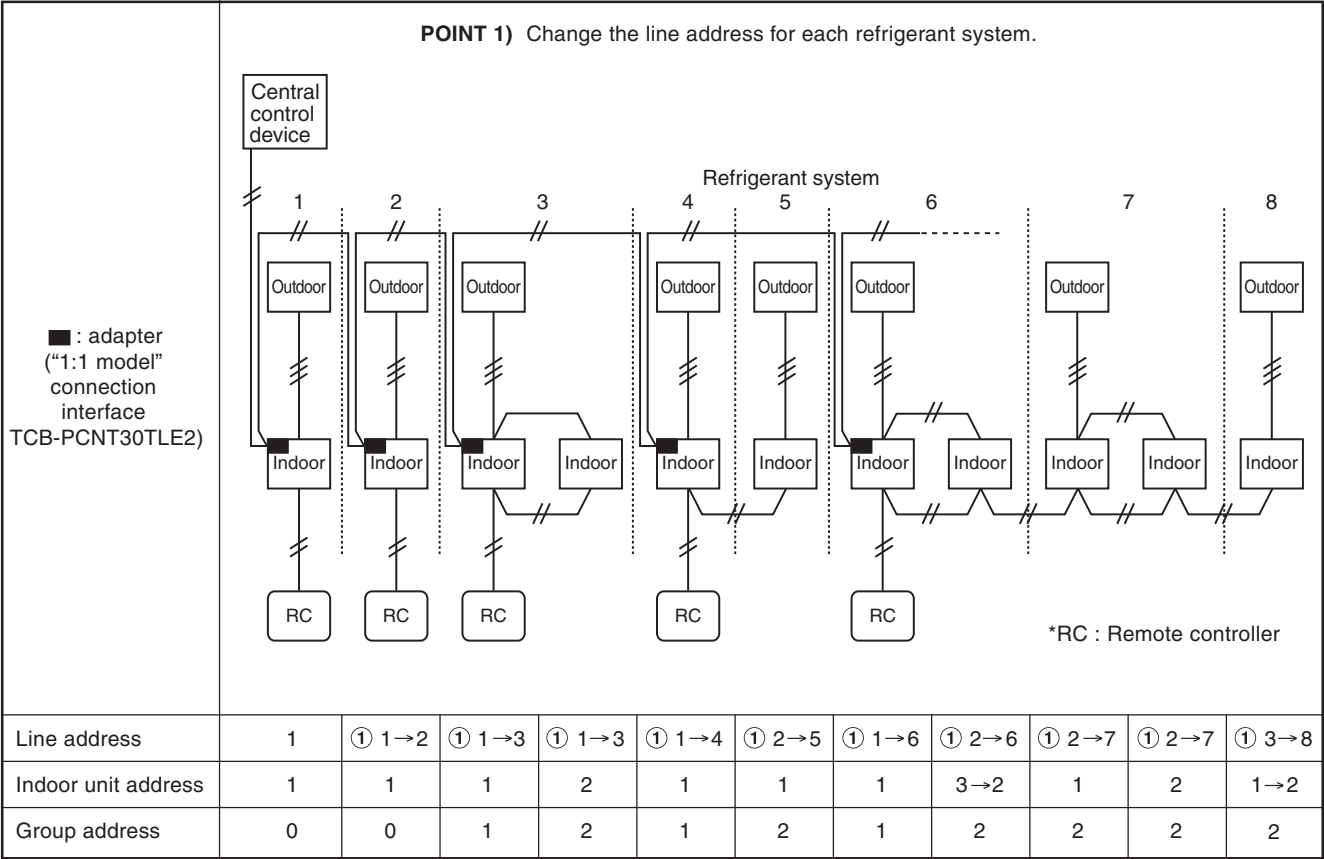
(The operation on the remote controller is not accepted for approx. 1 minute after the  button has been pushed.)

If the operation on the remote controller is not accepted for 1 minute or more after the  button has been pushed, an incorrect address setup is considered.

In this case, automatic address is performed again after approx. 5 minutes or more. Set up the group address again starting from procedure 1.

3-2-11 Indoor address change example (Super-digital inverter and digital inverter)

1 In case of central control of up to 29 refrigerant systems (including No. of VRF systems)

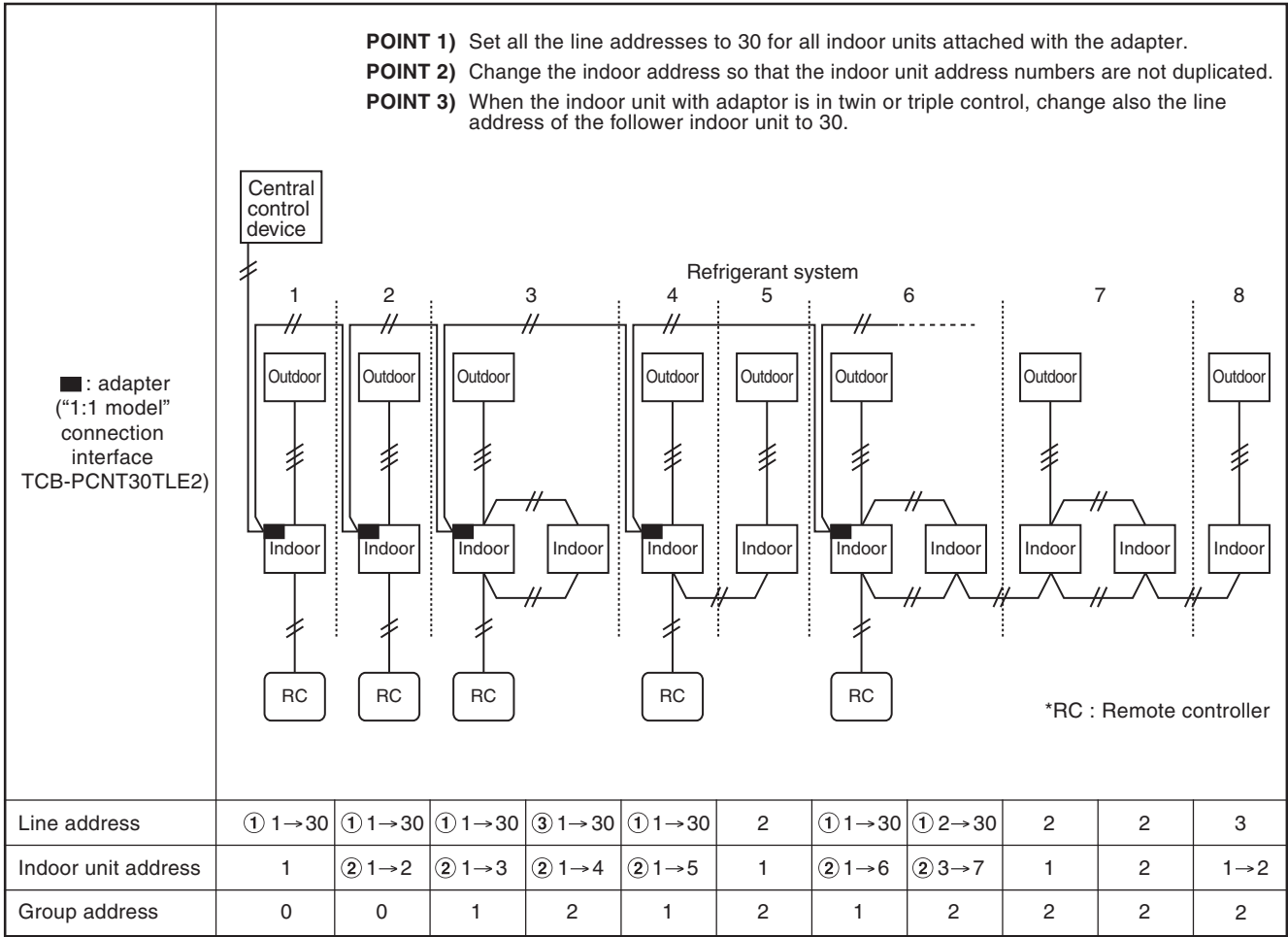


Change the line address on the wired remote controller after automatic address setting.

Automatic address is impossible. Set up again the address manually on the wired remote controller.

2 In case of central control over 30 refrigerant systems (including No. of VRF systems if any)

* Change operation is same to the above 1 up to 29th refrigerant system.



Change the line address on the wired remote controller after automatic address setting.

Automatic address is impossible. Set up again the address manually on the wired remote controller.

4

DETAILS OF APPLICATION CONTROL AND DEVICES

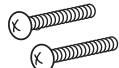
- 4-1 Remote controller
 - 4-1-1 Wired remote controller (RBC-AMT21E, RBC-AMT31E)
 - 4-1-2 Simple wired remote controller (RBC-AS21E2)
 - 4-1-3 Wireless remote controller kit
 - 4-1-4 Weekly timer (RBC-EXW21E2)
- 4-2 Central remote controller (TCB-SC642TLE2)
 - 4-2-1 Outline
 - 4-2-2 Installation procedure
 - 4-2-3 Operation procedure
- 4-3 ON-OFF controller (TCB-CC163TLE2)
 - 4-3-1 Outline
 - 4-3-2 Installation procedure
 - 4-3-3 Operation procedure
- 4-4 Application controls of indoor unit
 - 4-4-1 Setup of selecting function in indoor unit
 - 4-4-2 Ventilation fan control from remote controller
 - 4-4-3 Leaving-ON prevention control
 - 4-4-4 Power peak-cut from indoor unit
 - 4-4-5 Remote sensor (TCB-TC21LE2)
- 4-5 Application controls of outdoor unit
 - 4-5-1 Outdoor fan high static pressure shift
 - 4-5-2 Cooling priority, heating priority control
 - 4-5-3 Indoor unit setup in “Specific indoor unit priority control” mode
- 4-6 Application controls by optional P.C. board on outdoor unit
 - 4-6-1 Power peak-cut control
 - 4-6-2 Snowfall fan control
 - 4-6-3 External master ON/OFF control
 - 4-6-4 Night operation control
 - 4-6-5 Operation mode selection control
- 4-7 Application controls by optional devices connected to the indoor unit
 - 4-7-1 Remote control by “remote location ON/OFF control box”
 - 4-7-2 Central control by AI-NETWORK (Network adapter)
 - 4-7-3 Central control with “1:1 model” (“1:1 model” connection interface)

4-1 Remote controller

4-1-1 Wired remote controller (RBC-AMT31E)

Installation Manual

Accessory parts

Part Name	Q'ty	Part Name	Q'ty
Remote controller 	1	Wood screw 	2
Screw M4 x 20 	2	Installation Manual 	1

Requirement to install the remote controller

Installation place

- Install the remote controller 1 - 1.5m above floor level (average room temperature area).
- Do not install the remote controller in a place exposed to direct sunlight or outside air (such as a window, etc.).
- Do not install the remote controller where ventilation is poor.
- Do not install the remote controller in a freezing or refrigerated area - the remote controller is not water or splash-proof.
- Install the remote controller in a vertical position.

How to select the room temperature sensor

Two room temperature sensors are installed: one in the indoor unit; the other in the remote controller. Only one sensor (usually the indoor unit's) can be active at any one time. To select the sensor in the remote controller, perform the following steps.

1. Push  + temperature setup button  for 4 seconds or more.

NOTE: The unit number displayed the first time is the indoor unit address of the master unit in the group control.

NOTE: Do not press the  button.

2. Using the temperature setup buttons  , specify the item code **32**.
3. Using the timer buttons  , change the setting from **00 00 to 00 01**.
4. Push the  button. (The display should stop flashing and become constantly lit.)
5. Push the  button.
The status returns to the operation stop status and  is displayed in the LCD.

NOTE 1: When using two remote controllers, the room temperature sensor selection can be set either from the header/follower remote controller. Only the header remote controller can act as a remote control sensor. When using two remote controllers, the temperature can be set from either the header or follower remote controller.

NOTE 2: In group control, the remote control sensor does not work if the group address is not set to the indoor unit of the master unit.

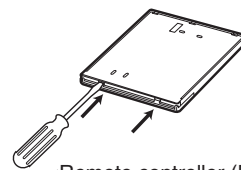
NOTE 3: When using the remote sensor and the remote controller together, do not use the remote control sensor of the remote controller.

How to install remote controller

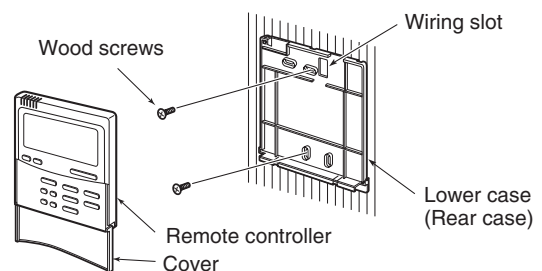
NOTE 1: The remote controller wire should not be bundled with other wires (mains, etc.), or installed with other wires in the same conduit, as malfunction may result.

NOTE 2: Install the remote controller away from sources of electrical interference and electromagnetic fields.

NOTE 3: If electrical interference is unavoidable, countermeasures such as appropriate filtering should be employed.



<Remote controller (Rear)>



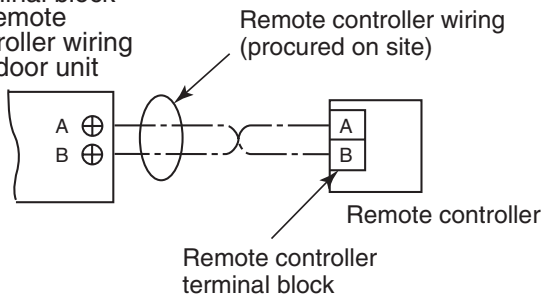
1. For removal of the remote controller's lower case (rear case), insert the tip of a flat head screw driver, etc., into the two openings at the bottom of the remote controller to open the lower case.
2. Fix the remote controller's rear case by wood screws (2 pcs.). Do not over tighten, as it may damage the rear case.
3. Connect the wires from the indoor unit to the remote controller terminal block. (Refer to "How to wire the remote controller".)

Connect the wires of the remote controller following the terminal numbering convention of the indoor unit to prevent miswiring. (Do not apply 230V AC mains voltage to the remote controller as it will be damaged).

How to wire the remote controller

• Connection diagram

Terminal block for remote controller wiring in indoor unit



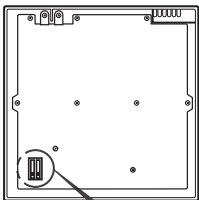
- * Use 0.5 to 2mm² wire.
- * Can not use the closed end wire joint.

* Terminals A and B are non-polar.

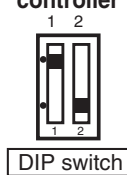
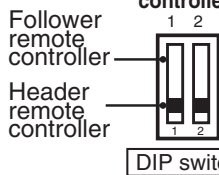
Multiple remote controller installation requirements

In a dual remote controller system, one or more units are operated by multiple remote controllers. (A maximum of two remote controllers can be set.)

Remote controller (inside, rear)



Header remote controller Follower remote controller



Be sure to set switch 2 to the lower position.

• How to install

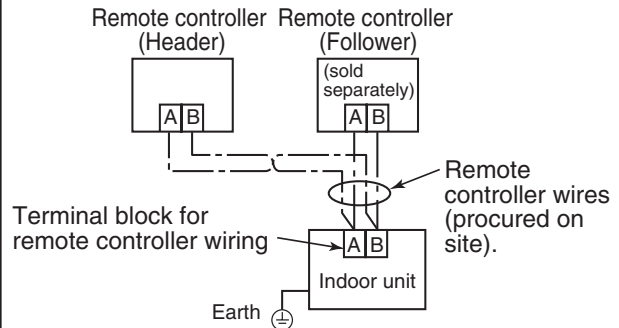
For a dual remote controller system, install the remote controllers in the following way.

1. Set one of remote controllers as the header remote controller. (The default setting is 'Header'.)
2. Set the DIP switch on all other remote controller P.C. boards to Sub (to enable them as follower remote controllers).

• Basic wiring diagram

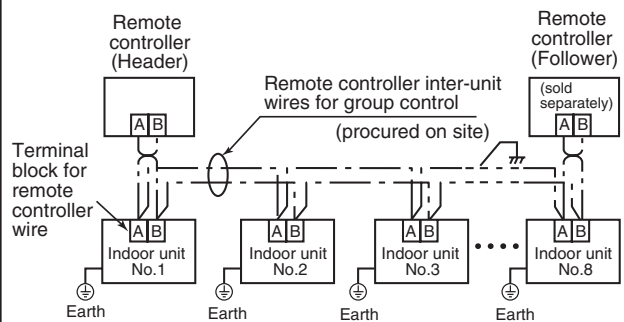
NOTE: Terminals A and B are non-polar

- Operating one indoor unit from remote controllers installed in two different locations.



- Operating a group control of multiple indoor units from remote controllers installed in two different locations.

* Header and Follower remote controllers are operable even if they are connected to any indoor unit.



Remote controller test run setup

1. Push and hold the  button for 4 seconds or more until "TEST" appears in the LCD display, then press the  button.
 - "TEST" appears in LCD display during the test run.
 - Temperature adjustment is not possible while "TEST" is displayed. The test run applies considerable load on the machine; therefore, it is recommended not to use the test mode beyond necessity.
2. The test mode should be used in either HEAT or COOL mode.

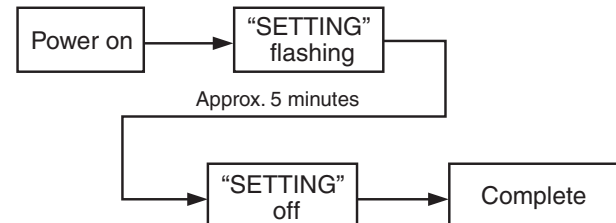
NOTE: The outdoor unit will not operate for approx. 3 minutes after power up, or the operation will stop.
3. Be sure the "TEST" indication in the LCD display has disappeared by pushing the  button again after exiting the test mode. (The remote controller has a 60-minute off timer function to prevent continuous test run).

Requirement

When a remote controller is used for the first time, initial operation after power on will take a few moments. This is not a malfunction.

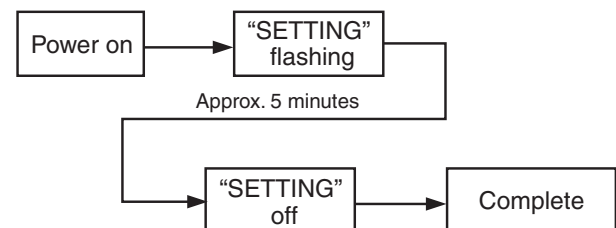
<Initial power on period>

Allow **approx. 5 minutes** for the remote controller to operate.



<Usual power on period after the second time>

Allow **approx. 1 minute** for the remote controller to operate.



Wired remote controller (RBC-AMT31E)

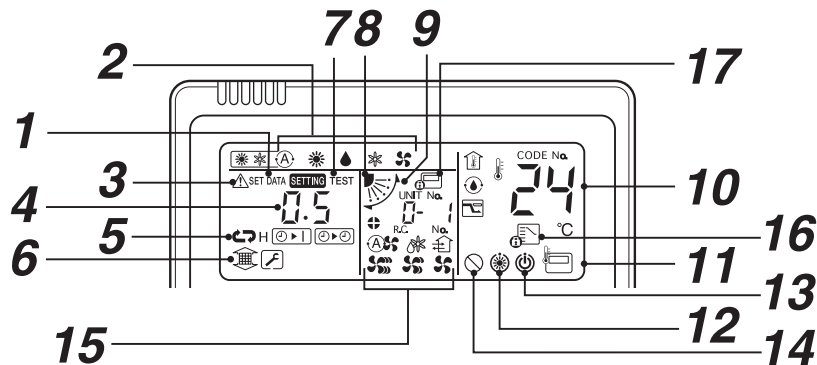
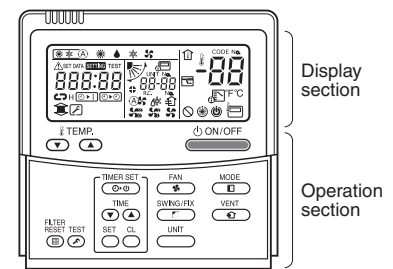
Operation manual

Parts Name of Remote Controller

Display section

In the display example, all indicators are displayed for purpose of explanation. In reality only, only the selected contents are indicated.

- When turning on the leak breaker for the first time, [SET DATA] flashes on the display part of the remote controller. While this display is flashing, the model is being automatically confirmed. After the [SET DATA] display has disappeared, you may use the remote controller.



1 SET DATA display

Displayed during setup of the timer.

2 Operation mode select display

The selected operation mode is displayed.

Ⓐ [AUTO] mode is displayed on heat recovery type only.

3 CHECK display

Displayed while the protective device operates or a fault occurs.

4 Timer time display

Time of the timer is displayed. (When a trouble occurs, the check code is displayed.)

5 Timer SETIN setup display

When pushing the Timer SETIN button, the display on the timer is selected in order of [OFF]

⓪ → Ⓜ [OFF] repeat OFF timer → [ON]

⓪ → No display.

6 Filter display

If "FILTER" is displayed, clean the air filter.

7 TEST run display

Displayed during a test run.

8 Flap position display (for 4-Way Air Discharge Cassette Type and Under Ceiling Type model only)

Displays flap position.

9 SWING display

Displayed during up/down movement of the flap.

10 Set up temperature display

The selected set up temp. is displayed.

11 Remote controller sensor display

Displayed When the sensor on the remote controller is used.

12 PRE-HEAT display

Displayed when the heating operation starts or defrost operation is carried out.

While this indication is displayed, the indoor fan stops or the mode enters into LOW.

13 Operation ready display

Displayed when cooling operation is unavailable because heating operation is performed.

14 No function display

Displayed if there is no function even if the button is pushed.

15 Air volume select display

The selected air volume mode is displayed.

(AUTO) Ⓐ (HIGH) Ⓜ
(MED.) Ⓜ (LOW) Ⓜ

In the Concealed Duct High Static Pressure type models, [HIGH] only is displayed for the air speed.

16 Mode select control display

Displayed when pushing "Operation mode select" button while the operation mode is fixed to heating or cooling by the system manager for the air conditioner.

17 Central control display

Displayed when using the remote controller together with the central remote controller, etc.

If Remote controller is prohibited at the central control side, Ⓜ flashes when operating buttons and the change is not accepted.

Ⓜ ON/OFF, Ⓜ MODE, Ⓜ TEMP.

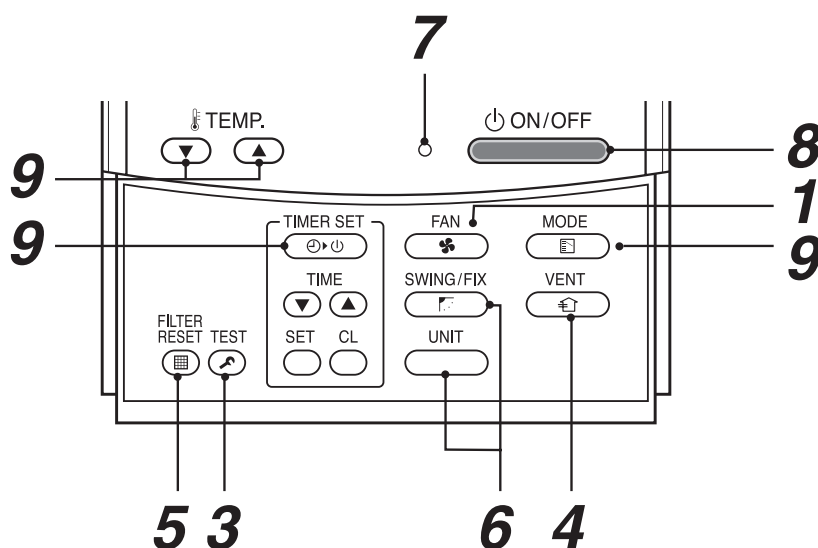
(The contents available to be set up on the remote controller differ according to the central control mode. For details, refer to Owner's Manual of the central control remote controller.)

Operation section

Push each button to select a desired operation.

This remote controller can operate a maximum of 8 indoor units.

- The details of the operation will need to be set up once, afterwards, the air conditioner can be used by pushing the  button only.



1 Air volume select button

Selects the desired air volume mode.
The Concealed Duct High Static Pressure type models do not have this function.

2 Timer set button

TIMER SET button is used when the timer is set up.

3 Check button

The CHECK button is used for the check operation. During normal operation, do not use this button.

4 Fan button

FAN button is used when a fan which is sold on the market or etc. is connected.

- If  is displayed on the remote controller when pushing the FAN button, a fan is not connected.

5 Filter reset button

Resets (Erases) "FILTER  display.

6 UNIT and AUTO flap button

 :

If multiple indoor units are operated by only one remote controller, select the units when the air direction is adjusted.

 :

Set up the auto swing and angle of the flap.

- This function is not provided on the Concealed Duct Standard Type, High Static Pressure Type, Floor standing Cabinet Type, of Floor Standing Concealed Type units.

7 Operation lamp

Lamp is lit during the operation. Lamp is off when stopped.

The operation lamp will flash if there a protection device has been operated or a fault has occurred.

8 button

When this button is pushed the operation will either start or stop depending on its operating status at the time the button was pushed.

When the operation has stopped, the operation lamp and all the displays will disappear.

9 Operation select button

Selects the desired operation mode.

10 Set up temperature button

Adjusts the room temperature.

Set the desired set temperature by pushing



OPTION :

Remote controller sensor

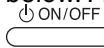
Usually the TEMP. sensor on the indoor unit senses the temperature. The temperature surrounding the remote controller can also be sensed.

For details, contact the dealer from who you have purchased the air conditioner from.

- In the case that one remote controller controls the multiple indoor units, the setup operation is unavailable in group control.

Correct Usage

When you use the air conditioner for the first time or when you change the SET DATA value, follow the procedure below. From the next time, the operation displayed on the remote controller will start by pushing the

 button only.

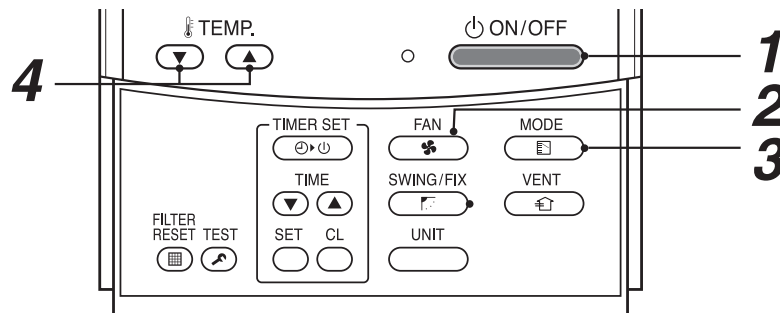
Preparation

Turn on the main power switch and/or the leakage breaker.

- When the power supply is turned on, a partition line is displayed on the display part of the remote controller.
- * After the power supply is turned on, the remote controller will not accept an operation for approx. 1 minute, this is not a failure.

REQUIREMENT

- While using the air conditioner, operate it only with the  button without turning off the main power supply or the leak breaker.
- Do not turn off the leak breaker while the air conditioner is in use.
- Turn on the leak breaker 12 hours or more before the air conditioner is due to be operated, if it has not been in use for an extended period of time.



1 Push the button.

The operation lamp goes on and the operation starts.

2 Select an operation mode with the “” button.

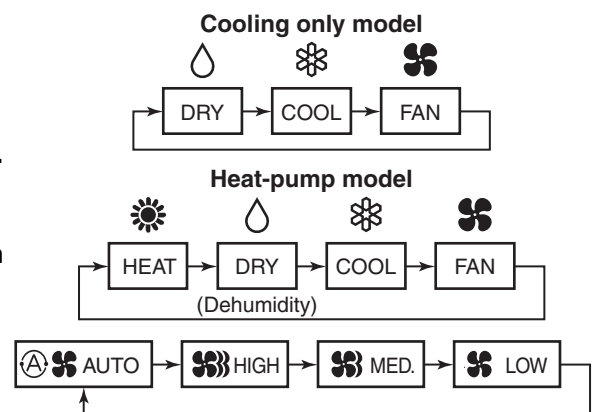
One push of the button, and the display changes in the order shown on the right.

- This function is not provided on the Concealed Duct High Static Pressure Type.

3 Select air volume with “FAN ” button.

One push of the button and the display changes in the order shown on the right.

- When air volume is “AUTO ”, the air volume differs according to the room temperature.
- In DRY  mode, “AUTO ” is displayed and the air volume is set to LOW.
- In heating operation, if the room temperature is not heated sufficiently with the VOLUME “LOW ” operation, select “MED. ” or “HIGH ” operation.
- As the room temperature is measured by the sensor found near the intake port of the indoor unit, the measured temperature value may be different to the actual room temperature, therefore consider this difference when setting the discharge temperature on the air conditioner. (Automatic air speed cannot be selected in FAN mode.)
- Air volume function is not provided to “Concealed Duct High Static Pressure Type” but the air speed “HIGH ” symbol will be displayed.



4 Determine the set up temperature by pushing the button.

Stop

Push the  button.

The operation lamp goes off, and the operation stops.

4-1-1 Wired remote controller (RBC-AMT21E)

Installation Manual

Accessory parts

Part Name	Q'ty	Part Name	Q'ty
Remote controller (200mm-cable attached)	1	Spacer	2
Screw M4 x 25	2	Wire joint	2
Wood screw	2	Installation Manual	1

Requirement to install the remote controller

Installation place

Install the remote controller at a position with height 1 to 1.5m from the floor, where the average temperature in the room can be felt.

Do not install the remote controller at a place exposed to direct sunlight or direct outside air, such as a side of window, etc.

Do not install the remote controller at a place behind something or rear side of something where air flow is poor in the room.

Do not install the remote controller in the freezing box or refrigerator because water proof or drop-proof is not applied to this remote controller.

Be sure to set the remote controller vertically on the wall surface, etc.

How to select the room temperature sensor

The room temperature sensors are equipped in the indoor unit and remote controller.

One of two sensors works. Usually, the room temperature sensor in the indoor unit is set to work. To select the sensor in the remote controller side, refer to the following procedure.

1. Keep **[F]**, **[SET]**, and **[CL]** buttons pushed for 4 seconds or more.

NOTE) The UNIT No. displayed at the first time is the indoor unit address of the master unit in the group control.

NOTE) Do not push **[UNIT]** (select) button.

2. Using the temperature setup buttons **[▲]**/**[▼]**, specify the item code **0032**.
3. Using the timer buttons **[▲]**/**[▼]**, change the set data from **0000** to **0001**.
4. Push **[SET]** button.
(OK if the display changes from flashing to lighting)
5. Push **[F]** button.
The status returns to the normal status. In this time, **[F]** is displayed in LCD.

NOTE 1 :

When using two remote controllers, the master remote controller is recognized as **[F]** sensor though the temperature can be set from either master or sub remote controller.

NOTE 2 :

In a group control, the **[F]** sensor does not work if the group address is not set to the indoor unit of the master unit.

NOTE 3 :

When using the remote sensor together with the remote controller, do not use the **[F]** sensor of the remote controller.

How to install remote controller

NOTE 1 : Avoid twisting the remote controller wiring with the power supply cable or routing the cabling in the same metal conduit, as this may cause electrical interference and may cause the unit to malfunction.

NOTE 2 : Install the remote controller away from any electrical device that may be a source of electrical noise.

NOTE 3 : When electrical noise is present in the power supply, counter measures such as mounting a noise filter may be necessary.

• When installing the remote controller directly to the wall surface, ensure the wall can sufficiently support the weight of the controller.

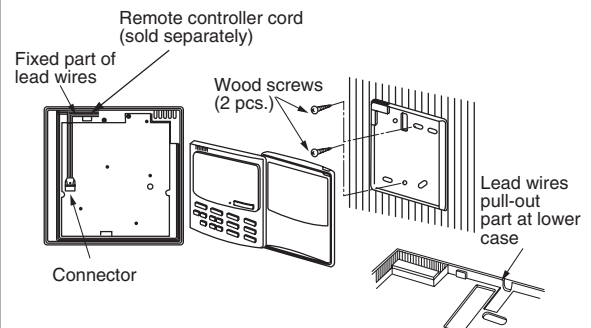
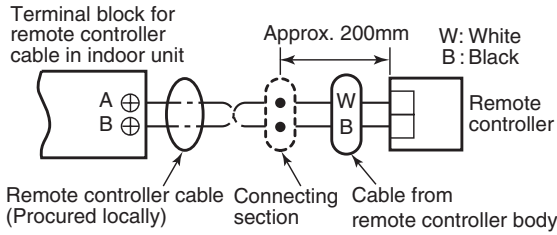


Fig. A

1. For removal and mounting of the remote controller body and the rear case, refer to the item, "Using as concealed type".
 2. Connect the remote controller cable to the connectors on the controller body, ensuring that the cabling is routed securely in the groove provided. Notching the lower case (thin part of the upper center part) with a suitable tool, pull out the remote controller cables. (Fig. A) (Refer to the item, "How to perform cabling of the remote controller".)
- Before connecting the cables to the remote controller, confirm the terminal number. (Do not apply AC 200/230/ 240V to the remote controller.)**
3. Fix the remote controller body using the two wood screws.
 4. Using the cable clips (Accessory of remote controller cable sold separately), fix the remote controller cable to the wall surface.

How to perform cabling of the remote controller

Connection diagram

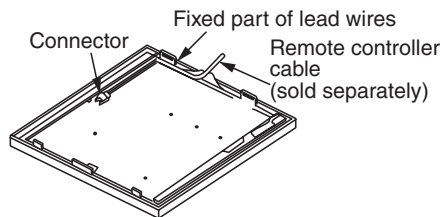


Non polarity, 2 core cable is used.
Use 0.5mm² to 2mm² cable.

Attached wire joint (White, 2 pcs.)	Remote controller cable Cable from remote controller body Wire joint
	1) Peel the sheath of the cable by approx. 14mm. 2) Twist two cables and pressure-connect them using a wire joint. 3) When an exclusive pressure-connecting tool is not used or soldering connection is used, apply insulation process with insulation tape.

For cabling of the remote controller, use the remote controller cable (sold separately).

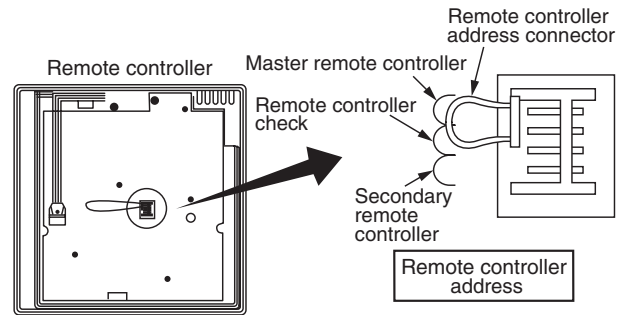
1. Connect the remote controller cable to the connectors on the controller body, ensuring that the cabling is routed securely in the groove provided.
2. When using the remote controller cable (sold separately), refer to the Installation Manual supplied with the remote controller cable.



Requirement for installation of multiple remote controllers

"2 remote controllers" means that one or multiple units are operated by multiple remote controllers.

(Max. 2 remote controllers can be set.)



How to install

For 2 remote controllers, install the remote controllers in the following procedure.

1. Set one of two remote controllers as the master remote controller. (At shipment from factory)
2. For the other remote controller, exchange the remote controller address connector from the master to secondary remote controller on the P.C. board. Under this condition, the other remote controller functions as a secondary controller.

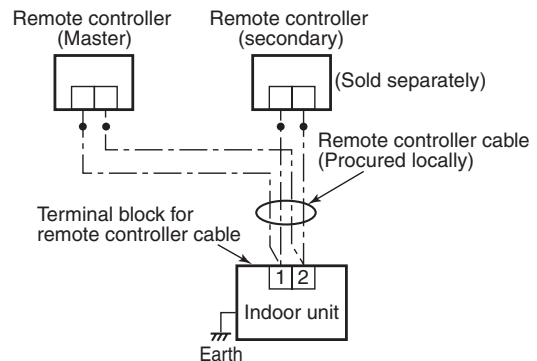
Basic wiring diagram

NOTE :

Connect cables without miswiring.

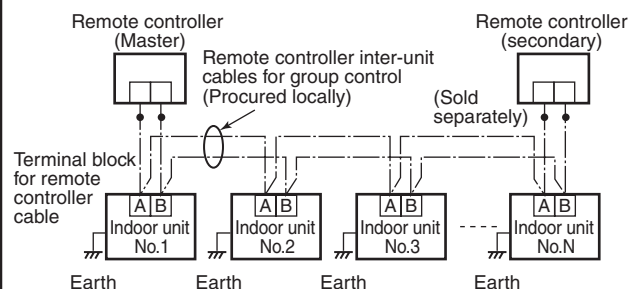
(Miswiring will cause the unit to malfunction.)

In the case of operating an indoor unit from the remote controllers at two positions



In the case of operating a group control of multiple indoor units from the remote controllers at two positions

* Master and secondary remote controllers are operable even if they are installed to any indoor unit.



Remote controller test run setup

1. When the remote controller is used for the first time, it will not accept an operation until approximately 5 minutes after the power supply has been turned on.

This is not a fault, as this time is used to check the setup of the remote controller.

2. Push the  key after [TEST] has been displayed on the LCD by keeping the  button on the remote controller pressed for 4 seconds or more

During the test run, [TEST] is displayed on the LCD

The temperature cannot be controlled if [TEST] is displayed.

Do not use [TEST] in a case other than a test run, otherwise an excessive load is applied to the air conditioner.

3. Use [TEST] in either HEAT, COOL, or FAN operation modes.

NOTE : The outdoor unit will not operate for approx. 3 minutes after the power supply has been turned on or the operation has been stopped.

4. After the test run has finished, push the  button again to check the [TEST] symbol on the LCD has gone off.
(For this remote controller, a release function of 60 minutes is provided to prevent continuous test runs.)

Wired remote controller (RBC-AMT21E)

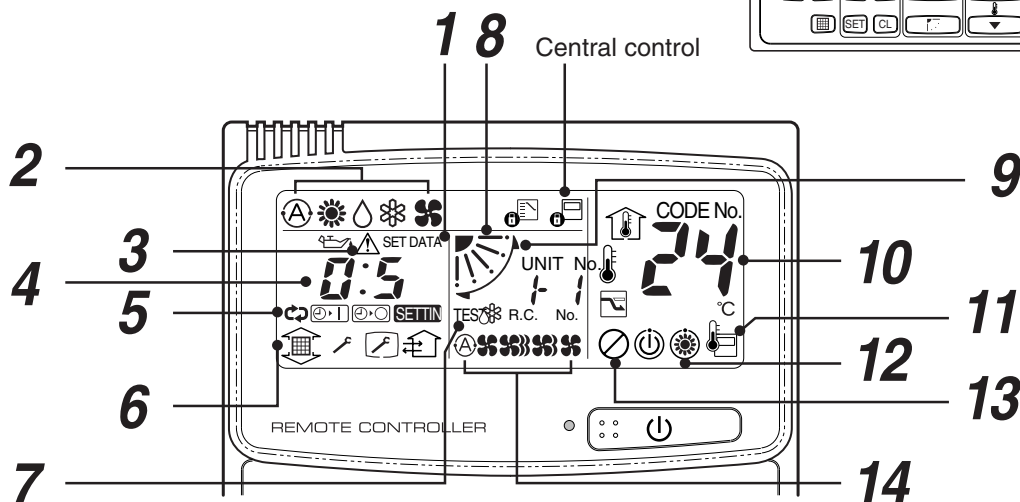
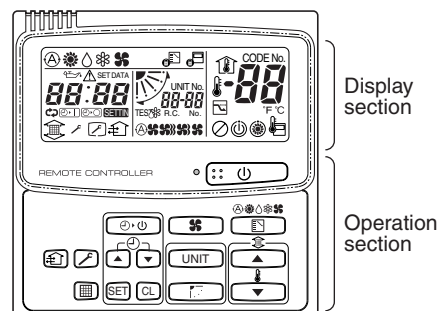
Operation manual

Parts Name of Remote Controller

Display section

In the display example, all indicators are displayed for purpose of explanation. In reality only, only the selected contents are indicated.

- When turning on the leak breaker for the first time, [SET DATA] flashes on the display part of the remote controller. While this display is flashing, the model is being automatically confirmed. After the [SET DATA] display has disappeared, you may use the remote controller.



1 SET DATA display

Displayed during setup of the timer.

2 Operation mode select display

The selected operation mode is displayed.

Ⓐ [AUTO] mode is displayed on heat recovery type only.

3 CHECK display

Displayed while the protective device operates or a fault occurs.

4 Timer time display

Time of the timer is displayed. (When a trouble occurs, the check code is displayed.)

5 Timer SETIN setup display

When pushing the Timer SETIN button, the display on the timer is selected in order of [OFF]

⌚ → ⌚ [OFF] repeat OFF timer → [ON]

⌚ → No display.

6 Filter display

If "FILTER" is displayed, clean the air filter.

7 TEST run display

Displayed during a test run.

8 Flap position display (for 4-Way Air Discharge Cassette Type and Under Ceiling Type model only)

Displays flap position.

9 SWING display

Displayed during up/down movement of the flap.

10 Set up temperature display

The selected set up temp. is displayed.

11 Remote controller sensor display

Displayed When the sensor on the remote controller is used.

12 PRE-HEAT display

Displayed when the heating operation starts or defrost operation is carried out.

While this indication is displayed, the indoor fan stops or the mode enters into LOW.

13 Operation ready display

Displayed when cooling operation is unavailable because heating operation is performed.

14 No function display

Displayed if there is no function even if the button is pushed.

15 Air volume select display

The selected air volume mode is displayed.

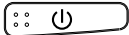
(AUTO)	Ⓐ
(HIGH)	⌘
(MED.)	⌘
(LOW)	⌘

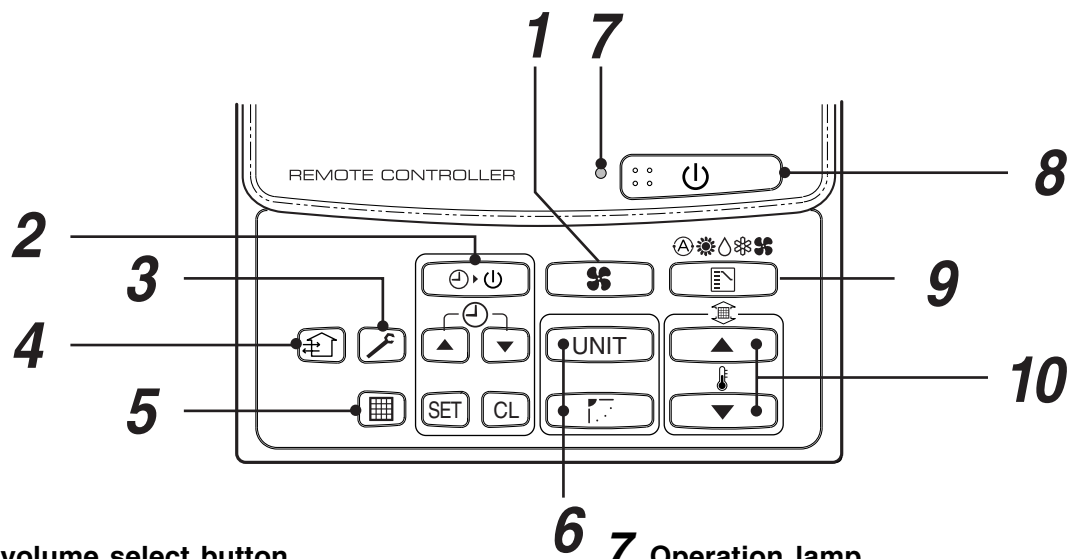
In the Concealed Duct High Static Pressure type models, [HIGH] only is displayed for the air speed.

Operation section

Push each button to select a desired operation.

This remote controller can operate a maximum of 8 indoor units.

- The details of the operation will need to be set up once, afterwards, the air conditioner can be used by pushing the  button only.



1 Air volume select button

Selects the desired air volume mode.
The Concealed Duct High Static Pressure type models do not have this function.

2 Timer set button

TIMER SET button is used when the timer is set up.

3 Check button

The CHECK button is used for the check operation. During normal operation, do not use this button.

4 Fan button

FAN button is used when a fan which is sold on the market or etc. is connected.

- If  is displayed on the remote controller when pushing the FAN button, a fan is not connected.

5 Filter reset button

Resets (Erases) "FILTER  display.

6 UNIT and AUTO flap button

 :

If multiple indoor units are operated by only one remote controller, select the units when the air direction is adjusted.

 :

Set up the auto swing and angle of the flap.

- This function is not provided on the Concealed Duct Standard Type, High Static Pressure Type, Floor standing Cabinet Type, of Floor Standing Concealed Type units.

7 Operation lamp

Lamp is lit during the operation. Lamp is off when stopped.

The operation lamp will flash if there a protection device has been operated or a fault has occurred.

8 button

When this button is pushed the operation will either start or stop depending on its operating status at the time the button was pushed.

When the operation has stopped, the operation lamp and all the displays will disappear.

9 Operation select button

Selects the desired operation mode.

10 Set up temperature button

Adjusts the room temperature.

Set the desired set temperature by pushing

 or .

OPTION :

Remote controller sensor

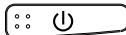
Usually the TEMP. sensor on the indoor unit senses the temperature. The temperature surrounding the remote controller can also be sensed.

For details, contact the dealer from who you have purchased the air conditioner from.

- In the case that one remote controller controls the multiple indoor units, the setup operation is unavailable in group control.

Correct Usage

When you use the air conditioner for the first time or when you change the SET DATA value, follow the procedure below. From the next time, the operation displayed on the remote controller will start by pushing the

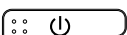
 button only.

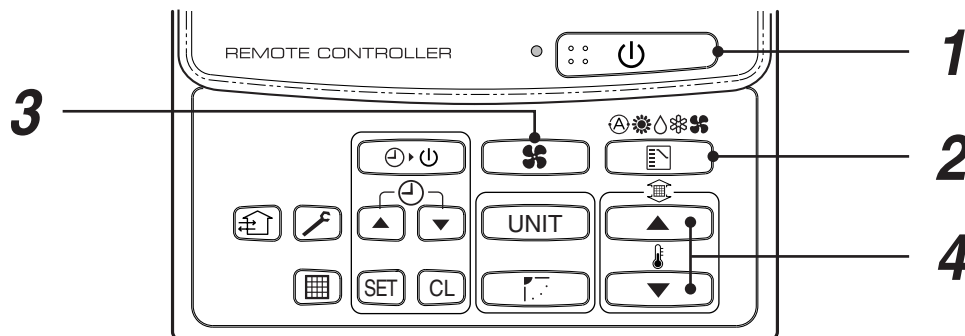
Preparation

Turn on the main power switch and/or the leakage breaker.

- When the power supply is turned on, a partition line is displayed on the display part of the remote controller.
- * After the power supply is turned on, the remote controller will not accept an operation for approx. 1 minute, this is not a failure.

REQUIREMENT

- While using the air conditioner, operate it only with the  button without turning off the main power supply or the leak breaker.
- Do not turn off the leak breaker while the air conditioner is in use.
- Turn on the leak breaker 12 hours or more before the air conditioner is due to be operated, if it has not been in use for an extended period of time.



1 Push the button.

The operation lamp goes on and the operation starts.

2 Select an operation mode with the “” button.

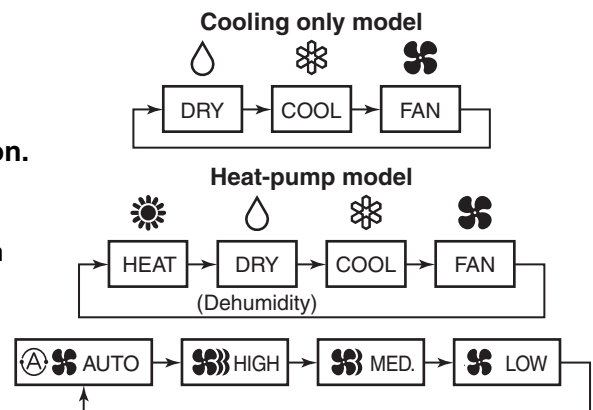
One push of the button, and the display changes in the order shown on the right.

- This function is not provided on the Concealed Duct High Static Pressure Type.

3 Select air volume with “FAN ” button.

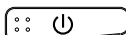
One push of the button and the display changes in the order shown on the right.

- When air volume is “AUTO ”, the air volume differs according to the room temperature.
- In DRY  mode, “AUTO ” is displayed and the air volume is set to LOW.
- In heating operation, if the room temperature is not heated sufficiently with the VOLUME “LOW ” operation, select “MED. ” or “HIGH ” operation.
- As the room temperature is measured by the sensor found near the intake port of the indoor unit, the measured temperature value may be different to the actual room temperature, therefore consider this difference when setting the discharge temperature on the air conditioner. (Automatic air speed cannot be selected in FAN mode.)
- Air volume function is not provided to “Concealed Duct High Static Pressure Type” but the air speed “HIGH ” symbol will be displayed.



4 Determine the set up temperature by pushing the “TEMP. ” or “TEMP. ” button.

Stop

Push the  button.

The operation lamp goes off, and the operation stops.

4-1-2 Simple wired remote controller (RBC-AS21E2)

Installation Manual

Accessory parts

Part Name	Q'ty	Part Name	Q'ty
Remote controller (200mm-cable attached)	1	Spacer	2
		Wire joint	2
Screw M4 x 25	2	Clamper	1
Wood screw	2	Installation Manual	1

Requirement to install the remote controller

Installation place

Install the remote controller in a position within 1 to 1.5m from the floor, where the average temperature in the room can be felt.

Do not install the remote controller in a place exposed to direct sunlight or direct outside air, such as the side of a window, etc.

Do not install the remote controller in a place behind something or to the rear side of an object, where air flow is poor.

Do not install the remote controller in a freezing box or refrigerator, as the remote controller is not waterproof.

Be sure to position the remote controller vertically on the wall surface, etc.

How to select the room temp. sensor

The room temperature sensors are equipped in the indoor unit and the remote controller.

Only one of the two sensors can be used at any one time. Usually, the room temperature sensor in the indoor unit is set to work.

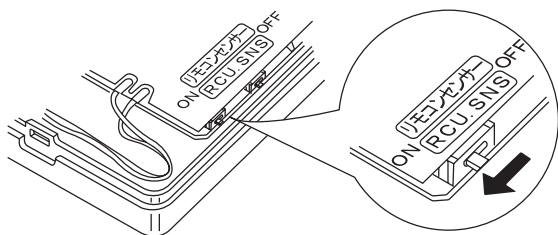
To select the sensor in the remote controller, turn the remote controller sensor from OFF to ON.

NOTE 1 :

Selecting the sensor in the secondary remote controller is impossible.

NOTE 2 :

Do not select the sensor in the remote controller when another remote controller sensor is used.



How to install the remote controller switch

NOTE 1 :

Avoid twisting the remote controller cable with the power supply cable, etc. and do not store them in the same metal pipe conduit, otherwise it may cause a malfunction.

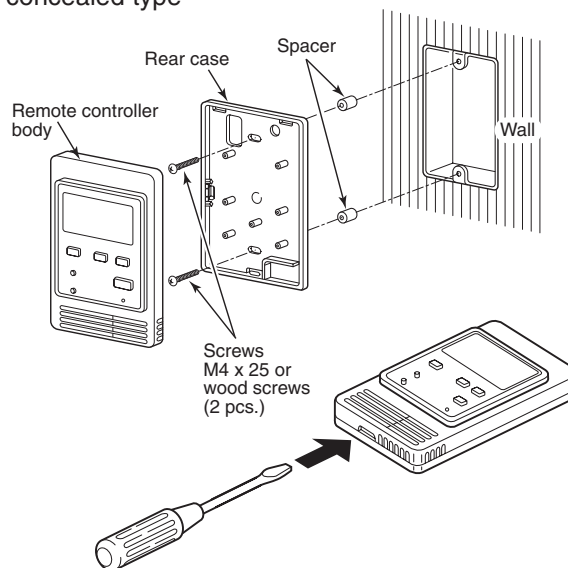
NOTE 2 :

Install the remote controller away from any device that may cause electrical interference.

NOTE 3 :

When noise is contained in the power supply of the indoor unit, counter measures such as mounting a noise filter may be necessary.

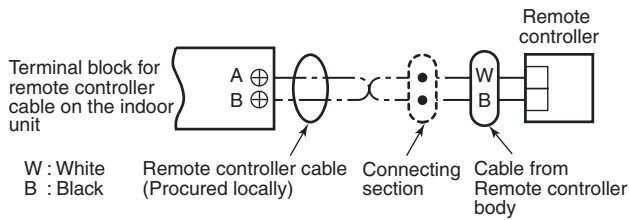
In case of using the remote controller as a concealed type



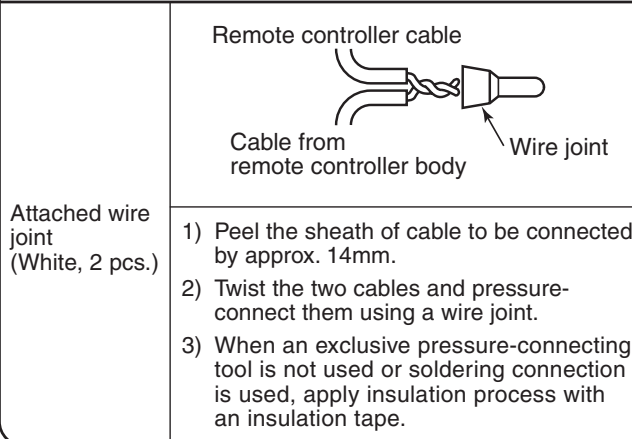
1. Inserting a flat bladed screwdriver, etc. into the groove on the lower side of the remote controller body, force open the rear case to remove it.
2. Using the attached M4 screws (2 pcs.), fix the rear case of the remote controller.
Before installation, open the screw holes with a screwdriver, etc.
Fix it with the spacer, but do not apply excessive force. If the remote controller does not fit closely to the wall, adjust it by cutting off the spacer.
3. Connect the remote controller cable (2 cores) to the cable from the remote controller body.
Connect the remote controller cable (without miswiring) upon confirmation of the terminal numbers on the indoor unit. (If applied AC 220/230/240V, the unit may be damaged.)
4. Install the remote controller body to the rear case by inserting the tabs on the controller body into the rear case.

How to perform the cabling of the remote controller

Connection diagram

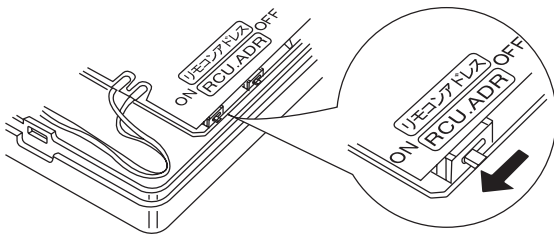


- Non polarity, 2 core cable is used.
Use 0.5mm² to 2 mm² cable.



Requirement for installation of multiple remote controllers

“2 remote controller control” means that one or multiple units are operated by multiple remote controllers.



How to install

For 2 remote controller control, install the remote controllers in the following procedure.

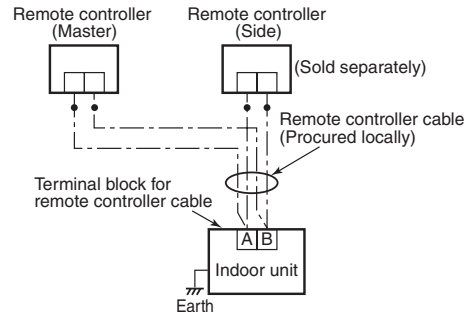
1. Set one of the set multiple remote controllers to the master remote controller.
(At shipment from factory)
2. For other remote controllers, turn the remote controller address switch on the remote controller P.C. board from OFF to ON. They will function as secondary remote controllers under the above condition.

• Basic cabling diagram

NOTE :

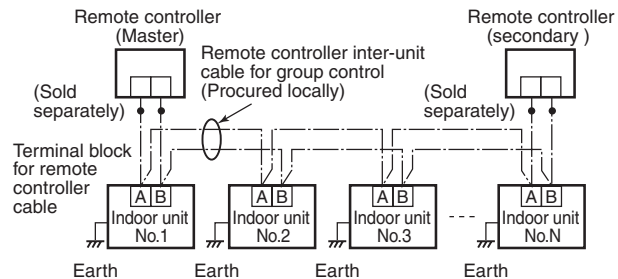
Connect the cables without miswiring.
(Miswiring will cause the unit to malfunction.)

In the case of operating an indoor unit from the remote controllers at two positions



In the case of operating a group control of multiple indoor units from the remote controllers at two positions

* Master and secondary remote controllers are operable even if they are installed to any indoor unit.



Remote controller test run setup

1. Push the key after keeping the [CHECK] button pushed on the remote controller for 4 seconds or more.

During the test run, “TEST” is displayed on the LCD.

The temperature cannot be controlled if [TEST] is displayed. Do not use [TEST] in a case other than a test run, otherwise an excessive load is applied on the air conditioner.

2. Use [TEST] in one of HEAT, COOL, and FAN operation modes.

NOTE :

The outdoor unit will not operate for approx. 3 minutes after the power supply has been turned on or the operation has been stopped.

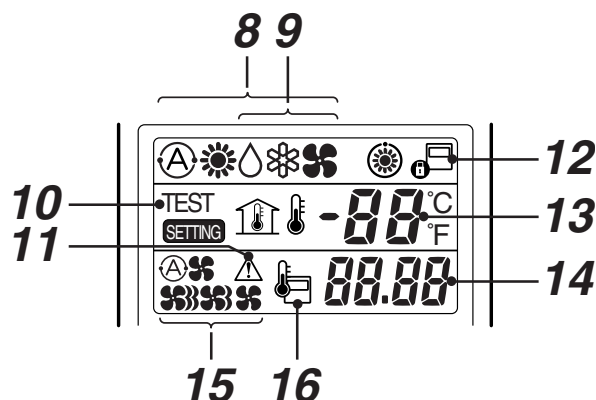
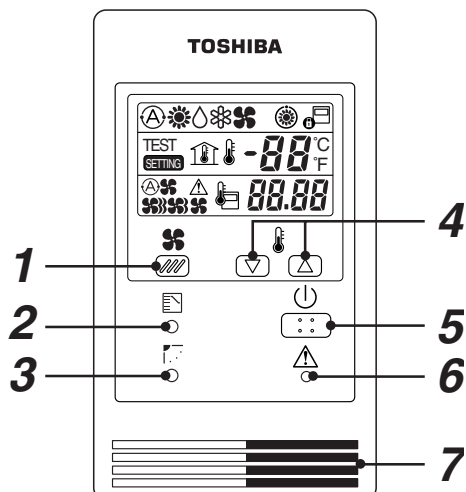
3. After the test run has finished, push the [CHECK] button again and check “TEST” on the LCD has gone off. (For this remote controller, a release function of 60 minutes is provided to prevent consecutive test runs.)

Operation Manual (RBC-AS21E2)

NAME AND OPERATION

- For Cooling Only type, , and are not displayed on LCD.
- Max. 8 indoor units can be operated by a remote controller.
- Once the operational items have been set, you can operate the previous condition by pushing the button only.

The following display is for explanation only and differs from the real display.



1 Fan Speed button

2 Operation mode button

3 Swing/Air direction button

The flap angle is changed.

4 Temperature Setup button

For every push of the button, the temperature increases by 1°C.

For every push of the button, the temperature decrease by 1°C.

5 [Start/Stop] button

6 Check button (Used in servicing)

- Do not use this button in normal operation.

7 Remote control temperature sensor

Usually controlled by the indoor unit sensor, it can be changed to the remote controller. For details, contact the dealer who you purchased the air conditioner from. (When using a group control method, do not use the remote controller sensor.)

8 Selected mode displays (Heat pump type)

Any one of , , , or can be displayed. While is displayed, the indoor fan stops or the mode is set to Low speed setting.

[AUTO] mode is displayed on heat recovery type only.

9 Selected mode displays
(Cooling only type)

Any one of , or can be displayed.

10 TEST is displayed during the Test Run.

11 (CHECK) is displayed when the protective device has operated, or a fault has occurred.

12 is displayed during the operation.

If the remote controller setting is prohibited by the central remote controller, will flash when the [Start/Stop], [Operation Select] or [Temp. Setup] button has been pushed and the change has not been accepted.

13 The setup temperature is displayed.

14 Warning code is displayed when a fault has occurred.

15 Selected fan speed, , , or displays.

16 is displayed when the remote controller sensor is used.

- When turning on the power switch to the remote controller for the first time, the flashes. While is displayed, the automatic model check is operating. Operate the remote controller after symbol has disappeared.

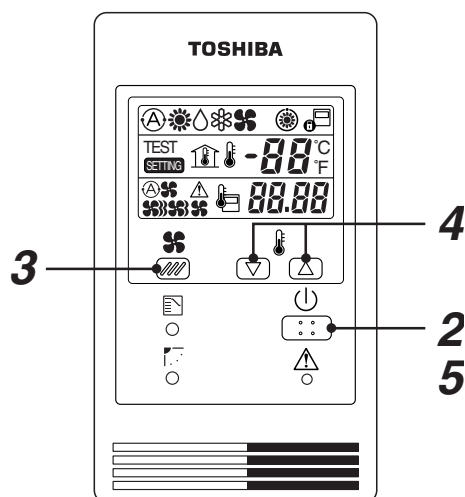
HOW TO OPERATE THE AIR CONDITIONER

COOL/HEAT AUTO, HEAT, DRY, COOL, FAN

1 Power supply

Turn on the power supply to the air conditioner 12 hours before starting the operation.

2 Push the button.



3 Push button to select the fan speed.

When selecting AUTO, the fan speed is automatically changed.
(During FAN mode, the air speed cannot be adjusted.)

4 Push either or set to Auto.

Recommended temperature

- During FAN mode, the temperature cannot be set up.

5 Stop

Push the  button.

When stopping the unit by the remote controller, the fan on the outdoor unit may keep operating for a while even if the compressor on the outdoor unit has stopped.

- When the unit cannot be stopped by the remote controller.

Turn off the main power supply or the leakage breaker and then contact the dealer who you purchased the air conditioner from.

- In heating, if the room is not heated enough with the FAN , select FAN  or .
- As the room temperature is measured by the sensor found near the intake port of the indoor unit, the measured temperature value may be different to the actual room temperature, therefore consider this difference when setting the discharge temperature on the air conditioner.

Automatic Cool/Heat

When all indoor units in the identical refrigerant system are controlled as a group and when all indoor units are installed in the same room, the cooling or heating operation is automatically performed by the difference between the setup temperature and the room temperature.

4-1-3 Wireless remote controller kit (1) TCB-AX21U (W)-E2

Installation Manual

Accessory parts

Part Name	Q'ty	Part Name	Q'ty
Sensor unit	1	Battery	2
		Owner's Manual	1
		Tapping screw M4 x 16mm	2
Remote controller	1	Clamper	1
Remote controller holder	1	Fixing screw M4 x 12mm	1

How to set the fan motor speed refer to the OWNER'S MANUAL

How to install the sensors

- * The positions where the sensors can be installed are limited to the corners (A) in Fig. 1. Therefore, for installation of the sensor units, consider the direction when a panel is installed onto the indoor unit.
1. Remove the suction grille.
 2. Take off the screw fixing the corner cap and remove the corner cap sliding it sideways. (Fig. 2)

Fig. 1

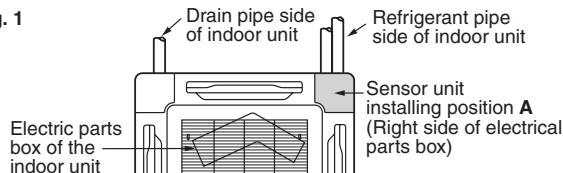
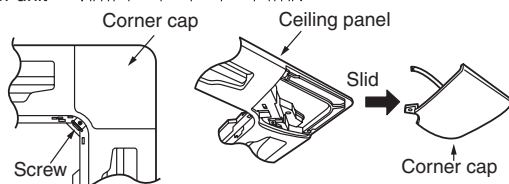
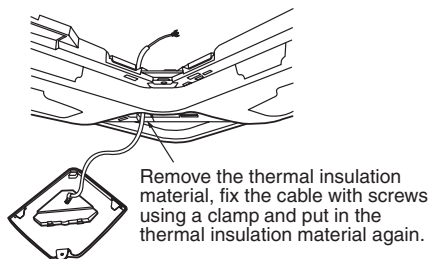


Fig. 2



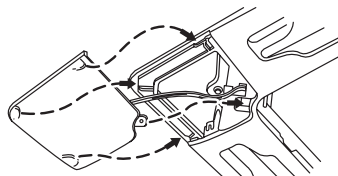
3. Thermal insulation is placed in the square hole, where the cables are to pass through the panel. Remove this insulation and insert the cables from the sensor through the hole provided. Once complete fix the cables to the terminal block, using the screws provided and re-insert the thermal insulation into the gap (Fig.3). Failure to do so, may result in dew condensation forming.

Fig. 3



4. After cabling according to "How to perform cabling of sensor units", remain the cable length enough to remove the sensor unit and fix it with screws using a clamp. (Fig. 3)
5. Install the sensor units to the panel. In this time, slide the panel so that the tabs are fit in completely at 3 positions. And also be careful not to pinch the cable. (Fig. 4)

Fig. 4

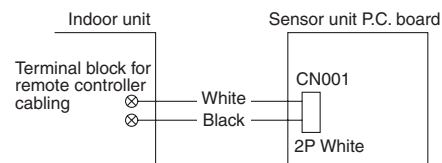


NOTES :

1. Avoid twisting the wires with the power supply cables, when routing the wires in the unit, as this can cause a malfunction.
2. When noise is contained in the power supply of the indoor unit, counter measures such as mounting a noise filter may be necessary.

How to perform cabling of sensor units

Connection diagram



Connection

Connect the cables out of the sensor unit to the terminal block of the remote controller for the indoor unit. (There is no polarity.)

Requirement

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller from an indoor unit.

(Max. 2 remote controllers of wireless or wired are installable.)

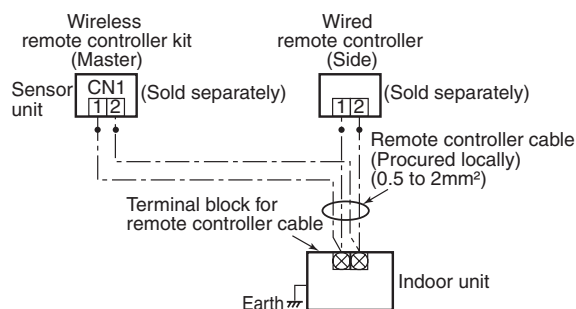
"2-remote controllers" means that one or multiple units are operated by multiple remote controllers.

NOTES :

1. Upon confirmation of the terminal numbers of the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220/230/240 Volt, the unit may be damaged.)
2. Multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
3. When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the secondary remote controller.
- When setting the wired remote controller as the secondary controller, exchange the address connector at the rear of the P.C. board of the wired remote controller from master to secondary remote controller.
- When setting the wireless remote controller as the secondary controller, turn No.3 DIP switch [S003] on the P.C. board of the wireless remote controller sensor unit from OFF to ON.

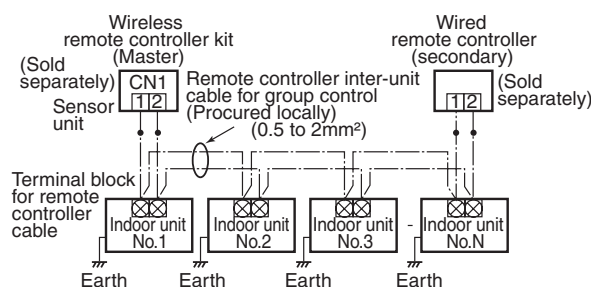
To operate an indoor unit by 2 remote controllers

* The indoor unit is operated if either wireless or wired remote controller is set as master or secondary remote controller. (Total cable length: Within 400m)



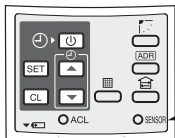
To operate a group control of multiple indoor units by 2 remote controllers

* Master and secondary remote controllers are operable even if they are installed to any indoor unit. (Total cable length: Within 200m)



How to set the room temperature sensor

The room temperature sensors are equipped in the indoor unit and the wireless remote controller. Only one of the two sensor's can be used at any one time. The room temperature sensor is set to the indoor unit side as standard from the factory. To select the sensor in the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and check that the "Main sensor" display disappears from the LCD.



Sensor button

NOTE :

If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor at indoor unit side is automatically selected even if the sensor at the remote controller side is selected. Fix the remote controller toward the unit as possible.

How to set the address switch

When multiple sensors are installed in the same room, an address can be set to prevent cross communication.

When replacing the battery and pushing the SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signal regardless of the setting of the address switch in the operation section.

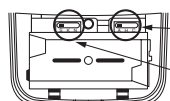
For selecting the remote controller address, refer to the Owner's Manual. Change the address of the sensor by removing the screws of the P.C. board cover on the sensor unit. Then using the table below as a guide, set the address. Once completed re-attach the cover using the screws you previously removed.

Display of remote controller address	Address	Address	Address		Address
	ALL	1	2		6
Address switch position of sensor	* Address switch of sensor unit can be set any position.				

Slide switch

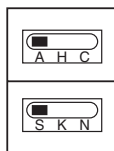
Check the slide switch in the battery box of the remote controller is set to [S] / [A] as per shipment from the factory.

Do not change the setting.



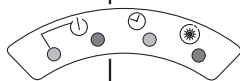
Select of operation mode Set to A.

Select of flap indication Set to S.



Self-diagnosis table and measures

Lamp indication	Cause	Measures
No indication even if the remote controller is operated.	Power supply is not turned on. Miscabling between sensor unit and indoor unit	Check cable connection and correct it.
	Defective connection between sensor unit and indoor unit	
	Miscabling or defective connection between indoor and outdoor units	
	Protective device of outdoor unit works.	Check outdoor unit.
	Protective device of indoor unit works.	Check indoor unit.



Lamp indication of sensor

● : Goes off
 : Flash (0.5-sec. interval)

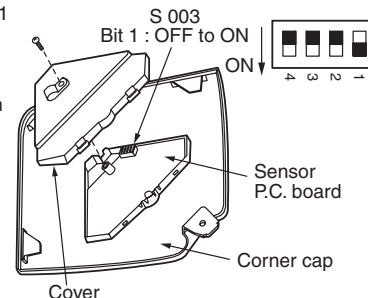
Test run

• How to use [TEST]

1. Turn No.1 DIP switch [S003] on the sensor P.C. board from OFF to ON.
2. During the test run, all the indication lamps on the LCD will flash.
3. During the test run, the temperature cannot be controlled.

4. After the test run, be sure to turn DIP switch 1 from ON to OFF and check the indication lamps do not flash.

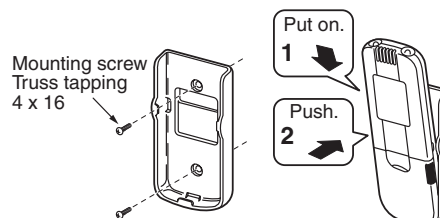
Use the [TEST] function only for a test run, otherwise the unit is overloaded. Fix the cover as original.



How to handle the remote controller

In case using remote controller mounting to the wall, etc.

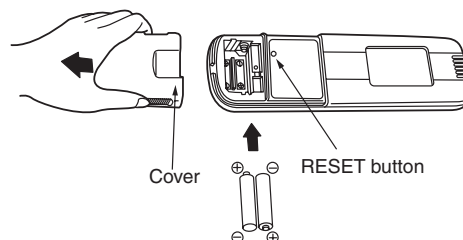
Check a signal is received correctly by pushing the button while in the proposed fixed position.



- To take off the remote controller, pull it towards you.

Replacement of battery

1. Holding both ends of the cover remove it by sliding the cover downwards.
2. Correctly insert 2 AAA alkali batteries matching + and - polarities.
3. Push the SET button with something tipped and re-attach the cover.



Cautions for installation of the remote controller

Before fixing the remote controller holder to the wall, place the remote controller in its proposed position and turn on all fluorescent lights and then check that the air conditioner can receive the signals from the remote controller. If the unit operates correctly you can fix the remote controller holder to the wall.

When the room temperature is sensed by the remote controller, mount the remote controller paying attention to the following items.

A place not exposed directly to cold or hot wind.

A place not exposed directly to the sunlight.

Any other places where the remote controller is not influenced.

Explanation to customers

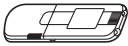
Hand over the "Owner's Manual" and "Installation Manuals" to the customer after the installation has been completed.

Explain the functions and maintenance of the remote controller according to "Owner's Manual".

4-1-3 Wireless remote controller kit (2) (RBC-AX22CE2)

Installation Manual

Accessory parts

No.	Accessory	Q'ty	No.	Accessory	Q'ty
1	Sensor unit 	1	4	Battery 	2
2	Remote controller 	1	5	Owner's Manual 	1
3	Remote controller holder 	1	6	Truss tapping screw, 4 x16 	2

Installation of sensor unit

1. Open the suction grille, remove the screw, move the side panel towards you (direction of arrow) and then remove the side panel. (Fig. A)
 2. Cover the end of the flat head screw driver with vinyl tape and forcibly insert it into the groove at the side under the circle mark on the cover. (Be careful not to damage the panel.) (Fig. B)
 3. Pass the lead wire through the panel and install the sensor unit to the panel hole. (Projection of the sensor unit is fixed by the panel hole.)
 4. Fix the lead wire of the sensor to the cord clamp which fixes the cables to the louver motor. (Fig. C)
 5. Install the side panels.
 6. Route the lead wire from the sensor unit along with the cables from the louver motor and then fix it with the cord clamp. (Fig. D)
- ★ Route the cable in using a hole in the upper side of the electric box.

Fig. A

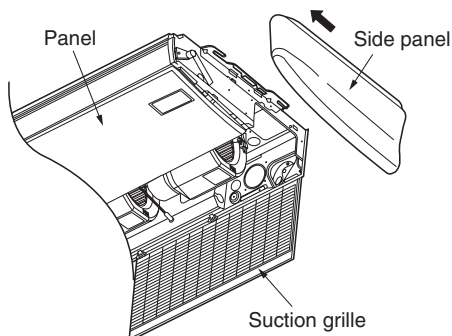


Fig. B

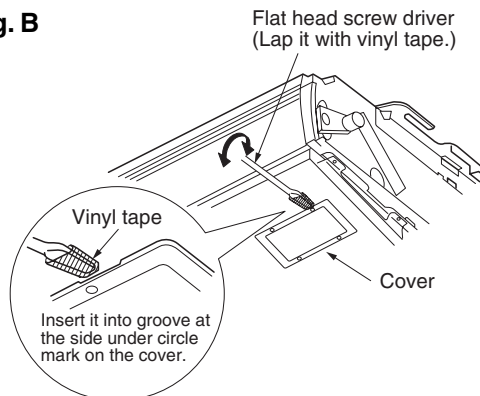


Fig. C

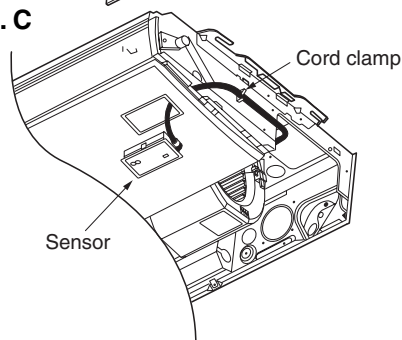
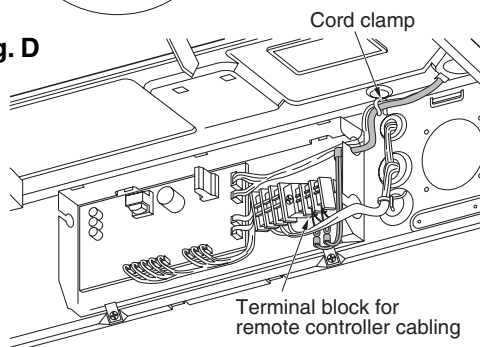


Fig. D



[NOTE 1]

Avoid twisting the cables of the sensor with the power cables, otherwise a malfunction is caused.

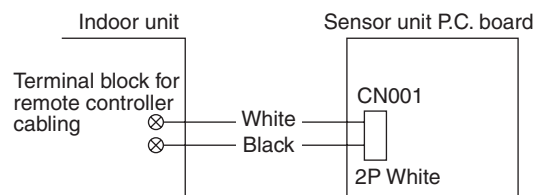
★For cabling and test run, refer to "Cabling of sensor unit" and "Test run" that can be found in the Installation Manual supplied with the indoor unit.

How to perform cabling of sensor units

Connection diagram

Connection

- Connect the cables out of the sensor unit to the terminal block of the remote controller cabling. (There is no polarity.)



Requirement

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller from an indoor unit.

(Max. 2 remote controllers of wireless or wired are installable.)

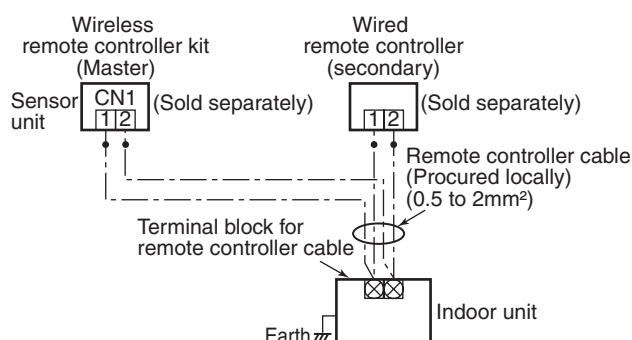
“2-remote controllers” controlling means that one or multiple units are operated by multiple remote controllers.

NOTES :

- Upon confirmation of the terminal numbers the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220–240 Volt, the unit will be damaged.)
- Multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
- When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the secondary remote controller.
 - When setting the wired remote controller as the sub, exchange the address connector at the rear of P.C. board of the wired remote controller from master to secondary remote controller.
 - When setting the wireless remote controller as the secondary unit, turn No.3 DIP switch [S003] on the P.C. board of wireless remote controller sensor unit from OFF to ON.

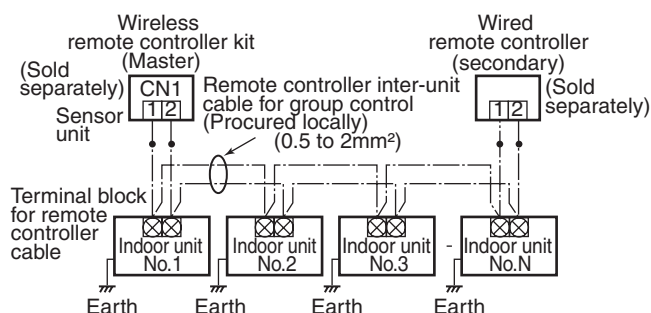
To operate an indoor unit by 2 remote controllers

- The indoor unit is operated if either wireless or wired remote controller is set as master or secondary remote controller. (Total cable length: Within 400m)



To operate a group control of multiple indoor units by 2 remote controllers

- Master and secondary remote controllers are operable even if they are installed to any indoor unit. (Total cable length: Within 200m)



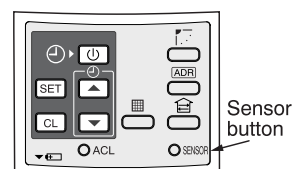
How to set the room temperature sensor

- The room temperature sensors are equipped in the indoor unit and the wireless remote controller. Only one of the two sensor's can be used at any one time.
- The room temperature sensor is set to the indoor unit side as standard from the factory.
To select the sensor on the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and check that the "Main sensor" display disappears from the LCD.

NOTE :

If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor on indoor unit side is automatically selected even if the sensor on the remote controller side is selected.

Position the remote controller towards the unit as much as possible.



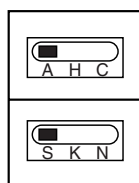
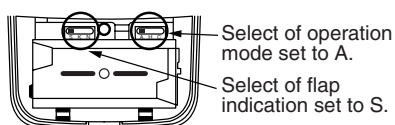
How to set the address switch

- When the multiple sensors are installed in the same room, an address can be set to prevent cross communication.
- When replacing the battery and pushing the SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signals regardless of the setting of the address switch in the operation section.
- For selecting the remote controllers address, refer to the Owner's Manual.
- Change the address of the sensor by removing the screws on the P.C. board cover on the sensor unit. You can then adjust the address, using the table shown as a reference. Once complete, re-attach the cover, using the screws you previously removed.

Display of remote controller address	Address <i>ALL</i>	Address <i>1</i>	Address <i>2</i>		Address <i>6</i>
Address switch position of sensor	* Address switch of sensor unit can be set any position.				

Slide switch

- Check that the slide switch in the battery box of the remote controller is set to [S] / [A] at shipment from the factory.
Do not change the setting.



Lamp indication of sensor

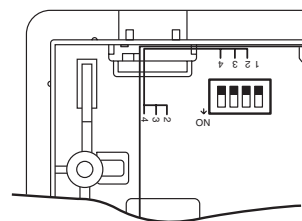
- : Goes off
- ☼ : Flash (0.5-sec. interval)

Lamp indication	Cause	Measures
☼ ● ☼ No indication even if the remote controller is operated.	Power supply is not turned on. Miscabling between sensor unit and indoor unit	Check cable connection and correct it.
☼ ● ●	Defective connection between sensor unit and indoor unit	
● ● ☼	Miscabling or defective connection between indoor and outdoor units	
☼ ● ☼ Flashes alternatively	Protective device of outdoor unit works.	Check outdoor unit.
● ☼ ☼ Flashes alternatively	Protective device of indoor unit works.	Check indoor unit.

How to set up the filter (sold separately) of the high ceiling

- When the height of the installation exceeds 3.5m or when installing a filter, the fan speed needs to be changed. In order to do this the DC fan Tap's need to be set at No.2 (Tap 1) and No.4 (Tap 2) on DIP switch [S003] on the wireless sensor P.C. board. The wireless sensor P.C. board can be accessed by removing the screws at the rear side of the wireless sensor unit and the rear cover.

[S003] No.2 (Tap 1) and [S003] No.4 (Tap 2) are



Setup for high ceiling

	[S003] No.2 (Tap 1)	[S003] No.4 (Tap 2)	Installable height of ceiling
Standard (At shipment)	OFF	OFF	3.5m
Type 1	OFF	ON	4.0m

	[S003] No.2 (Tap 1)	[S003] No.4 (Tap 2)	Filter sold separately
Standard (At shipment)	OFF	OFF	Standard filter
Type 1	OFF	ON	Optical regeneration deodorant filter
Type 3	ON	OFF	High-performance filter
Type 6	ON	ON	Deodorant filter / Ammonia deodorant filter

[NOTE]

If the setup has been performed once, the set contents of Type 1, 3, and 6 can be arbitrarily changed. However, it is required that you turn off [S003] No.2 (Tap 1) and No.4 (Tap 2) on the DIP switch and you are also required to rewrite the wired remote controller (sold separately) to return the set content to the standard one (at shipment). (For rewriting by a wired remote controller, refer to the Installation Manual supplied with the indoor unit.)

Never set ON to DIP switch [S003] No.1 (Test run). (A test run is carried out on the remote controller.) (For the test run, refer to the Installation Manual supplied with the indoor unit.)

How to handle the remote controller

- In the case of using a remote controller mounted to the wall, etc.**

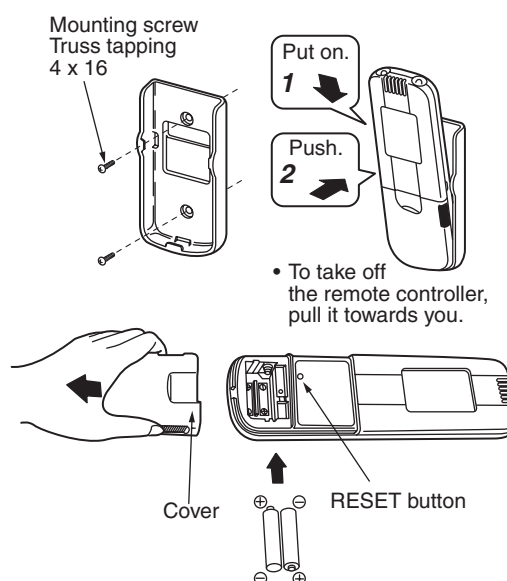
Firstly check a signal is received correctly by pushing the (⏻) button at the position where the remote controller is to be mounted.

- Replacement of battery**

- Holding both ends of the cover and remove it by sliding the cover downwards.
- Correctly insert 2 AAA alkali batteries matching + and - polarities.
- Push the SET button with something tipped and attach the cover.

Cautions for installation of the remote controller

- Before fixing the remote controller holder to the wall, place the remote controller in its proposed position and turn on all fluorescent lights and then check that the air conditioner can receive the signals from the remote controller. If the unit operates correctly you can fix the remote control holder to the wall.
- When the room temperature is sensed by the remote controller, mount the remote controller paying attention to the following items.
 - Place not exposed directly to cold or hot wind.
 - Place not exposed directly to the sunlight.
 - Other places where the remote controller is not influenced.



Explanation to customers

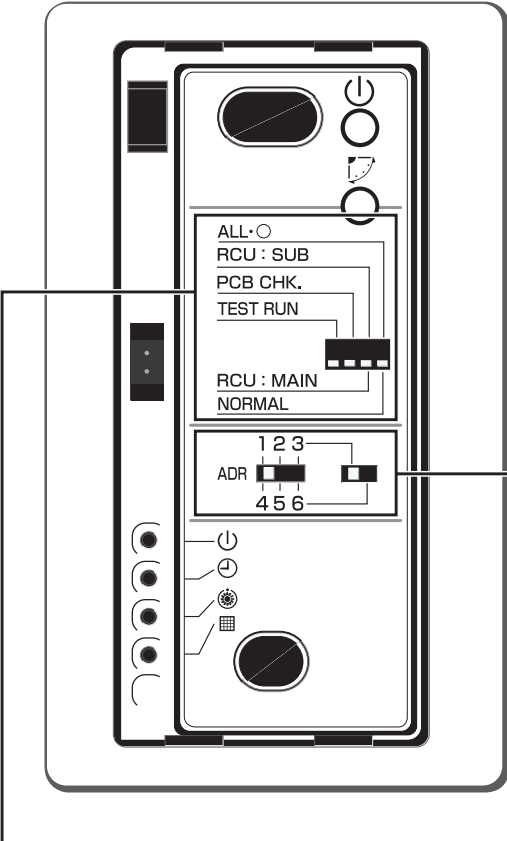
- Hand over the "Owner's Manual" and "Installation Manuals" to the customer after installation has been completed.
- Explain the functions and maintenance of the remote controller according to the "Owner's Manual".

4-1-3 Wireless remote controller kit (3) (TCB-AX21E2)

Accessory parts

No.	Parts	Quantity	No.	Parts	Quantity
1	Separate receiver unit (provided 200mm power cable) 	1	6	Spacer 	4
2	Plate mounting 	1	7	Wire joints 	2
3	Screws M4 x 25 	2	8	Clamp 	1
4	Screws M4 x 40 	2	9	Pattern template 95 x 51 	1
5	Wood screws 	2			

Switch location of receiver unit



Address selector switch

This switch is used to address one of a maximum of six air conditioners that can be controlled by the remote controller.

ALL·○/NORMAL selector switch

Set this switch to the “NORMAL” position for the normal operation of the air conditioner. When this switch is set to the “ALL·○” position, the indoor unit of the air conditioner is turned off.

RCU:SUB/RCU:MAIN selector switch

Set this switch to the “RCU:MAIN” position for normal operation. Refer to page 7 for setting the “RCU:SUB” position.

PCB CHK switch

This switch is not used and should be set in the position shown in the figure.

TEST RUN switch

This switch is used for test running.

Installation location of receiver unit

- Do not install in a location where the air contains oil mist, such as in a kitchen or factory.
- Do not install next to a window, or in any other location directly exposed to sunlight and outside air.
- Do not install nearby devices which can be expected to produce electrical noise, such as elevators, automatic doors and industrial sewing machines.
- If the receiver unit is installed near a rapid-start type or inverter-type fluorescent lamp (a lamp which does not include a glow lamp), it may not be possible to receive the wireless remote controller signal. In order to prevent interference from fluorescent lamps, leave a minimum of 2 meters between the receiver unit and the fluorescent lamps and install the receiver unit in a location where it can receive the wireless remote controller signal even when the fluorescent lamps are lit.

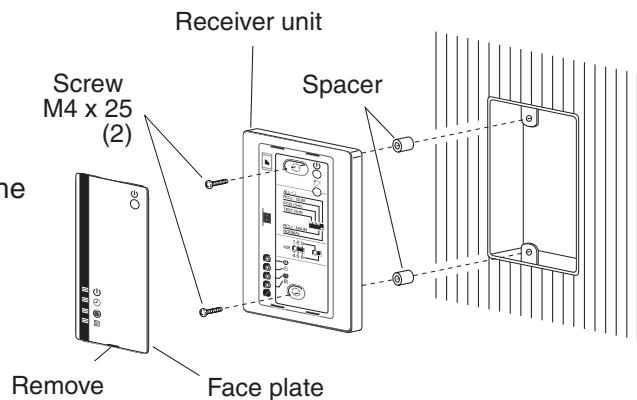
How to install the receiver unit

NOTES :

- To avoid malfunction of the remote controller, do not assemble or run remote control wiring together with the power cables and do not enclose them in the same metal conduit.
- When the power unit induces electrical noise, it is recommended that a noise filter or the like be installed.

For flush mounting into a wall, install the separate receiver unit into the metal switch box (field supply) that has been recessed into the wall previously.

1. Insert a flathead screwdriver or similar tool into the notch and remove the face plate.
2. Fix the receiver unit with 2 M4 screws provided. Do not overly tighten and use the provided spacers. If the receiver unit does not fit change into the wall, cut the spacers to adjust the clearance.
3. Connect the receiver unit wiring (2-core cable) with the cables extended from the indoor unit. (Refer to the section on receiver unit wiring.) Be sure to determine the correct terminal numbers on the indoor unit when wiring the receiver unit. The remote controller will be damaged if high voltage (such as 200 VAC) is applied.
4. Reinstall the face plate.



Ensure that the wall where the receiver unit is to be installed can support the controller sufficiently.

1. Insert a flathead screwdriver or similar tool into the groove on the bottom of the receiver unit. Pry open with the screwdriver and remove the lower case. (Fig. A).

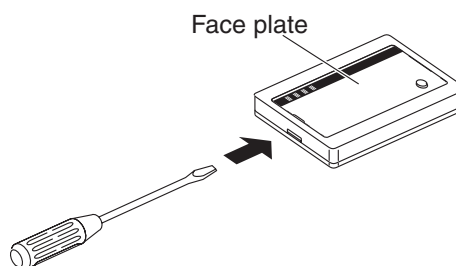


Fig.A

2. In order to later pass the receiver wiring out through the upper case (thin part at the top center), use nippers or a similar tool to cut a notch in the same size as the remote controller cord (optional). (Fig. B)

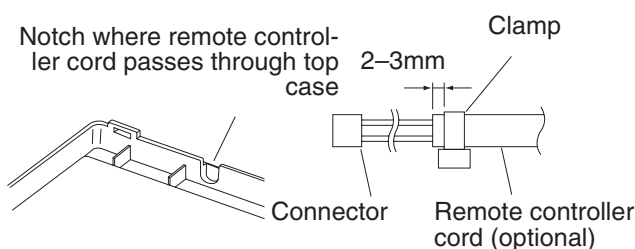


Fig.B

3. Disconnect the wires that were connected to the connector at the time of shipment.
4. Fasten the remote controller cord (optional) at the position shown in Fig. C, using the provided cord clamp. Then connect the cord to the receiver connector.

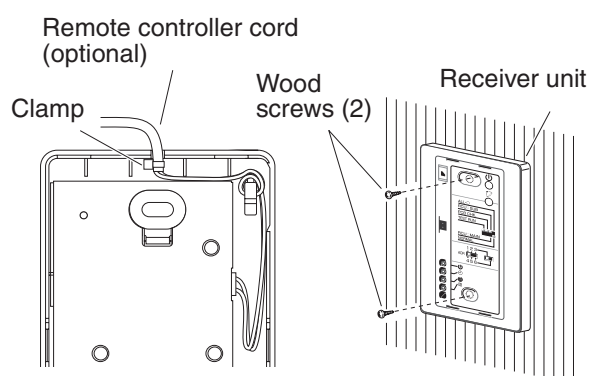


Fig.C

5. Shape the remote controller cord as shown in Fig. C so that it fits inside the top of the receiver unit, above the P.C. board. Then attach the lower case. At this time, bend the head of the clamp so that it faces sideways.
6. Remove the nameplate and use 2 wood screws to attach the receiver unit.
7. Use the provided cord clips to fasten the remote controller cord to the wall.
8. Reattach the nameplate.

If the separate receiver unit is installed on the ceiling, use the provided ceiling mounting bracket for installation.

1. Insert a screwdriver or similar tool into the notch at the bottom to remove the receiver nameplate.
2. Cut a section out of the ceiling along the provided paper pattern (95 x 51 mm).
3. Pass the wire through the provided mounting bracket and insert the bracket into the installation hole. (Fig. D)

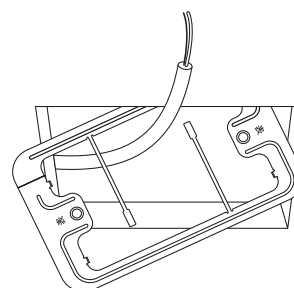


Fig.D

4. Use bracket parts (A) and (B) to securely grip the ceiling material. (Fig. E)
5. Connect the receiver wire (2-core) to the wire from the indoor unit. (Refer to "Wiring the Receiver Unit.") Check the terminal number on the indoor unit before wiring the receiver unit and be sure not to wire incorrectly. (The unit will be damaged if high voltage, such as 200 VAC, is applied.)
6. Adjust the provided spacers so that they are several millimeters larger than the thickness of the ceiling material. Pass the 2 supplied screws (M4 x 40) through the spacers and tighten them enough to hold the receiver unit in place.

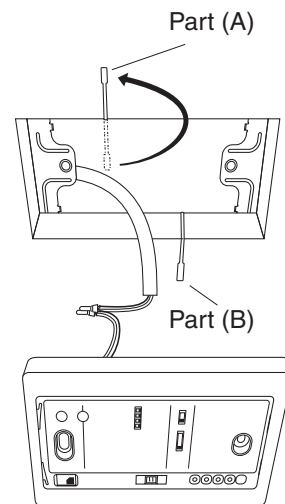


Fig.E

7. Return parts (A) and (B) through the gap between the ceiling and receiver unit so that they are contained in the openings. Then tighten the screws. Do not tighten the screws excessively. This may result in damage or deformation of the case. Tighten to the point where the receiver unit can be moved slightly by hand. (Fig. F)

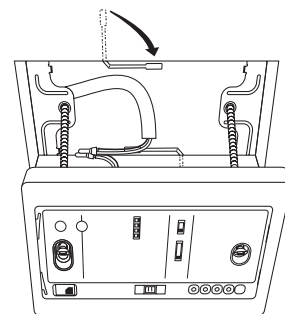


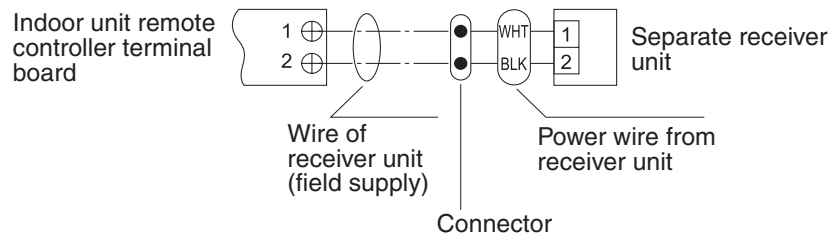
Fig.F

8. Reattach the nameplate.

How to perform cabling of sensor unit

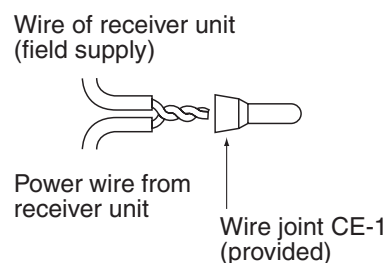
Flush Mounting

- Connection diagram



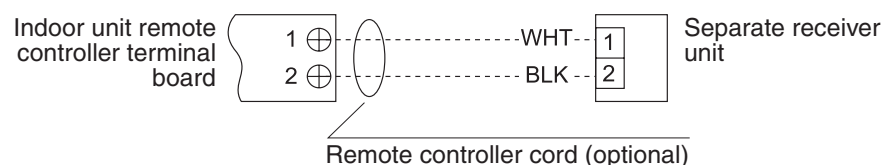
- Provided wire joint (WHT 2)

1. Strip the insulation to approximately 14 mm from the ends of the wires to be connected.
2. Twist together the 2 wires and create a crimp connection at the wire joint.
3. If a special crimping tool is not used, or if the connection is soldered, insulate the wires using insulation tape.



Exposed Mounting

Connection diagram



Requirement

The control by two remote controllers is enabled by installing the wireless remote controller with the wired remote controller for an indoor unit.

(Max. 2 remote controllers (wireless or wired) are allowed.)

“2-remote controllers” controlling means that one or multiple units are operated by the multiple remote controllers.

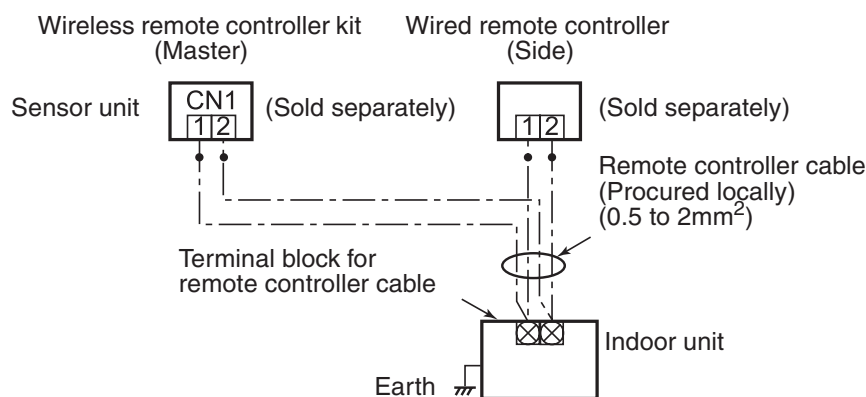
NOTES :

1. Upon confirmation of the terminal numbers of the indoor unit, connect the remote controller cables without miscabling. (If applied AC 220–240 Volt, damage the unit.)
2. The multiple wireless remote controller kits cannot concurrently be used for an indoor unit.
3. When installing simultaneously the wireless remote controller with the wired remote controller, set one of them as the secondary remote controller.
 - When setting the wired remote controller as the side, exchange the address connector at the rear of P.C. board of wired remote controller from master to side remote controller.
 - When setting the wireless remote controller as the secondary controller, turn the switch on the wireless remote controller receiver unit from RCU: MAIN to RCU:SUB.

To operate an indoor unit by 2 remote controllers

The indoor unit is operated if either wireless or wired remote controller is set as master or secondary remote controller

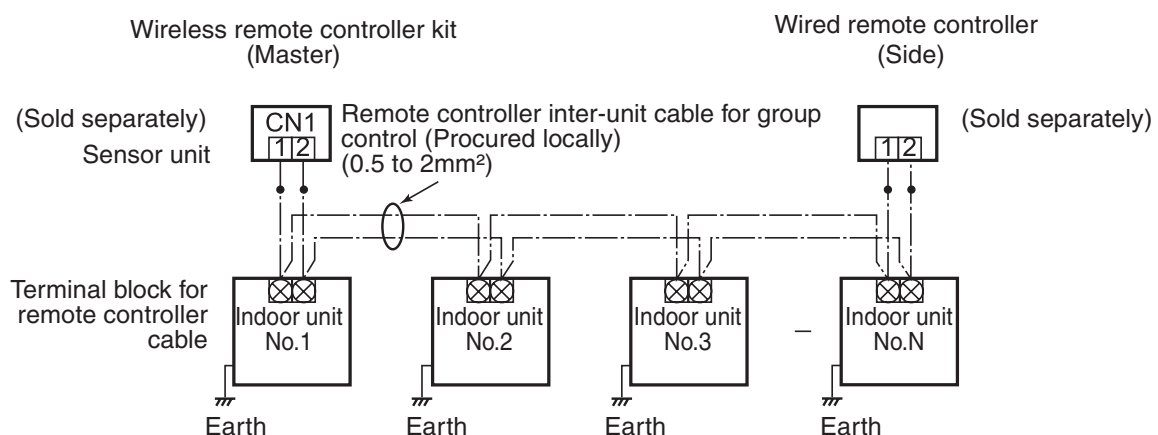
(Total cable length: Within 400m)



To operate a group control of multiple indoor units using 2 remote controllers

Both Master and Secondary remote controllers are able to be used, even if they are installed to other indoor units.

(Total cable length: Within 200m)



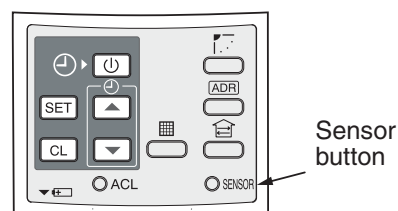
How to set the room temperature sensor

- The room temperature sensors are equipped in the indoor unit and the wireless remote controller. Only one of the two sensors will be used.
- The factory setting for the room temperature sensor is set to use the indoor unit side.
To select the sensor in the remote controller, push the SENSOR button (Right figure) inside of the remote controller cover and wait for "Main sensor" to disappear from the LCD.

NOTE :

If the room temperature data from the remote controller is not transmitted to the unit for 10 minutes or more, the sensor at indoor unit side is automatically selected even if the sensor at the remote controller side is selected.

Position the remote controller, so that it is pointing towards the indoor unit as much as possible.



How to set the address switch

- When the multiple sensors are installed in the same room, an address can be set to prevent cross communication.
- When replacing the battery and pushing the SET button, the address of the remote controller becomes [ALL] and the sensor is enabled to receive signals regardless of the setting of the address switch of the operation section.
- For selecting the remote controller address, refer to Owner's Manual.
- Change the address of the sensor by removing the screws on the P.C. board cover of the sensor unit. After this, fix the cover with the screws.

Display of remote controller address	Address	Address	Address		Address
	<i>ALL</i>	<i>1</i>	<i>2</i>		<i>6</i>
Address switch position of sensor	Address switch of sensor unit can be set at any position.				

Wireless remote controller

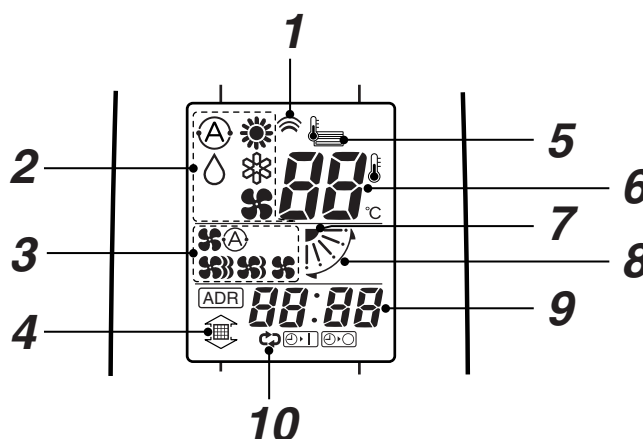
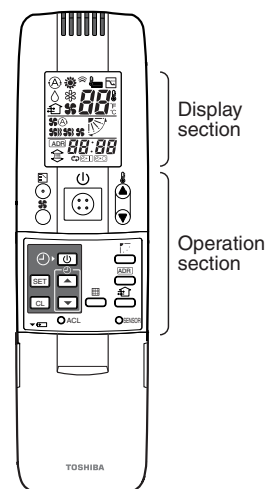
Operation Manual

Display Section

In reference to the explanation of the remote controller display, refer to the two figures shown on this page.

Only selected contents are display during actual operation.

- When turning on the power supply for the first time, it will take up to 3 minutes before the **[SET DATA]** symbol will flash. This flashing display will last for around 1 minute. While this display is flashing, the model is being automatically confirmed. After the minute has passed and the **[SET DATA]** display has disappeared, you can then use the remote controller.



1 Transmitting indication

Displayed while operating the switches on the remote controller.

2 Mode display

The selected operation mode is displayed.

Ⓐ [AUTO] mode is displayed on heat recovery type only.

3 Fan mode select display

The selected fan mode is displayed.

(AUTO) Ⓐ
(HIGH) Ⓑ
(MED.) Ⓒ
(LOW) Ⓓ

4 Filter display

If "FILTER" is displayed, clean the air filter.

5 CHECK display

Displayed when a fault has occurred or when a protective device has operated.

6 Set up temperature display

The selected set up temp. is displayed.

7 Flap position display

8 SWING display

Displayed during up/down movement of the flap.

9 Timer time display

Time of the timer is displayed.

(When a fault has occurred the check code is displayed.)

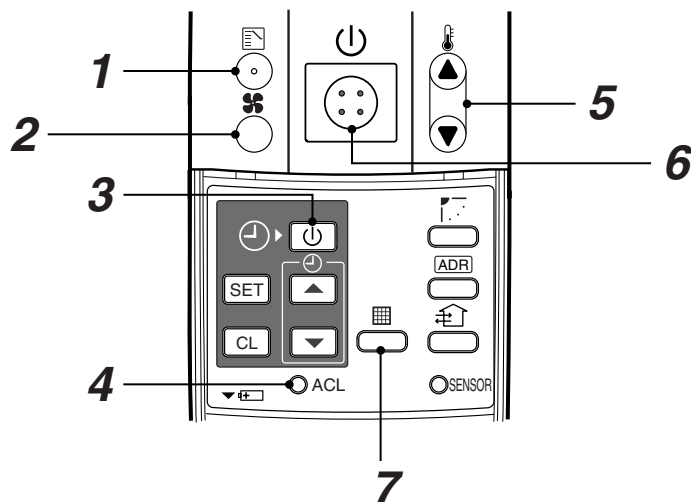
10 Timer SETIN setup display

When pushing the Timer SET button, the display of the timer is selected in order of [OFF] → [ON] → [OFF] repeat OFF timer → [ON] → [OFF] → No display.

Operation Section

Push each button to select a desired operation.

- The details of the operation firstly need to be set up. After this the air conditioner can be used simply by pushing the (U) button only.



1 Operation select button

Selects the desired operation mode.

2 Fan mode select button

Selects a fan mode.

3 Timer set button

TIMER SET button is used when the timer is set up.

4 Check button

CHECK button is used for check operation. During normal operation, do not use this button.

5 Temperature set button

Adjusts the required room temperature.

Set required set temperature by pushing ▲ or ▼ .

6 Start/Stop button

When this button is pushed the operation starts.

Push the button again and the operation will stop.

When the operation stops, the operation lamp and all the displays will disappear.

7 Filter reset button

Resets (Erases) "FILTER" display.

OPTION :

Remote controller sensor

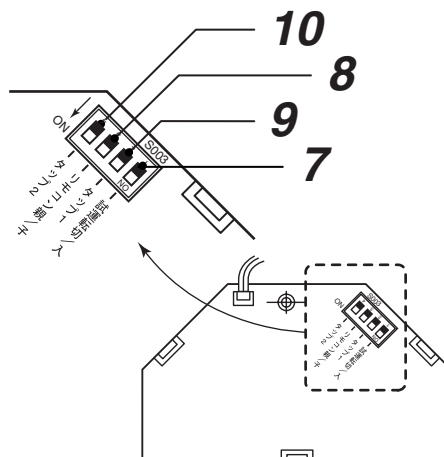
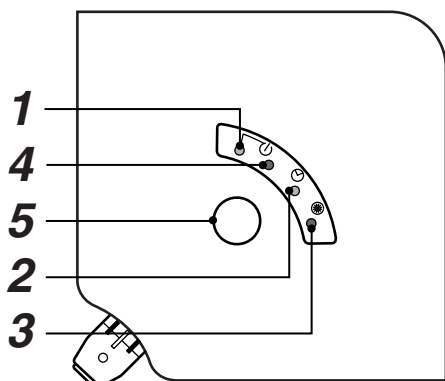
Usually the TEMP. sensor of the indoor unit is used to monitor the room's temperature. However it is possible to use the remote controller as a means of measuring the room temperature. For further details please contact the dealer who you purchased the air conditioner from.

For details, contact the dealer from which you have purchased the air conditioner.

Signal Receiving Part (TCB-AX21U(W)-E2)

- The signal receiving part is mounted in the ceiling panel.

Signal Receiving Part



1 Emergency operation button

2 Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of the displays will flash if a fault has occurred. When the display lamp flashes, refer to "Before asking for repair".

4 lamp

This lamp goes on during operation.

5 lamp

This lamp goes on when the timer is set.

6 lamp

- In heating operation this lamp will come on in the following cases;
 - The operation has started.
 - The temp. controller has worked.
 - The unit is under defrost operation.
- This lamp will flash when a fault has occurred.

7 Trial ON switch (S003-1)

This switch is not used during normal time, but is used only during trial operations.

8 Master/Side remote controller switch (S003-3)

Use this switch at the position of [リモコン 親 (PRIORITY)]. This switch can be used together with the wired remote controller.

9 Fan speed change tap 1 (S003-2)

10 Fan speed change tap 2 (S003-4)

These switches are used to select DC motor speed of a 4-way cassette type indoor unit by the taps.

When installing an indoor unit to a high ceiling surface or when changing the number of discharge ports, perform setting referring to the next page.

11 Address switch

This switch distinguishes the signal, send or receive.

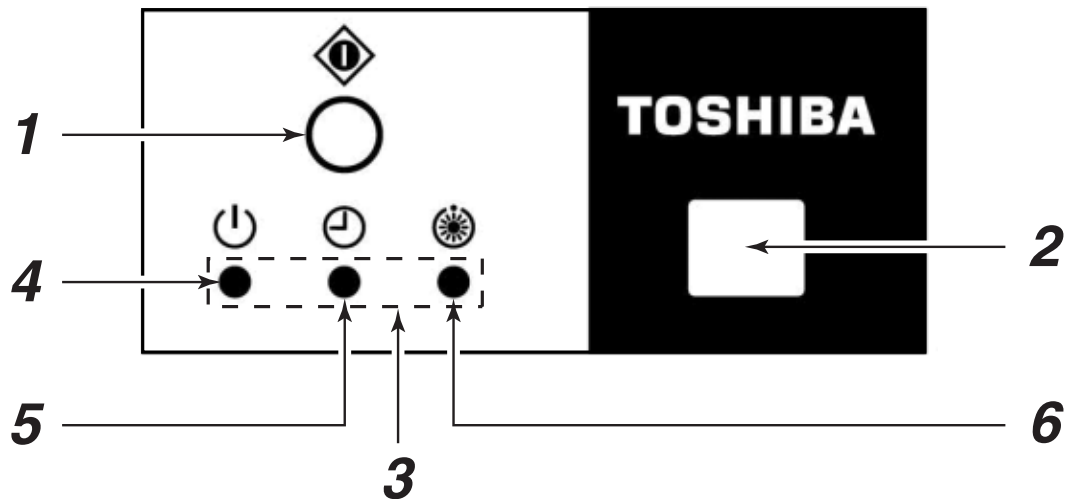
The following switches are provided to the rear side of the receiving part. For setup, contact the shop which you purchased the unit.

- If a "beep, beep" sound is heard, the MODE lamp on the display lamp goes on, and the  lamp and  lamp flash alternately, the operation to perform the desired mode has been unsuccessful.

Signal Receiving Part (RBC-AX22CE2)

- The signal receiving part is mounted in the ceiling panel.

Signal Receiving Part



1 Temporary operation button

2 Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of the displays will flash if a fault has occurred. When the display lamp flashes, refer to "Before asking for repair" in 13 page.

4 lamp

This lamp goes on during operation.

5 lamp

This lamp goes on when the timer is set.

6 lamp

- In heating operation this lamp will come on in the following cases;

The operation has started.

The temp. controller has worked.

The unit is under defrost operation.

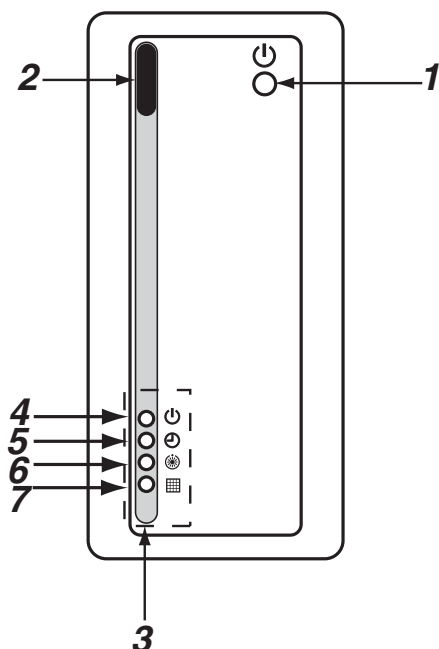
- This lamp will flash when a fault has occurred.

- If a "beep, beep" sound is heard, the MODE lamp on the display lamp goes on and the  lamp and  lamp flash alternately, the operation to perform the desired mode has been unsuccessful.

Signal Receiving Part (TCB-AX21E2)

- The signal receiving part is mounted in the ceiling panel.

Signal Receiving Part



1 Temporary operation button

2 Signal receiving part

The signal sent from the remote controller is received.

3 Display lamp

One of the displays will flash if a fault has occurred. When the display lamp flashes, refer to "Before asking for repair" in 95 page.

4 lamp

This lamp goes on during operation.

5 lamp

This lamp goes on when the timer is set.

6 lamp

- In heating operation this lamp will come on in the following cases;

The operation has started.

The temp. controller has worked.

The unit is under defrost operation.

- This lamp will flash when a fault has occurred.

7 lamp

This displays lights to indicate that it is time to clean the filter.

- If a "beep, beep" sound is heard, the MODE lamp on the display lamp goes on and the  lamp and  lamp will flash alternately, the operation to perform the desired mode has been unsuccessful.

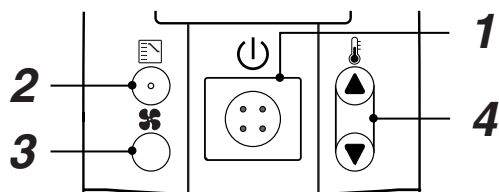
HOW TO OPERATE THE UNIT

Cool/Heat AUTO, Heat, Dry, Cool, Fan

Power supply

Turn on the power supply to the wireless remote controller 12 hours before starting the operation.

- After the power supply has been turned on, the operation of the remote controller is not accepted for approx. 1 minute. This is not a failure.
(The sensor receives the signal, but the received contents are cleared.)



1 Push the **Start/Stop** button.

2 Push the  (**Operation Select** button) operation to select one of , , , and .

3 Push the  (**Fan Mode Select** button) to select one of the fan speed modes.

When selecting , the fan speed is automatically changed.

(During FAN mode, the air speed is not automatically changed.)

4 Push either the  or  to select the desired temperature.

- During FAN mode, the temperature cannot be set up.

5 Stop

Push the Start/Stop button.

When using the remote controller to stop the unit, the outdoor unit fan may keep operating for a while even if the compressor on the outdoor unit has stopped.

- In heating operation, if the room is not comfortably heated with the FAN , select FAN  or .

Although they are displayed, the function may not be provided according to the indoor unit. (i.e. Fan speed is constant.)

- When the unit cannot be stopped by normal operation

Turn off the power switch or leakage breaker and then contact the shop who you purchased the air conditioner from.

Automatic cool/heat

When all indoor units in the identical refrigerant system are controlled as a group, the cooling/heating operation is automatically performed by the difference between the setup temperature and the room temperature.

Dry operation

- Dry function is only available on certain models and although the remote controller may indicate this setting, no operation is taking place. (Same to Cooling operation)
- When the room temperature approaches the setup temperature, running/stop operations are automatically repeated.
- In order to keep the humidity levels as low as possible the indoor fan will go into low mode when the dry operation has finished.
- The fan speed cannot be adjusted according to the indoor unit model or the status of the room temperature.
- The DRY mode cannot be used according to the indoor unit model or when the outdoor temperature is below 15°C.

HOW TO OPERATE THE TIMER

- After setting the timer, set the remote controller at a position where the signal can reach the sensors (indoor unit body) .
(The signal for the timer operation is sent from the remote controller.)

Use in the following cases	During display
To stop the air conditioner after the previously set time has passed	
To stop the air conditioner every time after the previously set time has passed	
To operate the air conditioner after the previously set time has passed	

Timer time
For every push of the , the setup time increases by 0.5 hour (30 minutes). The maximum time to be set is 72.0 hours.
For every push of the , the setup time decreases by 0.5 hour (30 minutes). The minimum time to be set is 0.5 hours.

Timer display

For every push of the button, the display changes as follows;

Use example

How to use the OFF timer

(Ex.)To stop the unit after 30 minutes

- 1 When pushing the timer button once, and the time will flash on the remote controller.
- 2 Push TIME or to set the time to 0.5.
- 3 Push the button and the timer will be displayed.

How to use the repeat timer

(Ex.)To stop the air conditioner every time after 2.5 hours has passed

- 1 When pushing the timer twice, and the time will flash on the remote controller.
- 2 Push TIME or to set the time to 2.5.
- 3 Push the and the timer will be displayed.
If the works, the operation will stop after 2.5 hours. When pushing the (Start/Stop) button again to operate the unit, the operation will again stop after 2.5 hours.

How to use ON timer

(Ex.)To operate the unit for 8 hours

- 1 When pushing the timer button three times, the and the timer will flash on the remote controller.
- 2 Push TIME or to set the time to 8.0.
- 3 Push the button
The operation mode display disappears and the time and the will go on.

To stop the timer operation

To stop the timer operation
Push the button. Then the timer display will disappear.

HOW TO ADJUST AIR DIRECTION

- Never move the flap (Air direction up/down adjusting plate) which is operated on the remote controller with your hands except in a case of cleaning the flap.
- While the unit is not in operation, the flap (air direction up/down adjusting plate) will be directed downwards automatically.
- During the preparation for heating, the flap (air direction up/down adjusting plate) will be directed upwards. The swinging operation will start after the heating preparation status has been cleared. However, swinging is displayed on the auto flap display on the remote controller even if the heating operation is being prepared.

How to set up the air direction

For every push of the  button during operation, the air direction will change.

How to adjust the the air flow direction, using the swinging function

When pushing the  button, set the direction of the flap (air direction up/down adjusting plate) to the lowest position, and then push the  button again, the swinging is displayed and the air direction automatically change either upwards/downwards.

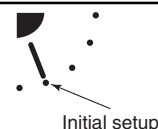
How to stop the louver from swinging

Pushing the  button once again during swinging of the flap will stop the flap at the desired position. Then, when pushing the  button, the air direction can be set to the position from the uppermost position.

- In cooling or dry operation, the flap will not swing if it is already at a downwards position.
If doing so, the flap will stop at the 3rd position from the uppermost position.

In heating operation

Direct the flap (air direction up/down adjusting plate) downwards, otherwise the hot air may not be able to reach the floor.

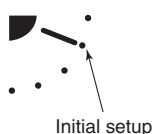


In cooling/dry operation

Direct the flap (air direction up/down adjusting plate) upwards, otherwise dewdrops may form and drip down near the discharge grille.



In air blowing operation



In all operation modes

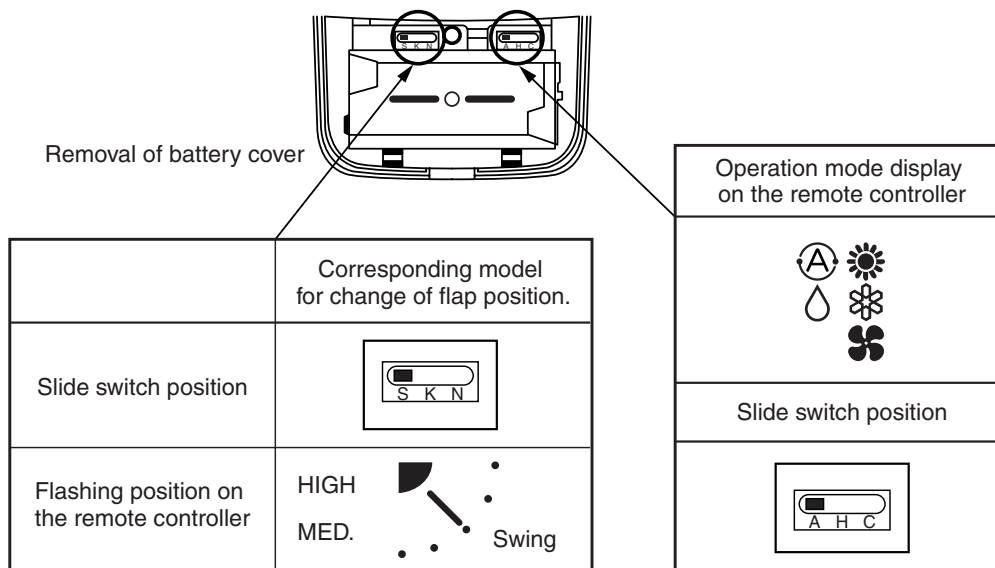


Display when swinging has stopped



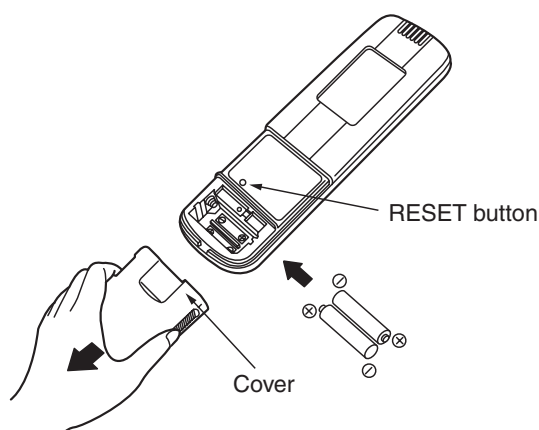
SLIDE SWITCH

- Do not change the setting of the slide switch because a malfunction will occur when using other settings.
- Before usage, check the slide switch is set to the position as follows;



HOW TO INSERT THE BATTERIES

1. Holding both sides of the cover remove it by sliding it downwards.
 2. Correctly insert 2 AAA alkali batteries matching + and - polarities.
 3. Push the RESET button with something tipped and re-attach the cover.
- Replace the batteries when the display section of the remote controller is difficult to read, or when the signal cannot be sent if you are not close to the sensor.
(The standard replacement time of the alkali batteries is approx. one year.)
 - Always use the same type and make of new batteries.
 - If you will not be using the remote controller for an extended period of time, remove the batteries from the case.



ADDRESS

When the multiple indoor units corresponding to the wireless remote controller are installed in the same room, an address can be set up to prevent interference.

A maximum of 6 indoor units can be controlled individually by one remote controller.

The address code for receiving the signal is found inside the sensor (inside of panel or indoor unit) and the address switch for sending the signal is found inside the remote controller. For details, contact the dealer who you purchased the air conditioner from.

How to Check the Address

When pushing the **[ADR]** button on the remote controller, the present address is displayed on the display section of the remote controller. If this address matches with the address of the sensor (inside of panel or indoor unit), a buzzer sounds.

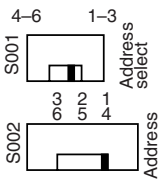
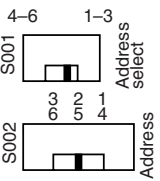
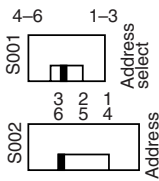
(When ALL is displayed, the buzzer sound is heard.)

When ALL is displayed, the air conditioner can be operated regardless of any address on the sensor (inside of the indoor unit). Send the signal by directing the remote controller towards the sensor (panel or indoor unit body) of the unit to be operated.

How to Match the Address

Setup to remote controller address

1. When keeping the **[ADR]** pushed for 4 seconds or more, the **[ADR]** lamp comes on in the display section of the remote controller and the present address is displayed (flashing).
2. For every push of the **[ADR]**, the address is exchanged as ALL → 1 → 2 → 3 ... → 6 → ALL. Match one of them with the address switch on the indoor unit sensor.
3. When pushing the **[CL]**, the address display goes on and is displayed for 5 seconds.
If the address matches with the address switch on the operation part, the buzzer sounds.

Display of remote controller address	Address	Address	Address		Address
	<i>ALL</i>	<i>1</i>	<i>2</i>		<i>6</i>
Address switch position on sensor	* Address switch on sensor unit can be set to any position.				

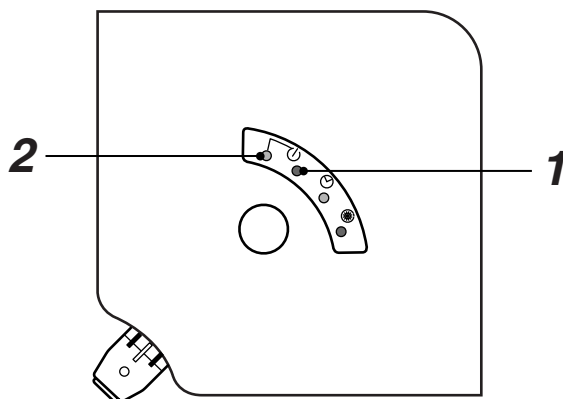
Turn the knob to the right side for 1 to 3 and turn the knob to the left side for 4 to 6 on the Address select switch S001.

Emergency Operation (TCB-AX21U(W)-E2)

HOW TO PERFORM EMERGENCY OPERATION

In the following cases, you can operate the air conditioner temporarily by using the operation panel found on the inside of the unit.

- The battery in the remote controller has expired.
- A fault has occurred in the remote controller.
- The remote controller has disappeared.



1 Start

Push the temporary operation button again.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push the temporary button once more.

CAUTION

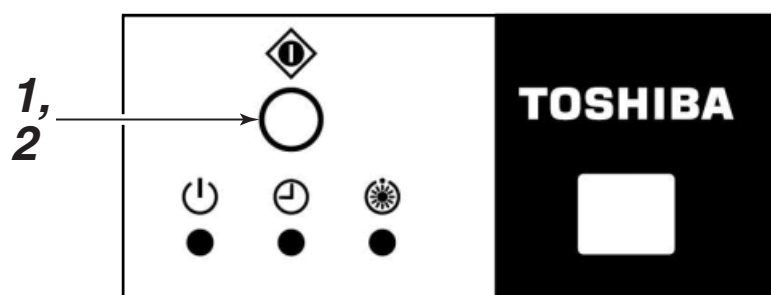
- The ON switch for the test run is used during the installation of the unit. Do not use them during normal operation.
- If the "all stop" is selected a signal from the remote controller will not be accepted.

Emergency Operation (RBC-AX22CE2)

HOW TO PERFORM A TEMPORARY OPERATION

In the following cases, you can operate the air conditioner temporarily by using the operation panel found on the inside of the unit.

- The battery in the remote controller has expired.
- A fault has occurred in the remote controller.
- The remote controller has disappeared.



1 Start

Push the temporary operation button.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push the temporary button once more.

CAUTION

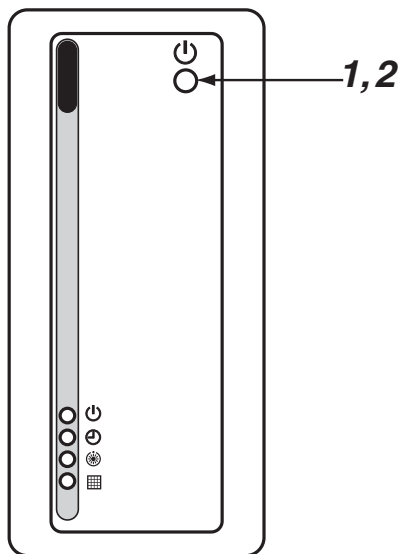
- The ON switch for the test run is used during the installation of the unit. Do not use them in the normal operation.
- If the “all stop” is selected a signal from the remote controller will not be accepted.

Emergency Operation (TCB-AX21E2)

HOW TO PERFORM EMERGENCY OPERATION

In the following cases, you can operate the air conditioner temporarily by using the operation panel found on the inside of the unit.

- The battery in the remote controller has expired.
- A fault has occurred with the remote controller.
- The remote controller has disappeared.



1 Start

Push the temporary operation.

(If starting the operation when the room temperature is 24°C or higher, the mode enters COOL mode. If starting the operation when the room temperature is 24°C or lower, the mode enters HEAT mode.)

2 Stop

Push the temporary operation once more.

CAUTION

- The ON switch for the test run is used for the test run mode during the installation of the unit. Do not use them in the normal operation.
- If the “all stop” is selected a signal from the remote controller will not be accepted.

BEFORE ASKING FOR A SERVICE ENGINEER

Before requesting a service engineer, check the following items.

Phenomenon		Cause	Measures
Check again	Operation does not start even if the switch is turned on.	Stopped? or after power failure?	Push Start/Stop on the remote controller.
		Is there power supply to the power switch?	Turn on the power supply switch.
		Fuse?	Contact the dealer who you purchased the air conditioner from.
		Has the unit been set on a timer mode?	Delete the timer operation.
		Is not [ALL OFF] of [Signal Receiving Part] selected?	Set the switch to [Normal position] and stop the operation.
		Has the battery of the remote controller expired?	Replace the battery.
		Is the operation mode correct i.e. ❄️ (cool) and ☀️ (heat)" or "No (A)"?	Change the operation mode.

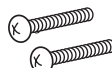
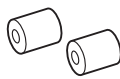
Phenomenon		Cause
Contact the dealer who you purchased the air conditioner from.	Display lamp flashes.      	• A communication error between the sensor and the indoor unit, or a setup error of the units address when the wired remote controller is used.
	     	• A communication error between the indoor unit and the outdoor unit has occurred.
	     	• A protective device of the indoor unit has operated.
	     	• A protective device on the outdoor unit has operated.
	     	• A fault has occurred on the temperature sensor.
	     	• The compressor of the outdoor unit is protected.
	     	• The test run is performed. Turn off the Trial ON switch.

Please check the above items. If the fault remains, stop the unit operation and turn off the power supply. Then contact the dealer from who you purchased the air conditioner from, stating the unit model and the fault code or problem. Never attempt to repair any part of the air conditioner yourself as it can be very dangerous.

4-1-4 Weekly timer (RBC-EXW21E2)

Installation Manual

Accessory parts

Part Name	Q'ty
Program weekly timer 	1
Connecting cable (Length: 1.2m) 	1
Screws M4 x 25 	2
Wood screws 	2
Spacer 	2
Owner's Manual 	1
Installation Manual 	1

Requirements to install the program weekly timer

Installing dimensions for serial installation

When installing the program weekly timer (remote controller/system controller, etc.) to the wall surface, follow the installation procedure in (Fig. 1) and (Fig. 2).

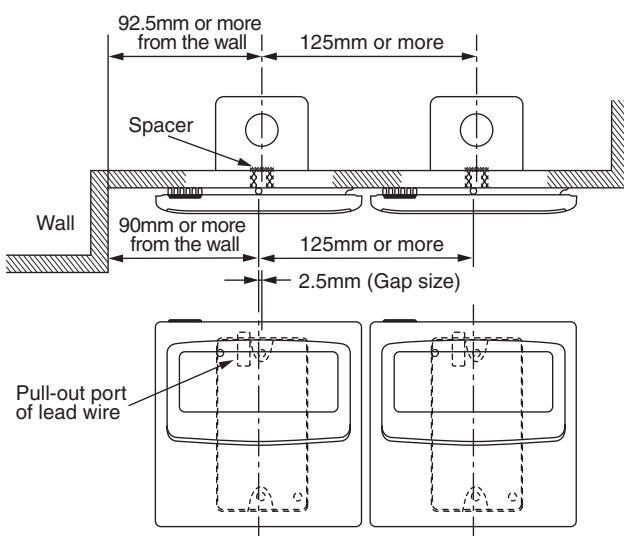


Fig. 1

*When installing the remote controller and the program weekly timer parallel to one another keep a distance of at least 25mm, so that maintenance engineers can easily gain access if required.

How to install the program weekly timer

NOTE 1 :

Avoid twisting the program weekly timer cable with the power supply cable, etc. Do not store them in the same metal conduit, otherwise it may causes a malfunction.

NOTE 2 :

Install the program weekly timer away from any device that may cause electrical interference.

NOTE 3 :

When noise is induced into the power source of the indoor unit, measures such as mounting a noise filter may be necessary.

Install the program weekly timer to the box (Procured locally) which has previously been inserted into the wall.

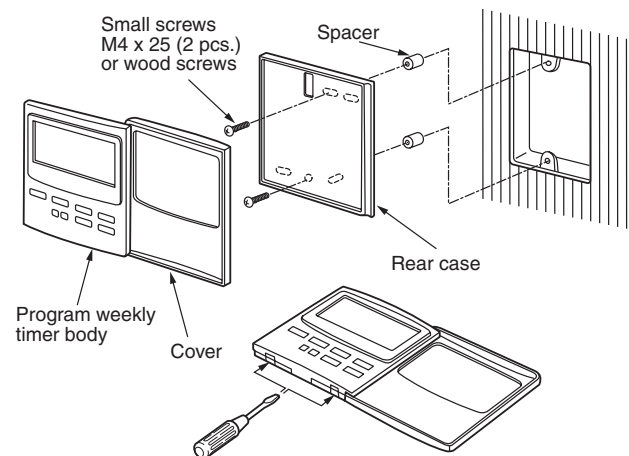
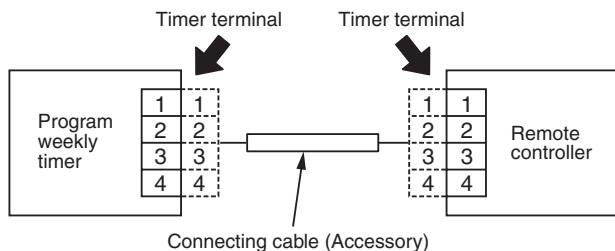


Fig. 2

1. Inserting a flat bladed screwdriver, etc. into the groove at the lower side of the program weekly timer, force open the rear case to remove it.
2. Using the attached M4 screws or wood screws (2 pcs.), fix the rear case of the program weekly timer. Before installation, open the screw holes with a screwdriver, etc. Fix it with the spacer, but do not apply excessive force.
If the program weekly timer does not fit closely to the wall, adjust it by cutting off the spacer.
3. Connect the supplied connecting cable (4 cores) to the program weekly timer body.
4. Install the program weekly timer body by matching the tabs on the rear case.

Cabling

Connection diagram (Be sure to use the supplied connecting cable.)



Arrangement

The program weekly timer and the remote controller can be arranged to either the right or left sides.

Cabling procedure

Perform cabling in the following procedure.

1. Connect the supplied connecting cable to the timer terminal (4P connector) on the program weekly timer. (Fig. 3)

Remote controller Program weekly timer

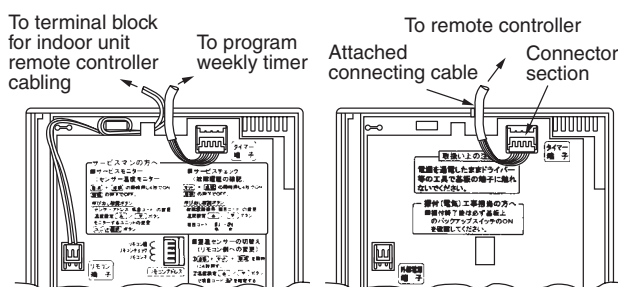
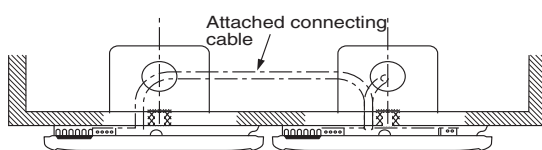


Fig. 3

2. Pull the attached cable out of the lead wire pull-out port on the rear case of the program weekly timer and connect the cable to the timer terminal (4P connector) on the remote controller via the inside of the wall. (Fig. 4)



Program weekly timer Remote controller

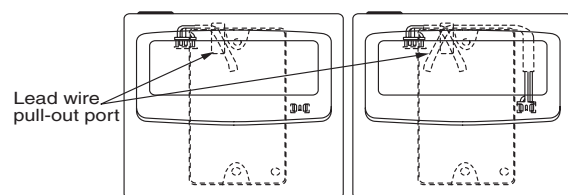
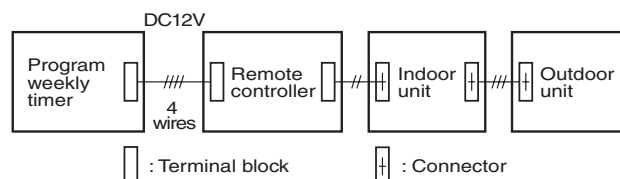


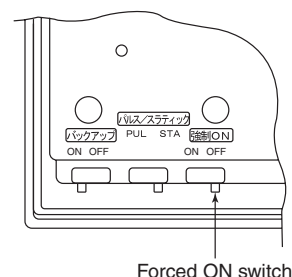
Fig. 4

System diagram



Program weekly timer test run setup

After installation, check (OFF to ON) output status using the forced ON switch on the rear side of the program weekly timer P.C. board. Then check for normal operation and **remember to turn OFF the forced ON switch.**

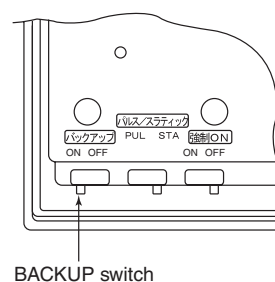


Memory backup function for power failure compensation

This program weekly timer stores in its memory the contents set by the operation button during a power failure. Pushing the **(PROGRAM)** button resumes the operation as per the contents before the power failure.

How to use [BACKUP]

After the installation work, check the [BACKUP] switch on the rear side of the program weekly timer P.C. board is turned to the ON side.



Explanation to customers

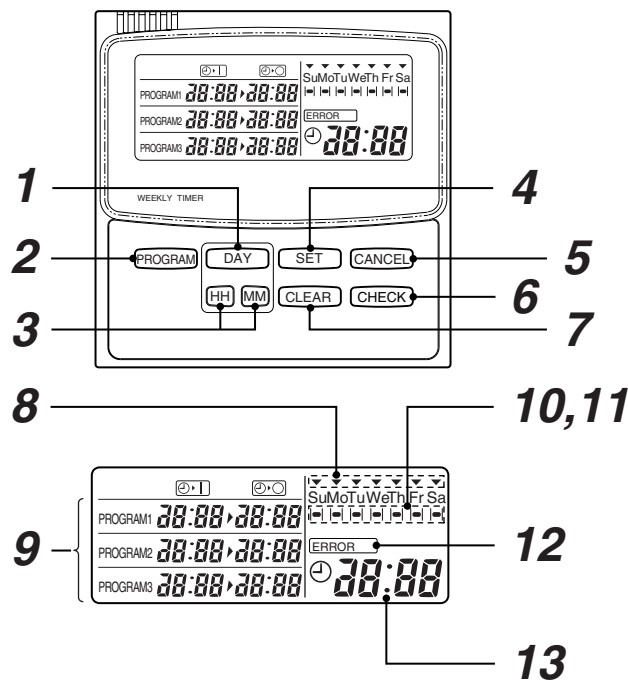
After the installation work, hand the "Owners Manual" and "Installation Manual" over to the customers.

Explain use and maintenance methods to the customers according to the "Owners Manual".

Weekly timer (RBC-EXW21E2)

Operation Manual

NAME AND OPERATION OF EACH PART



1 Day select button

The day of the week is selected.

For every push of the button the ▼ mark moves in order of Sunday → Monday → Tuesday → Wednesday → Thursday → Friday → Saturday.

2 Program button

This button is used to set up the contents of the program operation.

3 Hour/Minute button

This button is used to set the present time and ON/OFF time.

4 Timer set button

This button is used to set the day of the week, hour, minute, holiday and ON/OFF time.

5 Cancel button

This button is used to cancel the holiday.

6 Check button

This button is used to confirm the contents of the setting items.

7 Cancel button

This button used to cancel the setting items.

8 Display of the present day of the week (▼ mark)

9 ON/OFF time display

ON/OFF time of the timer operation is displays.

10 Operation reserve indication (■ mark)

The day of the week when the program operation has been set is displayed.

11 Holiday setting indication (|■| mark)

The holiday is displayed (Cancel holiday)

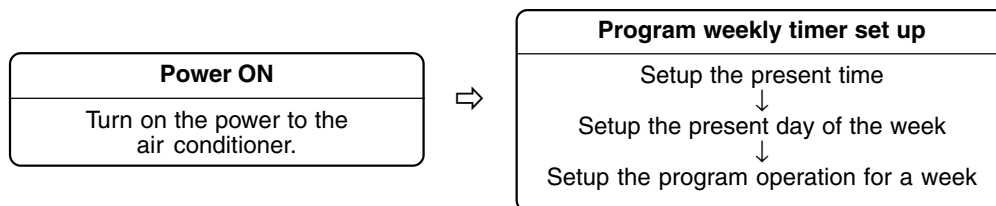
12 Setting error display

13 Present time display

Displays the present time displayed with 24-hours notation.

HOW TO USE THE TIMER CORRECTLY

1. Operation procedure



2. Turn on the power supply to the air conditioner

- Turn on the power supply to the air conditioner connected with the program weekly timer. (For cooling and heating operation, do not turn off the power supply due to the need to keep the compressor heated.)

3. Setup of the present time

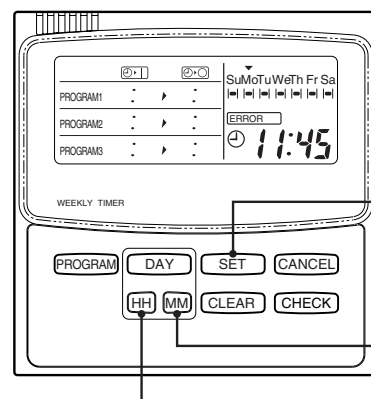
- Set the present time
(Example: Present time is 11:45.)

1 When pushing the **SET** button push the **HH** button to select the “hour” of the present time.

- When pushing the **SET** button each push of the **HH** button, will change the hour sequentially.

0 → 1 → ... → 10 → ... → 23 → 0

- When keeping the **SET** button pushed, continuously pushing the **HH** button makes the hours change faster.
(Example: Remove your finger when the display shows 11 and the hours will be set to 11 o'clock.)
- When releasing the **SET** button, the hour is set, and the **⌚** mark changes from flashing to lit.



2 When pushing the **SET** button push the **MM** button to select “minutes” of the present time.

- While pushing the **SET** button, for each and every push of the **MM** button the minutes will change sequentially.

00 → 01 → ... → 58 → 59 → 00

- When keeping the **SET** button pushed continuously, pushing the **MM** button makes the minutes change faster.
(Example: Remove your finger when the display shows 45 and the minutes will be set to 45.)
- When releasing the **SET** button, the minutes are set and the **⌚** symbol changes from flashing to lit.

CAUTION

- The time cannot be changed when only the **HH** button or **MM** button is pushed.
- If 30 seconds have passed while the button is flashing without pushing the **DAY** or **HH** / **MM** buttons, the display returns automatically to the original display (Normal display).
In this case, repeat the procedure from the 1st step.

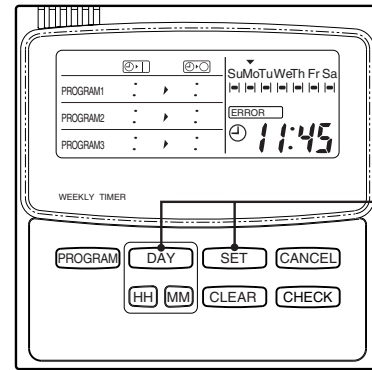
4. Setup the day of the week

- Set the day of the week.
(Example: Wednesday)

1 When pushing the **SET** button push the **DAY** button to select the “day” of the week.

- While pushing the **SET** button, for each and every push of the **DAY** button, the display under the day of the week ▼ will flash. The display will move from left to right.

▼ ▼ ▼ ▼ ▼ ▼ ▼
Su Mo Tu We Th Fr Sa



CAUTION

- The day of the week cannot be changed when only the **DAY** button is pushed.
- If 30 seconds has passed while the button is flashing without pushing the **DAY** or **HH** / **MM** buttons, the display returns automatically to the original display (Normal display).
In this case, repeat the procedure from the 1st step.

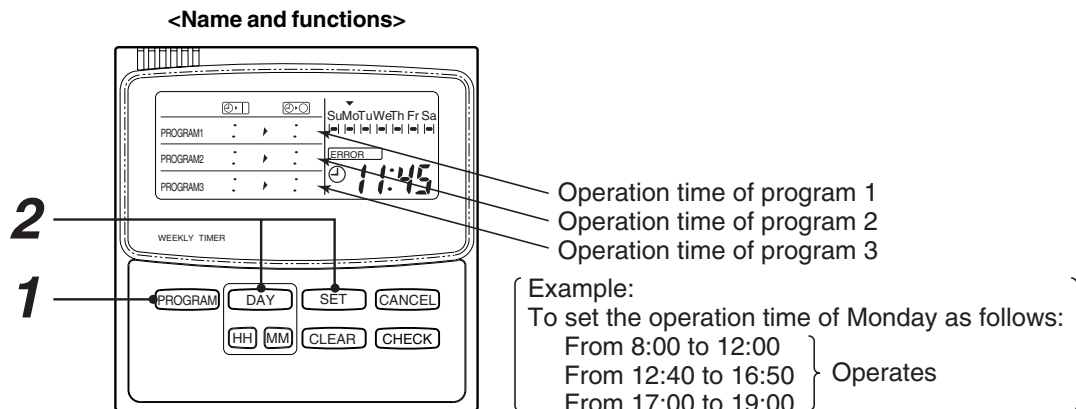
5. How to set program timer operation

Set the present time and the present day of the week correctly, otherwise the program operation will not be correctly performed.

This timer can control up to 3 cycle programs per day.
(1 cycle or 2 cycles can be also set up.)

The following items can be set to the program operation.

- Setup of [ON] → [OFF] time ([ON] or [OFF] only cannot be set up on their own).



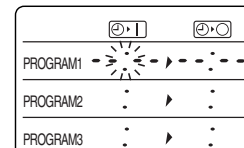
1 First push the **PROGRAM** button.

- When pushing the **PROGRAM** button, the reserve mark ■ flashes.

2 Push the **DAY** button, select the day for operation and then push the **SET** button.

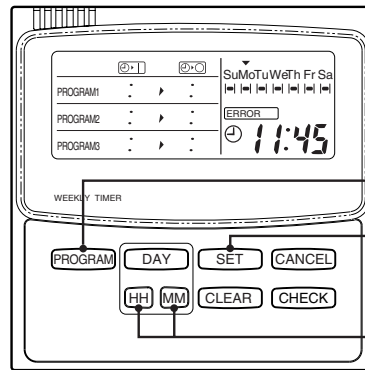
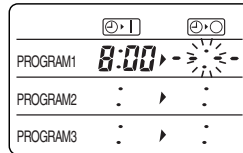
When pushing the **SET** button, the flashed reserve mark ■ changes and the ON time of program 1 will flash at the same time.

▼
Su Mo Tu We Th Fr Sa



3 Set the ON time by pushing the **[HH]**, **[MM]** buttons and then push the **[SET]** button.

When pushing the **[SET]** button, the flashed ON time (8:00 in example) will change and the OFF time of program 1 will flash at the same time.



6
3, 4, 5
3, 4

4 Set the OFF time by pushing the **[HH]** / **[MM]** buttons, and then push the **[SET]** button.

When pushing the **[SET]** button, the flashed ON time (12:00 in example) changes and the ON time of program 2 will flash.

5 Next set up the operation time for program 2 and 3.

When pushing the **[SET]** button after the OFF time of program 3 has been set, the flashed OFF time (19:00 in example) changes and the ON time of program 1 will flash.

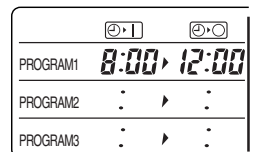
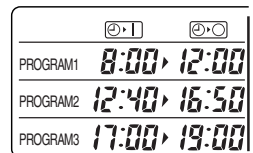
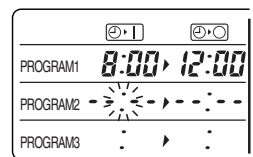
6 Finally, push the **[PROGRAM]** button.

Push the **[PROGRAM]** button within 30 seconds after No. 5 step.

Then, one day timer (Monday in example) is set completely.

ON/OFF is displayed when the present time is included in the range of the set time.

(In the above status, the contents of program 1 are displayed, as the present time is included in the range of the ON time to OFF time in program 1.)



7 Setting another day, repeat above procedure from 1 to 6.

If you need to set the same time as previous setting. Refer to "7. How to copy the program operation time".

CAUTION

- Setup of the program time : **0:00** is treated as **24:00**.
(Example) In the following cases, these set up's are available.

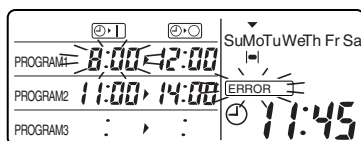
ON time	OFF time
0:00	2:00
22:00	0:00

- If 30 seconds has passed while the button is flashing without pushing the **[DAY]** or **[HH]** / **[MM]** buttons, the display will return automatically to the original display (Normal display).
In this case, repeat the procedure from the 1st step.

6. Set error

If flashing **ERROR** is displayed when the program operation has been set up, correct the time using the procedure below.

1. If the **ERROR** display is flashing, the ON time of the failed program will flash.



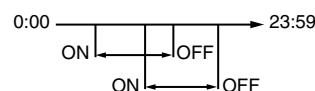
2. Push the **SET** button to flash the time to be corrected.
3. Using the **[HH]** / **[MM]** buttons, correct the ON/OFF time.
4. Push the **SET** button. When the setup is correctly performed the **ERROR** display will disappear.
5. The correction will be completed by pushing the **[PROGRAM]** button.

CAUTION

• When the ON/OFF time is set as follows the **ERROR** symbol is displayed.

- 1) When a part of the operation time makes inroads into a part of another operation time

Example: ON time OFF time
 8 : 00 12 : 00
 11 : 00 14 : 00



- 2) When OFF time is ahead of ON time

Example: ON time OFF time
 12 : 00 8 : 00



- 3) When ON time is same as OFF time

Example: ON time OFF time
 8 : 00 8 : 00



- 4) ON time or OFF time is singly set up

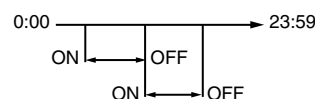
Example: ON time OFF time
 8 : 00 [Is not set]



• The following cases are not set error.

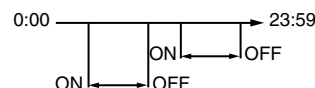
- 1) OFF time of the previous cycle is same as ON time of the next cycle.

Example: ON time OFF time
 8 : 00 12 : 00
 12 : 00 14 : 00



- 2) When the next cycle is set to the time before the set time of the previous cycle

Example:
 ON time OFF time ⇒ ON time OFF time
 12 : 40 16 : 50 12 : 40 16 : 50
 8 : 00 12 : 00 12 : 40 16 : 50



Pushing the **[PROGRAM]** button changes the order in order of time.

- 3) When both ON and OFF times are same 0 : 00

Example: ON time OFF time
 0 : 00 0 : 00

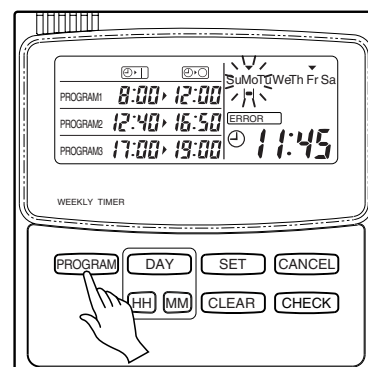
Continuous operation
for 24 hours

7. How to copy the program operation time

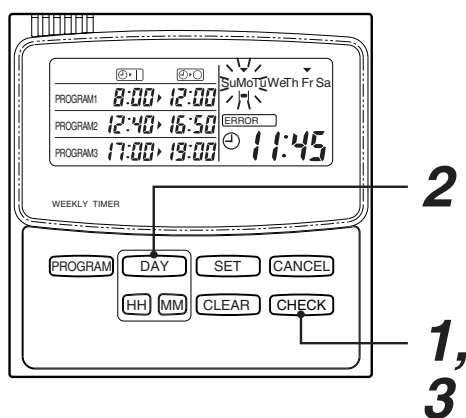
When setting the program operation, a program already set can be copied and set to another day of the week.

Example: To copy the operation contents from Monday to Tuesday

- 1 Push the **CHECK** button in normal display.
- 2 Push the **DAY** button and put the operation reserve indication  on the day of the week to which the program operation is already set.
(Monday in the example)
- 3 Push the **PROGRAM** button.
Present day of the week indication  and Operation reserve indication  will flash.
- 4 Push the **DAY** button and put the present day of the week indication  on the day of the week to be copied. (Tuesday in the example) (For continuous copying, push the **SET** button, and then push the **DAY** button.)
- 5 Push the **PROGRAM** button. The operation reserve indication  goes on under the copied day of the week.



8. How to check the program operation time



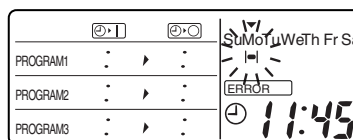
CAUTION

1. While reserve indication  is flashing, the display does not change even if other buttons are pushed other than the **DAY**, **CHECK**, and **PROGRAM** buttons.
2. If 30 seconds has passed while the reserve indication  is flashing without pushing the **DAY**, **CHECK** or **PROGRAM** buttons, the display returns automatically to the original display. (Normal display)

- 1 Push the **CHECK** button.

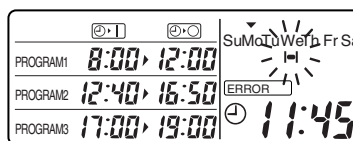
Example: To check the program operation time from Monday to wednesday

- The operation reserve indication  flashes in the normal display status.



- 2 Push the **DAY** button and put the operation reserve indication  on the day of the week to be checked.

- For every push of the **DAY** button, the operation reserve indication  flashes and the contents of program operation time of the day of the week on which the operation reserve indication  has been put on is displayed.

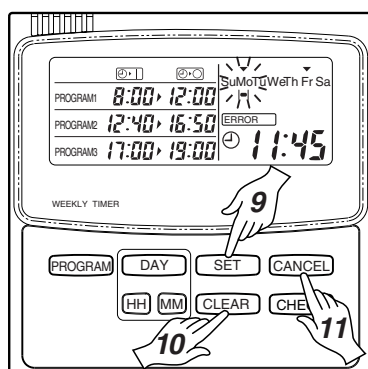


- 3 Push the **CHECK** button.

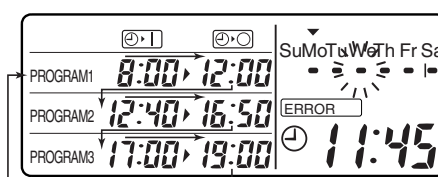
- It turns to be normal indication.

9. How to change the program operation time

- 1 Push the **PROGRAM** button in the normal display status.
- 2 Select the required day reserve mark **|** by pushing the **DAY** button.
- 3 Push the **SET** button.



- 4 For every push of the **SET** button, the flashing part changes as shown in the following figure. Put the indication on the segment of time to be changed.
- 5 Using the **HH** / **MM** buttons, change the time.
- 6 Push the **SET** button.
- 7 Push the **PROGRAM** button. The change operation has now been completed.



10. How to clear the program operation

- **Clear the settings for that day of the week**
 - 1) Push the **PROGRAM** button.
 - 2) Push the **DAY** button and select the reserve mark **|** to be cancelled.
 - 3) Push the **CLEAR** button. The program time disappears.
 - 4) Push the **PROGRAM** button. The operation reserve indication **|** disappears.
- **Clear a part of the program**
 - 1) Push the **PROGRAM** button.
 - 2) Push the **DAY** button and select the reserve mark **|** on to be cancelled.
 - 3) Push the **SET** button.
 - 4) Push the **SET** button again to flash the ON or OFF time of the program that is to be cancelled.
 - 5) Push the **CLEAR** button.
A part of the program has now been cancelled. At the same time, the remaining programs are automatically arranged.
 - 6) Push the **PROGRAM** button.

11. How to set up the holiday

- **The operation reserve day can be cancelled by setting up the holiday function.**
 - 1) Push the **CANCEL** button. The holiday setup mark **|** flashes.
 - 2) Push the **DAY** button and select the holiday setup mark **|** on the day which the holiday is to begin.
 - 3) Push the **SET** button. The flashing holiday setup indication **|** changes to. (**|**)
- **Clearance of [HOLIDAY] setup**
 - 1) Push the **CANCEL** button.
 - 2) Push the **DAY** button and select the holiday setup mark **|** on the day which the holiday setting is cancelled.
 - 3) Push the **SET** button. The holiday setup mark **|** will disappear and the operation reserve mark **|** will be displayed.
- **Explanation of operation**
The cancel setting day will be temporarily canceled and from the next day onwards, the cancel setup mark **|** will disappear and the operation reserve mark **|** will appear.

CAUTION

- For a day which does not have a timer set, the cancellation function cannot be set.

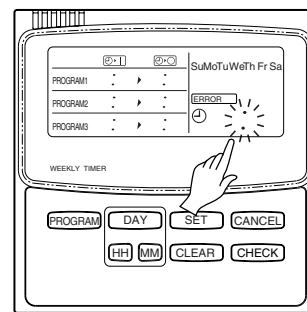
12. Matters to be memorized

1. Power failure

When a power failure has occurred and the power supply has been reset, the display on the right figure appears.
(A colon ":" flashes.)

• Resuming of operation

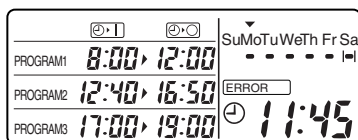
- 1) Turn on the power supply (breaker) to the air conditioner.
- 2) Start the operation by the remote controller.
- 3) Push the **PROGRAM** button on the program weekly timer. The flashing colon ":" changes to the clock display in the normal status. In this case, the program is memorized by the backup function. Therefore, it is unnecessary to set the program again.



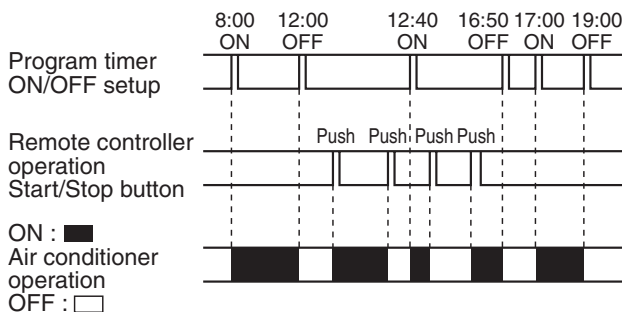
2. Operation of the program weekly timer

An air conditioner mounted with a program weekly timer is operated on a remote controller and on the program weekly timer.

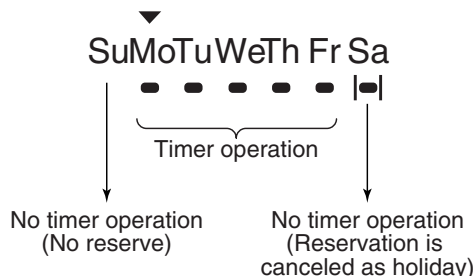
(Example)



1) Operation pattern in a day



2) Operation pattern in a week



4-2 Central remote controller (TCB-SC642TLE2)

4-2-1 Outline

1. Feature

■ Connectable units

- Max.64 indoor units or groups can be connected and controlled by one central remote controller
- All indoor units can be divided to 1,2,3, or 4 zones.
- ALL / ZONE / GROUP (individual) control mode is selectable.

(Up to 16 indoor units or groups for each zone.)

■ Mode setting

(1) Central control / Remote control mode

● Central control mode

Central controller is used as a central control device.

Individual setting by remote controller can be inhibited by central remote controller.

● Remote control mode

Central controller is used as a remote controller.

Settings by the central controller are inhibited by other central control devices.

(2) ALL / ZONE mode

● ALL mode

All indoor units can be controlled by the central controller.

● ZONE mode

Indoor units in one of ZONE 1,2,3,or 4 can be controlled by the central remote controller.

● GROUP mode

indoor unites of each group can be controlled individually.

(3) Function of central controller can be 10 different types according to combination of central control / remote control mode and ALL / ZONE mode setting as shown in the table below.

	Central control	Remote control
ALL	ALL / Central	ALL / Remote
ZONE 1	ZONE1 / Central	ZONE1 / Remote
ZONE 2	ZONE2 / Central	ZONE2 / Remote
ZONE 3	ZONE3 / Central	ZONE3 / Remote
ZONE 4	ZONE4 / Central	ZONE4 / Remote

■ Operation function

Start / stop, Operation Mode select, Setting temperature, Air volume setting, Frap position select, Central 1,2,3,4 / individual select, Ventilation, etc.

■ Maximum number of connected central controller

Up to 10 units in one control wiring circuit.(including other central control devices.)

■ Display

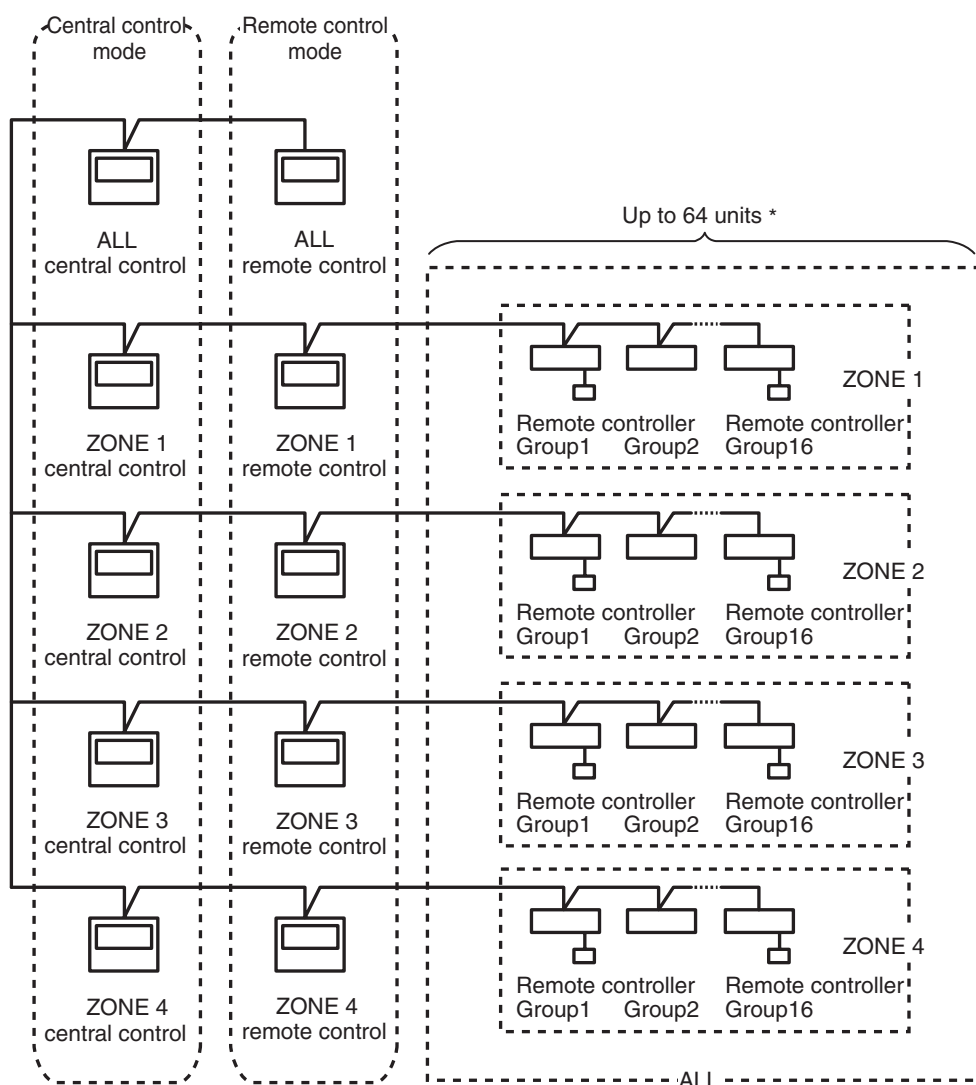
LCD

■ Timer

Weekly timer (RBC-EXW21E2) ... Sold separately

2. System configuration

- “ALL” : All indoor units can be controlled by central remote controller.
- “ZONE” : Indoor units in one of ZONE 1, 2, 3 or 4 can be controlled by central remote controller.
- “GROUP” : Indoor units of each group can be controlled individually.



* In case of “1:1 model”, follower indoor units in a group control and twin control must not be counted as “one unit”. In the case of a VRF system, follower indoor units in a group control must be counted as “one unit”.

3. Function matrix of central remote controller

	Central control mode					Remote control mode				
	ALL Central control	ZONE 1 Central control	ZONE 2 Central control	ZONE 3 Central control	ZONE 4 Central control	ALL Remote control	ZONE 1 Remote control	ZONE 2 Remote control	ZONE 3 Remote control	ZONE 4 Remote control
Controllable units	64 group (zone 1 to 4)	16 group (zone 1)	16 group (zone 2)	16 group (zone 3)	16 group (zone 4)	64 group (zone 1 to 4)	16 group (zone 1)	16 group (zone 2)	16 group (zone 3)	16 group (zone 4)
Operation units	ALL ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ALL ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP	ZONE GROUP
ON	OK	OK	OK	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
OFF	OK	OK	OK	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
Operation mode change	OK	OK	OK	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
Setting temperature	OK	OK	OK	OK	OK	OK *1	OK *1	OK *1	OK *1	OK *1
Setting air volume	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Setting frap position	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Central / Remote	OK *2	OK *2	OK *2	OK *2	OK *2	X	X	X	X	X
Ventilation ON/OFF	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Weekly timer connection	OK *3	OK *4	OK *4	OK *4	OK *4	OK *5	OK *6	OK *6	OK *6	OK *6
Batch operation display (LCD)	OK *7	OK *8	OK *8	OK *8	OK *8	OK *7	OK *8	OK *8	OK *8	OK *8
Batch alarm display (LCD)	OK *7	OK *8	OK *8	OK *8	OK *8	OK *7	OK *8	OK *8	OK *8	OK *8

x...Disable

*1 Individual ON/OFF operation with the remote controller is inhibited under the "central 1" mode.

Individual ON/OFF operation, MODE, and Temp. setting operations with the remote controller are inhibited under the "central 2" mode.

Individual MODE and Temp. setting operations with the remote controller are inhibited under the "central 3" mode.

Individual MODE operation with the remote controller is inhibited under the "central 4" mode.

*2 "central 1" "central 2" "central 3" "central 4" "individual" can be set.

*3 ON, OFF, remote control permitted / inhibited per ALL can be selected. (6 type)

*4 ON, OFF, remote control permitted / inhibited per ZONE can be selected. (6 type)

*5 ON, OFF per ALL can be selected. (2 type)

*6 ON, OFF per ZONE can be selected. (2 type)

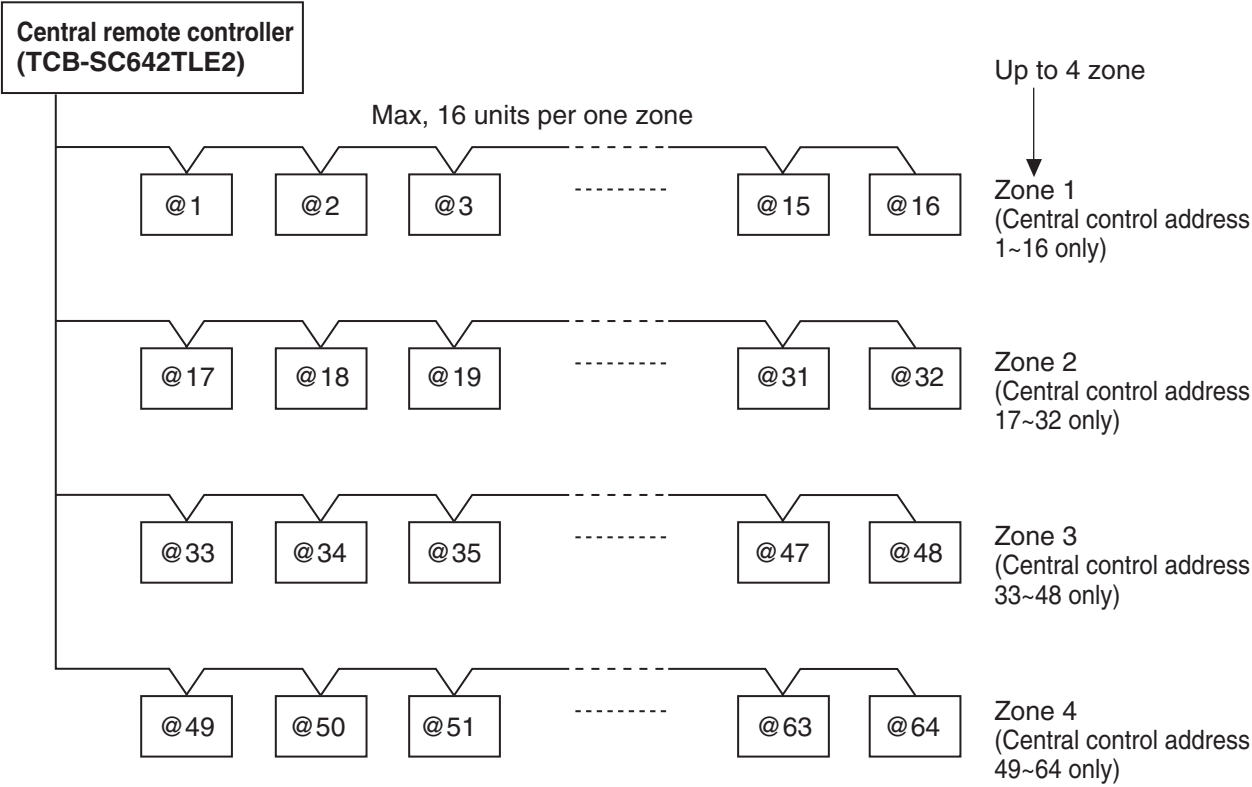
*7 Per ALL

*8 Per ZONE

4. Function items of central remote controller (TCB-SC642TLE2)

No	Items	Function	Remarks
1	Power Supply	AC220/230/240V	
2	Connectable indoor units	Max. 64 units	
3	Max. zone control units	Max. 4 zones	
4	Controllable indoor units per zone	Max.16 units	
5	Zone setting	Zone.1 : Central control address 1 to 16 Zone.2 : Central control address 17 to 32 Zone.3 : Central control address 33 to 48 Zone.4 : Central control address 49 to 64	
6	Monitoring	ON/OFF	Available
		Operation mode	Available
		Set up temperature	Available
		Air volume select	Available
		Flap position	Available *
		Error contents	Available
		Filter sign	Available
7	Setting	ON/OFF	Available
		Operation select	Available
		Setting temperature	Available
		Setting air volume	Available
		Setting flap position	Available *
		Reset filter sign	Available
		Individual operation	Available
		Master zone control	Available
		Individual control in the zone	Available
		Master operation	Available
8	Restriction of local remote controller	Available	
		1) Operation disable 2) ON/OFF, mode select and setting temp. disable 3) Mode select and setting temp. disable 4) Mode select disable	
9	Weekly schedule	Available (by connecting weekly timer)	
10	Forced stop command (Fire alarm)	Available	
11	Master ON/OFF command	Available	
12	Stop command	Available	
13	External operation output	Available	
14	Error output	Available	
15	Connectable central control devices	Up to 2 devices (Master / Sub)	In case of "zone fix mode", Up to 5 units (Master, zone 1,2,3,4)
16	Display	Operation status display for each zone	

5. Zone control



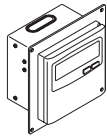
4-2-2 Installation procedure

1. General

This booklet briefly outlines where and how to install the central controller. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the controller before beginning.

NOTE

Give these instructions to the customer after finishing the installation.

Part Name	Figure	Q'ty	Remarks
Central controller		1	
Tapping screw	Truss-head Phillips 4 x 16 mm 	4	For securing the central controller
Rawl plug		4	For securing the central controller
Manual		1	For installation
		1	For operation

2. Installation site selection

Install the central controller at a height of between 1 and 1.5 meters above the floor.

Do not install the central controller in a place where it will be exposed to direct sunlight or near a window or other place where it will be exposed to the outside air.

Be sure to install the central controller vertically, such as on a wall.

3. How to install the central controller

**CAUTION**

Do not twist the control wiring together with the power supply wiring or run it through the same metal conduit, because this may cause a malfunction.

Install the central controller away from sources of electrical noise. Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

**WARNING**

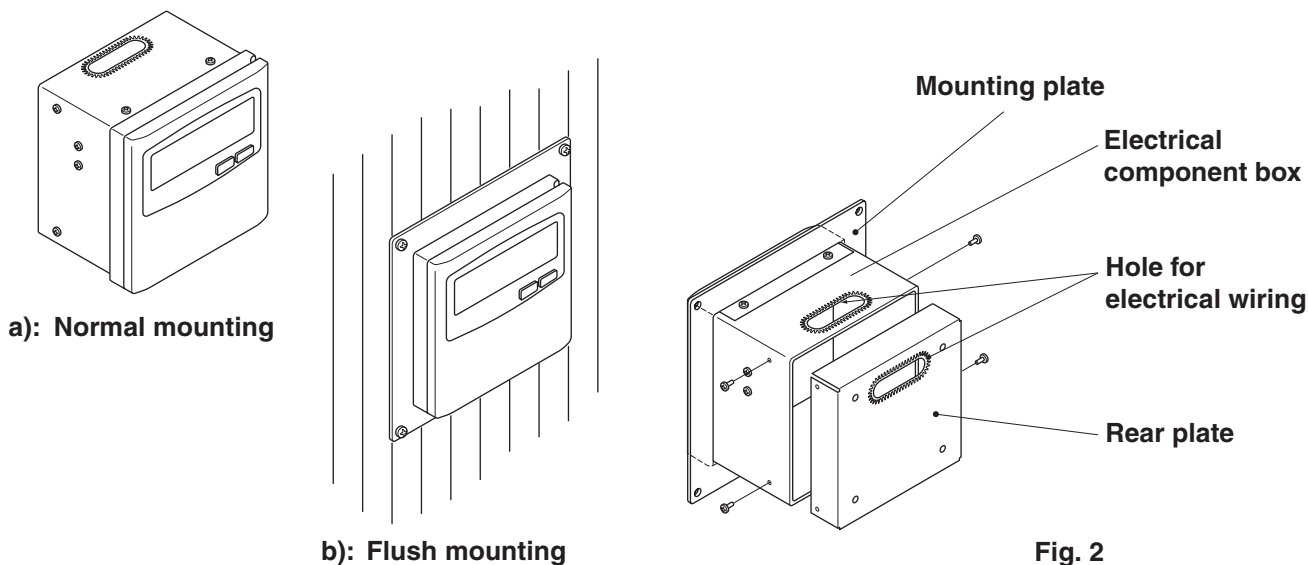
Do not supply power to the unit or try to operate it until the tubing and wiring to the outdoor unit is completed.



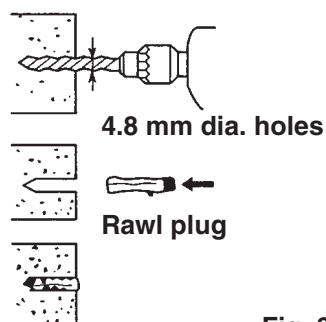
Z-view (back side)

120

■ Installation procedure



1. Decide how the central controller will be mounted: in the normal manner or flush with the wall.
 - a) To mount the central controller in the normal manner, remove the mounting plate. Then reattach the four screws to the electrical component box.
 - b) To mount the central controller flush with the wall, make an opening in the wall measuring 128 mm x 128 mm. The opening must be at least 85 mm deep as measured from the outside surface of the wall.
2. Remove the rear plate and connect the electrical wiring.
 - 1) Remove the four screws located on both sides of the rear plate.
 - 2) Either the hole in the top of the electrical component box or the hole in the rear plate may be used to feed in the electrical wiring.
 - 3) If the hole on the top is used, the rear plate should be turned upside down.
3. Secure the central controller in place.
 - a) If the central controller is being mounted in the normal manner, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the central controller over the rear plate and secure it in place using the four screws.
 - b) If the central controller is being mounted flush to the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.



NOTE

To mount the central controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes into the wall and insert Rawl plugs to anchor the mounting screws.

■ Layout of electrical terminals

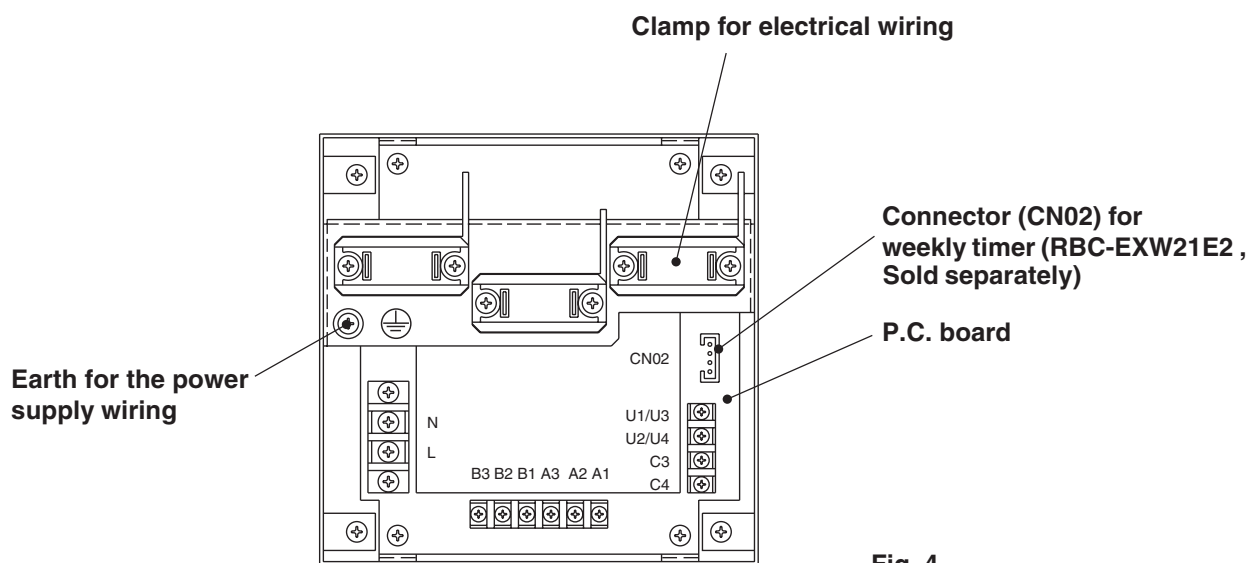


Fig. 4

How to connect electrical wiring

1) Basic wiring

- L:  Power supply ($\sim$ 50 Hz/60 Hz, 220–240 V)
- N:  Power supply ($\sim$ 50 Hz/60 Hz, 220–240 V)
- U1/U3:  Indoor unit control wiring. (Low voltage)
- U2/U4:  Indoor unit control wiring. (Low voltage)
- C3: Auxiliary
- C4: Earth for inter-unit control wiring
- : Earth for the power supply wiring

2) Terminals for remote monitoring

- A1: Input for turning on air conditioners concurrently.
- A2: Input for turning off air conditioners concurrently.
- A3: Common input for turning air conditioners on or off.
- B1: On operation state indicator output.
- B2: Alarm indicator output.
- B3: Common indicator output.

How to wiring



CAUTION

Ensure that wiring connections are correct. (Incorrect wiring will damage the equipment.)

How to wire the central controller

In order to ensure safety, turn off the air conditioner power before mounting or removing the central controller.

Connect the communication wires to the indoor/outdoor unit connecting wires or central control system wires.

Use the following as the communication wires.

Total wire length of less than 1,000 meters: MVVS1.25mm²

Total wire length of less than 2,000 meters: MVVS2.0mm²

The total wire length is obtained by adding the lengths of the indoor/outdoor unit connecting wires to the lengths of the central control system wires.

Do not run the communication wires inside the same electrical wire conduits as the power cables.

For the communication wires, use signal wires that visually identify them as being different from either the remote controller wires or the power cables.

Connect the power cable of the central controller to the AC220–240V power source. (Incorrect wiring will damage the equipment.)

Connect the wires in such a way that none of the wires will be connected incorrectly. (Incorrect wiring will damage the equipment.)

Basic wiring diagram

When using a central control connect the communication wiring to the air conditioners as shown below.

The maximum number of air conditioners which can be connected in one central control system is 64 indoor units and 16 outdoor units (header outdoor units). (With VRF system)

Up to ten central controllers including other central control units can be connected.

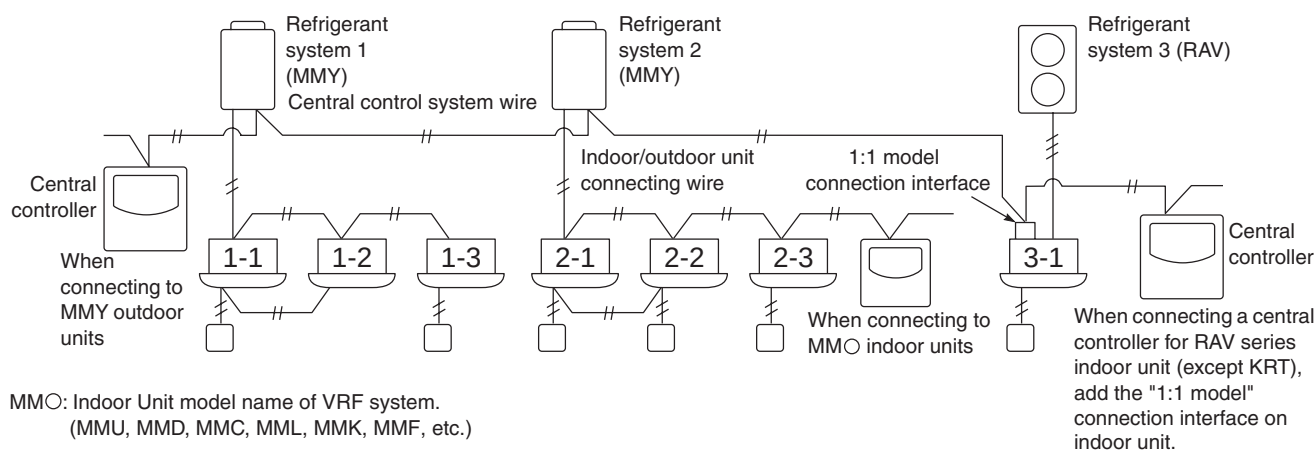


Fig. 5

NOTE

When connecting to MMY outdoor units, make the connection to the central control system wires (U3 and U4 terminals).

When connecting to MM○ indoor units, make the connection to the indoor/outdoor unit connecting wire (U1 and U2 terminals).

When connecting to a RAV air conditioner, make the connection to the U3 and U4 terminals.

The 1:1 model connection interface is required for the RAV air conditioner. (except KRT series.)

Wiring connection procedure

As shown in the figure below, connect the terminal block (U1/U3, U2/U4) of the central controller with the terminals (U3, U4) of the outdoor unit (central unit).

It is also possible to connect to the indoor/outdoor unit the connecting wire of other indoor or outdoor units (no matter which refrigerant system is used).

Since the terminals do not have polarities, U1/U2 or U3/U4 can be reversed.

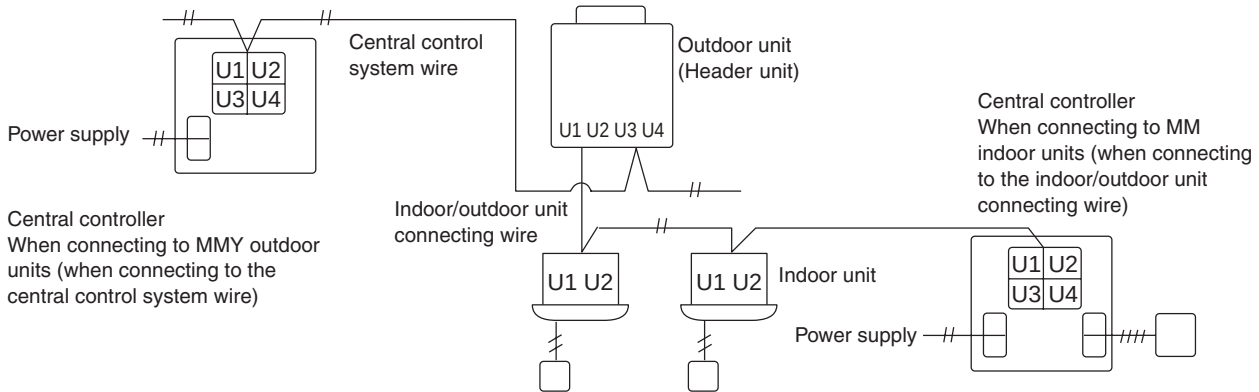


Fig. 6

NOTE

The fuse will blow to protect the equipment if an AC voltage of 220–240V is applied by mistake to U1/U3 or U2/U4. If this should happen, first re-connect the terminals correctly.

Check the fuse on the indoor/outdoor control board since this fuse may have blown as well.

Grounding the shielded wires

Terminate the connection of the shielded wires for all of the central control wires and ensure single-point earthing.

Even when connecting the centrally controlled unit to the indoor/outdoor unit connecting wires, terminate the connection of the shielded wires and ensure single-point earthing for all the indoor/outdoor unit connecting wires. Leave the final termination open (insulate it).

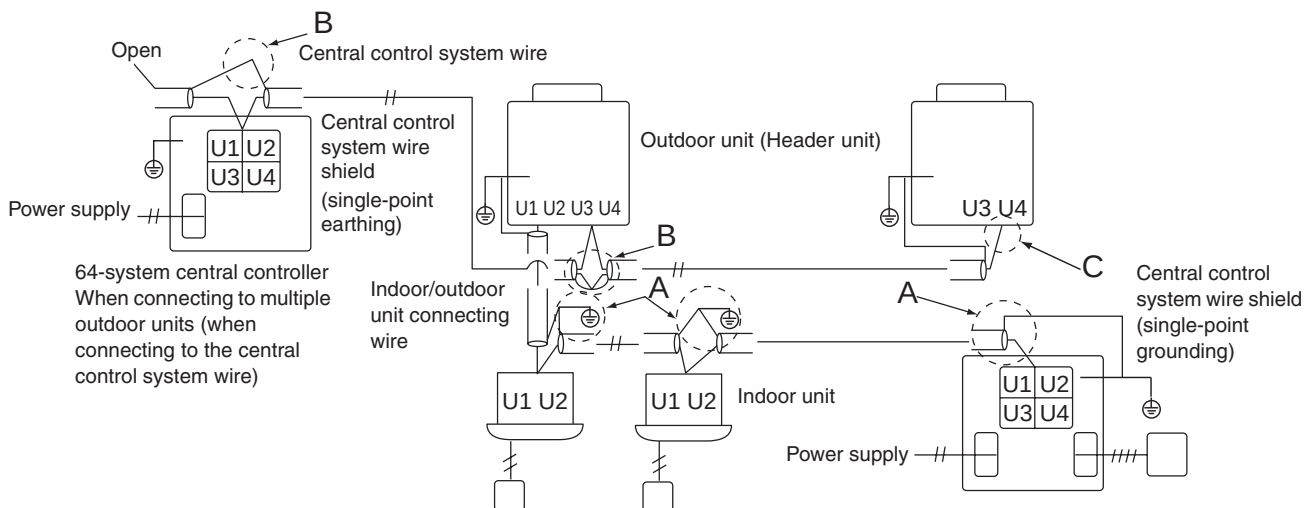
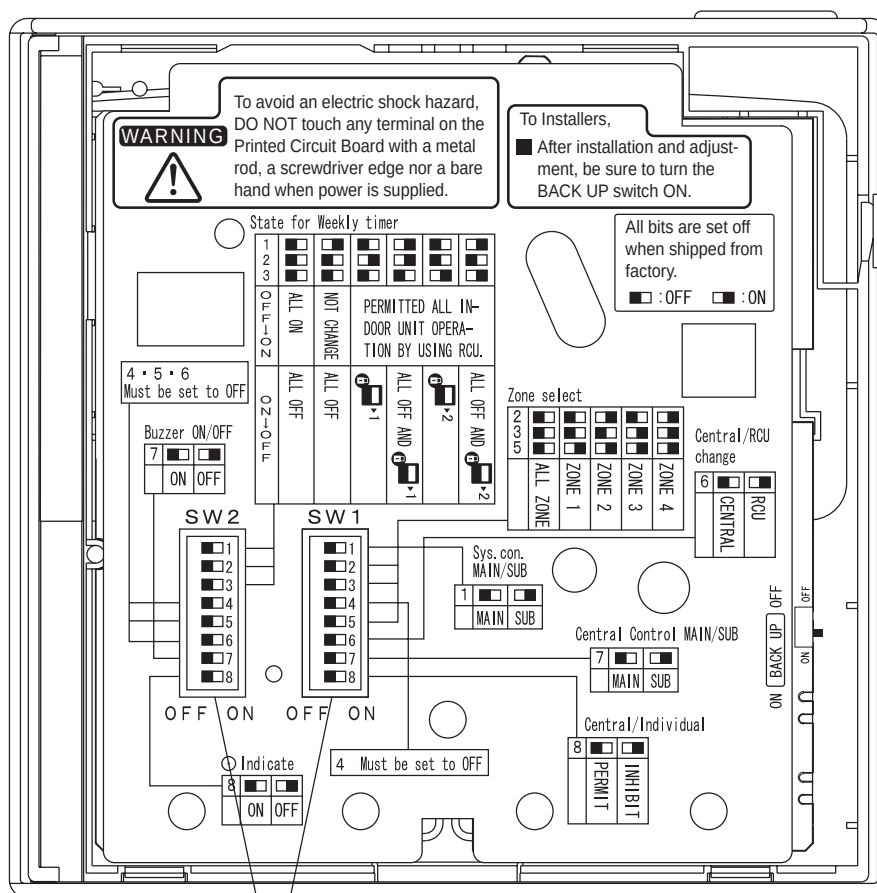


Fig. 7

4. Address switch setting



P.C. board in the control unit

Dip switch

Fig. 8

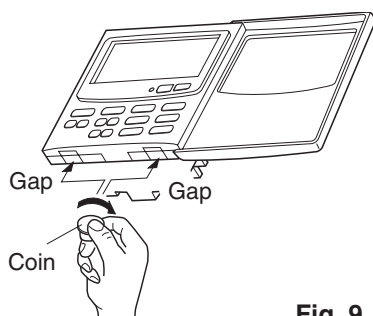
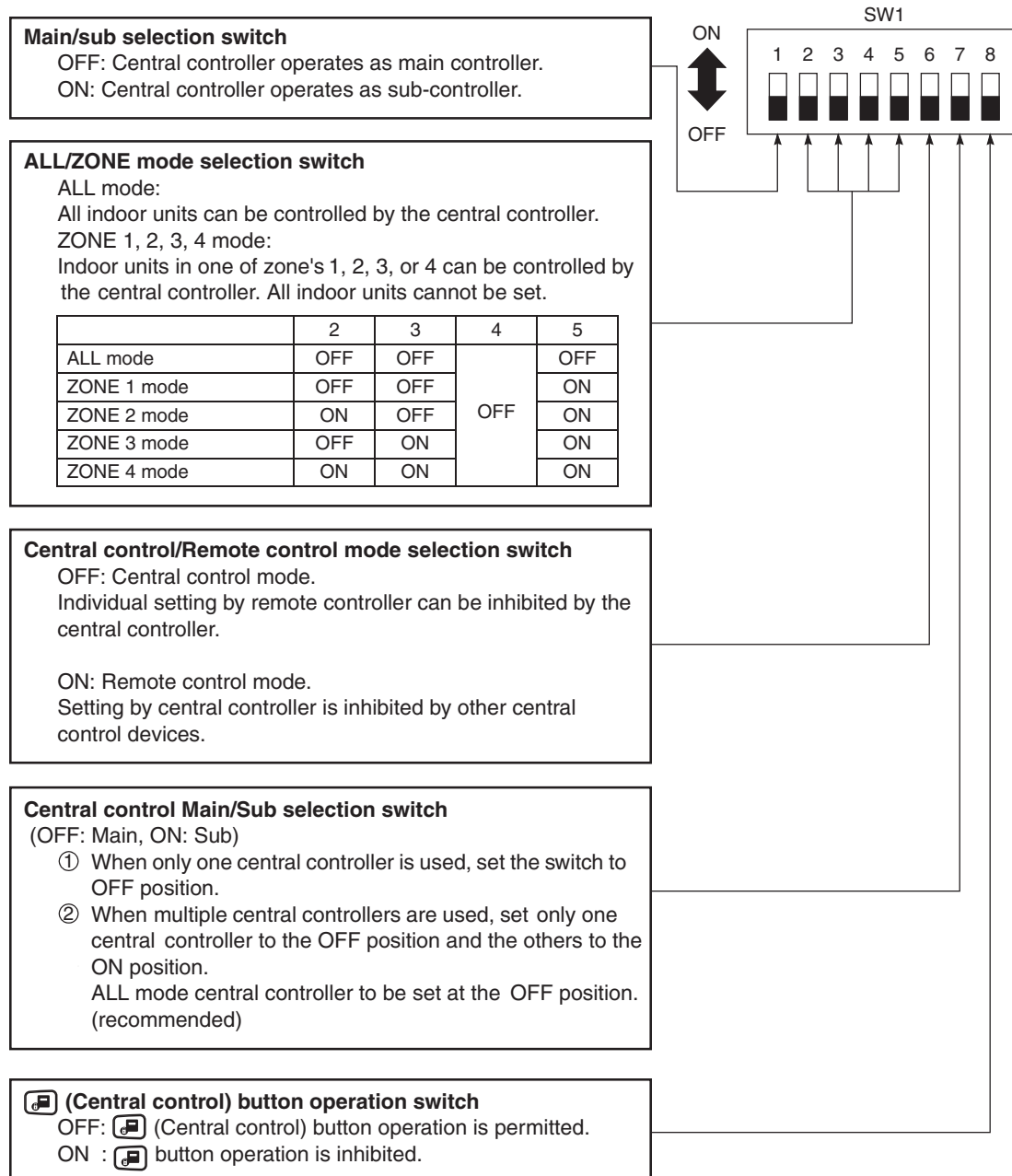


Fig. 9

How to reach the P.C. board

Remove the flat-top screw on the bottom of the back side of the case. When you open up the decorative cover, you will see two notches under the control unit. Inset a coin or other flat object into these notches and pry off the back case. The P.C. board on the back of the control unit is now visible.

SW1



*All switches are set at the OFF position at the factory.

Fig. 10

SW2

Weekly timer input switches

Central controller operation can be set when the weekly timer activates (ON/OFF).

Central controller operation		Switch No.	1	2	3
		Timer OFF → ON	Timer ON → OFF		
①	All ON	All OFF	OFF	OFF	OFF
②	No change	All OFF	ON	OFF	OFF
③	Individual control of all indoor units to be permitted	All indoor units to be 1*1	OFF	ON	OFF
④	Ditto	All OFF and all indoor units to be 1*1	ON	ON	OFF
⑤	Ditto	All indoor units to be 2*2	OFF	OFF	ON
⑥	Ditto	All OFF and all indoor units to be 2*2	ON	OFF	ON

In case of Remote control mode, use ① or ②.

In case of ZONE 1, 2, 3, 4 mode, ALL, means all indoor units are of ZONE's 1, 2, 3, 4.

*1: 1 (Central control 1) means ON/OFF operation cannot execute by the remote controller.

*2: 2 (Central control 2) means ON/OFF, MODE change. Temp. setting cannot be executed by the remote controller.

Auxiliary switch

Must be set to OFF position.

Beep tone switch

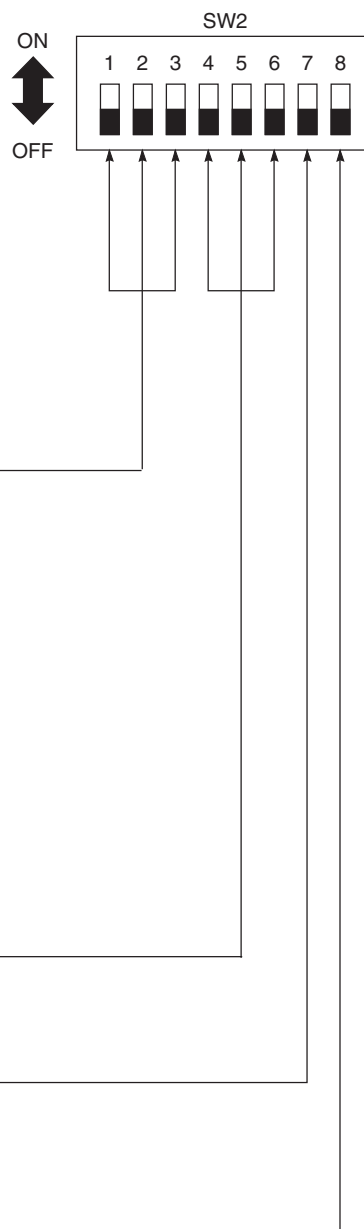
OFF: Beep tone when each button is pushed.

ON: No tone when each button is pushed.

● Indication switch

Normally set to the OFF position.

When set to the ON position, indication is not displayed on the LCD of the central controller.



*All switches are set at the OFF position at the factory.

Fig. 11

5. Mode setting

According to function of each central controller, set SW1 as shown in Fig. 12.

(1) Central control/Remote control mode

Central control mode

Central controller is used as the main central control device.

Individual setting by remote controller can be inhibited by central controller.

Remote control mode

Central controller is used as a remote controller. Setting by central controller is inhibited by other central control devices.

(2) ALL/ZONE mode

ALL mode

All indoor units can be controlled by the central controller.

ZONE mode

Indoor units in one of the following ZONE'S 1, 2, 3 or 4 can be controlled by the central controller.

(3) Function of central controller can be used in 10 different ways, according to the combination of the central control/remote control mode and the ALL/ZONE mode setting as shown in table 1.

(4) Stick the central controller unit label in a easy to read position.

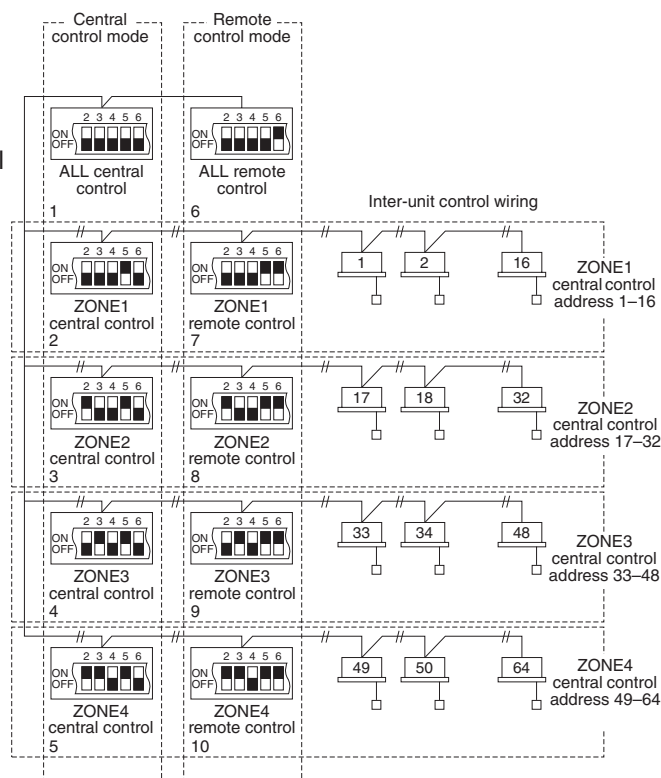


Fig. 12

Table 1

	Central control	Remote control
ALL	1. ALL/Central	6. ALL/Remote
ZONE1	2. ZONE1/Central	7. ZONE1/Remote
ZONE2	3. ZONE2/Central	8. ZONE2/Remote
ZONE3	4. ZONE3/Central	9. ZONE3/Remote
ZONE4	5. ZONE4/Central	10. ZONE4/Remote

6. How to perform zone registration

To operate the central controller properly, zone registration is required after finishing the test run (and after setting all indoor unit addresses) by using one of the following methods.

Procedures common to all units

1. Connect the U1/U2 terminals to the relay connectors on the U3/U4 terminals found inside the outdoor unit (Header unit).
2. Leave the SW30-2 switch on the outdoor unit (Header unit) interface board at the ON position for one system only and set all the other switches to the OFF position.
(For details on the SW-30 position, refer to the wiring diagram provided with the outdoor unit.)

(a) Zone registration using the remote controller (RBC-AMT21E, RBC-AMT31E)
Refer to page 124

(b) Zone registration using the central controller (TCB-SC642TLE2)
Refer to page 125

(c) Automatic zone registration using the central controller (TCB-SC642TLE2)
Refer to page 126

For methods (a) and (b), you should make a zone registration table manually before performing the registration as shown on page 125.

For method (c), zone registration is executed automatically, proceeding from small indoor unit address and small central addresses to larger numbers in numerical order. For example:

For methods (b) and (c)

These methods are not supported by the RAV models.

For RAV models, initiate the zone registration described in (a).

Wait at least 10 minutes after the power has been turned on before starting to set the addresses.

It may take up to 10 minutes to establish initial communication between the indoor and outdoor units. If the addresses are set before this communication is completed, the central address may fail to be set in some of the indoor units.

Central address	1	2	3	4	5	6	
ZONE-group	1-1	1-2	1-3	1-4	1-5	1-6	
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1	

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines an Line address and indoor unit number as follows:

1 - 1 : Indoor unit address (UNIT No.)
↑ Indoor unit No.
↑ Refrigerant circuit No. (Line address)

This address (UNIT No.) is displayed on the remote controller when the UNIT button is pressed.

2. The central address represents the zone and group number. These addresses are assigned in ascending numerical order.
3. For details on how to set the addresses when the "1:1 model" connection interface is connected to the central control, refer to these instructions and to the installation instructions of the "1:1 model" connection interface.

■ ZONE registration table

ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location	ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location
1	1	1			3	1	33		
	2	2				2	34		
	3	3				3	35		
	4	4				4	36		
	5	5				5	37		
	6	6				6	38		
	7	7				7	39		
	8	8				8	40		
	9	9				9	41		
	10	10				10	42		
	11	11				11	43		
	12	12				12	44		
	13	13				13	45		
	14	14				14	46		
	15	15				15	47		
	16	16				16	48		
2	1	17			4	1	49		
	2	18				2	50		
	3	19				3	51		
	4	20				4	52		
	5	21				5	53		
	6	22				6	54		
	7	23				7	55		
	8	24				8	56		
	9	25				9	57		
	10	26				10	58		
	11	27				11	59		
	12	28				12	60		
	13	29				13	61		
	14	30				14	62		
	15	31				15	63		
	16	32				16	64		

NOTE

1. Assign indoor unit addresses to the desired positions (central addresses) manually.
2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

(a) Zone registration using the remote controller (RBC-AMT21E, RBC-AMT31E)

(Determination of central address)

This method is not supported by the RAV models. For RAV models, initiate the zone registration described in (a).

In this case, after confirming which indoor unit is connected to the remote controller ensure that the air conditioner is in the OFF state. You can then set the central addresses one at a time.

If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

- (1) Press the  and  buttons at the same time on the remote controller for a period of more than 4 seconds.
- (2) Do not press the  button.
- (3) Once in this mode, the UNIT No., Item CODE No., No. of SET DATA and **SETTING** indications will flash on the display as shown Fig. 13.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the  button once.

- (4) Set Item CODE No. to 03 using the   () buttons.

NOTE

The Item CODE No. 03 must be selected to perform zone registration using the remote controller.

- (5) Set the Central address which you want to assign to the indoor unit address using the   () buttons according to the zone registration table.
- (6) Press the  button. The Item CODE No. and Central address changes from flashing to ON state. If you make a mistake, then press the  button and reset the central address.
- (7) Press the  button to finish zone registration.

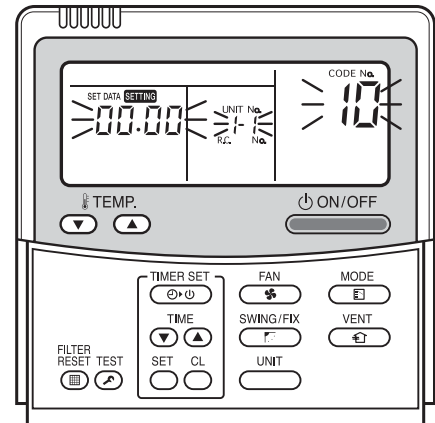
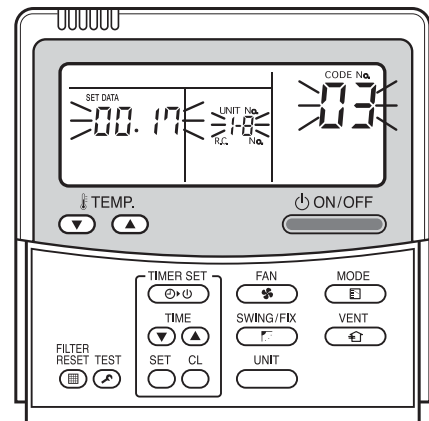


Fig. 13



For example, in this case
Indoor unit address: 1-8
Central address: 17 (ZONE 2, GROUP 1)

Fig. 14

(b) Zone registration using the central controller (TCB-SC642TLE2)

This method is not supported by the RAV models.

For RAV models, initiate the zone registration described in (a).

In this case, you can manually set all the Central addresses by the central controller at once.

- (1) Press the  and **ZONE** buttons at the same time for a period of more than 4 seconds.
SETTING and Item CODE No. C1 will flash.
- (2) After confirming that Item CODE No. C1 is displayed, press the **SET** button. Once in this mode, a change takes place as shown in Fig. 15.
- (3) Select the zone and group No. which you want to set with the **ZONE** and   (**GROUP**) buttons. If already set, press the **CL** buttons.
- (4) Set the unit No. (Indoor unit address) with the  and  buttons, according to the zone registration table.

R.C. No.  button

Indoor unit No.....  button

- (5) Press the **SET** button.
GROUP No. turns ON and UNIT No. (Indoor unit address) changes from flashing to ON state. UNIT No. is registered to the selected ZONE No. and GROUP No.
If you make a mistake, then press the **CL** button and reselect the ZONE, GROUP and UNIT No.
- (6) Register the other UNIT No.s in the same way by following the steps (3) to (5).
- (7) Finally, complete the registration by pressing the  button.
SETTING will flash for a few minutes and then turn OFF.

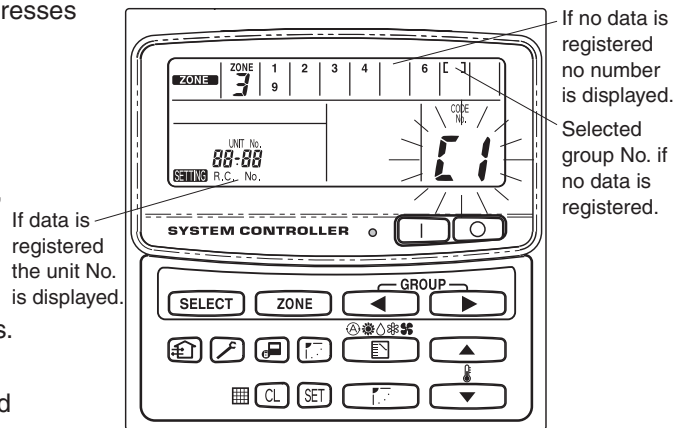
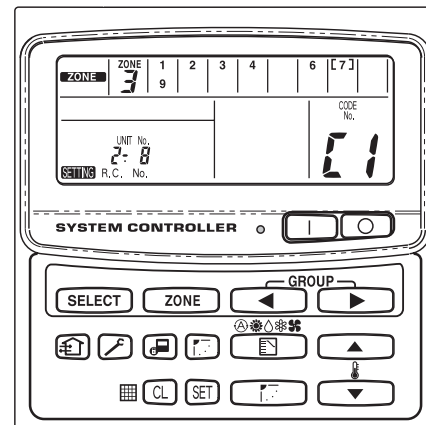


Fig. 15



For example, in the case at left

Zone 3, group No. 7

Unit No. (indoor unit address) Line Address : 2

Indoor Unit Address : 8

Unit No. 2-8 is registered to zone 3-group 7.

Fig. 16

(c) Automatic zone registration using the central controller (TCB-SC642TLE2)

- (1) Press the  and  buttons at the same time for more than 4 seconds.
 and Item CODE No. C1 will flash.
- (2) Select Item CODE. No. C2 by pressing the  and  () buttons and then press the  button.
C2 changes from flashing to an ON state and the automatic zone registration will start.
- (3) Registered GROUP No. will be removed for all units within the group.
- (4) Central address will be assigned from the small indoor unit address to a singular group one in numerical order automatically.
Finishing automatic zone registration,  changes from flashing to OFF.
- (5) If an error has occurred, the “CHECK” starts flashing and the zone registration will finish at this time. Press the  button.
- (6) Finally, complete the automatic zone registration mode by pressing the  button.
 symbol will flash for a few minutes and will then turn OFF.

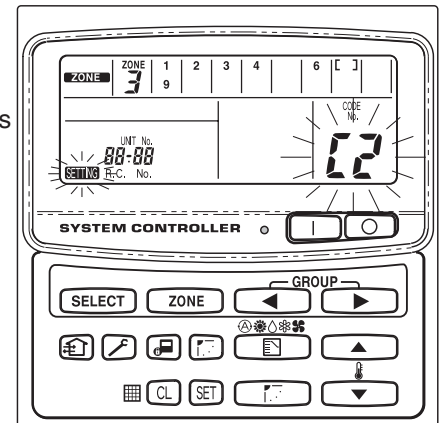


Fig. 17

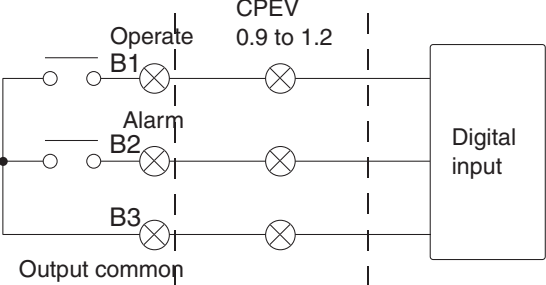
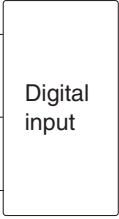
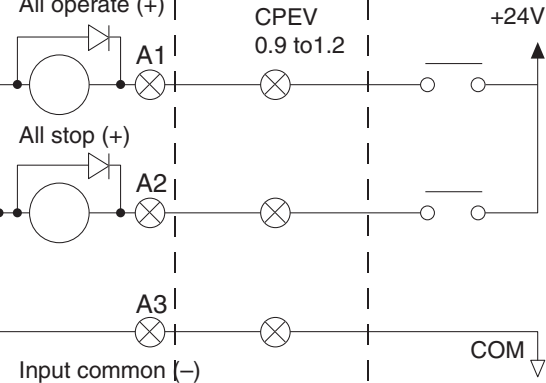
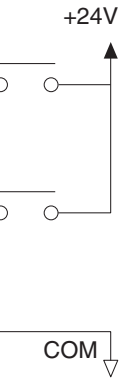
7. Checking from the central controller for duplication of the central address

Central address duplication error check: C3

* This cannot be used with RAV air conditioners. For further details, refer to the instructions of the TCC-LINK adapter.

- (1) Hold down the  and  buttons together for at least four seconds. (Item CODE No. C1 starts flashing.)
- (2) Press the  or  () button to select CODE No. C3.
- (3) When the  button is now pressed, Item CODE No. C3 lights and the  symbol flashes. The central address duplicated error check now starts.
- (4) The addresses of all the indoor units is checked in sequence starting with outdoor unit system 1. The check is completed when Item CODE No. C3 flashes and the  symbol goes off.
- (5) If any duplication is discovered among the central addresses, the GROUP No. will flash.
Press the  or  () button to select Item CODE No. C1, and press the  button.
The central address is cleared by selecting the area where the GROUP No. is flashing and then by pressing the  button, set the correct central address using the wired remote controller or the central controller.
- (6) Press the  button to complete the procedure.
 flashes for several minutes, the initial setting is automatically established and the procedure is completed.

8. Connections with external equipment

Designation	Input/output item	Central controller side		Equipment side (Procure locally as per system design)		
		Input/output conditions	Terminal name	Demarcation terminals	Circuitry example	Input/output conditions
Digital input/output terminals	Status output	Operate output Alarm output “A” (normally open) contact without voltage Static (relay output) Allowable contact voltage, current: DC 30 V, 0.5 A	 Operate B1 Alarm B2 B3 Output common	CPEV 0.9 to 1.2	 Digital input	Wiring length: Max. 100 meters
	Control input	All operation inputs All stop inputs “A” (normally open) contact with voltage Pulse (photocoupler input) Allowable contact voltage, current: DC 24 V, 10 mA	 All operate (+) A1 All stop (+) A2 A3 Input common (-) +24V COM	CPEV 0.9 to 1.2	 +24V COM	Pulse width: 300 ms or more Wiring length: Less than 100 meters

9. Memory back up switch

Check the back up switch on the back side of the central remote controller P.C. board is ON.

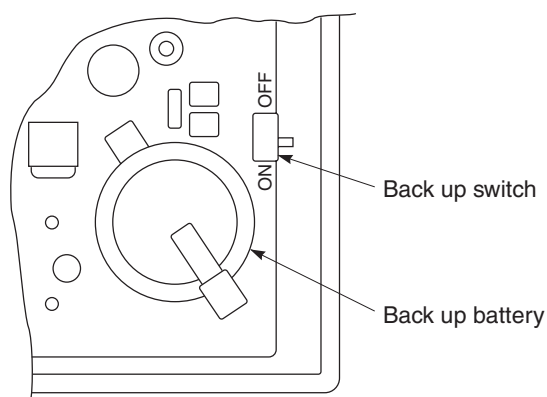


Fig. 18

10. Test run of the central controller

- (1) Power on all indoor units. Next, power on the central controller.

SETTING will flash and will check the indoor unit address automatically.

- (2) If the group No. displayed on the central controller is not same as the indoor unit No.* which is connected, see Fig. 7 and set again.

*In case of group control, main unit No. only.

11. How to perform an air conditioner test run

- (1) Hold down the  button of the central controller for at least four seconds.

During the test run, "TEST" appears on the LCD display.

- (2) Press the  and  buttons.

The temperature cannot be adjusted at the "TEST" position.

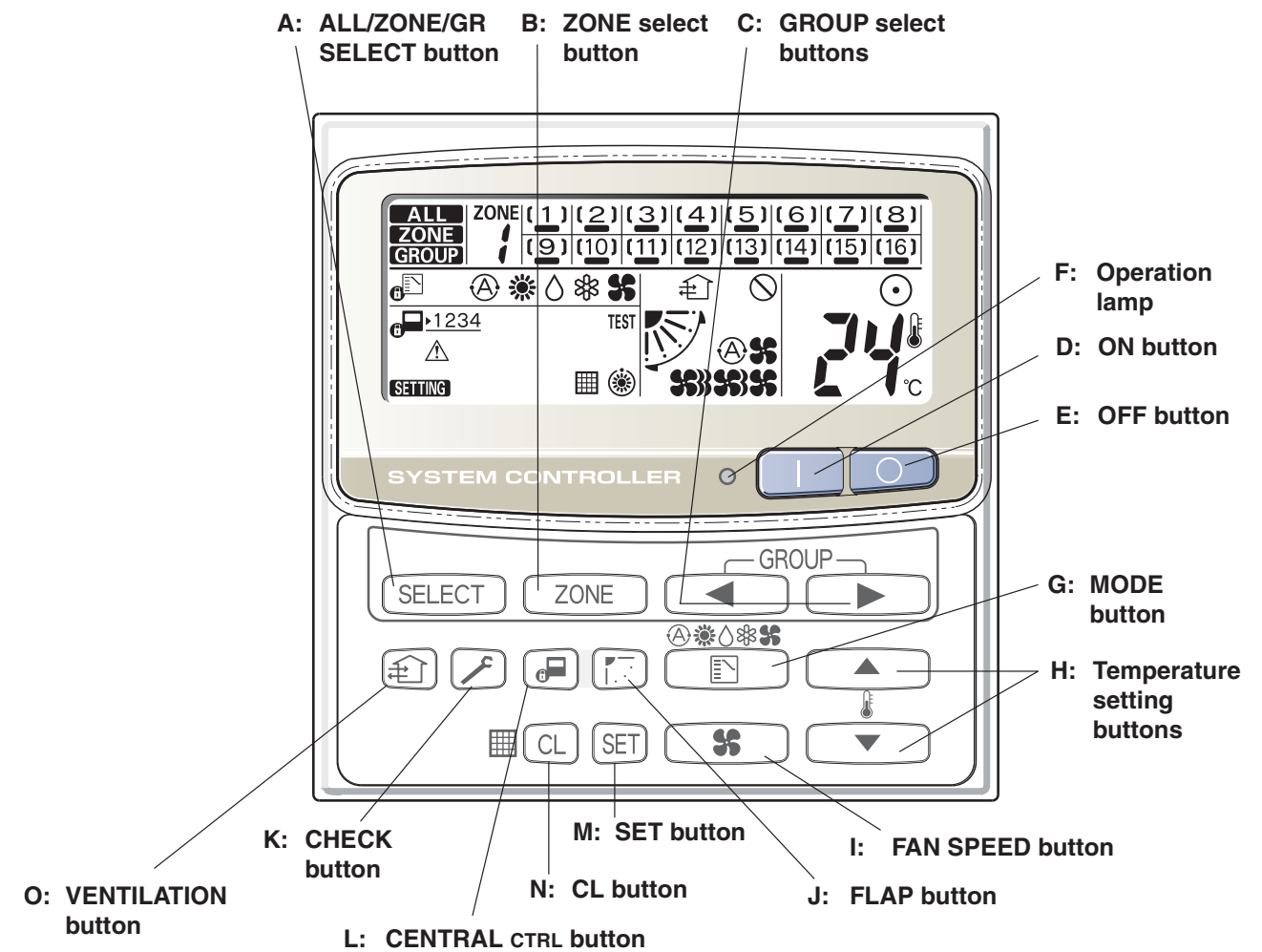
Do not use this procedure except when performing a test run since it will strain the equipment.

- (3) Upon completion of the operation, press the  button, and check that "TEST" on the LCD display has gone off.

4-2-3 Operation procedure

How to Use the Central Controller

■ Functions of buttons



A: ALL/ZONE/GR SELECT button ALL ZONE1 ZONE2 GR1 UNIT GR1 UNIT GR2 UNIT GR2 UNIT GR3 UNIT GR3 UNIT NOTE	Use this button to select one of the following: ALL: Used for turning all the air conditioners on and off. ZONE: Used for turning all the air conditioners of each zone on and off. GROUP: Used for turning all the air conditioners of each group on and off. A maximum of four zones and 16 groups (units) in a zone can be set.
B: ZONE select button ZONE	Use this button to select a zone (1 to 4) to operate individually.
C: GROUP select buttons ◀ ▶	Use these buttons to select a group (1 to 16) to operate individually.

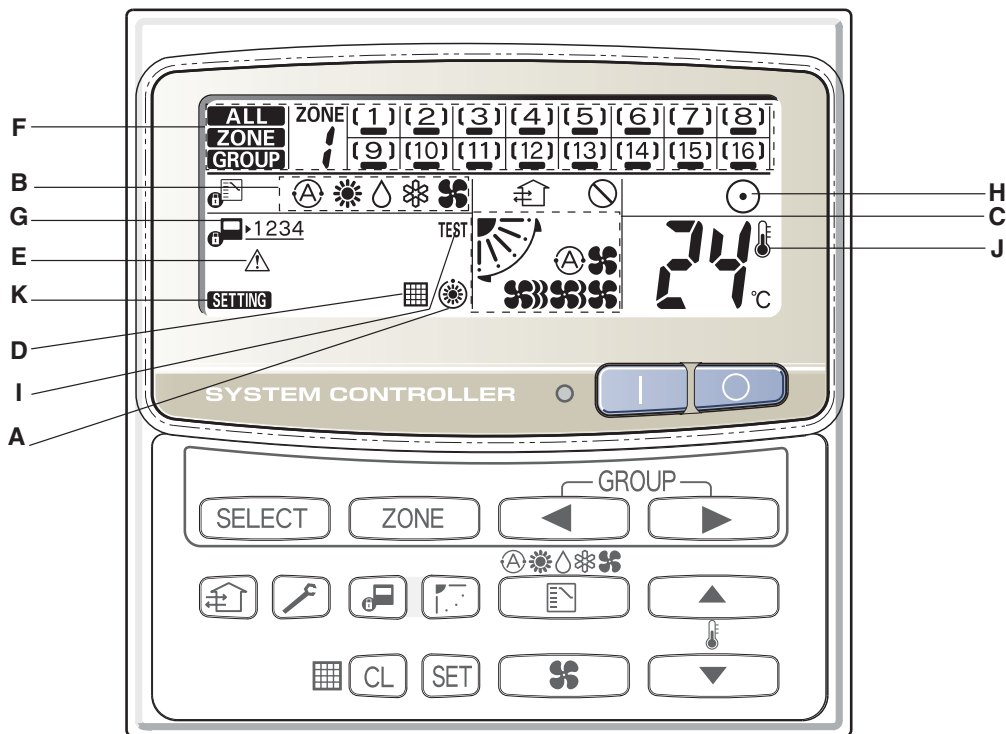
■ Functions of buttons (Continued)

D: ON button		This button is for turning the selected air conditioner on.												
E: OFF button		This button is for turning the selected air conditioner off.												
F: Operation lamp		This lamp lights when the unit is turned on.												
G: MODE button	 (AUTO) (HEAT) (DRY) (COOL) (FAN) NOTE	Use this button to select one of the following five operations: Ⓐ : Used to automatically set cooling or heating operation. Some models are not provided with a mode for automatically setting the cooling or heating operation. (temperature range: 18 to 29 °C) ☀ : Used for normal heating operation. For heat pump type, heat recovery type (temperature range: 18 to 29 °C) ⬇ : Used for dehumidifying without changing the room temperature. (temperature range: 18 to 29 °C) ☼ : Used for normal cooling operation. (temperature range: 18 to 29 °C) ⚙ : Used to run the fan only, without heating or cooling operation. When the  indication is displayed, you cannot change the mode from ☼ and ⬇ or ☀ to ☀ or ☼ and ⬇ . To change the mode, turn off all units once then select the mode again.												
H: Temperature setting buttons	 	 : Press this button to increase the temperature setting.  : Press this button to decrease the temperature setting.												
I: FAN SPEED button	 (AUTO) (HI.) (MED.) (LO.)	Ⓐ⚙: The air conditioner automatically decides the fan speed. ⚙⚙ : High fan speed. ⚙ : Medium fan speed. ⚙ : Low fan speed.												
J: FLAP button	  CAUTION NOTE  NOTE	1. Use this button to set the airflow direction to a specific angle. The airflow direction is displayed on the remote control unit. <table><tr><th>Operation mode</th><th>Number of airflow direction settings</th></tr><tr><td>☼ (COOL) or ⬇ (DRY)</td><td>3</td></tr><tr><td>☀ (HEAT) or ⚙ (FAN)</td><td>5</td></tr><tr><td>Ⓐ (AUTO)</td><td></td></tr><tr><td>Cooling mode:</td><td>3</td></tr><tr><td>Heating mode:</td><td>5</td></tr></table> In the cool mode and dry mode, when the flaps are set in a downward position, condensation may form and drip around the vent. Do not move the flap with your hands. This function is available only for 4-Way air discharge cassette type and Under ceiling type. 2. Use this button to make the airflow direction sweep up and down automatically. Press this button several times until the () symbol appears on the display. 1) The flap setting can be performed only for units that have no remote controllers. 2) In the ALL or ZONE modes, no flap settings can be performed. If necessary, you should select the GR mode and use the FLAP button.	Operation mode	Number of airflow direction settings	☼ (COOL) or ⬇ (DRY)	3	☀ (HEAT) or ⚙ (FAN)	5	Ⓐ (AUTO)		Cooling mode:	3	Heating mode:	5
Operation mode	Number of airflow direction settings													
☼ (COOL) or ⬇ (DRY)	3													
☀ (HEAT) or ⚙ (FAN)	5													
Ⓐ (AUTO)														
Cooling mode:	3													
Heating mode:	5													

■ Functions of buttons (Continued)

K: CHECK button   CAUTION	This button is used only when servicing the air conditioner. Do not use the CHECK button for normal operation.
L: CENTRAL CTRL button 	Use this button to inhibit the individual operation by a remote controller as follows:  1 2 3 4 1: Individual ON/OFF operation is inhibited. 2: Individual ON/OFF, MODE and Temperature setting operation is inhibited. 3: Individual MODE and Temperature setting operation is inhibited. 4: Individual MODE operation is inhibited. No indication: Central control is cleared. (Individual operation)
M: SET button  NOTE	This button is used for setting the indoor unit's address when installing the air conditioner. Do not use the SET button for normal operation.
N: CL button 	Use this button to reset the filter sign . The air conditioner has a timer for the filter change and informs you when the filter needs cleaning.
O: VENTILATION button 	Use this button when you installed a fan available in the market. Pressing this button turns the fan on and off. When turning off the air conditioner, the fan will also turn off. While the fan is operating,  will appear in the display. If  is displayed when pressing the ventilation button, no fans are installed.

■ Display

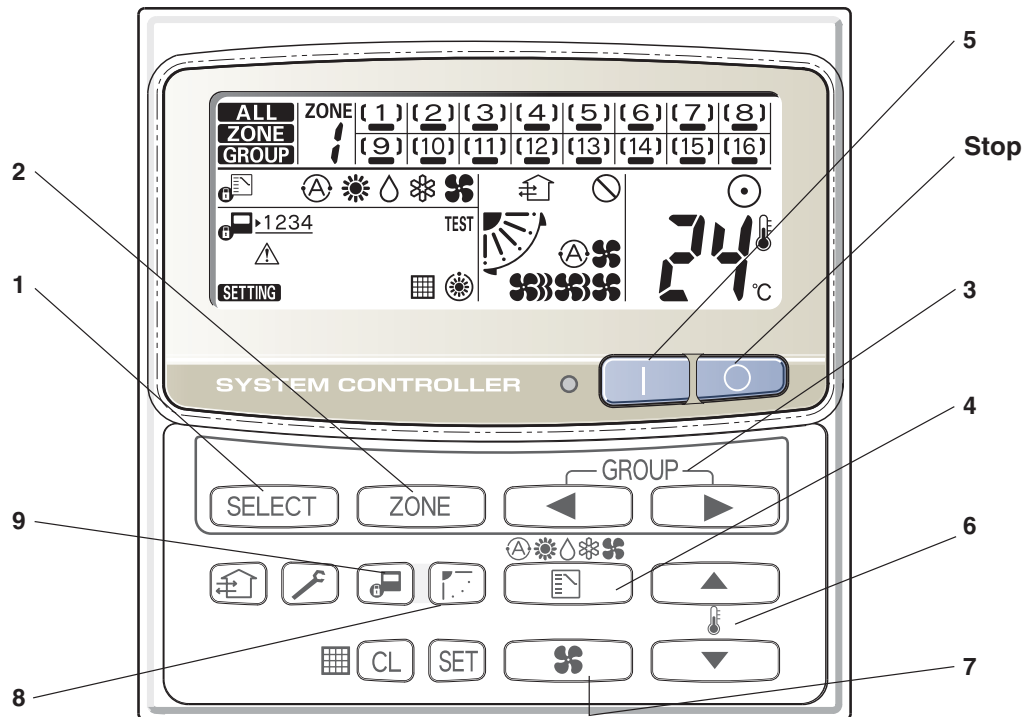


Description

- A:** When the unit is in the heating standby mode, the  indicator appears.
- B:** The currently selected operation mode is displayed.
- C:** The currently selected FAN SPEED, Airflow Direction and SWEEP settings are displayed.
- D:** This indication appears when the filter needs cleaning.
- E:** This indication appears only when an abnormality occurs within a unit.
- F:** The currently selected mode (ALL, ZONE or GROUP), ZONE number and GROUP number are displayed.
 -  GROUP number display (no figure: no number registered)
 -  GROUP state display ( : registered group,  : currently selected group)
 -  Operation state display (— : on, no sign: off,  : alarm)
- G:** The currently selected central control mode (1, 2, 3 or 4) is displayed.
- H:** Lights when any of the air conditioners under the central control is operating; turns off when none of the air conditioners under the central control are operating. Blinks when any conditioner is operating under abnormal conditions and its protection functionality is working.
- I:** This indication appears while a test run is underway.
- J:** This indication appears when the temperature is set.
- K:** When turning on the power switch of the central controller, **SETTING** sign blinks for a few minutes. While blinking, any controls using the central controller are stopped. This is because the central controller is verifying the connected groups.

■ How to start group operation

To start group operation

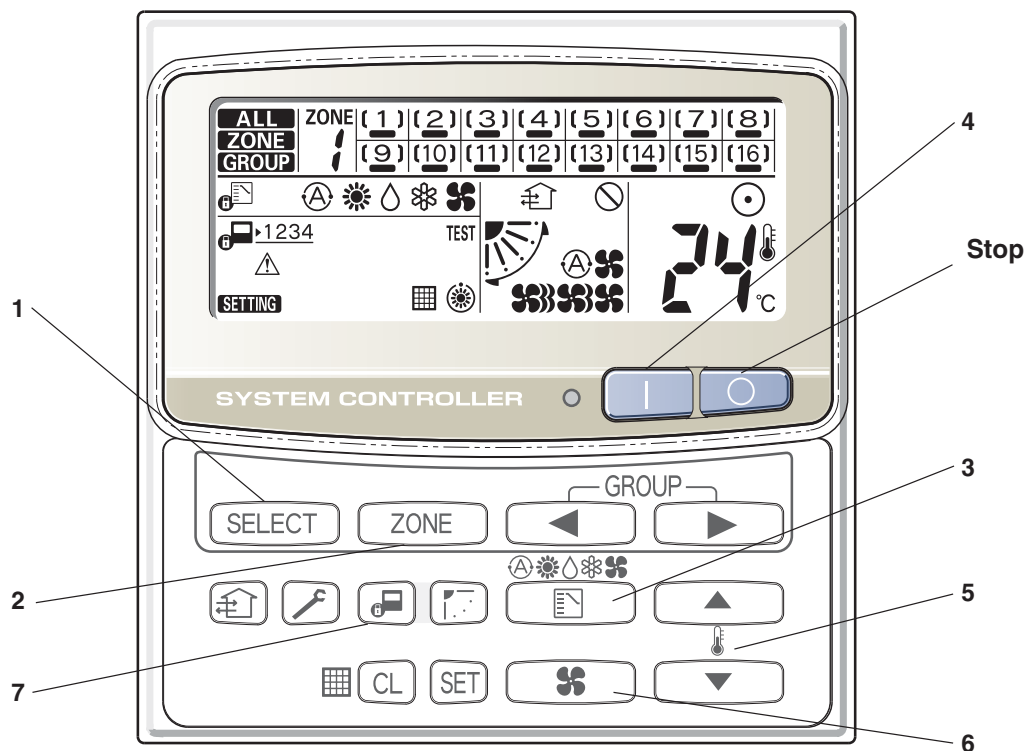


Power	Turn the power supply switch on more than 12 hours before starting operation.
1	Press the SELECT button and select GROUP.
2	Select the ZONE No. including the group to be operated by pressing ZONE button.
3	Select the GROUP No. to be operated by pressing GROUP select buttons ◀ ▶.
4	Set the operation mode by pressing the MODE button.
5	Press the ON button.
6	Set the desired temperature by pressing one of the temperature setting buttons ▲ ▼.
7	Set the desired fan speed by pressing the FAN SPEED button.
8	Set the airflow direction to a specific angle or sweep mode.
9	By pressing , select your desired setting. Individual: Controls with the remote controller are possible. Central 1: Individual ON/OFF operation with the remote controller is inhibited. Central 2: Individual ON/OFF, MODE, and Temp. setting operations with the remote controller are inhibited. Central 3: Individual MODE and Temp. setting operations with the remote controller are inhibited. Central 4: Individual MODE operation with the remote controller is inhibited. Under Central/Individual settings other than listed above, "CENTRAL" is displayed.
AUTO Operation	Depending on the difference between the temperature setting and the room temperature, heating and cooling alternate automatically so that a uniform room temperature is maintained. Some models are not provided with a mode for automatically setting the cooling or heating operation.
Stop	Confirming the GROUP No. to be selected, press the OFF button.

NOTE The flap setting can be performed only for units that have no remote controllers.

■ How to start collective operation

To start collective operation (ALL or ZONE)



Power	Turn the power supply switch on 12 hours or more before starting operation.
1 	Press the SELECT button and select ALL or ZONE. In case of ZONE collective operation.
2 	Select the ZONE No. to be operated by pressing ZONE button.
3 	Set the operation mode by pressing the MODE button.
4 	Press the ON button.
5 	Set the desired temperature by pressing one of the temperature setting buttons ▲ ▼.
6 	Set the desired fan speed by pressing the FAN SPEED button.
7 	Select the control mode.
Stop 	Confirming the ZONE No. to be selected or ALL indication, press the OFF button.

NOTE In the ALL or ZONE mode, no flap settings can be performed. If necessary, you should select the GR mode and use the FLAP button.

4-3 ON-OFF controller (TCB-CC163TLE2)

4-3-1 Outline

1. Feature

■ Connectable units

- Max.16 header or individual units can be connected and controlled in one ON-OFF controller.
- ON-OFF controller can be allocated to one of Zone 1, 2, 3 or 4.

■ Operation function

- Indoor unit Start / Stop (individual or ALL)
- Group inhibited / ALL indoor unit control permitted selection
- Weekly schedule (by connecting weekly timer : sold separately)
- External Input / Output (Fire alarm input, fault output etc.)

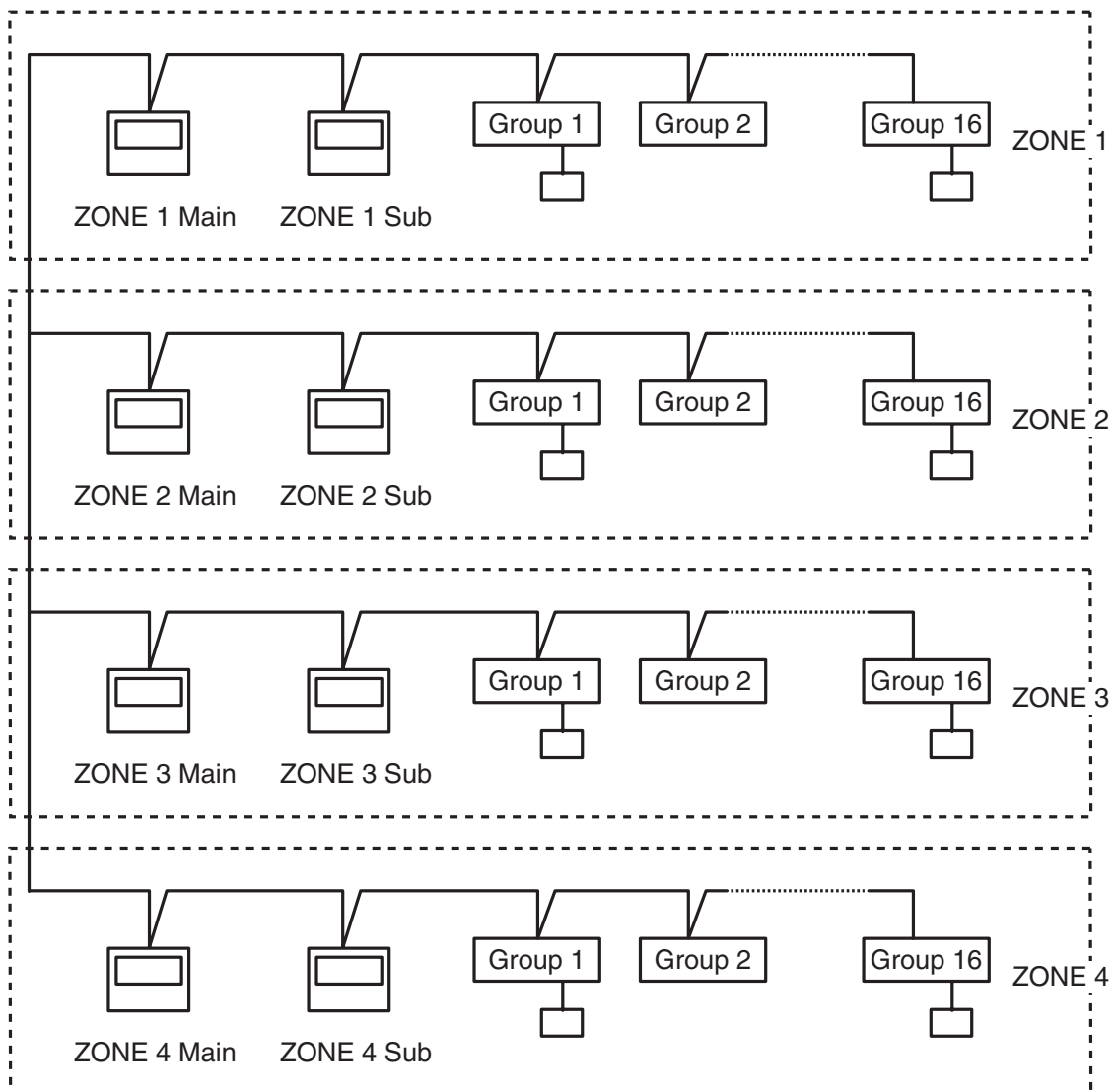
■ Maximum number of connected central controller

Up to 10 central control devices in one control wiring circuit. (including other central control devices.)

■ Timer

Weekly timer (RBC-EXW21E2), sold separately, can be applicable.

2. System configuration



* In case of "1:1 model" (Super digital inverter / digital inverter), follower indoor units in a group control and twin control must not be counted as "one unit". In the case of VRF system, follower indoor units in a group control must be counted as "one unit".

3. Function items of ON-OFF controller (TCB-CC163TLE2)

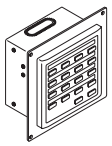
No	Items		Function	Remarks
1	Power Supply		50Hz/60Hz 220 - 240V	
2	Connectable indoor units		Max. 16 units or groups	
3	Max. selectable zone		Max. 1 zones	
4	Controllable indoor units per zone		Max.16 header or individual units	
5	Zone setting		Zone	Central Control Address
			1	1 to 16
			2	17 to 32
			3	33 to 48
			4	49 to 64
6	Monitoring	ON/OFF	Available	
		Fault indication	Available	
7	Setting	ON/OFF	Available	Individual or ALL
8	Weekly schedule		Available (by connecting weekly timer)	RBC-EXW21E2
9	Forced stop command (Fire alarm)		Available	Refer to Page XXX Fig X
10	External operation output		Available	Refer to Page XXX Fig X
11	Fault output		Available	
12	Connectable ON-OFF control devices		Up tp 2 devices (Master / Sub)	Max. 10 devices

4-3-2 Installation procedure

1. General

This booklet briefly outlines where and how to install the ON-OFF controller. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the controller before beginning.

NOTE Give these instructions to the customer after finishing the installation.

Part Name	Figure	Qty	Remarks
ON-OFF controller		1	
Tapping screw	Truss-head Phillips 4 × 16 mm 	4	For securing the ON-OFF controller
Rawl plug		4	For securing the ON-OFF controller
Manual		1	For installation
		1	For operation
Switch name Label		1	

2. Installation site selection

- Install the ON-OFF controller at a height of between 1 and 1.5 meters above the floor.
- Do not install the ON-OFF controller in a place where it will be exposed to direct sunlight or a place where it will be exposed to the outside air.
- Be sure to install the ON-OFF controller vertically, such as on a wall.

3. How to install the ON-OFF controller



CAUTION

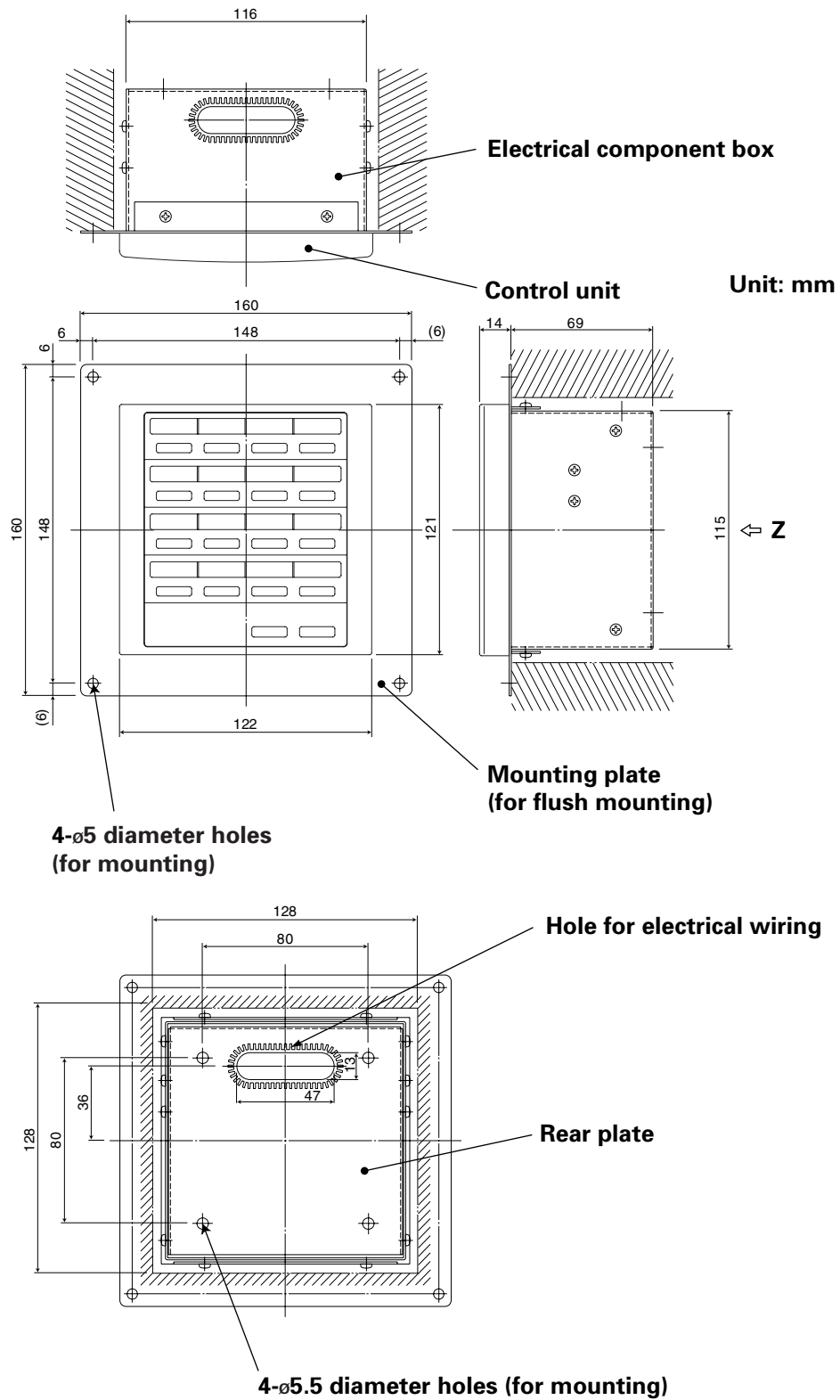
- Do not twist the control wiring together with the power wiring or run it through the same metal conduit, as this may cause a malfunction.
- Install the ON-OFF controller away from sources of electrical noise.
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.



WARNING

Do not supply power to the unit or try to operate it until the piping and wiring to the outdoor unit is completed.

■ Overview of the ON-OFF controller

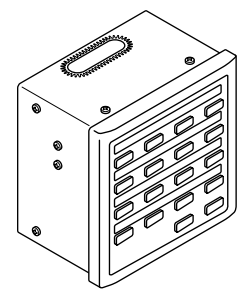


Z-view (back side)

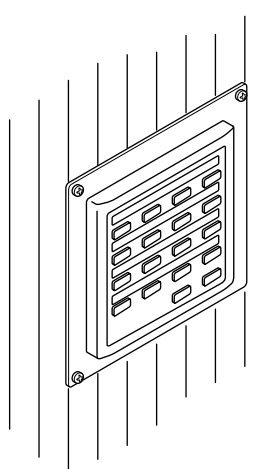
Fig. 1

* In order to mount the ON-OFF controller flush with the wall, an opening measuring 128 mm × 128 mm is necessary.

■ Installation procedure



a): Normal mounting



b): Flush mounting

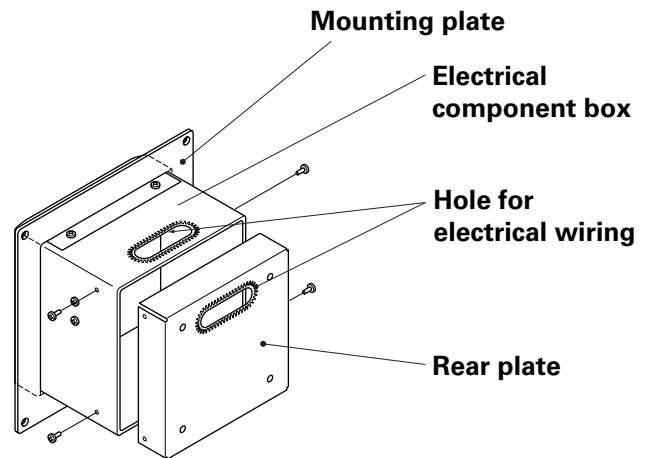
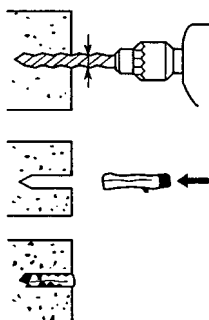


Fig. 2

1. Decide how the ON-OFF controller will be mounted: in the normal method or flush with the wall.
 - a) To mount the ON-OFF controller in the normal method, remove the mounting plate. Then reattach the four screws to the electrical component box.
 - b) To mount the ON-OFF controller flush with the wall, make an opening in the wall measuring 128 mm × 128 mm. The opening must be at least 85 mm deep measured from the outside surface of the wall.
2. Remove the rear plate and connect the electrical wiring.
 - 1) Remove the four screws located on both sides of the rear plate.
 - 2) Either the hole in the top of the electrical component box or the hole in the rear plate may be used to feed the electrical wiring through.
 - 3) If the hole on top is used, the rear plate should be turned upside down.
3. Secure the ON-OFF controller in place.
 - a) If the ON-OFF controller is being mounted in the normal method, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the ON-OFF controller over the rear plate and secure it in place using four screws.
 - b) If the ON-OFF controller is being mounted flush with the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.



NOTE

To mount the ON-OFF controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes in the wall and insert Rawl plugs to anchor the mounting screws.

■ Layout of electrical terminals

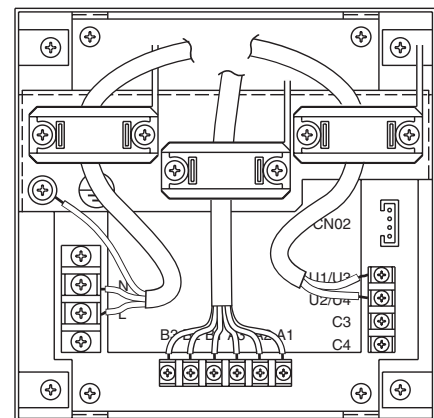
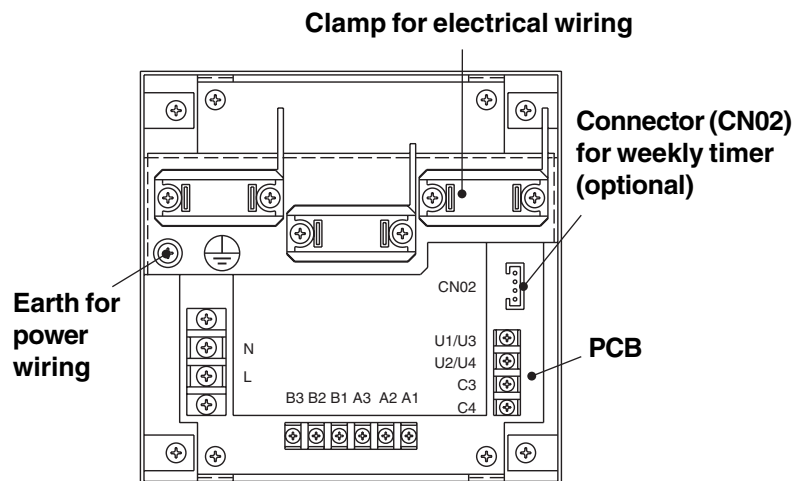
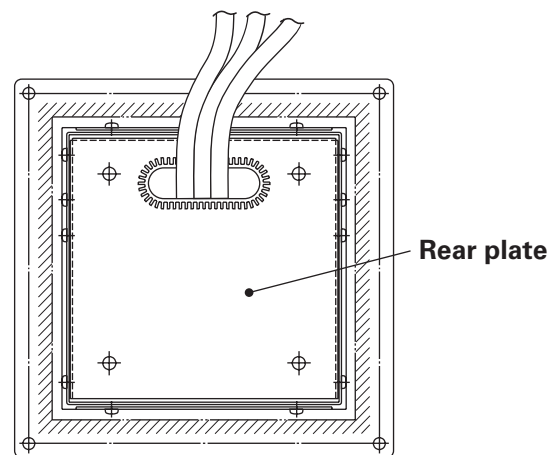
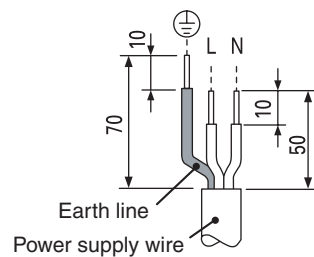


Fig. 3

How to connect electrical wiring

1) Basic wiring

- N: Power supply (~ 50 Hz/60 Hz, 220 – 240 V)
- L:
- Power supply wire specification: Cable 3-core, in conformance with Design 60245 IEC 57.
 - Fix the wires with cord clamp.



- U1/U3: Central control wiring. (Low voltage)
- U2/U4:
- C3: Auxiliary
- C4: Ground for Central control wiring

2) Terminals for remote monitoring

- A1: Input for turning on air conditioners concurrently.
- A2: Input for turning off air conditioners concurrently.
- A3: Common input for turning air conditioners on or off.
- B1: On operation state indicator output.
- B2: Alarm indicator output.
- B3: Common indicator output.

Wire connection

- Power supply wire specification: Cable 3-core 1 mm², in conformance with Design 60245 IEC 57.

■ How to wire



CAUTION

Ensure that wiring connections are correct. (Incorrect wiring will damage the equipment.)

How to wire the ON-OFF controller

In order to ensure safety, turn off the air conditioner power before mounting or removing the ON-OFF controller.

- 1) Connect the communication wires to the indoor/outdoor unit connecting wires or central control wiring.
- 2) Use the following as the control wiring.
Total wire length of less than 1000 meters: Shield wire 1.25mm²
Total wire length of less than 2000 meters: Shield wire 2.0mm²
The total wire length is obtained by adding the lengths of the indoor/outdoor unit control wiring to the lengths of the central control wiring.
- 3) Do not run the control wiring inside the same electrical wire conduits as the power cables.
- 4) For the communication wires, use control wires that visually identify them as being different from either the remote controller wires or the power cables.
- 5) Connect the power cable of the ON-OFF controller to the AC220–240V power source. (Incorrect wiring will damage the equipment.)
- 6) Connect the wires in such a way that none of the wires will be connected incorrectly. (Incorrect wiring will damage the equipment.)

Basic wiring diagram

Connect the control wiring of the air conditioners shown which is the wiring method when central control is used.

- The maximum number of air conditioners which can be connected in one central control system is 64 indoor units and 16 outdoor units (Header units). (With VRF system)
- The ON-OFF controller can connect two units (main and sub) to each zone.

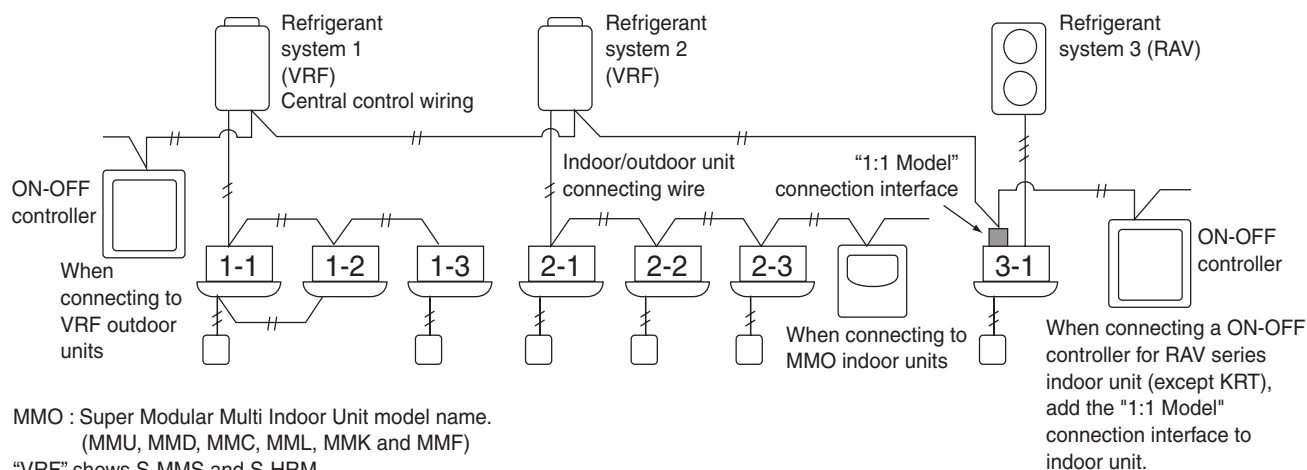


Fig. 4

NOTE

- When connecting to VRF outdoor units, make the connection to the central control wiring (U3 and U4 terminals).
- When connecting to MMO indoor units, make the connection to the indoor/outdoor unit connecting wire (U1 and U2 terminals).
- When connecting to a RAV air conditioner, make the connection to the U3 and U4 terminals.
- The “1:1 Model” connection interface is required for the RAV air conditioner. (except KRT series.)
- A general-purpose unit control interface is required with some air conditioner models.

Wiring connection procedure

As shown in the figure below, connect the terminal block (U1/U3, U2/U4) of the ON-OFF controller with the terminals (U3, U4) to the outdoor unit (Header unit).

- It is also possible to connect to the indoor/outdoor unit connecting wire terminals (U1, U2) on the indoor or outdoor unit (no matter which refrigerant system is used).
- Since the terminals do not have polarities, U1/U2 or U3/U4 can be reversed.

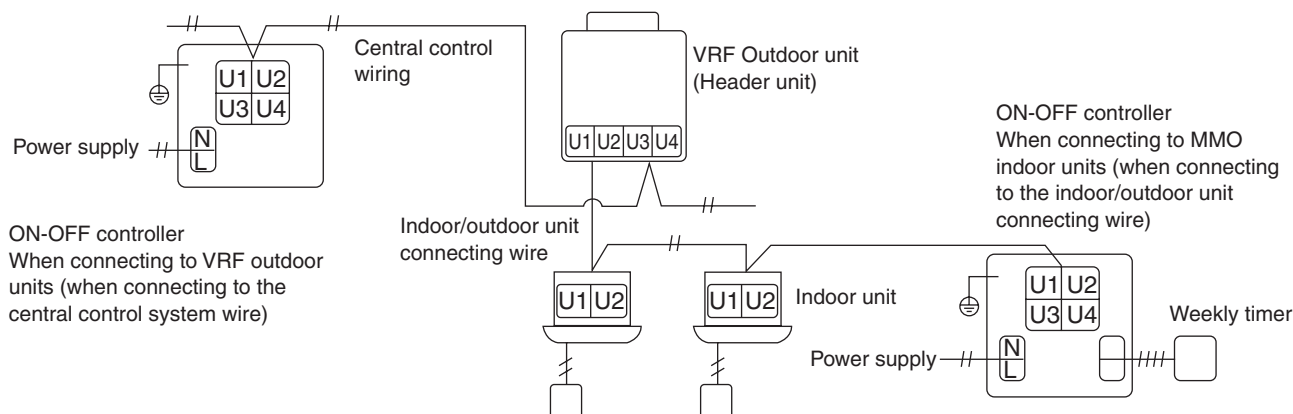


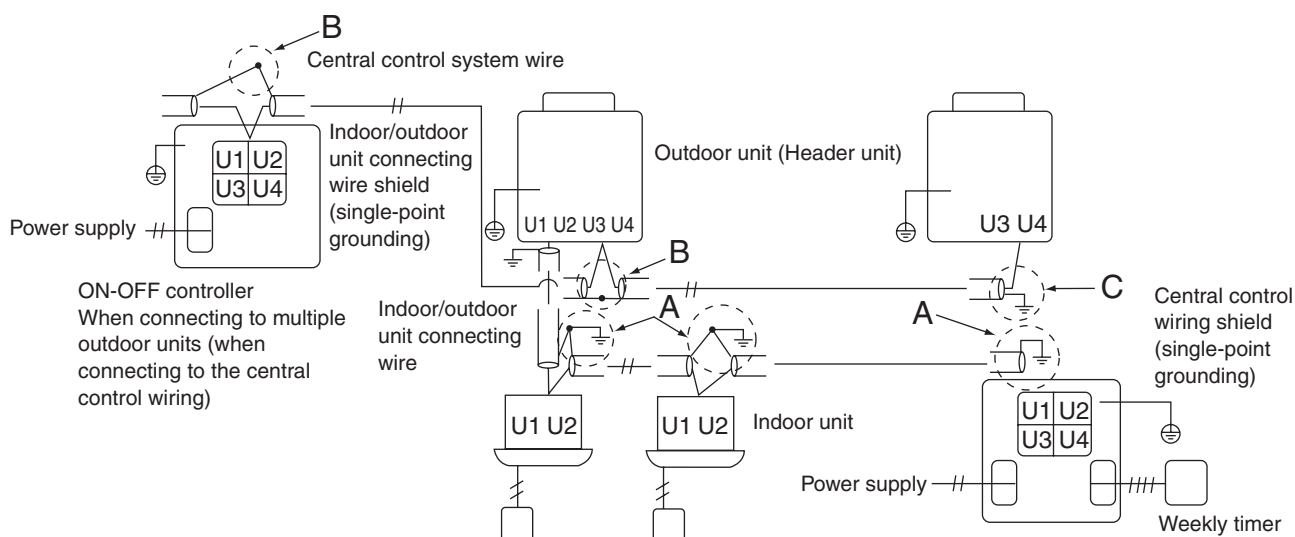
Fig. 5

NOTE

The fuse will blow to protect the equipment if an AC voltage of 220–240V is applied by mistake to U1/U3 or U2/U4. If this should happen, first re-connect the terminals correctly, and then connect the communication wire to the U1/U3 and spare terminals. Check the fuse on the indoor/outdoor control board as this fuse may have blown as well.

Grounding the shielded wires

- Terminate the connection of the shielded wires for all the central control wires, and provide single-point grounding.
- Even when connecting the centrally controlled unit to the indoor/outdoor unit connecting wires, terminate the connection of the shielded wires, and provide single-point grounding for all the indoor/outdoor unit connecting wires.
- Leave the final termination open and insulate.



Area A: Ground both ends of the shielded cable used for the indoor/outdoor unit connection.

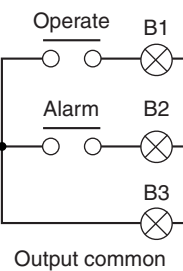
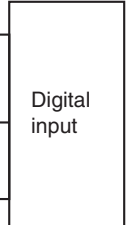
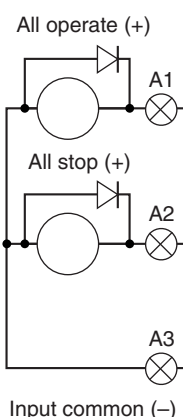
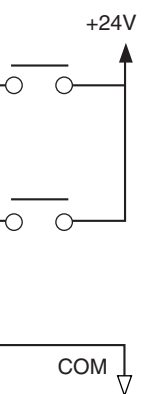
Area B: Connect a shielded cable for the central control system wiring.

Area C: Ground only one end of the central control system wiring at its final termination. (Leave the other end of the wire at its final termination as an open wire and insulate.)

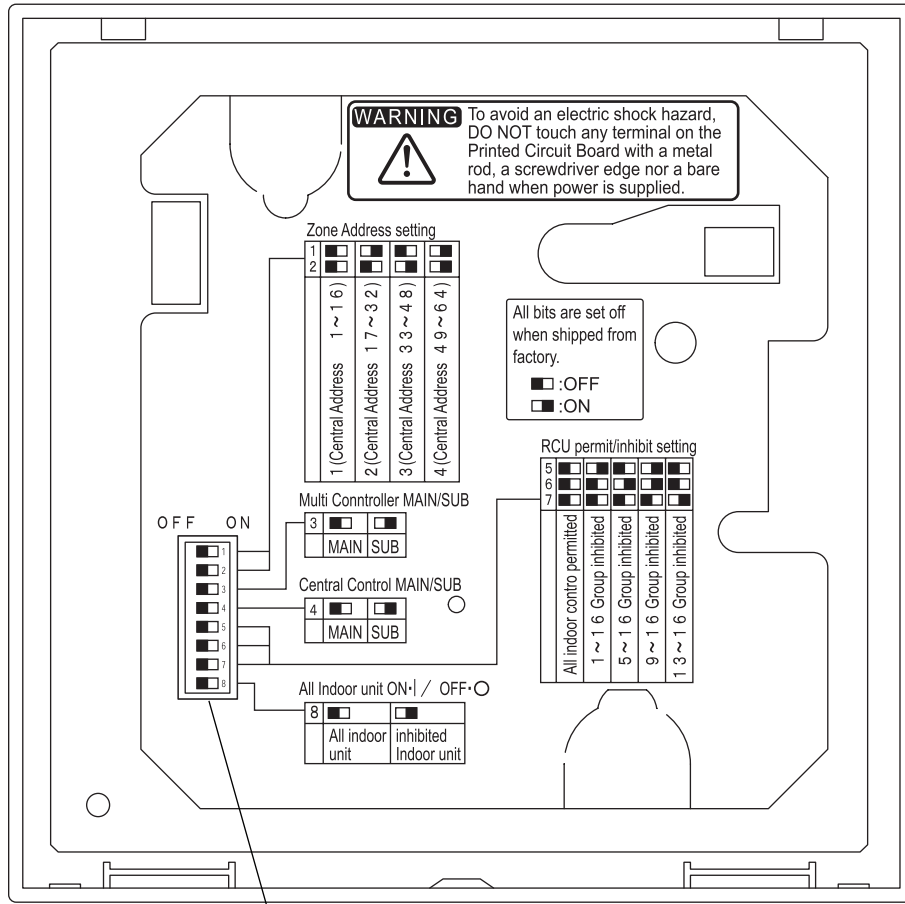
ON-OFF controller
When connecting to multiple indoor units (when connecting to the indoor/outdoor unit connecting wire)

Fig. 6

■ Connections with external equipment

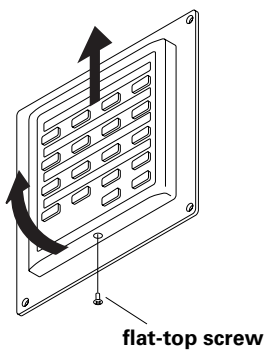
Designation	Input/output item	ON-OFF controller side		Equipment side		
		Input/output conditions	Terminal name	Demarcation terminals	Circuitry example	Input/output conditions
Digital input/output terminals	Output status	Operate output Alarm output "A" (normally open) contact without voltage Static (relay output) Allowable contact voltage, current: DC 30 V, 0.5 A		CPEV 0.9 to 1.2 φ		Wiring length: Max. 100 meters
	Control input	All operate input All stop input "A" (normally open) contact with voltage Pulse (photocoupler input) Allowable contact voltage, current: DC 24 V, 10 mA		CPEV 0.9 to 1.2 φ		Pulse width: 300 ms or more Wiring length: Max. 100 meters

4. Dip switch setting



P.C. board of the control unit

Dip switch



How to locate the P.C board

Remove the flat-top screw on the bottom of the back case.

Raise the bottom of the control unit and remove the unit by sliding it upwards.

The P.C. board on the back of the control unit is now visible.

NOTE

Do not force the bottom of the control unit open. Doing so may damage the notch at the top and make it impossible to install the control unit.

DIPSW1

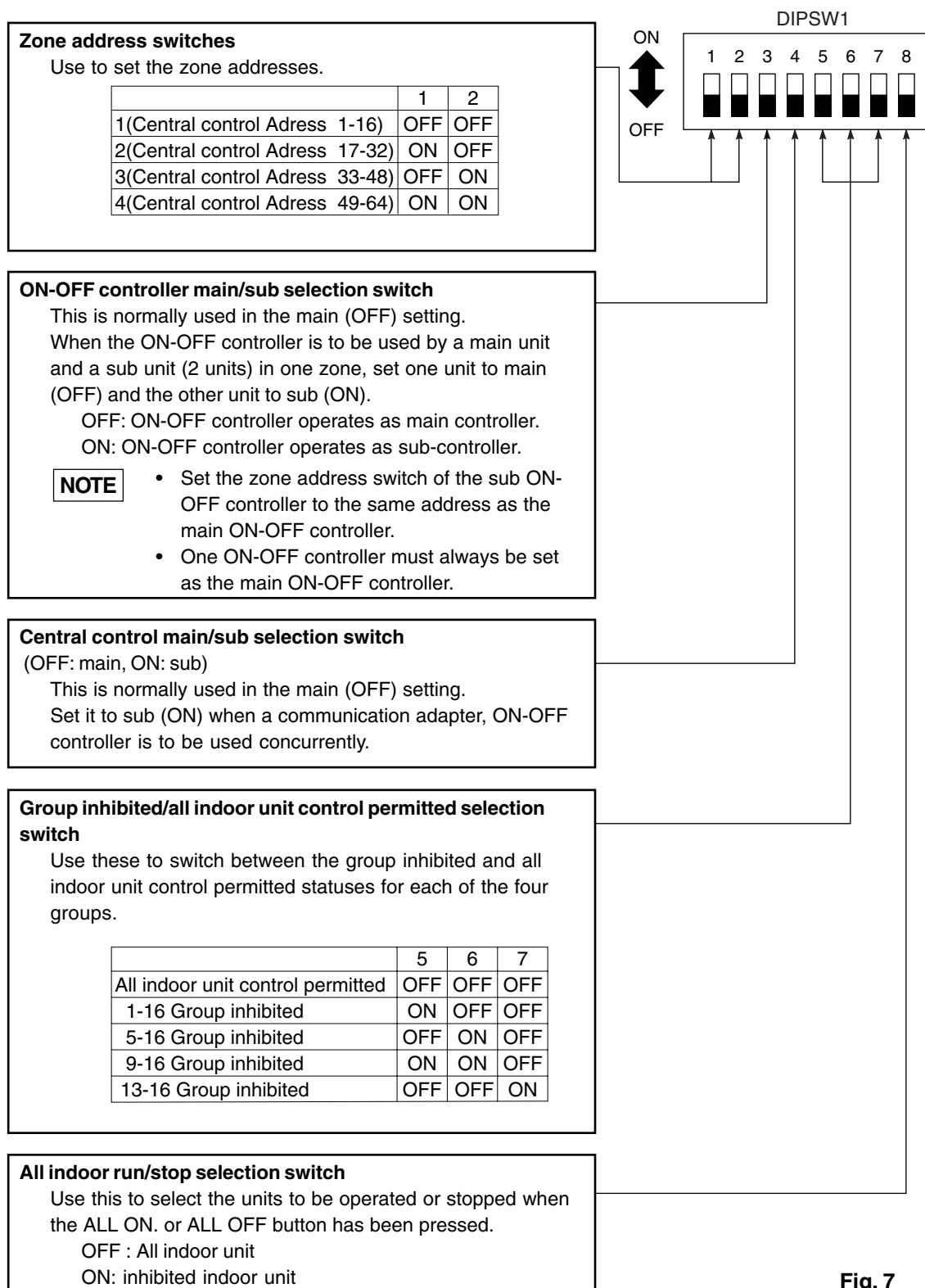


Fig. 7

*All switches are in the OFF position at shipment.

5. Zone address setting

The zone addresses must be set (using #1 and #2 of DIPSW1) when the ON-OFF controllers are to be controlled in a multiple number of zones.

- Set to zone 1 when the ON-OFF controller is to be used in one zone only.
- When the ON-OFF controllers are to be used in a multiple number of zones, one of them must be set to zone 1 without fail.

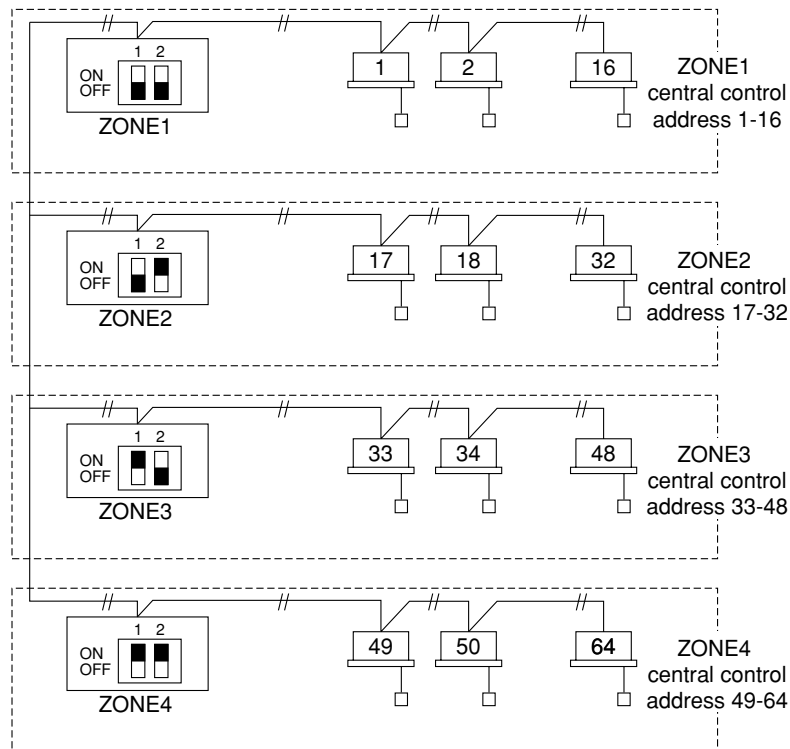


Fig. 8

6. How to perform zone registration

To operate the ON-OFF controller correctly, zone registration is necessary after finishing the test run (and after setting all indoor unit addresses) using one of the following methods.

(a) Zone registration using the remote controller (RBC-AMT31E)
Refer to page 152

(b) Zone registration using the ON-OFF controller (TCB-SC642TLE2)
Refer to page 153

(c) Automatic zone registration using the ON-OFF controller (TCB-SC642TLE2)
Refer to page 154

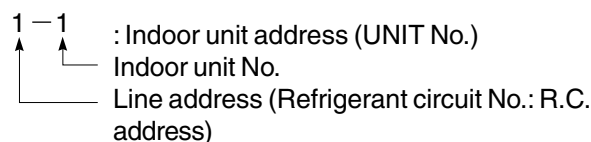
For methods (a) and (b), you should make a zone registration table manually before performing the registration as shown on page 152.

For method (c), zone registration is executed automatically, proceeding from low indoor unit address and low central addresses to higher numbers in numerical order. For example:

Central control address	1	2	3	4	5	6	
ZONE-group	1-1	1-2	1-3	1-4	1-5	1-6	
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1	

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines a Refrigerant circuit address and indoor unit number as follows:



This address is displayed on the remote controller under UNIT No. when the UNIT button is pressed.

2. The central address represents the zone and group number. These addresses are assigned in ascending numerical order.
3. For details on how to set the addresses when the “1:1 model” connection interface (TCB-PCNT30TLE2) is connected for central control, refer to these instructions and to the installation instructions of the “1:1 model” connection interface.

■ ZONE registration table

ZONE	GROUP	Central control address	Indoor unit address (UNIT No.)	Unit location	ZONE	GROUP	Central control address	Indoor unit address (UNIT No.)	Unit location
1	1	1			3	1	33		
	2	2				2	34		
	3	3				3	35		
	4	4				4	36		
	5	5				5	37		
	6	6				6	38		
	7	7				7	39		
	8	8				8	40		
	9	9				9	41		
	10	10				10	42		
	11	11				11	43		
	12	12				12	44		
	13	13				13	45		
	14	14				14	46		
	15	15				15	47		
	16	16				16	48		
2	1	17			4	1	49		
	2	18				2	50		
	3	19				3	51		
	4	20				4	52		
	5	21				5	53		
	6	22				6	54		
	7	23				7	55		
	8	24				8	56		
	9	25				9	57		
	10	26				10	58		
	11	27				11	59		
	12	28				12	60		
	13	29				13	61		
	14	30				14	62		
	15	31				15	63		
	16	32				16	64		

NOTE

1. Assign indoor unit addresses to the required positions (central control addresses) manually.
2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

(a) Zone registration using the wired remote controller (RBC-AMT31E)

(Determination of central address)

- This method is not supported by the RAV models. For RAV models, initiate the zone registration described in (a).
- In this case, after confirming which indoor unit is connected to the remote controller and that the air conditioner is in the OFF state, set the central control addresses one at a time.
- If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

- (1) Press the  and  buttons at the same time on the remote controller for more than 4 seconds.
- (2) Do not press  button.
- (3) Once in this mode, the UNIT No., CODE No., No. of SET DATA and  indications will flash on the display as shown in Fig. 9.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the  button once.

- (4) Set CODE No. to 03 using the  () buttons.

NOTE

The CODE No. 03 must be selected to perform zone registration using the remote controller.

- (5) Set the Central control address which you want to assign to the indoor unit address using the  () buttons according to the zone registration table.
- (6) Press the  button. The CODE No. and Central control address changes from flashing to ON state. If you make mistake, then press the  button and reset the central control address.
- (7) Press the  button to finish zone registration.

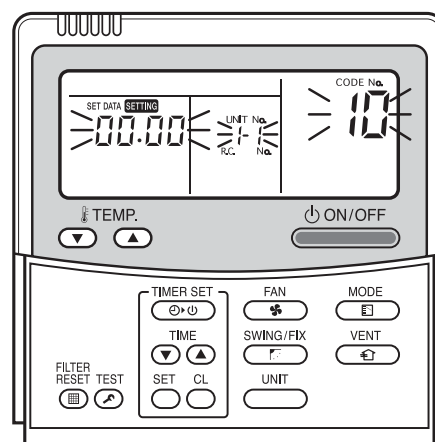
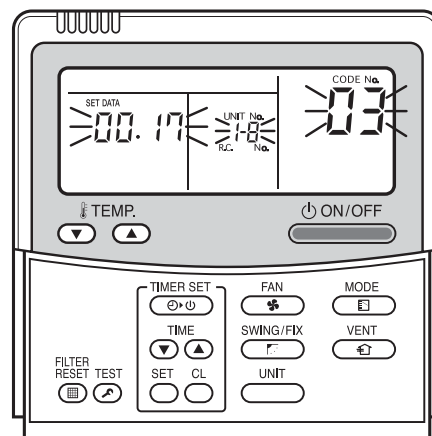


Fig. 9



For example, in this case
Indoor unit address: 1-8
Central control address :
17 (ZONE 2, GROUP 1)

Fig. 10

(b) Zone registration using the central remote controller (TCB-SC642TLE2)

- This method is not supported by the RAV models. For RAV models, initiate the zone registration described in (a).

- In this case, you set all Central addresses by ON-OFF controller at once manually.

- (1) Press the and buttons at the same time for more than 4 seconds.
 and CODE No. C1 will flash.
- (2) After confirming that CODE No. C1 is displayed, press the button. Once in this mode, a change takes place as in Fig. 11.
- (3) Select the zone and group No. which you want to set with and (GROUP) buttons.
If already set, press the buttons.

- (4) Set the unit No. (Indoor unit address) with and buttons, according to the zone registration table.

R.C. No. button

Indoor unit No. button

- (5) Press the button.

GROUP No. turns ON and UNIT No. (Indoor unit address) changes from flashing to ON state. UNIT No. is registered to selected ZONE No. and GROUP No.

If you make mistake, then press the button and reselect the ZONE, GROUP and UNIT No.

- (6) Register the other UNIT No. in the same way by following the steps (3) to (5).
- (7) Finally, complete the registration by pressing the button.
 flashes for a few minutes, then OFF.

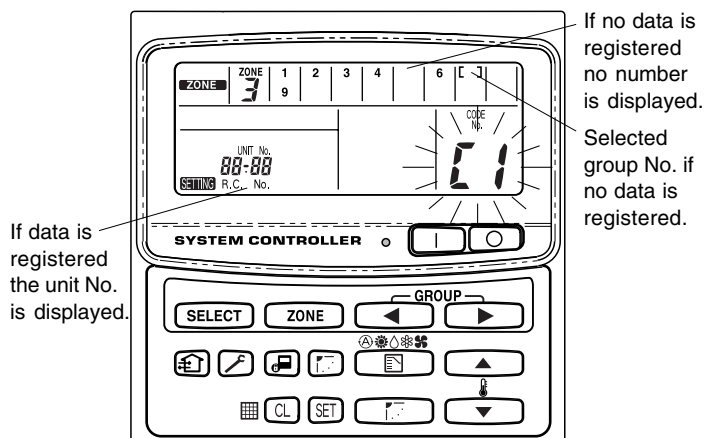
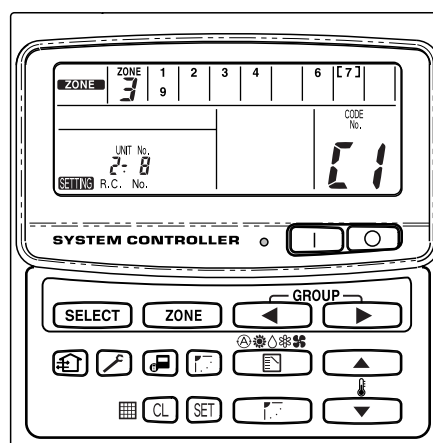


Fig. 11



For example, in the case above
Zone 3, group No. 7
Unit No. (indoor unit address) 2-8

Unit No. 2-8 is registered to zone 3-group 7.

Fig. 12

(c) Automatic zone registration using the Central remote controller (TCB-SC642TLE2)

- (1) Press the  and  buttons at the same time for more than 4 seconds.
 and CODE No. C1 will flash.
- (2) Select CODE. No. C2 by pressing  and  () button and press the  button.
C2 changes from flashing to ON state and automatic zone registration will start.
- (3) Registered GROUP No. will disappear.
- (4) Central address will be assigned from low indoor unit address to higher one's in numerical order automatically.
Finishing automatic zone registration,  changes from flashing to OFF.
- (5) If an error occurs, the "CHECK" starts flashing and zone registration finishes at this time. Press the  button.
- (6) Finally, complete automatic zone registration mode by pressing the  button.
 flashes for a few minutes, then OFF.

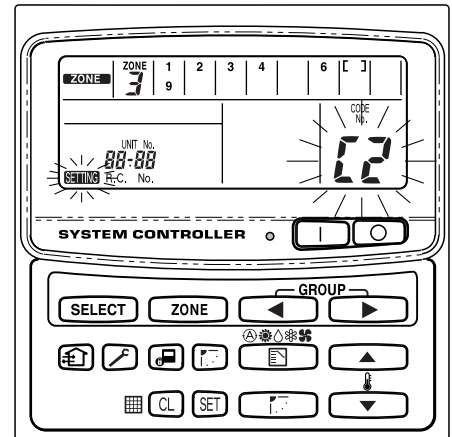


Fig. 13

7. Checking from the central controller for duplication of the central address

This cannot be used with RAV air conditioners. For further details, refer to the instructions of the “1:1 model” connection interface (TCB-PCNT30TLE2).

- (1) Press the  and  buttons at the same time for more than 4 seconds.
 and CODE No. C1 will flash.
- (2) Select CODE No. C3 by pressing ,  () button and press the  button.
C3 changes from flashing to ON state and  will flash. Then auto. Duplicated error checking will start.
- (3) If C3 changes from ON to flashing and  stops flashing and disappears, there is no duplicate.
Then finally, complete the auto duplicate error checking mode by pressing the  button.
- (4) If either the GROUP No., ZONE No. and UNIT No. flashes, you should retry the zone registration.
 - ① Select CODE No. C1 by pressing ,  () button and then press the  button.
 - ② Select the flashing GROUP No. with ZONE and GROUP button.
Then press the  button and reselect the ZONE, GROUP and UNIT No.
 - ③ Then finally, complete the auto. Duplicate error checking mode by pressing the  button.

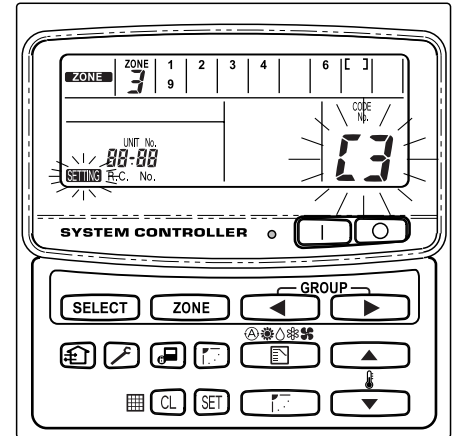


Fig. 14

8. Test run of the ON-OFF controller

- (1) Turn on all the air conditioners.
- (2) Turn on the ON-OFF Controller.
- (3) Verify that the ON/OFF button is lit.

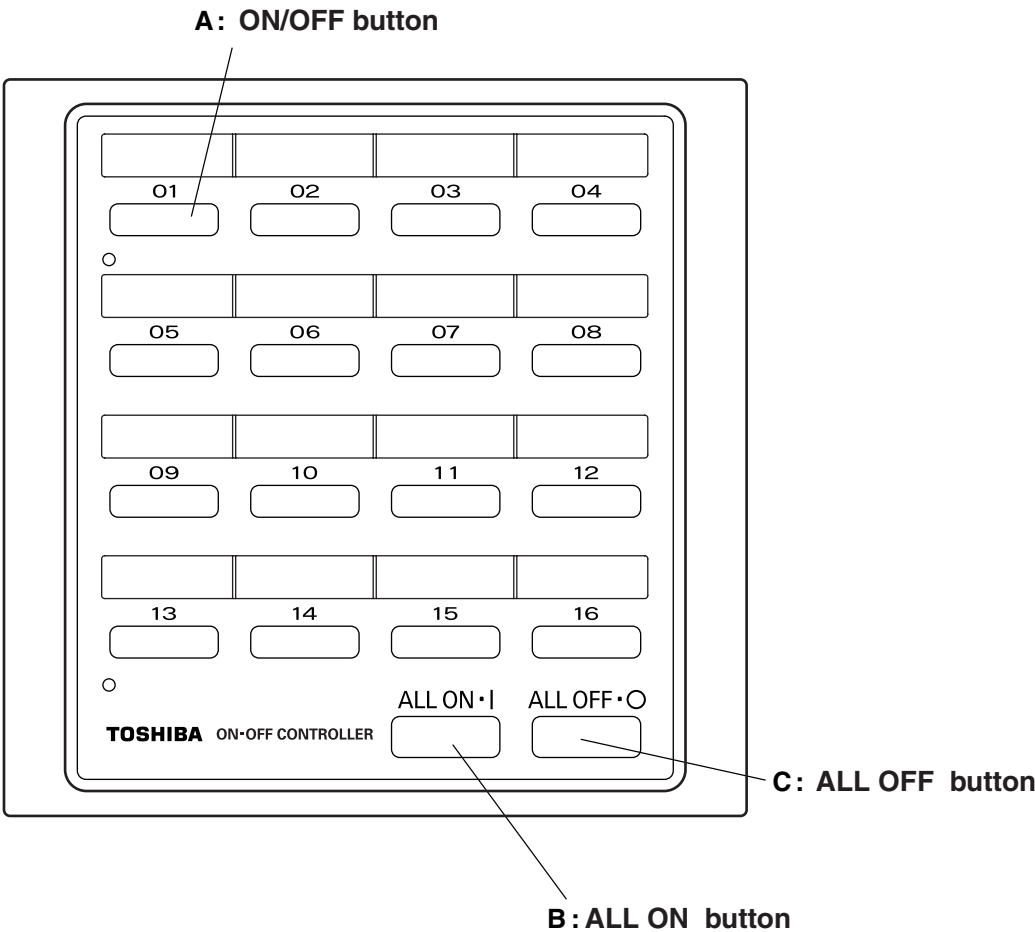
If the ON/OFF button flashes, verify the flash sequence as below, and inspect the air conditioner.

- ① **If the button flashes quickly for a few seconds-**
 - Check that the central control address is set correctly.
 - Check that the power is on.
 - Check that the wiring is not shorted or cut.
- ② **If the button flashes slowly and continuously-**
 - Check that the air conditioner is operating correctly.
 - Check that the protection mechanism is functioning.
- ③ **If the numbers 15 or 16 flash quickly on the display-**
 - The ON-OFF controller is initializing. Wait a few moments.

4-3-3 Operation procedure

How to Use the ON-OFF Controller

■ Functions of buttons



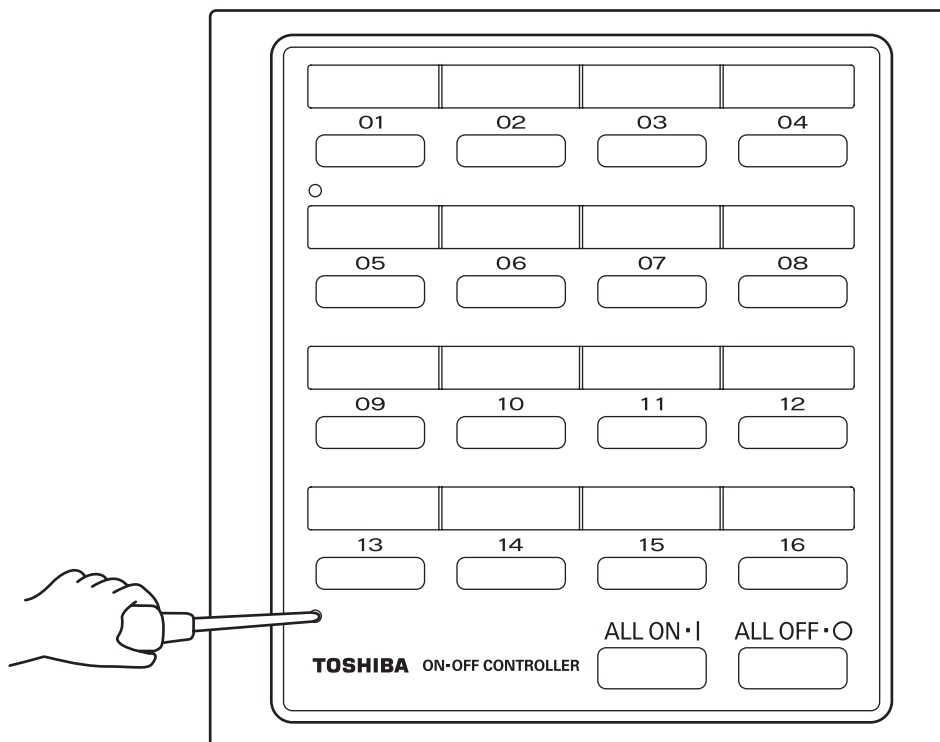
A: ON/OFF button 01 ~ 16	Press this to start up or stop an individual air conditioner.
B: All ON button ALL ON · I NOTE	Press this to start up all the air conditioners at the same time. The indoor units which can be operated by the ON-OFF controller now start operating in sequence at intervals of 1 to 2 seconds.
C: All OFF button ALL OFF · O	Press this to stop all the air conditioners at the same time.

■ How to use the nameplate

The nameplate shows the rooms where the air conditioners are to be operated, and it enables the operating statuses of the air conditioners in those rooms to be checked by the operation indicator lamps.

Steps

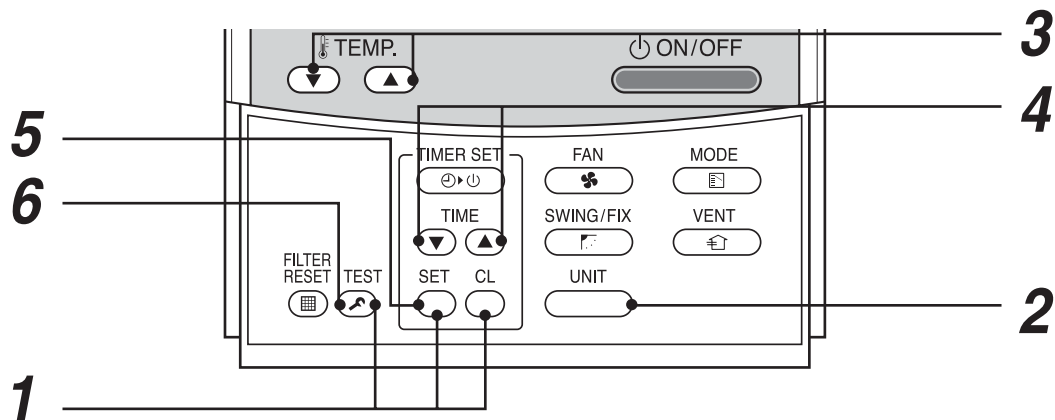
1. Insert an implement such as a ballpoint pen into the hole on the left of the transparent cover, and remove the cover.
2. Use a writing instrument such as an oil-based pen to write the names of the rooms on the switch name labels provided, and adhere the labels to the name display.



4-4 Application controls of indoor unit

4-4-1 Setup of the selection function in the indoor unit (Be sure to Execute Setup by a Wired Remote Controller)

Procedure Execute the setup operation while the unit operation is stopped.



(RBC-AMT31E)

- 1** Push the , , and buttons simultaneously for 4 seconds or more.
The display number shown first indicates the header indoor unit address in the group control.
At this time, the fan of the selected indoor unit is turned on.
- 2** For every push of the button, the indoor unit numbers in the group control are successively displayed. In this time, the fan of the selected indoor unit is turned on.
- 3** Specify the item code (DN) using the buttons.
- 4** Select the setup data using the buttons.
(When changing the DN code to “33”, change the temperature indication on the unit from “°C” to “°F” on the remote controller.)
- 5** Push the button. (OK if display goes on.)
 - To change the selected indoor unit, return to procedure **2**.
 - To change the item to be set up, return to procedure **3**.
- 6** Pushing the button returns the status to normal stop status.

CAUTION

Be sure to perform the item code (DN) set up as “Cooling Only” for the cooling only indoor unit in case of a heat recovery type (Super HRM). If this setting is not performed, error code [L18] may occur.

Table: Function selecting item numbers (DN)
(Items necessary to perform the applied control at the local site are described.)

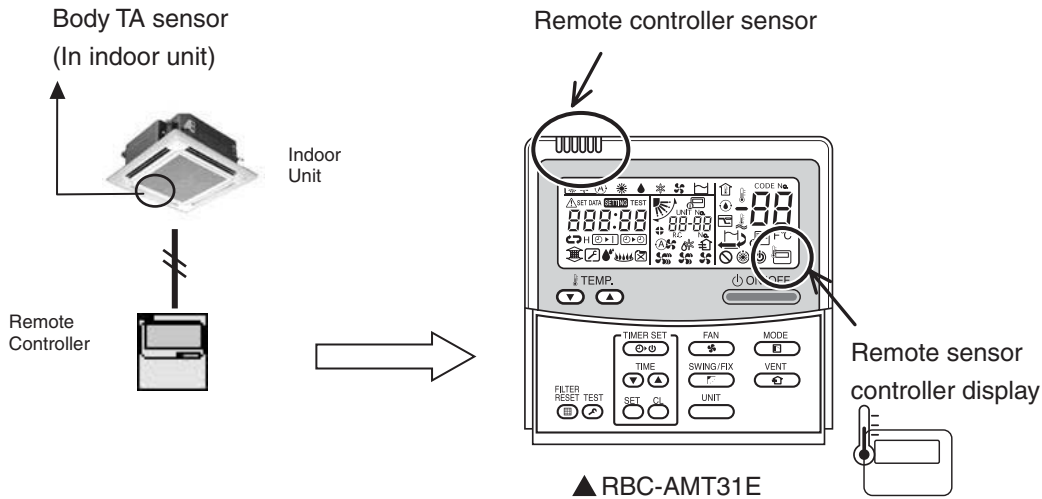
DN	Item	Description		At shipment
01	Filter sign lighting time	0000 : None 0002 : 2500H 0004 : 10000H	0001 : 150H 0003 : 5000H	According to type
02	Dirty state of filter	0000 : Standard	0001 : High degree of dirt (Half of standard time)	0000 : Standard
03	Central control address	0001 : No.1 unit 0099 : Unfixed	to 0064 : No.64 unit	0099 : Unfixed
04	Specific indoor unit priority	0000 : No priority	0001 : Priority	0000 : No priority
06	Heating temp shift	0000 : No shift 0002 : +2°C	to 0001 : +1°C 0010 : +10°C (Up to +6 recommended)	0002 : +2°C (Floor type 0000: 0°C)
0d	Existence of automatic cool/heat mode	0000 : Provided	0001 : Not provided (Automatic selection from connected outdoor unit)	0001 : Not provided
0F	Cooling only	0000 : Heat pump	0001 : Cooling only (No display of [AUTO] [HEAT])	0000 : Heat pump
12	Line address	0001 : No.1 unit	to 0030 : No.30 unit	0099 : Unfixed
13	Indoor unit address	0001 : No.1 unit	to 0064 : No.64 unit	0099 : Unfixed
14	Group address	0000 : Individual 0002 : Follower unit of group	0001 : Header unit of group	0099 : Unfixed
19	Flap type (Adjustment of air direction)	0000 : Not provided 0004 : [4-way Air Discharge Cassette type] and [Under Ceiling type]	0001 : Swing only	According to type
1E	Temp difference of automatic cooling/heating mode selection COOL → HEAT, HEAT → COOL	0000 : 0 deg (For setup temperature, reversal of COOL/HEAT by ± (Data value)/2)	to 0010 : 10 deg	0003 : 3 deg (Ts±1.5)
28	Automatic restart of power failure	0000 : None	0001 : Restart	0000 : None
29	Operation condition of humidifier	0000 : Usual (Detection control for heat exchanger temperature)	0001 : Condition ignored	0000 : Usual
2A	Selection of option/error input (CN70)	0000 : Filter input 0002 : Humidifier input	0001 : Alarm input (Air washer, etc.)	0002 : Humidifier
2E	HA terminal (CN61) select	0000 : Usual	0001 : Leaving-ON prevention control	0000 : Usual (HA terminal)
30	Automatic elevating grille	0000 : Unavailable (Standard, Oil guard panel)	0001 : Available (Auto grille, Oil guard, Auto grille panel)	0000 : Unavailable
31	Ventilating fan control	0000 : Unavailable	0001 : Available	0000 : Unavailable
32	TA sensor selection	0000 : Body TA sensor	0001 : Remote controller sensor	0000 : Body TA sensor
33	Temperature unit select	0000 : °C (at factory shipment)	0001 : °F	0000 : °C
40	Control for humidifier (+ drain pump control)	0000 : None 0002 : Humidifier + Ultrasonic system (Pump ON after specified time passed) (Unused) 0003 : Humidifier + Natural drain system (Pump OFF)	0001 : Humidifier + Vaporizing system (Pump ON)	0003 : Humidifier ON, Pump OFF
5d	High ceiling selection (Air volume selection)	[4-way Air Discharge Cassette type] and [Under Ceiling type] 0000 : Standard filter 0001 : Super-long life [Concealed Duct Standard type] 0000 : Standard static pressure (40Pa) 0003 : High static pressure 2 (100Pa)		0001 : High static pressure 1 (70Pa) 0005 : Correspond to quiet sound 0006 : Low static pressure (20Pa)
60	Timer set (Wired remote controller)	0000 : Available (Operable)	0001 : Unavailable (Operation prohibited)	0000 : Available
62	Smudging-proof control clear	0000 : Clear		4- way Air Discharge Cassette type only
92	Outside interlock release condition	0000 : Operation stop	0001 : Release communication signal receive	0000 : Operation stop

■ Selection of indoor air temperature sensor

(How to select “body TA sensor” or “remote controller sensor”)

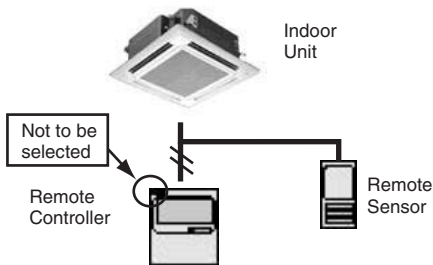
Wired remote controller (RBC-AMT31E) has the sensor to detect the air temperature.
Either the body TA sensor or remote controller sensor can be selected by item code (DN) setting from the wired remote controller.

DN	32	0000	Body TA sensor	At shipment
		0001	Remote controller sensor	



[Note]

In case of using the remote sensor “TCB-TC21LE”,
don’t select “remote controller sensor” by item code (DN) setting.



4-4-2 Ventilation fan control from remote controller

[Function]

- The start/stop operation can be operated from the wired remote controller when air to air heat exchanger or ventilating fan is installed in the system.
- The fan can be operated even if the indoor unit is not in operation.
- Use a fan which can receive the no-voltage A contact as an outside input signal.
- In a group control, the units are collectively operated and as such cannot be individually operated.

(1) Operation

Handle a wired remote controller in the following procedure.

- * Set up the wired remote controller only when the system is not in operation.
- * Be sure to set up the wired remote controller to the header indoor unit. (Same in group control)
- * In a group control, if the wired remote controller is set up to the header indoor unit, both header and follower units are simultaneously operable.

1 Push concurrently the + + buttons for 4 seconds or more.

The unit No. displayed firstly indicates the header indoor unit address in the group control.

In this time, the fan of the selected indoor unit will turn on.

2 For every push of the button, the indoor unit numbers in the group control are displayed successively.

In this time, the fan of the selected indoor unit only will turn on.

3 Use the buttons to specify the item code 31.

4 Using the button, select the setup data. (At shipment: 0000)

The setup data is as follows:

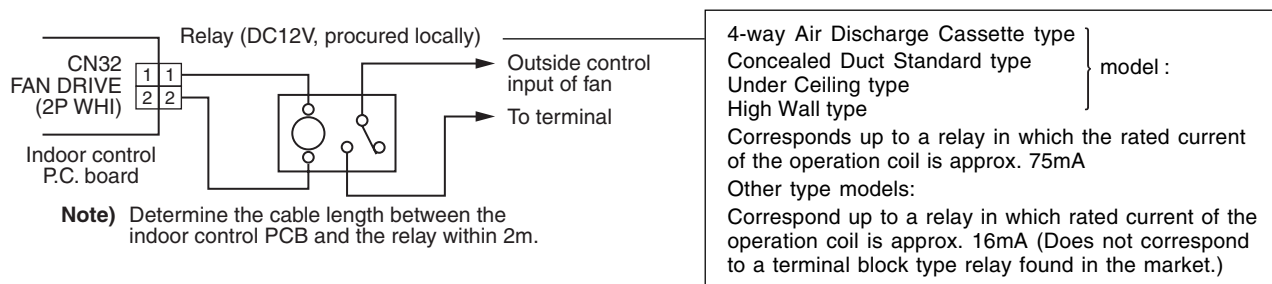
Setup data	Handling of operation of air to air heat exchanger or ventilating fan
0000	Unavailable (At shipment)
0001	Available

5 Push the button. (OK if display goes on.)

- To change the selected indoor unit, go to procedure 2).
- To change the item that is to be set up, go to procedure 3).

6 Pushing the returns the status to the usual stop status.

(2) Wiring



4-4-3 Leaving-ON prevention control

[Function]

- This function controls the indoor units individually. It is connected with by to the control P.C. board of the indoor unit.
- In a group control, it is connected by cable to the indoor unit (Control P.C. board), and the item code **2E** is set to the connected indoor unit.
- It is used when the start operation from the outside is unnecessary but the stop operation is required.
- Using a card switch box, card lock, etc, the leaving-ON of the indoor unit can be protected.
 - When inserting a card, the start/stop operation from the remote controller is allowed.
 - When taking out a card, the system stops if the indoor unit is operating and the start/stop operation from the remote controller is forbidden.

(1) Control items

- 1) Outside contact ON : The start/stop operation from the remote controller is allowed.
(The card is inserted into the card switch box)
- 2) Outside contact OFF : If the indoor unit is operating, it is stopped forcibly.
(Start/Stop function is prohibited by the remote controller)
(The card is taken out from the card switch box)

* When the card switch box does not perform the above contact operation, convert it using a relay with b contact.

(2) Operation

Handle the wired remote controller switch in the following procedure.

* Set the wired remote controller switch only when the unit is not in operation.

1 Push concurrently **SET** + **CL** + **TEST** buttons for 4 seconds or more.

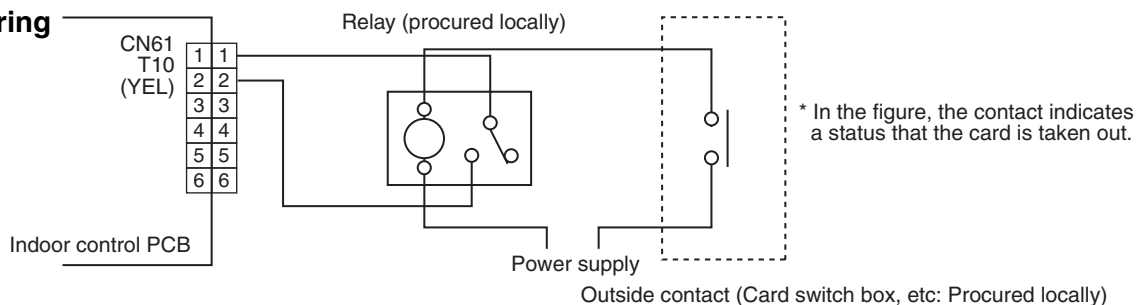
2 Using the **TEMP.** button, specify the item code **2E**.

3 Using the timer time **TIME** button, set **0001** to the setup data.

4 Push the **SET** button.

5 Push the **TEST** button. (The status returns to the usual stop status.)

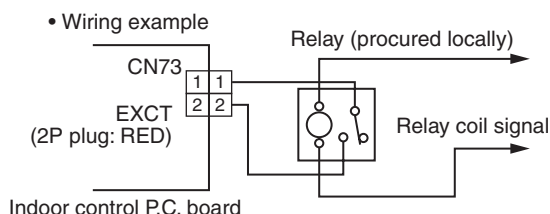
(3) Wiring



Note) Determine the cable length between the indoor control PCB and the relay so that they are within 2m.

4-4-4 Power peak-cut from indoor unit

When the relay is turned on, a forced thermostat-OFF operation will begin.



Note) Determine the cable length between the indoor, outdoor control PCB and the relay so that they are within 2m.

4-4-5 Remote sensor (TCB-TC21LE2)

[Installation work and service]

Accessory parts

Part Name	Q'ty	Part Name	Q'ty
Remote sensor (200mm-cable attached)	1	Spacer	2
Small screw M4 x 25	2	Wire joint	2
Wood screw	2	Cable clumper	1
		Installation Manual	1

Requirement to install the remote sensor

Installation place

- Install the remote sensor at a position with height of 1 to 1.5m from the floor, where the average temperature in the room can be felt.
- Do not install the remote sensor at a place exposed to the direct sunlight or direct outside air, such as on the side of window, etc.
- Do not install the remote sensor in a place that is behind something or to the rear side of something, where air flow is poor.
- Do not install the remote controller in a place where it may be subjected to high levels of moisture or water intake, as the unit is not water proof.
- Be sure to set the remote sensor so that it is positioned vertically on the wall surface, etc.

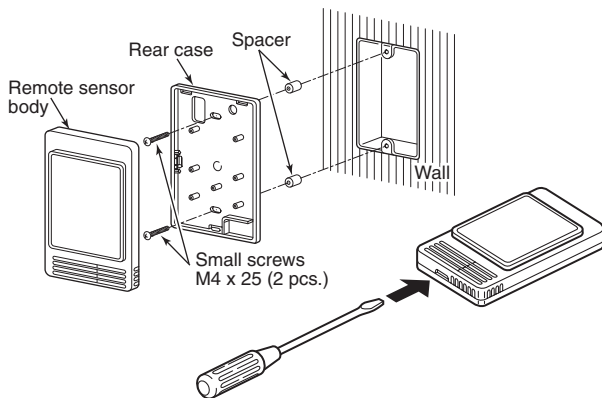
How to install the remote sensor

NOTE 1 : Do not twist or route (in the same conduit) the remote sensor cable with the main power supply, as a malfunction may occur.

NOTE 2 : Install the remote sensor away from any source of electrical noise.

NOTE 3 : When noise is induced into the power source of the indoor unit, some measures such as mounting a noise filter is necessary.

- In case of using the remote sensor as a concealed type



1. To remove the cover from the rear case gently place a flat blade screwdriver into the gap at the bottom and rotate. This will prise open the case.
2. Using the attached M4 screws (2 pcs.), fix the rear case of the remote sensor. Before installation, open up the screw holes with a screw driver or another suitable tool.

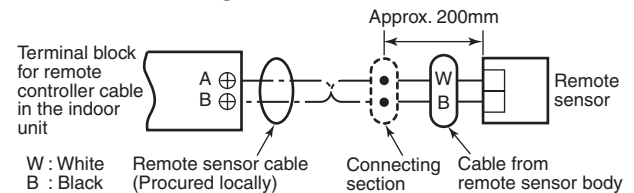
The sensor comes with spacers attached to the rear section, if the remote sensor does not fit closely to the wall, adjust the distance by cutting off the spacer. Do not apply excessive force when fixing the sensor to the wall surface.

3. Connect the remote sensor cable (2 cores) to the terminal numbers on the indoor unit.
(Applying AC 220/230/240V breaks the unit.)
4. Install the remote sensor body by matching the tabs on the rear case.

How to perform the cabling of the remote sensor

In case of using the remote sensor as a concealed type

• Connection diagram



- Non polarity, 2 core cable is used..
- Use 0.5mm² to 2 mm² cable.

Attached wire joint (White, 2 pcs.)

Remote sensor cable

Cable from remote sensor body

Wire joint, CE-1 (Nichitsu)

- 1) Peel the sheath on the cable that is to be connected by approx. 14mm.
- 2) Twist two cables and pressure-connect them using a wire joint.
- 3) When an exclusive pressure-connecting tool is not used or a soldering connection is used, apply some insulation tape.

Requirement for using the remote sensor together with the remote controller

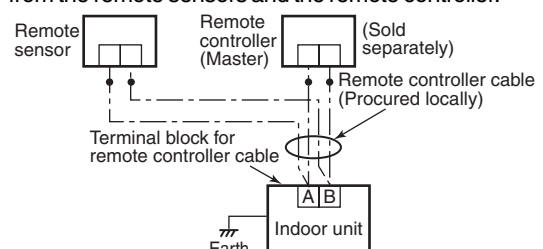
• How to install

For the above control, install the remote sensor in the following procedure.

1. Set the remote controller as the master remote controller.
2. For correct temperature control by remote sensor, do not change the remote sensor switch in the master remote controller.

• Basic cabling diagram

1. Connect cables without miswiring.
(Miswiring may cause the unit to fail.)
2. In a situation where you need to operate an indoor unit from the remote sensors and the remote controller.

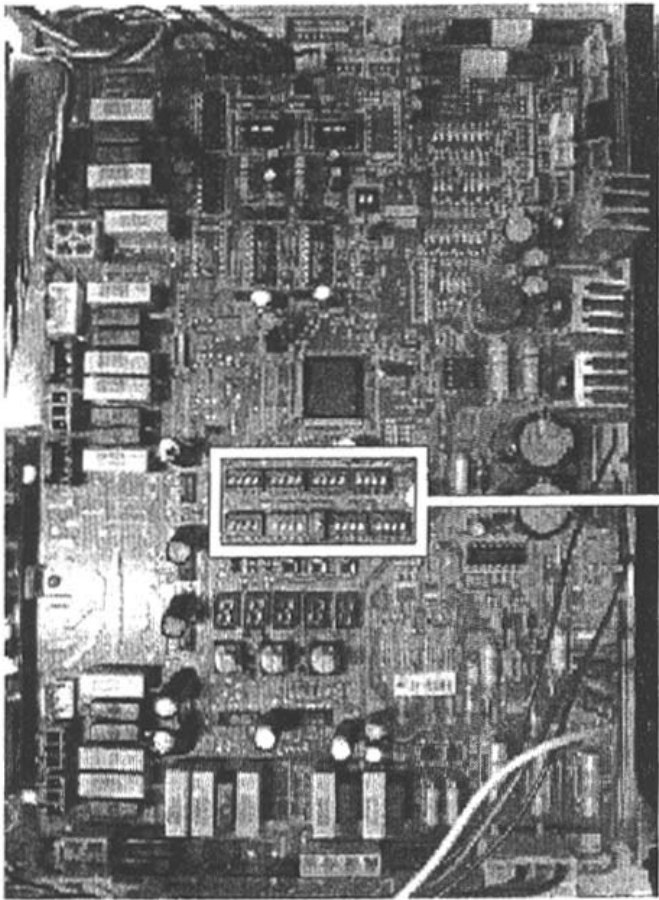


4-5 Application controls of outdoor unit

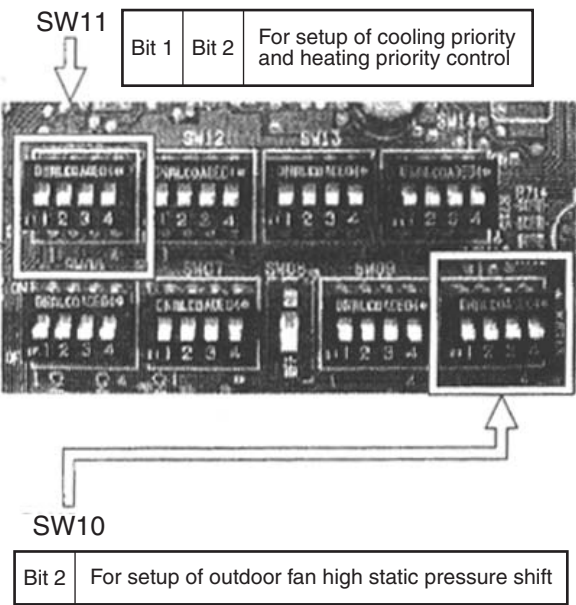
The following functions become available by setting the switches on the outdoor interface P.C. board.

No.	Function	Switch No.	Bit
1	Outdoor fan high static pressure shift	SW10	2
2	Cooling priority, Heating priority control	SW11	1, 2

Interface P.C. board of outdoor unit



Switch position magnified drawing



4-5-1 Outdoor fan high static pressure shift

■ Usage/Features

This function is set when connecting a duct to the discharge port of the outdoor unit.

■ Setup

Turn “Bit 2” on the Dip switch [SW10] on the interface P.C. board on the outdoor unit to the ON side. For the outdoor units which are connected with the ducts, set this function regardless of the header unit or follower unit.

■ Specifications

Increase No. of rotations on the propeller fan of the outdoor fan so that a duct with the maximum outside static pressure 35Pa (3.5mmAq) can be installed. If installing a discharge duct (Below 35Pa (3.5mmAq)) but exceeding the duct resistance 15Pa (1.5mmAq), execute this setup.

Discharge air volume in each outdoor unit is described in the following table.

Capacity rank (MMY-MAP)	0501, 0601 type	0801 type	1001, 1201 type
Standard air volume of outdoor unit (m ³ /min.)	150	165	175

■ Options

35Pa or more as the external static pressure is also available (Ex. 45Pa).

For details of adjustment, consult the sales subsidiary.

4-5-2 Cooling priority, heating priority control

■ Usage/Features

Cooling priority or heating priority can be selected.

There are the following four patterns in selecting setup of the priority mode. Select a priority mode based upon the demand of the destination to be installed.

*For Super HRM system, don't set SW11 (Leave as it is at shipment.)

■ Setup

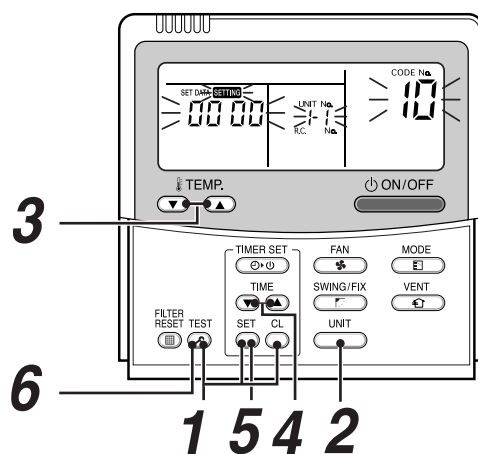
(Note) In “Specific indoor unit priority” mode only, it is necessary to set up one indoor unit, which you wish to give priority to. (Refer to “4-4-3”.)

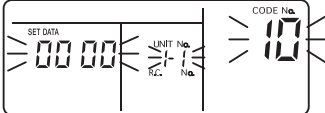
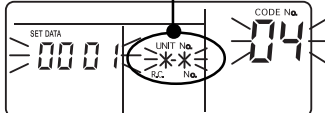
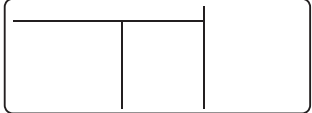
Outdoor unit (Header unit only) setup

SW11		Operation
Bit 1	Bit 2	
OFF	OFF	Heating priority (Setup at shipment)
ON	OFF	Cooling priority
OFF	ON	No. of operating units (Priority is given to operation mode that has the most demand)
ON	ON	Specific indoor unit priority (Priority is given to operation mode of the indoor unit to which the operation mode priority has been set to)

4-5-3 Indoor unit setup in “Specific indoor unit priority” mode

- ① Setup switch (sw11) on interface P.C. board of header outdoor unit. (SW11 bit1=ON, bit2=ON)
- ② The setup can be changed when the system is not in operation. (Be sure to stop the system.)



Procedure	Operation contents
1	When pushing the + + buttons at the same time for 4 seconds or more, as shown in the figure, the display section flashes and after a short period of time the following confirmation code should be displayed [10]. - When the item code is one other than [10], push the button to eliminate the display and then repeat the procedure from the first step. (The remote controller operation is not accepted for approx. 1 minute after pushing the button.) (In a group control, the indoor unit with its number displayed first is set to the header unit.) 
2	For every push of the button, the indoor unit numbers in the group control are successively displayed. Select the indoor unit of which setup is to be changed. In this time, the fan and louver of the selected indoor unit will operate allowing you to identify the position of the indoor unit of which the setup is to be changed.
3	Using the buttons, specify the item code [04]. 
4	Using the buttons, select the setup data [000 1]. Priority: 000 1, No priority: 0000
5	Push the button. In this time, the setup operation finishes when the display changes from flashing to lighting.
6	After setup operation has finished, push the button. (Setup is determined.) When pushing the button, the display disappears and the status returns to the usual stop status. (The remote controller operation is not accepted for approx. 1 minute.) 

(NOTE)

Only one indoor unit can be set to “Priority”. If the multiple indoor units are accidentally set to “Priority”, an error code (L05 or L06: Duplicated indoor unit priority) is displayed.

If a unit is displaying “L05”, [0001 (Priority)] setup. Identify the unit which you will give priority to from the other indoor units and return the setup data for all other indoor units to [0000 (No priority)].

Error code	Error contents
L05	Indoor unit priority duplication ([000 1] is set up.)
L06	Indoor unit priority duplication ([0000] is set up.)

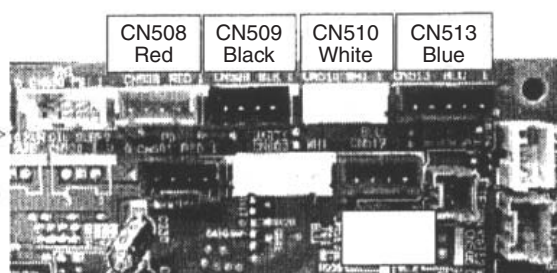
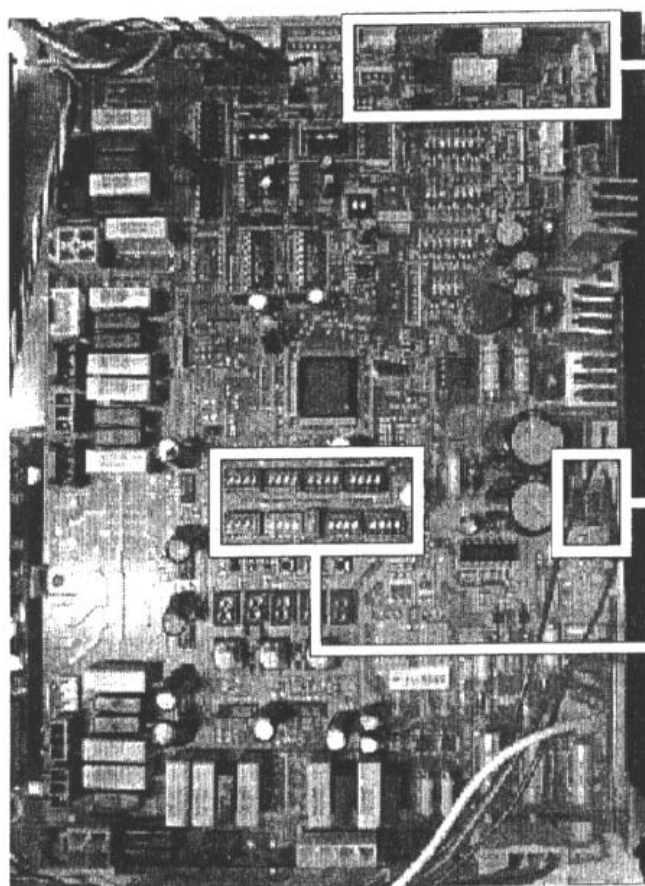
4-6 Application controls by optional P.C. board of outdoor unit

The following functions become available by using a control P.C. board sold separately.
Set up the switches on the header outdoor unit (U1).

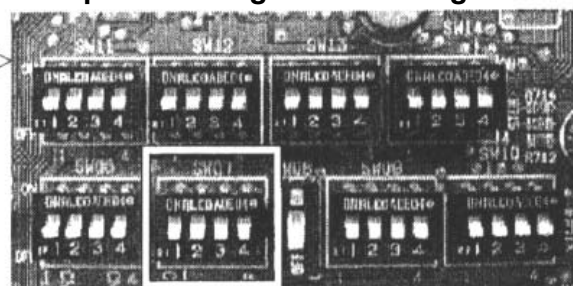
No.	Function	Switch No.	Bit	Connector No.	Used control P.C. board
1	Power peak-cut control (Standard)	SW07	1	CN513	TCB-PCDM2E
2	Power peak-cut control (Expansion)	SW07	1,2	CN513	TCB-PCDM2E
3	Snowfall fan control	—	—	CN509	TCB-PCMO2E
4	External master ON/OFF control	—	—	CN512	TCB-PCMO2E
5	Night operation control	—	—	CN508	TCB-PCMO2E
6	Operation mode selection control	—	—	CN510	TCB-PCMO2E

Outdoor unit interface P.C. board

Connector position magnified drawing



Switch position magnified drawing

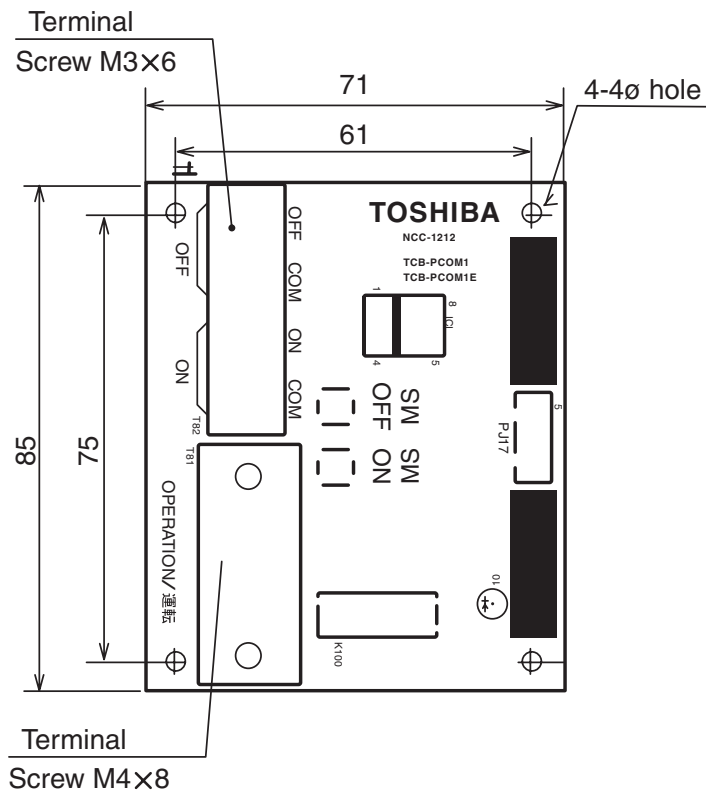


SW07

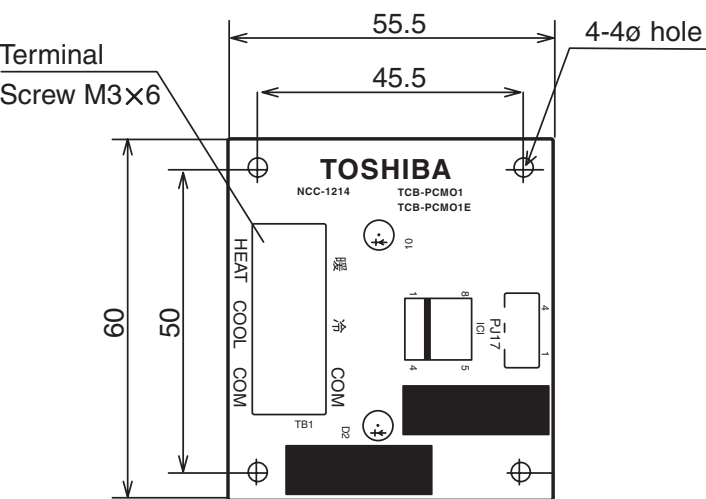
Bit 1	For power peak-cut control selection
Bit 2	For power peak-cut control (expansion) selection

■ Dimension

TCB-PCDM2E



TCB-PCMO2E



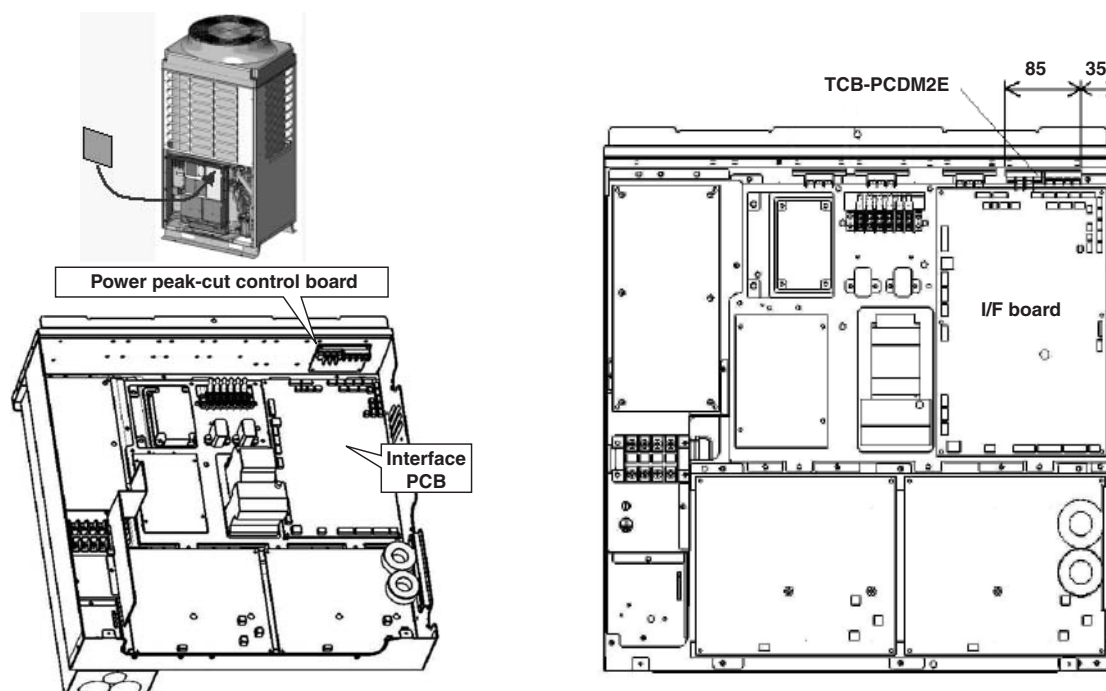
Installation procedure of power peak cut control board (TCB-PCDM2E)

1. Accessory parts

No	Parts name	Q'ty	No	Parts name	Q'ty
1	Power peak-cut control board	1	5	Installation manual	1
2	Connection cable	1	6	Cable-clamp	1
3	Support to fix the board	4	7	Screw for cable-clamp	1
4	Installation manual	1	8	Banding band	2

2. Placing Position

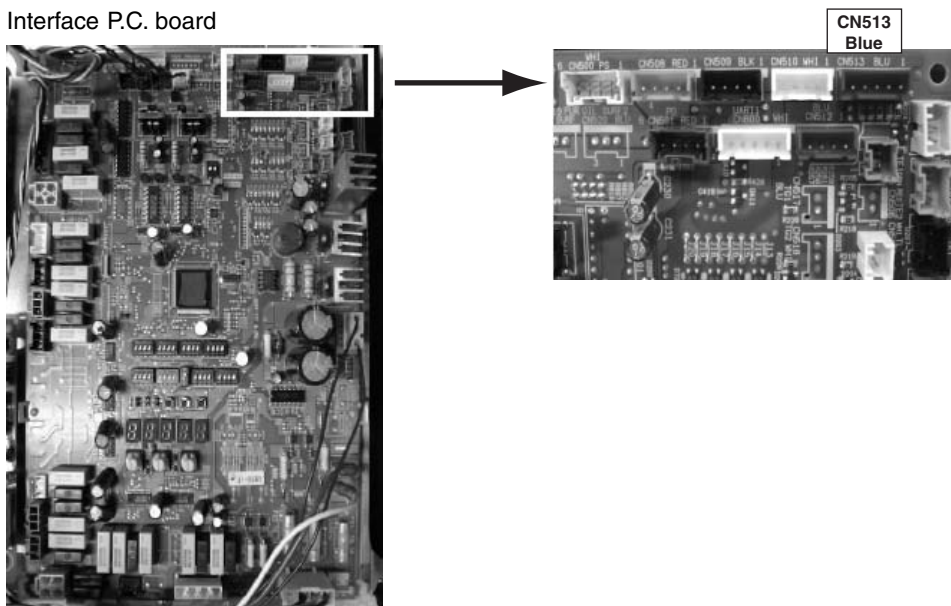
Install this P.C. board on the upper side of the inverter assembly on the outdoor unit.



3. How to install

- (1) Be sure to turn off the power supply when installing.
- (2) Install this P.C. board by using the support to fix the board.
There are four installation holes to place the support, they can be found on the upper side of the inverter assembly.
- (3) Connect the P.C. board (TCB-PCDM2E) PJ17 and outdoor unit interface CN513 with the connection cable.
- (4) Bind the remaining cable with the attached banding band.

Interface P.C. board



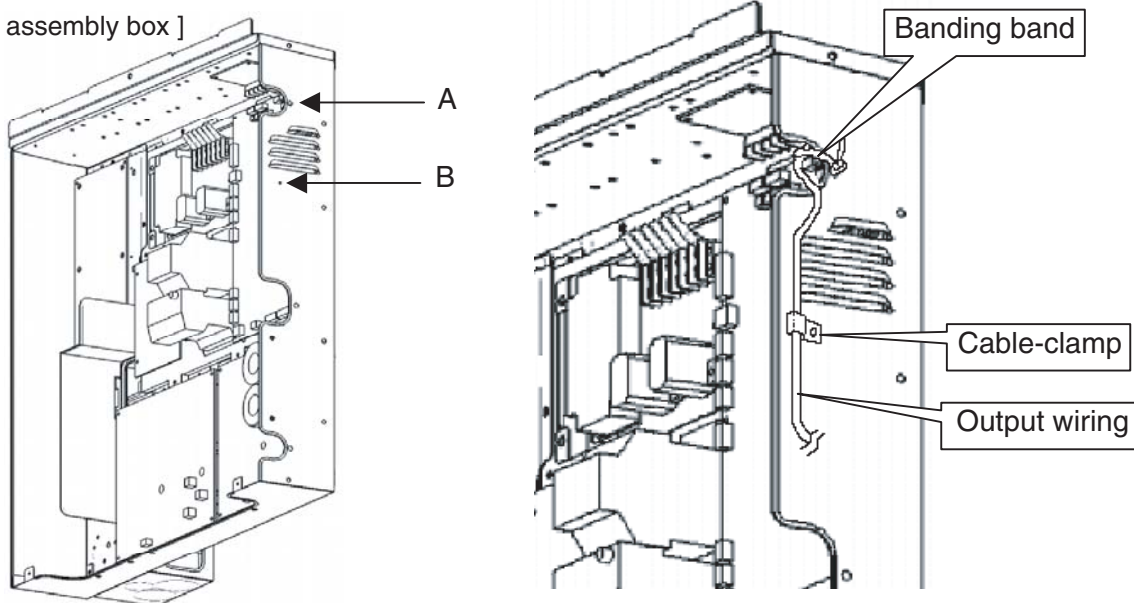
4. wiring

	Length	Size	Type
Input wiring	Up to 500m	2-core or 3-core, 0.75mm ²	Shield wire
Output wiring	Up to 200m	2-core, 0.75mm ² *	Shield wire
	Up to 400m	2-core, : 1.5mm ² *	

* In conformity with design 60245 IEC 57

- (1) Refer to the “Electric wiring diagram” when wiring.
- (2) Be sure to use shielded wire to prevent electrical noise interference, and earth both sides of shielded wires.
- (3) Fix the output wiring with the cord clamp and banding band.
Place the output wiring into the banding band and band it together with the other wiring.
Fix the cord clamp using the screw hole on the “B” position.

[Inverter assembly box]



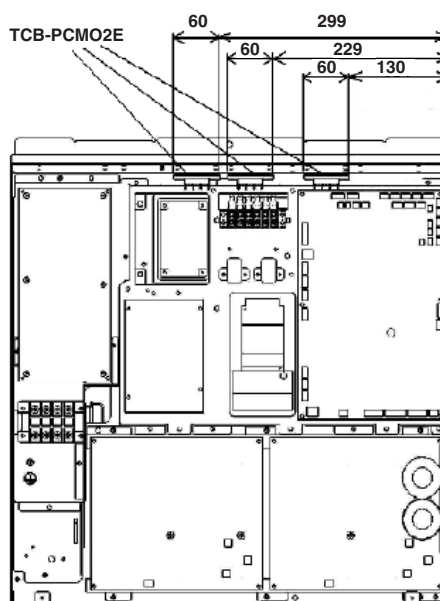
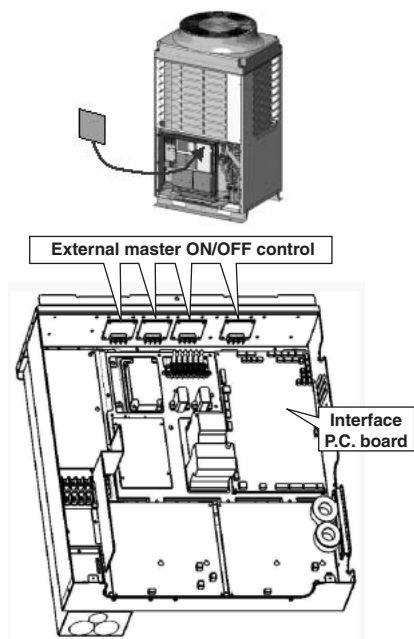
Installation procedure of external master ON/OFF control board (TCB-PCMO2E)

1. Accessory Parts

No	Parts name	Q'ty	No	Parts name	Q'ty
1	External master ON/OFF control board	1	5	Installation manual	1
2	Connection cable	1	6	Banding band	1
3	Support to fix the board	4	7	Screw for cable clamp	1
4	Instruction Manual	1			

2. Placing position

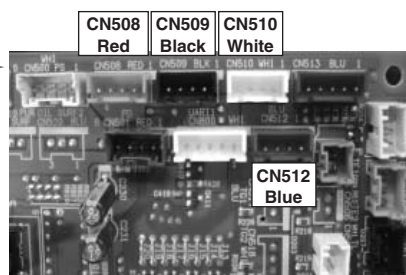
Install this P.C. board to the upper position on the inverter assmembly on the outdoor unit.
Up to 4 TCB-PCMO2E can be installed simultaneously in one inverter assembly.



3. How to install

- (1) Be sure to turn off the power supply when installing.
- (2) Place this P.C. board by using the support to fix the board.
There are four installation holes to place the support, they can be found on the upper side of the inverter assembly.
- (3) Connect the P.C. board (TCB-PCMO2E) PJ17 and outdoor unit interface CN508 to CN512 with the connection cable.
Connector on interface P.C. board is different according to its purpose.
- (4) Install the P.C. board so that the terminal block faces the inside of the inverter box assembly.

Interface P.C. board



Connector position magnified drawing

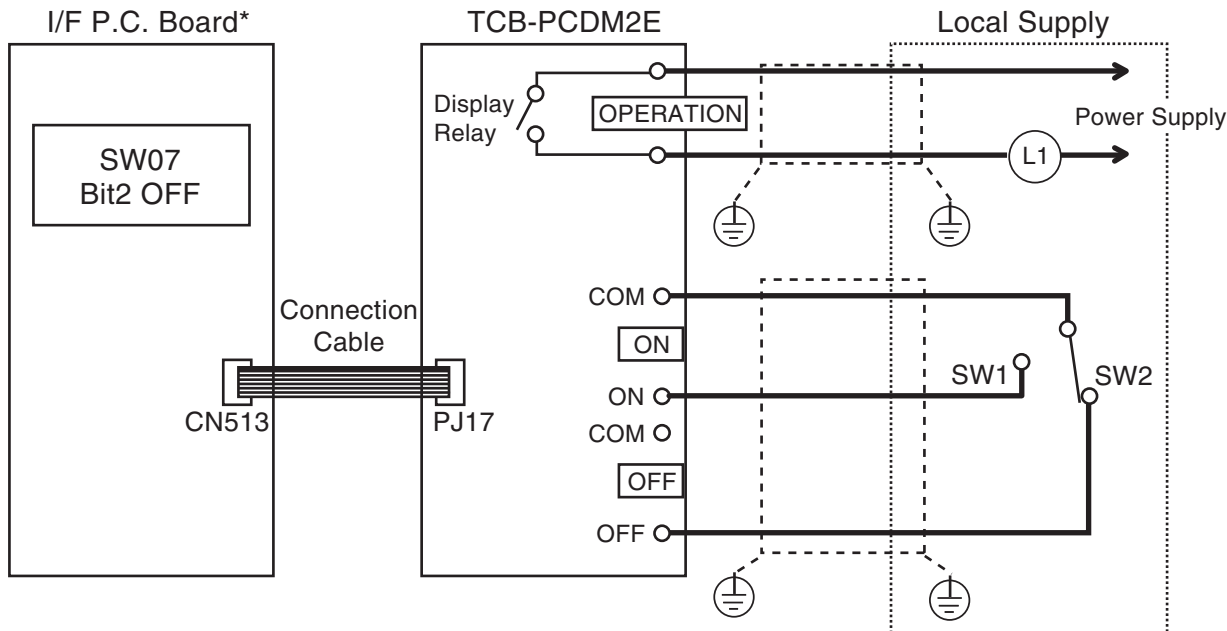
CN508	Night operation (sound reduction) control
CN509	Snowfall fan control
CN510	Operation mode selection control
CN512	External master ON/OFF control

4-6-1 Power peak-cut control (standard)

Function / Electric wiring diagram

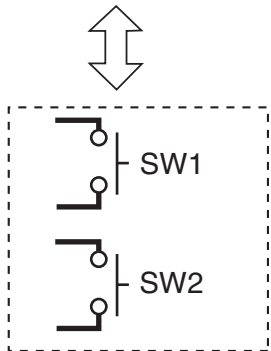
Two types of control can be selected by setting SW07 on the interface P.C. board on the header unit.

[Standard function]



*Place this optional P.C. board on the header outdoor unit.

In case of pulse signal
Be sure to prepare the point of contact for each terminal.
The time of the pulse signal is more than 100msec.
Don't switch on SW1 and SW2 terminals
simultaneously.



SW07-Bit2 OFF

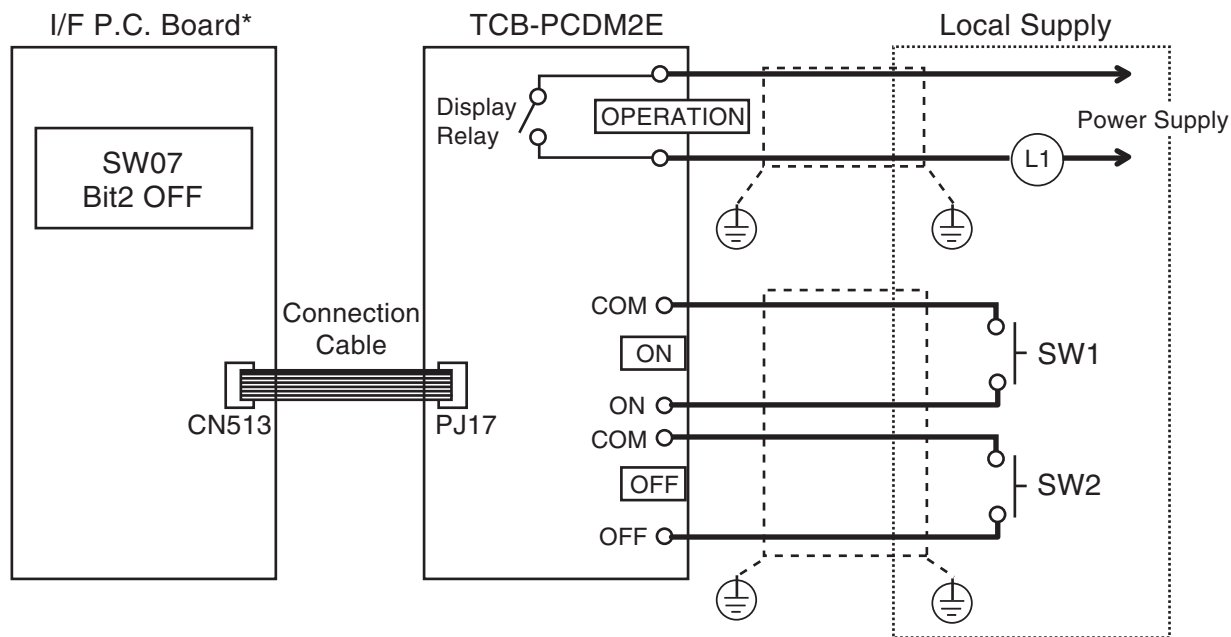
Input		SW07-Bit1		Display Relay (L1)
SW1	SW2	Bit1 OFF	Bit1 ON	
OFF	ON	100% (Normal)	100% (Normal)	OFF
ON	OFF	0% (Stop)	Up to 60%	ON

⚠ CAUTION

Display Relay capacity of "OPERATION"
Below AC240V 0.5A (COS ϕ =100%)
When connecting load such as relay coil to "L1" load, insert the noise surge absorber.
Below DC24V 1A (Non-inductive load)
When connecting load such as relay coil to "L1" load, insert the bypass circuit.

Power peak-cut control (expansion)

[Expansion function]



*Place this optional P.C. board on the header outdoor unit.

SW07-Bit2 OFF

Input		SW07-Bit1		Display Relay (L1)
SW1	SW2	Bit1 OFF	Bit1 ON	
OFF	OFF	100% (Normal)	100% (Normal)	OFF
ON	OFF	Up to 80%	Up to 85%	ON
OFF	ON	Up to 60%	Up to 75%	ON
ON	ON	0% (stop)	Up to 60%	ON

 CAUTION

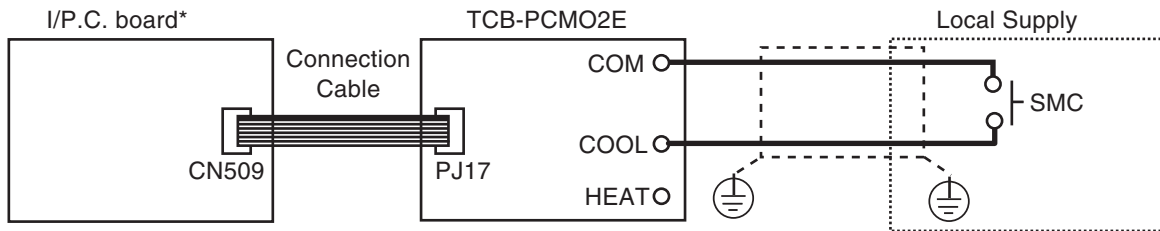
Display Relay capacity of “OPERATION”
Below AC240V 0.5A (COS ϕ =100%)
When connecting load such as relay coil to “L1” load, insert the noise surge absorber.
Below DC24V 1A (Non-inductive load)
When connecting load such as relay coil to “L1” load, insert the bypass circuit.

4-6-2 Snowfall fan control

Feature

Outdoor fan is operated by the snowfall signal from the outside.

Function



*Place this optional P.C. board on the header outdoor unit.

SMC : Snowfall detection switch

Terminal	Input signal	Operation
COOL (SMC)	ON	Snowfall fan control (Operates outdoor fan)
	OFF	Normal operation



CAUTION

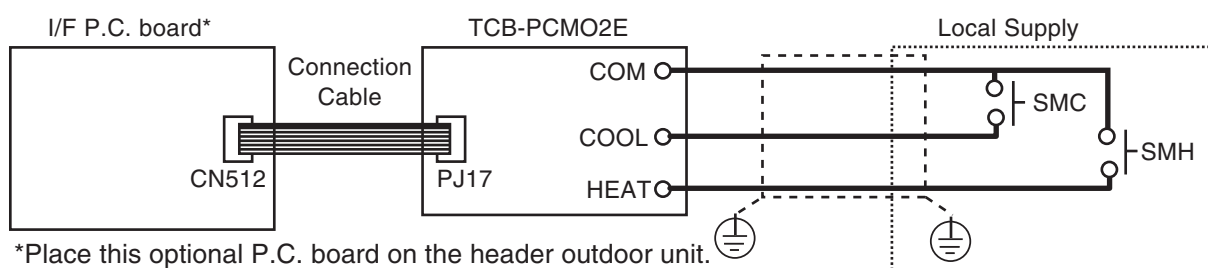
Be sure to prepare a non-voltage continuation point of contact for each terminal.

4-6-3 External master ON/OFF control

Feature

The outdoor unit starts or stops the system.

Function



*Place this optional P.C. board on the header outdoor unit.

SMC : Input signal for start

SMH : Input signal for stop

Terminal	Input signal	Operation
COOL (SMC)	ON OFF	Starts all indoor units.
HEAT (SMH)	ON OFF	Stops all indoor units.



CAUTION

Be sure to prepare a non voltage pulse point contact for each terminal.

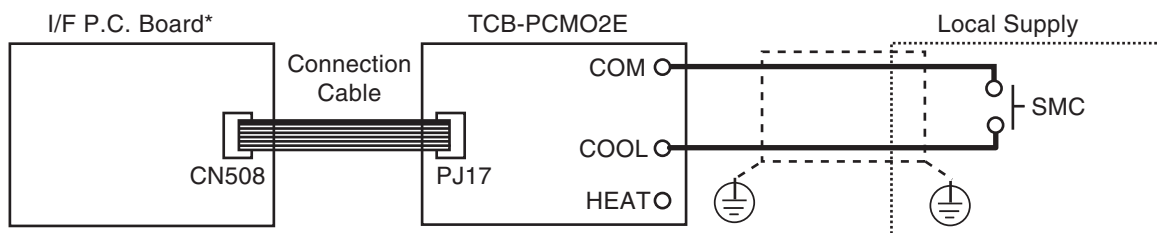
This control is conducted when input signal goes up or falls down.
(Standing and falling status should be held for 100 m.sec. or more.)

4-6-4 Night operation control

Feature

Sound level can be reduced by restricting compressor and fan speed.

Function



*Place this optional P.C. board on the header outdoor unit.

SMC : Input signal for night operation

Terminal	Input signal	Operation
COOL (SMC)	ON	Night operation control
	OFF	Normal Operation



CAUTION

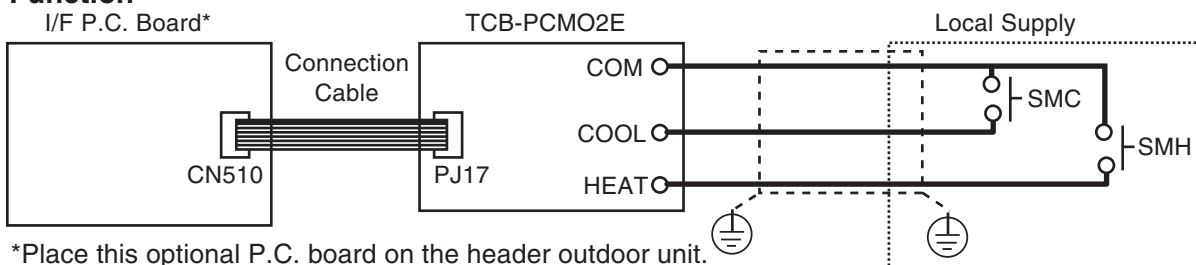
Be sure to prepare a non-voltage continuation point of contact for each terminal.

4-6-5 Operation mode selection control

Feature

This control can be operated by the operation mode which is permitted by SMC or SMH.

Function



*Place this optional P.C. board on the header outdoor unit.

SMC : Cooling mode designated input switch

SMH : Heating mode designated input switch

Terminal		Selected operation mode	Note
COOL (SMC)	HEAT (SMH)		
ON	OFF	Only cooling mode permitted	*1
OFF	ON	Only heating mode permitted	*1
OFF	OFF	Normal Operation	

Note

*1 “ ” mark is indicated on the RC display.



CAUTION

Be sure to prepare a non voltage continuous point of contact for each terminal.

4-7 Application controls by optional devices connected to indoor unit

4-7-1 Remote control by “remote location ON/OFF control box”

■ Remote location ON/OFF control box (TCB-IFCB-4E2)

[Wiring and setup]

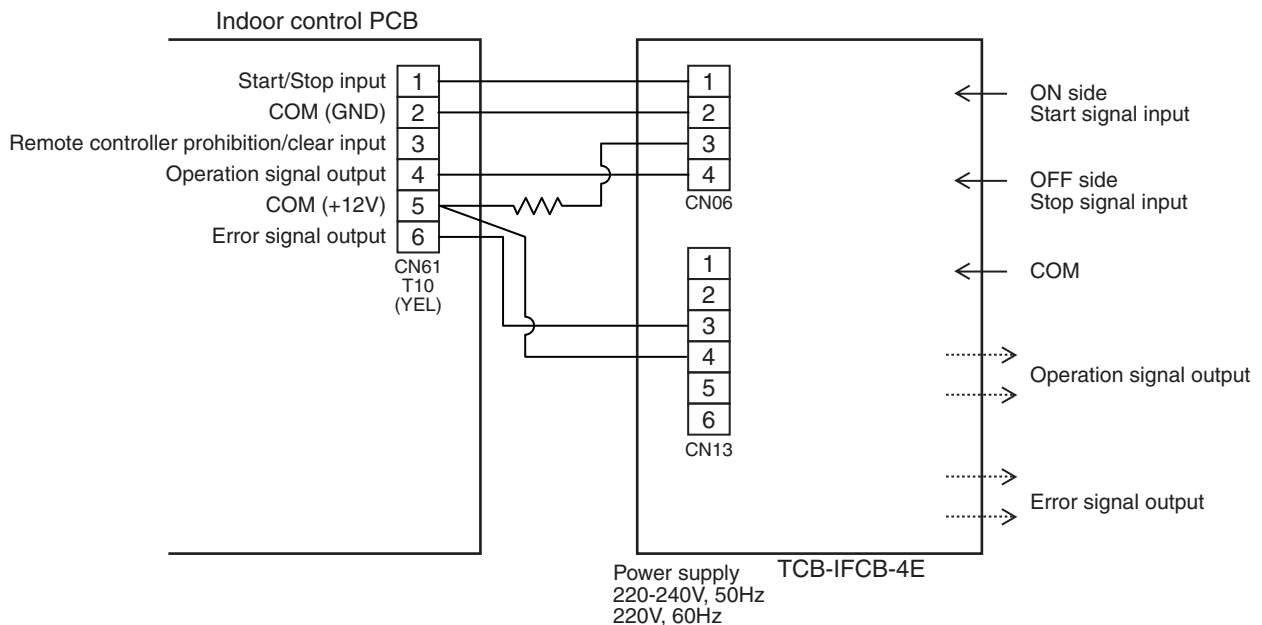
- Use an exclusive connector for connection with the indoor control P.C. board.
- In a group control, the system can operate when connecting with any indoor unit (Control P.C. board) in the group. However when taking out the operation/error signal from one unit, it is necessary to take it from all other units within the group individually.

(1) Control items

- 1) Start/Stop input signal : Operation start/stop in unit
- 2) Operation signal : Output during normal operation
- 3) Error signal : Output during alarm
(Serial communication error or indoor/outdoor protective device) operation

(2) Wiring diagram using remote control interface (TCB-IFCB-4E2)

Input IFCB-4E : No voltage ON/OFF serial signal
Output No voltage contact for operation, error display
Contact capacity: Below Max. AC240V 0.5A



Installation Manual

NAME :Remote location ON/OFF Control box

■ Model Name : TCB-IFCB-4E2

■ Usage/Function/Characteristics

Start and Stop of the air conditioner is possible by the external signal as well as the indication of operation/alarm to

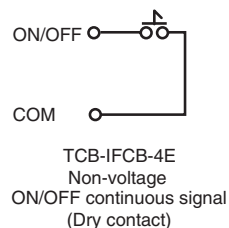
• Monitoring

The following functions are outputted by non-voltage contact.

- 1) ON/OFF status (for indoor unit)
- 2) Alarm status (System & indoor unit stop)

• ON/OFF command

The air conditioner can be turned ON/OFF by the external signals. The external ON/OFF signals are the outputs for the signals on the right.



• Central priority mode and Last-push priority modes

A select switch to select central priority mode (CENTRAL) or last-push priority mode (LAST-PUSH) is provided on this interface. Select the one most appropriate to the users requirement.

Central priority mode :

- The air conditioner will start operation when the external signal is ON. The ON/OFF control of the air conditioner can then be controlled by remote controller.
- The air conditioner will stop operation when the external signal is OFF. The ON/OFF control of the air conditioner cannot then be controlled by remote controller.

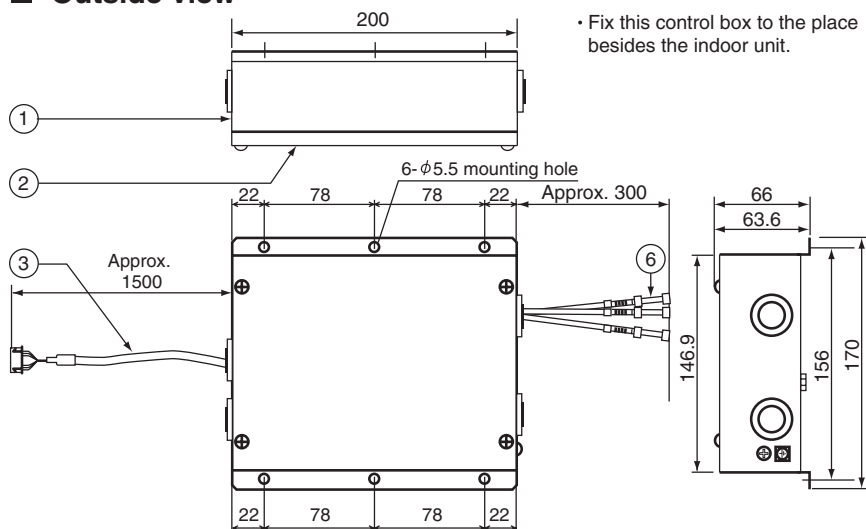
Last-push priority mode :

- ON/OFF of the air conditioner is possible by the external signals or the latest command from the local remote controller. (The mode enables you to turn on/off the air conditioner by the local remote controller even if the external signal is OFF)

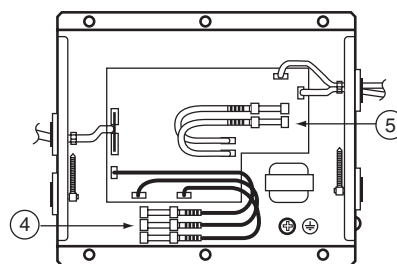
■ Specifications

Name	Remote location ON/OFF control box	Status output signal	Non-voltage contact (For indication of ON/OFF status, and alarm) Contact capacity : Max. AC 240V 0.5A or less
Model name	TCB-IFCB-4E2	Cabinet material	Galvanized steel
Power supply	Single phase, 220-240V, 50 Hz 220V, 60Hz	Size/Weight	66 (height) x 170 (width) x 200 (depth) (mm)/1050g
No. of connected indoor units	1 to 16 units for 1 interface (Group connection for 2 or more connected units)	Installation method	Exposed installation on specified position of indoor unit, appropriate position on wall surface or ceiling
Ambient temperature/humidity	0°C to 40°C DB, 30% to 90% RH	Accessory	Shield wire cable with both-end connectors for CN06 and CN13 connector : 1.5m x 2
Receive signal type of central ON/OFF command	Non-voltage ON/OFF continuous signal		

■ Outside view



■ Inside view



(NOTE) Do not install the accessory parts at the following locations.

1. Location where combustible gas may leak
2. Location where direct sunlight shines
3. Location with high humidity such as bathroom, kitchen, etc.
4. Location with high levels of dust
5. Location where rain or dew drops such as outdoors
6. Location in 1m-range of a TV or radio

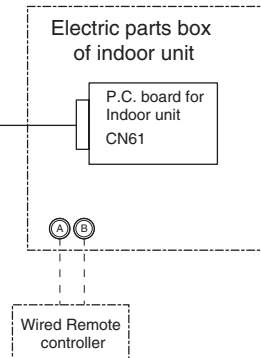
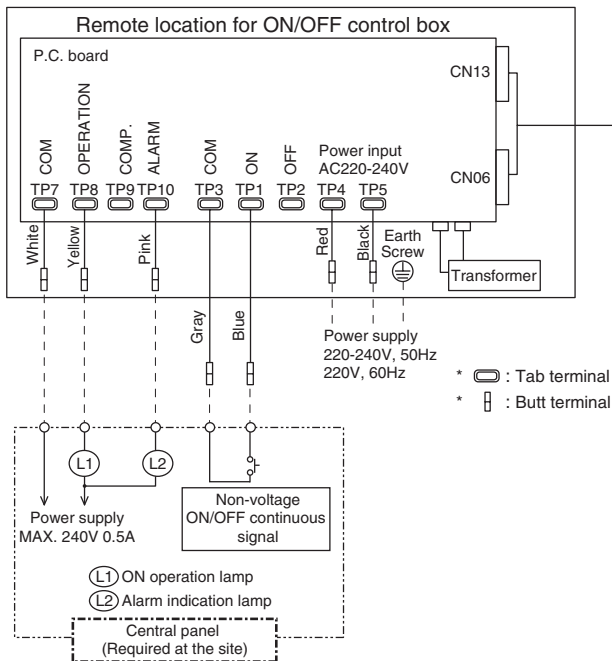
No.	Name	Specification
1	Case unit	Galvanized steel 0.8t
2	Case cover	Galvanized steel 0.8t
3	Harness to connect indoor unit P.C. board	CN61 connector
4	Harness for indication cable	UL1015 AWG18 tip-insulation type butt connector
5	Harness for power supply	3-core, 0.75mm ²
6	Harness for ON/OFF command	UL1015 AWG18 tip-insulation type butt connector

■ Accessory parts

- Accessory No.1 connecting cables are already built in.

No.	Name	Q'ty	Remarks
1	Cable (For CN61 connector, with 6P connectors to both ends, L=1.5m)	1 pcs.	Connected to connector CN61 on P.C. board of indoor unit
2	M4 tapping screw	4 pcs.	For installation of this control box

■ Performance/Electric cabling diagram



(Note)

- * For connecting, be sure to use the attached cables.
- * Cables other than connecting cables will be required at the site.
- * Fix the cables securely by using the holes provided for fixation.

Cable specifications (Local supply)

Power supply cable *1	Up to 80m : 3-core, 0.75mm ²
ON/OFF command signal cable	Up to 500m : 2-core or 3-core, 0.75mm ²
Indication signal cable *1	Up to 200m : 3-core, 0.75mm ² Up to 400m : 3-core, 1.5mm ²

*1) In conformity with design 60245 IEC 57

• Selecting of Central priority/Last-push priority

The select switch has been previously set to LAST-PUSH side on shipment from the factory.

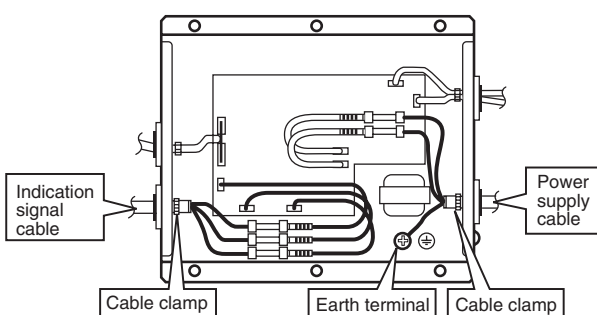
When using the air conditioner with central priority, remove the cover on the interface adapter and select "CENTRAL" side on the select switch (SW 1) found near the center of P.C. board.

(CAUTION)

Be sure to turn off the power supply to the interface adapter before selecting one side on the select switch.

• Wiring method

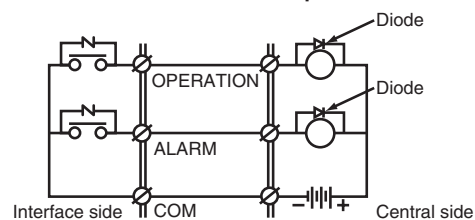
- (1) Power supply cable, earth and indication signal cable must be connected in this control box.
Detach the lid of the control box and connect the cables with the terminal according to the purpose.
- (2) Be sure to secure the cables with the cable clamp.



• Notes on connecting relays

(Relays are used for central indication in order to prevent malfunction by the surge absorber.)

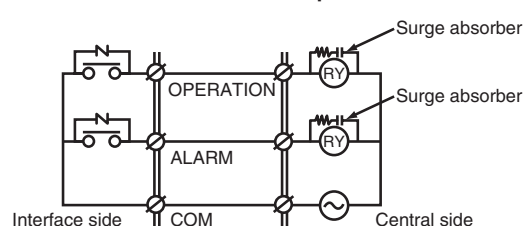
a. To drive induction load with DC power



(Note)

Mount diodes to the both ends of the relay coil.
Select a diode that has a reverse flow range 10 times or more of the voltage used and the forward current is more than the load current.

b. To drive induction load with AC power



(Note)

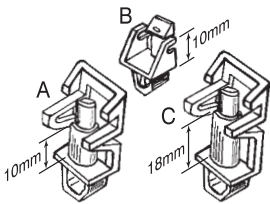
Mount surge absorbers to both ends of the relay coil.
Use a surge absorber of which voltage range is 350V AC/500V DC or more.

4-7-2 Central control by AI-NETWORK (Network adapter)

MODEL : TCB-PCNT20E

[Installation Manual]

1. Components

Part name	Q'ty	Description
P.C. board	1	P.C. board corresponded to the network
Relay terminal block	1	2P (X, Y) terminal block for relay
Relay cable (A)	1	For connection of adapter board with X, Y relay terminal block (Red connector)
Relay cable (B)	1	For connection of adapter board with remote controller terminal block (Blue connector)
Installation Manual	1	This manual
Spacer (A)	2	For fixing the adapter P.C. board (Used for other types than 4-way cassette type)
Spacer (B)	1	For fixing the adapter P.C. board (Used for other types than 4-way cassette type)
Spacer (C)	3	For fixing the adapter P.C. board (Used for 4-way cassette type)
		
Screws to fix terminal block	2	For fixing the relay terminal block (M4 x 14)
Transformer cover	1	Used to store transformer (For 4-way cassette type)
Transformer base	1	Used to store transformer (For 4-way cassette type)
Transformer	1	For supplying power to adapter
Screws to fix transformer	2	For fixing transformer (M3 x 6)
Screws to assemble transformer cover	2	For assembling transformer cover (M4 x 6 for 4-way)
Screws to fix transformer base	2	For fixing transformer base (M4 x 10 for 4-way)
Bundling band	3	Used to process cables so that they are not caught in.

2. Combination List of Adapter Parts

	Parts	For 4-way air discharge cassette type	For Concealed duct standard type
1	Adapter P.C. board	3 spacers (C) for installing P.C. board	2 spacers (A) for installing P.C. board 1 spacer (B) for installing P.C. board
2	Transformer	M3 x 6 B tight screw (2 pcs.)	M3 x 6 B tight screw (2 pcs.)
3	For assembling transformer cover	M4 x 6 tapping screws (2 pcs.)	————
4	For fixing transformer base	M4 x 10 plus tight screws (2 pcs.)	————
5	XY terminal block	M4 x 14 tapping tight screws (2 pcs.)	M4 x 14 tapping tight screws (2 pcs.)
6	Adapter P.C. board to XY terminal block	Connector, red color, lead length : 600L	Connector, red color, lead length : 600L
7	Adapter P.C. board to AB terminal block	Connector, blue color, lead length : 600L	Connector, blue color, lead length : 600L

* Spacer (A) for installing P.C. board : Spacer to be mounted by using the hole on the P.C. board.
(For other types than 4-way cassette type)

Spacer (B) for installing P.C. board : Spacer to be mounted by pinching it in the P.C. board.
(For other types than 4-way cassette type)

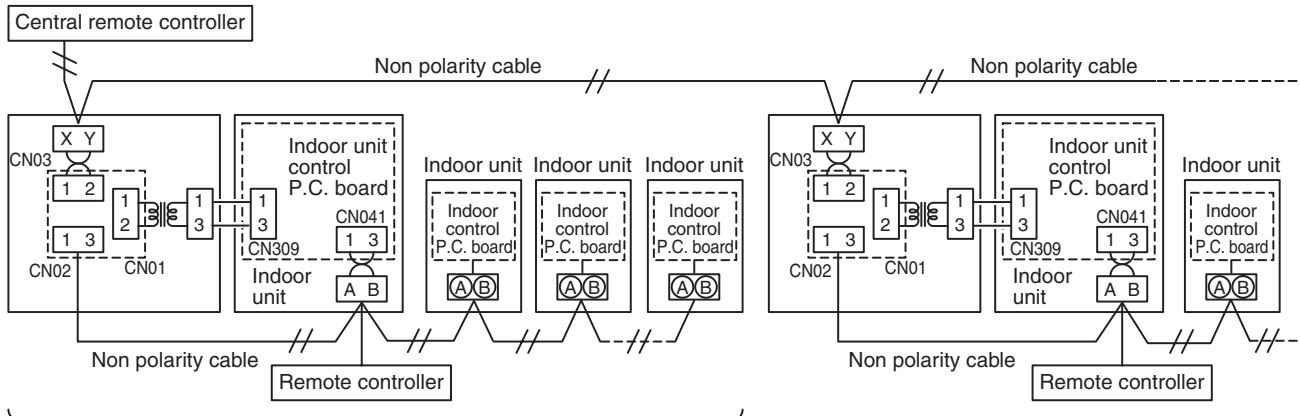
Spacer (C) for installing P.C. board : Spacer to be mounted by using the hole on the P.C. board for 4-way cassette type.

* For other indoor unit types, refer to the installation manual supplied with this adapter.

3. Connection of Cables

[1] Connection of network cables

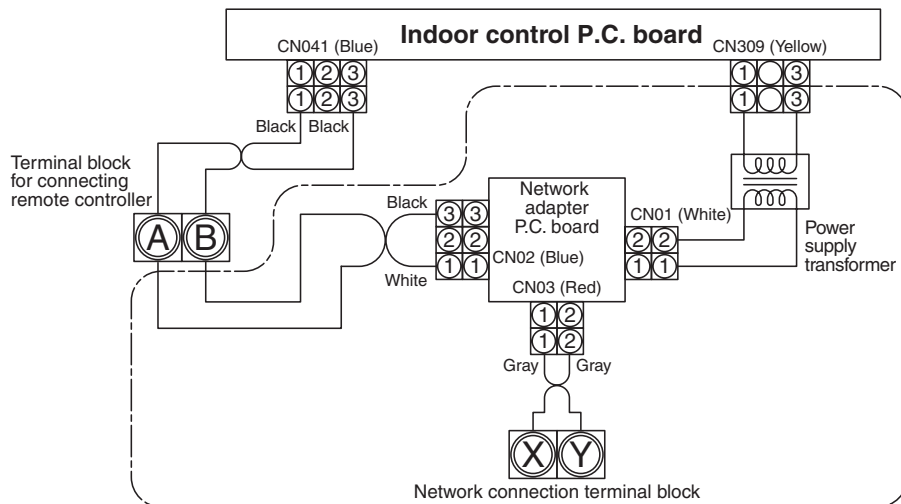
- Attach one network adapter per group (including one unit).
- Connect the network adapter to any one of the indoor units in a group control.



Connectable indoor units per group : Up to 8 units (In case of 1-remote controller system*)
 * In case of 2-remote controllers system, up to 7 indoor units are allowed to be connected.

[2] Cabling diagram of indoor control P.C. board

For details, see the installation procedure for the individual model.



- The enclosed section shown above includes the attached parts.
- There is no polarity on the cabling between the terminal blocks, A, B and X,Y.
- Arrange the total cable length of the remote controller cable and the inter-unit cable of the remote controller within 400m.

4. Installation Procedure

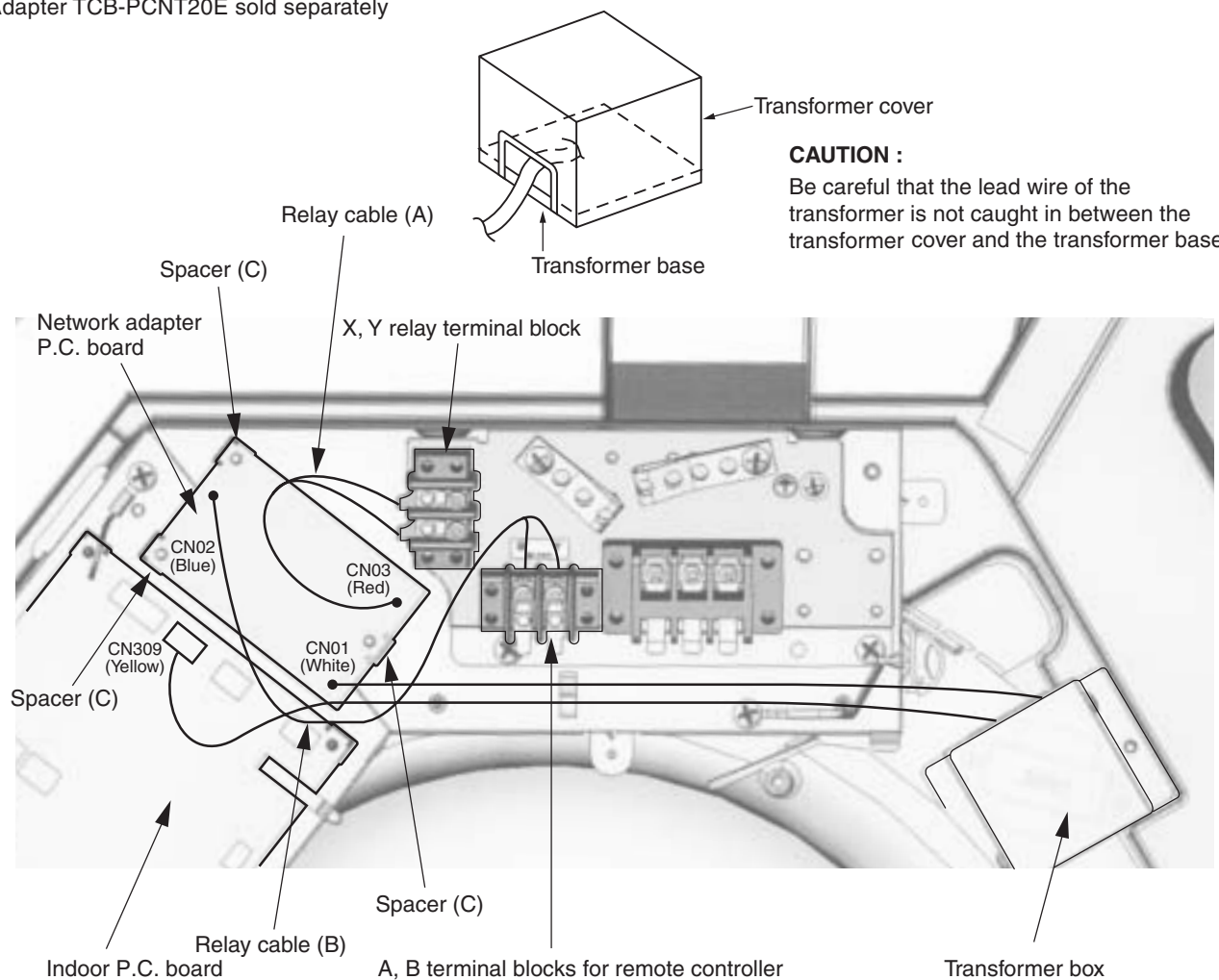
- For installation of the adapter P.C. board and the removal of the relay cable, be sure to wait for approx. 1 minute after turning off the power supply to the air conditioner and the collective control remote controller. If not the adapter P.C. board may be damaged.

■ In case of 4-way Air Discharge Cassette type*

No.	Procedure
1	Using the spacer (C), install the adapter P.C. board to the position on the electric parts box of the indoor unit.
2	Using the 2 pcs. Ø4 x 14 tapping tight screws, install X, Y relay terminal block to the position on the electric parts box. • When tightening the screws, be sure not to damage the cable.
3	Using 2 pcs. Ø4 x 6 tapping screws, install the transformer box storing the transformer to a position at the side of the bell mouth.
4	Using the relay cable (A), connect the X, Y relay terminal block with CN03 (Red) on the adapter P.C. board and remote controller terminal block (A, B) with CN02 (Blue) on the adapter P.C. board using the relay cable (B). Perform cabling between the yellow connector on the transformer and CN309 on the adapter P.C. board, and between the white connector change and the CN01 change socket on the adapter P.C. board respectively.

Details

Adapter TCB-PCNT20E sold separately



* To install the adapter P.C. board on the electric parts box, put 3 pcs. spacer (C) into the holes on the P.C. board

* After the connection of the relay cables (A) and (B), fix them along with the neighboring cables with bundling band so that cables cannot be caught.

* For other indoor unit types, refer to installation manual supplied with this adapter.

5. Setup of Address No.

To connect the indoor unit to the central remote controller using the adapter, it is necessary to set up the network address No.

- It is required to agree the network address No. with the central remote controller system No.
- The network address No. is set to 1 at the shipment from the factory.

The following two methods are used for setup.

1. Setup from the remote controller at the indoor unit side (RBC-AMT21E, RBC-AMT31E)

- This method is available only when [7] on the setup switch SW01 on the adapter P.C. board is OFF.

Procedure Set up the address No. while the air conditioner is not in operation.

1 Push the and buttons for 4 seconds or more.

In the case of group control, the unit No. **ALL** is displayed and all of the indoor units in the group control are selected. (Fig. 1)

At this time, the fans on all of the selected indoor units will start and the swing operation will begin in the models with louvers. (Keep the display status of **ALL** without pushing the  button.)

In case of individual remote controller with no group control, the system address and the indoor unit address are displayed.

2 Using the buttons, specify the item code **03**.

3 Using the buttons, select the setup data.

The following table shows the setup data. (Table 1)

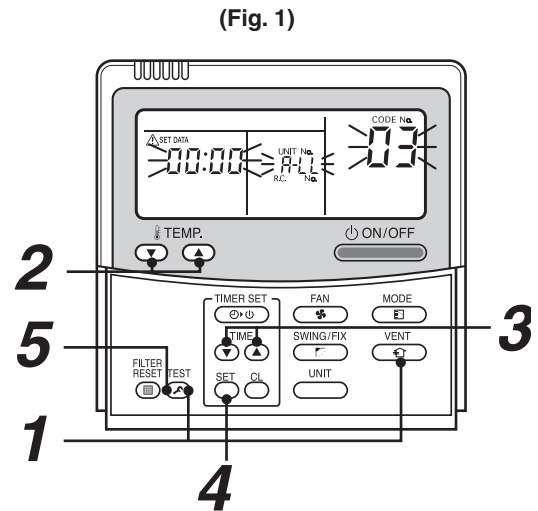
4 Push the button. (When the display goes on, the setup data is accepted.)

To change the setup item, return to the step **2**.

5 Push the button. The status returns to the normal stop status.

(Table 1)

Setup data	Network address No.
0001	1
0002	2
0003	3
⋮	⋮
0064	64
0099	No setting (Shipment from the factory.)



2. Setup by the switch on the adapter P.C. board

When the remote controller is not found, or when you do not want to change the setup of network address No. on the remote controller, set up the address No. by using the setup switch SW01 (Network address No. setup switch) on the adapter P.C. board.

Procedure

1 Turn off the power supply.

2 Set [7] on the address No. setup switch to the ON side.

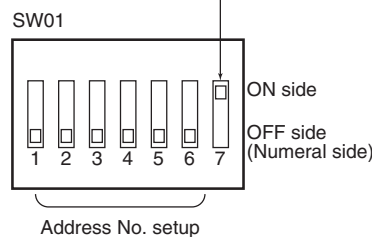
Accordingly, the setup of the address No. from the remote controller is invalidated. (Fig. 2)

3 The network address No. is set up by combining ON/OFF settings for the address No. setup switch, from SW01 [6] to [1].

For the relationship between ON/OFF combination and the address number see (Table 2).

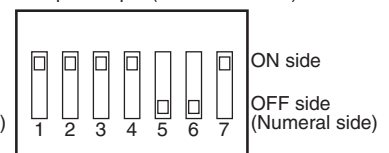
A case when the address No. is set to 16 is shown in (Fig. 3).

Address No. setup on the remote controller is invalid.



(Fig. 2)

Setup example (Address No. 16)



(Fig. 3)

When the network address No. has been changed, turn on the power to the central remote controller again or reset the central remote controller from the reset hole on the control panel.

■ Address No. setup table (SW01)

(Table 2)

○ : ON side, × : OFF side

Address No.	①	②	③	④	⑤	⑥
01	×	×	×	×	×	×
02	○	×	×	×	×	×
03	×	○	×	×	×	×
04	○	○	×	×	×	×
05	×	×	○	×	×	×
06	○	×	○	×	×	×
07	×	○	○	×	×	×
08	○	○	○	×	×	×
09	×	×	×	×	×	×
10	○	×	×	○	×	×
11	×	○	×	○	×	×
12	○	○	×	○	×	×
13	×	×	○	○	×	×
14	○	×	○	○	×	×
15	×	○	○	○	×	×
16	○	○	○	○	×	×
17	×	×	×	×	○	×
18	○	×	×	×	○	×
19	×	○	×	×	○	×
20	○	○	×	×	○	×
21	×	×	○	×	○	×
22	○	×	○	×	○	×
23	×	○	○	×	○	×
24	○	○	○	×	○	×
25	×	×	×	○	○	×
26	○	×	×	○	○	×
27	×	○	×	○	○	×
28	○	○	×	○	○	×
29	×	×	○	○	○	×
30	○	×	○	○	○	×
31	×	○	○	○	○	×
32	○	○	○	○	○	×

Address No.	①	②	③	④	⑤	⑥
33	×	×	×	×	×	○
34	○	×	×	×	×	○
35	×	○	×	×	×	○
36	○	○	×	×	×	○
37	×	×	○	×	×	○
38	○	×	○	×	×	○
39	×	○	○	×	×	○
40	○	○	○	×	×	○
41	×	×	×	○	×	○
42	○	×	×	○	×	○
43	×	○	×	○	×	○
44	○	○	×	○	×	○
45	×	×	○	○	×	○
46	○	×	○	○	×	○
47	×	○	○	○	×	○
48	○	○	○	○	×	○
49	×	×	×	×	○	○
50	○	×	×	×	○	○
51	×	○	×	×	○	○
52	○	○	×	×	○	○
53	×	×	○	×	○	○
54	○	×	○	×	○	○
55	×	○	○	×	○	○
56	○	○	○	×	○	○
57	×	×	×	○	○	○
58	○	×	×	○	○	○
59	×	○	×	○	○	○
60	○	○	×	○	○	○
61	×	×	○	○	○	○
62	○	×	○	○	○	○
63	×	○	○	○	○	○
64	○	○	○	○	○	○

Requirement in Service Time

When using this product as a service part for the adapter P.C. board be sure to set the setup switch SW01 (Network address No. setup switch) on the adapter P.C. board so that it is same as one before the change.

6. To Customers

◆◆ Cautions in using the remote controller ◆◆

- After the power supply to all of the air conditioning units has been turned on, turn on the power supply to the central remote controller. (16-systems : RBC-CR1-PE, 64-systems : RBC-CR64-PE)
If the power supplies of the air conditioner and the remote controller are turned on at the same time, or if they are turned on in reverse order, the check code [97] may be temporarily displayed on the central remote controller. When the connection cabling and setup on the central address are correct, the connected air conditioner is displayed on the central remote controller.
- As described below, there are differences on the display of the LCD and the individual restrictions for the operation in the main wired remote controller (RBC-AMT31E) and the central remote controller.

	Item	Contents		Cautions
		Main remote controller	Central remote controller	
1	Fan speed select	Ⓐ    	Ⓐ    	Display of air speed selection differs.
2	Fan speed select in FAN mode	  	Ⓐ    	When operating the main remote controller, Ⓐ  is not displayed. If selecting Ⓐ  at the central side, Ⓐ  is then displayed on the main remote controller. At this time, the air speed is displayed as  .
3	Fan speed select in DRY mode	Ⓐ    	Ⓐ 	Ⓐ  is only displayed on the central remote controller. Ⓐ  is displayed on the main remote controller even when changes of the setup temperature/louver and air speed changes are done automatically.
4	Air direction adjustment	 and air direction adjustment	[LOUVER]	[LOUVER] only is displayed on the central remote controller. [LOUVER] is displayed when the flap is swinging and when the operation status is changed i.e. ON to OFF
		(No display)	[LOUVER] Manual	Set the air direction on the main remote controller.
5	Check button	Test run (4 seconds)	Display of check code and Check reset (3 seconds)	In the case of a unit without the function of air direction adjustment The function differs when the  button is pushed for a long time. If the central remote controller-ON is reset during the operation of the air conditioner, the operation will stop temporarily. (fault/error of the air conditioner is cleared.)
6	Check code	Display with 3 digits (Alphabet + 2 digits numerals)	Display with 2 digits (Alphabet or numerals)	The display of the check code differs. Ex.) Float switch operation Main side : [P10], Collective side : [0b]

- When using the remote controller with the former remote controller (RBC-AM1E, AT1E), if Last-push priority/Center/Locked is selected on the central remote controller, the display will differ on the main remote controller.

	Item	Contents		Remarks
		New remote controller (RBC-AMT31E)	Former remote controller (RBC-AM1E, AT1E)	
1	Last-push priority	(No display)	(No display)	All of the setups and Start/Stop operations will be available.
2	Center	CENTER goes on.	CENTER goes on.	The setup contents on the central remote controller are fixed. The Start/Stop operation and timer operation will be available on the main remote controller.
3	Locked		CENTER flashes.	The setup contents on the central remote controller are fixed and the air conditioner will stop. The operation on the main remote controller will be unavailable.

* Before using the remote controller, read the Owner's Manual thoroughly.

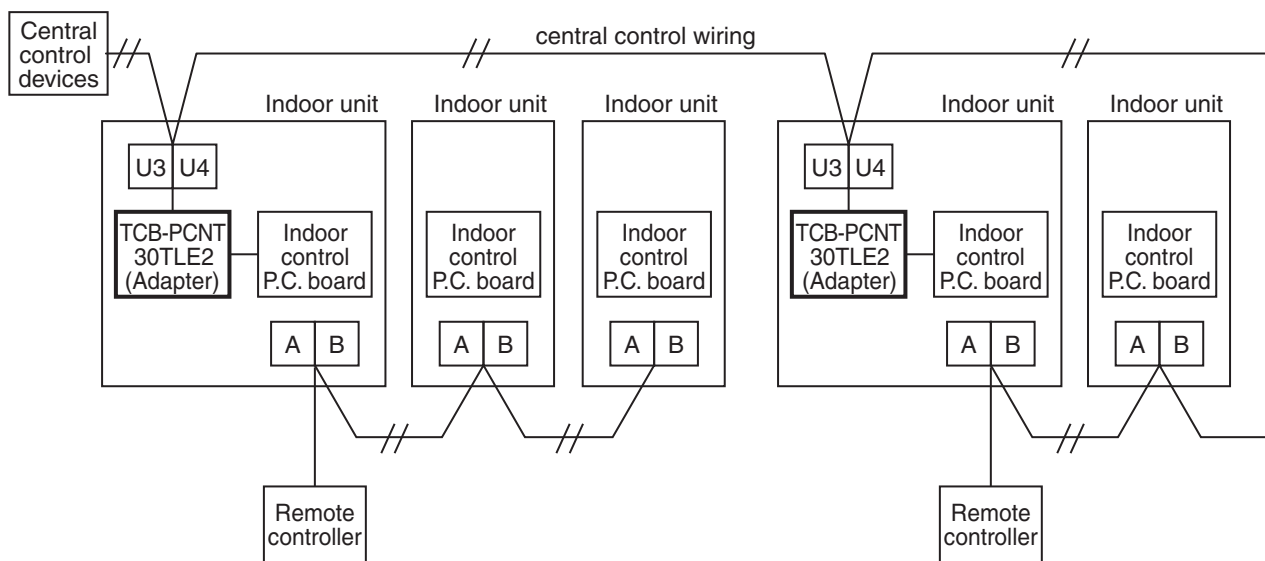
4-7-3 Central control with “1:1 model” (“1:1 model” connection interface)

MODEL : TCB-PCNT30TLE2

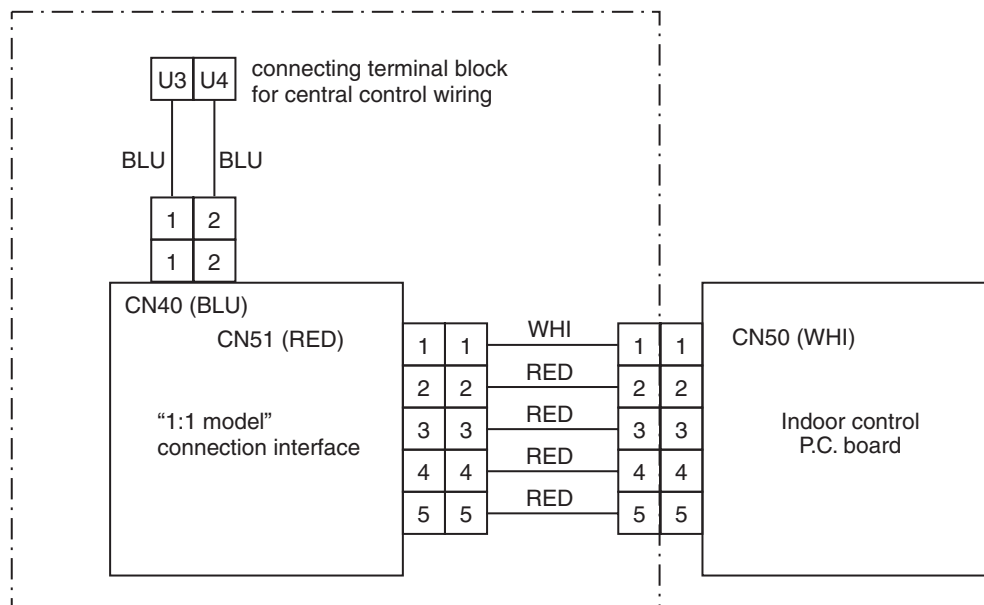
- When controlling the super-digital inverter and the digital inverter, the adapter named “1:1 model” connection interface (TCB-PCNT30TLE2) is necessary.
- The central control device must be connected to the central control wiring.
- In case of central control among 1:1 models, be sure to set SW01-1 to the ON position in the system with the lowest line address number. (At shipment : SW01-1=OFF)

1. Cabling connection for the control wiring

For each group in a group control operation attach 1 adapter (including individual control).
Connect the adapter to the header indoor unit of the group control.



2. Cabling connection diagram with indoor control P.C. board

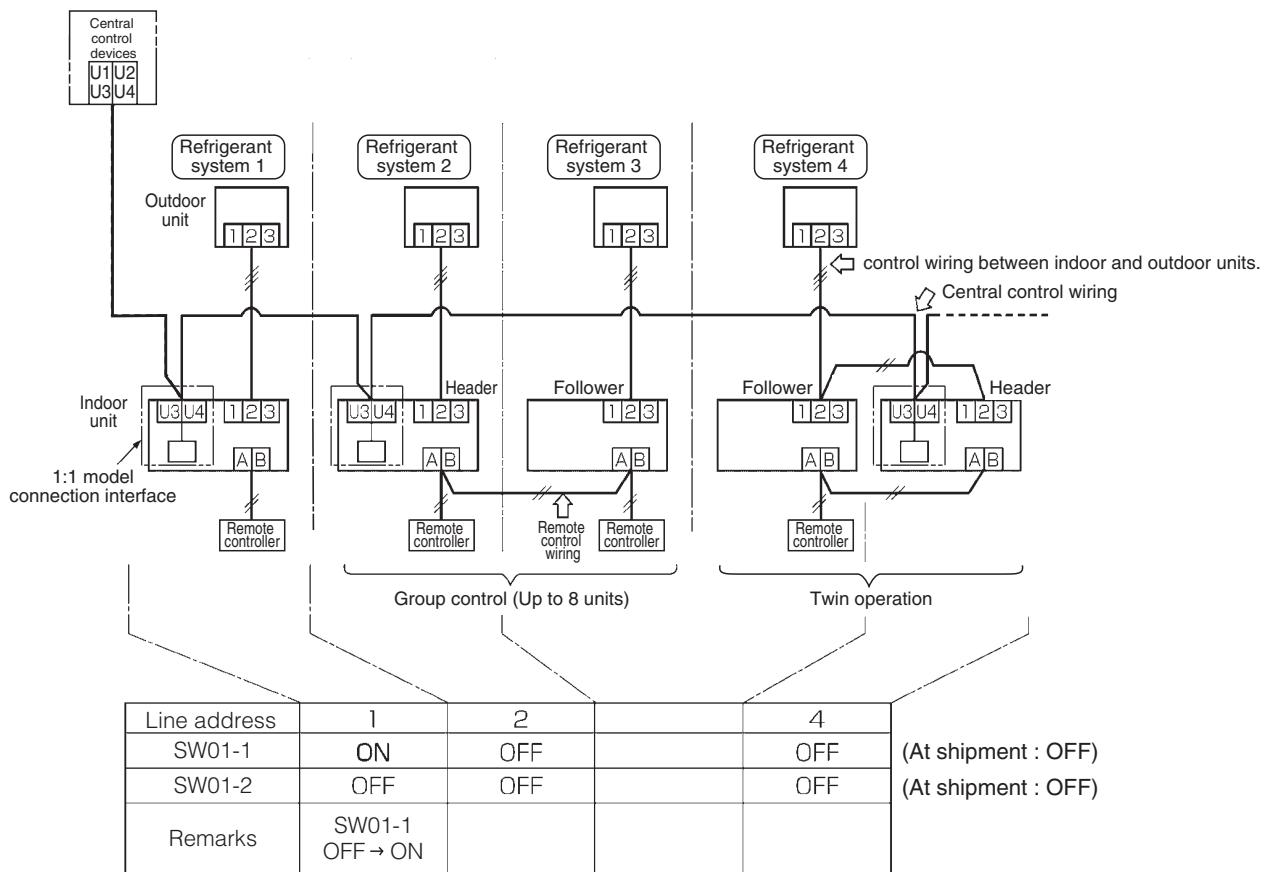


- Parts included in the single-point chain line are optional accessories.
- There is non-polarity on the cables connected to U3 and U4 terminals.

3. Switch Setting on the P.C. board

In case of central control among 1:1 models, the setting of the terminator resistor is required.*

- Terminator resistor is set by SW01.
- Be sure to set the terminal resistor on the P.C. board connected to the indoor unit with the least number of line addresses.



(Reference) Setting contents of switch (SW01)

SW01		Terminator resistor	Remarks
bit 1	bit 2		
OFF	OFF	no terminator	As per shipment or in a combined VRF system.
ON	OFF	100Ω	Central control among 1:1 models

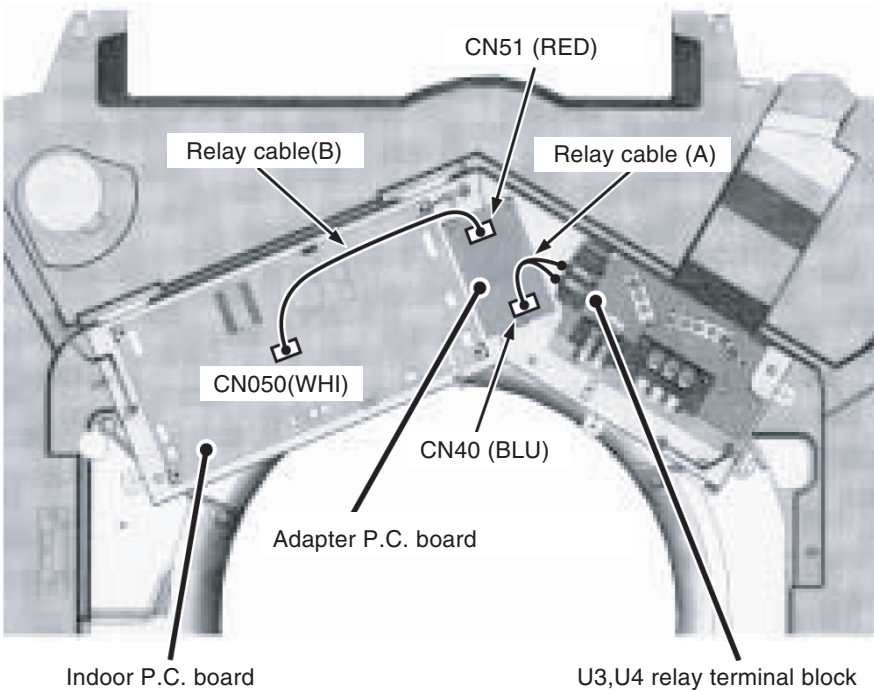
- * If the central control is used on VRF systems, set the terminator resistor (SW30-2) on the header outdoor unit with the lowest line address number to ON and set up SW30-2 on the other header units to OFF. (Refer to the section of “3-2-2”.)

In this scenario the setting of the terminator resistor on 1:1 models is unnecessary. (leave SW01 in its default shipment position.)

4. Installation Procedure

- For installation of the adapter P.C. board and the removal of the relay cable, be sure to wait proximately 1 minute after turning off the power supply to all air conditioning units and the collective control remote controller. Failure to do so may result in damage to the adapter P.C. board.

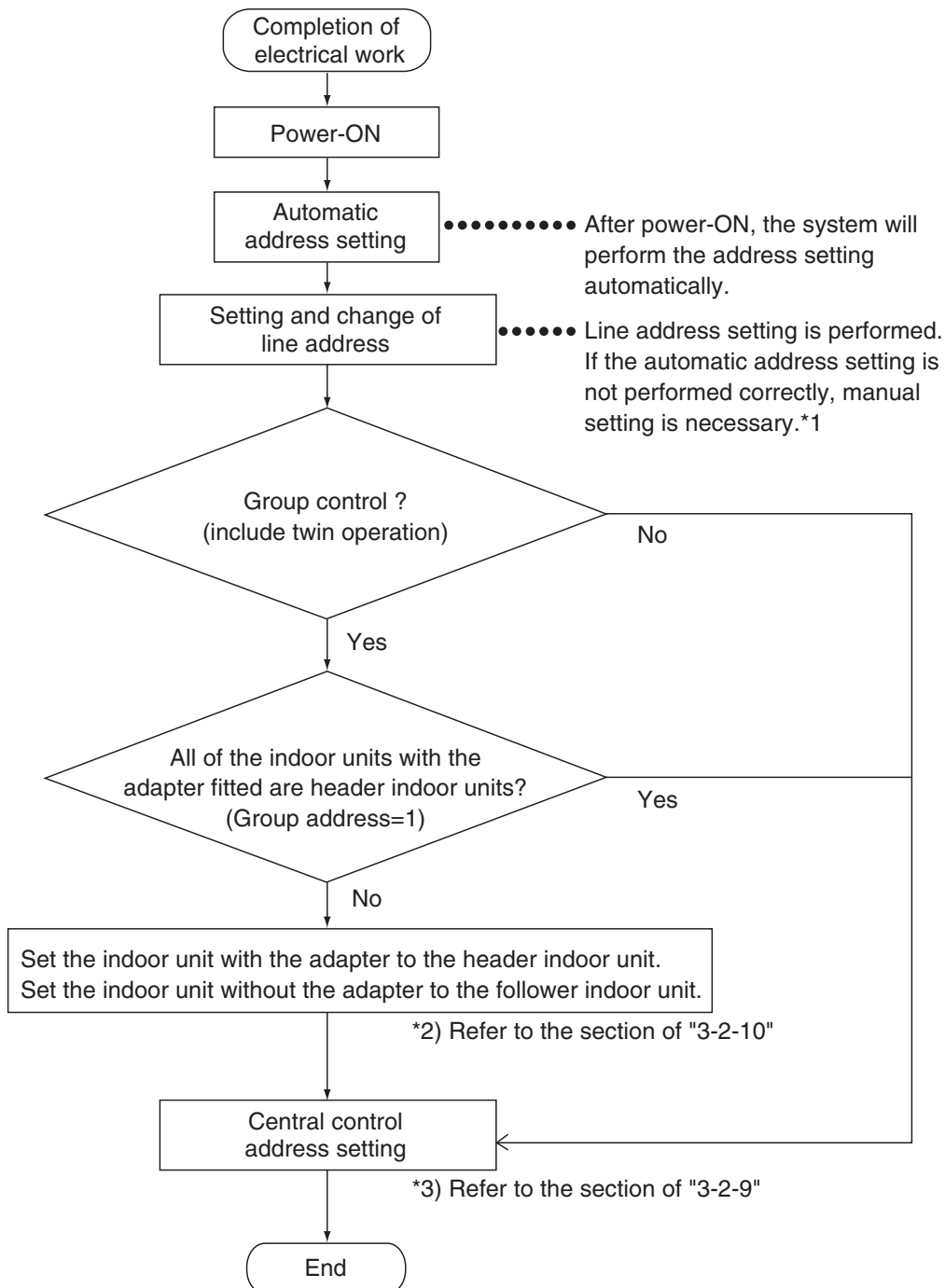
■ 4-way Air Discharge Cassette Type

No.	Procedure
1	Using the spacer (A), install the adapter P.C. board into position on the electric parts box.
2	Install U3, U4 relay terminal block into position on the electrical parts box. • When tightening the screws, be sure not to damage the cable.
3	Using the relay cable (A), connect the U3, U4 relay terminal block with CN40 (BLU) on the adapter P.C. board. Using the relay cable (B), connect CN50 (WHI) on the indoor PC board with CN51 (RED) on the adapter P.C. board.
Details	
TCB-PCNT30TL  The diagram illustrates the wiring connections for the 4-way Air Discharge Cassette Type. It shows the Indoor P.C. board, the Adapter P.C. board, and the U3, U4 relay terminal block. Relay cable (A) connects the U3, U4 relay terminal block to CN40 (BLU) on the adapter P.C. board. Relay cable (B) connects CN50 (WHI) on the indoor P.C. board to CN51 (RED) on the adapter P.C. board. The adapter P.C. board is mounted on the electric parts box using spacers (A). * Relay cable (A) Connection between U3, U4 relay terminal block and CN40 (BLU) on the adapter P.C. board. Connection cables are non polar. * Relay cable (B) Connection between CN50 (WHI) on the indoor P.C. board and CN51 (RED) on the adapter P.C. board. * To install the adapter P.C. board to the electric parts box, place the Spacer (A) x 3 into the respective holes of the P.C. board. * After the connection of the relay cables (A) and (B), fix them against the neighboring cables with a cable tie so that the cables are secure and cannot be caught.	

* For other indoor unit types, refer to the installation manual attached to the adapter.

5. Address set up

■ Outline



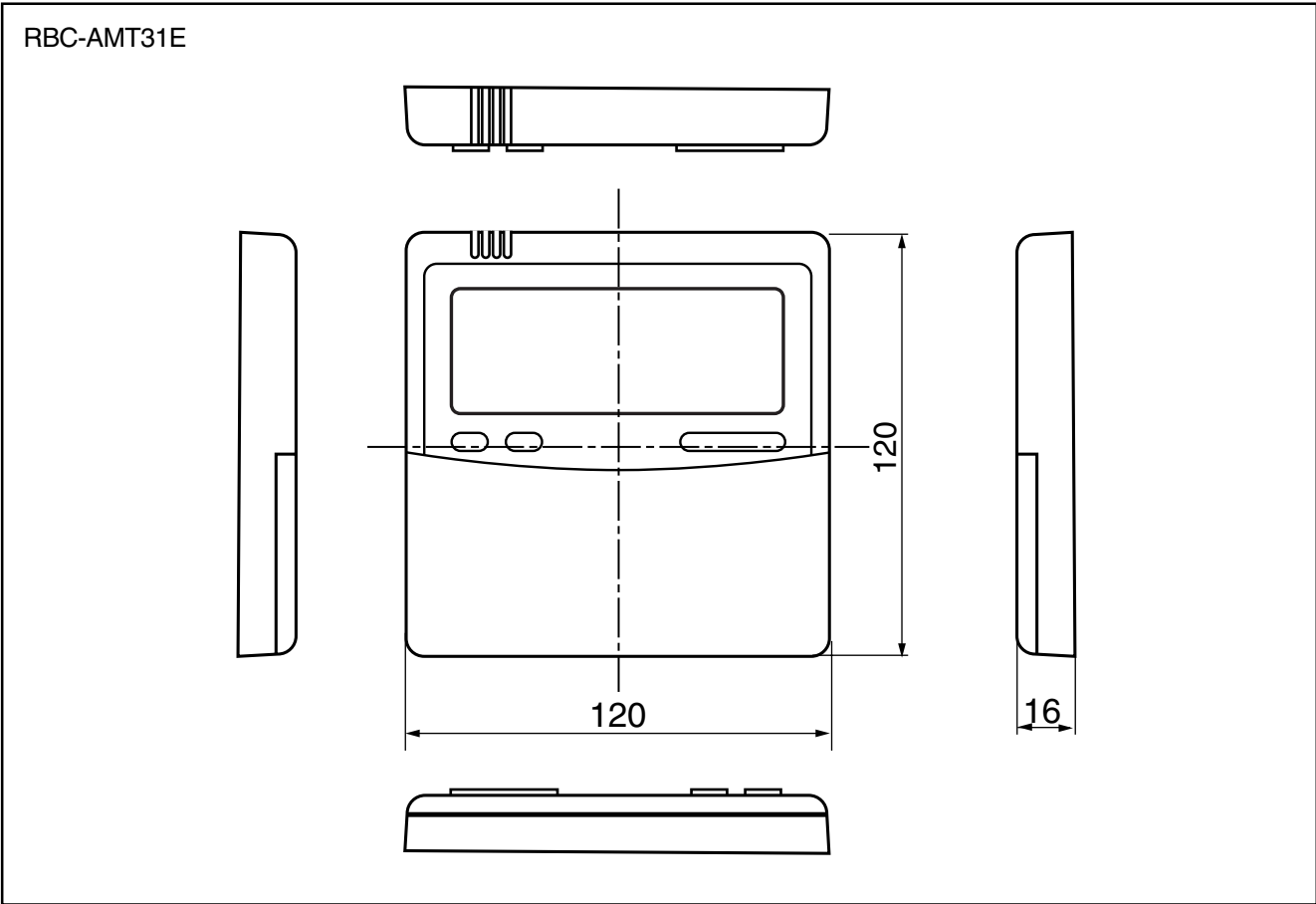
*1) After automatic address setup has been completed, all of the line addresses will become "1" except in group control where a duplicated address error "E08" will be displayed.
It is then necessary to change the line address from the wired remote controller for each system. (Refer to the section of "3-2-10".)

For detailed procedure, refer to the installation manual attached to the adapter.

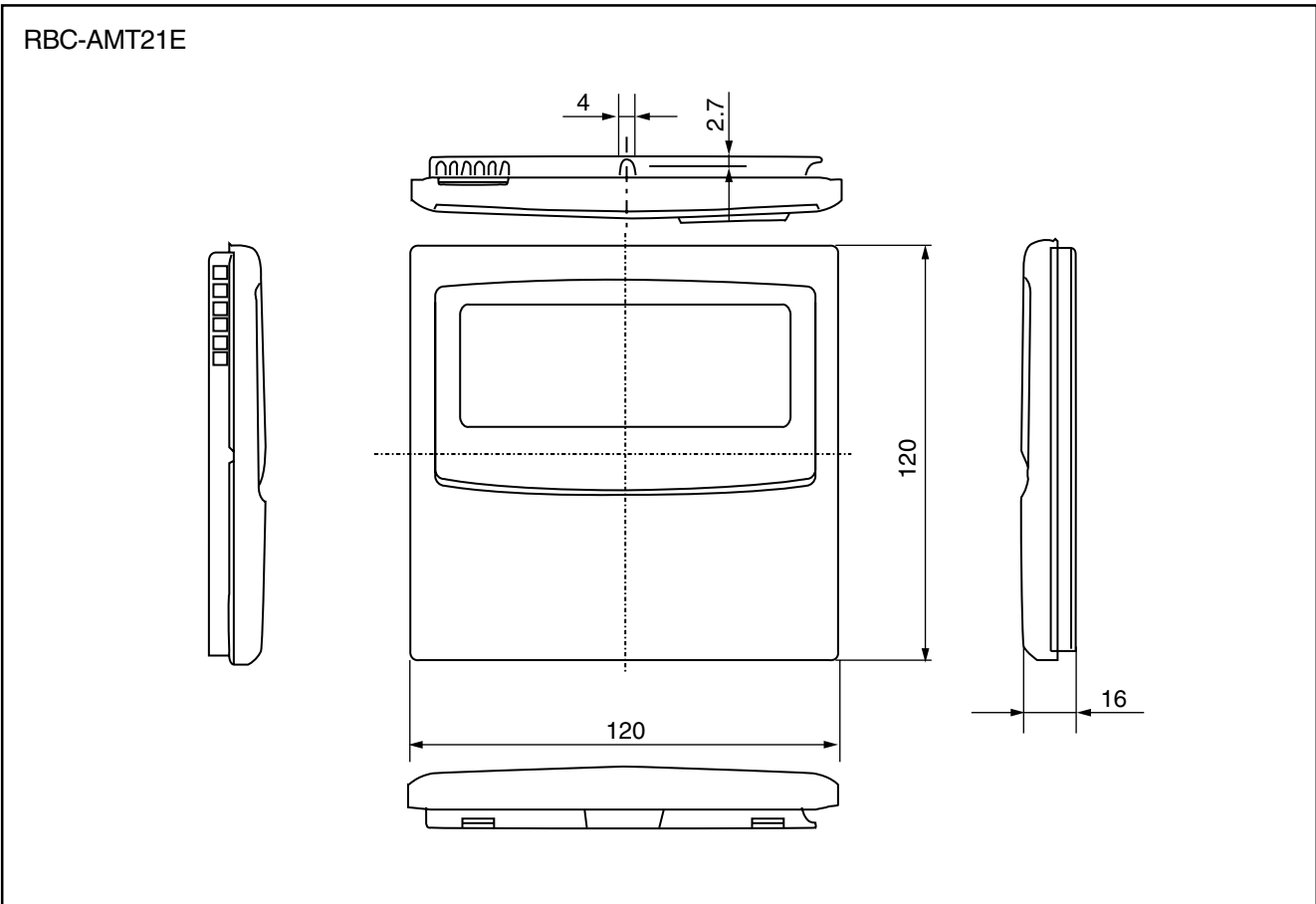
5

DIMENSIONAL DRAWING

Wired remote controller

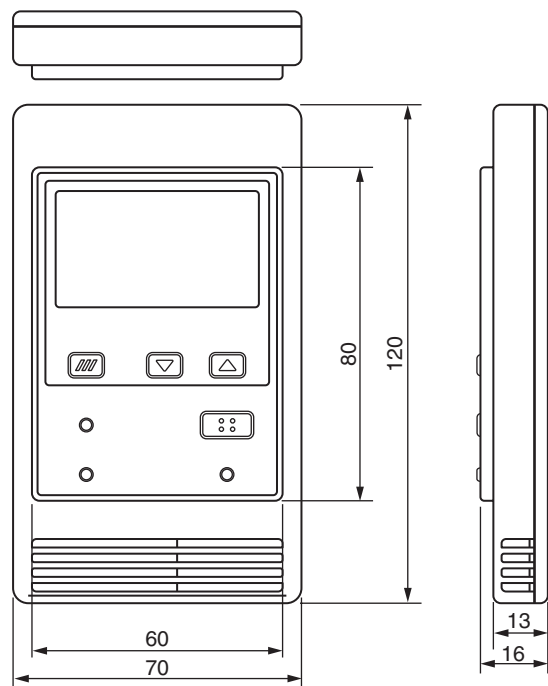


Wired remote controller



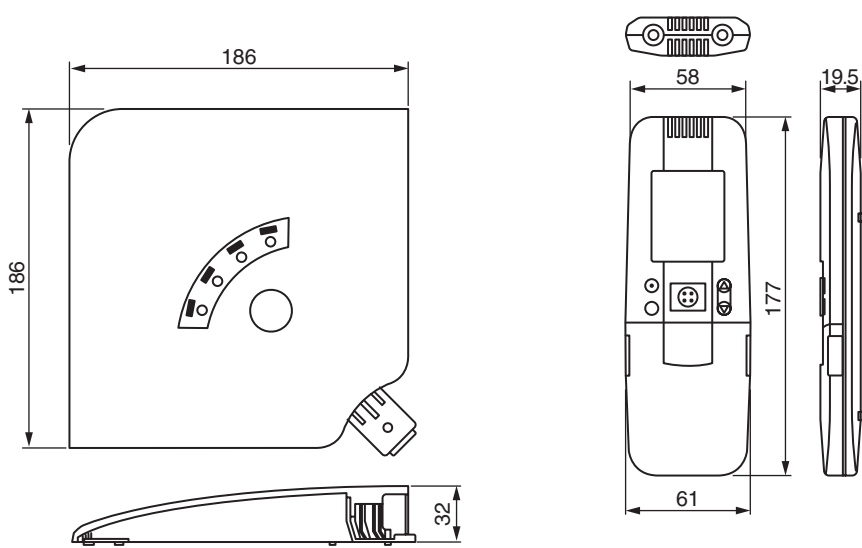
Simple wired remote controller

RBC-AS21E/RBC-AS21E2

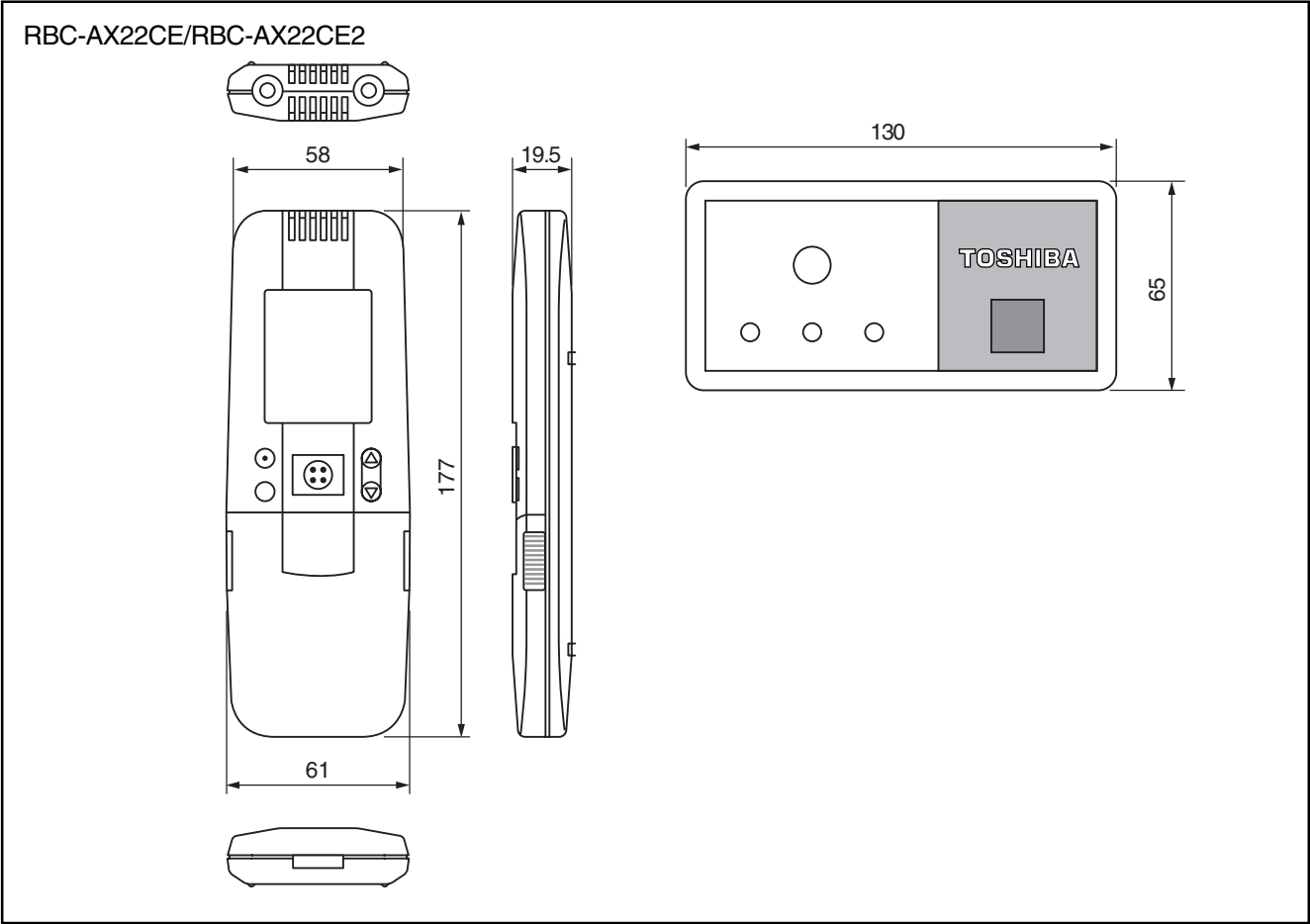


Wireless remote controller kit

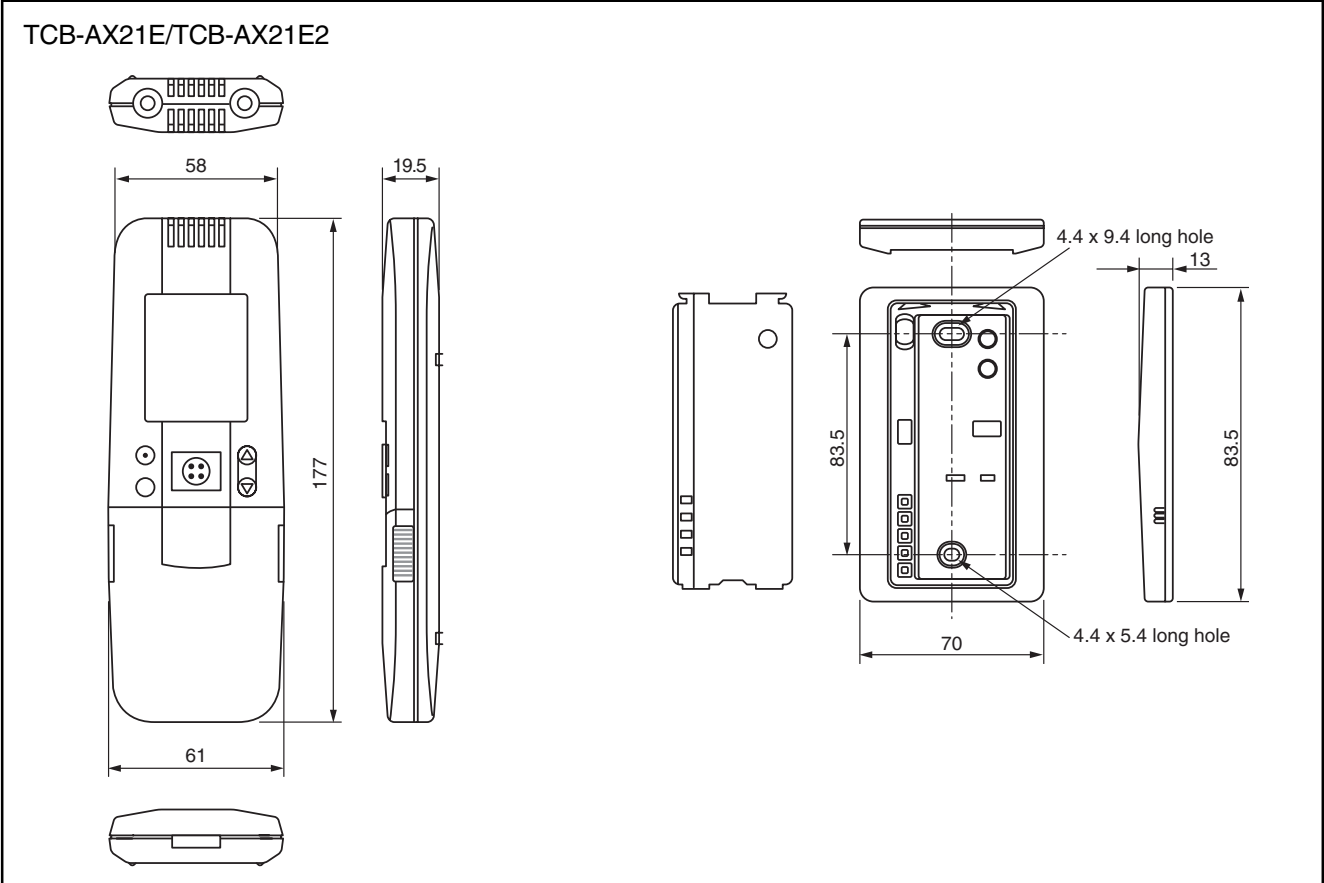
TCB-AX21U(W)-E/TCB-AX21U(W)-E2



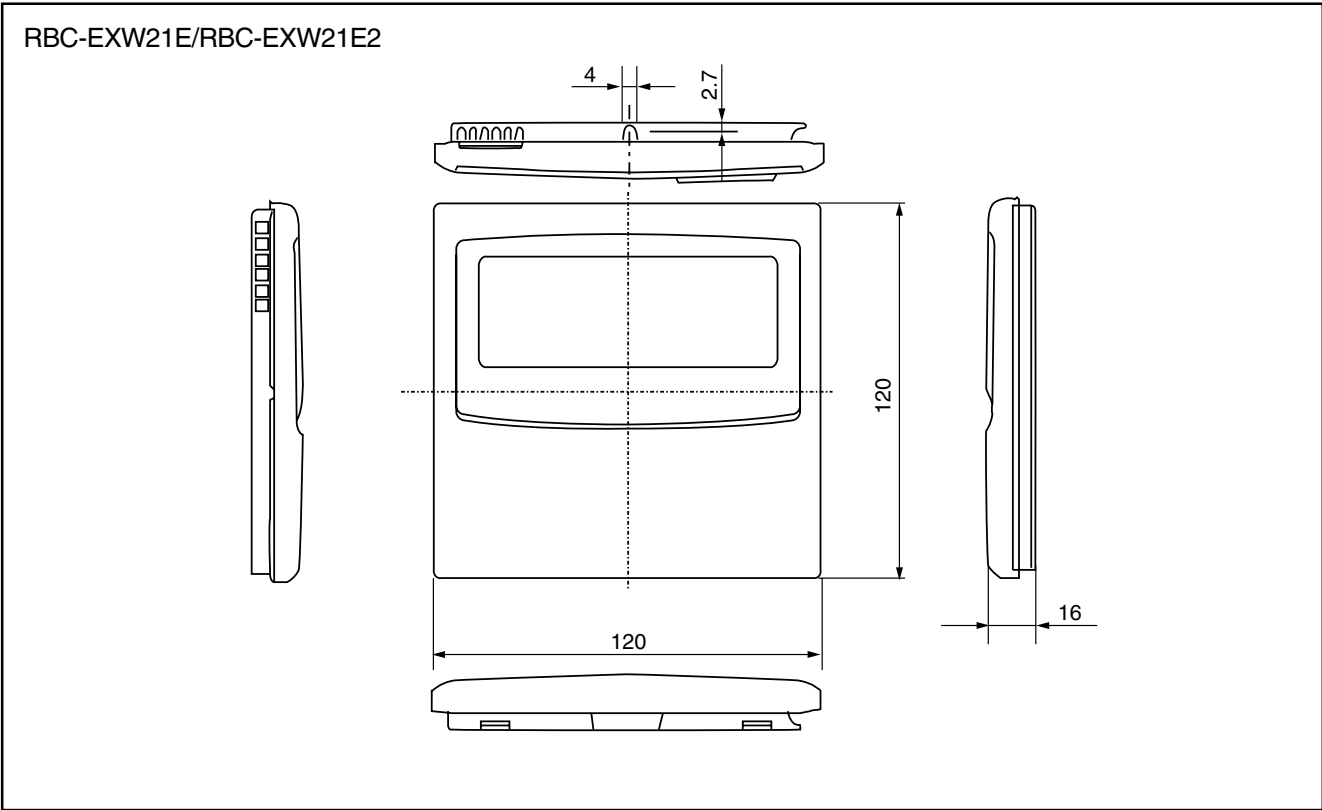
Wireless remote controller kit



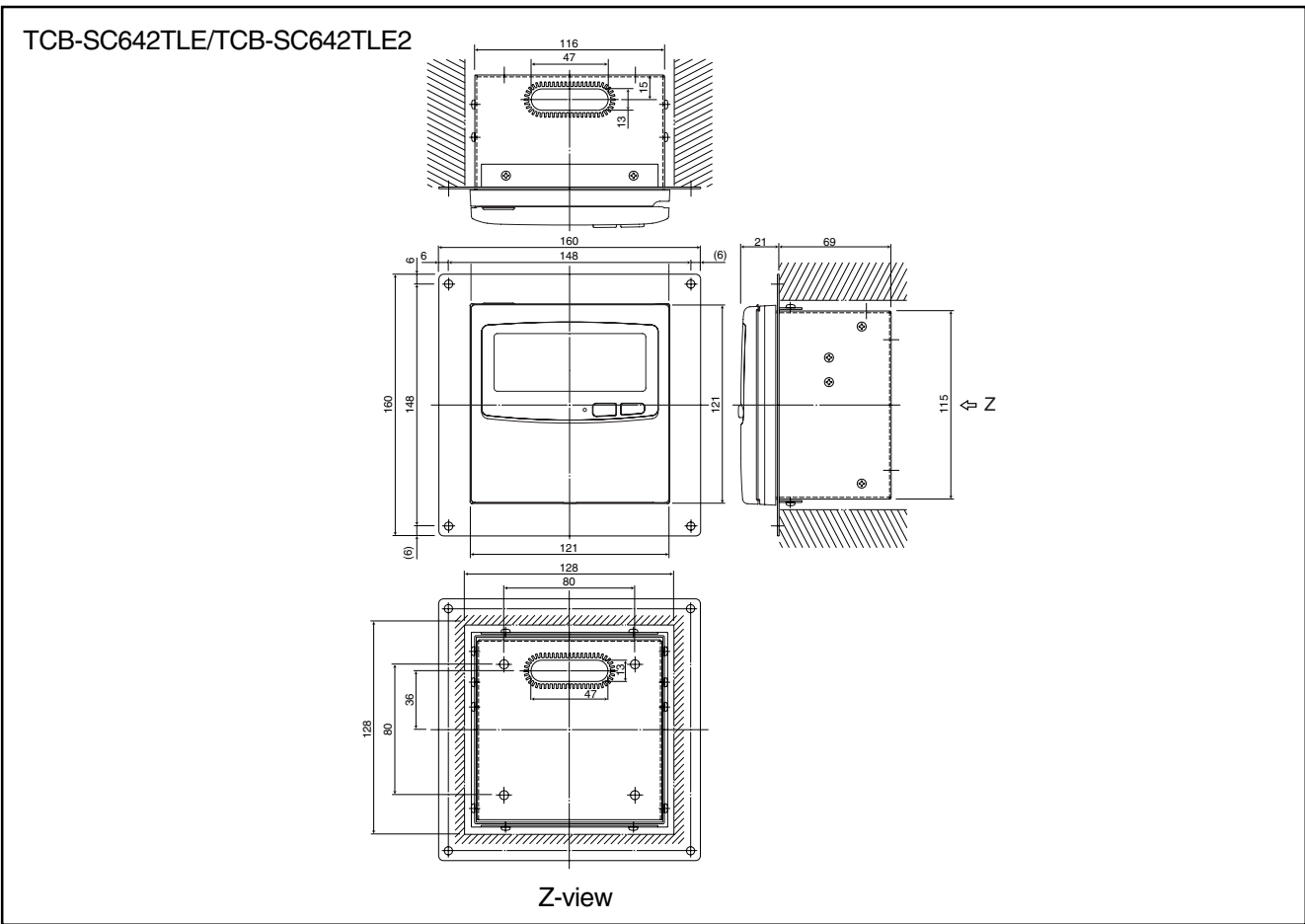
Wireless remote controller kit



Weekly timer

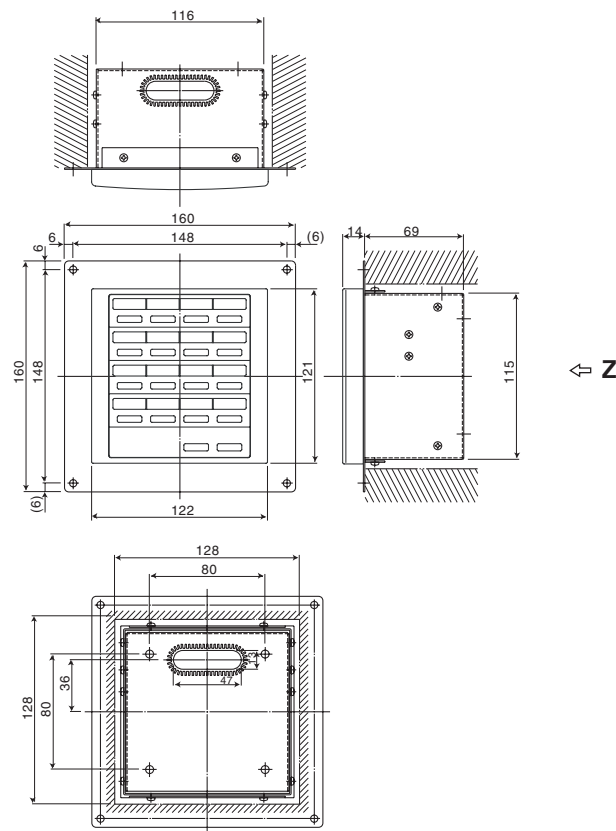


Central remote controller



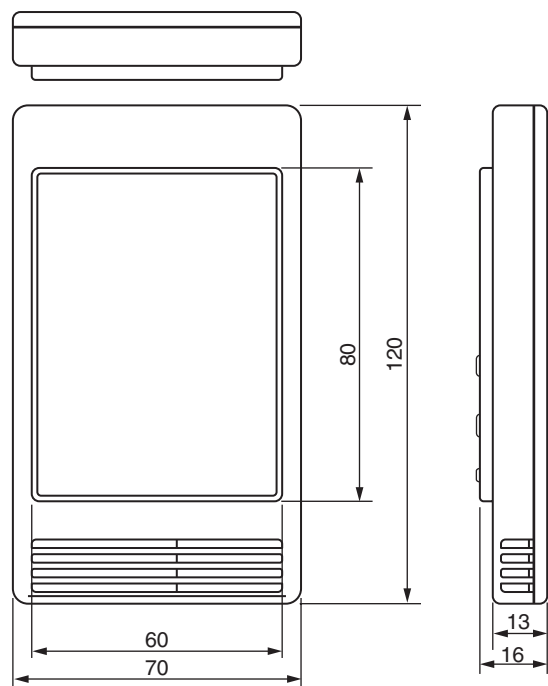
ON-OFF controller

TCB-CC163TLE2

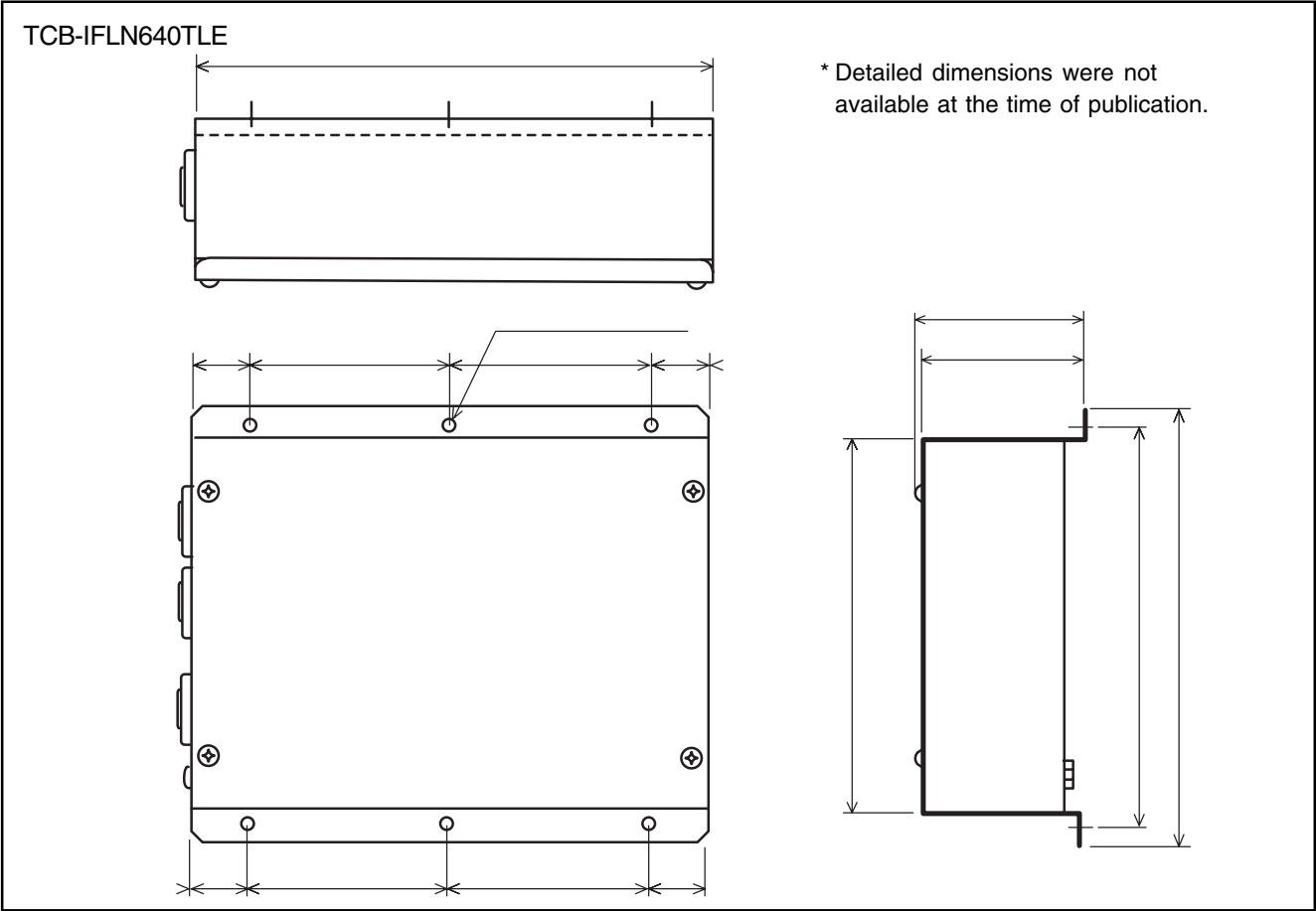


Remote sensor

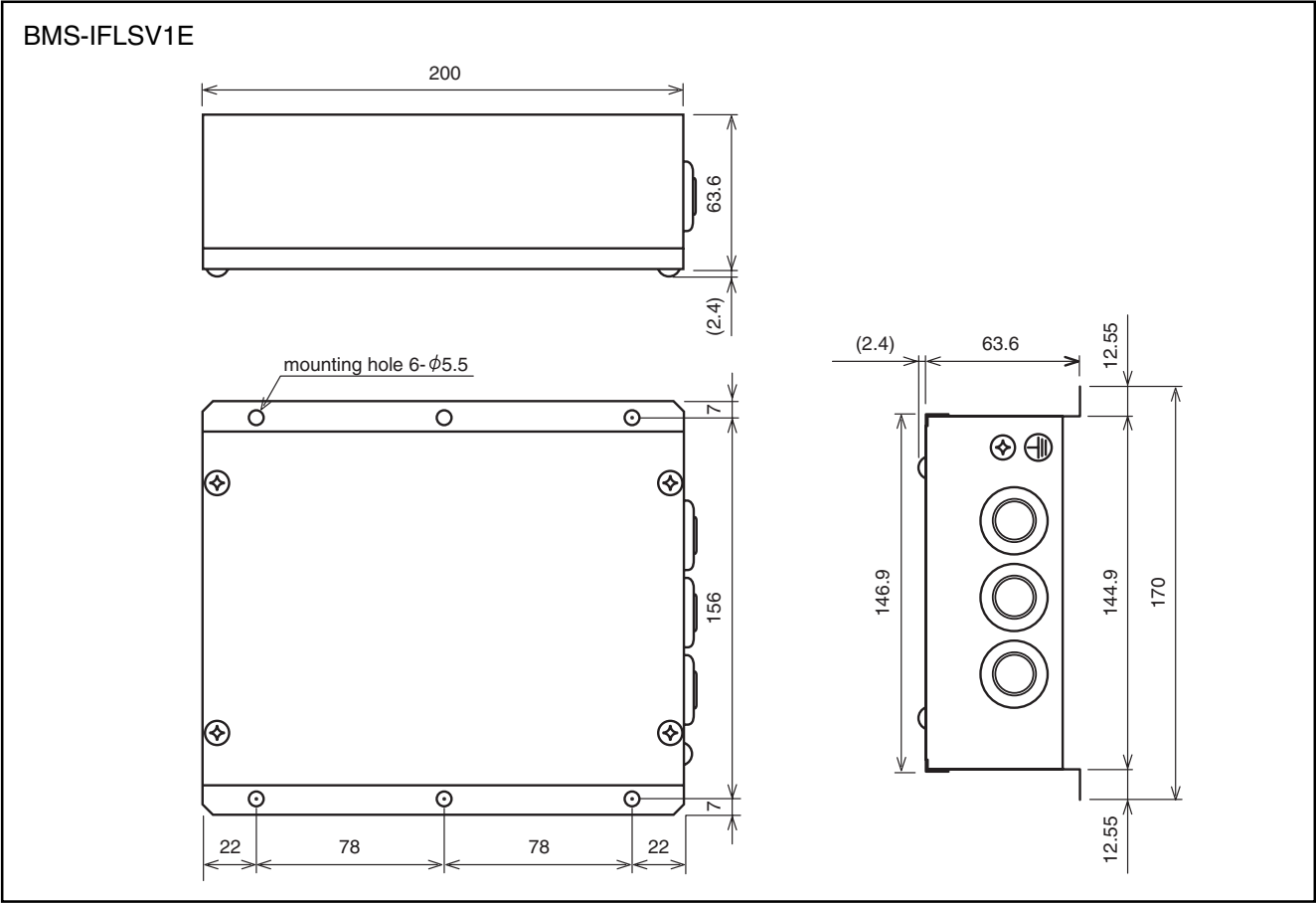
TCB-TC21LE/TCB-TC21LE2



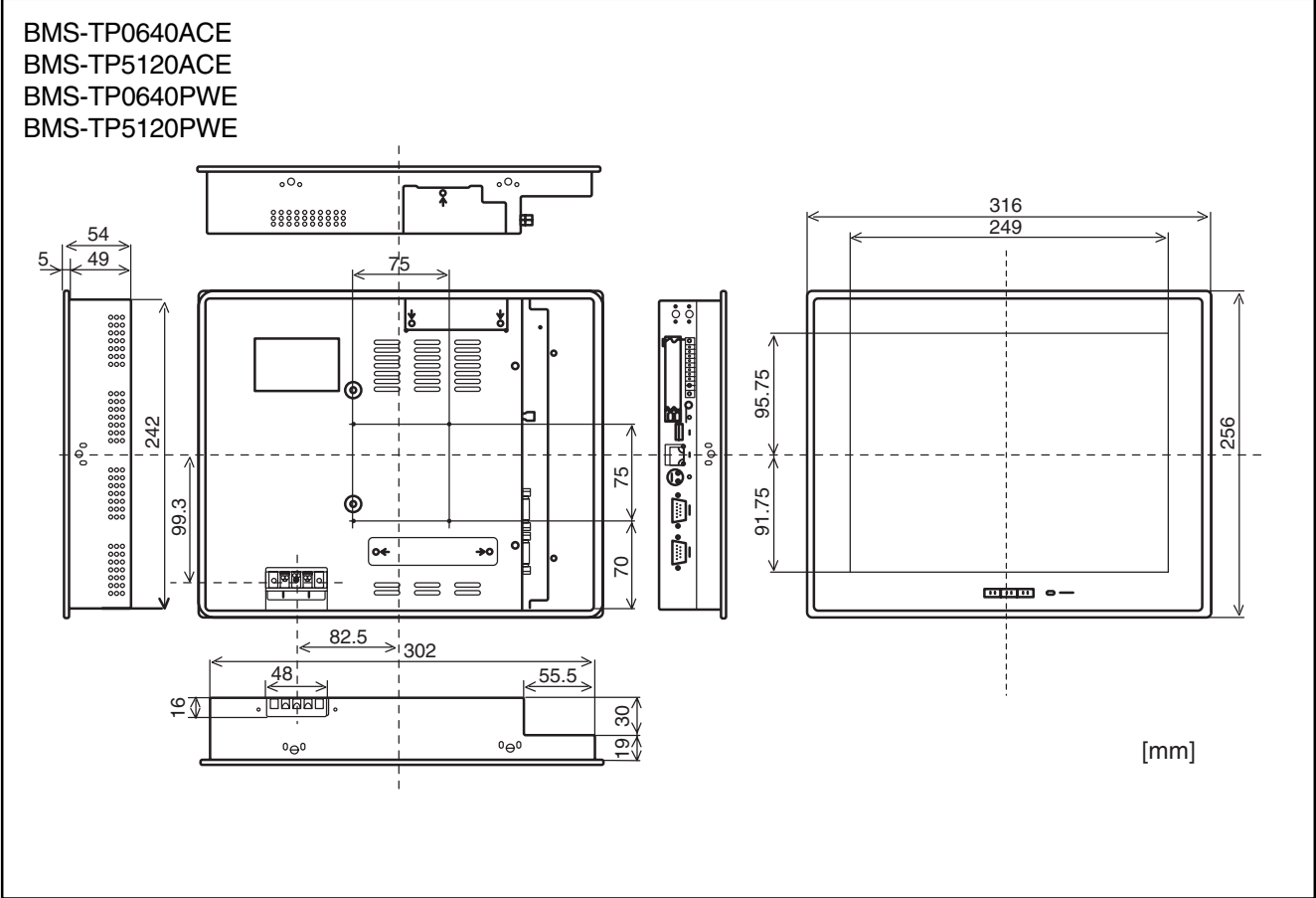
LON Gateway



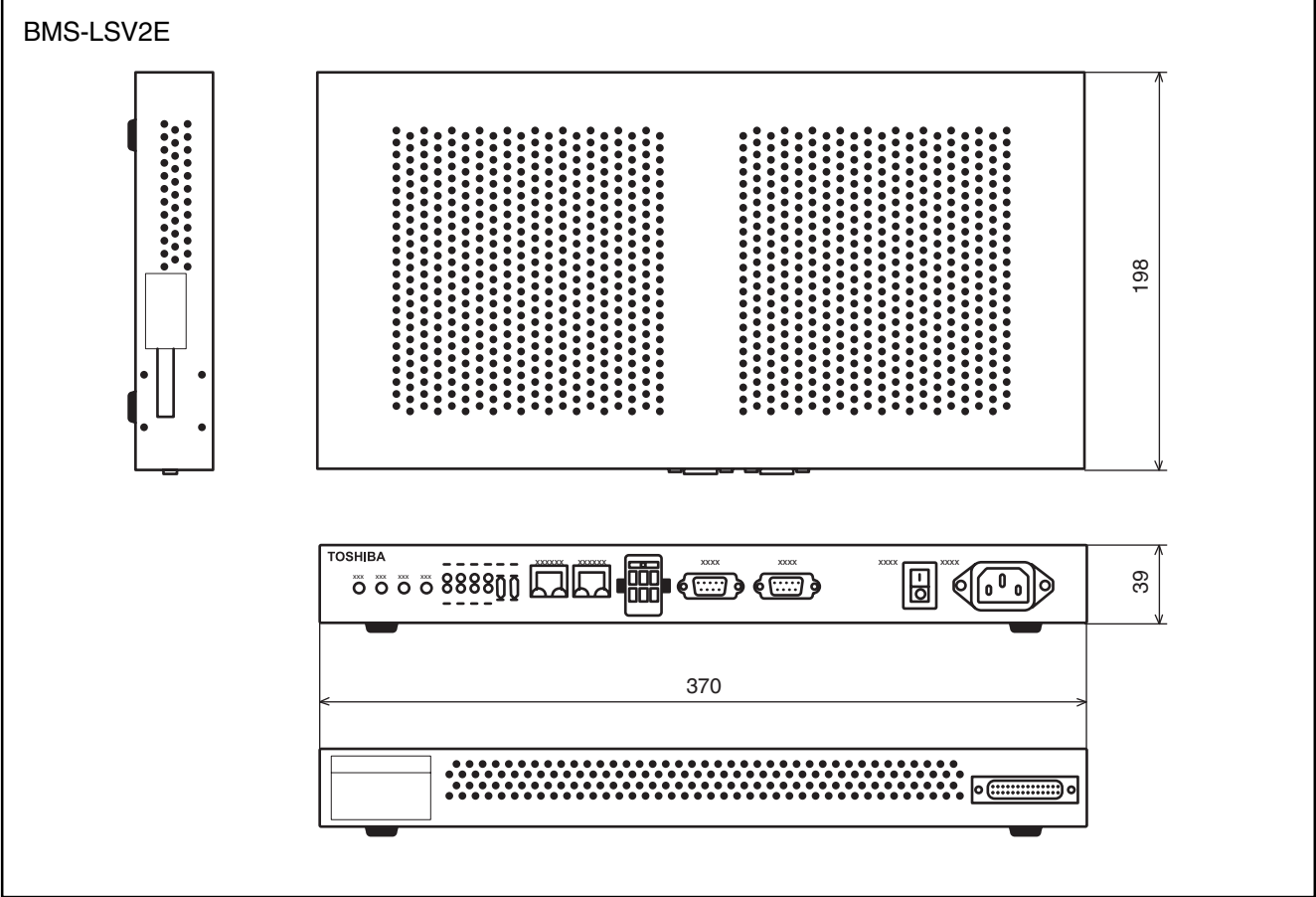
TCS-Net Relay Interface



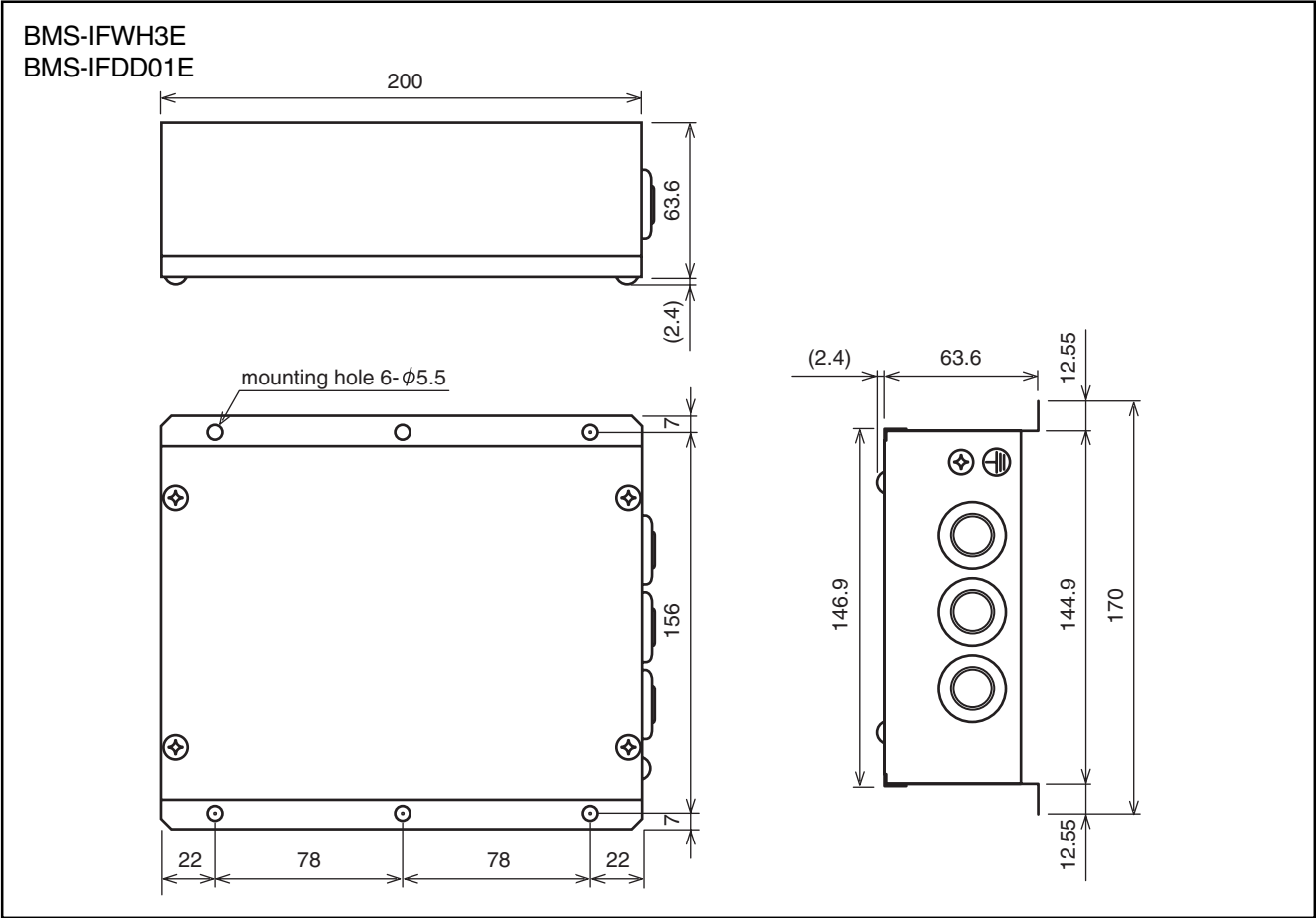
Touch Screen Controller



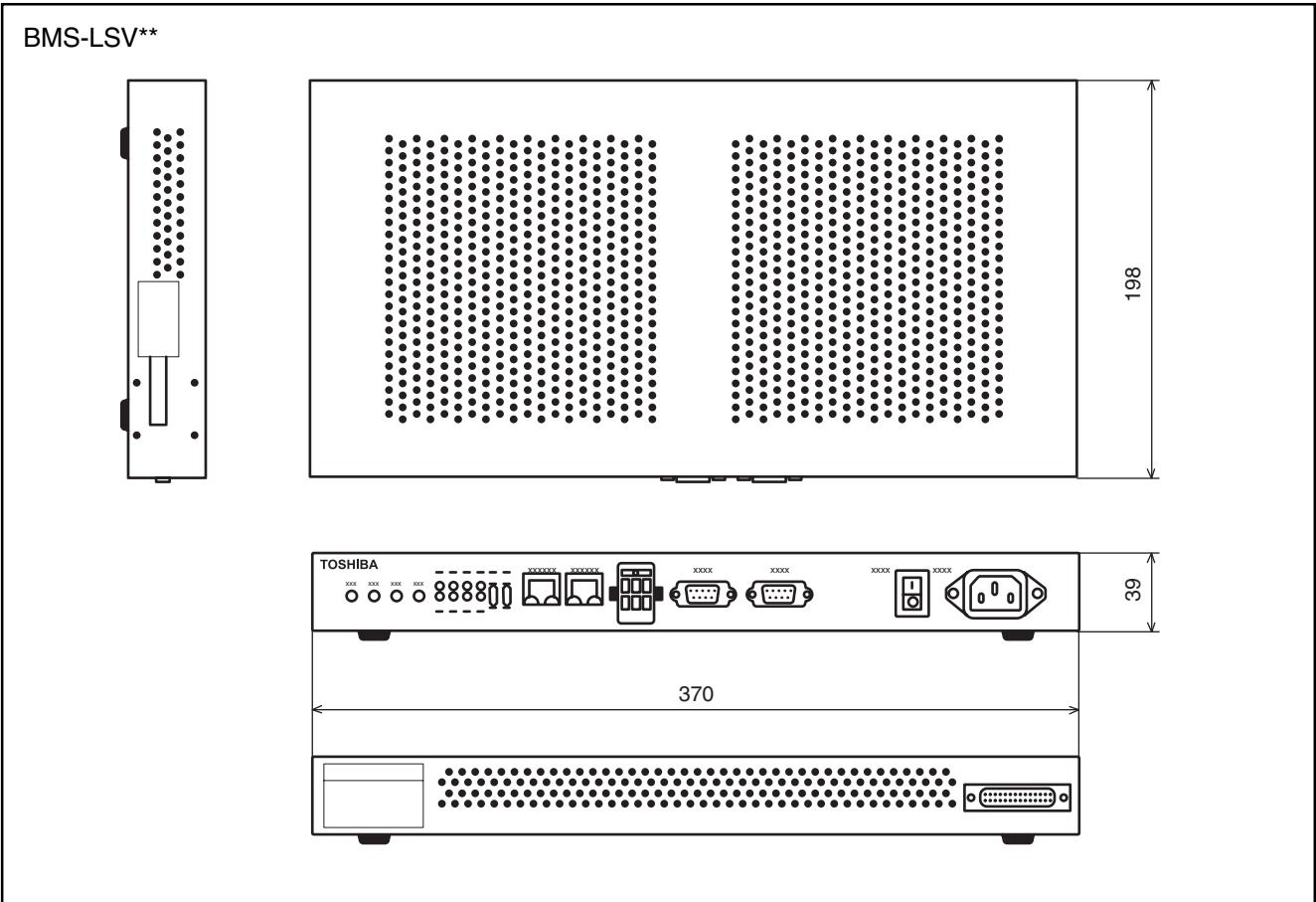
Intelligent Server



Energy Monitoring Relay Interface/Digital I/O Relay Interface



WINDOWS based central controller



Dimension

TCB-PCDM2E	Technical drawing of the TCB-PCDM2E control panel. The panel is rectangular with a width of 71mm and a height of 85mm. It features a terminal block on the left side with a width of 61mm and a height of 75mm. The terminal block is secured with a screw M3x6. The panel has four mounting holes (4-4ø hole) on the right side. The panel includes a switch (SW) with positions OFF, ON, and COM. The panel also has a terminal block (TB1) and a terminal block (TB2). The panel is labeled with TOSHIBA, NCC-1212, TCB-PCDM1, and TCB-PCDM1E.
TCB-PCMO2E	Technical drawing of the TCB-PCMO2E control panel. The panel is rectangular with a width of 55.5mm and a height of 60mm. It features a terminal block on the left side with a width of 45.5mm and a height of 50mm. The terminal block is secured with a screw M3x6. The panel has four mounting holes (4-4ø hole) on the right side. The panel includes a switch (SW) with positions HEAT, COOL, and COM. The panel also has a terminal block (TB1) and a terminal block (TB2). The panel is labeled with TOSHIBA, NCC-1214, TCB-PCMO1, and TCB-PCMO1E.
TCB-PCIN2E	Technical drawing of the TCB-PCIN2E control panel. The panel is rectangular with a width of 79mm and a height of 73mm. It features a terminal block on the left side with a width of 69mm and a height of 63mm. The terminal block is secured with a screw M3. The panel has four mounting holes (4-4ø hole) on the right side. The panel includes a switch (SW) with positions OPERATION, E/G, and 警告. The panel also has a terminal block (TB1) and a terminal block (TB2). The panel is labeled with TOSHIBA, NCC-1217-01, TCB-PCIN2, and TCB-PCIN2E.

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