

Part 3

Air-Conditioning

Connection Adaptors

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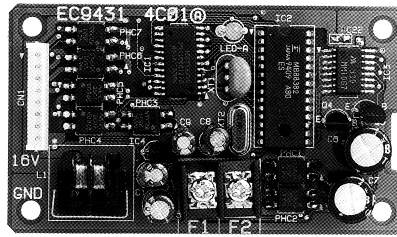
1. Air-Conditioner Connection Adaptors

The following Air-conditioning Connection Adaptors (Interface adaptor for SkyAir Series, Wiring Adaptor for other air-conditioners, Interface Adaptor for Outdoor unit control and Mix matching Adaptor for “K” indoor unit) are the interface adaptors which are required to connect the air-conditioners with D-BACS System or DIII-NET (High speed multiple transmission system).

1.1 <DTA102A52> Interface Adaptor for SkyAir Series (New type)

1.1.1 Outline / Features

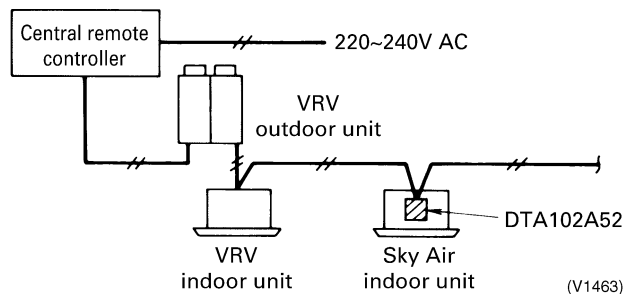
This is an interface adaptor required for all SkyAir for “F” type to the subsequent models to connect to the central control equipment (Central remote controller, Unified ON/OFF controller and Schedule timer), and by combining with the central control equipment, you can set the control mode, such as unified ON/OFF control, timer operation, rejection/acceptance by remote controller operation and etc., and also display the operating status.



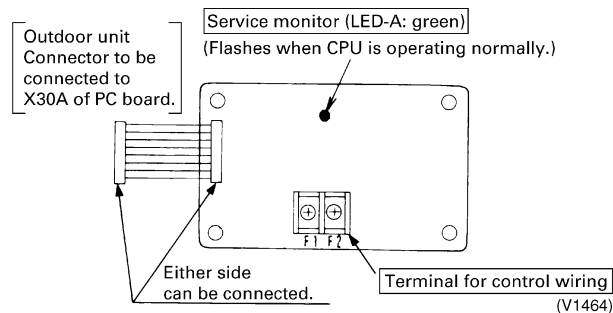
1.1.2 Applied Model

All the series of SkyAir from “F” type to the subsequent models and Packaged Air Conditioner FDYB But, Interface adaptor for SkyAir series (old type) is used for SkyAir series “C(D)” type.

1.1.3 System Configuration



1.1.4 Names and Functions of Operating Part



1.1.5 Description of Functions

Control functions

By using this adaptor, you can control or monitor the following function from the central control equipment.

	Description of functions
1. ON/OFF operation	Turns indoor unit ON or OFF.
2. Operation/malfunction monitoring	Monitors operation or error status
3. Cool/heat changeover	
4. Temperature setting	Temperature setting is possible within the temperature setting range of SkyAir (20~35°C for cooling and 15~30°C for heating).
5. Control mode setting for remote controller	Restricts remote controller operation for ON/OFF control, cool/heat changeover and temperature setting. (Last command priority/Remote Control Rejection and etc.)
6. Test operation	Operates the indoor units by Forced thermostat "ON".
7. Malfunction code display and reset	
8. Group control	Controls up to 16 indoor units simultaneously.
9. Room temperature monitoring	Monitors room temperature if connected to the Parallel interface or the Data station.
10. Forced thermostat "OFF"	If the central controller is equipped with the forced thermostat OFF function, it switches the SkyAir to "FAN" operation.
11. Filter sign display and reset	
12. Air flow direction and air flow rate setting	Possible to change the setting by the individual setting mode of the central remote controller. (★1)
13. Various monitoring function	Thermostat status, Compressor operation status, Indoor fan operation status, Auxiliary electric heater operation status. (★2)

Notes:

- ★1 The central control equipment should be installed in the system.
- ★2 This is possible only when connected to the Data station and monitored by central monitoring panel.

Not controllable functions

This adaptor is not corresponding to the following functions.

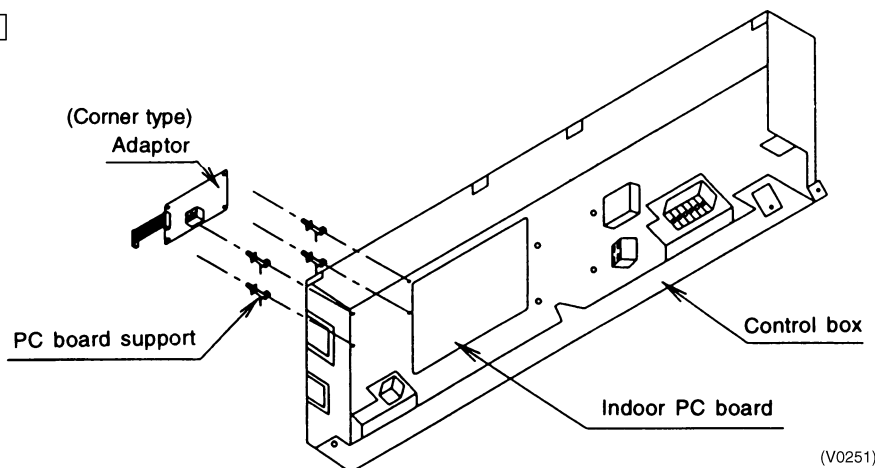
	Description of functions
1. Energy saving command	Set-back the setting temperature by 2°C. (thermostat "OFF" operation)
2. Low operating noise command	Lowering the operating noise by reducing the capacity
3. Demand control	Controls the power consumption by reducing the capacity

1.1.6 Fitting Place of Adaptor (Installed in the SkyAir)

- Installation differs according to models as shown below.
- Do not bundle low and high voltage wires together.
- Bundle any excess wires with the attached tie wraps so as to keep loose wirings off the indoor unit PC board.

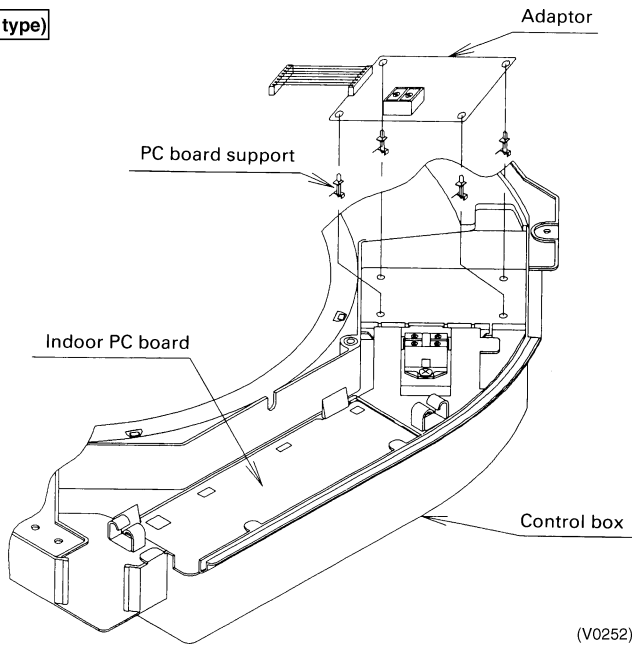
Ceiling-Mounted Cassette Corner Type

FH(Y)K



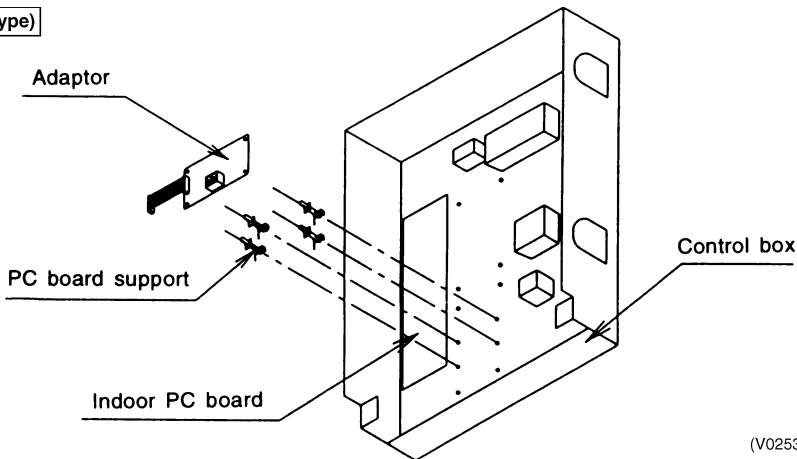
Ceiling-Mounted Cassette Type - Super Cassette -

FH(Y)C-K (Multiflow type)



(V0252)

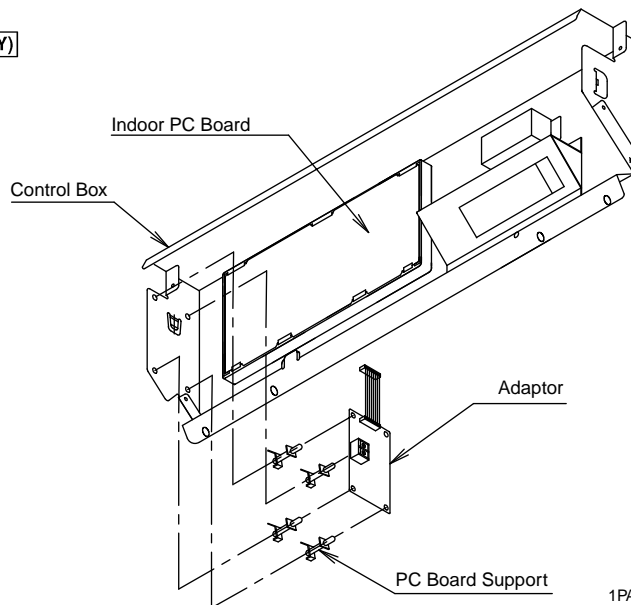
FH(Y)B (Built-in type)



(V0253)

Ceiling Suspended Type

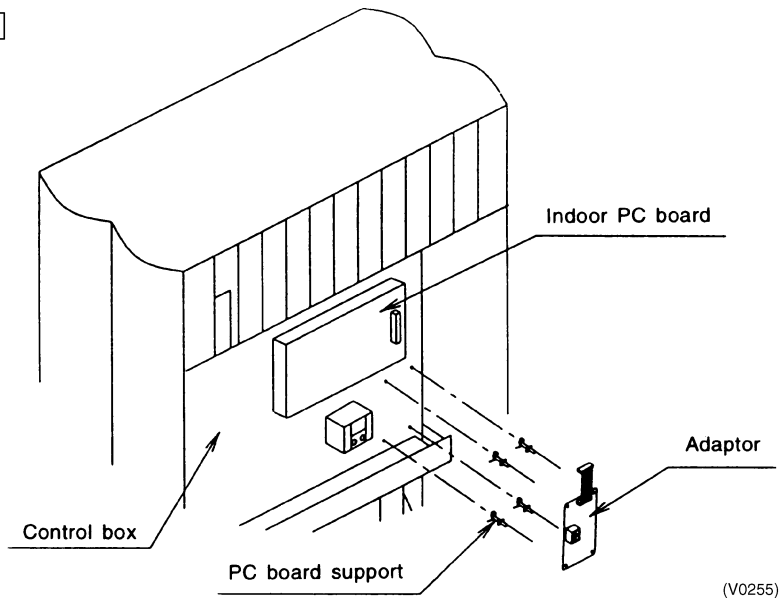
FH(Y)



1PA57137-1H

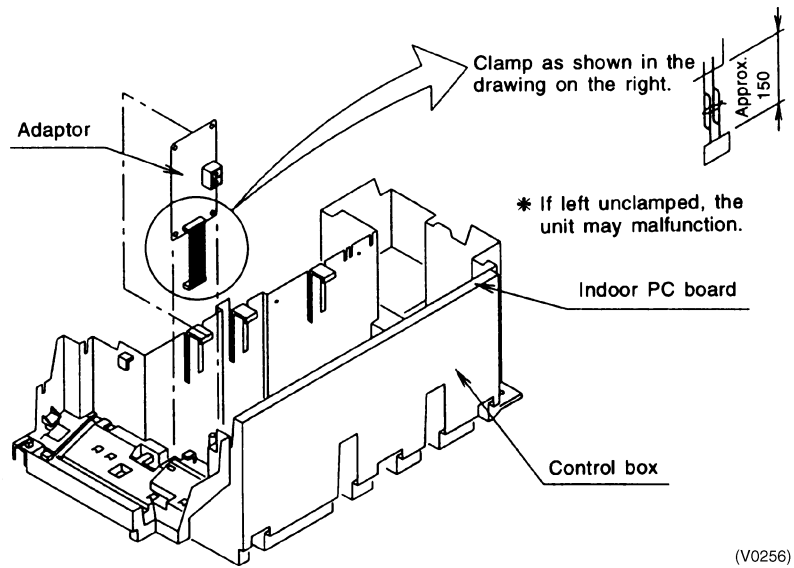
Floor Standing Type

FVY



Wall Mounted Type

FA(Y)



Note:

1. Installation for each type of unit is shown above. But, never bundle the power wiring and control wiring.
2. Tie up the excess wiring with the attached wiring-tie so that the wiring do not go over the PC board

1.2 <DTA102A51> Interface Adaptor for SkyAir Series (Old type)

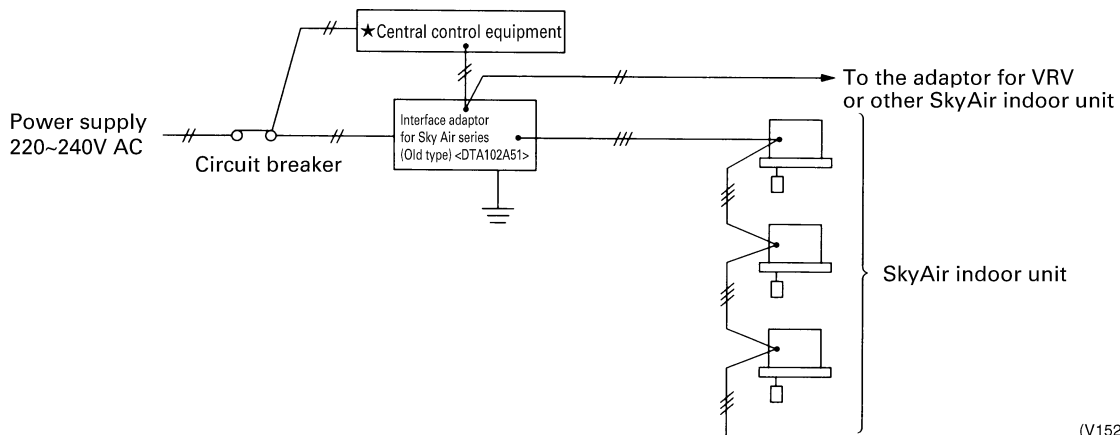
1.2.1 Outline / Features

This is a interface adaptor required for SkyAir “C or D” type to connect to the central control equipment (Central remote controller, Unified ON/OFF controller and Schedule timer), and by combining with the central control equipment, you can set the control mode, such as unified ON/OFF control, timer operation, remote control rejection/acceptance and etc., and also display the operating status.

1.2.2 Applied Model

All the series of SkyAir “C and D” type

1.2.3 System Configuration



(V1520)

Note :

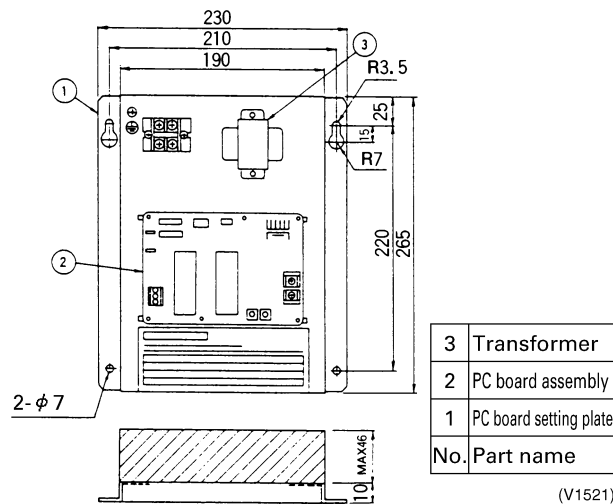
marked ★ means Central remote controller, Unified ON/OFF controller and Schedule timer.
(Electrical power is supplied from the central remote controller.)

1.2.4 Specifications and Dimension

Specifications

Item	Specifications
Rated voltage	200,220,240 VAC $\pm 10\%$ (50Hz) 220 VAC $\pm 10\%$ (60Hz)
Power consumption	Max. 2.8W
Operating temperature	-10 ~ + 50°C
Humidity	95% RH or less (no condensation)
Weight	Approx. 950g
Installation method	Outside of the unit (with box)

Dimension



1.2.5 Description of Functions

Control functions

By using this adaptor, you can control or monitor the following function from the central control equipment.

	Description of functions
1. ON/OFF operation	Turns indoor unit ON or OFF.
2. Operation/malfunction monitoring	Monitors operation or error status
3. Cool/heat changeover	
4. Temperature setting	Temperature setting is possible within the temperature setting range of SkyAir (17~34°C for cooling and 14~28°C for heating, 17~28°C for auto).
5. Control mode setting for remote controller	Restricts remote controller operation for ON/OFF control, cool/heat changeover and temperature setting. (Last command priority/Remote Control Rejection and etc.)
6. Test operation	Operates the indoor units by Forced thermostat "ON".
7. Malfunction code display and reset	
8. Group control	Controls up to 16 indoor units simultaneously. In this case, the remote controller for sub unit can set only the air flow rate and air flow direction setting.
9. Forced thermostat "OFF"	When the signal of force thermostat OFF is transmitted from the wiring adaptor for electrical appendices etc., it switches the SkyAir to "FAN" operation.

Not controllable functions

This adaptor is not corresponding to the following functions.

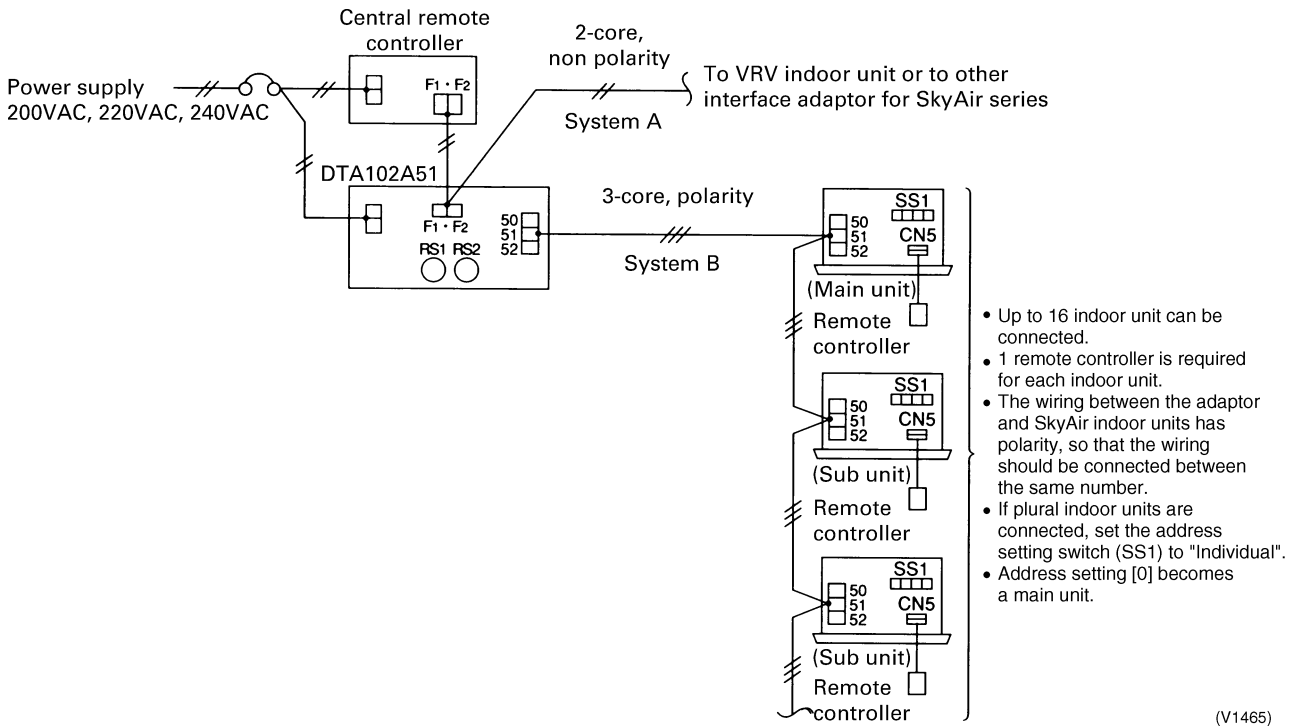
	Description of functions
1. Filter sign display and reset	
2. Energy saving command	Set-back the setting temperature by 2°C.
3. Air flow rate and air flow direction setting	
4. Various monitoring function	Thermostat status, Compressor operation status, Indoor fan operation status, Auxiliary electric heater operation status.

Cautions

- This adaptor cannot be used in conjunction with the central remote controller for SkyAir (KRC72/KDC101B50), group control by remote controller and PC board for electrical appendices.
★ Only display is possible with PC board for electrical appendices.
- Only SkyAir Heat Pump series can be connected to this adaptor.
- The functions given above are for the adaptor itself. Actual operation functions depend on the central controllers to be connected.
- If plural SkyAir units are connected to this adaptor, the SkyAir units are controlled as a group. However, the malfunction of the sub unit cannot be displayed on the remote controller of the main unit.

1.2.6 Wiring and Setting Instructions

Outline of wiring



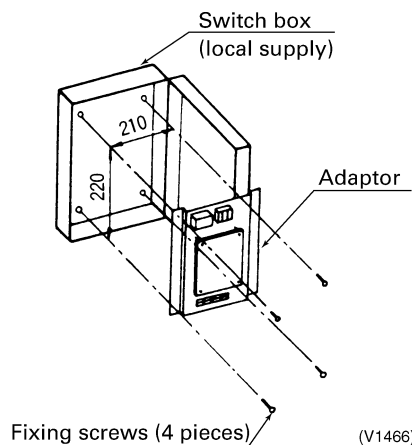
- Set the group No. for central control by RS1 and RS2 of the interface adaptor for SkyAir series. Set 1, 2, 3, 4, 5, 6, 7 and 8 by RS1, and set 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E and F by RS2. However, do not duplicate with other group No.

<Wiring specification>

Power supply wiring	2mm ² (φ1.6)	
Control wiring	System A	0.75~1.25mm ² sheathed vinyl cord or cable (2-core)... Max. 1000m
	System B	Sheathed vinyl cord or cable Up to 250m.....0.18mm ² 3-core 250 ~ 500m.....0.5 ~ 0.75mm ² 3-core
Circuit breaker	10A	
Ground	2mm ² or larger	

Installation instructions

The adaptor should be installed in the switch box (local supply) with the screws attached.

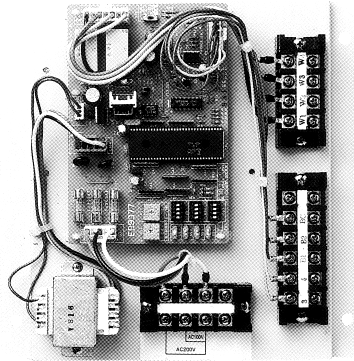


- ★ The size of the local supply switch box should be 400(W) × 400(H) × 125(D) or larger.

1.3 <DTA103A51> Wiring Adaptor for Other Air-Conditioners

1.3.1 Outline / Features

This is a interface adaptor required for other equipment, such as room air-conditioner and other air-conditioner or equipment to connect to the central control equipment (Central remote controller, Unified ON/OFF controller and Schedule timer), and by combining with the central control equipment, you can set the control mode, such as unified ON/OFF control, timer operation, remote controller rejection/acceptance and etc., and also display the operating status. Especially, this adaptor is designed with wide usage to be able to connect the air-conditioner of other manufacturer.



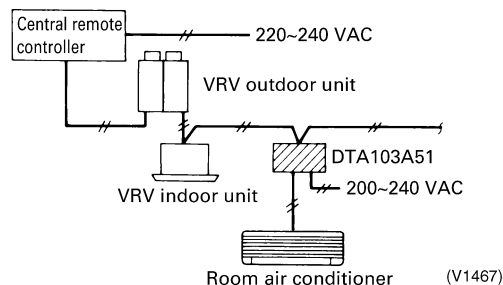
1.3.2 Applied Model

Applied model	Remark
1. Room air-conditioner	
2. Other equipment, such as fan etc.	
3. Air-conditioner of other manufacturer	

Note:

The adaptor should be installed in the electrical box (local supply), which be installed outside of the indoor unit.

1.3.3 System Configuration



1.3.4 Specifications and Dimension

Specifications

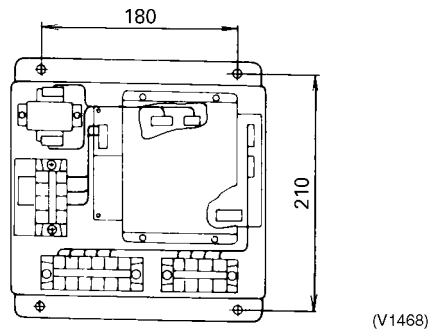
	Specifications
Rated voltage	220~240V±10% (50Hz), 220VAC±10% (60Hz)
Power consumption	Max. 2.4W
Operating temperature	-10 ~ + 50°C
Humidity	95% RH or less
Weight Approx.	1060g
Installation method	Outside of the unit (with box)

Note :

The electric box (local supply) for the adaptor is required for the installation, which should be installed outside of the indoor unit.

Size: 230 (W) × 230 (D) × 60 (H)

Dimension

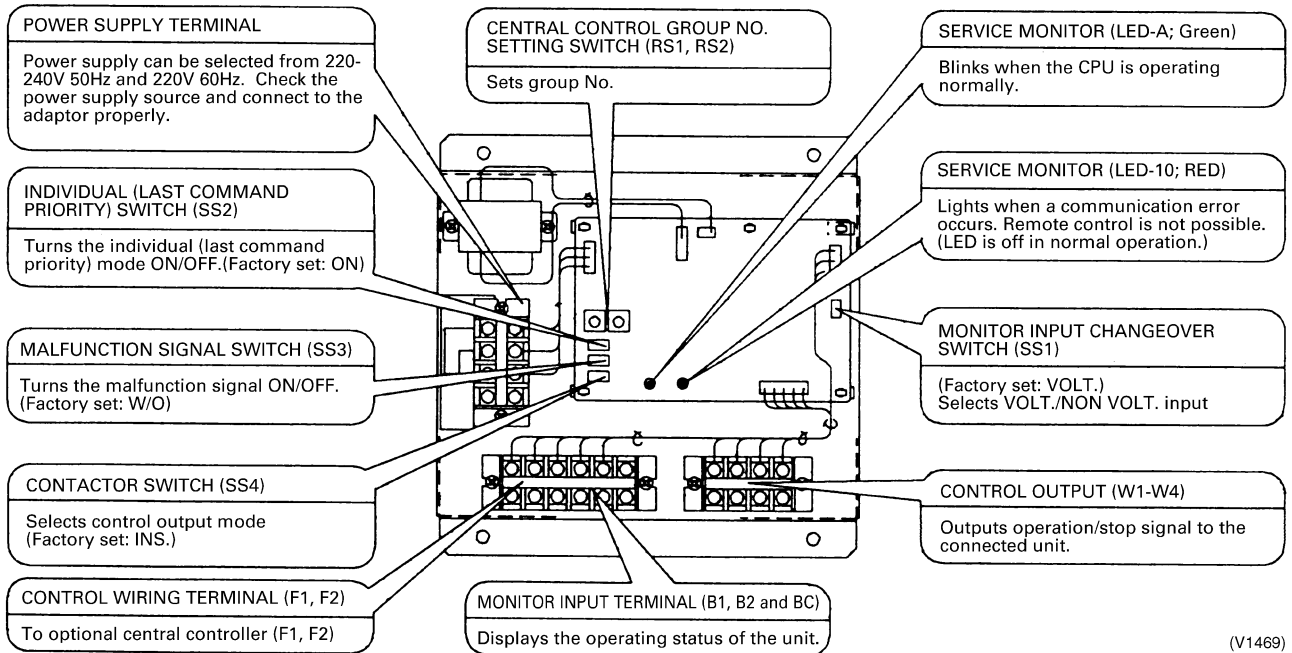


(V1468)

Specifications of contacts

<p>[Input signal]</p> <ul style="list-style-type: none"> ■ Normal operation signal and error input signal (Normally open contact) Use a contact for micro-current (Max. 12VDC, 1mA) ■ Voltage and non-voltage can be changeover by switch. In case of voltage: Power supply specifications : DC12~24V, 10mA 	<p>[Output signal]</p> <ul style="list-style-type: none"> ■ Non-voltage constant normally open contact and instantaneous normally open contact (500ms pulse duration) can be changeover by the switch. ■ Contact rating AC voltage 100~240V ; current 1mA~2A DC voltage 5~24V ; current 1mA~3A
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1.3.5 Names and Functions of Operating Part



(V1469)

- Central group no. setting
Set by RS1 setting switch from among 1~4
Set by RS2 from among 0~9, A~F
Set other equipment group no. is not duplicated.

1.3.6 Description of Functions

Control functions

By using this adaptor, the following control and monitoring can be carried out from central controllers.

1. Start/Stop operation
Outputs a non-voltage contact signal to start or stop other air-conditioner, etc.
2. Operation monitor, error monitor
Receives a contact signal and monitors operation and error status.
Enables you to select whether voltage/non-voltage and whether start/stop error is detected.

Switch setting and its functions

By setting the switches, you can select the operation according to the applications.

Note:

All the switch is set at "OFF" side when shipped from factory.

■ Switch setting of the wiring adaptor for other air-conditioner

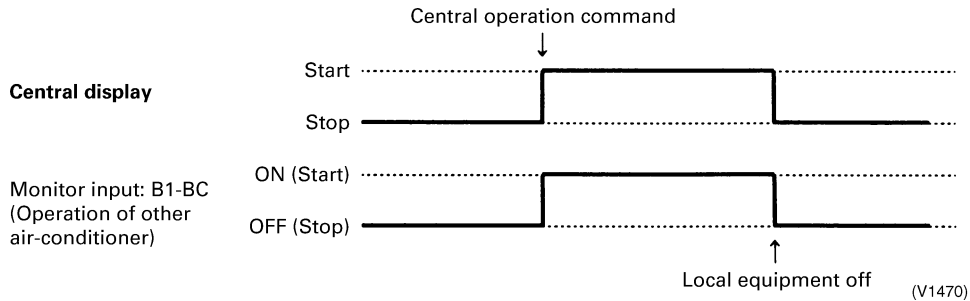
	Name	Operation	OFF	ON
SS1	Monitor input switch	Changeover VOLT./NON-VOLT.	Non-voltage	Voltage
SS2	Last command priority	Possible to operate ON/OFF from other air-conditioner	Using	Not using
SS3	Start/stop error	Start/stop error detection	Not using	Using
SS4	Output switch	Changeover of control output	Instantaneous	Constant

Details of functions

1. Last command priority (SS2)

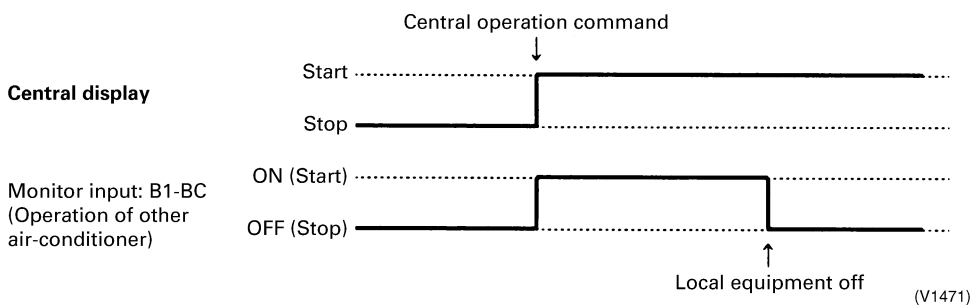
■ Using last command priority

The operation display of the central control equipment complies with the monitor input from other air-conditioner, etc.



■ No last command priority

The operation display of the central controller shows the output status of central control equipment, and has no relation with monitor input.

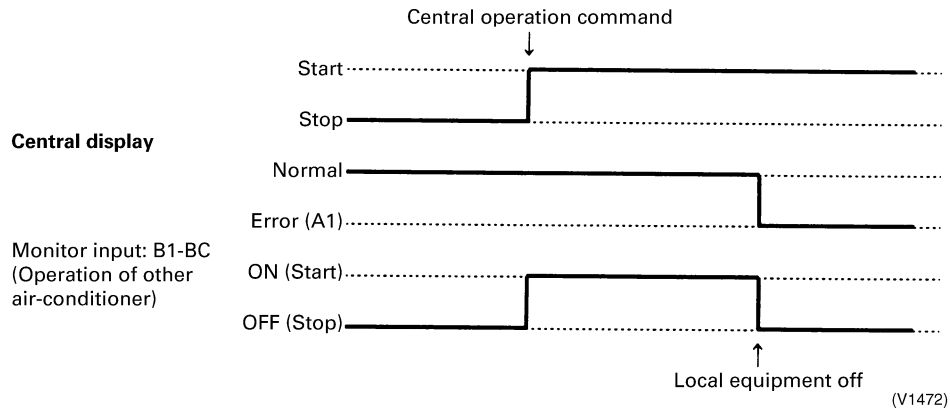


2. Start/Stop error

This is set whether the error monitor should be displayed, when other air-conditioner, etc. are not operated notwithstanding of ON command from the central control equipment. If the last command priority is effective (SS2:OFF), start/stop error is not displayed.

■ Display start/stop error (SS3 : ON)

If the monitor input is not received even if ON command is sent from the central control equipment, an error is displayed on the central control equipment. (error code A1)



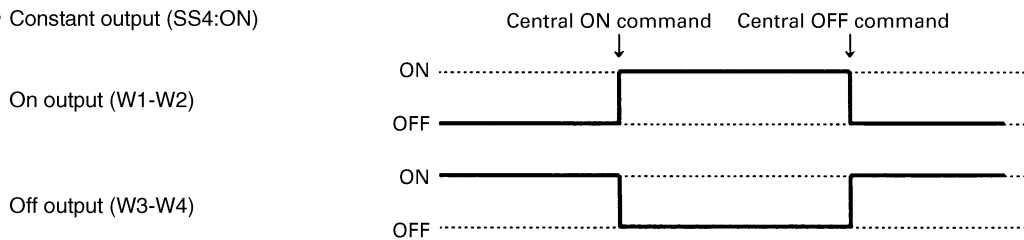
■ No display of start/stop error (SS3 : OFF)

The above error is not displayed.

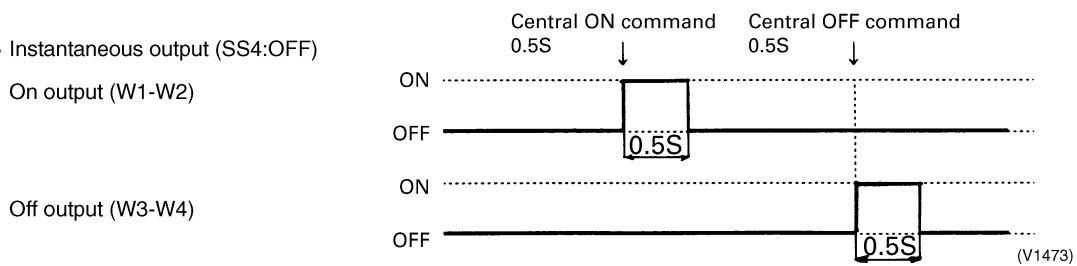
3. Output switch (SS4)

Alternately switches control output (W1-W2, W3-W4) between instantaneous and constant output.

• Constant output (SS4:ON)



• Instantaneous output (SS4:OFF)



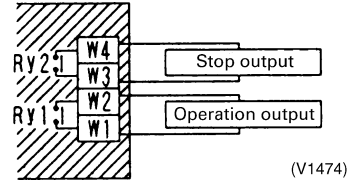
1.3.7 Wiring and Setting Instructions

Instructions for switch setting

Output for control

Both ON output terminals (W1, W2) and OFF output terminals (W3, W4) are non-voltage contact output.

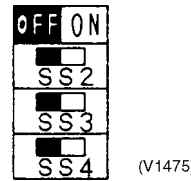
Specifications of contact of Ry1 and Ry2		
Voltage specifications	Max. current	Min. current
50Hz 220-240V 60Hz 220V	2A	1mA
DC 5-24V	3A	1mA



Output mode has both instantaneous and constant output.
Mode is changed by the contactor switch (SS4). (Factory set : INS.)

Setting by switch ON/OFF

	Setting	OFF	ON
SS2	Individual	ON	OFF
SS3	Mal. signal	W/O	W
SS4	Contactor	INS.	Con.

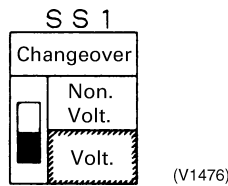


Note:

All the switch is set at "OFF" side when shipped from factory.

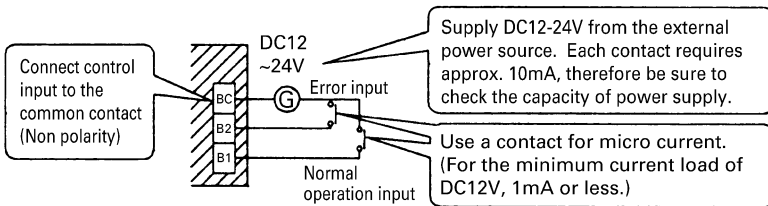
Monitor input

Connect the wiring as follows depending on whether input carries a voltage (VOLT.) or non-voltage (NON-VOLT.).
Use the monitor input changeover switch (SS4) to switch the mode.(Factory set: VOLT.)



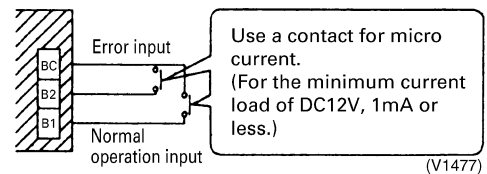
(For voltage input)

Set the monitor input changeover switch to VOLT. (Factory set: Volt.)



(For non voltage input)

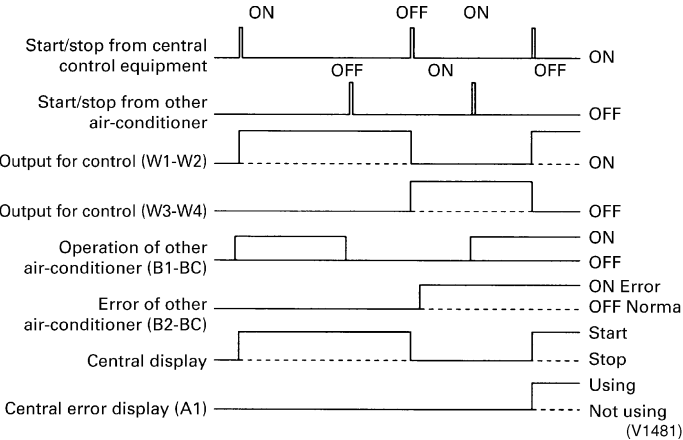
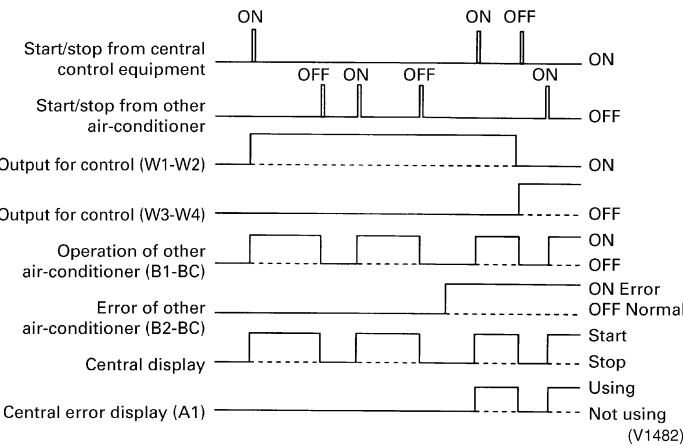
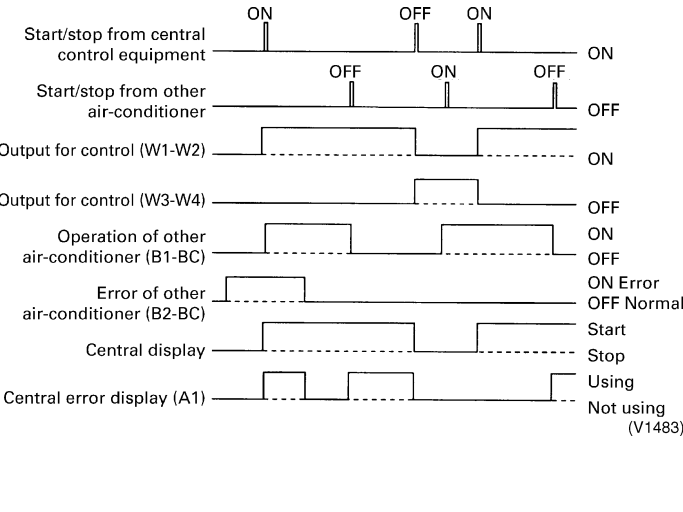
Set the monitor input changeover switch to NON VOLT. (Factory set: VOLT.)



- If you use the normally open contact, which is turned ON when the equipment is in normal operation, remove the short-circuit wire between B2 and BC and connect the output of equipment.
- If you use the normally open contact, which is turned ON when the equipment is malfunctioned, connect the output of the equipment between B2 and BC. (If there is a switch for selecting start/stop error, it is possible to detect the start/stop error.)
- When you operate from the central control equipment, the central control equipment displays error (Malfunction code A), if contact between B2 ~ BC is "ON" or if the contact between B1~BC is "OFF" when the switch (SS3) is set to detect the start/stop error.
- When turned ON by central control equipment, it takes 10~30 seconds to monitor an error display.

Operation of each switch settings

SS4 Output switch : OFF (Instantaneous output)	Description of operation
<p>1. SS2 : ON (No last command priority), SS3 : OFF (No start/stop error)</p> <p>Start/stop from central control equipment: ON, OFF, ON, ON</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF</p> <p>Output for control (W1-W2): ON (pulses)</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON, OFF</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop, Using, Not using (V1478)</p> <p>Central error display (A1): Not using (V1478)</p>	<p>Output for control : Instantaneous output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when the operation is controlled by the central control equipment and when an error is input from other air-conditioner.</p>
<p>2. SS2 : OFF (Last command priority); SS3 : ON or OFF</p> <p>Start/stop from central control equipment: ON, OFF, ON, OFF, ON</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF, ON</p> <p>Output for control (W1-W2): ON (pulses)</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON, OFF</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop, Using, Not using (V1479)</p> <p>Central error display (A1): Not using (V1479)</p>	<p>Output for control : Instantaneous output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when an error is input from other air-conditioner, when other air-conditioner is in operation.</p>
<p>3. SS2 : ON (No last command priority); SS3 : ON</p> <p>Start/stop from central control equipment: ON, OFF, ON, OFF</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF</p> <p>Output for control (W1-W2): ON (pulses)</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON, OFF</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop, Using, Not using (V1480)</p> <p>Central error display (A1): Not using (V1480)</p>	<p>Output for control : Instantaneous output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when the operation is controlled by the central control equipment and when an error is input from other air-conditioner, or other air-conditioner is not in operation against the operation command from the central control equipment.</p>

SS4 Output switch : ON (Constant output)	Description of operation
<p>4. SS2 : ON (No last command priority); SS3 : OFF (No start/stop error)</p>  <p>Start/stop from central control equipment: ON, OFF, ON, OFF, ON</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF</p> <p>Output for control (W1-W2): ON</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop</p> <p>Central error display (A1): Using, Not using (V1481)</p>	<p>Output for control : Constant output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when the operation is controlled by the central control equipment and when an error is input from other air-conditioner.</p>
<p>5. SS2 : OFF (Last command priority); SS3 : ON or OFF</p>  <p>Start/stop from central control equipment: ON, OFF, ON, OFF, ON, OFF, ON</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF, ON</p> <p>Output for control (W1-W2): ON</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON, OFF, ON</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop</p> <p>Central error display (A1): Using, Not using (V1482)</p>	<p>Output for control : Constant output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when an error is input from other air-conditioner, when other air-conditioner is in operation.</p>
<p>6. SS2 : ON (No last command priority); SS3 : ON (Start/stop error)</p>  <p>Start/stop from central control equipment: ON, OFF, ON, OFF, ON</p> <p>Start/stop from other air-conditioner: OFF, ON, OFF</p> <p>Output for control (W1-W2): ON</p> <p>Output for control (W3-W4): OFF</p> <p>Operation of other air-conditioner (B1-BC): ON, OFF, ON</p> <p>Error of other air-conditioner (B2-BC): ON Error, OFF Normal</p> <p>Central display: Start, Stop</p> <p>Central error display (A1): Using, Not using (V1483)</p>	<p>Output for control : Constant output</p> <p>Central operation display : According to the instruction from central control equipment</p> <p>Central error display : Error is displayed only when the operation is controlled by the central control equipment and when an error is input from other air-conditioner, or other air-conditioner is not in operation against the operation command from the central control equipment.</p>

Note:

You should avoid using modes 1~4.

<Reason>

Because even though operation is being carried out from the central control equipment, it can't perceive whether other air-conditioner, etc. are actually operating or not.

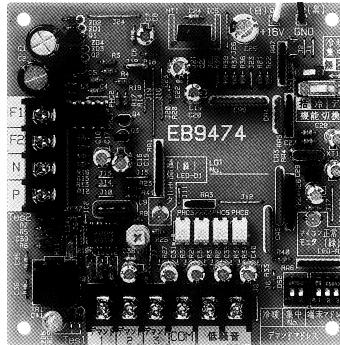
1.4 <DTA104A61-62> External Control Adaptor for Outdoor Unit

1.4.1 Outline / Features

By installing this adaptor in the indoor unit of VRV series or BS unit connected to DIII-NET (or outdoor unit in case of VRV plus series or VRV inverter “K” series), it enables you to have individual/simultaneous cool/heat changeover of several outdoor units connected, demand control and low noise control.

Note:

Demand control and low noise control is possible only for VRV plus series and VRV inverter “K” series.



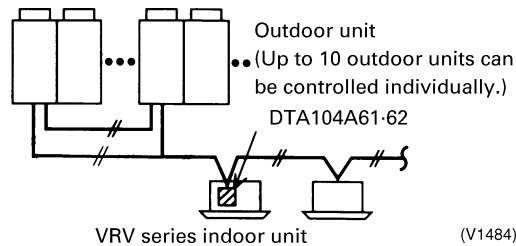
1.4.2 Applied Model

The type of adaptor differs depending on the model of indoor unit.

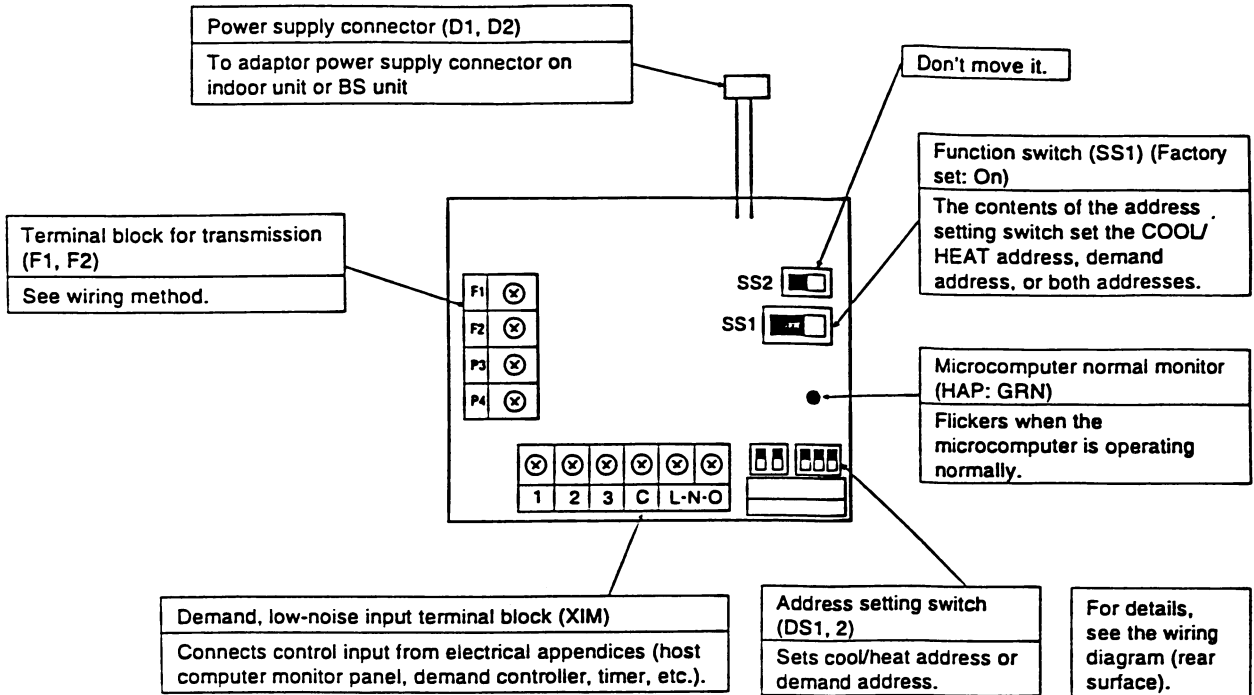
	Applied adaptor
FXYC · FXYK · FXYD · FXYS · FXYB · FXYM · FXYA · FXYL · FXYLM	DTA104A61
FXYF · FXYH	DTA104A62

The adaptor can also be installed in the outdoor unit of VRV PLUS series and VRV inverter “K” series.

1.4.3 System Configuration



1.4.4 Names and Functions of Operating Part



(V1485)

1.4.5 Description of Functions

Control functions

By using an external control adaptor for outdoor units, it enables the following controls. However, these functions are of adaptor itself and the type of adaptor differs depending on the model of indoor unit and BS unit to be installed.

1. Unified changeover of Cool/Heat mode

- To change the cool/heat mode of several outdoor units by one remote controller
- To changes the cool/heat mode of outdoor units by cool/heat central remote controller or cool/heat remote controller.

2. Demand control

- When short circuit between (1) and (C) : Approx. 70%
- When short circuit between (2) and (C) : Approx. 40%
- When short circuit between (3) and (C) : Forced fan operation (The percentage indicates the ratio of power consumption.)

3. Low noise control

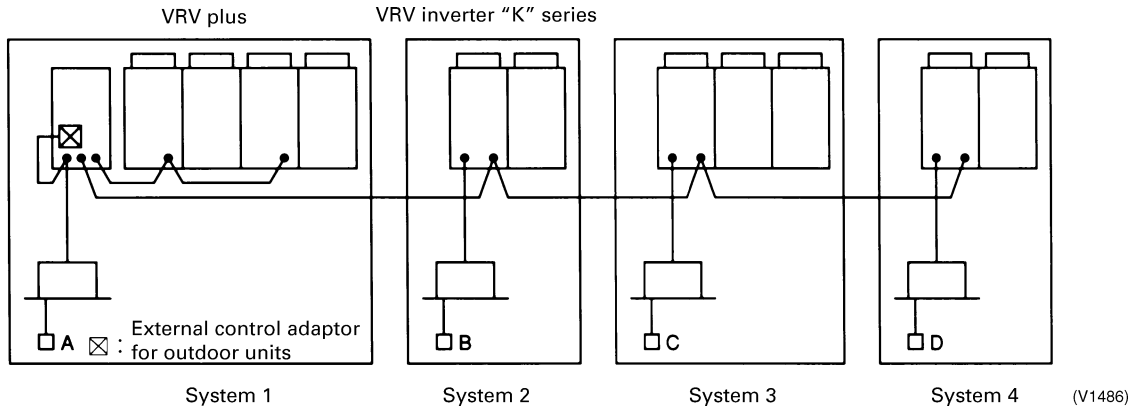
By controlling the capacity of outdoor unit, it reduces the operating noise by 2~3dB.

Instruction for installation

- For VRV plus series and VRV inverter “K” series, it is possible to switch cool/heat simultaneously only by remote controller for indoor unit or cool/heat central remote controller
- This adaptor enables to have demand control and low noise control only for VRV plus series and VRV inverter “K” series.

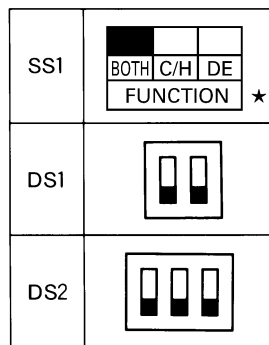
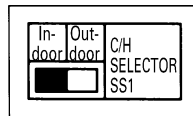
1.4.6 Wiring and Setting Instructions

Unified cool/heat changeover by local remote controller <Wiring instructions>



<Setting instructions>

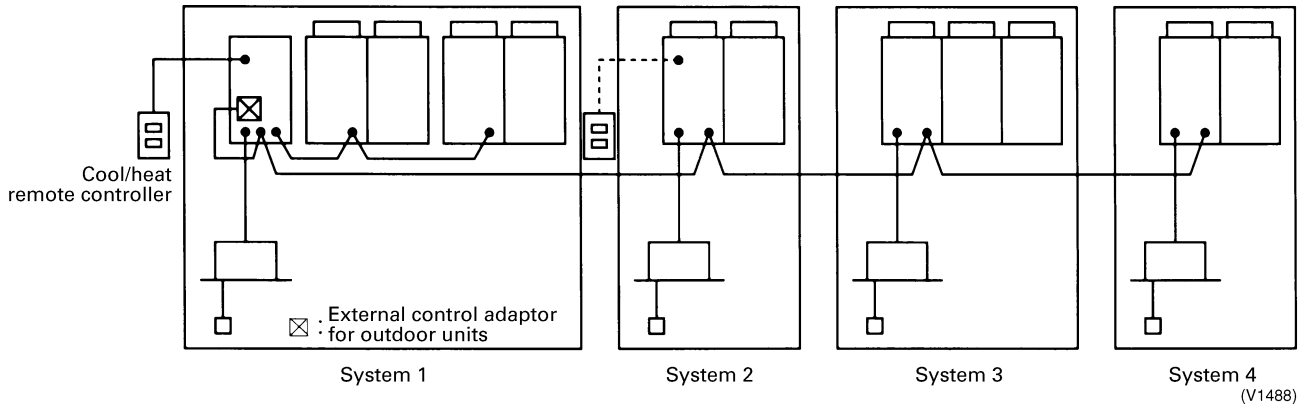
- Cool/heat changeover for all the system can be made simultaneously by remote controller A of system 1. (It cannot be changed by the remote controller of system 2, 3 and 4.)
- 1. Set cool/heat changeover of system 1 outdoor unit at [Unified/main], and set cool/heat changeover switch SS1 at [IN].
- 2. Set cool/heat changeover of system 2, 3 and 4 of outdoor unit at [Unified/sub].
- 3. Set the switches on the external control adaptor for outdoor units as shown on the right.
- ★ Set SS1 at [unified], when you have demand control at the same time.
- Set DS1/DS2 switch at any desired number from 0~31.
- 4. Set the unified cool/heat address of the outdoor unit on the system 1 ~ system 4 according to the unified cool/heat address set on DS1 and DS2 as per 3.



(V1487)

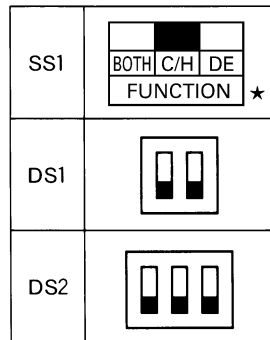
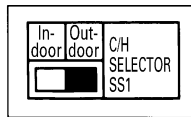
Unified cool/heat changeover by unified ON/OFF controller

<Wiring instructions>



<Setting instructions>

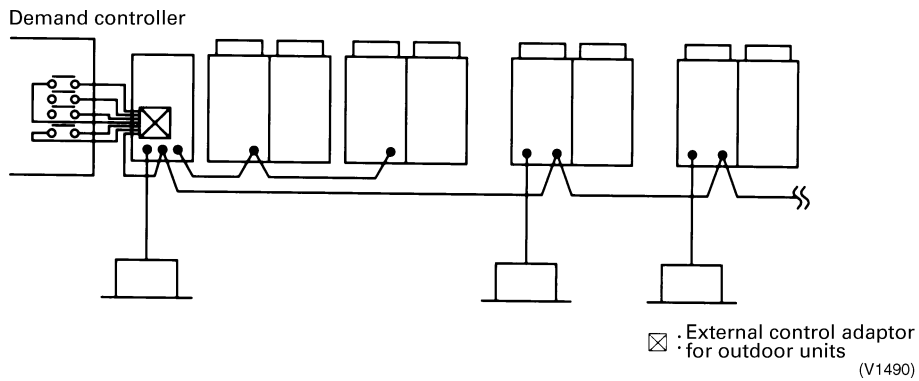
- Cool/heat changeover can be made simultaneously by remote controller A of system 1. (It cannot be changed by the remote controller of system 2, 3 and 4.)
- 1. Set cool/heat changeover of system 1 outdoor unit at [Unified/main], and set cool/heat changeover switch SS1 at [OUT].
- 2. Set cool/heat changeover of system 2, 3 and 4 of outdoor unit at [Unified/sub].
- 3. Set the switches on the external control adaptor for outdoor units as shown on the right.
- ★ Set SS1 at [unified], when you have demand control at the same time.
- Set DS1/DS2 switch at any desired number from 0~31.
- 4. Set the unified cool/heat address of the outdoor unit on the system 1 ~ system 4 according to the unified cool/heat address set on DS1 and DS2 as per 3.



(V1489)

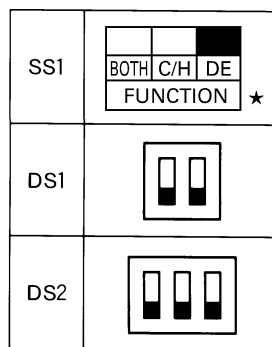
Demand control of outdoor unit

<Wiring instructions>



<Setting instructions>

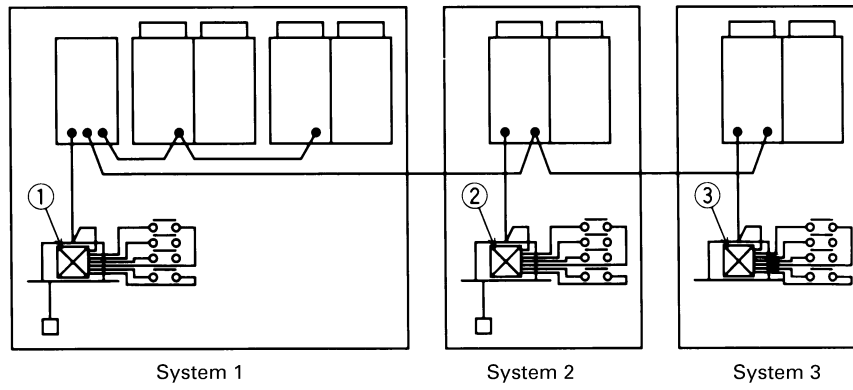
1. Set the switches on the external control adaptor as shown on the below.
 - Set DS 1 and DS2 at any desired number from 0~31.
2. Set low noise switch of the outdoor units at [ON].
3. Set the address for demand control and low noise of outdoor units with the same address number set on DS 1 and DS2.



(V1491)

Low noise control of outdoor unit

<Wiring instructions>



⊠: External control adaptor for outdoor unit (V1492)

<Setting instructions>

- Cool/heat changeover for system 1, 2 and 3 can be made simultaneously by the remote controller of system 1. (Set the switch 1)

The Switch 1, 2 and 3 carry out the low noise control and the demand control of system 1, 2 and 3 respectively.

1. Set the switches on the external control adaptor as shown on the below.

	①	②	③
SS1			
DS1			
DS2			

(V1493)

2. Set the outdoor unit.

	System 1	System 2	System 3
Cool/heat	Unified/main	Unified/sub	Unified/sub
Cool/heat changeover	IN	OUT	OUT
Address for unified cool/heat	0	0	0
Address for Low noise and demand control	0	1	2

(V1494)

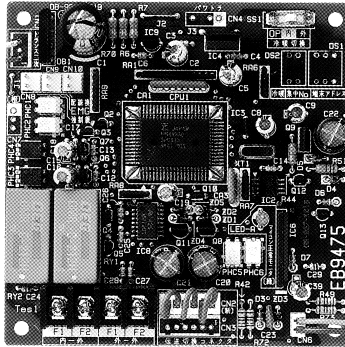
1.5 <DTA106A61-62> Mix-matching Adaptor for “K” Indoor Unit

1.5.1 Outline / Features

By using this adaptor, you can expand the system by adding the new VRV indoor unit “K” type to the existing “G and H” series of VRV system.

Notes:

1. You can connect the plural indoor unit with one adaptor. However, you cannot connect the old model of indoor unit at the downstream of this adaptor.
2. You cannot connect the indoor units exceeding the connectable limit of the existing system.



1.5.2 Applied Model

The type of adaptor differs depending on the model of indoor unit.

	Applied adaptor
FXYC · FXYK · FXYD · FXYS · FXYB · FXYM · FXYA · FXYL · FXYLM	DTA106A61
FXYF · FXYH	DTA106A62

Note:

The box is required when you install this adaptor on FXYC, FXYF, and FXYH indoor unit as follows.

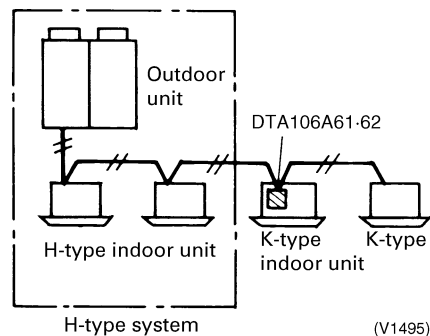
FXYC ... KRP1B96

FXYF ... KRP1B98

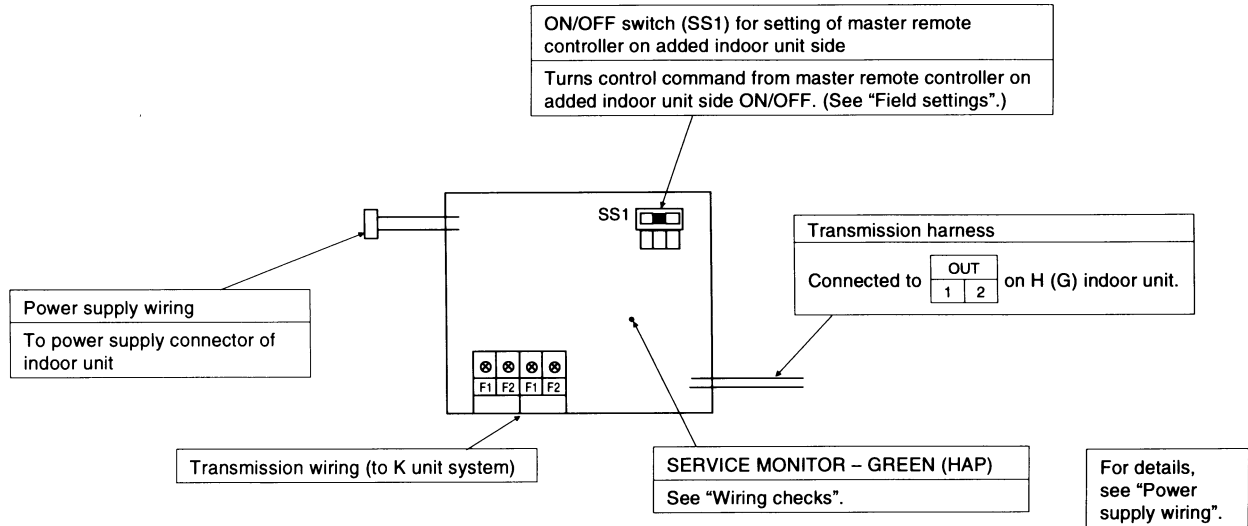
FXYD ... KRP4A91

FXYH ... KRP1B93

1.5.3 System Configuration



1.5.4 Names and Functions of Operating Part



(V1496)

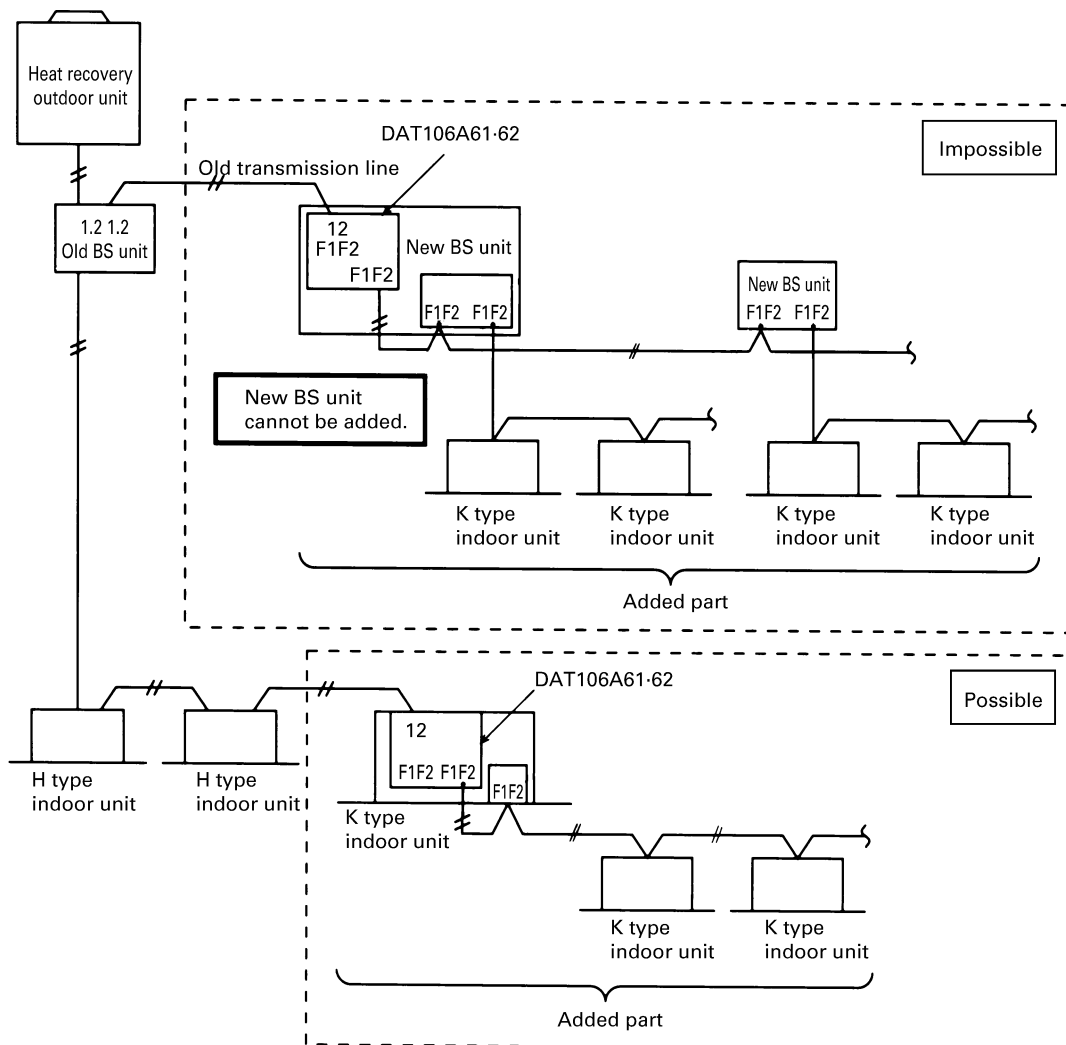
1.5.5 Description of Functions

Control functions

By using this adaptor, you can add the new VRV indoor unit "K" type to the existing "G and H" series of VRV system.

Instructions for installation

- One mix matching adaptor for "K" indoor unit is required for each system, which should be installed in the first "K" unit to be connected.
- Mix matching adaptor for "K" indoor unit can be installed on the terminal unit of "H" type indoor unit.
- Mix matching adaptor for "K" indoor unit can be installed on the system with GA type. However, the central controllers have no inter-changeability.
- It is not possible to have group control of H(GA) type indoor units and K type indoor units.
- For VRV heat recovery series, new BS unit cannot be added as shown below. (K type indoor units can be installed in the downstream of the existing BS unit.)

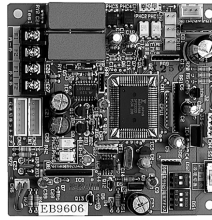


(V1497)

1.6 <DTA109A51> DIII-NET Adaptor

1.6.1 Outline / Features

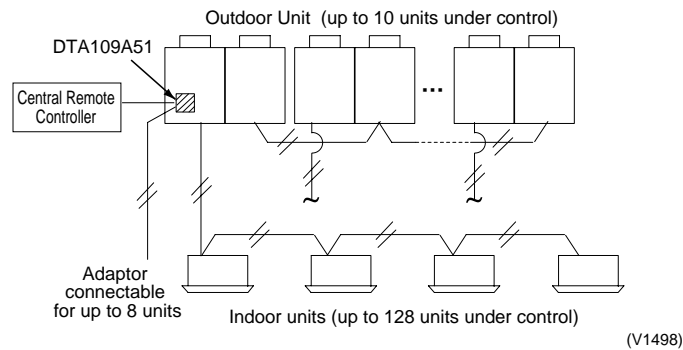
This adaptor is intended for increasing the number of indoor units under control. The scalable device helps extend from the existing 128 indoor units up to 1024 indoor units (in 64 groups under a central controller).



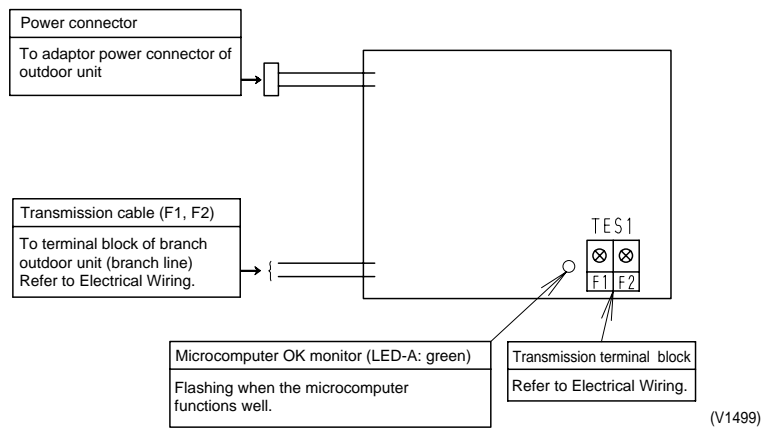
1.6.2 Applied Model

All VRV series models (after Type K)

1.6.3 System Configuration

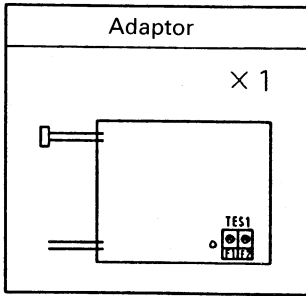


1.6.4 Names and Functions of Operating Part



Accessories

Check the following accessories are included in the kit before the installation



PCB support	× 4
Clamp	× 3
Installation Manual	× 1

NOTE

This adaptor does not apply to salt damage resistance.

1 General description of system

The adaptor allows easy system expansion as long as restrictions are observed.

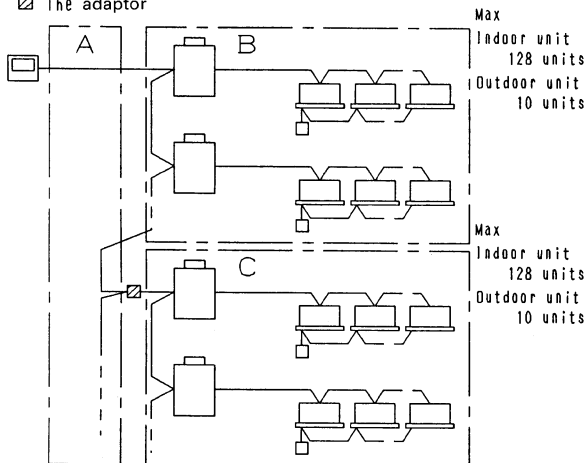
1. The below systems can be controlled on the Super Wiring System when using the adaptor.

- (1) Up to 1024 units can be centrally controlled in 64 different groups. (2) Wiring restrictions (max. length: 1000m, total wiring length: 2000m, max. number of branches: 16) apply to each adaptor.

(With 2 central remote controllers, up to 1024 units can be controlled in 128 groups.)

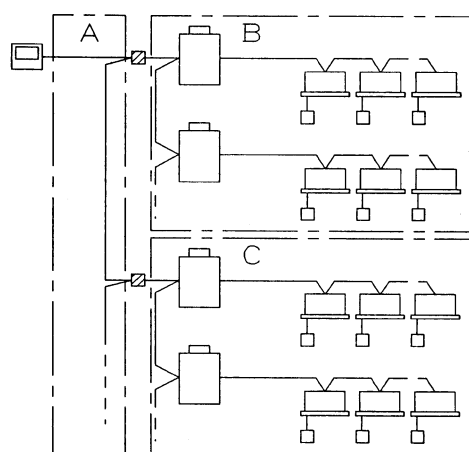
Restrictions on the number of units that can be connected to the Super Wiring System apply to each adaptor.

☑ The adaptor



A maximum of 128 indoor units and 10 outdoor units can be connected in each group B and C.

☑ The adaptor

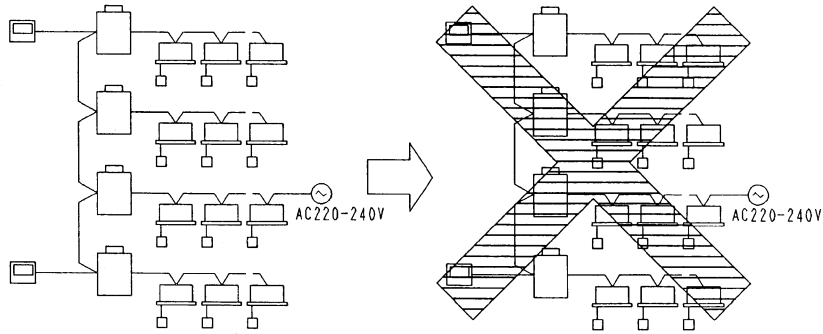


Each group A, B and C can have a maximum wiring length of 1000m, total wiring length of 2000m and a maximum 16 branches.

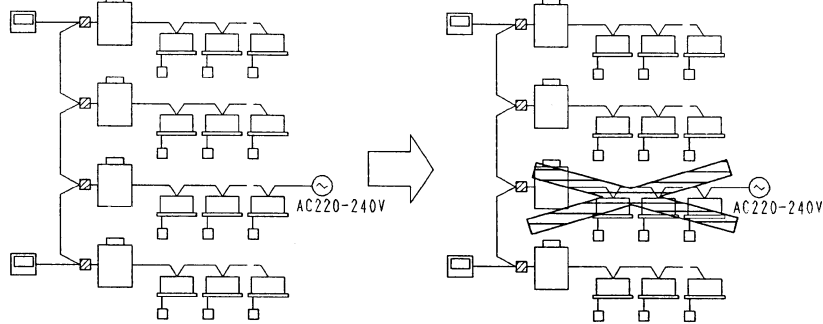
1P013360-1

(3) Setups risky for centralized control systems are possible.

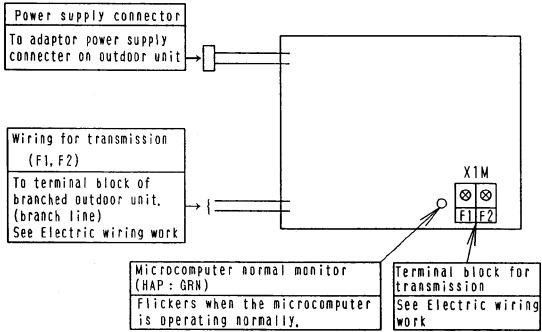
Conventional System Misswiring such as apply 220-240V to circuits could possibly shut down the entire system.



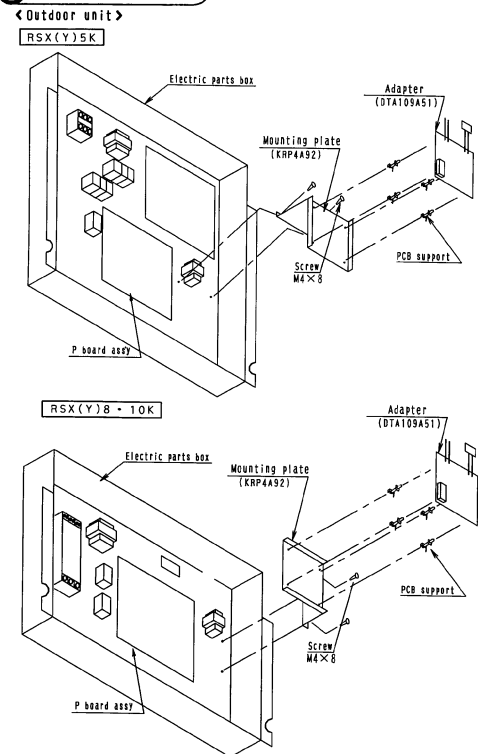
With the adaptor Should trouble occur, only units below the adaptor are shut down. Thus, it is possible to avoid a total system shutdown.



2 Names of parts and functions



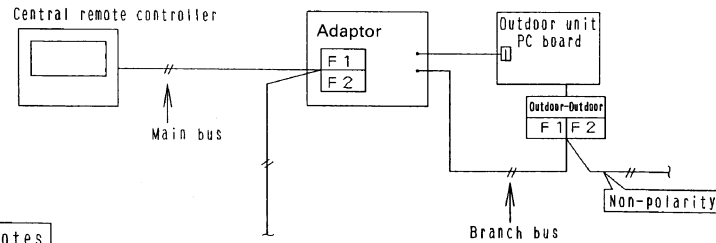
3 Installation



1P013360-2

4 Electric wiring work

- (1) Connect the wire from the adaptor to the adaptor power connector on the outdoor unit's PC board.
(For connector Nos., see the electric wiring diagrams for the indoor and function units.)
- (2) Connect transmission wires between outdoor units (Outdoor-Outdoor terminal board).
- (3) Wire transmission wires to terminal boards as shown below.

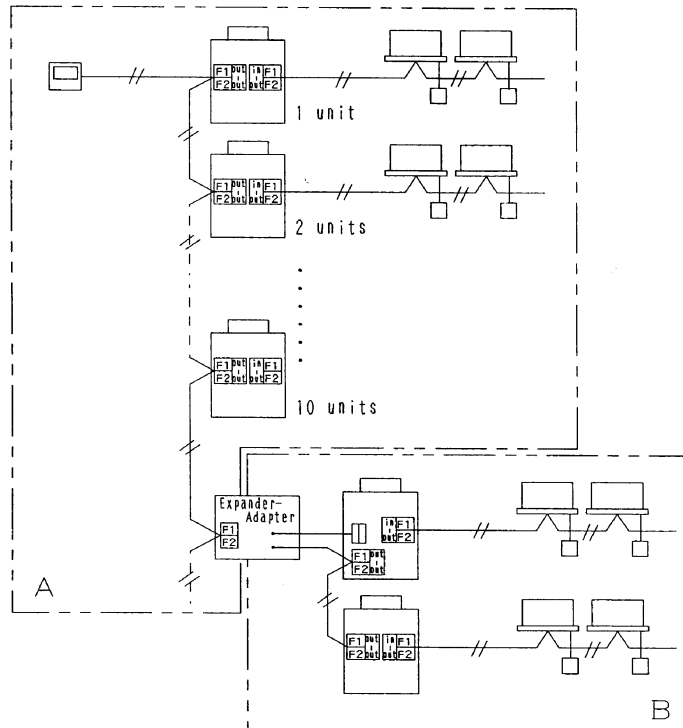


Notes

- (Transmission wiring specifications)
- 0.75~1.25mm² sheathed wire (2 wire).
- (Transmission wiring length)
- Observe the following limits on transmission wires. The limits apply to each adaptor. If you exceed the limits, it may cause malfunction.
 - (Total length: 2000m)
 - (Max. length---1000m)
 - (Max. number of branches: 16)
 - At least one outdoor unit and one optional controller for centralized control are required for every main bus and branch bus.
 - Up to 8 adaptors can be connected in one system.
 - Do not locate adaptors downstream of other adaptors (i.e. : on a branch bus).
 - If not used with a central control device, the expander adaptor cannot be used with the wiring adaptor for electrical appendices (KRP2A) or the schedule timer (DST301B51).
 - The external control adaptor for outdoor units controls group cooling and demand for each adaptor. (Anything beyond the expansion control falls outside the control domain.)
 - Do not turn the system ON/OFF rapidly from the optional controller for centralized control. This can cause temporary erroneous displays.
 - Sequential starts is controlled by each expander adaptor.

5 Wiring example

System with more than 10 outdoor units.

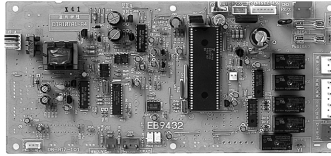


Note Wiring restrictions (see "Electric wiring work") apply to each group A and B.

1.7 <DTA107A55> Central Control Adaptor Kit

1.7.1 Outline / Features

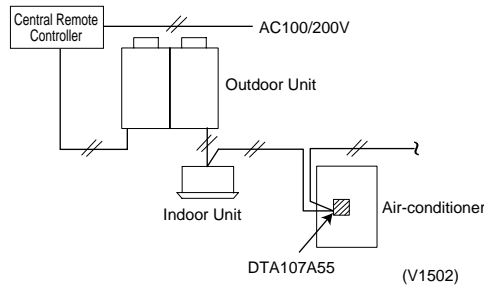
This adaptor is an interface that is necessary in interconnecting the central control system (central controller, ON/OFF controller and schedule timer) and the packaged air-conditioners. In combination with the central control devices, the interface provides for collective start/stop, timer-controlled run, remote control enable/disable and other operation modes as well as run status displays. The adaptor is also required in setting up the remote controller for the packaged air-conditioners.



1.7.2 Applied Model

Packaged Air Conditioners

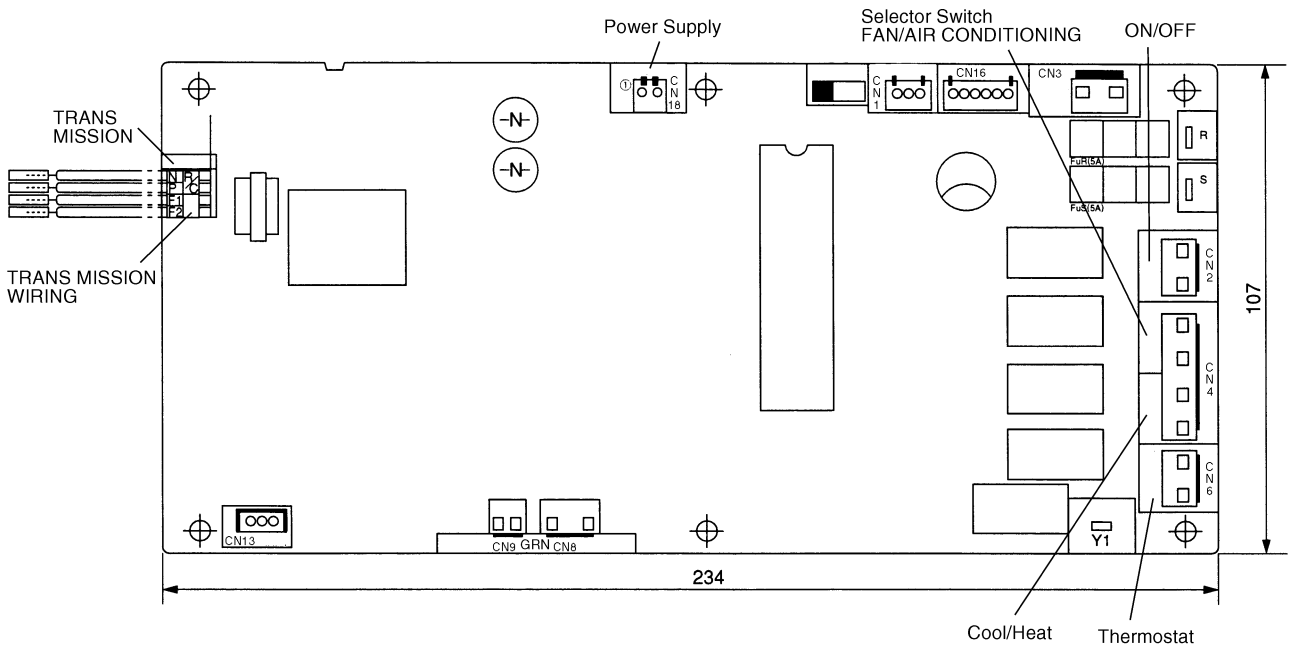
1.7.3 System Configuration



Note:

For the above model, the central control adaptor set-up box is installed externally.

1.7.4 Names and Functions of Operating Part



J : 2PA57213

1.7.5 Combinations of Remote Controllers and Central Control Systems

Remote Controller	Central Remote Controller (DCS302B61)	Unified ON/OFF Controller (DCS301B61)	Schedule Timer (Note 2) (DST301B61)
— (Note 1)	○	—	—
○	—	—	—
○	—	○	—
— (Note 1)	○	○	—
○	—	—	○
— (Note 1)	○	—	○

○ : Needed, — : Not necessarily needed

Notes:

1. Remote controller needed only for addresses setting.
2. Schedule timer power to be connected to CN18 on central controller adaptor PC board. (Same as with the VRV series)

1.7.6 Functions

Control functions

This adaptor allows the central control system to do the following operations and monitoring.

Central remote controller	Remote controller	Air-conditioner local/remote switching	Functions
Provided	Provided	Remote (Note 2)	Start/stop Cool/heat switching Ventilate/temp. regulation switching Temperature setting Run display Error display (collective "A0") Possible from central controller or remote controller (impossible from air-conditioner's control panel)
	Not provided (Note 1)		
Not provided	Provided		
Not provided	Not provided		
		Remote	As ever before (Start/stop, cool/heat switching, ventilate/temp. regulation switching and error display available from remote control terminals; temperature setting available on control panel)

Notes:

1. This adaptor needs address setting in order to connect it to the central remote controller. Like the VRV models, connect the remote controller and make the address setting. Be sure also to turn off the power before disconnecting the remote controller. (Otherwise the error code "U5" will be displayed in about 2 minutes and the system will be interrupted.)
2. When setting up the central control adaptor, set the air-conditioner's local/remote selector to the REMOTE position. If at the LOCAL position, the control panel still functions to run the system but the error code "UE" is displayed on the central controller. This means the remote controller and central control adaptor will be turned off.

Functions with remote controller connected

	Description
1. Two remote controllers applicable	Remote controllers placeable up to 500m away from indoor unit. (Same as with the VRV)
2. Remote control thermostat applicable	Same thermostat characteristics as with the VRV.
3. Remote sensor (KRCS01-1) applicable	Temperatures of spots up to 12m away from indoor unit detectable. (Same as with the VRV)
4. Filter sign display function	Displayed in 2500 total operating hours.
5. Group controllable	

Notes:

1. Keep the following points in mind when using a room thermostat.
 - (1) Connect the room thermostat in place of the thermostat output of the central control adaptor.
 - (2) Note that the room thermostat's temperature setting is different from the value being displayed.
2. ★ Be careful not to confuse the handling instructions.

Meaning of warning and caution symbols

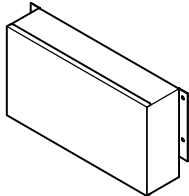
- ⚠ WARNINGFailure to observe a warning may result in death.
- ⚠ CAUTIONFailure to observe a caution may result injury or damage to the equipment.

2P042157-1

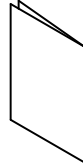
Components

Check the following components are included in this optional accessory before installation.

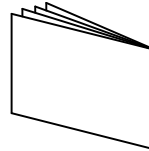
CONTROL BOARD BOX



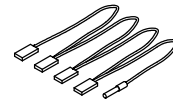
OPERATION MANUAL



INSTALLATION MANUAL



WIRE HARNESS



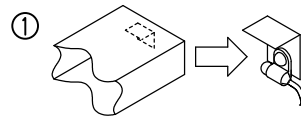
Give to the customer this OPERATION MANUAL certainly.

2P042157-2

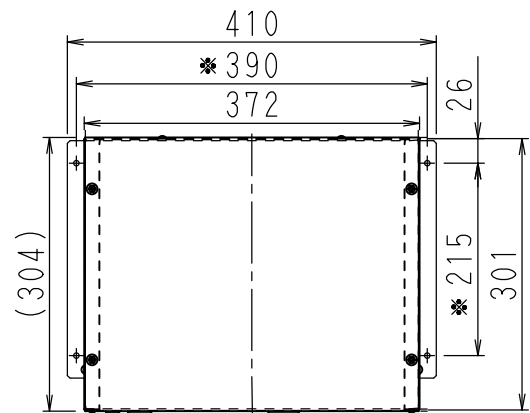
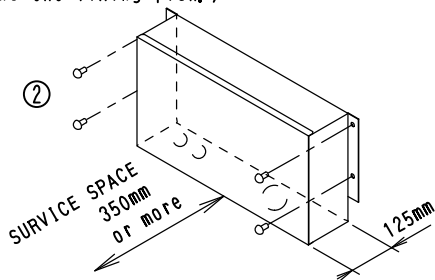
Installation

Decide the situation of Control Board Box. It is affected the situations of the thermistor. The length of lead wire - Thermistor:2.5m

- ① Install the thermistor (in the control board box) at the inlet duct or the suction grille. Use the kit:remote sensor(KRCS01-1), if you need the longer length than it. (Can use it untill 12m.)
- ② Install the control board box on the wall or the pillar. Make sure the wire inlet is at the bottom of the box. Use 4 bolts(M5) for fixing the box. Install the box in the indoor side. (Example:Set it in the ceiling or in the room.) Do not install the box in the air conditioner. Fixing situation : See right Fig. (Height:125mm) (* shows the fixing pitch.)



Example:Set the thermistor into the inlet duct and clamped by resin clamp and fix plate.



2P042157-3

Electric Wiring

GENERAL INSTRUCTIONS

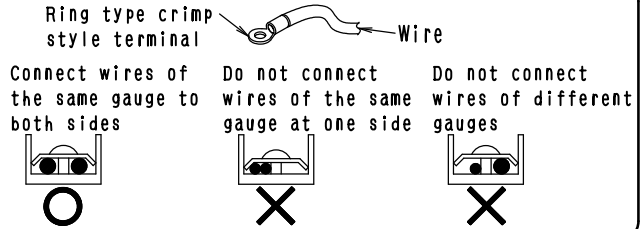
- All wiring, components and materials to be procured on site must comply with the applicable local and national codes.
- Use copper conductors only.
- All field wiring and components must be provided by licensed electrician.
- Unit shall be grounded in compliance with the applicable local and national codes.
- After wiring work, check power to the equipment shuts OFF when switch is shut OFF.

⚠ WARNING

Use ring type crimp style terminal for connection to power supply terminal block.

If is not used, satisfy the following conditions:

- Do not connect wires of different gauge to the same power supply terminal. (Looseness in the connection may cause overheating.)
- When connecting wires of the same gauge, connect them according to the righthand figure.



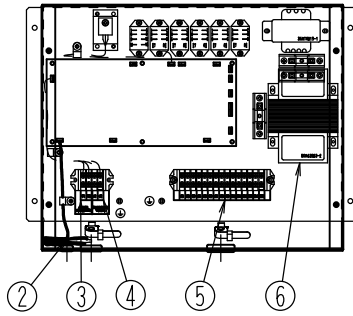
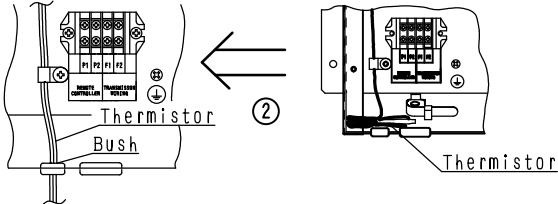
Wiring specification

Use the wire shown right for between the unit and the control board box.

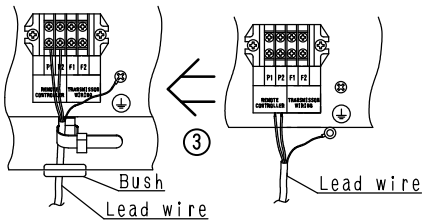
Type	Size
UL1015 AWG18 equivalent	0.75mm ² each

Connect the wiring between indoor and outdoor units, central controllers and remote controller. For details, refer to the installation manual of them.

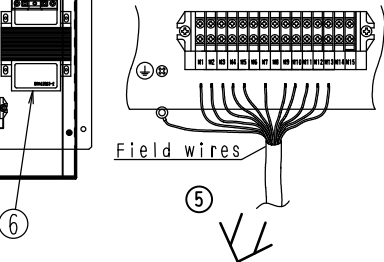
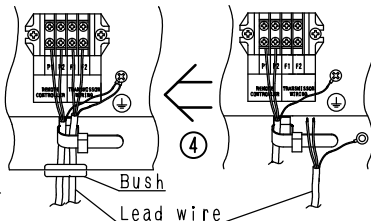
- ① Remove the cover of the control board box, after setting it. (Parts situation is shown right Fig.)
- ② Install the thermistor through the bush. (It is in the control board box. See below Fig.)



- ③ Connect the read wires of Remote Controller. (See the below Fig.) Ground the the shield of the cords to the control board box.



- ④ Connect the read wires of Central Control Unit. (See the below Fig.) Ground the the shield of the cords to the control board box.



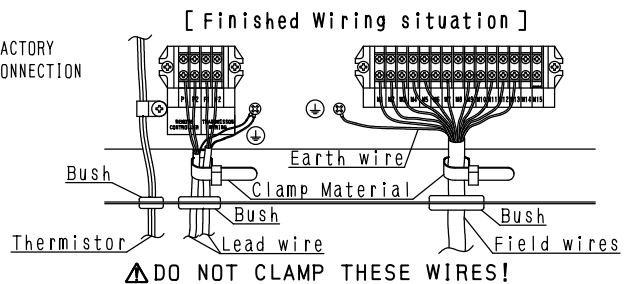
- ⑤ Connect the field wires to the Air Conditioner. (Details : See the back side.) Ground the control board box.

- ⑥ Changel the connection of transformer according to the right table. (Especially for Y1 Model.)

VOLTAGE		TERMINAL
PRIMARY	SECONDARY	
220V	200V	* U-V1
230V	200V	U-V2
240V	200V	U-V3

* FACTORY CONNECTION

Clamp these wires by clamp materials certainly. (Clamp the earth wire.) (See right Fig.) Do not clamp the high voltage wires (Field wires) and the low voltage wiers (Lead wire and Thermistor) both inside and outside of the control boad box.



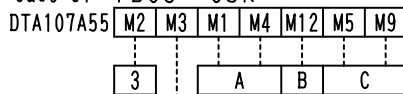
NOTE

- Prepare the remote controller (BRC1A62). [BRC1A52 is also OK.]
REASON: The remote controller is needed per each kit for setting the address.

Connection of the Terminal

Connect between the air conditioner and DTA107A55 shown below.

In case of FDO3~05K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

See below for connecting the terminal "M3". (The Output of alarm signal)

About these models, we can only output the alarm signal of indoor fan motor.

Connect the wiring between the terminal "M3" and the terminal "96" of magnetic contactor of indoor fan motor(K1M).

In case of FDO6~10K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

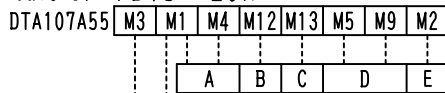
See below for connecting the terminal "M3". (The Output of alarm signal)

Use the attached wire harness and change from the wire to it. The wire is connected between K1R(5), K1R(7), K2R(7), and K3R(5).

[() is shown the terminal.]

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

In case of FD15・20K



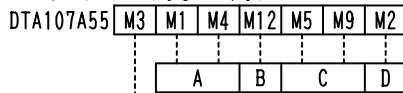
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the indoor unit. [Refer to the wiring diagram of the indoor unit.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Connect the wiring between the terminal "M1" and the terminal "6" of K4R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K4R(magnetic relay).

In case of UAT06~10K



Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

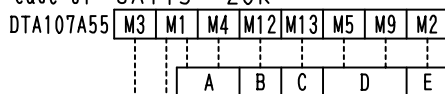
See below for connecting the terminal "M3". (The Output of alarm signal)

Use the attached wire harness and change from the wire to it. The wire is connected between K1R(5), K1R(7), K2R(7), and K3R(6).

[() is shown the terminal.]

Connect the wiring between the terminal "M3" and the solderless splices butt "M3" of the wire assy.

In case of UAT15・20K



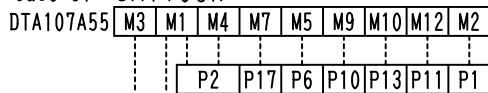
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Connect the wiring between the terminal "M1" and the terminal "6" of K3R(magnetic relay).

Connect the wiring between the terminal "M3" and the terminal "4" of K3R(magnetic relay).

In case of UATY06K



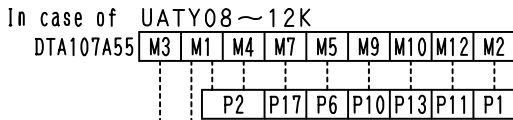
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. [Refer to the wiring diagram of the air conditioner.]

See below for connecting the terminal "M3". (The Output of alarm signal)

Connect the wiring between the terminal "M1" and the terminal "5" of K2R(magnetic relay).

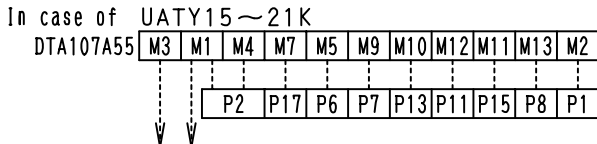
Connect the wiring between the terminal "M3" and the terminal "3" of K2R(magnetic relay).

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Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. (Refer to the wiring diagram of the air conditioner.)

See below for connecting the terminal "M3". (The Output of alarm signal)
 Connect the wiring between the terminal "M1" and the terminal "5" of K2R(magnetic relay).
 Connect the wiring between the terminal "M3" and the terminal "3" of K2R(magnetic relay).



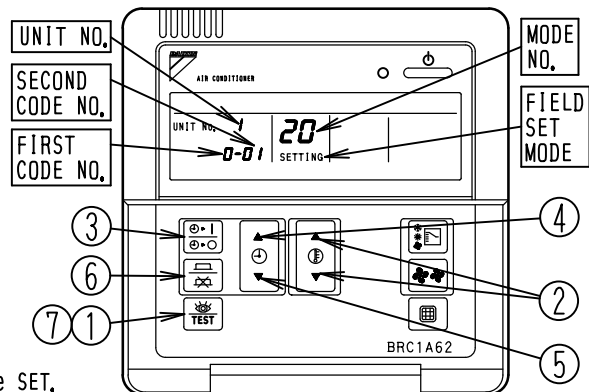
Connect the wiring between the box of this kit and the EL, COMPO, BOX ASSY of the air conditioner. (Refer to the wiring diagram of the air conditioner.)

See below for connecting the terminal "M3". (The Output of alarm signal)
 Connect the wiring between the terminal "M1" and the terminal "6" of K2R(magnetic relay).
 Connect the wiring between the terminal "M3" and the terminal "4" of K2R(magnetic relay).

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Field Setting

- ① When in the normal mode, press the button for a minimum of four seconds, and the FIELD SET MODE is entered.
- ② Select the desired MODE NO, with the .
- ③ During group control, when setting by each indoor unit (mode No. 20, 22 and 23 have been selected), push the and select the INDOOR UNIT NO to be set. (This operation is unnecessary when setting by group)
- ④ Push the upper button and select FIRST CODE NO.
- ⑤ Push the lower button and select SECOND CODE NO.
- ⑥ Push the button once and the present settings are SET.
- ⑦ Push the button to return to the NORMAL MODE.



: FACTORY SETTING

MODE NO. Note)1	FIRST CODE NO.	Description of Setting	SECOND CODE NO.	
			01	02
10(20)	0	Filter Contamination - Heavy / Light (Setting for spacing time of display time to clean air filter) (Setting for when filter dirt is heavy, and spacing time of display time to clean air filter is to be halved)	LIGHT Approx, 2500Hrs.	HEAVY Approx, 1250Hrs.
	2	Thermostat Sensor in Remote Controller (Setting for when thermostat sensor in remote controller is not to be used)	Use	Not use
	3	Spacing Time of Display Time to Clean Air Filter Count (Setting for when the filter sign is not to be displayed)	Display	Do not Display
12(22)	5	The operation will restart automatically after power turns back again.	Not use	Use

NOTE) 1. Setting is carried out in the group mode, however, if the mode number inside the parentheses is selected, indoor units can also be set individually.
 2. Do not mark any settings not given in the table on the upper.
 3. When returning the normal mode, "88" may be displayed in the LCD in order for the remote controller to initialize itself.

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Part 4

Adaptors for External Controllers

1. Adaptors for External Controllers	142
1.1 <DCS302A52> Unification Adaptor for Computerized Control.....	142
1.2 <KRP4A51-52-53> Wiring Adaptor for Electrical Appendices (2).....	146
1.3 <KRP2A61-62> Wiring Adaptor for Electrical Appendices(1).....	152
1.4 <KRP1B61-2-3> Adaptor for Wiring	156

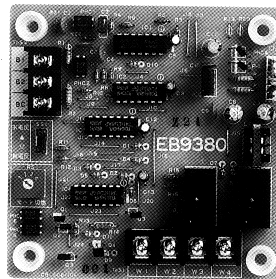
1. Adaptors for External Controllers

The following adaptors are interface adaptors required for the connection of the central control equipment (Central remote controller, Unified ON/OFF controller and Schedule timer) or other external control equipment, such as the central monitoring panel, and enables you to operate ON/OFF or monitor the operating status, malfunction etc. from the central monitoring panel.

1.1 <DCS302A52> Unification Adaptor for Computerized Control

1.1.1 Outline / Features

This adaptor is a interface adaptor required to connect the central control equipment (Central remote controller, Unified ON/OFF controller and Schedule timer) or other external control equipment, such as the central monitoring panel, and enables you to have an unified display (operation/error display) or an unified operation (start/stop command) from the central monitoring panel.

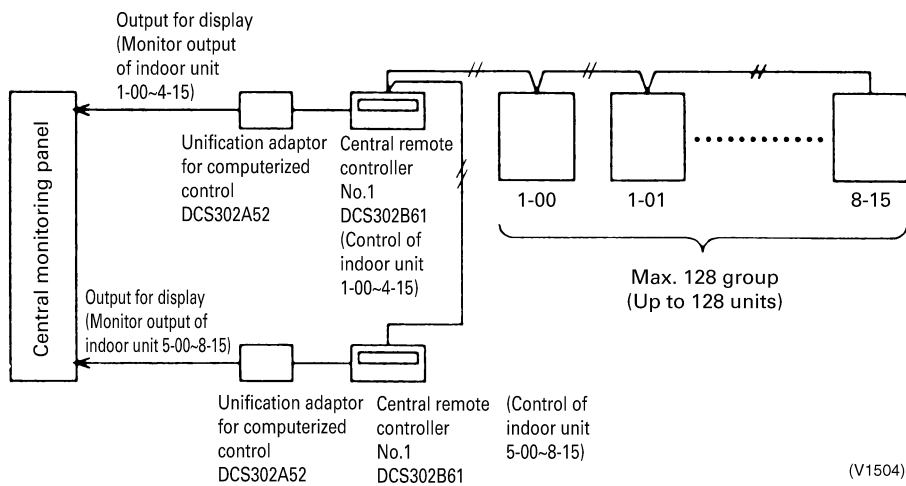


1.1.2 Applied Model

- Central remote controller DCS302B61

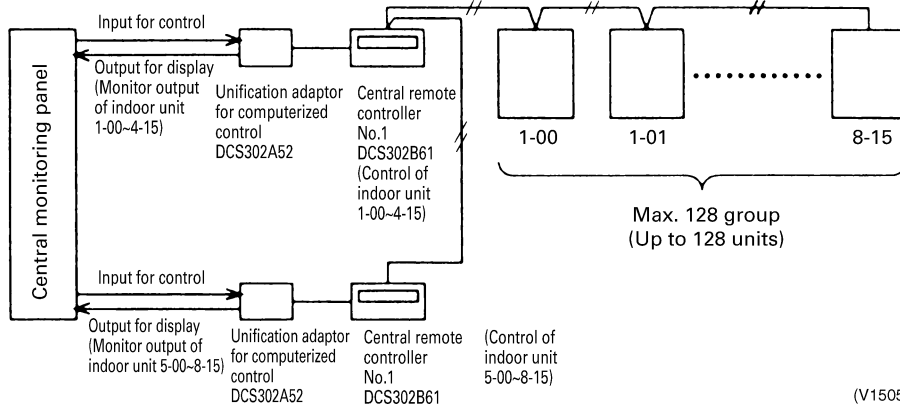
1.1.3 System Configuration

Unified display



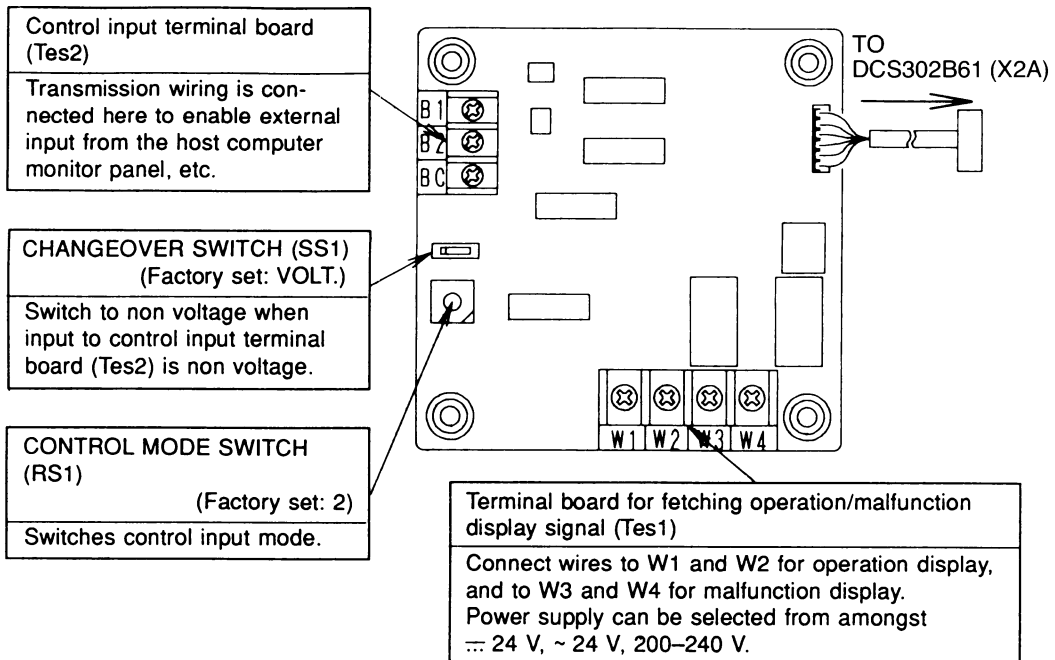
Operation and error of all the indoor units controlled by the central remote controller are output and displayed on the central monitoring panel.

Unified control



Unified display and unified start/stop operation of all the indoor units controlled by the central remote controller are operative from the central monitoring panel.

1.1.4 Names and Functions of Operating Part



1.1.5 Input/Output for External Control (Control Wiring to the Central Monitor Panel)

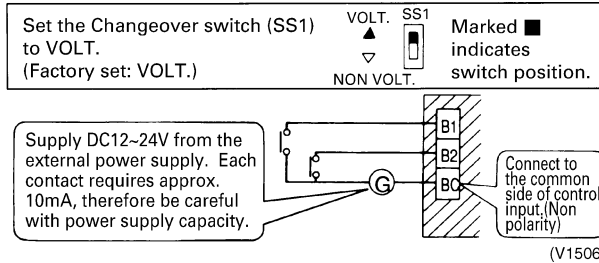
Specifications of control wiring

- Sheathed vinyl cord or cable (2-core) with the wiring size of 0.75~1.25mm². A maximum length is 150m.

1. Input for control

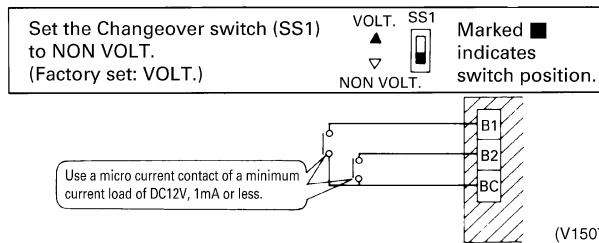
Connect the wiring as follows, depending on whether input carries a voltage (VOLT.) or non-voltage (NON VOLT.).

- ◆ **Input with voltage. Input for both A and B is normally open contact.**

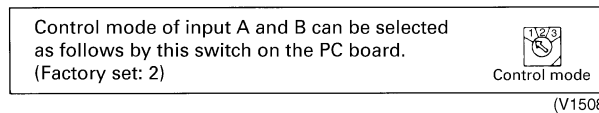


Use a micro current contact of a minimum current load of DC12V, 1mA or less.

- ◆ **Input with no voltage. Input for both A and B is normally open contact.**



Control mode switch (RS1) setting



1. Set to position 1 to ignore the input when checking wiring etc.
2. If operating with constant input to Input A.

Position	Contents of input
2	By changing OFF → ON for unified operation
	By changing ON → OFF for unified stop

★ Input B is ignored.

3. If operating with instantaneous input to Input A and Input B. (Use instantaneous input on time 400milli-sec or more.)

Position	Input A	Input B
3	ON: Unified operation	ON: Unified stop

Do not set the position 1. This switch can be set at any time

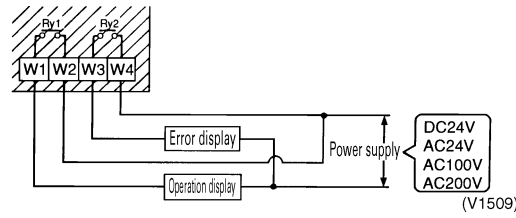
2. Display Signal Retrieval (Output)

◆ Output of display signal

The normal operation output terminals (W1, W2) and error output terminals (W3, W4) are non-voltage output contacts. (Permissible current is 10mA~3A per contact.)

Cautions:

If using 100VAC or 200~240VAC, the power wiring should be separated from the input wiring.

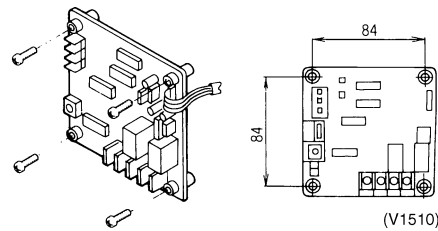


Output is as given below.

Both Ry1 and Ry2 is OFF.	Only Ry1 is ON.	Only Ry2 is ON.
All stop	At least one unit is operating without an error.	At least one unit is shut-down by error, or transmission error occurs between central remote controller and indoor

Installation

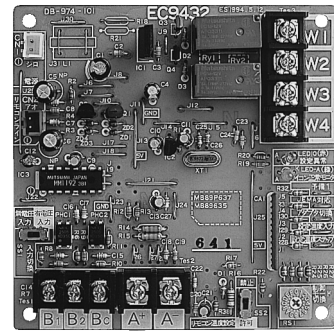
- Install in the electrical panel box (local supplied) near the central remote controller. (Length of control wiring attached is 5m.)
- Install securely with 4 screws attached.



1.2 <KRP4A51-52-53> Wiring Adaptor for Electrical Appendices (2)

1.2.1 Outline / Features

This adaptor is a interface required to connect the indoor unit with the central monitoring panel. And by installing this adaptor in the indoor unit, it enables you to have various remote controls (ON/OFF, temperature setting, operation status display and malfunction display). One adaptor can control simultaneously the group of units (Max. 16 units) connected to the remote control wiring line(P1, P2).



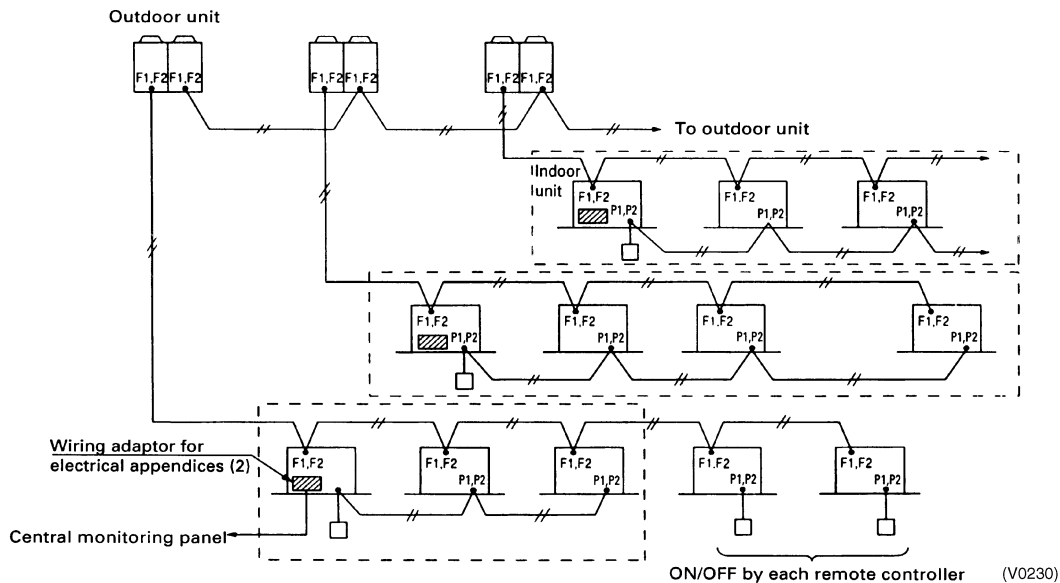
Note:

1. This adaptor cannot be used together with central control equipment and data station.
2. The model of adaptor differs according to the type of indoor unit to be installed.



1.2.2 Applied Model

Applied Model	Remark	Applied Model	Remark	Note	
VRV Systems	VRV Plus Series	○	Room Air-Conditioner	×	
	VRV Inverter "K(A)" Series	○	Other Air-Conditioner	×	
	VRV Heat Recovery Series	○	HRV Unit	○	BRC1B61, 62 etc. are required.
	SkyAir Series	○			

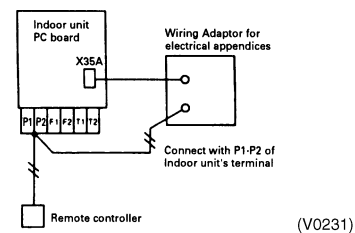
1.2.3 System Configuration



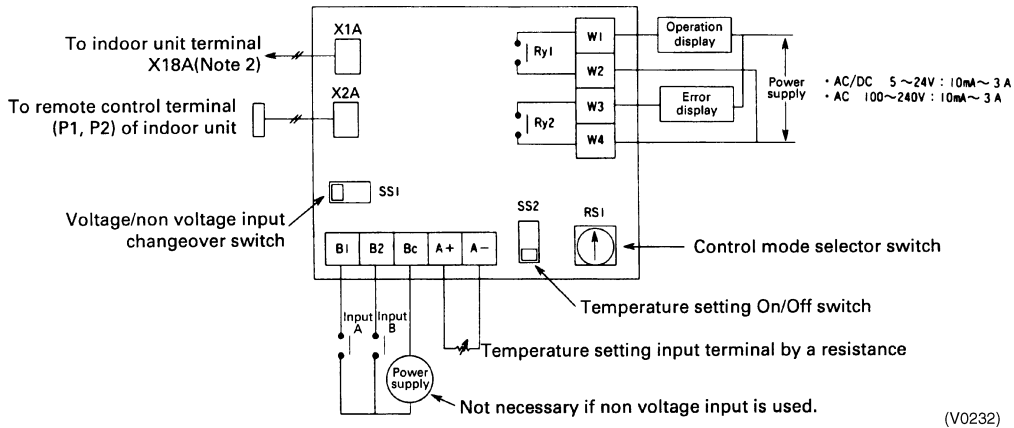
Note:

1. Marked  shows wiring adaptor for electrical appendices.
2. Marked  indicates the same control range.
3. The wiring adaptor for electrical appendices (2) can control simultaneously the group of the units (Max. 16 units) connected to the remote control wiring line (P1, P2). In another words, all the units connected between P1 and P2 terminal have the same control.

■ Point of wiring



1.2.4 Names and Functions of Operating Part



Note:

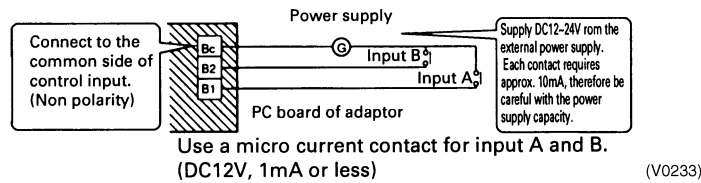
1. This is valid only for the indoor unit, which has a temperature setting function.
2. Terminal No. X18A is for the indoor unit of VRV system. For SkyAir series and other air-conditioner, connect to the relevant terminal for each units.

1.2.5 Input/Output for External Control

1. Depending on whether [voltage input] or [non voltage input], connect the wiring as shown below.

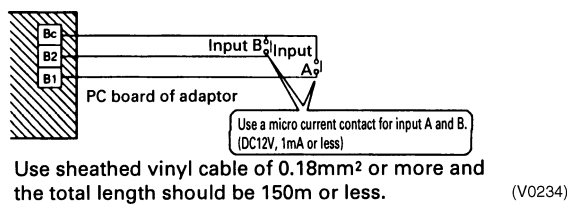
■ **Input with Voltage.**

Set the Voltage/Non voltage changeover switch (SS1) to VOLT.



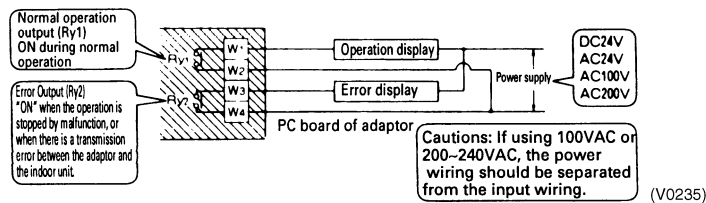
■ **Input with No Voltage.**

Set the Voltage/Non voltage changeover switch (SS1) to NON VOLT.



2. Display Signal Retrieval (Output)

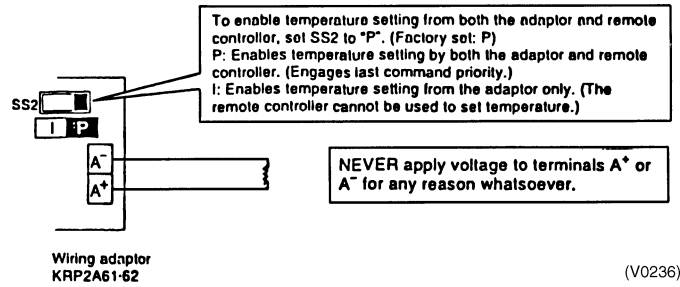
The normal operation output terminals (W1, W2) and error output terminals (W3, W4) are non-voltage output contacts. (Permissive current is 10mA~3A per contact.)



Output is as given below.

Output System	Both Ry1 and Ry2 is OFF.	Only Ry1 is ON.	Only Ry2 is ON.
Group control	Off	All normal operation	At least one unit is stopped due to error or transmission error between the adaptor and the indoor unit.

3. Temperature Setting Input



Temperature setting corresponds to resistance values in the range of 0 to 135Ω.
 Their relationship is as shown below.

Relation between the setting temperature and the resistance are as follows.

Setting temperature (°C)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Resistance (Ω)	0.0 ~3.4	5.0 ~11.6	13.8 ~20.0	22.4 ~28.4	31.0 ~36.4	39.4 ~44.8	48.2 ~52.8	56.6 ~61.2	65.2 ~69.4	73.8 ~77.8	82.4 ~85.8	91.0 ~94.0	99.4 ~102.2	108.6 ~110.4	117.2 ~119.2	125.8 ~127.4	134.2 ~140.0

Note:

- The value of resistance includes the resistance of wiring.
- The setting temperature is limited within the setting range of indoor unit. If you set the temperature outside of the range by the adaptor, it controls at the nearest setting range.

Setting of Control Mode Selector Switch (RS1)

Position	Functions	Description of Operation by Input Mode A and B	
		Input A (Between B1-Bc)	Input B (Between B2-Bc)
0	Input Ignored	—	—
1	Remote Control Rejection	Start at ON, and stop at OFF	Stop at ON (remote control rejection), Input A acceptance at OFF
2	Central Priority	Start at ON (remote control acceptance), stop at OFF (remote contro rejection)	
3	Remote Control Acceptance/ Rejection	The same as position 1 (Only stop is accepted by remote controller)	
4	Remote Control Acceptance/ Rejection, OFF	Start at ON (remote control acceptance), stop at OFF (remote control rejection)	
5	Remote Control Rejection	Start/Stop(Repeats)	
6	Last Command Priority	The same as position 5 (remote control acceptance all the time)	Stop at ON remote control acceptance), start at OFF (remote control rejection)
7	Remote Control Rejection	Start at ON	Stop at ON.
8	Last Command Priority	Start at ON (remote control acceptance)	Stop at ON (remote control rejection)
9	Remote Control OFF Acceptance	The same as position 7 (Only stop is accepted by remote controller)	The same as position 7
A	Remote Control Acceptance/ Rejection, OFF	Start at ON (remote control acceptance)	Stop at ON (remote control rejection)
B	Last Command Priority	The same as position 7 (remote control acceptance all the time)	The same as position 7
C	Position 5 + Energy Saving Control	The same as position 5	Forced thermostat OFF at ON
D	Position 5 + Temperature Set- Back		Setting temperature shift command at ON
E	Position 6 + Energy Saving Control	The same as position 6	Forced thermostat OFF at ON
F	Position 6 + Temperature Set- Back		Setting temperature shift command at ON

Note:

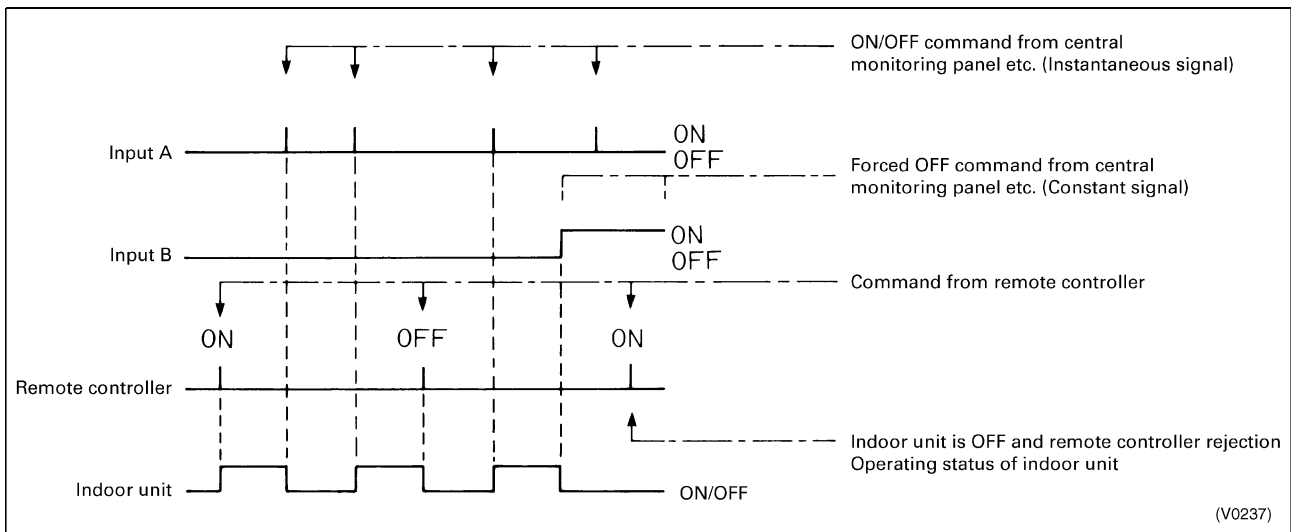
1. When constant input is used for input B at position 7-A, the system is shut-down forcibly (Ignored input A).
 Constant input cannot be used for input B at position B.
2. Refer to the followings for the outline of above functions.

■ Description of Functions (Outline)

- 1. Remote Control Rejection For when you want to turn on/off only by central remote controller. (On/off cannot be controlled by remote controller for indoor unit.)
- 2. Remote controller Off Only Accepted For when you want to turn on only by the central remote controller, and turn off only by remote controller for indoor unit.
- 3. Central Priority For when you want to turn on only by the central remote controller, and during the set time, turn on/off freely by remote controller for indoor unit.
- 4. Individual Priority (Last command priority) ... For when you want to turn on/off by both central remote controller and remote controller for indoor unit.
- 5. Remote Controller Permission Timer For when you want to turn on/off by remote controller for indoor unit during set time, and you want to start the operation by remote controller for indoor unit at the programmed time of system start.

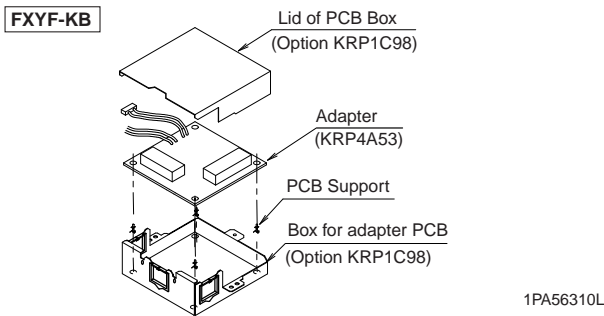
<Example when the control mode selector switch is set at position 6>

The following is the time chart for the command by remote controller and the indoor unit against input signal.



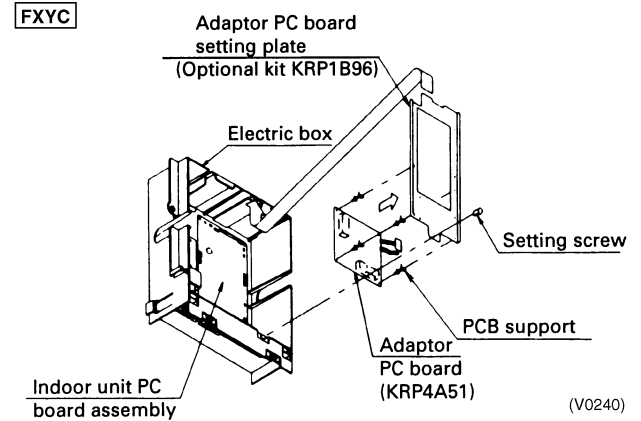
1.2.6 Instruction for Installation

Ceiling mounted super cassette type <Multi-flow type>

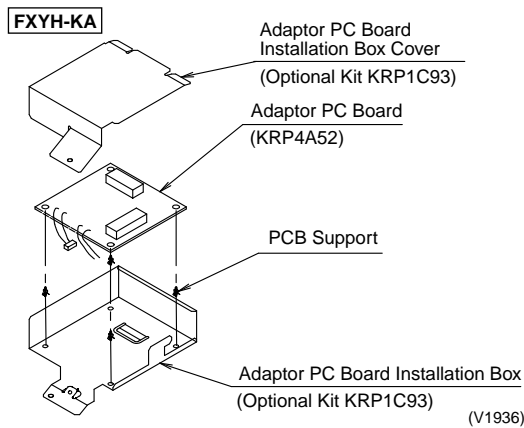


Note:
To install the adaptor.
Box for adaptor PCB (option) is required.

Ceiling Mounted Cassette Type <Double-Flow Type>

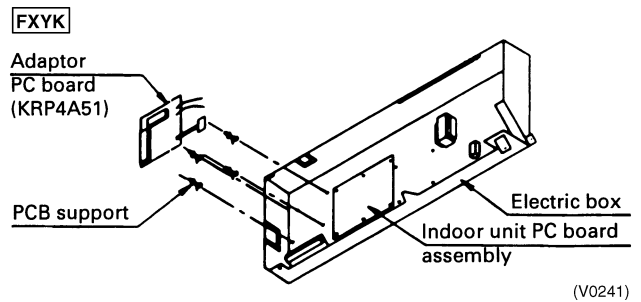


Ceiling Suspended Type

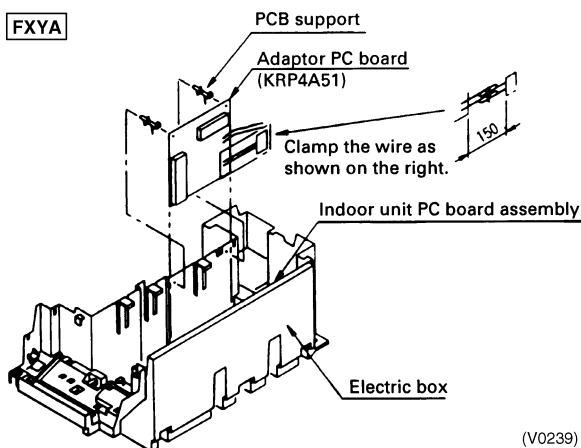


Note:
For installation, the optional kit of adaptor PCB installation box is required.

Ceiling Mounted Cassette Type <Corner Type>

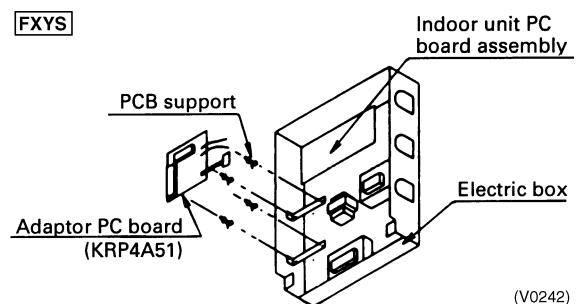


Wall Mounted Type



Note:
If the wire is not clamped, it may cause malfunction.

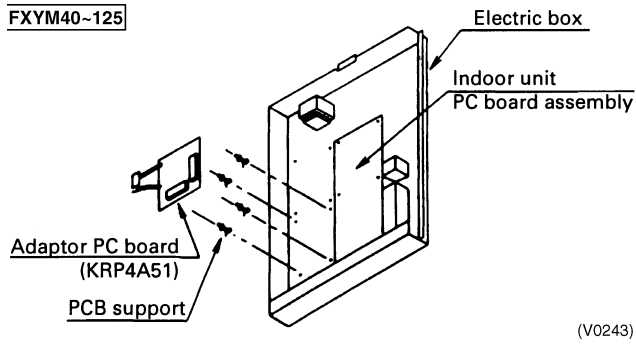
Ceiling Mounted Built-In Type



Note:
The above shows the installation for VRV indoor unit. For the SkyAir series and other air-conditioner, it may be different from the ones showed above and refer to its engineering data for the details.

Ceiling Mounted Duct Type

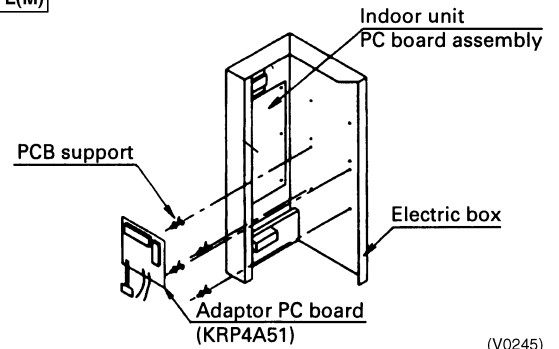
FXYM40-125



(V0243)

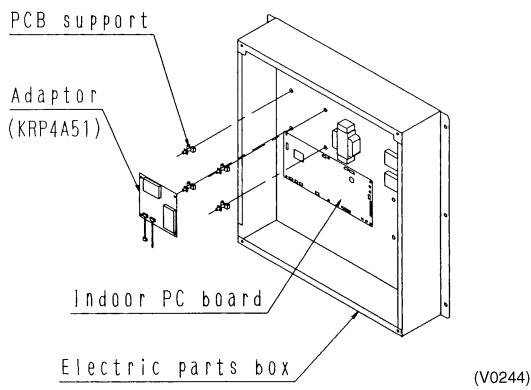
Floor Standing Type

FXYL(M)



(V0245)

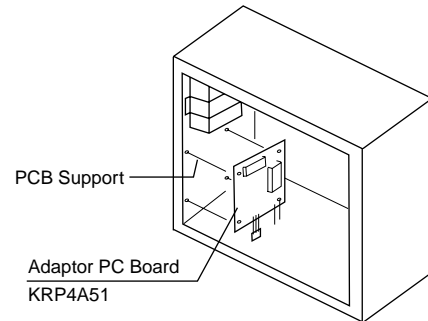
FXYM200-250



(V0244)

Ceiling Mounted Low Silhouette Duct Type

FXD-KA



(V1937)

Note:

The above shows the installation for VRV indoor unit. For the SkyAir series and other air-conditioner, it may be different from the ones showed above and refer to its engineering data for the details.

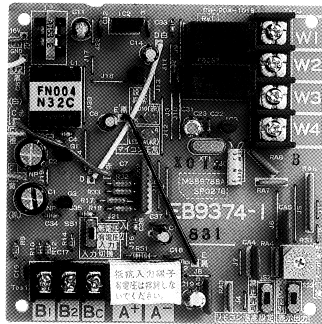
1.3 <KRP2A61-62> Wiring Adaptor for Electrical Appendices(1)

1.3.1 Outline / Features

This is a interface adaptor required if the indoor is connected to the central monitor panel. By installing this adaptor in the indoor unit, it enables you have various kind of remote control (ON/OFF control, temperature setting, display of operation/malfunction). However, since this adaptor is connected to the central control line, all the indoor unit connected to the central control line (F1, F2) shall be controlled simultaneously.

Notes:

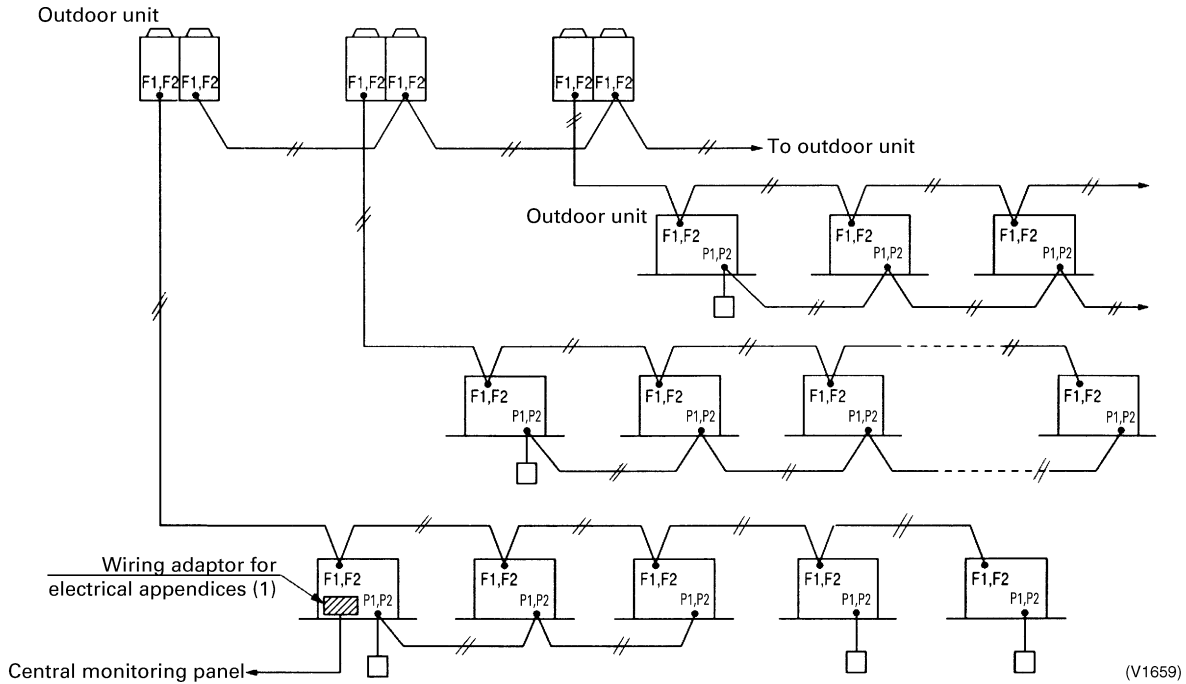
1. This adaptor cannot be used in conjunction with the central control equipment or the data station.
2. The model of adaptor differs depending on the model of indoor unit.
3. Up to 64 indoor units can be controlled.



1.3.2 Applied Model

Applied model			Remark	Applied model		Remark
VRV systems	VRV plus series	○		Room air-conditioner	○	Wiring adaptor for other air-conditioning is required for each indoor unit.
	VRV inverter "K" series	○		Other air-conditioner	×	
	VRV Heat recovery series	○		HRV unit	○	
	SkyAir series	○	Interface adaptor for SkyAir series is required for each indoor unit.			

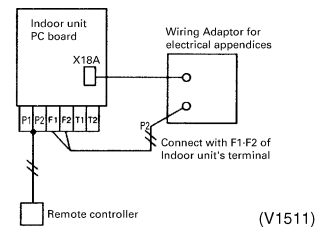
1.3.3 System Configuration



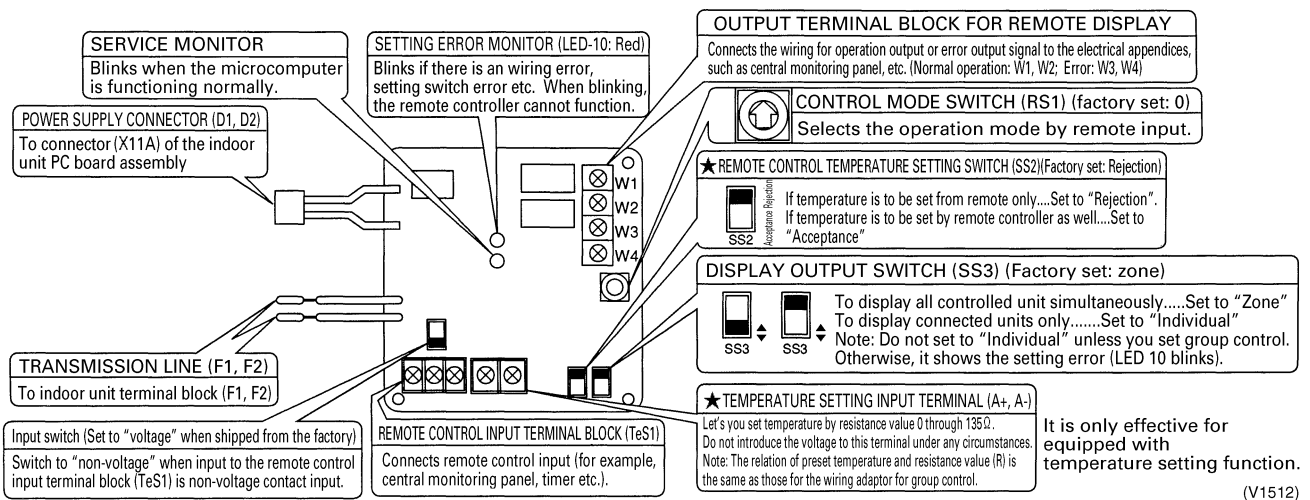
Note:

1. Marked with shows the wiring adaptor for electrical appendices (1).
2. This adaptor controls collectively all the indoor unit connected to the central control line (F1, F2). In other words, all the indoor unit has the same operation control through this adaptor from the central monitoring panel.
3. If you want to have a group control the above indoor units, remove the wiring between the outdoor units and install the wiring adaptor for electrical appendices for each group.

■ Point of wiring



1.3.4 Names and Functions of Operating Part

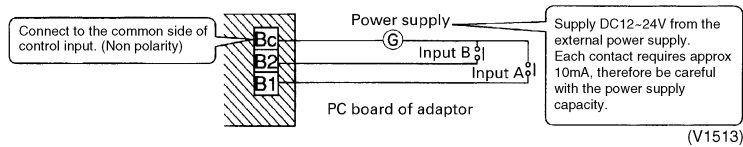


1.3.5 Input/Output for External Control

1. Input for remote control (operation control)

◆ Input with voltage.

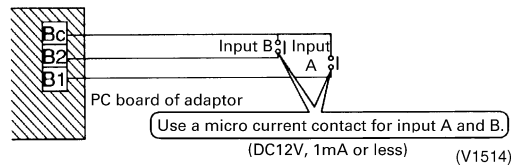
Set the Changeover switch (SS1) to VOLT.



Use a micro current contact for input A and B. (DC12V, 1mA or less)

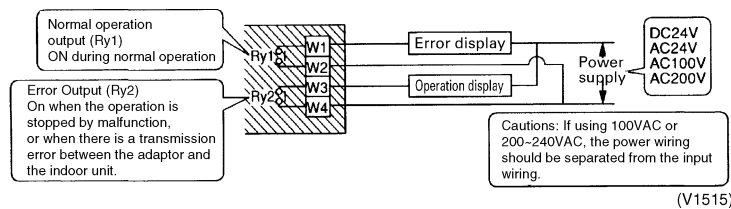
◆ Input with no voltage.

Set the Changeover switch (SS1) to NON VOLT.



2. Display Signal Retrieval (Output)

The normal operation output terminals (W1, W2) and error output terminals (W3, W4) are non-voltage output contacts.



(Permissive current is 10mA~3A per contact.)

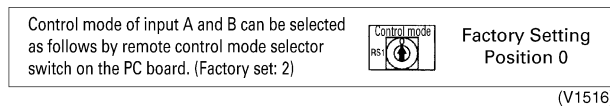
Output is as given below

System	Output	Both Ry1 and Ry2 is OFF.	Only Ry1 is ON.	Only Ry2 is ON.
Individual operation or individual display		Off	Normal operation	Shut-down due to error or transmission error between the adaptor and the indoor unit.
Group control		Off	All normal operation	At least one unit is stopped due to error or transmission error between the adaptor and the indoor unit.
Zone control		All off	At least one unit operating normally without an error.	At least one unit is stopped due to error or transmission error between the adaptor and the indoor unit.

<Cautions>

When you reconnect the wiring (F1, F2) after operating the system once, let the power flow for more than 5 minutes, and then reset the power. Otherwise, you may not be able to control the system from the wiring adaptor for electrical appendices in some case.

■ Setting of Remote control mode selector switch(RS1)



1. Set to position "0" to ignore the input when checking wiring, or to use the display function for individual display.
2. If operating with constant input to Input A.

Position	Functions	Contents when Input A is "ON".	Contents when Input B is "ON".
1	Remote controller operation rejection	Operation (Remote controller rejection all the time.)	Stop + Remote control rejection
2	Central priority	Operation + Remote controller operation acceptance	
3	Remote controller operation acceptance/rejection	Operation + Remote controller acceptance for only for shut-down (Operation is not possible by remote controller.)	
4	Remote controller operation acceptance/rejection/shut-down	Remote controller operation acceptance only (Operation is not possible from remote.)	

- ★ Input B is for forced shut-down. If Input B is "ON", the operation is shut-down and is rejected by remote controller so that Input A is ignored. Even if Input A is turned "ON" when Input B is "OFF", you cannot have the function when Input A is "ON". The Input A has to be turned "ON" once more.
- 3. If operating with instantaneous input to Input A.
(Use instantaneous input on time 200milli-sec or more.)

Position	Functions	Contents of Input A.
5	Remote control operation rejection	Stops on "ON" when operating and operates on "ON" when stopping.
6	Last command priority	Stops on "ON" when operating and operates on "ON" when stopping. (Remote controller operation is "Acceptance" all the time.)

- ★ Input B is for forced shut-down. If Input B is "ON", the operation is shut-down and is rejected by remote controller so that Input A is ignored.
The functions of Input A "ON" returns when Input B turns "OFF".
- ★ When you have demand control by using Input B.

Position	Functions of Input A	Functions of Input B
A	Remote controller operation rejection (the same as position 5)	Forced thermostat OFF command
B		Forced temperature setting shift
C	Last command priority (the same as position 6)	Forced thermostat OFF command
D		Forced temperature setting shift

- Forced thermostat OFF command
Force to turn the indoor unit to "FAN" operation.
- Forced thermostat setting shift
Force to set-back the pre-set temperature by 2°C higher for cooling and 2°C lower for heating operation.

Cautions

Since the system operates when Ry1 is "ON" and stops when Ry1 is "OFF" under zone control, some units may not be in operation even if Ry1 is "ON" under last command priority mode. In this case, even if Input A turns "ON", all the unit stops.

- 4. If operating with instantaneous input to both Input A and Input B.(Use instantaneous input on time 200milli-sec or more.)

Position	Functions	Contents when Input A is "ON".	Contents when Input B is "ON".
7	Remote control operation rejection	Operation (Remote control operation rejection all the time)	Stop + Remote control rejection
8	Central priority	Operation + Remote controller acceptance for only for shut-down	
9	Remote control shut-down acceptance	(Operation is not possible by remote controller.)	
A	Remote controller acceptance/rejection/shut-down.	Remote controller operation acceptance only (Operation is not possible from remote.)	Stops (Remote controller operation is "Rejection" all the time.)
B	Last command priority	Operation (Remote controller operation is "Acceptance" all the time.)	

Cautions

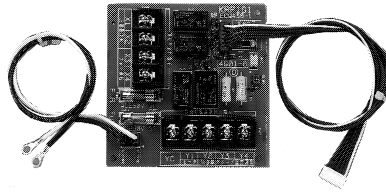
If the constant input is used to the Input B under operating mode position 7 ~ A, the forced shut-down function (to ignore Input A) may operate. The constant input cannot be used to the Input B under operating mode position B.

1.4 <KRP1B61-2-3> Adaptor for Wiring

1.4.1 Outline/Features

This adaptor is required one for each indoor unit when you install the auxiliary electric heater, the humidifier and the fresh-air intake kit.

This adaptor also can output the signal of the compressor operation/fan operation.

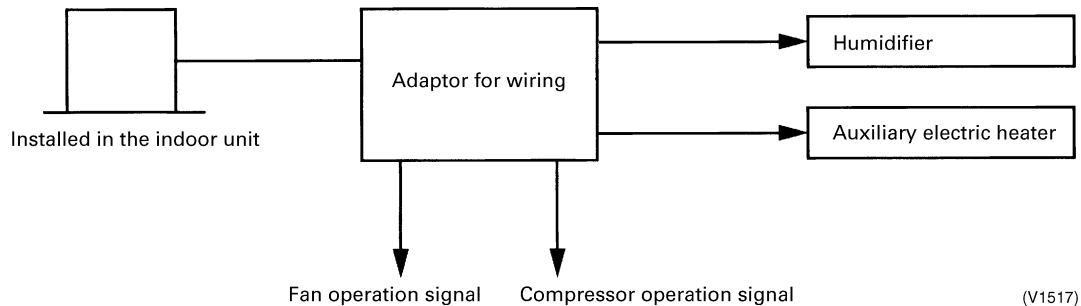


1.4.2 Applied Model

- All the indoor unit of VRV system and SkyAir series.

(The type of adaptor differs depending on the model of indoor unit. For details, refer to the last item of this section.)

1.4.3 System Configuration



(V1517)

1.4.4 Description of Functions

1. Compressor operation signal

Outputs the compressor operation/stop signal by detecting the thermostat ON/OFF signal from each indoor unit. (No voltage normally open contact, "ON" when thermostat is ON.)

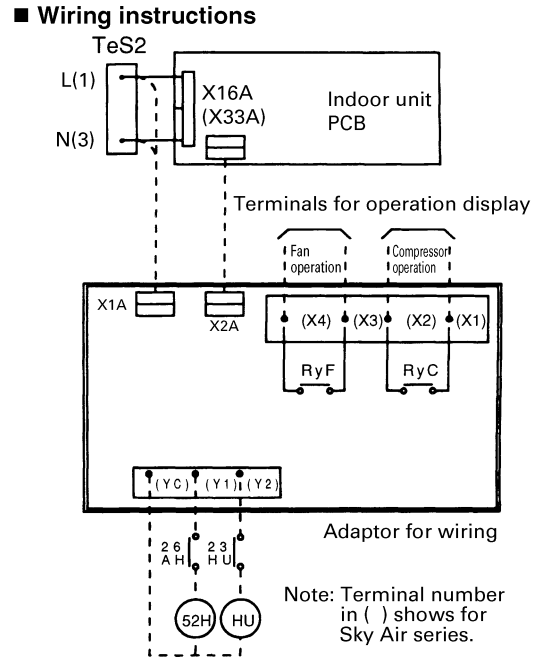
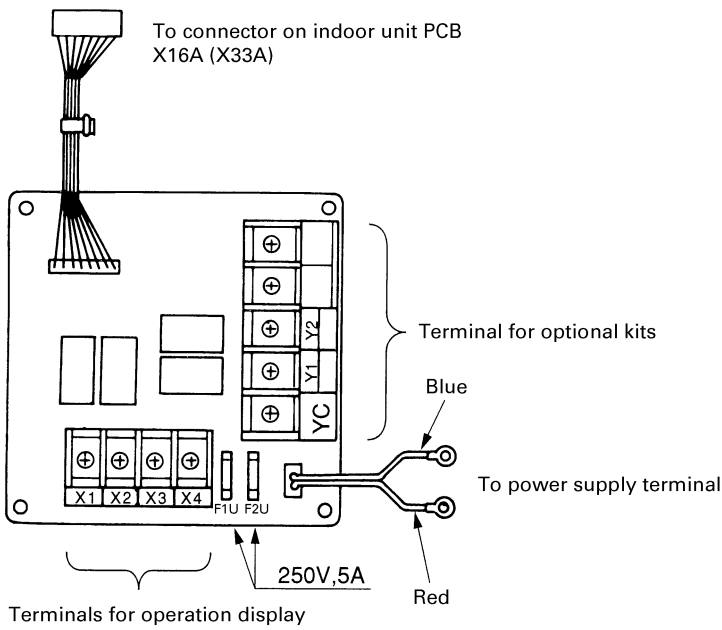
2. Fan operation signal

Outputs the fan operation/stop signal from each indoor unit. (No voltage normally open contact, "ON" when fan operates.)

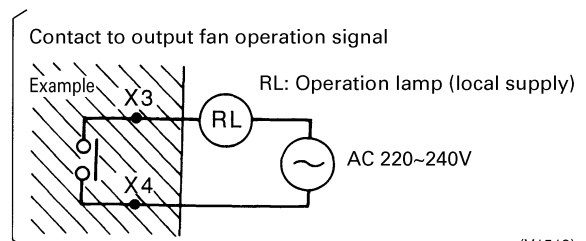
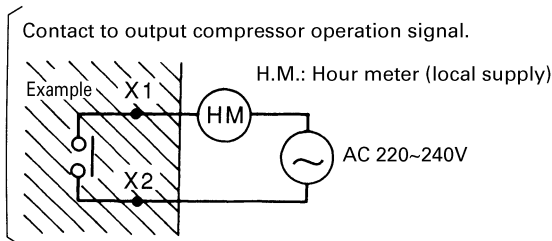
3. Attachment of auxiliary heater and humidifier

Requires one adaptor for each indoor unit when these options are to be installed.

1.4.5 Wiring Instructions



■ Operation display signal



(V1518)

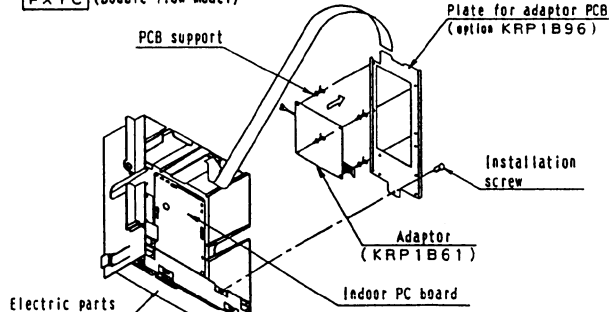
1.4.6 Instructions for Installation

③ INSTALLATION

- Installation differs according to models as shown below.
- Do not bundle low and high voltage wires together.
- Bundle any excess wires with the attached clamps so as to keep loose wirings off the indoor unit PC board.

<Ceiling mounted cassette type>

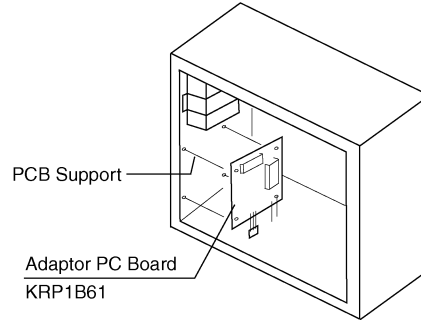
FXYC (Double-flow model)



NOTE) A separate plate is needed to install the adaptor PCB.

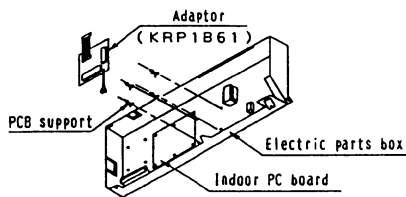
<<Ceiling-mounted low silhouette duct type>>

FXYD-KA



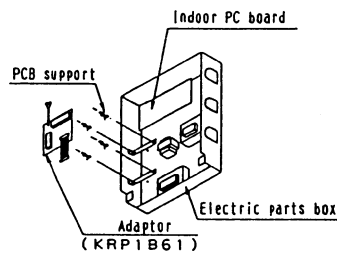
<Ceiling mounted cassette type>

FXYK (Corner model)



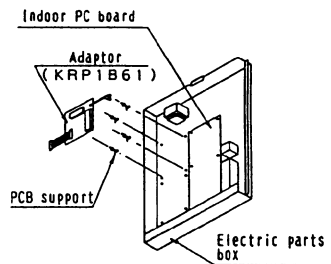
<Ceiling mounted built-in type>

FXYS

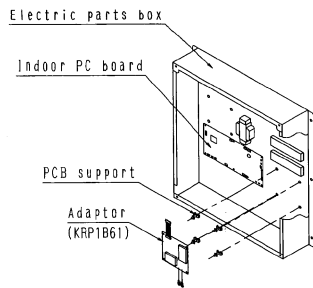


<Ceiling mounted duct type>

FXYM40~125

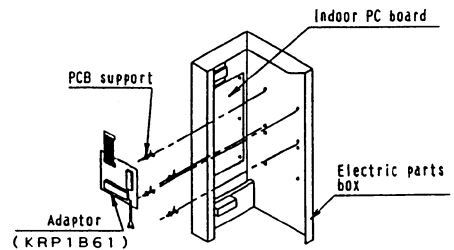


FXYM200~250



<Floor-standing type>

FXYL(M)



(V1519)