Air Conditioners

Technical Data

Control Systems

EEDEN15-100

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		FTXZ-N	FTXJ-LW/LS	FTXG-LW/LS	FTXM20/25K	CTXS15-35K/ FTXS20-35K	FTXM35/42/50K	FTXS35-50K	FTXS-G
Individual control	Infrared remote control ARC477A1	x							
	Infrared remote control ARC466A1		x	x					
	Infrared remote control ARC466A6				x	x	x	x	x
	Infrared remote control ARC433A8								
	Infrared remote control ARC480A11								
	Infrared remote control ARC466A2								
	Infrared remote control ARC452A1								
	Infrared remote control ARC433B67								
	Infrared remote control ARC466A9								
	Infrared remote control ARC433A87								
	Infrared remote control ARC433A89								
	User friendly wired remote control with contemporary design BRC1E52A/B								
	Standard wired remote control with weekly timer BRC1D52								
	Standard wired remote control with weekly timer BRC944		x	x	x (2)	x (2)	x	x	x
	Standard wired remote control with weekly timer BRC073	x	x	x	x (2)	x (2)	x	x	x
	Simplified remote control (with operation mode selector button) BRC2E52C								
	Simplified remote control (without operation mode selector button) BRC3E52C								
	Online controller BRP069A41		x	x					
	Online controller BRP069A42	x					x	x	x
	Online controller BRP069A43				x	x			
	Online controller BRP069A44								
Centralised control	Centralised remote control DCS302C51	x	x	x	x	x	x	x	x
	Unified ON/OFF DCS301B51	x	x	x	x	x	x	x	x
	Schedule timer DST301B51	x	x	x	x	x	x	x	x
	Intelligent Touch Controller DCS601C51	x	x	x	x	x	x	x	x
Management control	Intelligent Touch Manager DCM601A51	x	x	x	x	x	x	x	x
Standard protocol interface	KNX Interface KLIC-DD	x	x	x	x	x	x	x	x
	KNX Interface KLIC-DI								
	Modbus Interface RTD-RA	x	x	x	x	x	x	x	x
	Modbus Interface RTD-net								
	Modbus Interface - including duty and standby for server rooms RTD-10								
	Modbus Interface - retail controller RTD-20								
	Modbus Interface - intelligent hotel room control RTD-HO								
	LonWorks Interface DMS504B51	x	x	x	x	x	x	x	x
	BACnet Interface DMS502A51	x	x	x	x	x	x	x	x
	http Interface DCS007A51	x	x	x	x	x	x	x	x

		FCQHG-F	FCQG-F	FFQ-C	FDBQ-B
Individual control	Infrared remote control	BRC7FA532F	BRC7FA532F	BRC7F530W BRC7F530S BRC7E530W	
	User friendly remote control with contemporary design BRC1E52A/B	x	x	x	x
	Standard wired remote control with weekly timer BRC1D52	x	x	x	x
	Standard wired remote control with weekly timer BRC944				
	VAM wired remote control BRC301B61				
	Simplified remote control (with operation mode selector button) BRC2E52C				
	Simplified remote control (without operation mode selector button) BRC3E52C				
	Remote control for hotel use BRC3A61	x	x		
Centralised control	Centralised remote control DCS301B51	x	x	x	x (2)
	Unified ON/OFF DCS301B51	x	x	x	x (2)
	Schedule timer DST301B51	x	x	x	x (2)
	Adapter DTA113B51	x	x	x	x
	Intelligent Touch Controller DCS601C51	x	x	x	x (2)
Management control	Intelligent Touch Manager DCM601A51	x	x	x	x (2)
Standard protocol interface	KNX Interface KLIC-DD				
	KNX Interface KLIC-DI	x	x	x	x
	Modbus Interface RTD-RA				
	Modbus Interface RTD-net	x	x	x	x
	Modbus Interface- including duty and standby for server rooms RTD-10	x	x	x	x
	Modbus Interface - Retail controller RTD-20	x	x	x	x
	Modbus Interface - Intelligent hotel room control RTD-HO	x	x	x	x
	LonWorks Interface DMS504B51	x	x	x	x (2)
	BACnet Interface DMS502A51	x	x	x	x (2)
	http Interface DCS007A51	x	x	x	x (2)

Notes :
For latest details on accessories : http://extranet.daikineurope.com/en/software/downloads/accessory-database/accdb.jsp

(1) Standard there is no remote control delivered with this indoor unit. Wired or wireless control to be ordered separately
(2) Interface adapter KRP980A1, KRP067A1 or KRP980B2 required

Split indoor units														
FTX-J3	FTX-GV	FTX20-35K	FTX50-60K	FVXG-K	FVXS-F	FDXS-F(9)	FLXS-B(9)	FTXLS-K	FTXL-JV	ATXS20-25K	ATXS35-50K	ATX-J3	ATX-K	ATXL-JV
						N/A								
						N/A								
						N/A				x	x			
x	x					N/A								
		x	x			N/A							x	
				x		N/A								
					x	N/A								
						N/A	x							
						N/A		x						
						N/A			x					x
						N/A						x		
						x (1)								
						x (1)								
x (2)	x	x (2)	x (2)	x				x	x (2)	x (2)	x	x (2)	x (2)	x (2)
x (2)	x	x (2)	x (2)	x	x		x	x	x (2)	x (2)	x	x (2)	x (2)	x (2)
						x								
						x								
	x			x	x		x	x			x			
x		x							x	x		x	x	x
			x											
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	x	x	x	x		x	x		x	x	x	x	
x	x	x	x	x	x		x	x		x	x	x	x	
x	x	x	x	x	x		x	x	x	x	x	x	x	x
						x								
x	x	x	x	x	x		x	x	x	x	x	x	x	x
						x								
						x								
						x								
						x								
x	x	x	x	x	x		x	x		x	x	x	x	
x	x	x	x	x	x		x	x		x	x	x	x	
x	x	x	x	x	x		x	x		x	x	x	x	

Sky Air indoor units							
FBQ-D	FDQ-C	FDQ-B	FAQ-C	FHQ-C	FUQ-C	FVQ-C	FNQ-A
BRC4C65	BRC4C65		BRC7EB518	BRC7G53	BRC7C58		BRC4C65
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
							x
x	x						x
x	x	x	x	x	x	x	DCS302CA51 DCS301BA51
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
							x
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	
x	x	x	x	x	x	x	x

User friendly remote control with contemporary design

BRC1E52A/B

Graphical display of indicative electricity consumption (Function available in combination with FBQ-D, FCQG and FCGHQ)

A series of energy saving functions that can be individually selected

› Temperature range limit
› Setback function
› Presence & floor sensor connection (available on round flow and fully flat cassette)
› kWh indication
› Set temperature auto reset
› Off timer

Temperature range limit avoids excessive heating or cooling

Save energy by constraining the lower temperature limit in cooling and upper temperature limit in heating mode.

note : Also available in auto cooling/heating change over mode.

kWh indication keeps track of your consumption

The kWh indication shows an indicative electricity consumption of the last day/month/year.

Other functions

› Up to 3 independent schedules can be set, so the user can easily change the schedule himself throughout the year (e.g. Summer, winter, mid-season)
› Possibility to individually restrict menu functions Easy to use: all main functions directly accessible
› Easy setup: clear graphical user interface for advanced menu settings
› Real time clock with auto update to daylight saving time
› Built-in backup power: when a power failure occurs all settings remain stored up to 48 hours
› Supports multiple languages
English, German, Dutch, Spanish, Italian, Portuguese, French, Greek, Russian, Turkish, Polish (BRC1E52A)
English, German, Czech, Croatian, Hungarian, Romanian, Slovenian, Bulgarian, Slovak, Serbian, Albanian (BRC1E52B)


BRC1D52


BRC944B2


ARC466A1


BRC4*/BRC7*

BRC944B2*/BRC1D52

Wired remote control

› Schedule timer:
Five day actions can be set as follows:
- set point: unit is switched ON and normal operation is maintained
- OFF: unit is switched OFF1
- limits: unit is switched ON and min./max. control (cf. limit operation for more details)

› Home leave (frost protection): during absence, the indoor temperature can be maintained at a certain level. This function can also switch the unit ON/OFF
› User friendly HRV function, thanks to the introduction of a button for ventilation mode and fan speed
› Constantly monitoring of the system for malfunctions in a total of 80 components
› Immediate display of fault location and condition
› Reduction of maintenance time and costs

Display

› Operating mode[1]
› Heat Recovery Ventilation (HRV) in operation
› Cool / heat changeover control
› Centralised control indication
› Group control indication
› Set temperature[1]
› Air flow direction[1]
› Programmed time
› Inspection test / operation
› Fan speed[1]
› Clean air filter
› Defrost / hot start
› Malfunction

[1] Only functions marked with '1' are available on BRC944B2

ARC4*/BRC4*/BRC7*

Infrared remote control

Operation buttons: ON / OFF, timer mode start / stop, timer mode on / off, programme time, temperature setting, air flow direction (1), operating mode, fan speed control, filter sign reset (2), inspection (2)/ test indication (2)
Display: Operating mode, battery change, set temperature, air flow direction (1), programmed time, fan speed, inspection / test operation (2)

1. Not applicable for FXDQ, FXSQ, FXNQ, FBDQ, FDXS, FBQ
2. For FX** units only
3. For all features of the remote control, refer to the operation manual

BRC2E52A / BRC3E52A NEW

Simplified wired remote control developed for hotel applications

› Symbol driven interface for intuitive control
› Functions restricted to basic customer needs
› Contemporary design
› Energy saving thanks key card, window contact integration and set point limitation (BRP7A51)
› Flexible setback function ensures room temperature remains within comfortable limits to ensure guest comfort
› Flat backpanel for easy installation
› Easy commissioning: intuitive interface for advanced menu settings
› 2 versions available:
- Heat pump type: temperature, fan speed, ON/OFF
- Heat recovery type: temperature, mode, fan speed, ON/OFF

› Replaces existing BRC2C51 & BRC3A61

Specifications

Technical Specifications

				BRC1E52A* / BRC1E52B*
Casing	Colour			Fresh White
	Button cover			No
	Operation LED	Colour		Green
Dimensions	Unit	HeightxWidthxDepth	mm	120x120x19
	Packed unit	HeightxWidthxDepth	mm	150x160x55
Weight	Unit		kg	0.200
	Packed unit		kg	0.415
Packing	Material			Carton
	Weight		kg	0.050
LCD	Type			Full dot (160 x 255)
	Dimensions	Height	mm	43.2
		Width	mm	68.85
	Back light	Colour		White
Temperature setting	Resolution		°C	1
	Setpoint range	Cooling	°C	Depends on the indoor unit
		Heating	°C	Depends on the indoor unit
Ambient temperature	Operation	Min.	°C	-10
		Max.	°C	50
	Storage	Min.	°C	-20
		Max.	°C	70
	Relative humidity \<		%	95

Electrical Specifications

				BRC1E52A* / BRC1E52B*
Wiring connections	Type of wires			Sheathed vinyl cord or cable
	Size		mm^2	0.75 / 1.25
	For connection	Quantity		2
	with indoor	Remark		P1-P2 wired connection from indoor unit
	Wiring length	Max.	m	500
Back-up for power failure				Yes (The clock will keep functioning for a period not exceeding 48 hours)

Notes

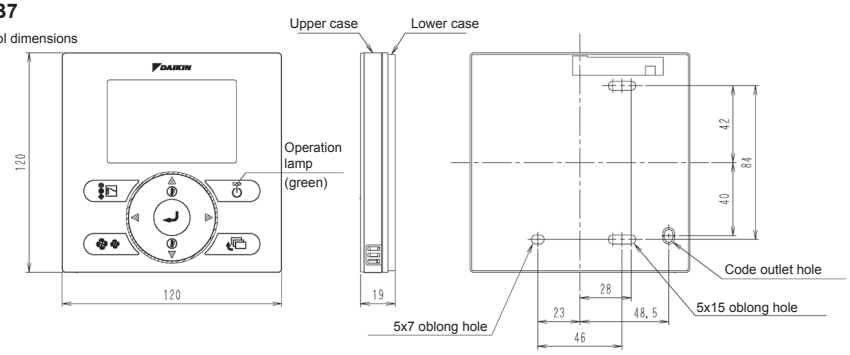
* BRC1E52A contains languages English, German, French, Dutch, Spanish, Italian, Greek, Portuguese, Russian, Turkish and Polish
* BRC1E52B contains languages English, German, Albanian, Bulgarian, Croatian, Czech, Hungarian, Romanian, Serbian, Slovak and Slovenian

BRC1E52A/B - Wired remote control

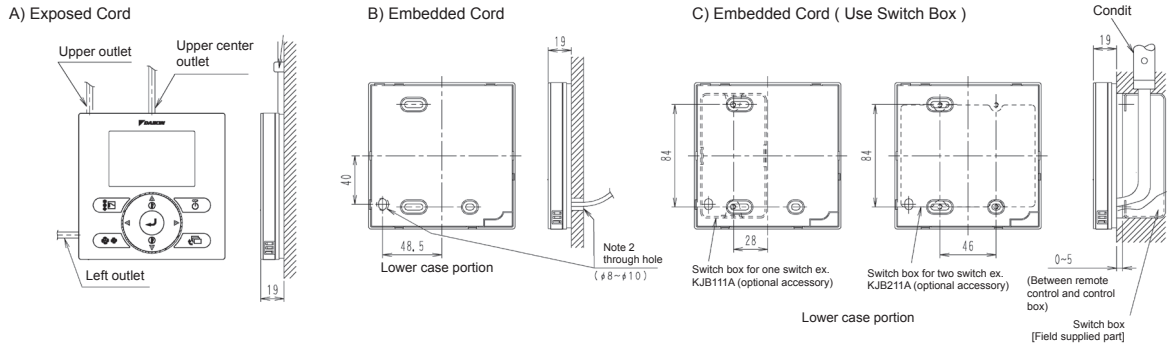
Dimensional drawing

BRC1E52A7
BRC1E52B7

• remote control dimensions



• Installation method



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NOTES

1. Remote control cord and staple are not attached, they are field supplied parts.
   Specifications of cord

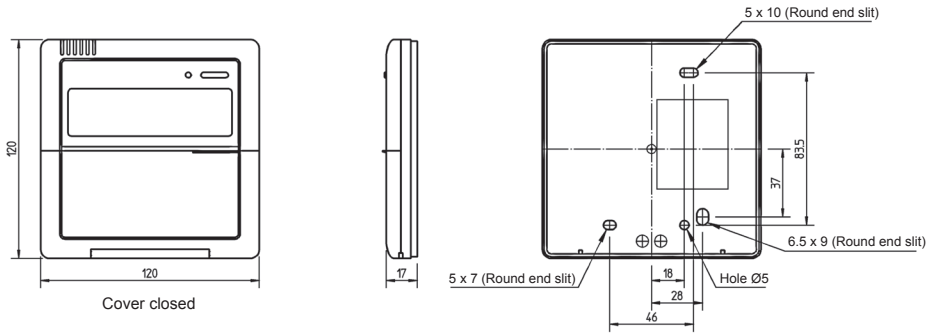
Type	Vinyl cord with sheath or cable (insulated thickness: 1mm or more)
Size	0.75~1.25mm²
Total length	500m

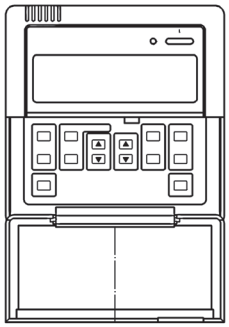
2. If the hole size is too large or the location is not proper, the hole may come out from the remote control.

BRC1D52 - Wired remote control

Dimensional drawing

(Unit: mm)



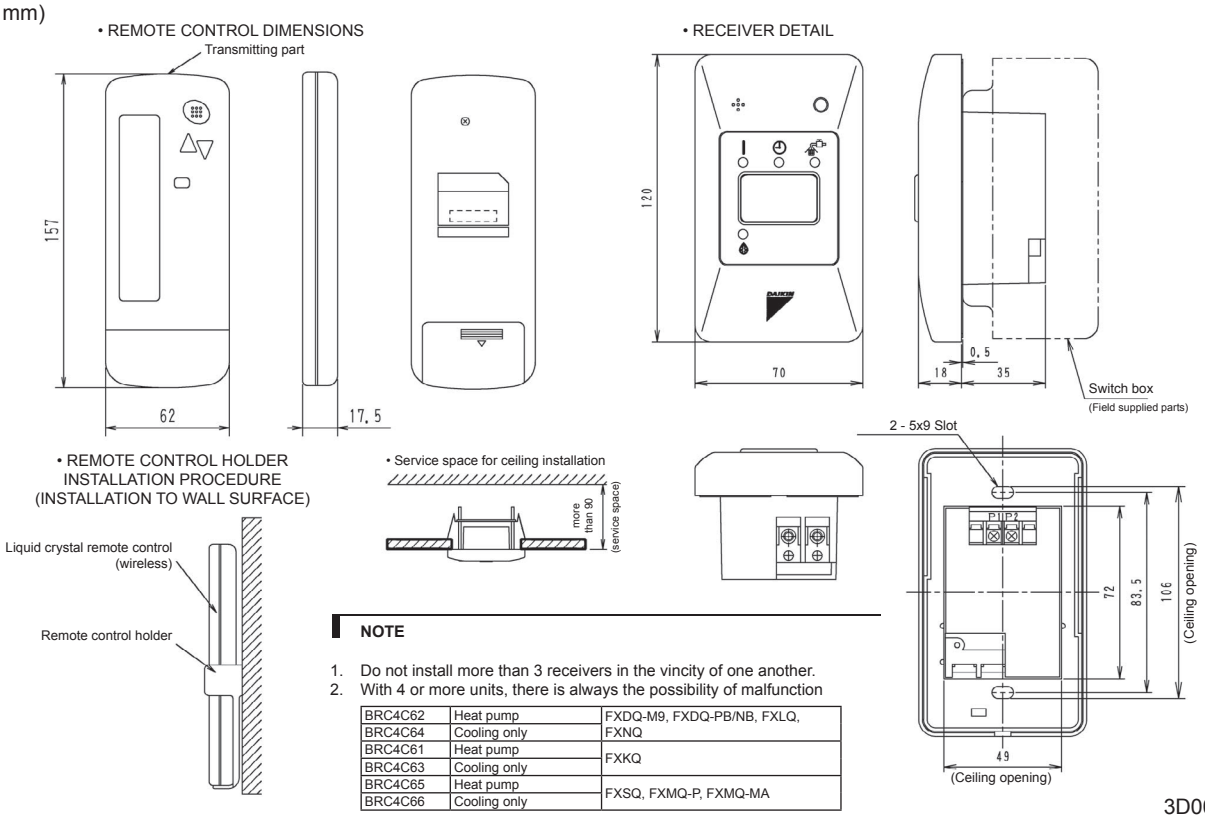


3TW23651-2

BRC4C61,62,65 - Infrared remote control

Dimensional drawing

(Unit: mm)



NOTE

1. Do not install more than 3 receivers in the vincity of one another.
2. With 4 or more units, there is always the possibility of malfunction

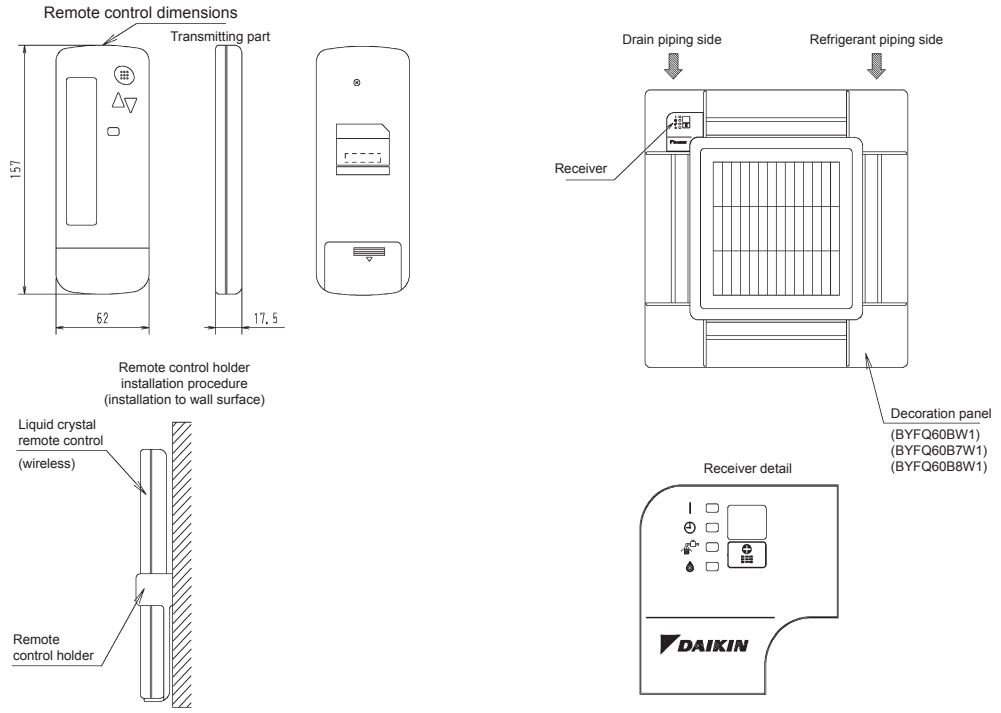
BRC4C62	Heat pump	FXDQ-M9, FXDQ-PB/NB, FXLQ, FXNQ
BRC4C64	Cooling only	
BRC4C61	Heat pump	FXKQ
BRC4C63	Cooling only	
BRC4C65	Heat pump	FXSQ, FXMQ-P, FXMQ-MA
BRC4C66	Cooling only	

3D007898B

BRC7E530W - Infrared remote control

Dimensional drawing

(Unit: mm)

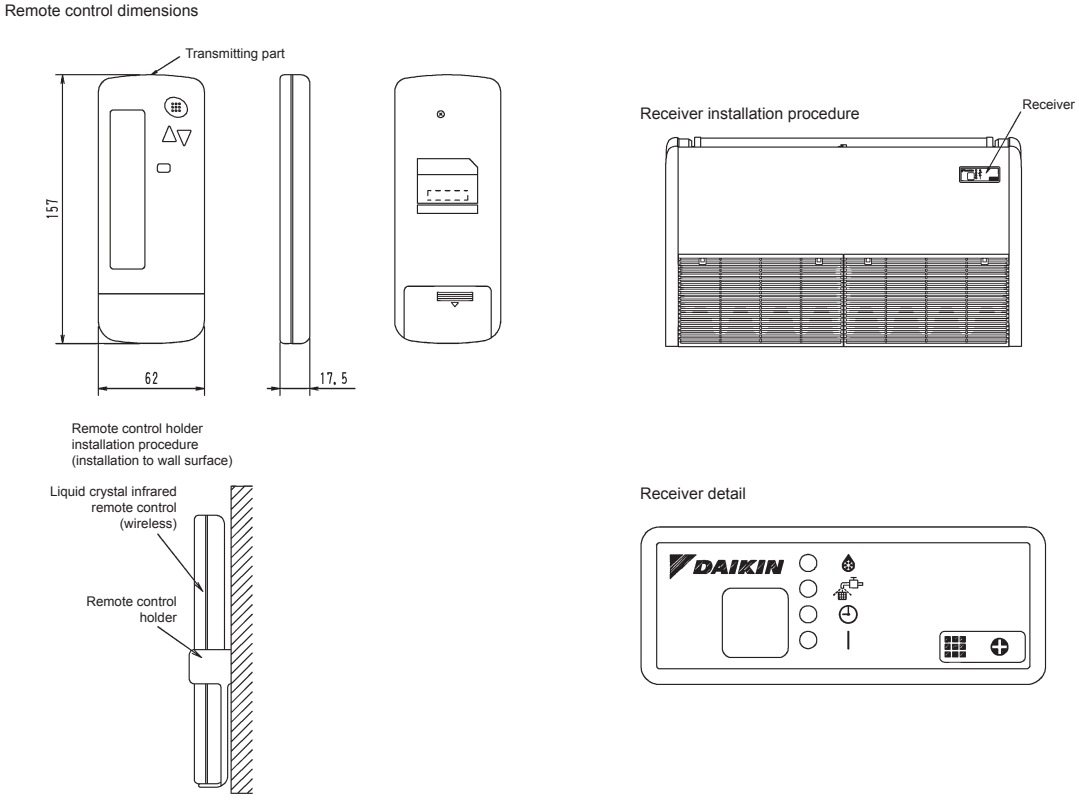


3D038937A

BRC7E63W - Infrared remote control

Dimensional drawing

(Unit: mm)



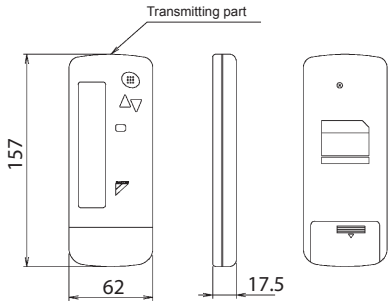
3D028963B

BRC7E618 - Infrared remote control

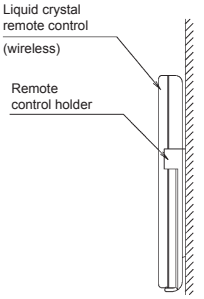
Dimensional drawing

(Unit: mm)

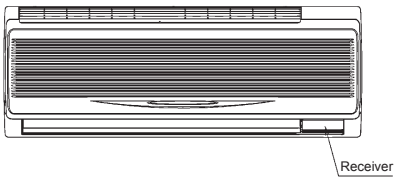
Remote control dimensions



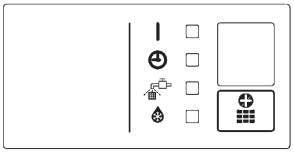
Remote control holder installation procedure (installation to wall surface)



• Receiver installation procedure



• Receiver detail



• Wireless remote controller kit

Wireless remote controller kit		Indoor unit
BRC7E618	BRC7EA618 (for H/P)	FXA ~ LVE (C)
BRC7E618	BRC7EA618 (for H/P)	

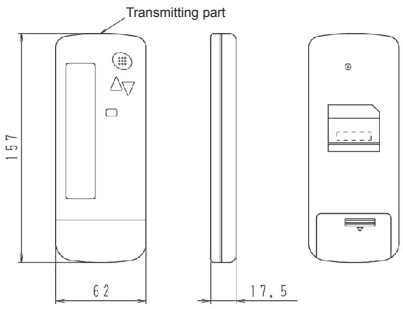
3D034905B

BRC7C(A)528W - Infrared remote control

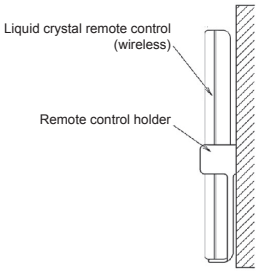
Dimensional drawing

BRC7C528W,529W

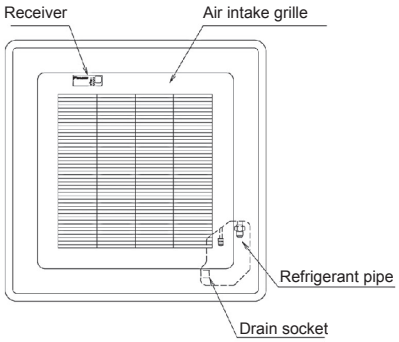
• Remote control dimensions



• Remote control holder installation procedure (installation to wall surface)



• Receiver installation procedure



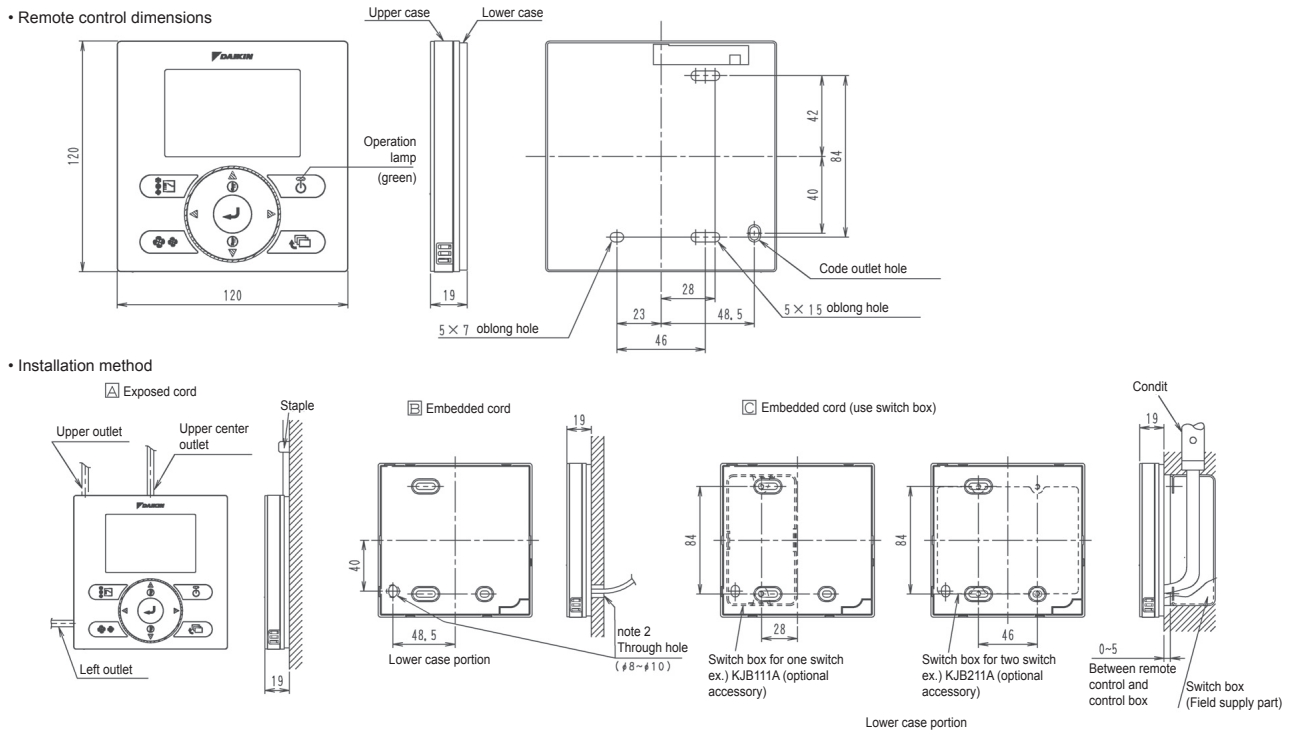
• Receiver detail

3D014035A

BRC2E52A/ BRC3E52A - Simplified remote control for hotel applications

Dimensional drawing

(Unit: mm)



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1. Purpose

The wired user interface BRC073A1 allows the end user to control connected Daikin indoor units. The wired user interface uses typically the S21 connection of the indoor unit to communicate.

2. Overview of compatible Daikin units ranges

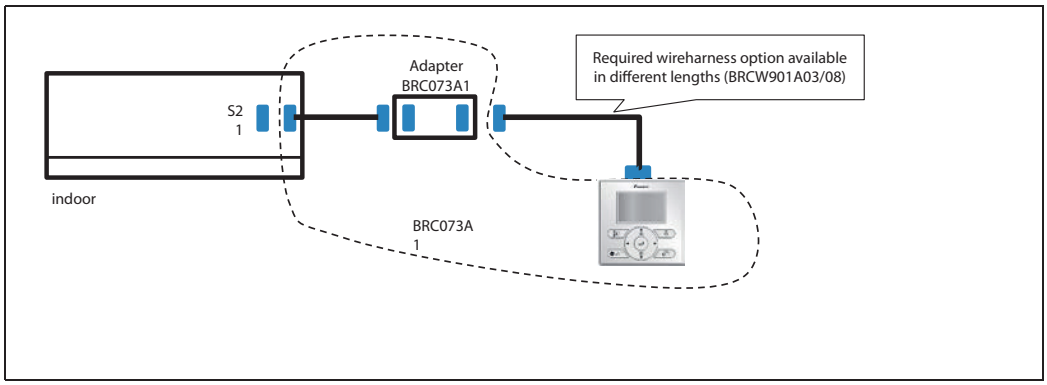
Attention: Some indoor models do not have the S21 connector as standard. In this case, it is needed to install an optional PCB adapter (eg KRP980B1) with integrated S21 connector. For details see chapter 7. Overview of compatible Daikin models .

The wired userinterface can be connected to following model ranges:

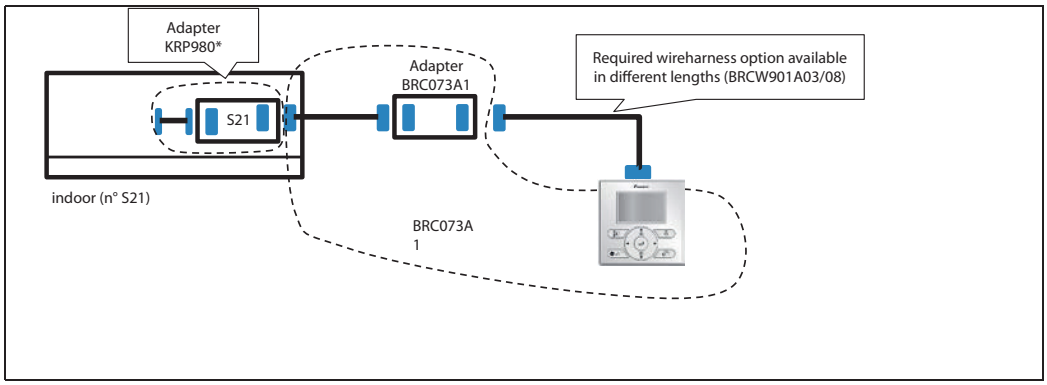
	description	Brand	model range
Wall mounted	Ururu Sarara	Daikin	FTXZ-N
	Emura	Daikin	FTXG-LW/S
	Emura	Daikin	FTXJ-LW/S
	Wall mounted	Daikin	CTXS-K
	Wall mounted	Daikin	FTXS-K
	Wall mounted	Daikin	FTXM-K
	Wall mounted	Daikin	FTXLS-K
	Wall mounted	Daikin	FTXS-G
	Wall mounted	Daikin	FTX-J
	Wall mounted	Daikin	FTX-GV
	Wall mounted	Daikin	FTXL-JV
	Wall mounted	Daikin	FTX-KV
	Siesta	Daikin	ATXS-K
	Siesta	Daikin	ATXS-KV
	Siesta	Daikin	ATXL-JV
	Siesta	Daikin	ATX-J
Floor standing	Nexura	Daikin	FVXG-K
	Floor standing	Daikin	FVXS-F
Flexi type	Flexi type	Daikin	FLXS-B(9)

3. System layout

3.1 Typical layout for indoor models with standard S21 connector integrated.

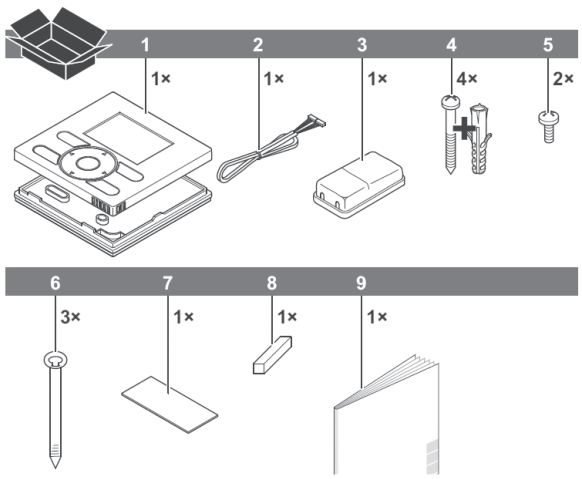


3.2 Typical layout for indoor models without S21 connector



4. Specifications

4.1 Technical specifications

			BRC073A1
Content 			1. User interface 2. wireharness S21 (to be installed between indoor unit and adapter. Length 1 meter.) 3. Adapter 4. Screws + plugs 5. Screws 6. Clamps 7. Tape 8. Wire retainer 9. Operation and installation manual (Remark: wireharness connection between adapter and user interface is a separate required option with selectable wire length)
Dimensions	packing	h x w x d (mm)	50 x 220 x 160
	Userinterface	h x w x d (mm)	120 x 120 x 19
	Adapter	h x w x d (mm)	80 x 44 x 21.5
Weight of userinterface	net weight	g	290
	gross weight	g	348
Weight of packing	material		Carton
	weight	g	50
Ambient temperature	operation	°C	-10 ~ + 50 (indoor use)
	storage	°C	-20 ~ + 70
Humidity			Below 95%RH
Temperature setpoint range cooling		°C	18-32
Temperature setpoint range heating		°C	10-30
Temperature setpoint range auto mode		°C	18-30
Temperature setting resolution		°C	1
color			Fresh white
button cover			No
operation lamp			Green
LCD size			43,2x68,85 mm
LCD type			full dot (160 x 255)
Back light			Yes (white color)
Backup for power failure			yes (The clock will keep functioning for period not exceeding 48 hours)

BRC073A1 Options

Option	description	Required/not required	model
Wire harness option	Wire harness connection between adapter and user interface.	Required options for each installation.	BRCW901A03 (3 meter) Or BRC901A08 (8 meter)
PC USB cable option	To modify the standard language package in combination with the updater software. For Updater software: please contact your local dealer.	Not required for each installation.	EKPCCAB3

Indoor model Options

S21 adapter	Adapter with integrated S21 adapter.	Required option for each indoor model which does not have the S21 connection. For detailed overview refer to 7. Overview of compatible Daikin models	KRP980B1 & EKRP067A41 & EKRP980B2 (specific model depending on indoor model)

Combination with other options that are connected to S21:

- BRC073A1 wired user interface is connected to the S21 connector of the indoor unit.
- Only one S21 option can be applied at the same time on an indoor units with S21. (Not possible to combine with different other S21 options e.g. BRP069A42 WLAN adapter …)

Exception:

Due to the fact that the BRC073A1 has been designed to be able to install in combination with KRP928*. This combination is allowed.

BRC073A1 allowed combination with other options that are connected to S21.

Option	description		model
Adapter	Adapter to connect split type indoor models to a DIII central control equipment	For details refer to chapter 6. Combination BRC073A1 & KRP928* to connect to DIII central control equipment	KRP928*

4.2 Available documentation

Document	Contains …	Format
Installation and operation manual	Installation and operation instructions	Paper (in the box)
Installer reference guide	Preparation of installation, technical specifications, reference data, …	Digital files on: http://www.daikineurope.com/support-and-manuals/product-information
User reference guide	Detailed step-by-step instructions and background information for basic and advanced usage	

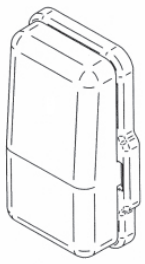
For detailed instructions on how to connect the wireharness to the S21 connector for the different indoor units:

Refer to the available installation videos for each daikin unit range with similar S21 wireharness installation of Daikin online controller are available on http://www.daikineurope.com/support-and-manuals/product-information.

Example:

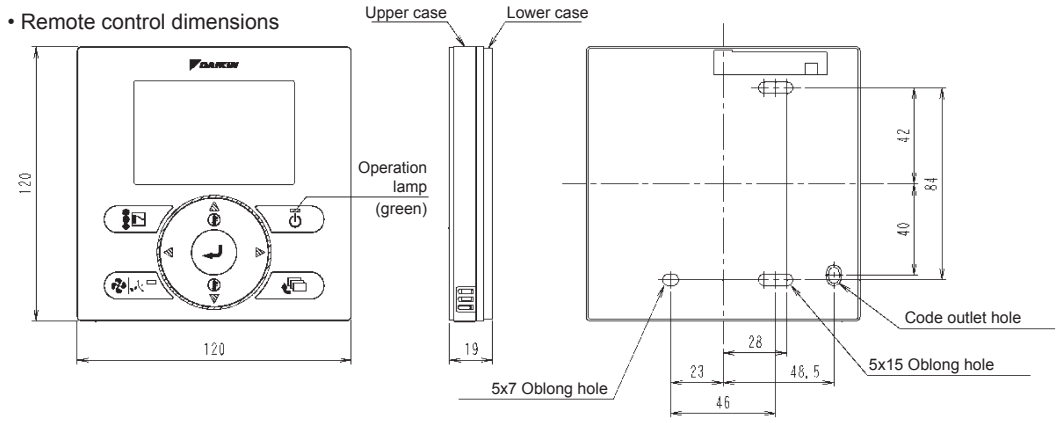
4.3 Outlook and dimensions

4.3.1 outlook

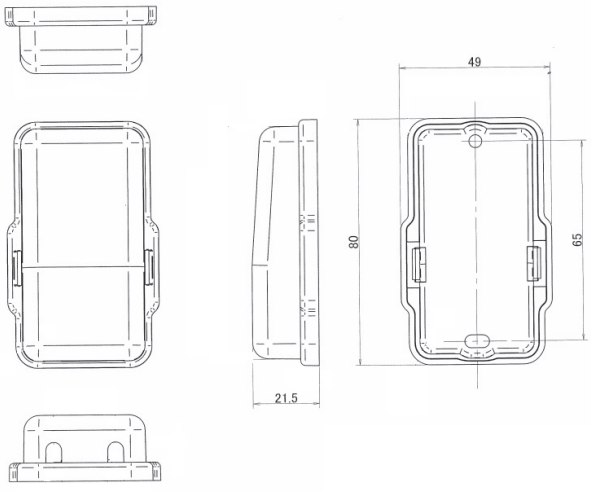
BRC073A1 wired user interface	BRC073A1 adapter
	

4.3.2 dimensions

BRC073A1 user interface (mm)



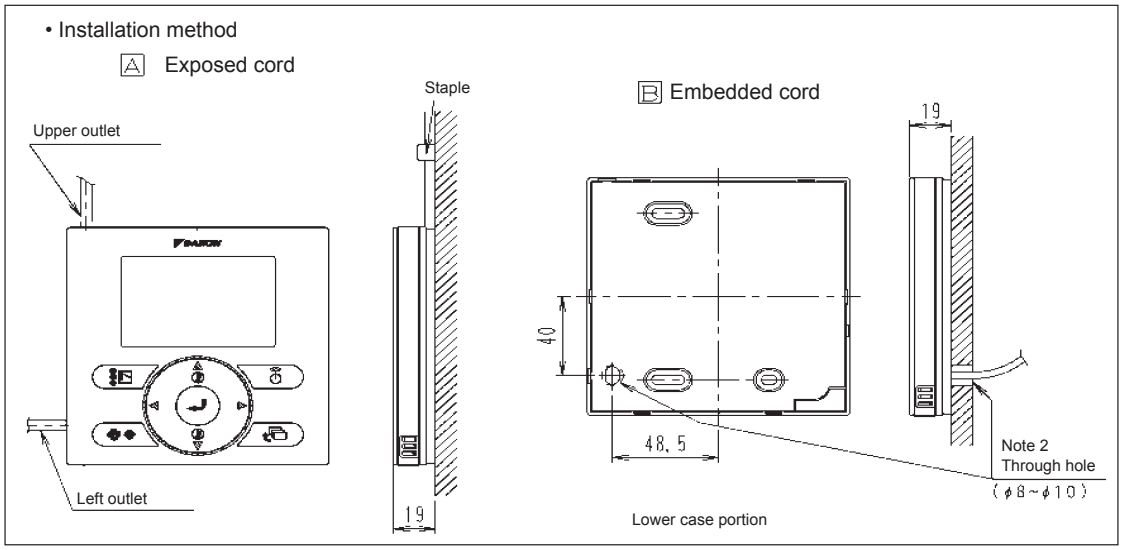
BRC073A1 adapter (mm)



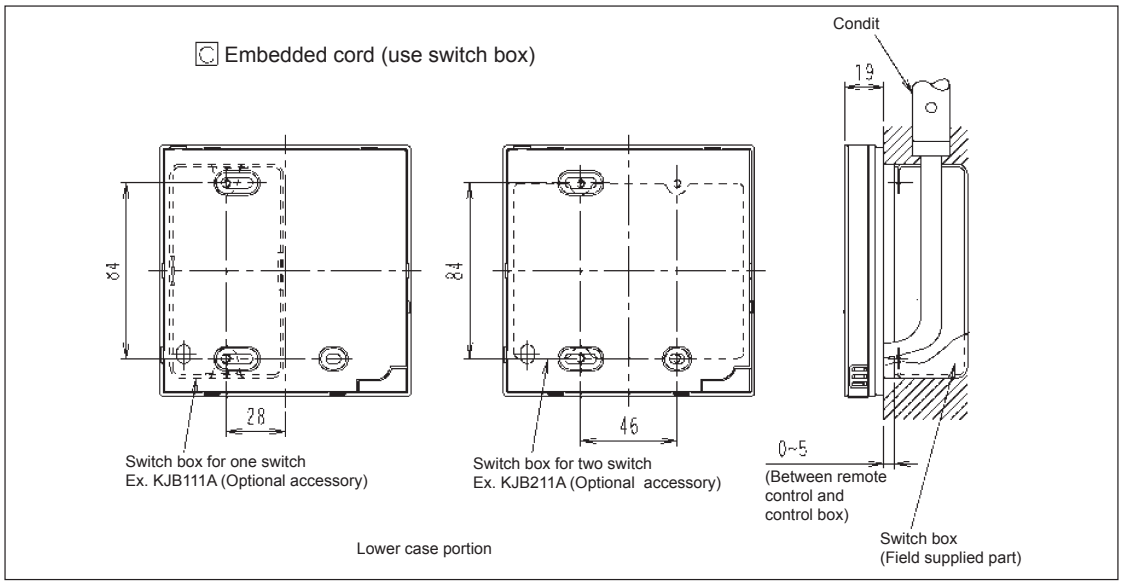
4.4 Installation method

4.4.1 User interface

Dimensions in mm



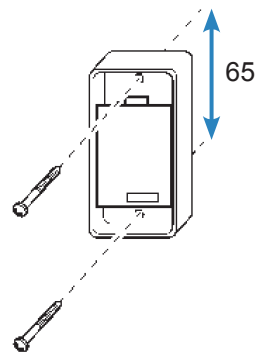
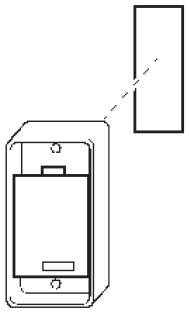
(Remark: Compared with similar BRC*E* casing designs, the upper center outlet installation method is not possible because the hole is to small to install the BRCW901A* wire harness)



In case switch box is used: connect ground of BRCW901A* wire harness to the metal part of switchbox.

4.4.2 Adapter

Dimensions in mm

Mounting with supplied wood screws (Ø3.5x16)	Mounting with supplied double-face adhesive tape
	

5. Summary of features

Information:
- Only one user interface can be connected to each indoor unit
- Avoid using the wired userinterface and the wireless user interface at the same time. When combining usage refer to the user reference guide for the phenomena that can occur.

5.1. Basic user interface

The basic user interface functions are:
- On/off
  - Operation mode change-over:
    Cooling/ heating or auto C/H change-over mode or fan only or dry mode
    (auto C/H change-over mode: "independent" cooling and heating adjustable temperature setting)
    (auto C/H change-over mode: the actual indoor unit running mode cooling or heating will also be displayed)
  - Temperature adjustment (°C)
    (always based on measured temperature inside indoor unit)
- Fan speed adjustment
- Air flow direction adjustment

5.2. Operation / userinterface

Direct buttons for:
- On/off button
- Operation mode selector button
- Temperature up/down buttons
- Fan speed/air flow direction button

Others settings selectable via menu (by default accessable)

Userinterface: different languages are included (depending on Language package)

Language package 1	Language package 2	Language package 3
(standard supplied)		
7 Languages	7 Languages	7 Languages
1) English	1) English	1) English
2) German	2) Czech	2) Russian
3) French	3) Croatian	3) Greek
4) Italian	4) Hungarian	4) Turkish
5) Spanish	5) Slovenian	5) Polish
6) Portuguese	6) Romanian	6) Serbian
7) Dutch	7) Bulgarian	7) Slovak

Note: With EKPCCAB3 "PC USB cable" in combination with "updater" (PC software) the language package can be modified

Button permission (setting by hidden menu)
- Individual restriction of each button (on/off button, operation mode selector button, arrow buttons, fan speed/ air flow direction button)
- Individual restriction of menu function (schedule, configuration, clock & calender, etc…)
(hidden menu) individual operation mode (Fan only, Cooling, Heating, Auto, Dry)
- Activation / de-activation and configuration by hidden menu (4 sec on menu button)
  Pushing non-operable button: no "key" icon is displayed and no message how to unlock is shown.
  (remark: In case basic screen fieldsetting is changed to "Text & symbols" then mode "key" icon is shown)
- Separately possible to activate / de-activate the menu/enter and cancel button by 4 button combination. By default the menu/enter and cancel button usage are permitted.

Typical application: hotels, etc…

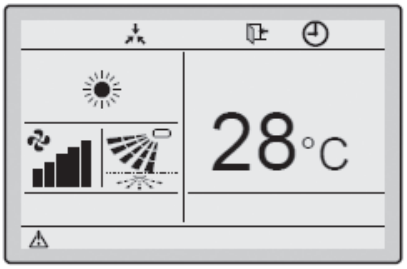
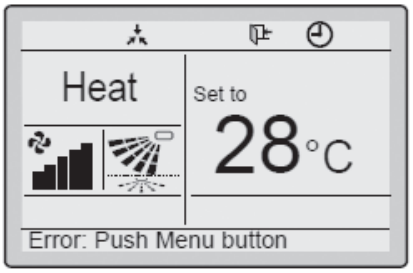
Button lock function

- activation / de-activation by pushing 4 sec on menu button
  pushing a non-operable button: message "key are locked" and explenation how to unlock is shown.

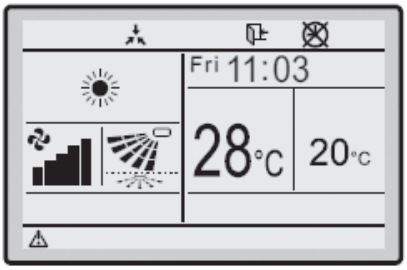
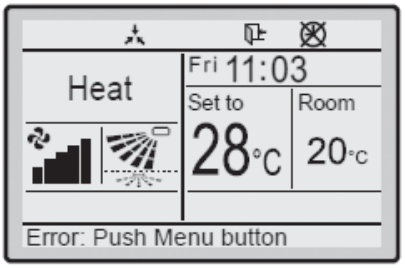
  Typical application: child lock

Basic Screen:

Standard display

With icons (default)	With icons and text
	

Detailed display

With icons	With icons and text
	

- Display Selection (standard/detailed display mode)
  In detailed mode: room temperature or outdoor temperature can be displayed.
  Notice: Depending on the outdoor unit model, the outdoor temp is not visible when the indoor unit is OFF.
- Basic Screen: Symbols only (no text is used) (allowed to change to combination of "Text & symbols" by fieldsetting)

5.3. Clock function

- Real time clock (display 12h or 24 h time format)
- Daylight saving time (Summer/ winter time automatic change over)

5.4. Schedule timer function

- 3 independend schedules can be programmed: nr 1,2 & 3
(e.g. Nr 1: summer schedule, nr 2: winter schedule , nr 3: intermediate schedule)
  A maximum of 5 actions can be programmed for each day of the week (totalling 35 actions)
  Schedule timer nr 1, nr 2 or nr 3 can be enabled/disabled at any time (but manual selection)
  Each action linked to a Cooling and heating set temperature or OFF (with setback or without setback) operation
  "last command" overrules previous command until next scheduled command
- Holiday function: the schedule timer will be disabled for days that have been set as holiday

Note: Schedule timer function can be restricted in case central controller is installed via the KRP928 adapter

5.5. Energy Saving features (menu always available)

- Setpoint range limitation: The setting temperature range can be restricted.
  Seperate range limitation in cooling mode, heating mode and auto C/H mode

- The setback feature will maintain the space temperature in a specific range during unoccupied periods.
  Setback temperature range cooling 33° C till 37 °C, heating 10 °C till 15°C.
  Setback is by default disabled.
  Setback is possible when unit is switched off and setback is enabled
  Setback is applicable during heating & cooling by default or during heating only or during cooling only
  Setback setpoints can be changed when unit is switched off. Setback setpoints are shown in smaller digits
  Setback always based indoor temp sensor

Note: Setback is not a precise control. The temperature is measured inside the air conditioner unit (during the unit is switched OFF). As there is no actual air flow, the measured temperature inside the air conditioner unit can deviate (up to 3°C) with the actual room temperature.

Note: Setback should not be enabled when a central controller is connected via the KRP928 interface adapter.

- Setting temperature auto reset:
  Even if the setting temperature is changed, it returns to the preset temperature.

- Off timer: After you turn on the unit, it will automatically turn off after a certain period.

5.6. Maintenance information

- Contact dealer telephone registration
- In case there is an error: The service contact telephone number will be displayed next to the error code.

5.7. Others

- For multi systems only: If present, "Mode conflict" indication will be shown on unit (LED flashing) and additionally "Mode conflict" message will be displayed on the BRC073A1 wired user interface.

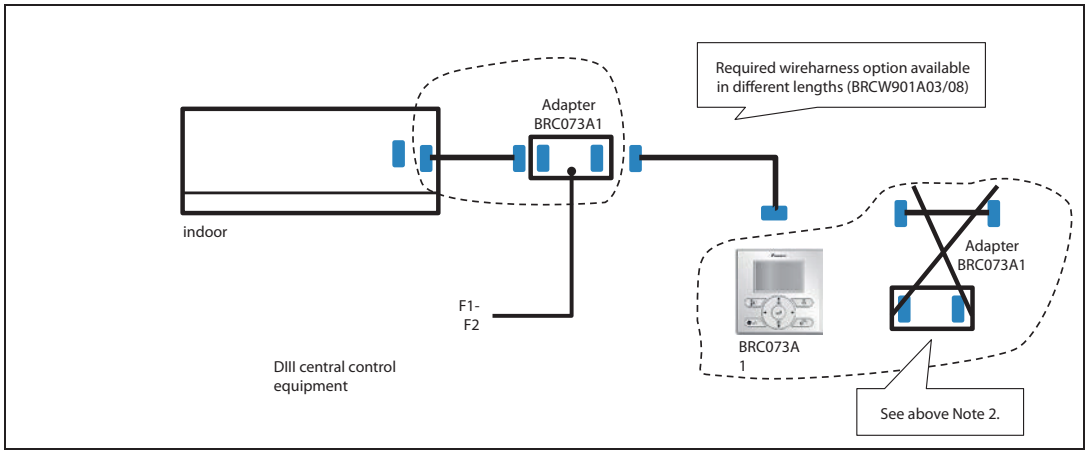
Note: The additionall "Mode conflict" message on the BRC073A1 wired user interface will not be displayed when a central controller is connected via the KRP928 interface adapter.

6. Combination BRC073A1 & KRP928* to connect to DIII central control equipment

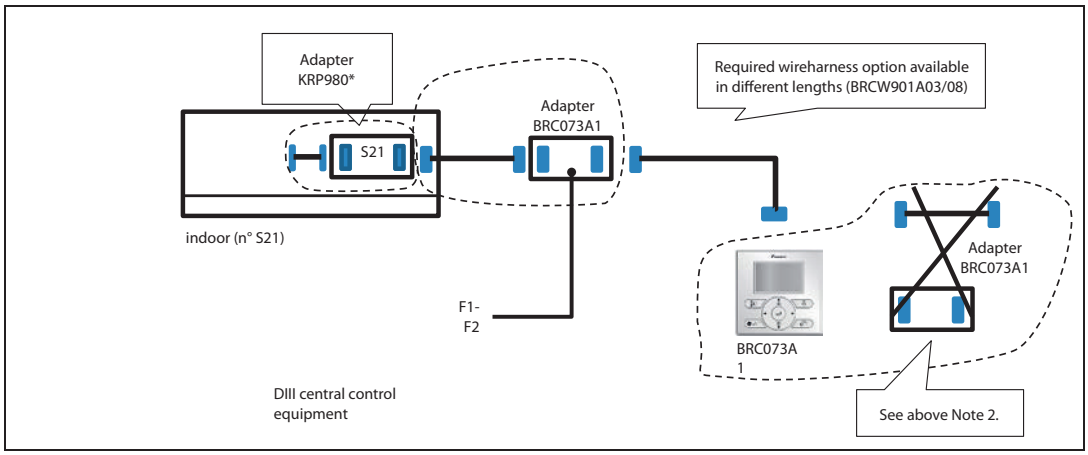
- Refer to the KRP928 adapter manuals for more information concerning the installation and operation.
Note 1:
To use KRP928, it is required to use a DIII Central device that supplies power on F1/F2 (e.g. ITM)
It does not work with devices that do not supply power on F1/F2 (e.g. EKMBDXA7V1 Modbus interface DIII)

Note 2: In this typical layout, the BRC073A1 adapter and wire harness can be discard as they are replaced by the KRP928 adapter and wire harness.

6.1 Typical layout for indoor models with standard S21 connector integrated.



6.2 Typical layout for indoor models without S21 connector



6.3 Combination BRC073A1 & KRP928* has influence on following functions

- Schedule timer function can be restricted in case central controller is installed via the KRP928 adapter
- Setback should not be enabled when a central controller is connected via the KRP928 interface adapter.
- The additionall "Mode conflict" message on the BRC073A1 wired user interface will not be displayed when a central controller is connected via the KRP928 interface adapter.

7. Overview of compatible Daikin models

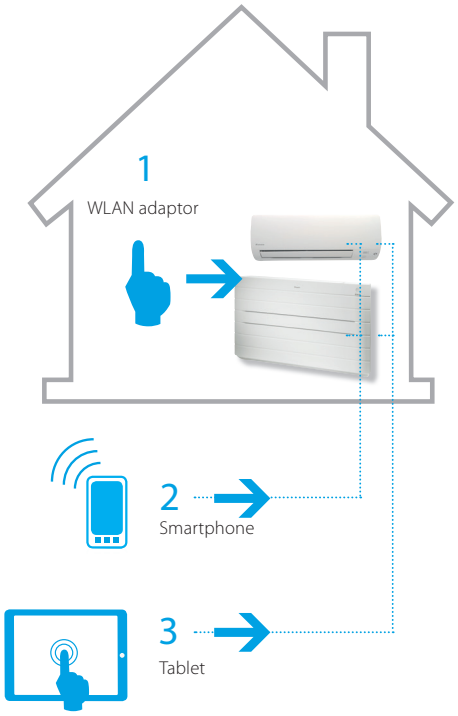
Attention: Some indoor models does not have the S21 connector as standard. In this case, it is needed to install an option adapter with integrated S21 connector.

	description	Brand	model range	Supported models
Wall mounted	Ururu Sarara	Daikin	FTXZ-N	FTXZ25NV1B FTXZ35NV1B FTXZ50NV1B
	Emura	Daikin	FTXG-LW/S	FTXG20LV1BW FTXG25LV1BW FTXG35LV1BW FTXG50LV1BW
				FTXG20LV1BS FTXG25LV1BS FTXG35LV1BS FTXG50LV1BS
	Emura	Daikin	FTXJ-LW/S	FTXJ20LV1BW FTXJ25LV1BW FTXJ35LV1BW FTXJ50LV1BW
				FTXJ20LV1BS FTXJ25LV1BS FTXJ35LV1BS FTXJ50LV1BS
	Wall mounted	Daikin	CTXS-K	CTXS15K2V1B (KRP980B1 required) CTXS35K2V1B (KRP980B1 required)
				CTXS15K3V1B (KRP980B1 required) CTXS35K3V1B (KRP980B1 required)
	Wall mounted	Daikin	FTXS-K	FTXS20K2V1B (KRP980B1 required) FTXS25K2V1B (KRP980B1 required) FTXS35K2V1B FTXS42K2V1B FTXS50K2V1B
				FTXS20K3V1B (KRP980B1 required) FTXS25K3V1B (KRP980B1 required) FTXS35K3V1B FTXS42K3V1B FTXS50K3V1B
	Wall mounted	Daikin	FTXM-K	FTXM20K3V1B (KRP980B1 required) FTXM25K3V1B (KRP980B1 required) FTXM35K3V1B FTXM42K3V1B FTXM50K3V1B
	Wall mounted	Daikin	FTXLS-K	FTXLS25K2V1B FTXLS35K2V1B
	Wall mounted	Daikin	FTXS-G	FTXS60GV1B FTXS71GV1B
	Wall mounted	Daikin	FTX-J	FTX20J2V1B (KRP980B1 required) FTX25J2V1B (KRP980B1 required) FTX35J2V1B (KRP980B1 required)
				FTX20J3V1B (KRP980B1 required) FTX25J3V1B (KRP980B1 required) FTX35J3V1B (KRP980B1 required)

	description	Brand	model range	Supported models
Wall mounted	Wall mounted	Daikin	FTX-GV	FTX20GV1B (KRP980B1 required) FTX25GV1B (KRP980B1 required) FTX35GV1B (KRP980B1 required) FTX50GV1B FTX60GV1B FTX71GV1B
	Wall mounted	Daikin	FTXL-JV	FTXL25J2V1B (KRP980B1 required) FTXL35J2V1B (KRP980B1 required)
	Wall mounted	Daikin	FTX-KV	FTX20KV1B (EKRP067A41 required) FTX25KV1B (EKRP067A41 required) FTX35KV1B (EKRP067A41 required) FTX50KV1B (EKRP980B2 required) FTX60KV1B (EKRP980B2 required)
	Siesta	Daikin	ATXS-K	ATXS20K2V1B (KRP980B1 required) ATXS25K2V1B (KRP980B1 required) ATXS35K2V1B ATXS50K2V1B
				ATXS20K3V1B (KRP980B1 required) ATXS25K3V1B (KRP980B1 required) ATXS35K3V1B ATXS50K3V1B
	Siesta	Daikin	ATXS-KV	ATX20KV1B (EKRP067A41 required) ATX25KV1B (EKRP067A41 required) ATX35KV1B (EKRP067A41 required)
	Siesta	Daikin	ATXL-JV	ATXL25J2V1B (KRP980B1 required) ATXL35J2V1B (KRP980B1 required)
	Siesta	Daikin	ATX-J	ATX20J2V1B (KRP980B1 required) ATX25J2V1B (KRP980B1 required) ATX35J2V1B (KRP980B1 required)
				ATX20J3V1B (KRP980B1 required) ATX25J3V1B (KRP980B1 required) ATX35J3V1B (KRP980B1 required)
Floor standing	Nexura	Daikin	FVXG-K	FVXG25K2V1B FVXG35K2V1B FVXG50K2V1B
	Floor standing	Daikin	FVXS-F	FVXS25FV1B FVXS35FV1B FVXS50FV1B
Flexi type	Flexi type	Daikin	FLXS-B(9)	FLXS25BAVMB FLXS35BAVMB9 FLXS50BAVMB FLXS60BAVMB

Always in control,
no matter where you are

The plug-and-play Online Controller allows you to set and even schedule the temperature from anywhere using Apple or Android systems. So you can manage the unit when away from home, offering optimal climate control while saving energy.



With the Daikin Online Controller application in combination with the plug-and-play wireless LAN device and an active internet connection, you can manage your unit from anywhere, offering optimal climate control while saving energy.

The Daikin Online Controller application can control and monitor the status of up to 50 units and allows you to:

› Monitor the status of your heat pump unit
› Control the operation mode, set temperature, air flow rate and direction
› Schedule the set temperature and operation mode with up to 4 actions per day for 7 days

Features Online Controller

The Daikin online controller can manage your unit in several ways.

You can operate it in-home by connecting your smartphone to a private wireless network or out-of-home by connecting your smartphone to a mobile network (e.g. 3G) or an external wireless network.

WLAN adapter BRP069 combination table / feature list												
Product name group		FTXG	FTXJ	FTXZ-N	FTXS	FTXM	FTXS	FTXLS	FTXM	FTXS	ATXS	ATXS
Remark			R32			R32		Optimized heating	R32			
Connection between wifi adaptor & indoor unit : Via S21 connector		✓	✓	✓			✓	✓	✓	✓		✓
(Connection between wifi adaptor & indoor unit : Via →) [Product name]					KRP980B1	KRP980B1					KRP980B1	
Adapter model: BRP069		A41	A41	A42	A43	A43	A42	A42	A42	A42	A43	A42
Product name	15				CTXS15K2/3V1B							
	20	FTXG20LV1BW/S	FTXJ20LV1BW/S		FTXS20K2/3V1B	FTXM20K3V1B					ATXS20K2/3V1B	
	25	FTXG25LV1BW/S	FTXJ25LV1BW/S	FTXZ25NV1B	FTXS25K2/3V1B	FTXM25K3V1B		FTXLS25K2V1B			ATXS25K2/3V1B	
	35	FTXG35LV1BW/S	FTXJ35LV1BW/S	FTXZ35NV1B	CTXS35K2/3V1B		FTXS35K2/3V1B	FTXLS35K2V1B	FTXM35K3V1B			ATXS35K2/3V1B
	42						FTXS42K2/3V1B		FTXM42K3V1B			
	50	FTXG50LV1BW/S	FTXJ50LV1BW/S	FTXZ50NV1B			FTXS50K2/3V1B		FTXM50K3V1B			ATXS50K2/3V1B
	60									FTXS60GV1B		
	71									FTXS71GV1B		
Micon ID		3F81	3F82	3A85	36F3	36F3	3B12	3B12	3B12	2E71	36F3	3B12
Protocol version		2	2	0	0	0	0	0	0	0	0	0
App version supported		1.0.0	1.4.0	1.3.0	1.3.0	1.4.0	1.3.0	1.3.0	1.4.0	1.3.0	1.3.0	1.3.0
Operation Outside the home	Operation Start	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation Stop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - automatic - cooling - heating - dry - fan only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - humidify	×	×	×	×	×	×	×	×	×	×	×
	Temperature set point adjustment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Humidification setpoint	×	×	×	×	×	×	×	×	×	×	×
	Weekly schedule timer (On/off- mode -temperature) 4actions/day = 28 actions total	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mode batting for Multi	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Auto - 5 steps	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Quiet	✓	✓	×	×	×	×	×	×	×	×	×
	Air flow direction adjustment - Vertical swing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow direction adjustment - Horizontal swing - 3D swing	✓	✓	✓	×	×	✓	✓	✓	✓	×	✓
Operation Inside the home	Operation Start	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation Stop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - automatic - cooling - heating - dry - fan only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - humidify	×	×	×	×	×	×	×	×	×	×	×
	Temperature set point adjustment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Humidification setpoint	×	×	×	×	×	×	×	×	×	×	×
	Weekly schedule timer (On/off- mode -temperature) 4actions/day = 28 actions total	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mode batting for Multi	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Auto - 5 steps	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Quiet	✓	✓	×	×	✓	×	×	✓	×	×	×
	Air flow direction adjustment - Vertical swing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow direction adjustment - Horizontal swing - 3D swing	✓	✓	✓	×	×	✓	✓	✓	✓	×	✓
Information/ General Common for both outside and inside the home	Current room temperature	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Current outdoor temperature	✓	✓	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)
	Remote adapter software updates	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Multi-language interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Automatic time update (daylight saving time)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Demo function	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ available
× not available

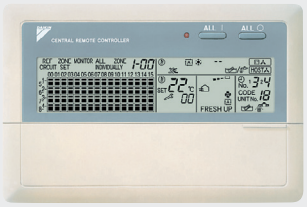
WLAN adapter BRP069 combination table / feature list													
Product name group		FTX-J	FTXL-J	FTX-K	FTX-G	FTX-G	FTX-K	ATX-J	ATX-K	ATXL-J	FVXG	FVXS	FLXS-B(9)
Remark			Optimized heating	BM technology			BM technology		BM technology	Optimized heating		Optimized heating	
Connection between wifi adaptor & indoor unit : Via S21 connector						✓					✓	✓	✓
(Connection between wifi adaptor & indoor unit : Via →) [Product name]		KRP980B1	KRP980B1	EKRP067A41	KRP980B1		EKRP980B2	KRP980A1	EKRP067A41	KRP980A1			
Adapter model: BRP069		A43	A43	A43	A43	A42	A44	A43	A43	A43	A42	A42	A42
Product name	15												
	20	FTX20J2/3V1B		FTX20KV1B	FTX20GV1B			ATX20J2/3V1B	ATX20KV1B				
	25	FTX25J2/3V1B	FTXL25J2V1B	FTX25KV1B	FTX25GV1B			ATX25J2/3V1B	ATX25KV1B	ATXL25J2V1B	FVXG25K2V1B	FVXS25FV1B	FLXS25B(A)VMA/B
	35	FTX35J2/3V1B	FTXL35J2V1B	FTX35KV1B	FTX35GV1B			ATX35J2/3V1B	ATX35KV1B	ATXL35J2V1B	FVXG35K2V1B	FVXS35FV1B	FLXS35B(A)VMA/B(9)
	42												
	50					FTX50GV1B	FTX50KV1B				FVXG50K2V1B	FVXS50FV1B	FLXS50B(A)VMA/B
	60					FTX60GV1B	FTX60KV1B						FLXS60B(A)VMA/B
	71					FTX71GV1B							
Micon ID		2806	2806	4882	2801	1C82	42D2	2806	4882	2806	3403	2521	1A92
Protocol version		0	0	2	0	0	2	0	2	0	0	0	0
App version supported		1.3.0	1.3.0	1.4.0	1.3.0	1.3.0	1.4.0	1.3.0	1.4.0	1.3.0	1.3.0	1.3.0	1.3.0
Operation Outside the home	Operation Start	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation Stop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - automatic - cooling - heating - dry - fan only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - humidify	×	×	×	×	×	×	×	×	×	×	×	×
	Temperature set point adjustment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Humidification setpoint	×	×	×	×	×	×	×	×	×	×	×	×
	Weekly schedule timer (On/off- mode -temperature) 4actions/day = 28 actions total	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mode batting for Multi	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Auto - 5 steps	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Quiet	×	×	✓	×	×	✓	×	✓	×	×	×	×
	Air flow direction adjustment - Vertical swing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow direction adjustment - Horizontal swing - 3D swing	×	×	×	✓	✓	×	×	×	×	×	×	×
Operation Inside the home	Operation Start	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation Stop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - automatic - cooling - heating - dry - fan only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Operation mode - humidify	×	×	×	×	×	×	×	×	×	×	×	×
	Temperature set point adjustment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Humidification setpoint	×	×	×	×	×	×	×	×	×	×	×	×
	Weekly schedule timer (On/off- mode -temperature) 4actions/day = 28 actions total	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Mode batting for Multi	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Auto - 5 steps	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow adjustment (Fan speed) - Quiet	×	×	✓	×	×	✓	×	✓	×	×	×	×
	Air flow direction adjustment - Vertical swing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Air flow direction adjustment - Horizontal swing - 3D swing	×	×	×	✓	✓	×	×	×	×	×	×	×
Information/ General Common for both outside and inside the home	Current room temperature	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Current outdoor temperature	✓ (if unit is turned on)	✓ (if unit is turned on)	✓	✓ (if unit is turned on)	✓ (if unit is turned on)	✓	✓ (if unit is turned on)	✓	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)	✓ (if unit is turned on)
	Remote adapter software updates	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Multi-language interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Automatic time update (daylight saving time)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Demo function	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ available
× not available

Centralised control of the Sky Air and VRV system can be achieved via 3 user friendly compact.
These controls may be used independently or in combination with 1 group = several (up to 16) indoor units in combination and 1 zone = several groups in combination.
A centralised remote control is ideal for use in tenanted commercial buildings subject to random occupation, enabling indoor units to be classified in groups per tenant (zoning).
The schedule timer programmes the schedule and operation conditions for each tenant and the control can easily be reset according to varying requirements.

DCS302C51

Centralised remote control



Providing individual control of 64 groups (zones) of indoor units.

› a maximum of 64 groups (128 indoor units, max. 10 outdoor units) can be controlled
› a maximum of 128 groups (128 indoor units, max. 10 outdoor units) can be controlled via 2 centralised remote controls in separate locations
› zone control
› group control
› malfunction code display
› maximum wiring length of 1,000m (total: 2,000m)
› air flow direction and air flow rate of HRV can be controlled
› expanded timer function

DCS301B51

Unified ON/OFF control

Providing simultaneous and individual control of 16 groups of indoor units.

› a maximum of 16 groups (128 indoor units) can be controlled
› 2 remote controls in separate locations can be used
› operating status indication (normal operation, alarm)
› centralised control indication
› maximum wiring length of 1,000m (total: 2,000m)

DST301B51

Schedule timer

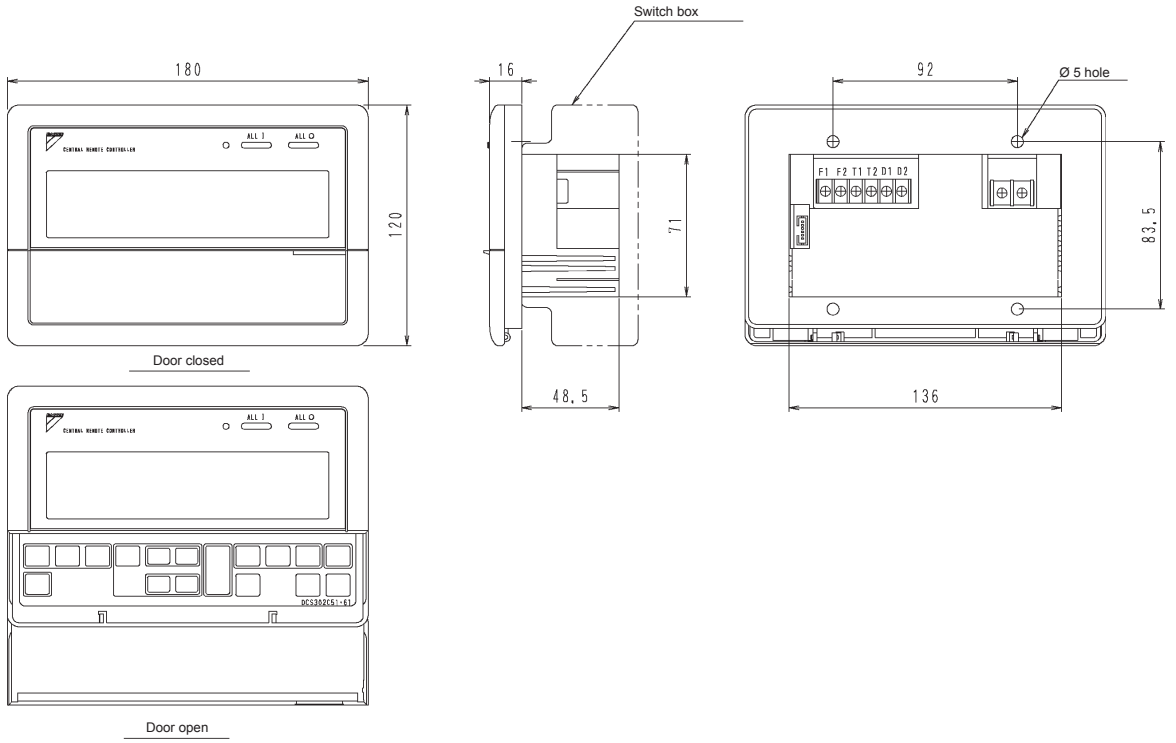
Enabling 64 groups to be programmed.

› a maximum of 128 indoor units can be controlled
› 8 types of weekly schedule
› a maximum of 48 hours back up power supply
› a maximum wiring length of 1,000m (total: 2,000m)

DCS302C51 - Centralised remote control

Dimensional drawing

(Unit: mm)

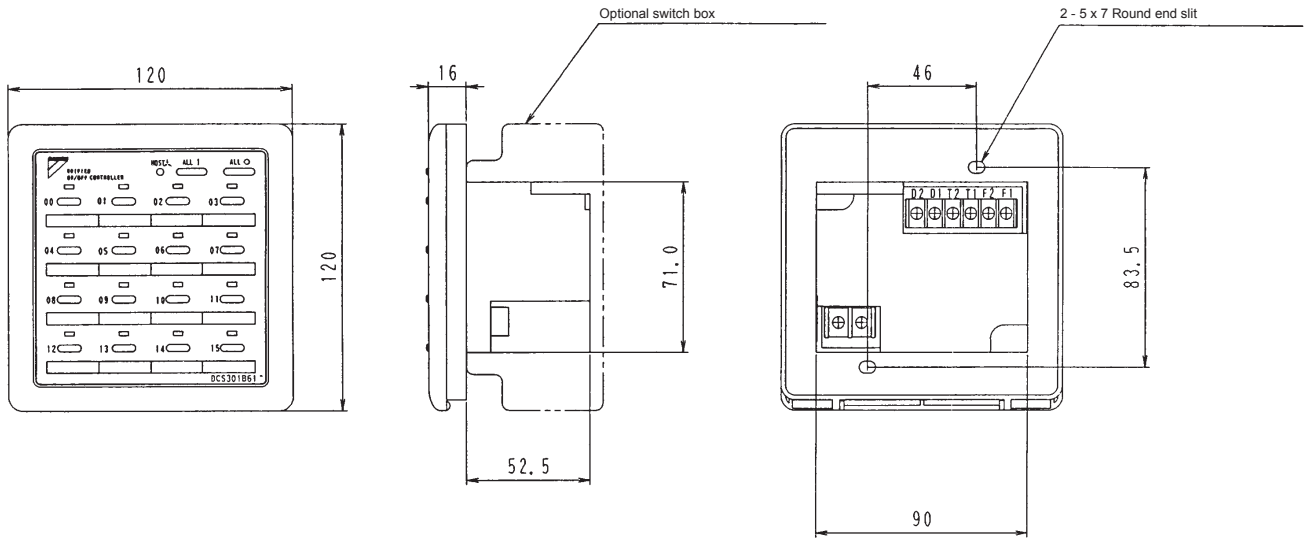


3D004872

DCS301B51 - Unified on/off control

Dimensional drawing

(Unit: mm)

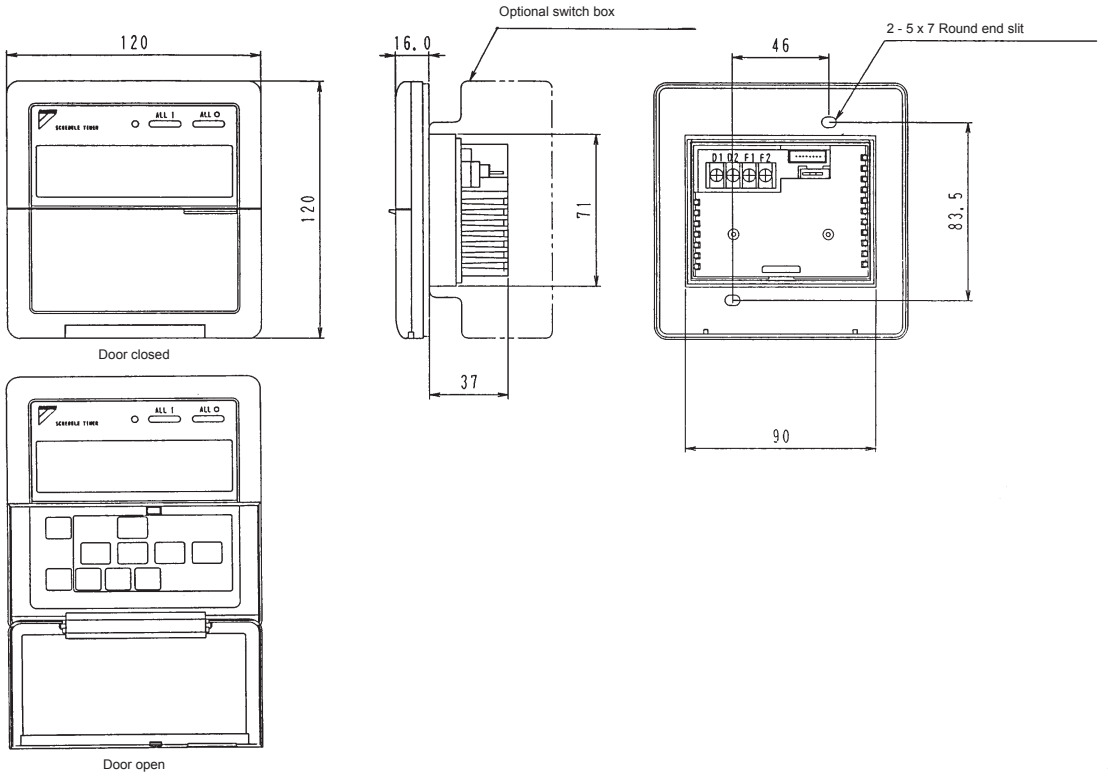


3D004872

DST301B51 - Schedule timer

Dimensional drawing

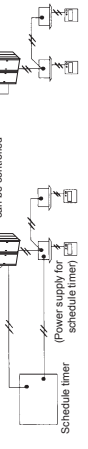
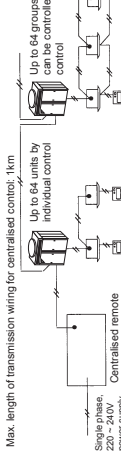
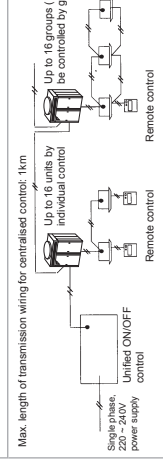
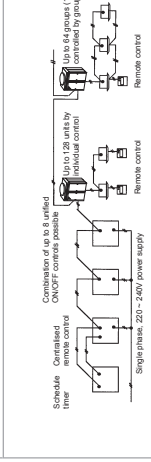
(Unit: mm)



3D049544

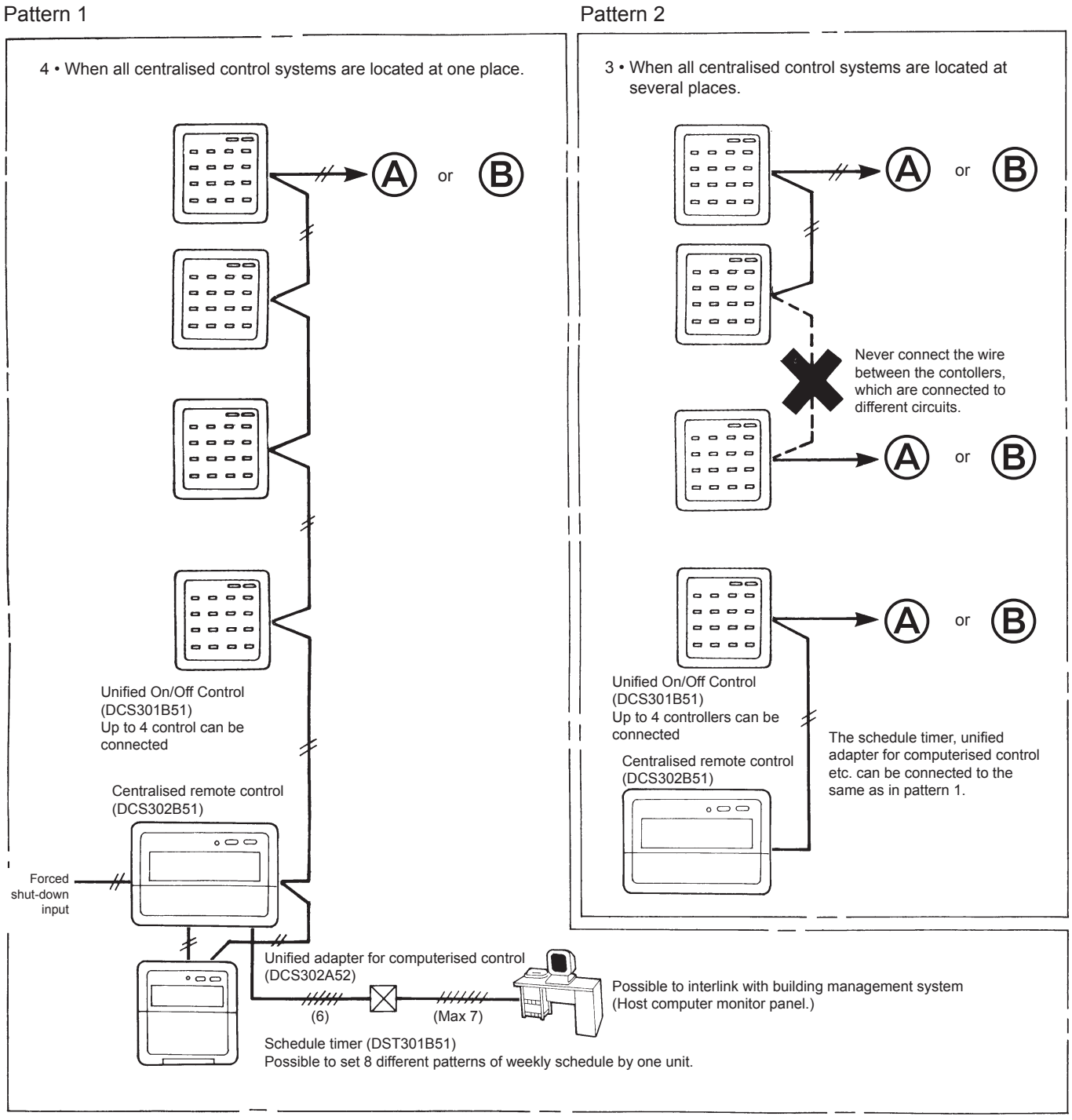
Survey of various control systems

For more effective localized environmental control Daikin offers various control systems such as single or double remote control or centralized control. This enables the construction of a variety of operational control systems which can be adapted for various uses from remote control to building automation (BA).

Control Method	Objective / use	System outline	Function	Standard number of units
DST301B51 Schedule timer	To carry out weekly schedule operation by 1-minute units		• ON/OFF time can be set by units of day, hour and minute; ON/OFF pattern can be set by time zone of twice per day in accordance with application.	Simultaneously controls 64 groups with one schedule timer. Max. 128 units
Centralised remote control DCS302B51	To control all indoor units from one place		• Double central control function • Function of liquid crystal remote control can be controlled individually for each zone of the indoor unit. • Individual/ unified operation • Up to 8 patterns can be set for operation controlled by programmed time when used in combination with schedule timer. • Temperature setting for each zone • Control operation for each room during centralized control • Remote control operation rejected command • Sequential start function	Controls up to 64 groups with one centralised remote control. Max. 128 units
Unified ON/OFF control DCS301B51			• Double central control function • Indoor unit ON/OFF control • Individual/unified operation • Remote control operation rejected command. (Centralised remote control given priority when used in combination with centralised remote control.) • Sequential start function	Controls up to 16 groups of indoor units with one unified ON/OFF control. Max. 128 units
Schedule timer Centralised remote control Unified ON/ OFF control			• Respective functions of schedule timer, centralised remote control and unified ON/OFF control are possible. • (Control mode of centralised remote control is given priority for operation of remote control for indoor unit.) • Sequential start function.	Controls up to 64 groups of indoor units with 1 schedule, timer, 2 centralised remote controls and 8 unified ON/OFF controls.

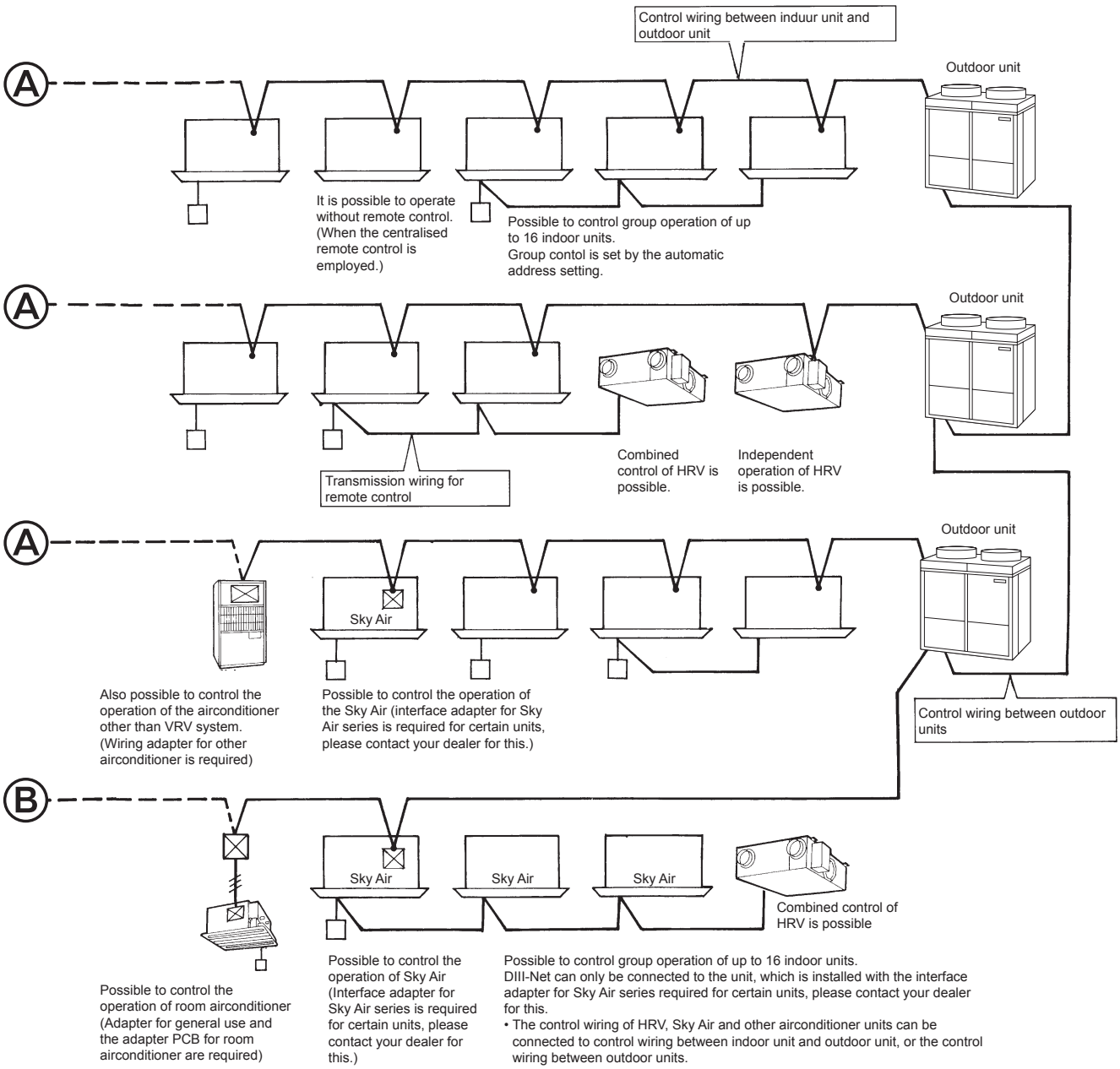
Wiring example of centralised control systems

- Be sure to connect the wiring of the central controller to (A) or (B).
  (Connect to (B), if it is possible.)
- Be sure to limit the number of indoor units within the limitation for each system.
- Never connect the wire between the controllers, that are connected to different circuits.
- In order to prevent the connection of 3 wires on the same terminal, connect to the terminal unit of (A) or (B), or use the relay terminal (local supply).



Wiring example of centralised control systems

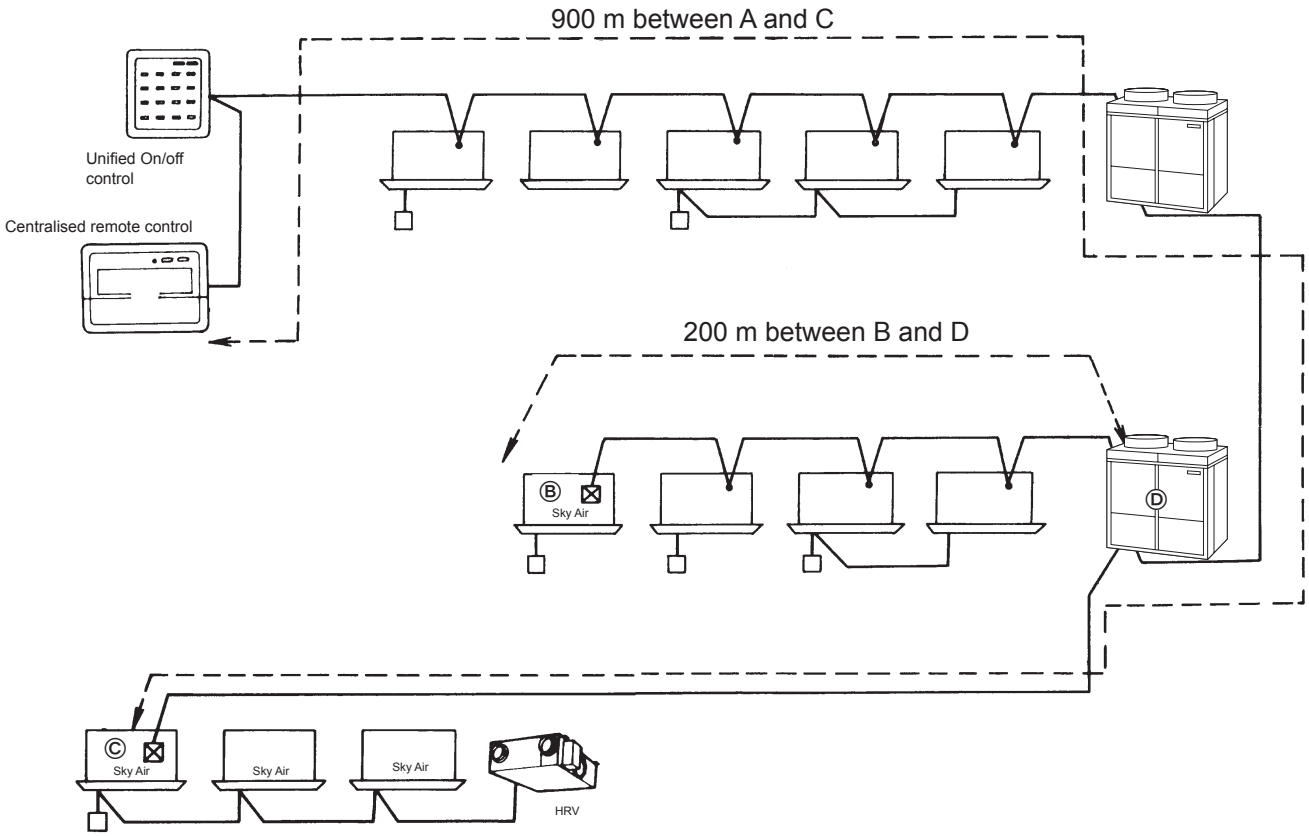
- The longest wiring extension should not exceed 1,000 m.
  (Total wiring length schould not exceed 2,000 m, excluding the wiring to the remote control).
- Up to 128 indoor units can be controlled.



Length of transmission wiring

The super wiring system, that integrates the control wiring between indoor unit and outdoor unit and the transmission wiring to the central controllers into one common wiring, should satisfy the following limitation.

- The longest wiring extension: Not exceeding 1,000 m
- Total wiring length: Not exceeding 2,000 m



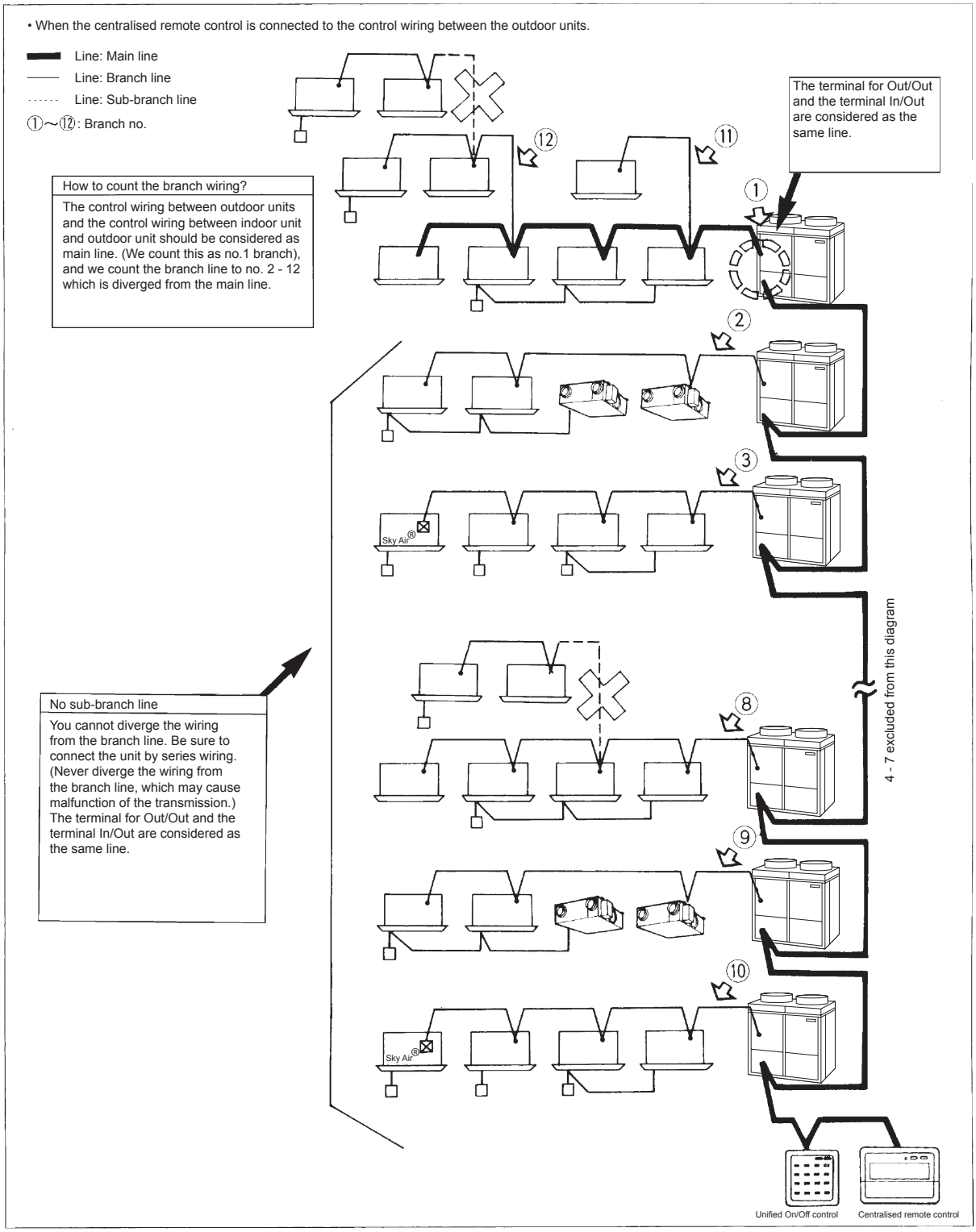
In the above system, the longest wiring extension is 900 m between A and C, which satisfies the limit of 1,000 m. The total length is 1,100 m, that is the total of 900 m between A and C and 200 m between B and C, which also satisfies the limit of 2,000 m.
The central controller functions properly, only when both the longest extension and the total length of wiring satisfies the limitation, as shown above.

Notes
When designing the system, be sure to check both the longest extension and the total wiring length. If it exceeds the limitation, there is no other way but to split into several syste

Length of transmission wiring

System example (1)

- Branch line; line that is diverged from the main line.
- Sub-branch line: line that is diverged from the branch line.



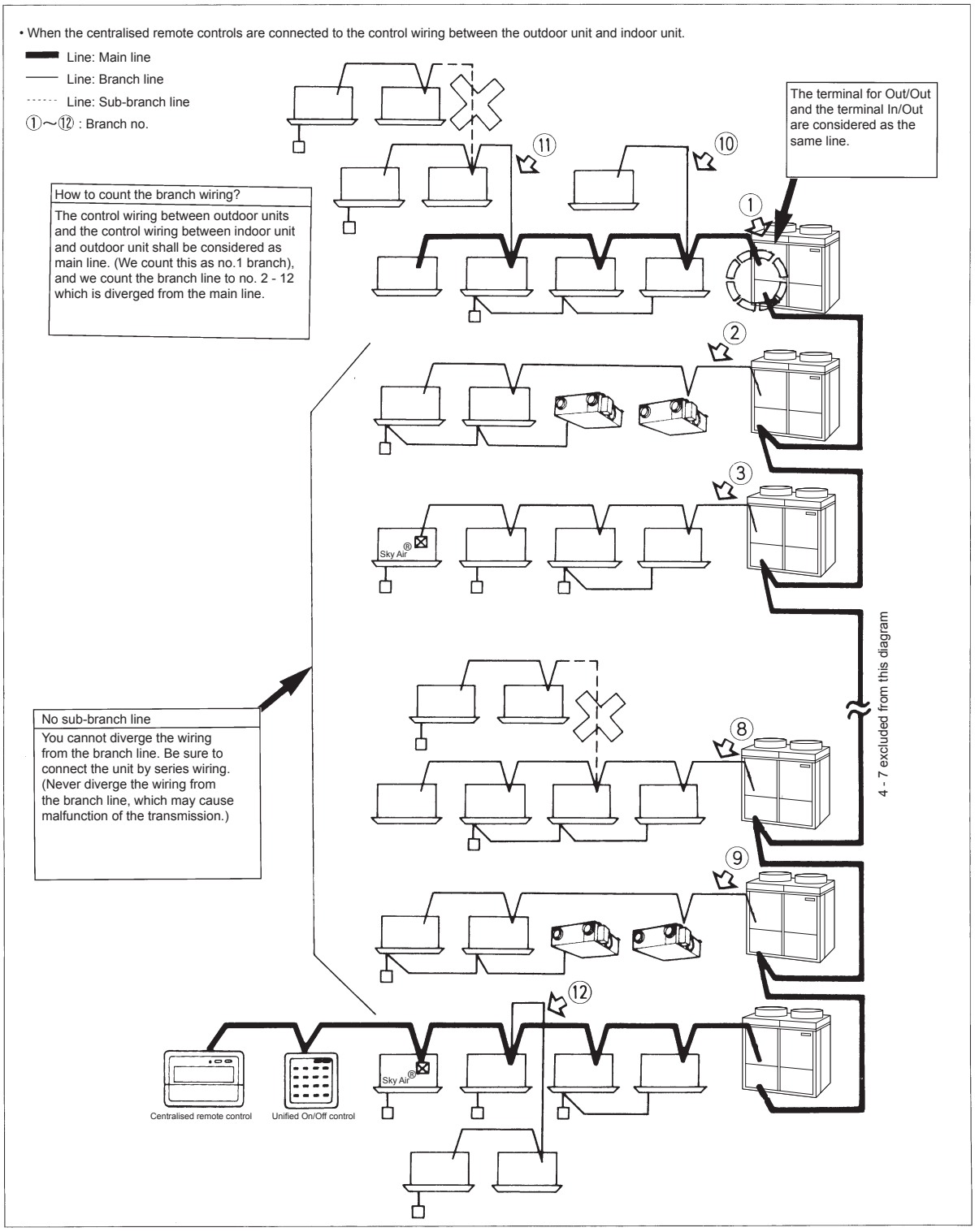
Notes

As shown above, the centralised remote controls schould be connected to the wiring between the outdoor units, wherever possible. (If connected to the control wiring between indoor unit and the outdoor unit, it may not be able to control the units even on the normal circuit if the circuit connected to the central control is out of order.)

Length of transmission wiring

System example (2)

- Branch line; line that is diverged from the main line.
- Sub-branch line: line that is diverged from the branch line.



Notes

As shown above, if the centralised remote controls are connected to the control wiring between indoor unit and outdoor unit, it may not be able to control the units even on the normal circuit, if the circuit connected to the central controller is out of order. Be sure to connect the central controllers to the control wiring between the outdoor units.

Length of transmission wiring

Number of connectable Units

	Central control equipment	Indoor unit	Outdoor unit	Other adapters
Target controller (max. number)	• Centralised remote control (2 units) • Unified ON/OFF control (8 units) • Schedule timer (1unit) • Parallel interface (4 units)	• VRV system • Sky Air series (Interface adapter for Sky Air is required for certain units, please contact your dealer for this.) • HRV unit • Facility air-conditioner (Wiring adapter for other air-conditioner is required.) • Room air conditioner (Wiring adapter for other air conditioner is required) • BS unit (2) • Wiring adapter	• Outdoor unit for VRV system	• External control adapter for outdoor unit • Wiring adapter for electrical appendices
Number of units	(note 1)	Up to 128 units (note 4)	Up to 10 units (note 3)	Up to 10 units

Notes

1 When you connect 8 or more central control equipment, it is required to satisfy the following conditions. The following conditions are not required to be considered when the number of controller is 7 or less.

• Central control equipment + Indoor units + Outdoor units + other adapters ≤ 160 units
• Central Conversion number of central control equipment * + Indoor units + outdoor units + other adapters ≤ 200 units
NOTE: * is converted one central control equipment except unified ON/OFF control as 10 units.)

2 When BS unit is installed, BS unit is not counted in the number. However, the indoor units after BS unit should be counted.
3 The outdoor unit is limited up to maximum of 10 units and also the number of function units is also limited up to 5. However, if the sequential start setting is possible, up to 10 function units can be connected.
4 When the parallel interface is connected, the number of indoor units is limited up to 64 groups (128 units).
When you judge whether the number of the connectable units is possible, refer to the flow chart on the next page.

Length of transmission wiring

Flow chart to determine the number of units to be connected

Check sheet for number of units in one system

Centralised controller	Qty	Y/N	
No. of IPU of intelligent Manager			≤ 1
Intelligent Touch Controller (Note 2)			≤ 2
Central remote control (Note 2)			≤ 2
Unified ON/OFF control			≤ 8
Schedule timer			≤ 1
Interface for use in BACnet* (Note 3)			≤ 1
Interface for use on LONWORKS*			≤ 1
Parallel interface			≤ 4
Total			≤ 7
			≥ 8

	x 10	=
	x 10	=
	x 1 (A)	=
	x 10	=
	x 10	=
	x 10	=

\+ + + = ≤ 200

Unit	Qty	Y/N	
VRV			
SkyAir with adapter for certain units, please contact your dealer for this.			
HRV (VAM)			
Wiring adapter for other air conditioner			
BS unit (Note 4)			
Optional DIII Ai unit			
Total			≤ 128

Outdoor unit	Qty	Y/N	
Single units and Multi systems			
Total			≤ 10(B)

Other adapters	Qty	Y/N	
External control adapter for outdoor unit			
Wiring adapter for electrical appendices (1)			
Di unit	8 x		
Dio unit	4 x		
Ai unit			
Total			≤ 10

Notes

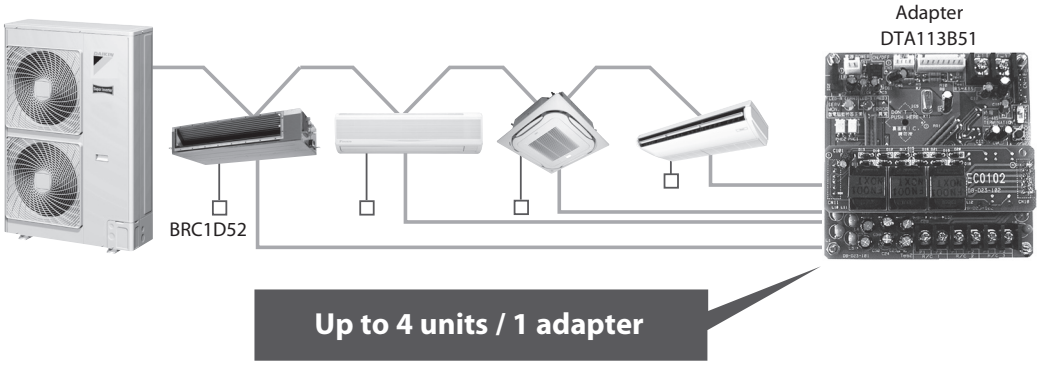
1 Condition
(A) means:
• Central control equipment + Indoor units + Outdoor units + other adapters £ 160 units
• Conversion number of central control equipment + Indoor units + Outdoor units + other adaptors £ 200 units
(B) means:
In case of connecting to DIII-NET
• Outdoor units must be counted to one system even in case of including 3 units. (Master + Master + Master = One system)
• The outdoor units connected by terminal Ex. Q1, Q2 (excepting terminal F1, F2) are regarded as one system.

2 When one system is to be controlled from two locations, up to two intelligent Touch Controller (In case of combining the intelligent Touch Controller and Central Remote Controller, it is restricted to combine two Controllers in total), four Central Remote Controller and 16 unified ON/OFF Controller can be connected. However, the maximum number of units that can be controlled is 128.

3 When a BS unit is used, the indoor units used in its downstream are not counted.

4 One port of one Interface for use in BACnet can have up to 64 groups (64 master indoor units with address). In case of adopting group controlling, the circuit covered by the data station can have up to 128 indoor units including main and sub units.

Basic solution for control of Sky Air and VRV



Features & Outline

Basic solution for control and management of Sky Air and VRV systems

Application area
- Critical applications for centralized monitoring.

System functions
- Automates alarm (report messages) for any malfunctions/ errors. Immediate report of any indoor unit breakdown to the servicing company.
- Minimizes the inconvenience of not having air conditioning via rapid messages.

Functions via mobile phone
- Status monitoring and control (Start/Stop, Set temperature, Operation mode, Room temperature, Operation time, Error code)
- Error notification

Functions when standing alone
- Rotation function
- Back-up operation

Main Functions

A single Adapter unit can monitor and control the air conditioners of up to 4 remote control groups.

The following functions of air conditioners can be monitored and controlled by mobile phone:

Item	Monitoring	Operation
Start/Stop	o	o
Operating mode (Fan/Cool/Heat)	o	o
Temperature setting (Cool/Heat)	o	o
Error code	o	x

O: Possible

X: Impossible

Specifications

		DTA113B51
Supply - Voltage		DC 16V supplied from R/C line
Maximum number of connectable indoor units		4 units per adapter PCB (via GSM)
Forced ON/OFF input		Non-voltage (normal) 'a' contact x each point
Dimensions (mm)		100x100x35
Installation method		Built into the indoor unit or placed inside a box especially built for it
Communication functions	via GSM	RS232C, GSM modem
Ambient temperature/humidity conditions for operation		-10 ~ 50°C, max. of 95% RH
Control functions	via GSM	Start/stop, operation mode (fan/cool/heat), temperature setting
Monitoring functions	via GSM	Start/stop, operation mode (fan/cool/heat), temperature setting, error code
Malfunction monitoring functions		Malfunction reporting function
Automatic alternating operation functions	via GSM	Yes
Back-up operation functions	via GSM	Yes

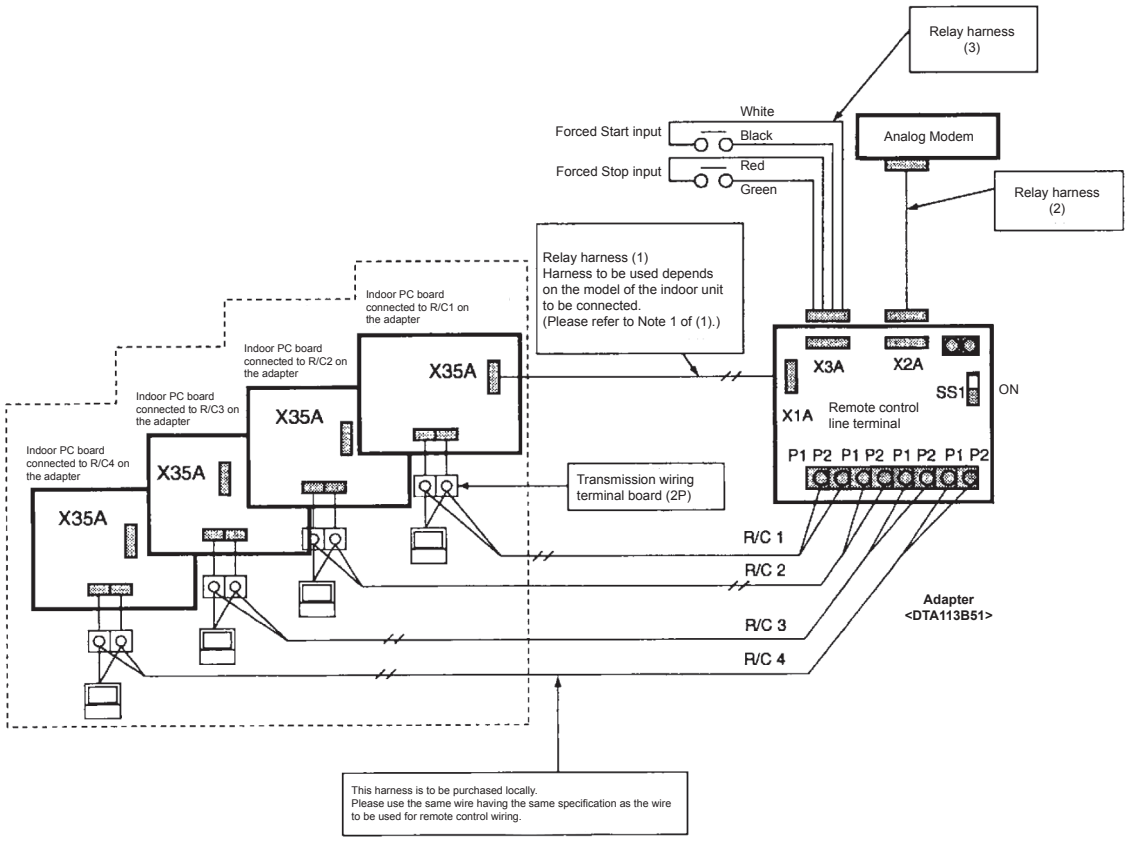
Daikin recommends the use of a Wavecom Fastrack modem

Electric wiring

The contact is constant contact. The output conditions are level reading.

- When the forced operation contact is closed, all stopped units are continuously instructed to operate.
- When the forced stop contact is closed, all operating units are continuously instructed to stop.
- Once the forced operation contact is closed, all indoor units which are stopped at that time are instructed to operate, even if the forced stop contact is closed immediately after, the indoor units will operate for a moment and then stop. (This is the same as with the remote control operation.)

The contact is to be purchased locally. The current applied when the contact is ON is approx. DC16V, 10mA. Input is via momentary A-contact. Minimum 1 second is required for turning ON. Please don't clamp with high voltage cable.



Electrical wiring

Procured on-site sheathed vinyl cord
(VCTF 0.2 mm2 or 0.3 mm2)

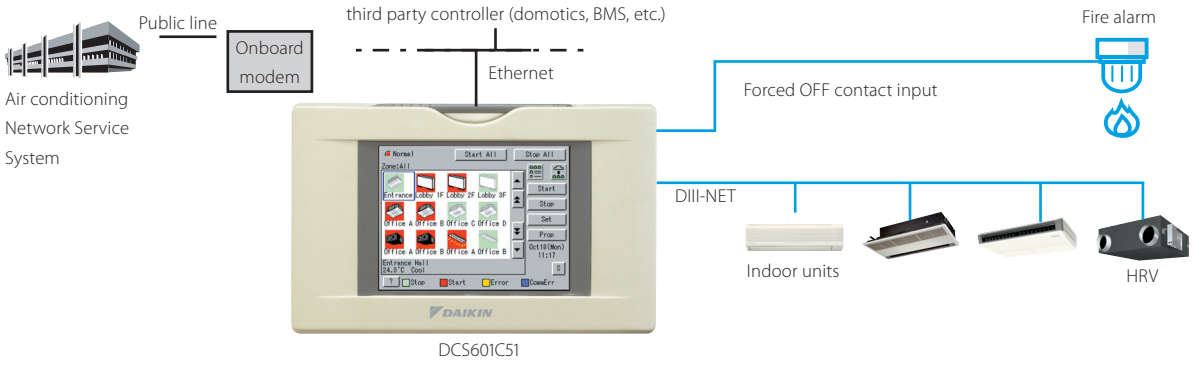
Important

- The A (+) and B (-) terminals have polarity which must not be mixed up.
- Turn on SS1 (terminating resistance) for the adapter.
- Leave the adapter address of the circuit board to 0.

intelligent touch Controller

DCS601C51

Detailed & easy monitoring and operation of VRV systems (max. 64 indoor units groups).



Languages
- English
- French
- German
- Italian
- Spanish
- Dutch
- Portuguese

System layout
- Up to 64 indoor units can be controlled
- Touch panel (full colour LCD via icon display)

Management
- Easy management of electricity consumption
- Enhanced history function

Control
- Individual control (set point, start/stop, fan speed) (max. 64 groups/indoor units)
- Set back shedule
- Enhanced scheduling function (8 schedules, 17 patterns)
- Flexible grouping in zones
- Yearly schedule
- Fire emergency stop control
- Interlocking control
- Increased HRV monitoring and control function
- Automatic cooling / heating change-over
- Heating optimization
- Temperature limit
- Password security: 3 levels (general, administration & service)
- Quick selection and full control
- Simple navigation

Monitoring
- Visualisation via Graphical User Interface (GUI)
- Icon colour display change function
- Indoor units operation mode
- Indication filter replacement
- Multi PC

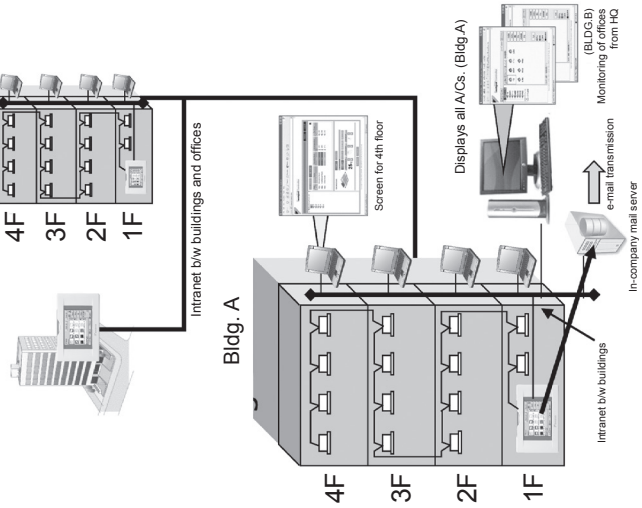
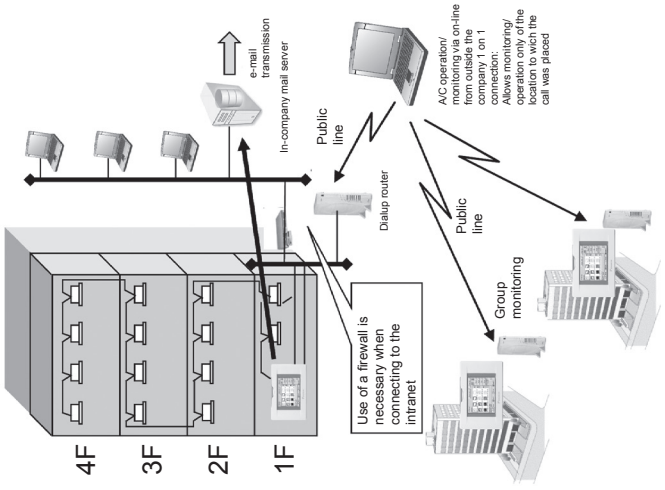
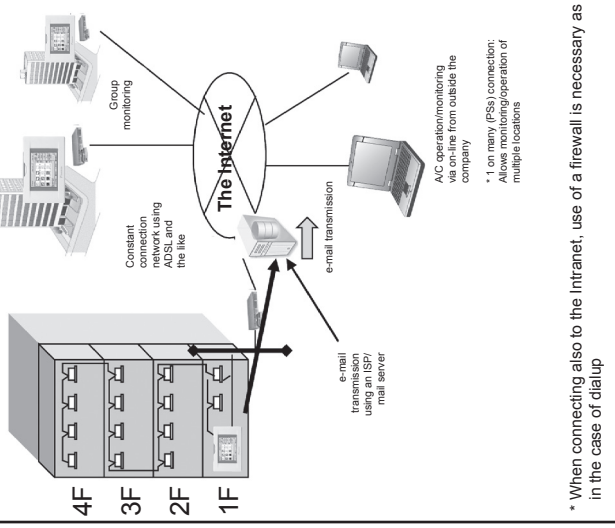
Cost performance
- Free cooling function
- Labour saving
- Easy installation
- Compact design: limited installation space
- Overall energy saving

Open interface
- Communication to any third party controller (domotics, BMS, etc.) is possible via open interface (http option)

Connectable to
- VRV
- HRV
- Sky Air
- Split (via interface adapter)

Features

Web Application & Internet

Type of connection	When using a LAN (Intranet) within the company	When using dialup	When using an constant Internet connection
Use scenarios	• A/C operation via the office PC • A/C operation via PC's on each floor • Monitoring of each office and sales branch from HQ • Error messages via e-mail	• A/C operation and status monitoring from remote locations • Group monitoring by connecting whenever necessary • Error messages via e-mail	• A/C operation and status monitoring from remote locations • Group monitoring via a constant connection (monitoring of the buildings and offices) • PPD data can be accessed remotely via the internet • Error messages via e-mail
System examples The network environment and devices configured by excising environment of the target building and commercially available products.			 * When connecting also to the Intranet, use of a firewall is necessary as in the case of dialup
Security levels for the system example	• Allows for security within the Intranet • Username/password control via iTC web functions * If information/data such as passwords are leaked, it is possible that individuals (users of the Intranet) could maliciously operate the system from within the company	• Dialup router security function (phone number, username and password in general) as well as username/password control via the iTC web function * If information/data such as passwords are leaked, it is possible that the A/C system could be operated by an intruder. * When connecting to the Intranet, it is possible that someone could enter the Intranet unauthorized via a dialup environment	• Username/password control via the iTC web function • If there is no security within the constant connection environment to the web, available security is only the username/password control via the iTC web function. * If information/data such as passwords are leaked, it is possible that an intruder could operation the A/C.
Proposals for better security	• Users can be limited by allowing only limited PCs to be able to acces the web via the use of firewalls and the like	• Introduction of security for constant connection environment via network devices allows for a higher level of security (Example) Introduction of network devices, such as dialup routers, that feature strict authentication of accesses from outside the company Unauthorized acces from outside the company prevented with a virtual private network (VPN).	• Introduction of security for constant connection environment via network devices allows for a higher level of security (Example) Unauthorized acces from outside the company prevented with a virtual private network (VPN).

System overview

This intelligent Touch Controller is capable of controlling/monitoring up to 64 groups of indoor units (hereafter "groups").

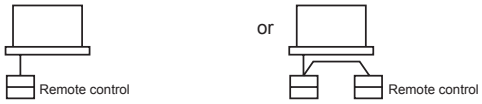
The main functions of the intelligent Touch Controller include:

1 Set back function, enabling a building's temperature to be monitored and managed during both heating and cooling seasons through a single setting.
2 Free cooling function, reducing the air conditioning energy consumption by actively introducing fresh air into rooms.
3 Collective starting/stopping of operation of the indoor units connected to the intelligent Touch Controller.
4 Starting/stopping of operation, temperature setting, switching between temperature control modes and enabling/disabling of operation with the hand-held remote control by zone or group .
5 Scheduling by zone or group .
6 Monitoring of the operation status by zone or group .
7 Display of the air conditioner operation history.
8 Compulsory contact stop input from the central monitoring panel (non-voltage, normally-open contact).
9 Power proportional distribution of the air conditioners. (With the optional software DCS002C51)
10 Control and Monitoring of air conditioner with personal computer by the Controller (with the optional software DCS004A51).

A **group of indoor units** include:

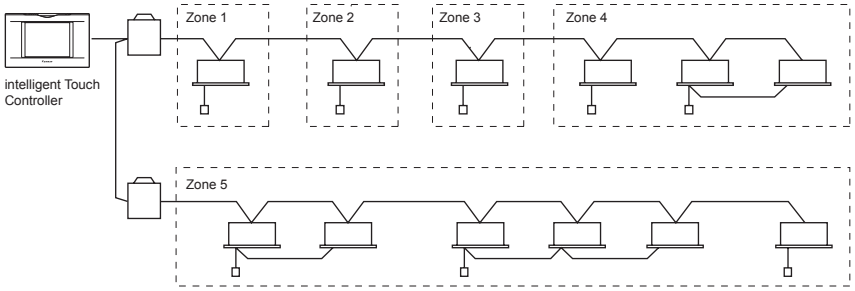
1 One indoor unit without a remote control.

2 One indoor unit controlled with one or two remote controls.



3 Up to 16 indoor units controlled with one or two remote controls.

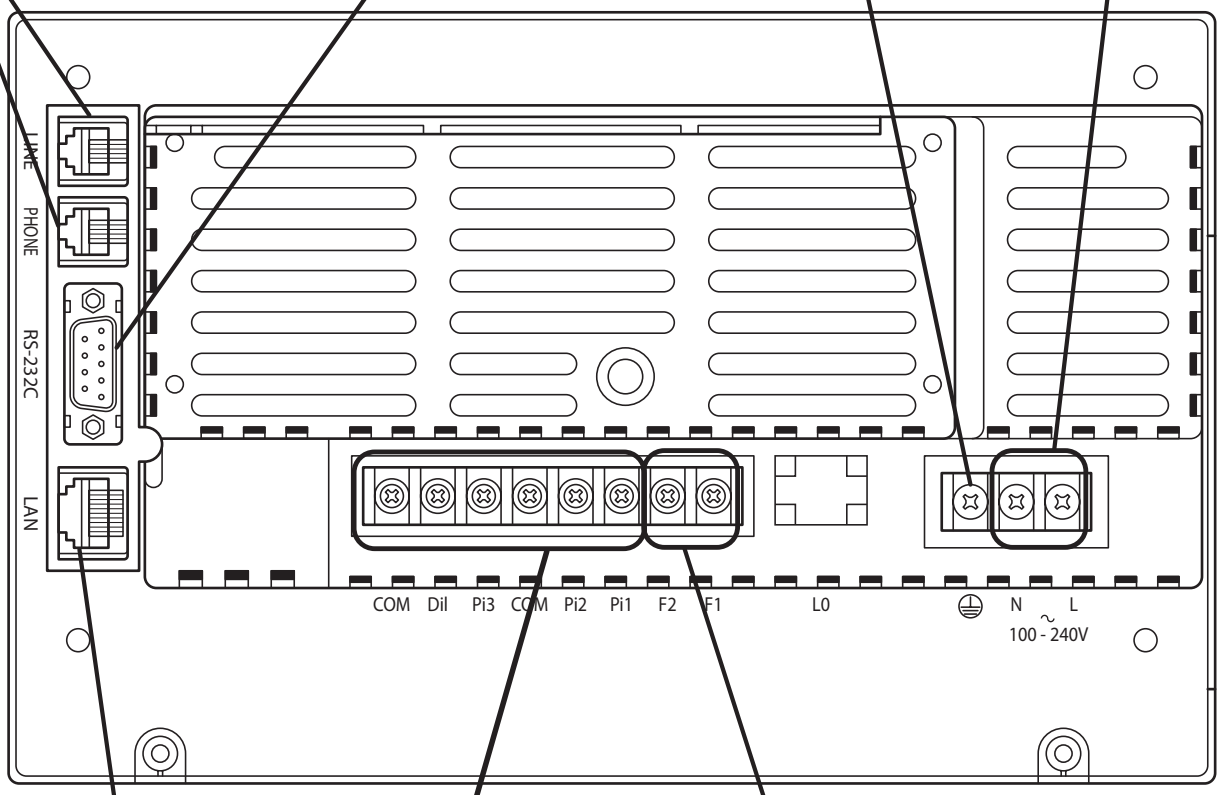
- **Zone** control with the intelligent Touch Controller
- **Zone** control, which allows collective settings for more than one group, is available with the intelligent Touch Controller, which facilitates the setting operations.
- One setting makes the same setting for all of the units in one zone.



- Up to 128 zones can be set with one intelligent Touch Controller. (The maximum number of groups in one zone is 64.)
- Groups can be zoned at will with the intelligent Touch Controller.
- Units in one group can be divided into more than one zone.

Part Names - Connection

Back



Modem connector for Air Conditioning Network Service system

When using Air Conditioning Network Service System service, connect it to the telephone line.

RS232-C connector for DIII-NET Plus adapter

Using DIII-NET Plus adapter being sold as an accessory, you can increase the number of indoor units to be controlled.

Terminal block for power supply

Connect to AC100-240V power supply.
Terminal size is M4.

Earth terminal block

Securely connect the earth wire.
Terminal size is M4

Ethernet connector for web

When monitoring and operating the indoor units using the optional Web and E-mail function software sold separately, connect to LAN via Ethernet cable.

Terminal block for DIII-NET communication

The terminal size of the terminal block for communication with indoor units is M3.5.

Terminal block for watt hour meter and force stop input of indoor units

This is used when distributing the power supply to indoor units using optional Power Proportional Distribution software sold separately and when stopping the indoor units compulsorily by contact input.
The size of terminal block is M3.5.

Specifications

				
			Intelligent Touch Controller	DIII-NET Plus adapter
Reference			DCS601C51	DCS601A52
Power supply			externally supplied AC100V-240V, 50/60Hz	externally supplied AC100V-240V, 50/60Hz
Condition of installation method for use			JIS4 switchbox embedded in indoor wall	-
Operating condition	Surrounding temperature		0°C to 40°C	-10°C to 40°C
	Humidity		less than 85 % RH (if no condensation)	less than 90 % RH
Dimensions	HxWxD	mm	147x230x107	190x157x42
LCD panel	Size / n° of dots / n° of colours		5.7 inches / QVGA 320x240 / 4,096 colours	-
Maximum number of indoor GROUPS			1 x 64 (2 x 64: combined with DCS601A52)	1 x 64
Maximum number of outdoor SYSTEMS			1 x 10 (2 x 10: combined with DCS601A52)	10
PC & display			built-in	-
Input	Touch panel		10 bit encoded analog input	-
Communication functions	DIII-NET x 1		air conditioning equipment communication line	air conditioning equipment communication line
	Ethernet		port for web access and e-mail function	-
	RS-232C		DIII-NET Plus adapter	-
	10BASE-T		web option	-
	Modem	999121A	onboard modem capability	-
	PCMCIA slot		flash memory card	-
Input terminals	Digital input Di x 1		forced shutdown	-
	Pulse input Pi x 3		power measuring pulse	power measuring pulse
Overseas certification	Safety of information - Technology Equipment		IEC60730 (including IEC60335)	IEC60730 (including IEC60335)
	Interference (EMC)		EN55022 Class A, EN55024	EN55022 Class A, EN55024
Project data & Engineering			Configuration and engineering for each project are necessary. For further details, please consult with Daikin distributors and dealers	

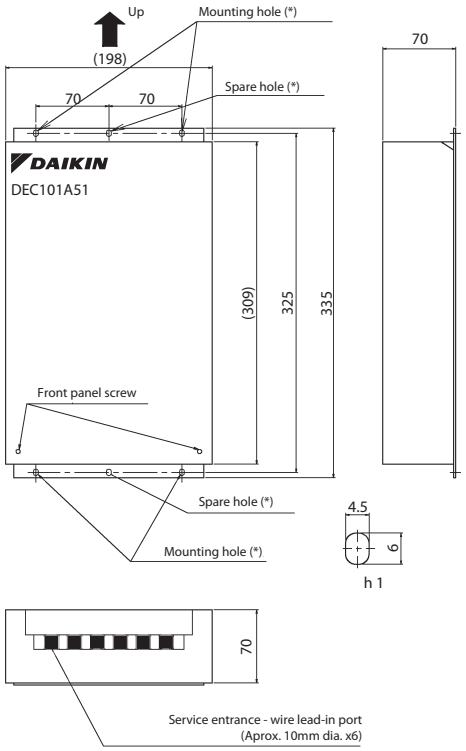
Accessories

Description	Reference	Comments
Software	DCS002C51	Power Proportional Distribution (PPD) Software
	DCS004A51	E-mail / Web software
	DCS007A51	Http interface option
Hardware	DCS601A52	DIII NET-Plus adapter
Touch-Pen	1264009	Spare part n° of Touch-Pen for Intelligent Touch Controller
Interface adapters	KRP928A2S	For connection to Split units
	DTA102A52	For connection to R-22 / R-407C Sky Air units
	DTA112B51	For connection to R-410A Sky Air units
DIII-Ai	DAM101A51	Outdoor temperature sensor, required for free cooling changeover
Digital input	DEC101A51	Input contacts: 8 inputs wth additional error feedback
Digital input/output	DEC102A51	Output contacts: 4 points with additional error and on/off feedback

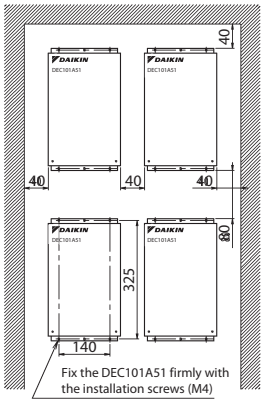
Accessories

DEC101A51 - Digital input

Dimensional drawing



Power supply specifications	1~200-240V 50/60Hz
Rated power consumption	15W
Mass (Weight)	2.5kg
Case material	Plated steel sheet
Case color	Matting chrome



Notes

1 Installation place
- Install the unit indoors where it is not exposed to water and dust or dirt.
- Install the unit where both temperature and humidity do not become high. (Operating (available) temperature: -10~+40°C Operating (available) humidity: 10~85%)
- Connect the wiring to be connected in the field from the lower surface side. It is, therefore, necessary to make arrangements so as not to attach other equipment within 80mm from the lower surface of this equipment.
- Install this equipment in a place in which only authorized personnel can touch it.

2 Installation Direction
Install this equipment vertically to the floor surface. It should be noted that if it is installed in horizontal direction, a malfunction or failure may result.

3 Installation Method
Ensure that this equipment is installed with 4 screws (screw size M4 min.).

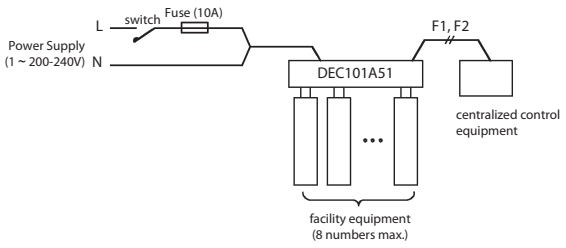
4 Restrictions in continuous installation
In case several devices are set up and installation inside the power board is carried out, each equipment installation space and space between the wall surface and this equipment should be left at least as shown to the left.

3D047630

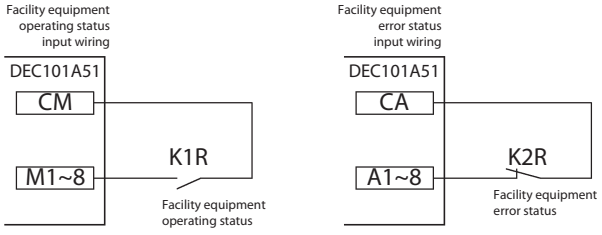
External connection diagram

DEC101A51

No. ❊	Wiring procedure
1	<F1/F2> wiring between this equipment and centralized control equipment is required.
2	The connection to the facility equipment and setting of various switches are required. See the "Wiring with Facility equipment" paragraph.
3	Connect the power supply and earth. See the "Power Supply & Earth wiring" paragraph.
3	For the wiring connection and clamping method, refer to the "Wiring lead-in" paragraph.



Wiring with Facility Equipment
<Caution> The length of wiring between this equipment and facility equipment is 100m max.
Abormal input When the contact is "Open" or "Closed", "Error" is produced. Input specifications: No-voltage "a" contact (The welding current is approx. 10mA when the applied voltage is 20 to 30 V DC and the contact is "Closed".) For input, use the contact to micro current. (12VDC, 1mA max.)



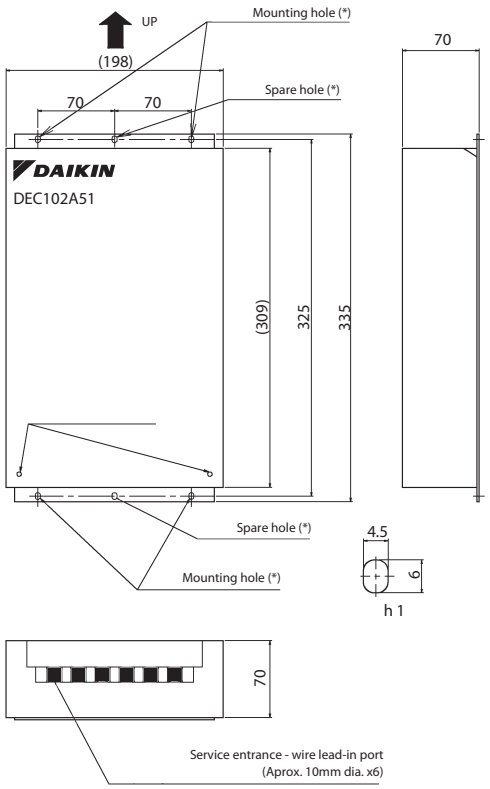
Power Supply & Earth Wiring
For power supply, 1~200-240V is used. The wiring to the power terminal block (L/N) is required. The electric wire used should be 1.25 to 2.0mm2. After checking the power supply specifications, make correct connections.
Connect the earth wiring to the "⏚" terminal. Use a 2.0 mm2 wire.

3D047631

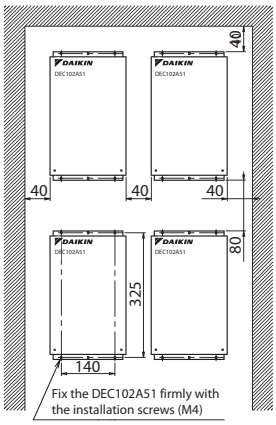
Accessories

DEC102A51 - Digital input / output

Dimensional drawing



Power supply specifications	1~200-240V 50/60Hz
Rated power consumption	15W
Mass (Weight)	2.5kg
Case material	Plated steel sheet
Case color	Matting chrome



Notes

1 Installation place
- Install the unit indoors where it is not exposed to water and dust or dirt.
- Install the unit where both temperature and humidity do not become high. (Operating (available) temperature: -10~+40°C Operating (available) humidity: 10~85%)
- Connect the wiring to be connected in the field from the lower surface side. It is, therefore, necessary to make arrangements so as not to attach other equipment within 80mm from the lower surface of this equipment.
- Install this equipment in a place in which only authorized personnel can touch it.

2 Installation Direction
Install this equipment vertically to the floor surface. It should be noted that if it is installed in horizontal direction, a malfunction or failure may result.

3 Installation Method
Ensure that this equipment is installed with 4 screws (screw size M4 min.).

4 Restrictions in continuous installation
In case several devices are set up and installation inside the power board is carried out, each equipment installation space and space between the wall surface and this equipment should be left at least as shown to the left.

3D047623

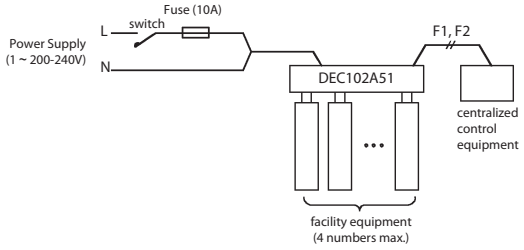
Accessories

DEC102A51 - Digital input / output

External connection diagram

DEC102A51

No. ❊	Wiring procedure
1	<F1/F2> wiring between this equipment and centralized control equipment is required.
2	The connection to the facility equipment and setting of various switches are required. See the "Wiring with Facility equipment" paragraph.
3	Connect the power supply and earth. See the "Power Supply & Earth wiring" paragraph.
3	For the wiring connection and clamping method, refer to the "Wiring lead-in" paragraph.



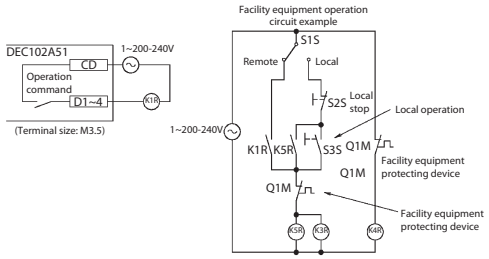
Wiring with Facility Equipment

<Caution> The length of wiring between this equipment and facility equipment is 100m max.

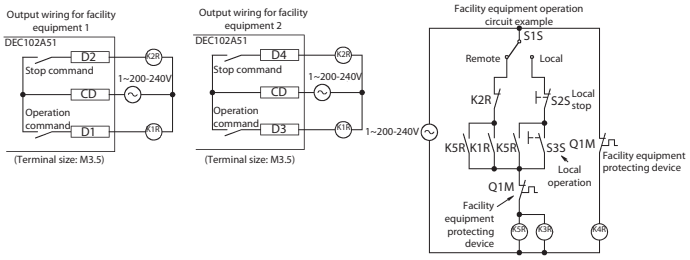
Operation output

It is possible to select continuous 1 output (4 points) or instantaneous 2 output (ON/OFF pair - 2 points).

Wiring at Continuous Output (Up to 4 facility equipments can be connected.)



Wiring at instantaneous Output (Up to 2 facility equipments can be connected.)

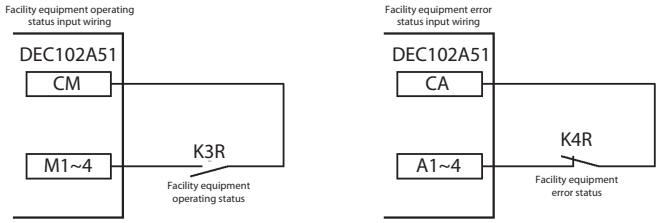


Operation input

When the contact is "Closed", "Run" is to be input. Input SPEC: No-voltage "a" contact (When the applied voltage is 20 to 30V DC and the contact is "Closed", the welding current is approx. 10mA.) For input, use a contact for micro current. (12V DC, 1mA max.)

Abnormal input

When the contact is "Open" or "Closed", "Error" is produced. Input specifications: No-voltage "a" contact (The welding current is approx. 10mA when the applied voltage is 20 to 30V DC and the contact is "Closed".) For input, use the contact for micro current. (12V DC, 1mA max.)



When the switch was set to "Ins." (Instantaneous Output), the operation input terminals M3, M4 and abnormal input terminals A3, A4 ar not used.

Terminal used in case where the switch was set to "Continuous Output" (Con.) or "Instantaneous Output" (Ins.)

Facility equipment (Up to 4 units can be connected to single DEC102A51.)	Terminal used in the case of setting to "Continuous Output"					
	Run/Stop output terminal		Operation input terminal		Abnormal input terminal	
1st equipment	CD	D1	CM	M1	CA	A1
2nd equipment	CD	D2	CM	M2	CA	A2
3rd equipment	CD	D3	CM	M3	CA	A3
4th equipment	CD	D4	CM	M4	CA	A4

Facility equipment (Up to 2 units can be connected to single DEC102A51.)	Terminal used in the case or setting to "Instantaneous Output"							
	Operation output terminal		Stop output terminal		Operation input terminal		Stop input terminal	
1st equipment	CD	D1	CD	C2	CM	M1	CA	A1
2nd equipment	CD	D2	CD	C4	CM	M2	CA	A2

When the switch was set to "Ins." (Instantaneous Output), the operation input terminals M3, M4 and abnormal input terminals A3, A4 are not used.

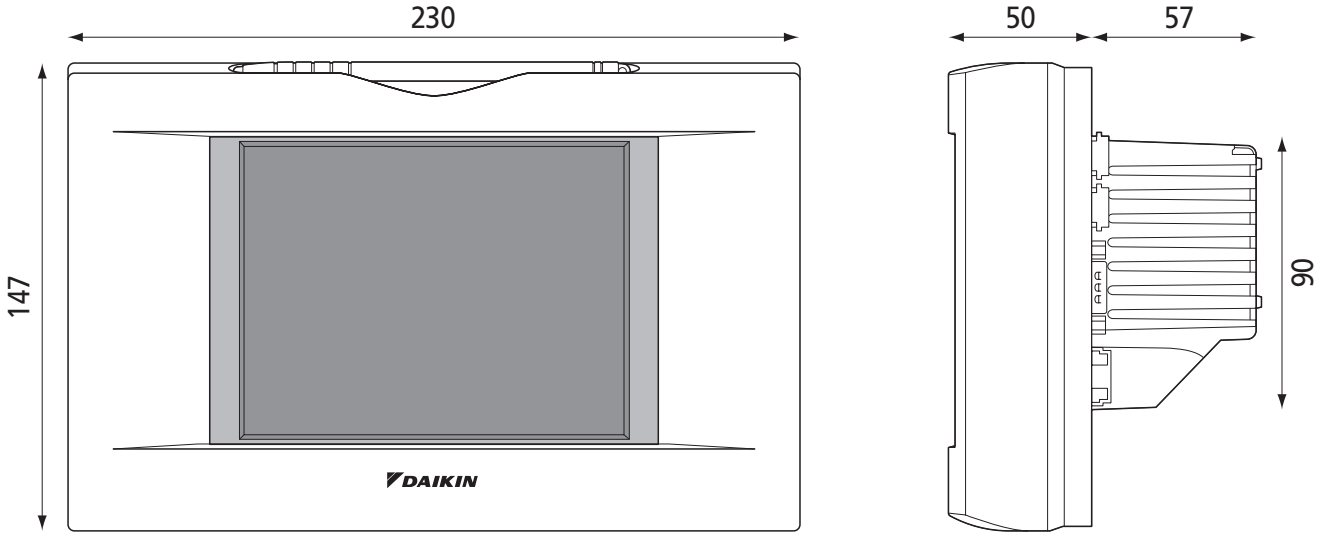
Power Supply & Earth Wiring

For power supply, 1~200-240V is used. The wiring to the power terminal block (L/N) is required. The electric wire used should be 1.25 to 2.0mm2. After checking tht power supply specifications, make correct connections.

Connect the earth wiring to the "" terminal. Use a 2.0 mm2 wire.

3D047624

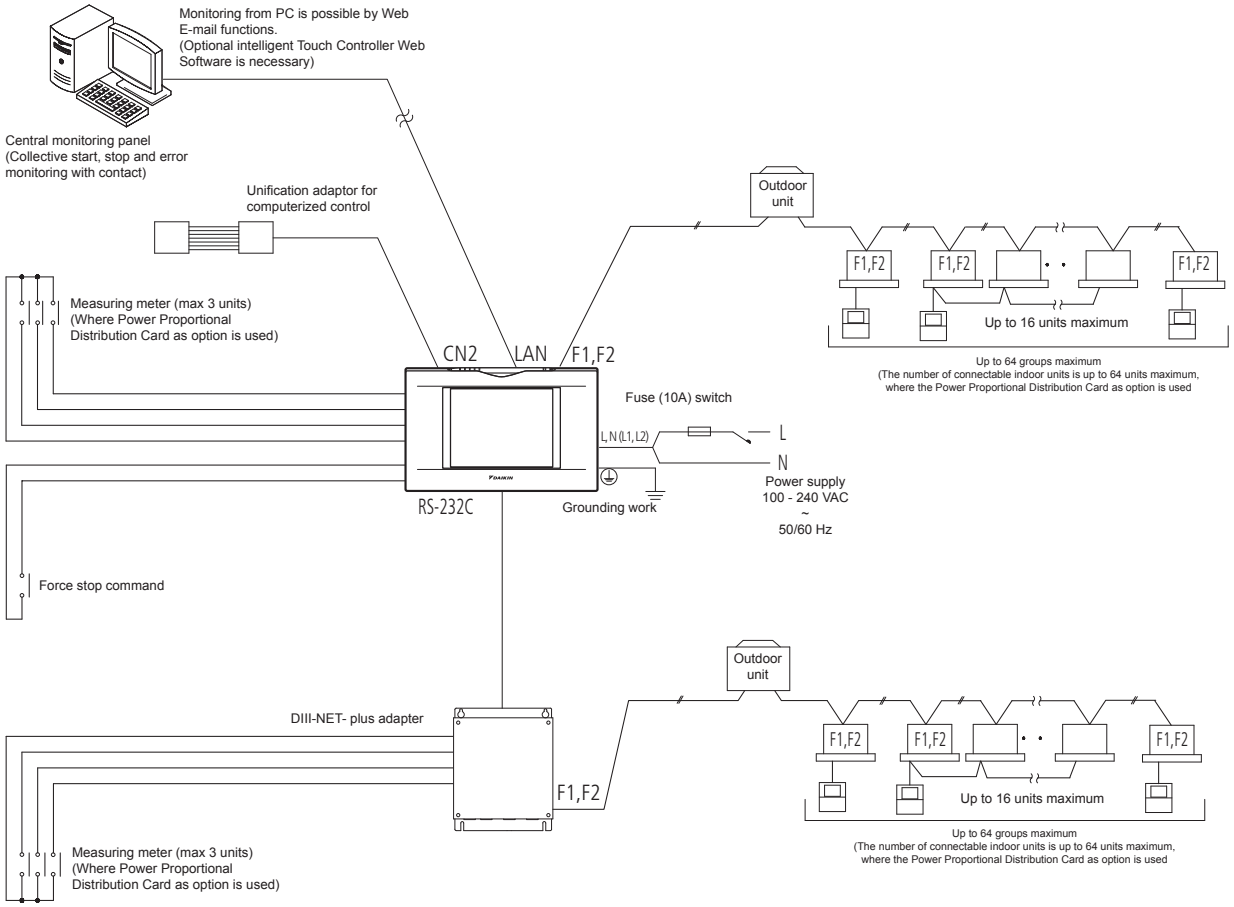
Dimensions



System wiring

Connecting Unification adaptor allows using the contact for normal and abnormal operation signal and collective start/stop with a contact. For details, contact the vendor you purchased the product from.

Also, by connecting DIII-NET-plus adapter, it is possible to operate and monitor the indoor units of 64 groups (intelligent Touch Controller plus DIII-NET – plus adapter–128 groups in total) additionally.



Power Proportional Distribution Card

Function and Outline

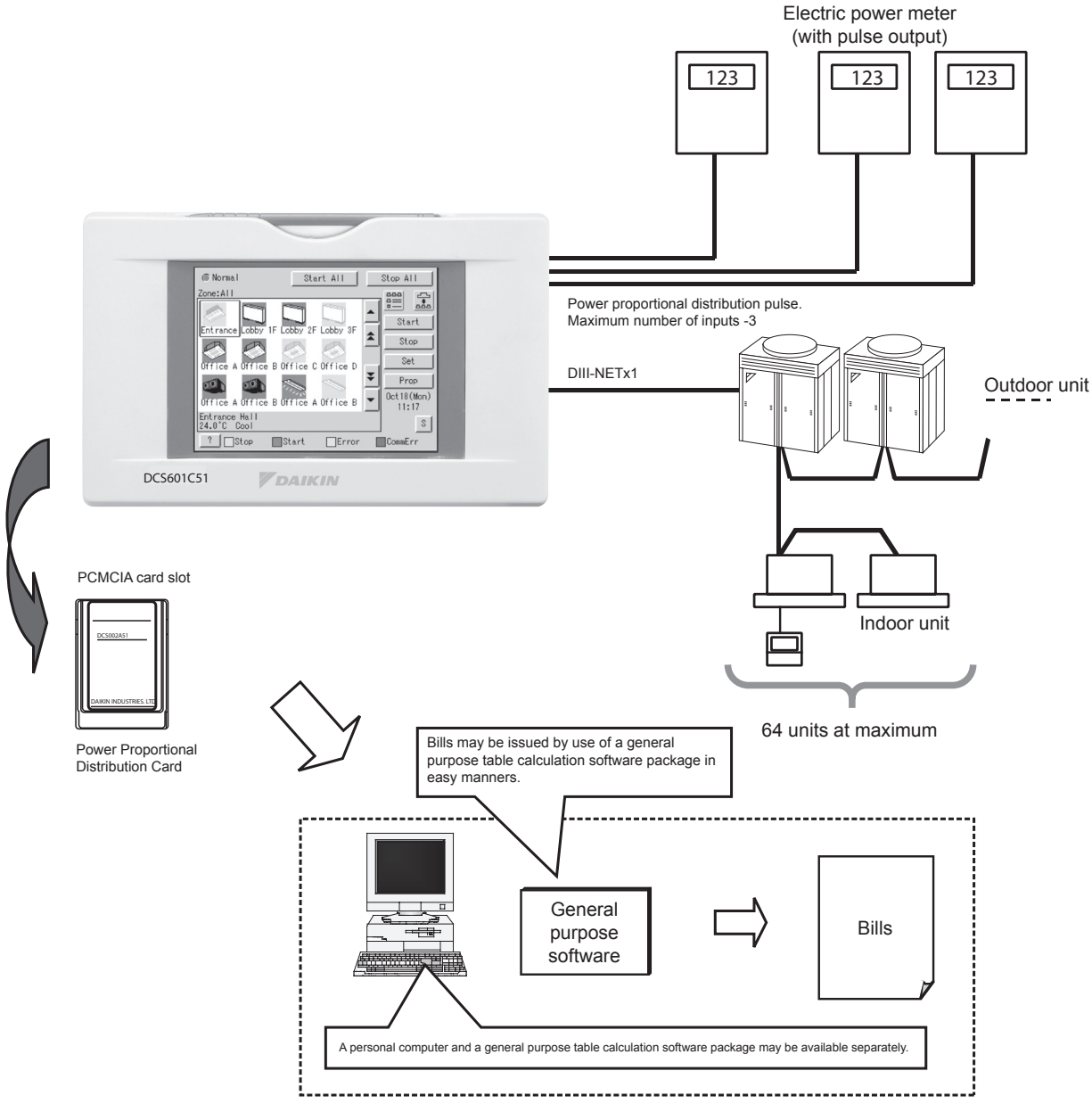
Power Proportional Distribution Card, in combination with an existing intelligent Touch Controller, enables to proportionally calculate and display electricity amount used by air conditioner per indoor unit.

Main Functions

- 13 months data storage possible
- Data available per hour per indoor unit
- Power proportional distribution may be calculated for 2 x 64 indoor units at maximum.
- Power proportion distribution results data may be saved into a PCMCIA card.
  Data is saved CSV format generally applied to personal computers, so bills may be issued by use of a general purpose table calculation software package in easy manners.
  (A personal computer and a general purpose table calculation software package may be available separately.)

Precautions

This system calculates electricity consumptions by size of indoor units, run time, expansion vales open gap, suction rate and the number of pulses from the power meters installed at the Outdoor Units.
This method is not calculated by direct measurement alone.



Power Proportional Distribution Card

File Format

When Power Proportional Distribution Report is saved, a zone information file, an electric power information file and detailed information file are created.

Zone information file
This contains zone name and information of air conditioners in the zone.

(1) File name : ZONE.CSV

(2) File format:

(Example)
zone ID, Name ← Index
0, "'all" ← Zone ID, zone name
1, "'Z-000"
2, "'Z-001"
3, "'Z-002"

← One line space
zone ID, AC No. ← Zone ID, air conditioner number
0, 0
0, 1
1, 2
1, 3

Electric power information file
This file contains Power Proportional Distribution Report and information of air conditioners.
(1) File name : YYYYMMDD - YYYYMMDD

Month and date of calculation completion
Year, month and date of calculation start

(2) File format :

(Example) Index

Start day, number of days, air conditioner type (0 : normal type), Undistributed Power Amount, period designation type (0 : period designation, 1 : month designation)
20050101, 31, 0, 0, 200501

← One line space
Air conditioner number, indoor unit number, horse power code, Daytime used Pwr, Nighttime used Pwr, Daytime Idle Pwr, Nighttime Idle Pwr, GasAmount.
0, "1:1-00",38,2459,0,0,0,0
1, "1:1-01", 38,2718,0,0,0,0
60, "1:4-12", 70,489,0,0,0,0

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intelligent touch Manager

DCM601A51

Mini BMS
with full integration across all product pillars

- Price competitive mini BMS
- Cross-pillar integration of Daikin products
- Integration of third party equipment

System overview

Web Access

Internet
Extranet
LAN
3G
http interface

Integration of third party equiqment

Fire alarm

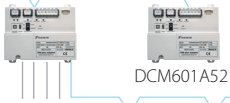
kWh meter

Di/Pi line
Max. 200m

intelligent touch Manager
DCM601A51

ITM plus adaptor line

Max. 7 adapters



DCM601A52

Di/Pi port

Full control of Daikin HVAC-R portfolio

Direct plug & play connection!

BACnet protocol

WAGO interface

Lighting

Fan

Pump

Sensor

I/O module

I/O module

Multi state objects

Elevator

Air handling unit

Alarm

Split
SkyAir
VRV
indoor units,
air curtain,
hydrobox,
air handling units

Fan coil units

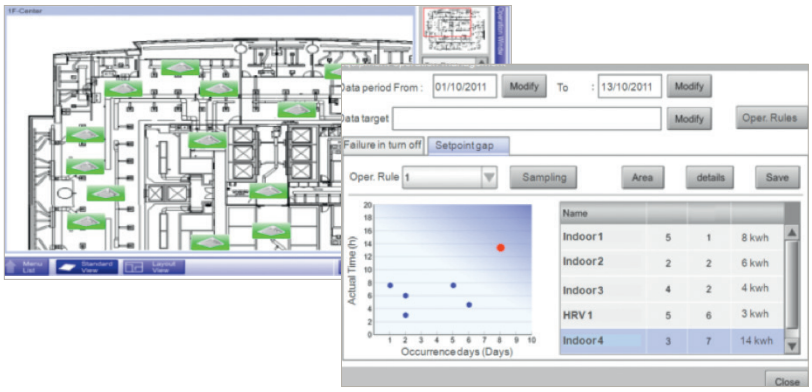
Chillers and AHU

Referigeration

intelligent touch Manager

User friendliness

› Intuitive user interface
› Visual lay out view and direct access to indoor unit main funtions
› All functions direct accessible via touch screen or via web interface

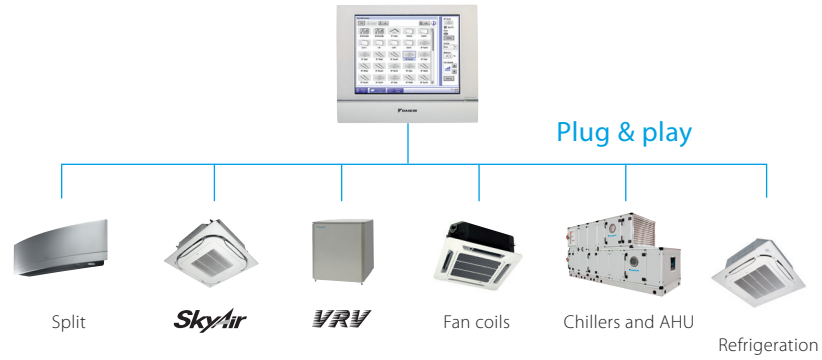


Smart energy management

› Monitoring if energy use is according to plan
› Helps to detect origins of energy waste
› Powerful schedules guarantee correct operation throughout the year
› Save energy by interlocking A/C operation with other equiment such as heating

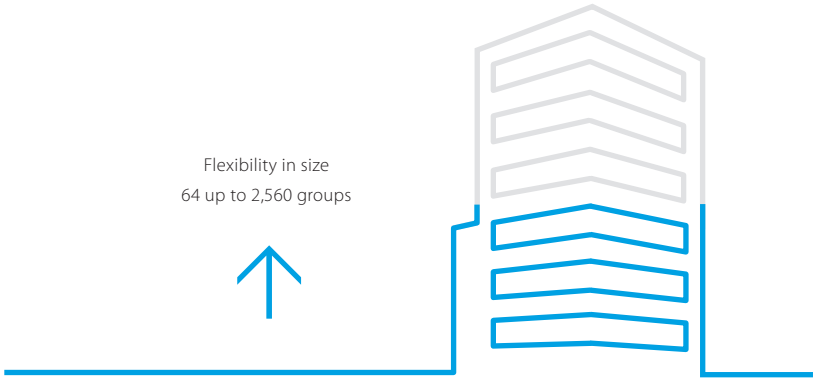
Flexibility

NEW › Cross-pillar integration (heating, air conditioning, applied systems, refrigeration, air handling units)
NEW › BACnet protocol for 3rd party products integration
› I/O for integration of equipment such as lights, pumps… on WAGO modules
› Modular concept for small to large applications
› Control up to 2,560 indoor unit groups



Easy servicing and commissioning

› Remote refrigerant containment check preventing on site visit
› Simplified troubleshooting
› Save time on commissioning thanks to the pre-commissioning tool
› Auto registration of indoor units



Functions overview

Languages
› English
› French
› German
› Italian
› Spanish
› Dutch
› Portuguese

System layout
› Up to 2,560 unit groups can be controlled (ITM plus Integrator + 7 iPU (incl. iTM adaptor)
› Ethernet TCPIP

Management
› Web access
› Power Proportional Distribution (option)
› Operational history (malfunctions, operation hours, …)
› Smart energy management
- monitor if energy use is according to plan
- detect origins of energy waste
› Setback function
› Sliding temperature

Control
› Individual control (2,560 groups)
› Schedule setting (Weekly schedule, yearly calender, seasonal schedule) NEW
› Interlock control
› Setpoint limitation
› Temperature limit

WAGO Interface NEW
› Modular integration of 3rd party equipment
- WAGO coupler (interface between WAGO and Modbus)
- Di module
- Do module
- Ai module
- Thermistor module

Connectable to
- DX Split, Sky Air, VRV
- Chillers (via POL638.70 controller)
- Daikin AHU
- Fan coils
- Daikin Altherma Flex type
- LT and HT hydroboxes
- Air curtains
- WAGO I/O
- BACnet protocol

2. Functions & Options

2.1. Functions

Category	Function		Remarks
Basic functions	iTM plus adaptor (DCM601A52)		Maximum number of adaptors: 7
	Management points		Maximum number of management points: 650 (Number of DIII connection management points: 512)
	Areas		Maximum number of areas: 650 Maximum area hierarchies: 10
	Supported languages		English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese, and Japanese
	Monitoring screens	Icon view	Icons show the operation status of equipment.
		List view	Detailed information of each management point is displayed.
		Layout view	Up to 60 screens can be created.
	History		Up to 100,000 events are recorded in history including malfunctions, operations, automatic control, and system information. Operation origin is also recorded.
Automatic control	Schedule		Number of programmes: 100 Up to 20 actions/day can be set.
		Weekly schedule	7 days of the week + 5 special days can be set.
		Yearly calendar	Special days can be specified by date or month/week/day of the week. Special day settings can be reused every year.
		Seasonal schedule	Programmes for respective seasons can be switched by date.
	Interlock		Number of programmes:500 Interlock is possible for on/off, malfunction, analogue value, and operation mode switching.
	Emergency stop		Number of programmes: 31
	Automatic changeover		Number of changeover groups:512
	Temperature limit		Number of temperature limit groups: 8 Upper limit range: 32-50°C Lower limit range: 2-16°C
	Sliding temperature		Number of sliding temperature groups: 8 Outdoor temperature range: 18-34 °c Setpoint range: 16-32°C
	Heating Mode Optimisation (HMO)		Unneeded heating is prevented.
	Timer extension		Operation stop is selectable from 30, 60, 90, 120, and 180 minutes.
	Setback		Setback setpoint can be set for 2 patterns. Temperature range: 1-7°C, -1--7°C (setpoint shift amount)
Data control	Power Proportional Distribution		Hourly Power Proportional Distribution results up to 13 months are recorded. The system supports data output in CSV format.
	Energy Navigator		Actual results of daily/monthly energy consumption are shown in graphs. Comparisons can be made with predetermined values/actual results of the previous year. Inefficient operation of VRV indoor units is automatically identified, and energy waste is calculated.
Remote access	Web access		Web browsers can display the same type of screen as the intelligent Touch Manager. Up to 4 administrators and 60 general users can be registered. Screens and operation accessible to general users can be restricted.
	E-mail alerts		Up to 10 e-mail addresses can be set. Addresses for sending malfunction alerts can be set by range of management points. The SMTP server authentication method is selectable from no authentication, POP before SMTP, and SMTP-AUTH.
System	Automatic registration		Indoor units connected to DIII-NET are automatically detected, and icons for respective models are automatically registered.
	Security		Screen lock functions are available. Access restrictions can be set for each general user.
	Screen savers		Screen savers are selectable from 3 patterns.
	Setting of contact information		Contact information for servicing can be registered.
Air Conditioning Network Service	Air Conditioning Network Service System		A service agreement needs to be concluded.
	Energy Saving Air Conditioning Network Service System		A service agreement needs to be concluded.

Category	Function	Remarks
Basic functions	*intelligent Touch Manager* (DCM601A51)	Maximum number of units: 5
	Management points	Maximum number of management points: 3.250 (Number of DIII connection management points: 2.560)
	Areas	Maximum number of areas: 3.250 Maximum area hierarchies: 10
	Supported languages	English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese, and Japanese

2.2. Options

■ Types of management points and target equipment/interface

Management point	Supported equipment	Number of management points
Indoor	DIII-compatible indoor units	Maximum: 512 *1
	Interface adapter for Sky Air (DTA102A52)	
	Interface adapter for residential indoor unit (KRP928BB2S)	
	Central control adapter kit (DTA107A55)	
	AHU connection kit (EKEQMCB, EKEQDCB, EKEQFCB)	
	Biddle Air curtain (CYVS-DK - *BN/*SN, CYVM-DK-*BN/*SN, CYVL-DK-*BN/*SN)	
	Fan coil units (FWC-BT/BF, FWF-BT/BF)	
Hot water hydrobox	DIII-compatible units (HXY-A, HXHD-A, EKHBRD-ACV1, EKHBRD-ACY1, EKHVMRD-A, EKHVMYD-A)	Maximum: 512 *1
Outdoor	VRV outdoor units	Maximum: 80
Ventilator	Heat Reclaim Ventilator	Maximum: 512 *1
McQuay AHU	POL638.0 BACnet connection	Maximum: 512 *6
D3 Chiller	DIII-compatible air-cooled chillers (UWA/Y) / water-cooled chillers (ZUW)	Maximum: 320 *2
	DIII-compatible inverter chillers (EWAQ-BAWN/BAWP, EWAQ-ADVP/ACV3/ACW1, EWYQ-BAWN/BAWP, EWYQ-ADVP/ACV3/ACW1)	
Di	Di port of *intelligent Touch Manager*	Maximum: 32 *3
	Di port of *iTM plus adapter*	
D3 Di	DIII Di Unit (DEC101A51)	Maximum: 512 *1
External Di	Wago Di	Maximum: 512 *4
D3 Dio	D III Dio unit (DEC102A51)	Maximum: 512 *3
	General-purpose adaptor (DTA103A51)	Maximum: 512 *4
External Dio	Wago Di, Do	
Pi	Pi port of *intelligent Touch Manager*	Maximum: 32 *3
	Pi port of *iTM plus adapter*	Maximum: 80
Internal Pi	Energy consumption of VRV outdoor units	
External Ai	Wago Di	Maximum: 512 *4
Internal Ai	Room temperature, setpoint D3 Chiller outlet/inlet water temperatures	Maximum: 512 *4
External PI	WAGO Pi	Maximum: 512 *4
Externa Ao	Wago Ao	Maximum: 512 *4
BACnet Di	BACnet connection	Maximum: 512 *6
BACnet Dio	BACnet connection	Maximum: 512 *6
BACnet Ai	BACnet connection	Maximum: 512 *6
BACnet Ao	BACnet connection	Maximum: 512 *6
BACnet MSi	BACnet connection	Maximum: 512 *6
BACnet MSio	BACnet connection	Maximum: 512 *6

*1: Total of DIII connection equipment (Indoor, Ventilator, D3 Chiller, D3 Di, D3 Dio)
*2: Maximum numer of management points for D3 Chiller only
*3: Total of Di/Pi management points
*4: Total of External Di, External Do, External Ai and Internal Ai
*5: Maximum number of McQuay AHU management points.
*6: Total of BACnet connection management points. McQuay AHU management points should be counted as 20 per management point.

■ DAIKIN supplied equipment

Model	Item
DCM601A51	*intelligent Touch Manager*
DCM601A52	*iTM plus adapter* (Option)
DCM601A53	*iTM integrator* (Option)
DCM002A51	iTM power proportional distribution software (Option)
DCM008A51	iTM energy navigator software (Option)

■ Locally supplied equipment

Model	Item
USB memory	USB 2.0 Up to 32GB memory can use
PC for Web access	Windows XP Professional SP3 (32bit) Windows VISTA Business SP3 (32bit) Windows 7 Professional SP1 (32bit,64bit) Monitor: 1024x768 or more Web browser: Internet Explorer 8,9 Firefox 10.0 Flash Player Ver11.1
WAGO I/O system	Modbus communication unit: 750-315/000-002/ K190-6442 DC24V power supply unit: 787-712 DC24V power supply module: 750-613 Connector: 750-960 Terminator module: 750-600 Di module: 750-400, 750-432 Do module: 750-513/000-001 Di module: 750-430 Do module: 750-504 Pi module 750-638 Ai module: 750-455, 750-459, 750-461, 750-461/000-003, 750-461/000-004, 750-461/000-005, 750-460, 750-460/000-003, 750-460/000-005 Ao module: 750-555, 750-559, 750-554, 750-560 Thermistor module: 750-461/020-000
BACnet equipment connection	DCM009A51

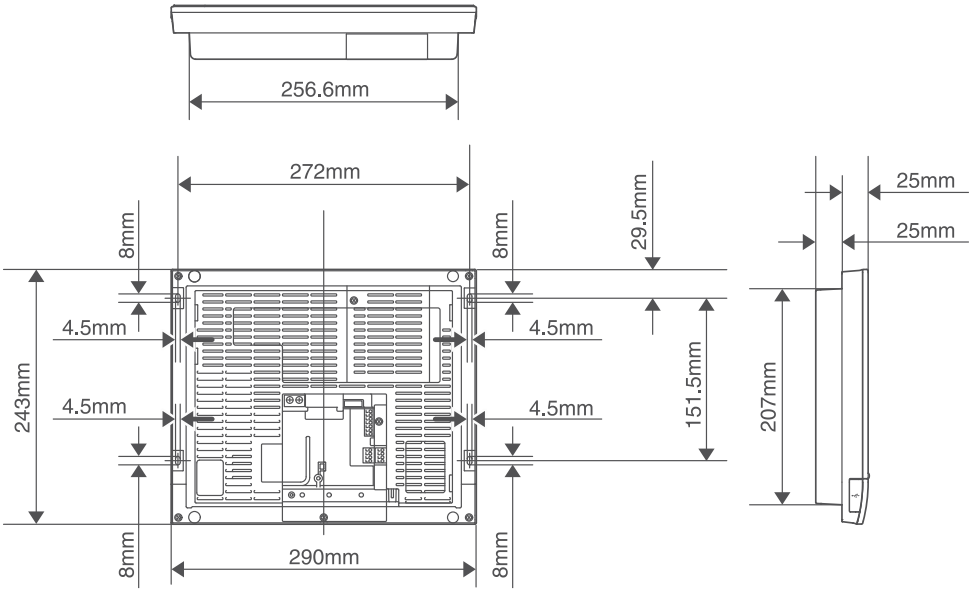
3. Specifications

3.1. Intelligent Touch Manager

3.1.1. Main specifications

Port	Number	Use
D III	1ch	D III-NET (Up to 64 groups)
LAN	1ch	Web Access (100BASE-TX)
RS485	1ch	External I/O module (Di, Dio, Ai)
Di(Pi)	4ch	Emergency stop input (Di1) Pulse input, contact signal input
plus ADP IF	1ch	*iTM plus adaptor* (Up to 7 adaptors)
internal modem (option	1ch	Air Conditioning Network Service System

POWER SUPPLY: DCM601A51 AC100-240V(± 10%)(50/60Hz)
INPUT: 23W
MASS: 2.4kg
FUSE AMP: 3.15A
Operating temperature limit: -0°C - +40°C
Operating humidity limit: MAX. 15°C - 85%
Storage temperature range : -15°C - +60°C
Installation direction: Vertical direction only



3.1.2 Location of terminals and switches

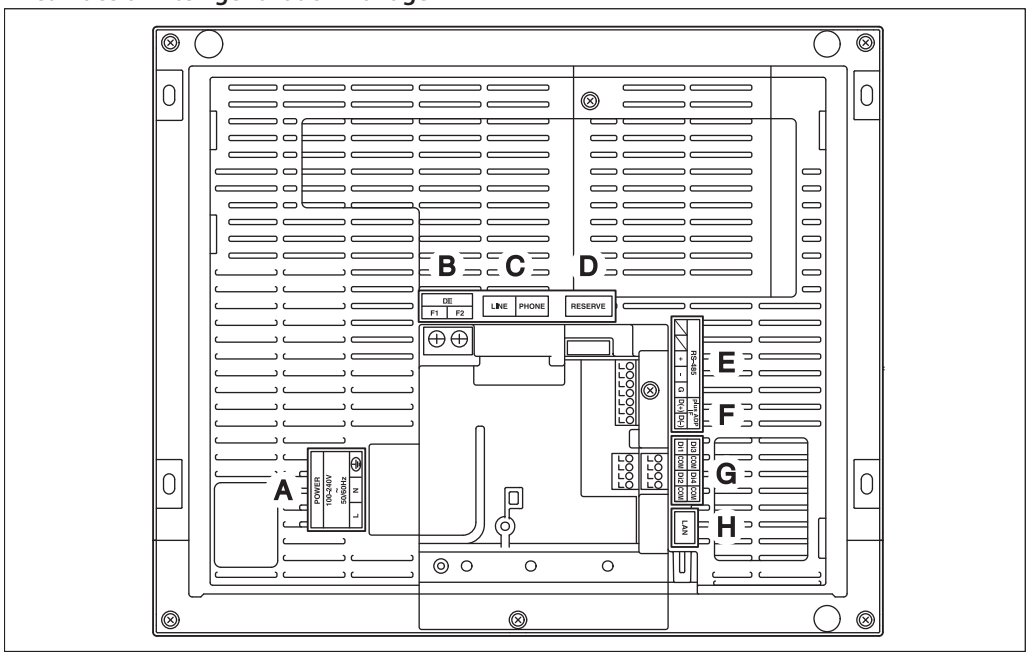
Understanding where terminals and switches are located

Understand the arrangement of terminals and the location of openings on the unit and plan how to route the cable and in which order to connect its wires to facilitate the installation procedure. For connection details including the cable type and terminal size, refer to "2. Connection".

Rear face

Most terminals are located on the rear face of the intelligent Touch Manager. However, they are covered with a terminal cover for safety reasons. Removing 2 screws to detach this cover reveals various types of terminals as shown below.

<Rear face of intelligent Touch Manager>



A **[POWER]** The power line connection terminals. A power supply voltage of 100 to 240 VAC (at 50/60 Hz) is required. Near this terminal block, there is a blue resin cable mount used for securing the power supply cables with cable ties.

B **[DIII]** The communication line connection terminals for "DIII-NET", which enables communications with DAIKIN's air conditioning equipment.

C **[LINE, PHONE]** The sockets used when subscribing to the DAIKIN "Air Conditioning Network Service System" online monitoring service for air-conditioning systems. To use the "Air Conditioning Network Service System" service, you need to sign a separate maintenance contact.

D **[RESERVE]** No Use.

E **[RS-485]** The terminals for connecting serial equipment.

F **[plus ADP IF]** The terminals for connecting one or more iTM plus adaptors when the intelligent Touch Manager is used to control more air conditioning devices.

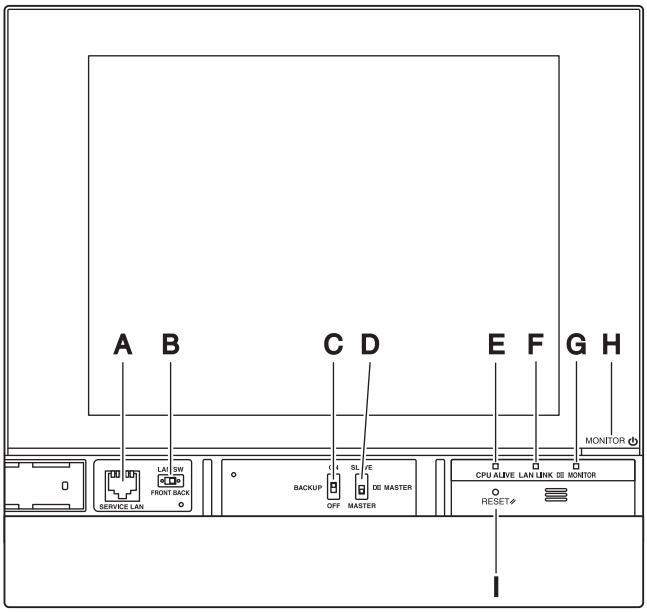
G **[Di (1-4), COM]** The terminals for connecting an external signal input device for stopping air conditioners in an emergency, or for connecting electric energy meters for calculating the electricity usage of individual air conditioners.

H **[LAN]** The socket for connecting the intelligent Touch Manager to an Ethernet network.

Front panel

Located below the monitor display on the front panel are four LEDs that indicate the operating status of the intelligent Touch Manager. Sliding the front slide cover down and then removing a screwed cover reveals terminals used during the setup after installation or during maintenance work.

<Front face of intelligent Touch Manager>



A **[SERVICE LAN]** The socket for temporarily connecting the intelligent Touch Manager to a LAN from its front face, instead of its rear face, during installation or maintenance.

B **[LAN SW]** The switch for selecting which Service LAN socket, one on the front face or one on the rear face, is to be activated. You cannot close the cover when the switch set to "FRONT". To close the cover, select "BACK".

C **[BACKUP]** The switch for turning on/off the backup power supply for retaining the current settings.

D **[DIII MASTER]** The switch used when there are two or more DIII-NET centralized controllers to select the "MASTER" or "SLAVE" controllers.

E **[CPU ALIVE]** LED (Green) The LED that indicates that the CPU is operating normally. The CPU is operating normally when this LED is blinking and malfunctioning when it is on or off.
(It takes about 10 seconds for detection of the abnormality.)
On: Installation failure
Off: A hardware failure occurred.

F **[LAN LINK]** LED (Green) The LED that indicates whether or not the hardware connection is established normally between the intelligent Touch Manager and the equipment connected to the LAN port. It lights green when the LAN port is linked normally.

G **[DIII MONITOR]** LED (Yellow) This LED blinks when data is being sent or received on DIII-NET.

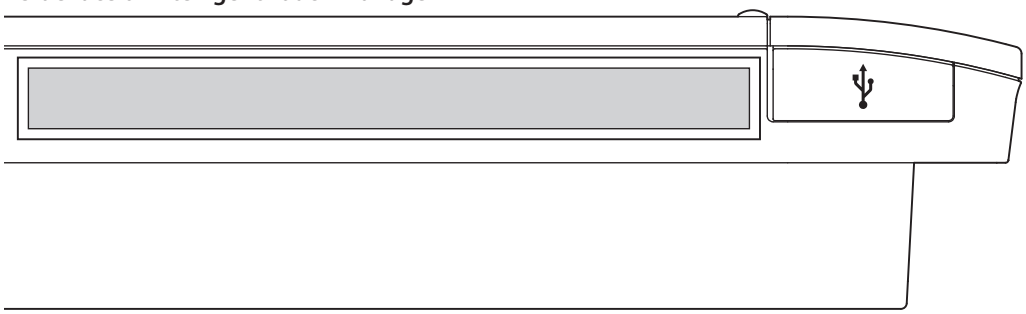
H **[MONITOR]** key and LED (Orange/Green) Each time you press this key, the monitor display turns on/off. The color of the LED also changes accordingly to the condition of the monitor display.
Off: The monitor is powered off.
On (Orange): The monitor display is off.
On (Green): The monitor display is on.

I **[RESET//]** The switch for restarting the intelligent Touch Manager.

Side face

On the left side face of the intelligent Touch Manager, a USB port cover is provided. You use this cover during setup after installation or during maintenance. You also see an attached label, bearing the model, weight, power ratings and the serial number of the intelligent Touch Manager.

<Side face of intelligent Touch Manager>



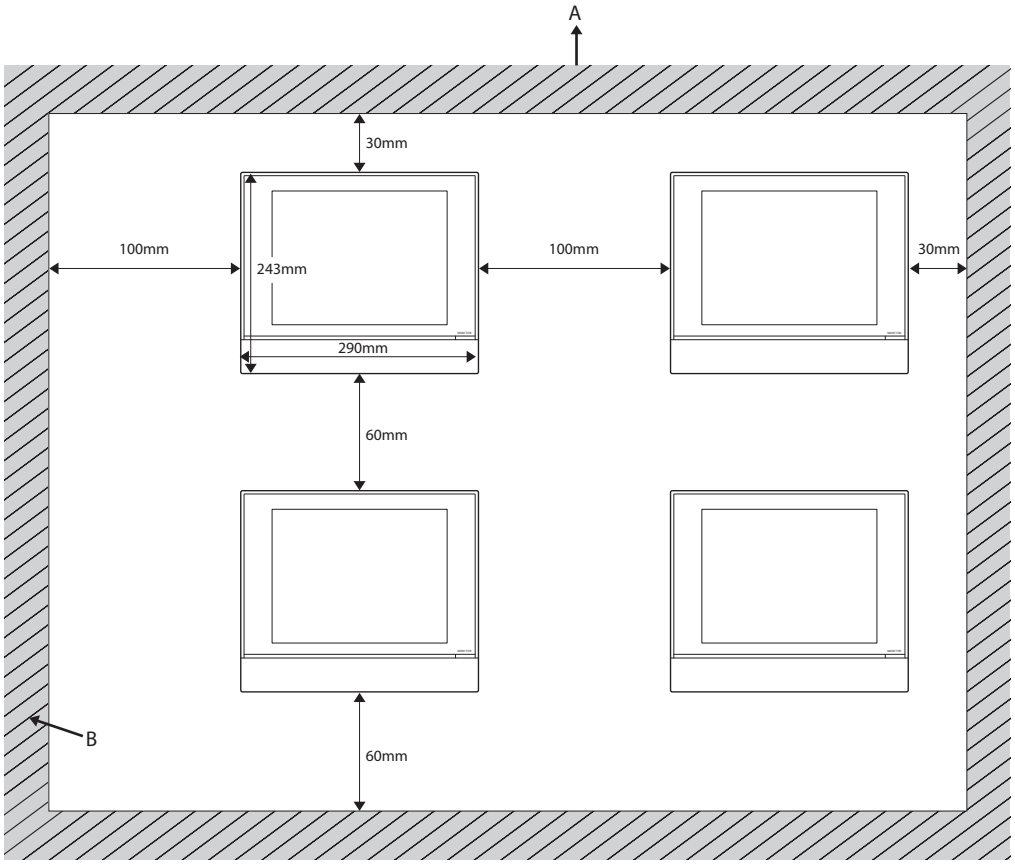
[ψ] Pulling up the rubber cover reveals a USB socket. This socket can be raised 90 degrees, so you can plug in a USB device to it from the front direction when there is no clearance from the side edge of the unit.

3.1.3. Required space

To install the intelligent Touch Manager, the following space is required. Make sure that there is a minimum clearance of 30 mm from the top edge, 100 mm from the left side edge, 30 mm from the right side edge, and 60 mm from the bottom edge of the unit.

<Installation space required for intelligent Touch Manager>

Required installation space



A Top
B Wall

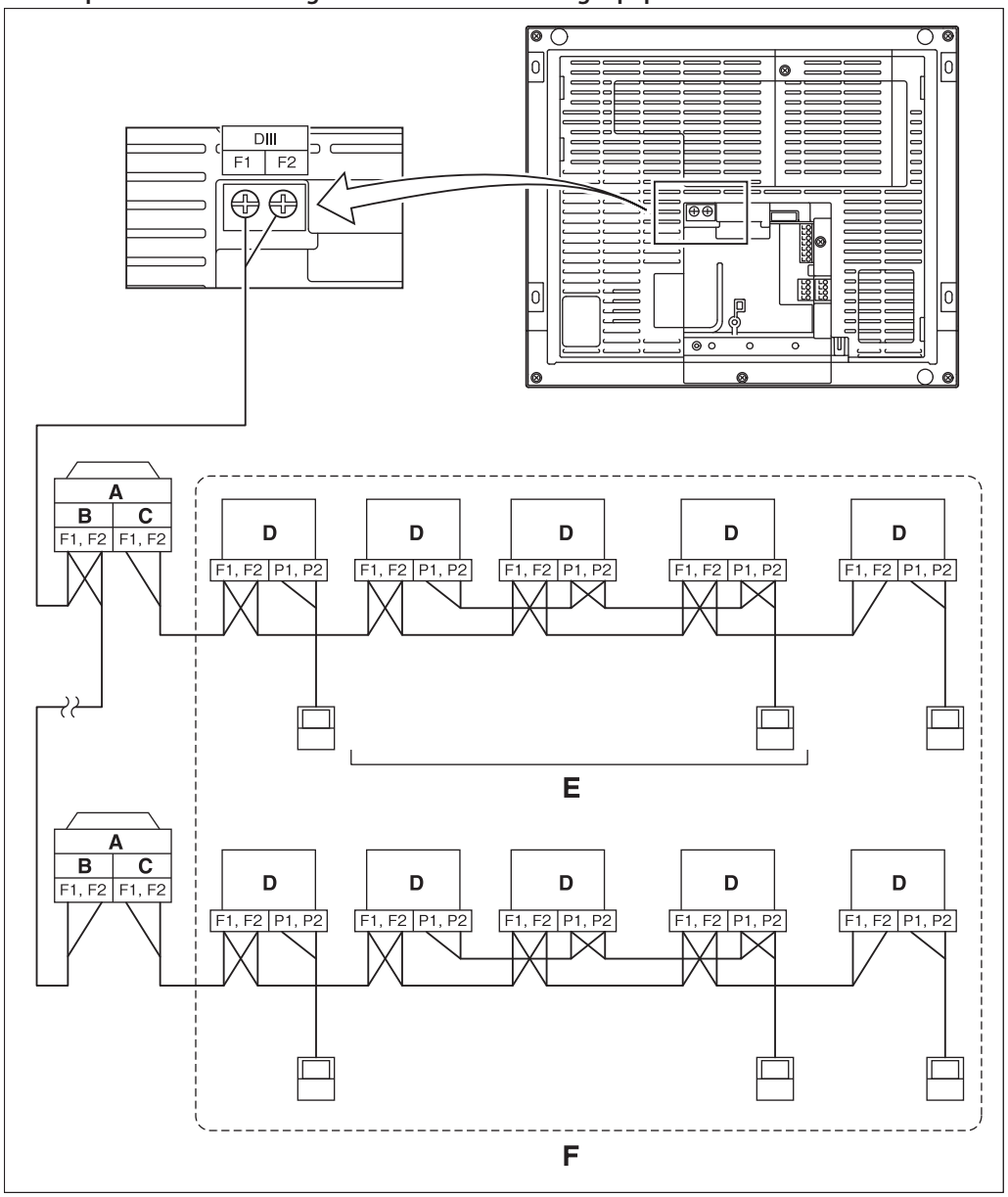
3.1.4. Connections

To connect the DIII-NET communication line, use the 2 terminals F1 and F2 under the label "DIII" on the rear face. These 2 terminals have no polarity. An example of connecting more than two air conditioning devices is shown in the following conceptual connection diagram.

CAUTION

Make sure that the wires you are connecting to the F1 and F2 terminals are not power wires. Inadvertently connecting power wires to these terminals results in a failure of the air conditioner or intelligent Touch Manager.

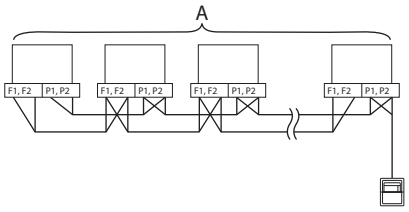
<Conceptual connection diagram with air conditioning equipment>



A Outdoor unit
B OUT - OUT
C IN - OUT
D Indoor unit
E A maximum of 16 indoor units can be connected per remote controller group.
F A maximum of 64 remote controller groups (128 indoor units) can be connected.
A maximum of 64 indoor units can be connected when power distribution is enabled.

NOTE

- What's a remote controller group?
  A single remote controller can simultaneously control a maximum of 16 indoor units. This capability is referred to as group control. A remote controller group is a group of indoor units controlled under the same remote controller.
  [Conceptual drawing of a remote controller group]



A Max. 16 units

Requirements that must be met

Cable specifications
- Cable type: 2-core vinyl-insulated vinyl-sheathed cable/vinyl cabtyre cable or 2-core shielded cable
- Core thickness: 0.75mm^2 - 1.25mm^2
- Terminal treatment: Use a round crimp-type terminal (M3.5) with insulating sleeve

Precautions
- Do not use multicore cables with three or more cores.
- When using a shielded cable, connect only one end of each shield wire to the ground.
- The maximum wire distance must be kept to 1000 meters or less. The total wire length must be limited to 2000 meters, except when using a shielded cable whose total wire length must be kept to 1500 meters or less.

Precautions for using multiple centralized controllers

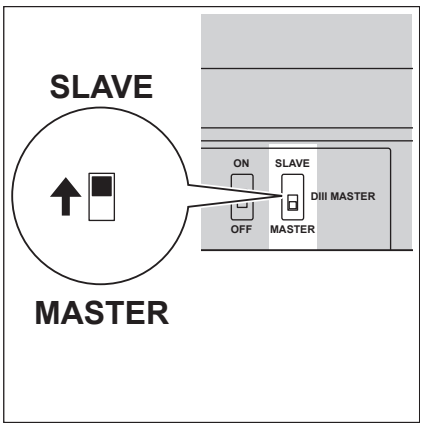
Equipment that controls multiple air conditioners is referred to as "centralized controller". DAIKIN's product portfolio includes a wide range of centralized controllers suited to different applications or target sizes, which can be used in combination to construct an optimal air conditioning control system.

If two or more centralized controllers are used in combination in DIII-NET, you must establish a MASTER to SLAVE relationship among those controllers to prevent confusion. The MASTER authority may be assigned to one controller only. The remaining controllers must be set to SLAVE.

The intelligent Touch Manager is set to MASTER by default. Change the setting to SLAVE in any of the following cases:
- Where Interface for use in BACnet is installed in parallel.
- Where Interface for use in LONWORKS is installed in parallel.
- Where there is another MASTER intelligent Touch Manager or MASTER iTM plus adaptor, and it is connected in relations of main/sub.

<DIII MASTER>

To set the intelligent Touch Manager to SLAVE, use the DIII MASTER switch located under the front slide cover. Placing the DIII MASTER switch in the upper position (labeled as "SLAVE") changes it to a SLAVE.



To install multiple centralized controllers, set only the highest priority controller to MASTER and all other controllers to SLAVE according to the following order of priority:

High

Priority

Low

(1) Interface for use in BACnet
(2) Interface for use in LONWORKS
(3) intelligent Touch Manager (Main), iTM plus adaptor (Main)
(4) Central Remote Controller (Main)
(5) intelligent Touch Manager (Sub), iTM plus adaptor (Sub)
(6) Central Remote Controller (Sub)
(7) ON/OFF Controller (Main)
(8) ON/OFF Controller (Sub)

Centralized controllers that cannot be installed in parallel with intelligent Touch Manager

- CALCULATE UNIT
- intelligent Processing Unit
- Parallel Interface
- Intelligent Touch Controller
- DIII-NET Plus Adapter
- Residential Central Remote Controller
- Schedule Timer
- Wiring Adaptor for Electrical Appendices (1) (KRP2)

Connecting a LAN cable

Connecting your intelligent Touch Manager with a PC network enables you to set up the operation of air conditioning system or perform maintenance work on it from a remote location.

⚠ WARNING

Do not clamp the cables with high-current lines such as a power cable.

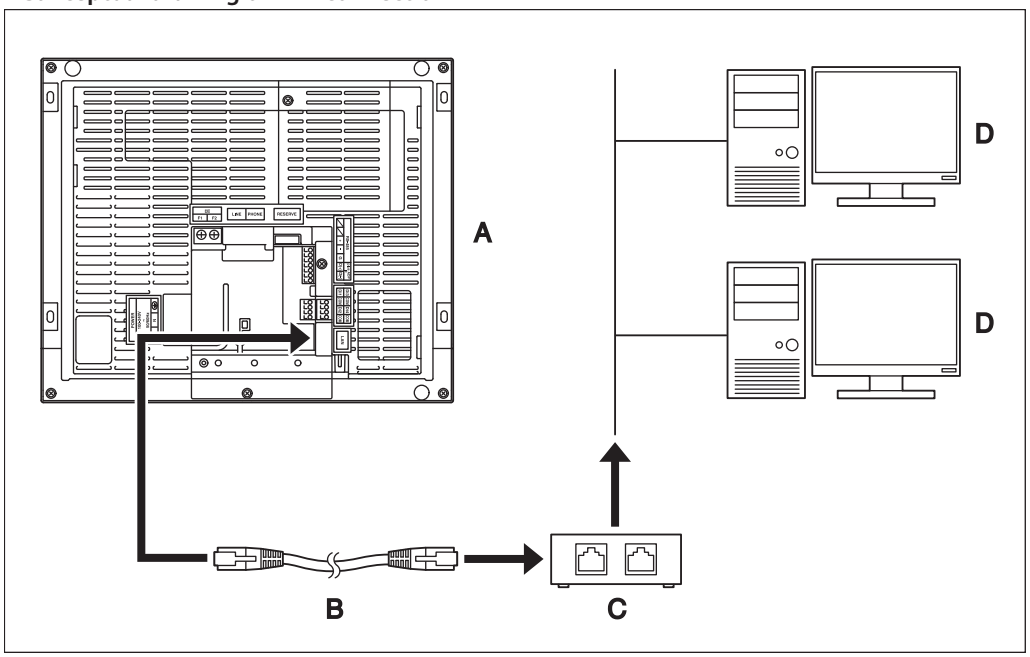
NOTE

For how to connect the intelligent Touch Manager to a PC network, contact your network administrator.

Terminals location and conceptual connection diagram

Using a LAN cable, connect the LAN socket to the network hub.

<Conceptual drawing of LAN connection>



A Rear face of intelligent Touch Manager
B LAN cable
C Hub
D PC

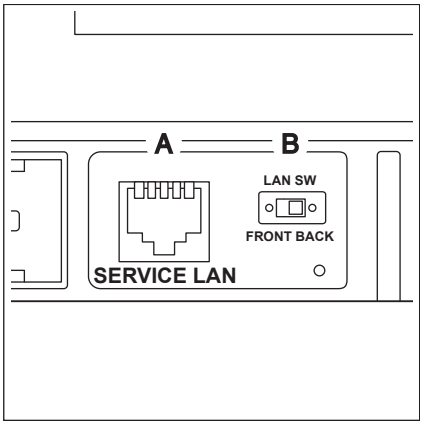
Requirements that must be met

- Applicable cable standard: 100Base-TX or 10Base-T
- Connector standard: RJ-45

NOTE

- If you are connecting to a LAN temporarily during installation or maintenance, use the SERVICE LAN terminal located on the front face. Changing the position of the LAN SW switch to "FRONT" causes the SERVICE LAN socket to activate (enabled for use).
- You cannot close the cover when the switch set to "FRONT". To close the cover, select "BACK".

<SERVICE LAN socket and LAN SW switch>



A SERVICE LAN
B LAN SW

Connecting I/O module

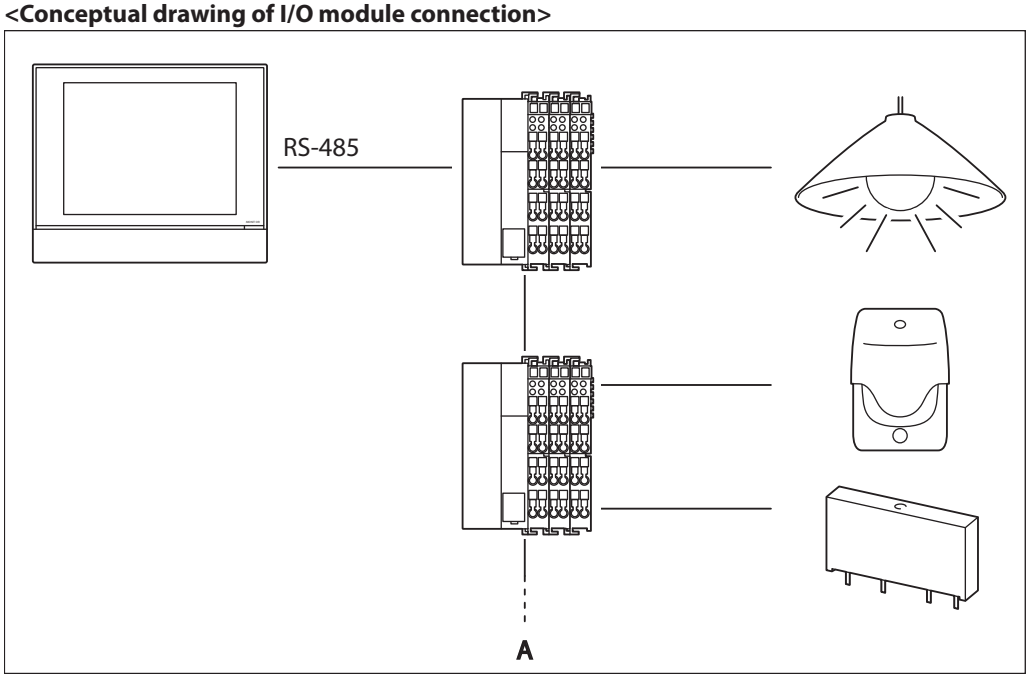
The intelligent Touch Manager can be used in conjunction with the I/O module. The I/O module provides a maximum of 960 I/O points for controlling non-DAIKIN peripheral equipment such as lighting equipment and security lock systems.

WARNING

- Be sure to perform this procedure with the power supply turned off. Not doing so may cause an electric shock.
- Do not clamp the cables with high-current lines such as a power cable.

Terminals location and conceptual connection diagram

<Conceptual drawing of I/O module connection>



A Max. 30 nodes

Connect the I/O module to the RS-485 terminals located on the rear face. Be sure to connect the positive (+) core to the + (positive) terminal and the negative (–) core to the – (negative) terminal, respectively. If you are using shielded stranded wire cables, twist and connect the strands of wire to the G (Ground) terminal.

Requirements that must be met

- Cable type: CPEV or FCPEV cable (shielded type also acceptable)
- Cable length: 500 meters or less
- Core thickness: φ0.65 - 0.9mm
- Limitation in contacts per node is 120 or less. Maximum number of nodes is 30.
- The intelligent Touch Manager must be connected as a terminal to the RS-485 wiring.

Connecting an emergency stop input device or electric energy meters

The intelligent Touch Manager can be connected with an external signal input device for stopping air conditioners in an emergency, or with electric energy meters for calculating the electricity usage of individual air conditioners (when power distribution is enabled).

⚠ WARNING

- **Be sure to perform this procedure with the power supply turned off. Not doing so may cause an electric shock.**
- **Do not clamp the cables with high-current lines such as a power cable.**

NOTE

- Power distribution is available for a maximum of 64 air conditioners (indoor units) per DIII-NET port.
- With 7 iTM plus adaptors, however, you can connect up to 512 indoor units.

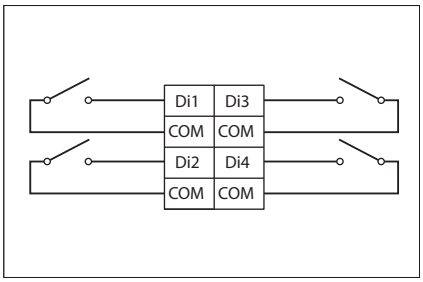
Terminals location and conceptual connection diagram

Connect the contact input lines or pulse signal lines to the Di1, Di2, Di3, Di4, and COM terminals of the orange connector located on the rear face. Each terminal has a different function.

[Di1] Emergency stop input
[Di2] [Di3] [Di4] Pulse input, contact signal input
[COM] Common

This function assignment, however, may be changed at a later time. For how to change the function assignment, refer to the commissioning manual.

<Conceptual drawing of Di connection>



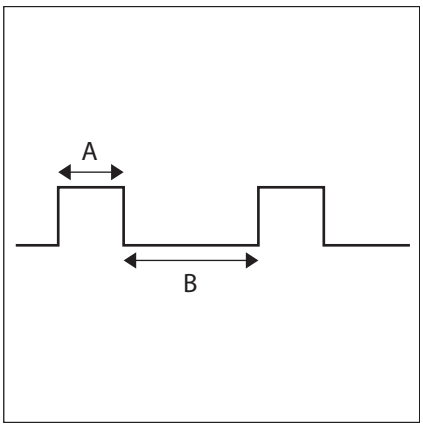
NOTE

The COM terminals are all connected internally. So, you can use either of them.
However, you can connect up to two wires simultaneously to each COM terminal.

Requirements that must be met

- Cable type: CPEV cable
- Core thickness: φ0.65 - 0.9 mm
- Cable length: 200 meters or less
- Pulse width: 20 to 400 ms
  Pulse interval: 100 ms or more

<Pulse width>



A Pulse width: 20 to 400 ms
B Pulse interval: 100 ms or more

⚠ CAUTION

- **The contact connected to the contact input terminal must be capable of handling 10 mA at 16 VDC.**
- **If an instantaneous contact is used for triggering an emergency stop, use one that has an energization time of 200 ms or more.**
- **Do not clamp the cables with high-current lines such as a power cable.**

NOTE

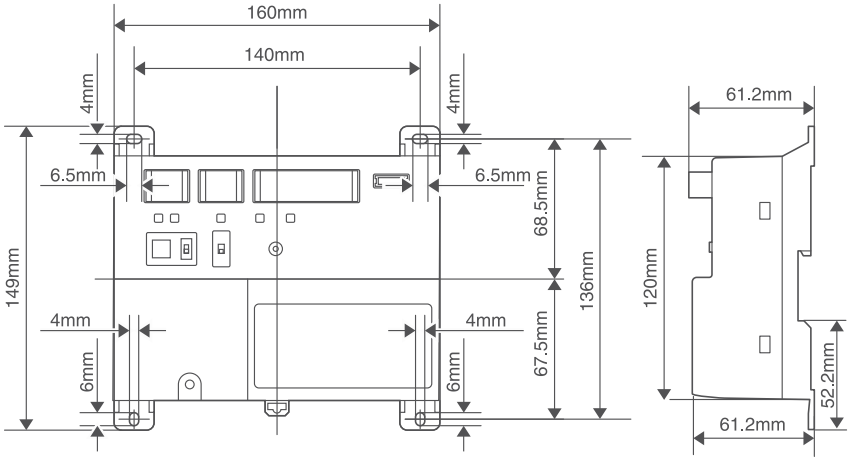
When emergency stop input signal is enabled, you cannot restart all the air conditioners unless you disable it.

3.2. iTM plus adaptor

3.2.1. Main specifications

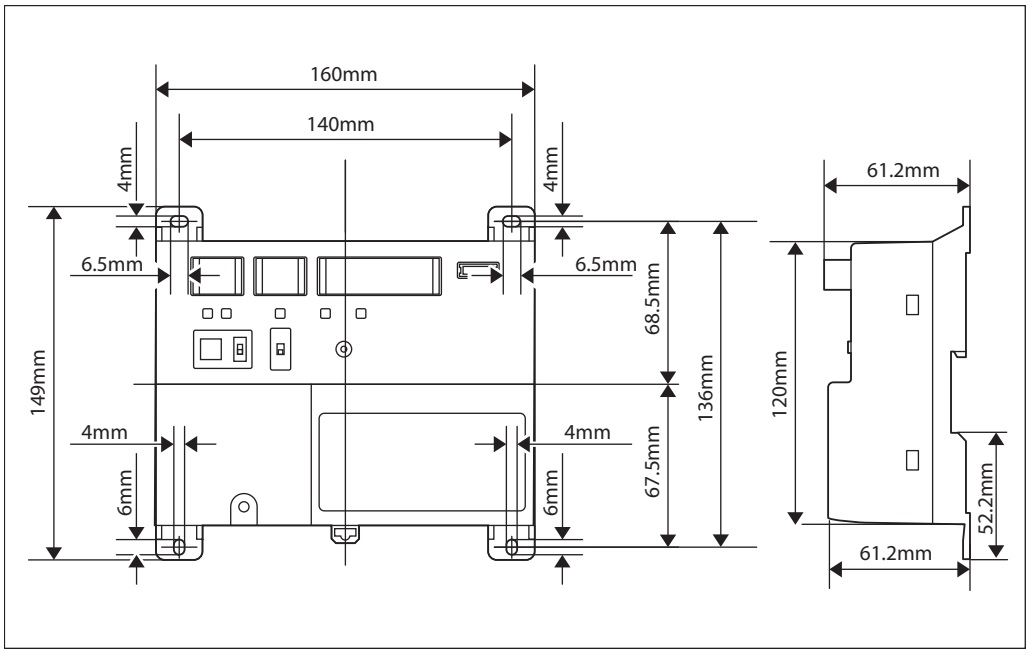
Port	Number	Use
plus ADP IF	1ch	*iTM plus adaptor* (Up to 7 adaptors)
D III	1ch	D III-NET (Up to 64 groups)
Di(Pi)	4ch	Pulse input, contact signal input

POWER SUPPLY: DCM601A52 AC100-240V(± 10%)(50/60Hz)
INPUT: 6W
MASS: 0.5kg
FUSE AMP: 3.15A
Operating temperature limit: -10°C - +50°C
Operating humidity limit: MAX. 15°C - 85%
Storage temperature range : -15°C - +60°C
Installation direction: Vertical direction only



3.2.1.1 Dimensions

iTM plus adaptor body



3.2.2 Location of terminals and switches

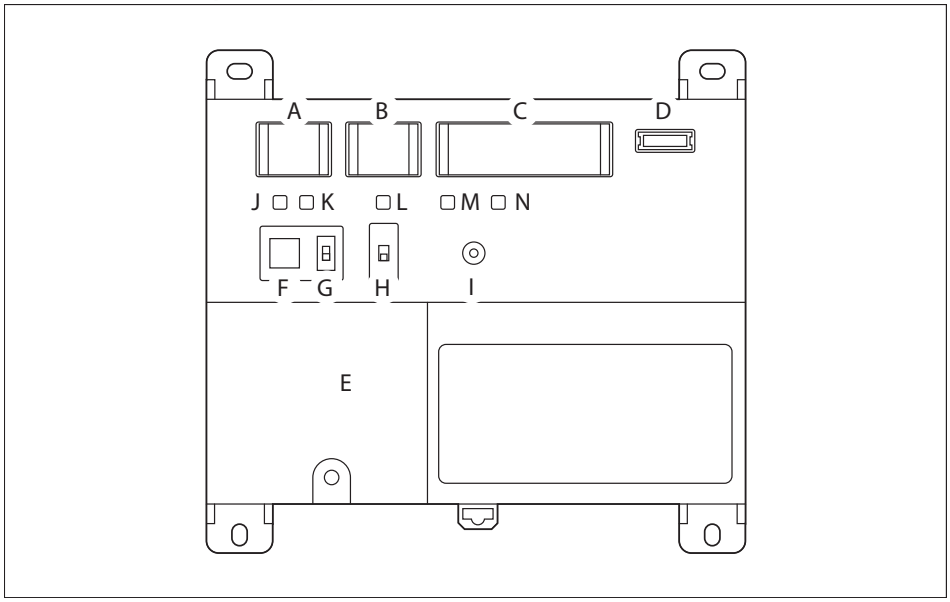
Understand the arrangement of terminals and switches on the unit and draw up an efficient work plan. For connection details including the cable type, terminal size, and wiring precautions, refer to "2. Connection".

Front face of iTM plus adaptor

All the terminals used during installation are located on the front face of the iTM plus adaptor. Note that only the power terminals are covered with a terminal cover for safety. You can remove this cover by loosening a single screw.

In addition to these terminals, several switches and LEDs are also located on the front face of the iTM plus adaptor.

<Front face of iTM plus adaptor>



A **[plus ADP IF]** The terminals for connecting an intelligent Touch Manager or iTM plus adaptor installed in parallel.

B **[DIII]** The communication line connection terminals for "DIII-NET", which enables communications with DAIKIN's air conditioning equipment.

C **[Di]** The terminals for connecting an external signal input device for stopping air conditioners in an emergency, or for connecting electric energy meters for calculating the electricity usage of individual indoor air conditioning units.

D **[RESERVE]** No Use.

E **[POWER]** The power line connection terminals. These terminals are covered with a protective cover. A power supply voltage of 100 to 240 VAC (at 50/60 Hz) is required. Near this terminal block, there is a blue resin cable mount used for securing the power supply cables with cable ties.

F **[plus ADP ADDRESS]** The switch for selecting the address of the iTM plus adaptor. For each iTM plus adaptor, set a unique number between 2 to 8.

G **[TERM]** The switch used when multiple iTM plus adaptors are connected in parallel for enabling the termination resistor on the furthest iTM plus adaptor from the intelligent Touch Manager.

H **[DIII MASTER]** The switch used when there are two or more DIII-NET centralized controllers, such as intelligent Touch Managers, are connected for distinguishing between the "MASTER" or the "SLAVE" controllers.

I **[RESET//]** The switch for restarting the iTM plus adaptor.

J **[Tx]** (Green) The indicator that indicates when on that data is being sent to the intelligent Touch Manager.

K **[Rx] (Orange)** The indicator that indicates when on that data is being received from the intelligent Touch Manager.

L **[DIII MONITOR]** (Yellow) The indicator that indicates when on that data is being communicated with DIII-NET.

M **[CPU ALIVE]** (Green) The LED that indicates that the CPU is operating normally. For the relationship between the LED status and the unit's operating condition, refer to the "LED status and operation" table below.

N **[ALARM]** (Red) The LED that turns on or blinks in the event of an error. For the relationship between the LED status and the unit's operating condition, refer to the "LED status and operation" table below.

The table below shows the status of the CPU ALIVE/ALARM LED when the iTM plus adaptor is operating normally or failed.

NOTE

[LED status and operation table]

Operating condition	CPU ALIVE	ALARM
Normal	Blink	Off
Hardware failure	Off	On
Address failure	On	On
plus ADP IF communication failure	On	Blink

Determining installation place

Be sure to install the iTM plus adaptor in a place that meets the conditions described in 1.4.1 through 1.4.3.

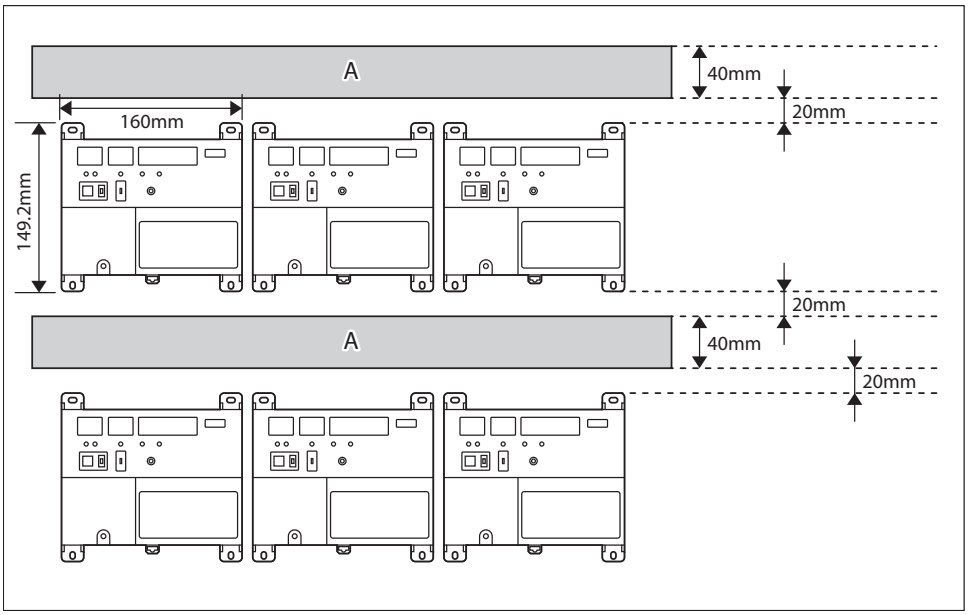
Installation place and mounting direction

Note that the iTM plus adaptor must be installed in a place and in a mounting direction as described below:
- Installation place: Indoor, inside control enclosure (which must be lockable or designed to be opened only with a special tool)
- Mounting direction: Vertical only

Required space

To install the iTM plus adaptor, the following space is required. Also note the following:
- Make sure that there is a minimum clearance of 20 mm between each unit and wiring ducts.
- When installing two or more units side by side, they can be arranged without clearance in the horizontal direction.

Required installation space



A Wiring duct

Environmental conditions

The installation environment must meet the following conditions:
- Ambient temperature: –10 to 50 °C
- Ambient humidity: 85% RH or less (without condensation)

3.2.3. Connections

If you have many air conditioners, use iTM plus adaptors to connect them. It is a fact that the number of indoor groups you can control using a single intelligent Touch Manager is limited to 64. By using iTM plus adaptors, however, you can connect additional 64 groups of indoor units per iTM plus adaptor. Moreover, considering that the intelligent Touch Manager can be connected with a maximum of seven iTM plus adaptors, you can control a total of 512 groups of indoor units at a maximum using a single intelligent Touch Manager.

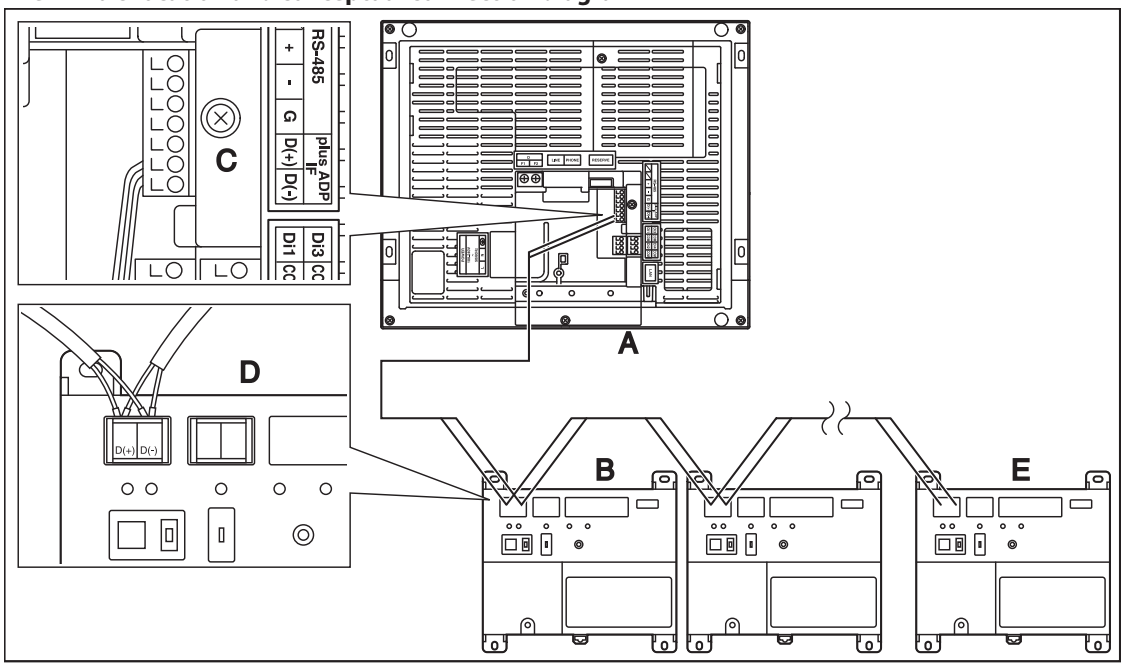
WARNING

- **Be sure to perform this procedure with the power supply turned off. Not doing so may cause an electric shock.**
- **Do not clamp the cables with high-current lines such as a power cable.**

Terminals location and conceptual connection diagram

Connect an iTM plus adaptor to the plus ADP IF terminals located on the rear face. Be sure to connect the positive wire the "+" terminal and the negative wire to the "–" terminal, respectively, as these terminals have polarity.

<Terminals location and conceptual connection diagram>



A intelligent Touch Manager (Rear face)
B iTM plus adaptor
C plus ADP IF (intelligent Touch Manager)
D plus ADP IF (iTM plus adaptor)
E iTM plus adaptor on which termination resistor must be enabled

Requirements that must be met

- Cable type: CPEV or FCPEV cable
- Core thickness: φ0.65 - 0.9 mm
- Cable length: 50 meters or less

NOTE

Each air conditioner controlled via an iTM plus adaptor is also assigned a DIII address between "1-00" to "4-15". From the intelligent Touch Manager, it is recognized as "2:1-00", "3:1-02", or the like, with the DIII-NET port number prefixed.

Connecting intelligent Touch Manager

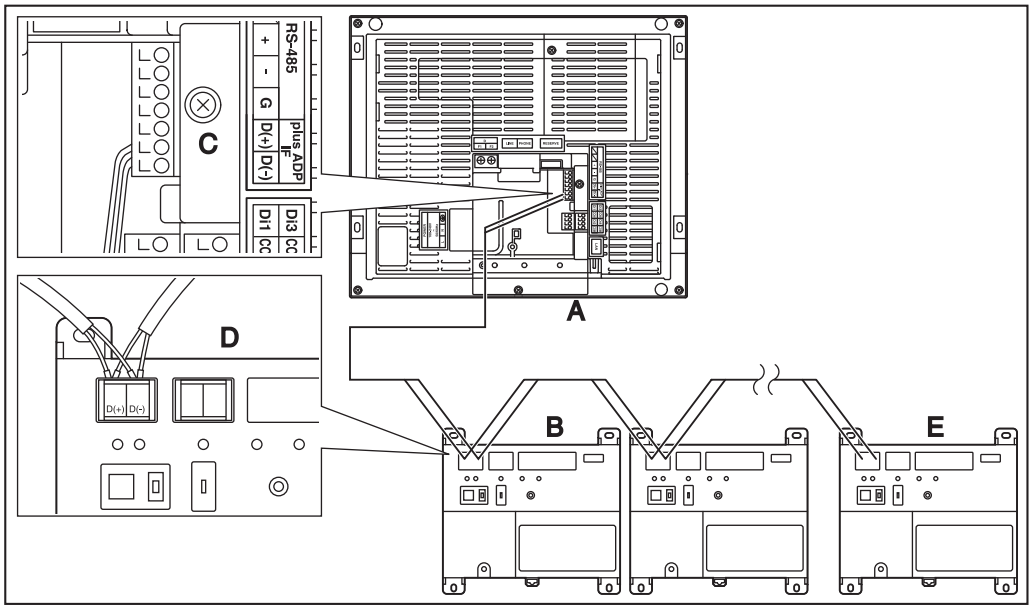
The iTM plus adaptor is a device that enables you to control more air conditioners with the intelligent Touch Manager. It needs to be connected to an intelligent Touch Manager to provide this capability.

Terminals location and conceptual connection diagram

Connect the terminals located in the "plus ADP IF" section of the iTM plus adaptor to the corresponding terminals located in the "plus ADP IF" section on the rear face of your intelligent Touch Manager. Note that these terminals have polarity. Be sure to connect the positive wire to the "+" terminal and the negative wire to the "–" terminal, respectively.

In addition, the intelligent Touch Manager must be connected as a terminal to the wiring.

<Terminals location and conceptual connection diagram>



A intelligent Touch Manager (Rear face)
B iTM plus adaptor
C plus ADP IF (intelligent Touch Manager)
D plus ADP IF (iTM plus adaptor)
E iTM plus adaptor on which termination resistor must be enabled

Requirements that must be met

• Cable type: CPEV or FCPEV cable
• Core thickness: φ0.65 - 0.9 mm
• Cable length: 50 meters or less in total for overall plus ADP IF wiring

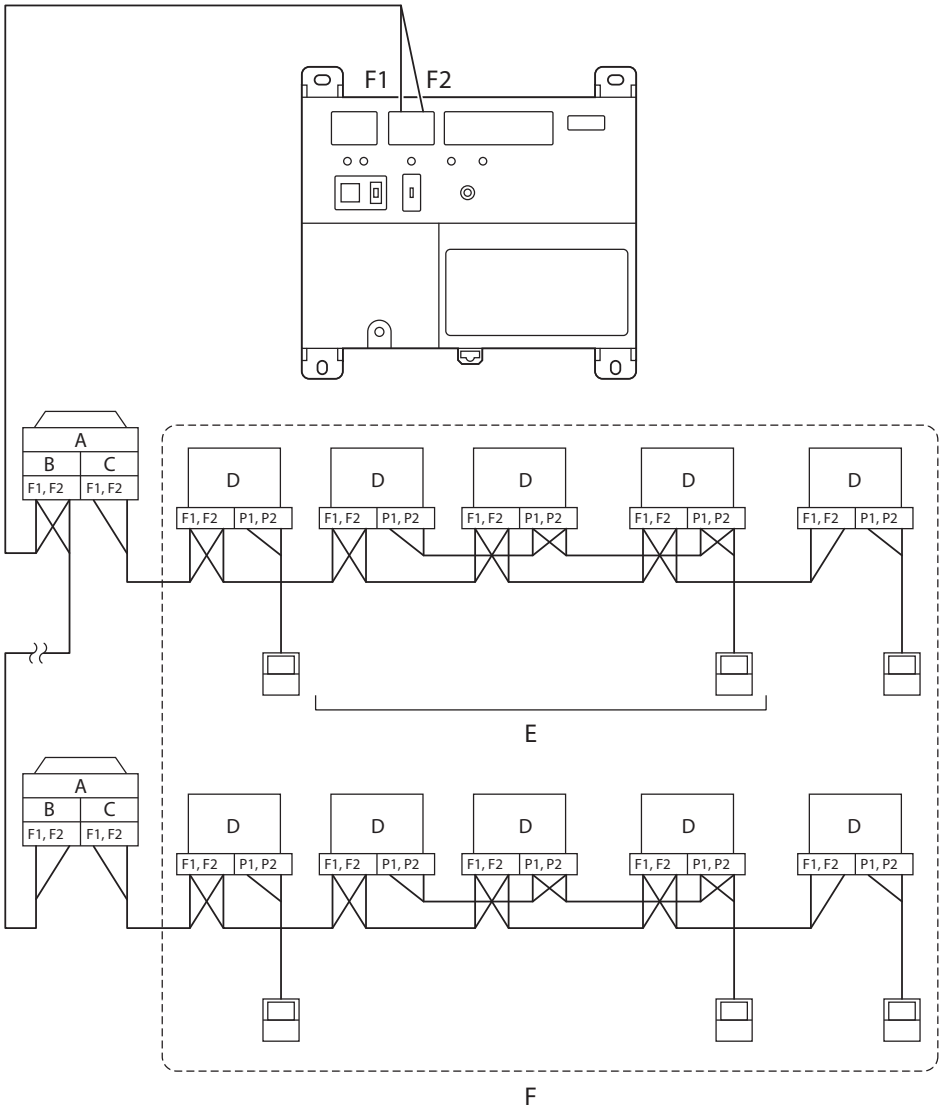
Terminals location and conceptual connection diagram

To connect the DIII-NET communication line, use the two terminals F1 and F2 under the label "DIII". These 2 terminals have no polarity. An example of connecting more than 2 air conditioning devices is shown in the following conceptual connection diagram.

CAUTION

Make sure that the wires you are connecting to the F1 and F2 terminals are not power wires. Inadvertently connecting power wires to these terminals results in a failure of the air conditioner or iTM plus adaptor.

<Conceptual connection diagram with air conditioning equipment>

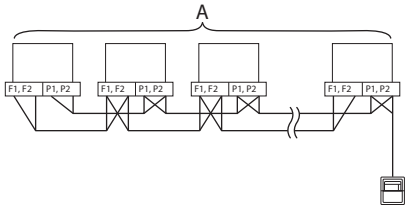


A Outdoor unit
B OUT - OUT
C IN - OUT
D Indoor unit
E A maximum of 16 indoor units can be connected per remote controller group.
F A maximum of 64 remote controller groups (128 indoor units) can be connected.
A maximum of 64 indoor units can be connected when power distribution is enabled.

NOTE

- What's a remote controller group?
  A single remote controller can simultaneously control a maximum of 16 indoor units. This capability is referred to as group control. A remote controller group is a group of indoor units controlled under the same remote controller.

[Conceptual drawing of a remote controller group]



A Max. 16 units

Requirements that must be met

Cable specifications
- Cable type: 2-core vinyl-insulated vinyl-sheathed cable/vinyl cabtyre cable or 2-core shielded cable
- Core thickness: 0.75mm^2 - 1.25mm^2
- Terminal treatment: Use a round crimp-type terminal (M3) with insulating sleeve.

Precautions
- Do not use multicore cables with three or more cores.
- When using a shielded cable, connect only one end of each steel wire to the ground.
- Keep the DIII-NET communication wiring at least 50 mm away from power supply wiring.
- The maximum wire distance must be kept to 1000 meters or less. The total wire length must be limited to 2000 meters, except when using a shielded cable whose total wire length must be kept to 1500 meters or less.

Precautions for using multiple centralized controllers

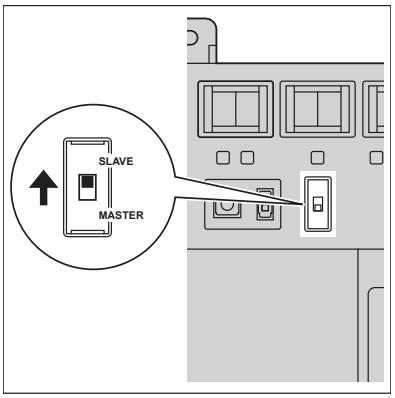
Equipment that controls multiple air conditioners is referred to as "centralized controller". DAIKIN's product portfolio includes a wide range of centralized controllers suited to different applications or target sizes, which can be used in combination to construct an optimal air conditioning system.

If two or more centralized controllers are used in combination in DIII-NET, you must establish a MASTER to SLAVE relationship among those controllers to prevent confusion. The MASTER authority may be assigned to one controller only. The remaining controllers must be set to SLAVE.

The iTM plus adaptor is set to MASTER by default. Change the setting to SLAVE in any of the following cases:
- Where Interface for use in BACnet is installed in parallel.
- Where Interface for use in LONWORKS is installed in parallel.
- Where there is another MASTER intelligent Touch Manager, or it is connected in relations of main/sub.
- Where there is another MASTER iTM plus adaptor, and it is connected in relations of main/sub.

<DIII MASTER>

To set the iTM plus adaptor to SLAVE, use the DIII MASTER switch.
Placing the switch in the upper position (labeled as "SLAVE") changes it to a SLAVE.



To install multiple centralized controllers, set only the highest priority controller to MASTER and all other controllers to SLAVE according to the following order of priority:

High	↑	(1) Interface for use in BACnet
		(2) Interface for use in LONWORKS
		(3) intelligent Touch Manager (Main), **iTM plus adaptor (Main)**
Priority		(4) Central Remote Controller (Main)
		(5) intelligent Touch Manager (Sub), **iTM plus adaptor (Sub)**
		(6) Central Remote Controller (Sub)
Low		(7) ON/OFF Controller (Main)
	↓	(8) ON/OFF Controller (Sub)

Centralized controllers that cannot be installed in parallel with iTM plus adaptor

- CALCULATE UNIT
- intelligent Processing Unit
- Parallel Interface
- Intelligent Touch Controller
- DIII-NET Plus Adapter
- Residential Central Remote Controller
- Schedule Timer
- Wiring Adaptor for Electrical Appendices (1) (KRP2)

Connecting contact or pulse input equipment such as electric energy meters

The iTM plus adaptor can be connected with an external signal input device for stopping air conditioners in an emergency, or with electric energy meters for calculating the electricity usage of individual air conditioners (when power distribution is enabled).

⚠ WARNING

- **Be sure to perform this procedure with the power supply turned off. Not doing so may cause an electric shock.**
- **Do not clamp the cables with high-current lines such as a power cable.**

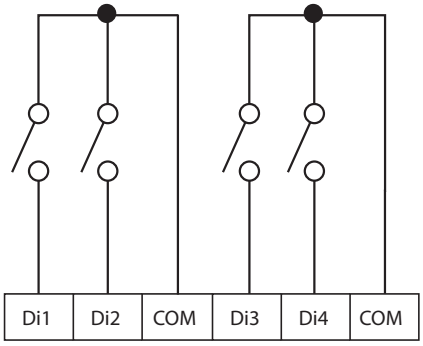
NOTE

Power distribution is available for a maximum of 64 air conditioners (indoor units) per DIII-NET port.

Terminals location and conceptual connection diagram

Use the terminals located under the label "Di" to connect the pulse signal line. The iTM plus adaptor accepts four types of signals through its four channel terminals, Di1, Di2, Di3, and Di4, and two COM terminals (ground).

<Conceptual drawing of Di connection>



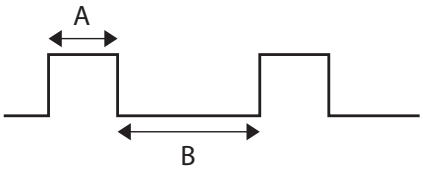
NOTE

The COM terminals are all connected internally. So, you can use either of them.
However, you can connect up to two wires simultaneously to each COM terminal.

Requirements that must be met

- Cable type: CPEV cable
- Core thickness: φ0.65 - 0.9 mm
- Cable length: 200 meters or less
- Pulse width: 20 to 400 ms
  Pulse interval: 100 ms or more

<Pulse width>



A Pulse width: 20 to 400 ms
B Pulse interval: 100 ms or more

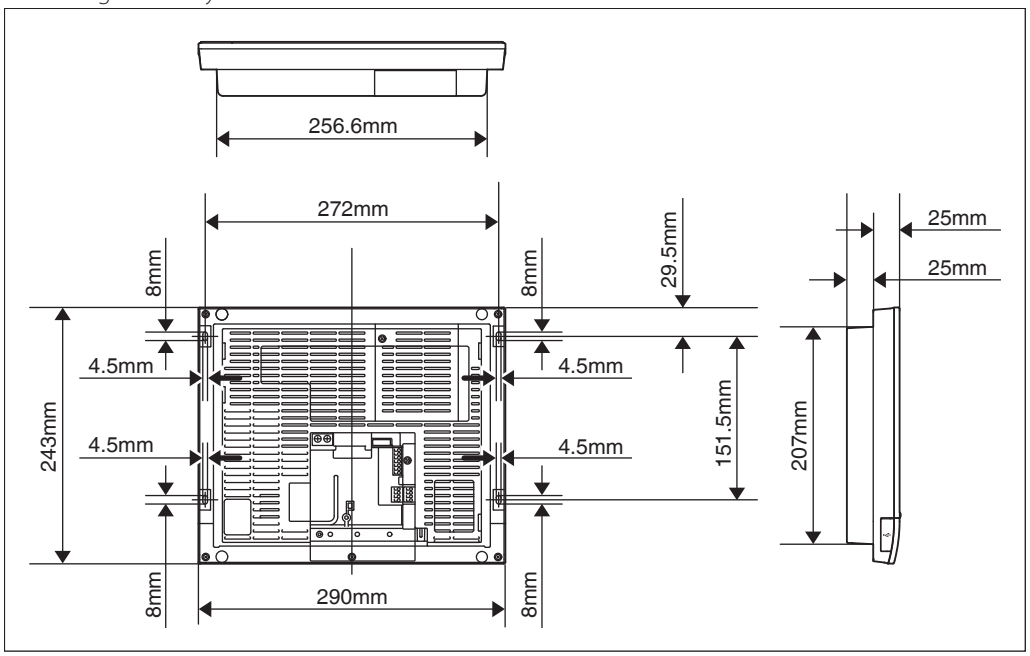
CAUTION

- The contact connected to the contact input terminal must be capable of handling 10 mA at 16 VDC.
- If an instantaneous contact is used for triggering an emergency stop, use one that has an energization time of 200 ms or more.
- Do not clamp the cables with high-current lines such as a power cable.

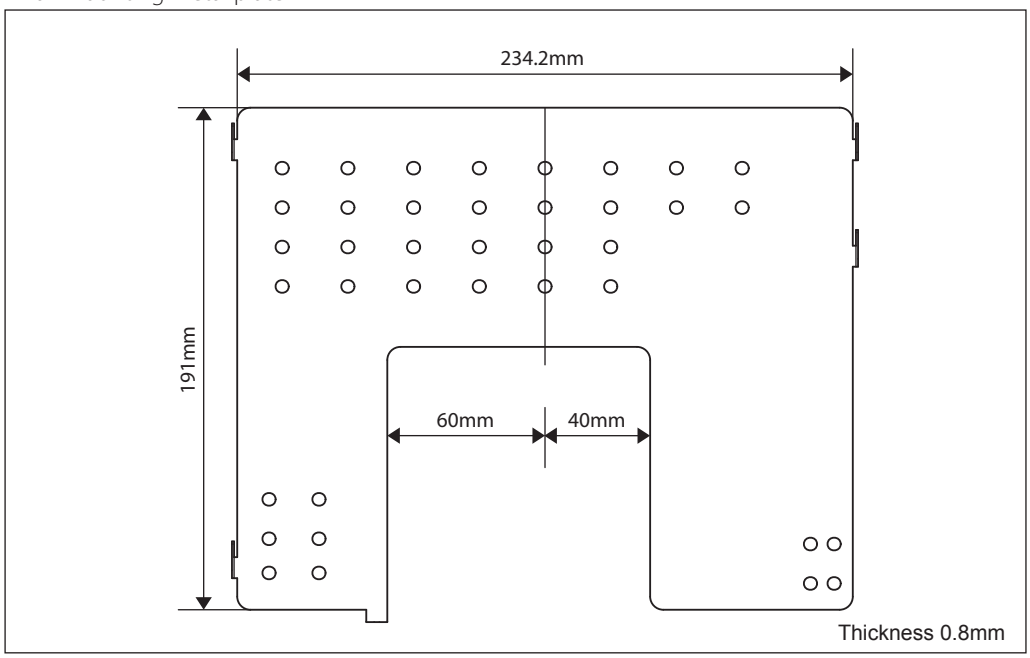
3.3. iTM Integrator

3.3.1. Main specifications

• iTM integrator body



• Wall mounting metal plate



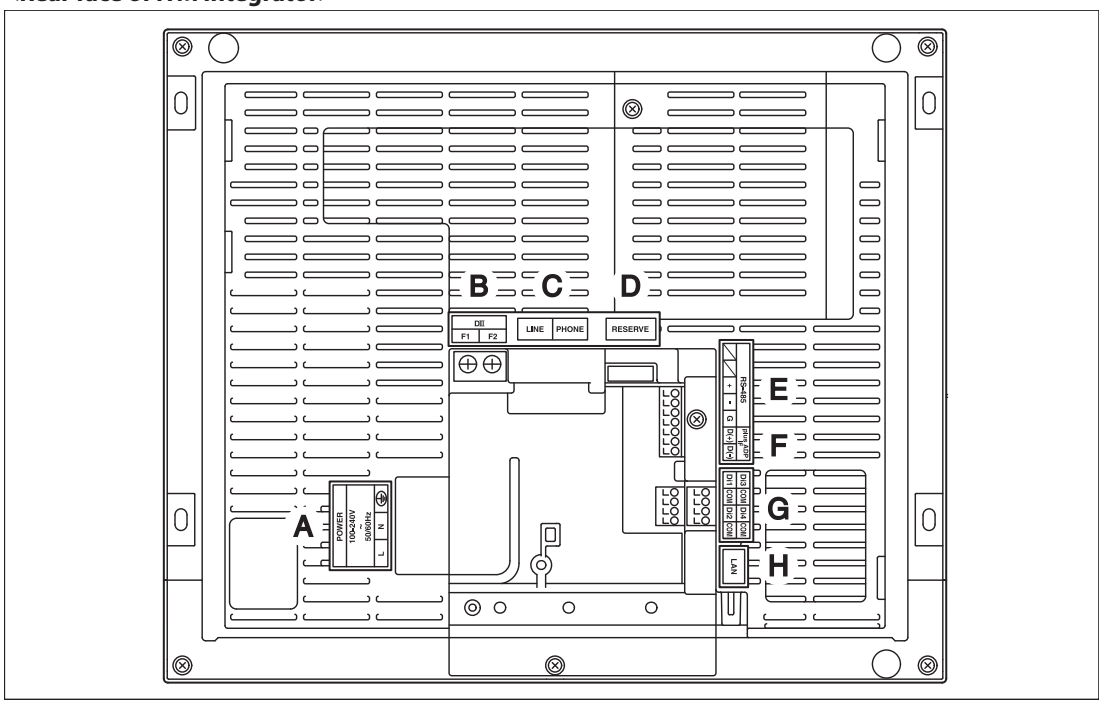
3.3.2. Locations of terminals and switches

Understand the arrangement of terminals and the location of openings on the unit and plan how to route the cable and in which order to connect its wires to facilitate the installation procedure. For connection details including the cable type and terminal size, refer to "2. Connection".

Rear face

Most terminals are located on the rear face of the iTM integrator. However, they are covered with a terminal cover for safety reasons. Removing 2 screws to detach this cover reveals various types of terminals as shown below.

<Rear face of iTM integrator>

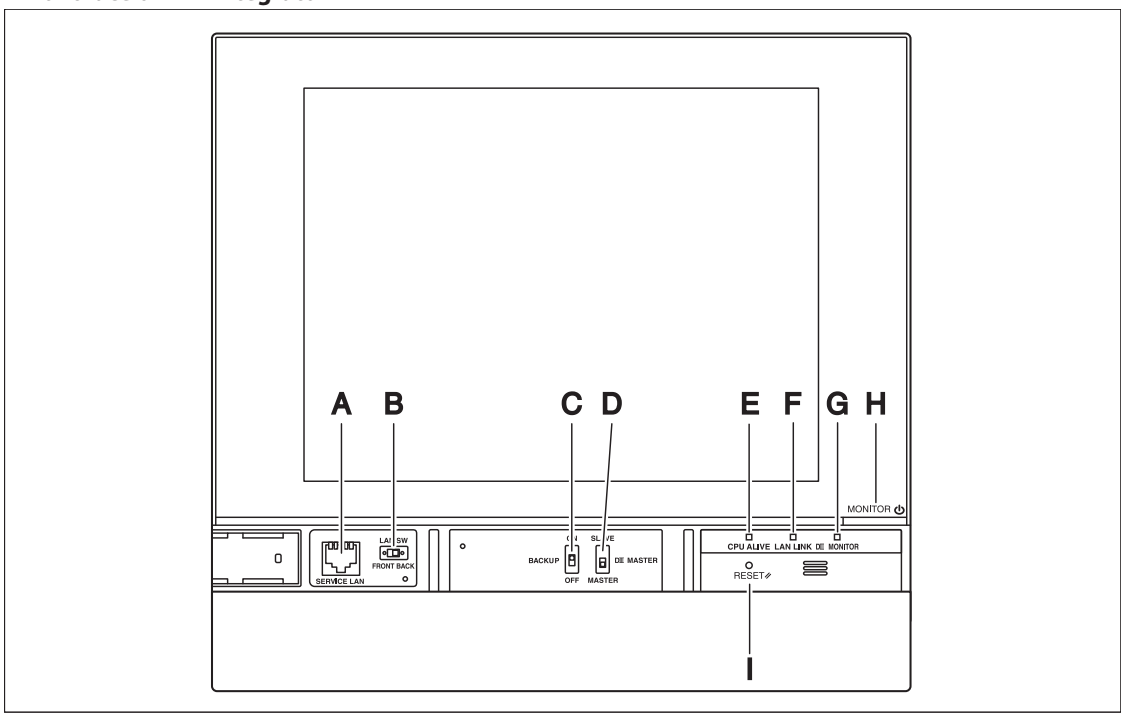


A **[POWER]** The power line connection terminals. A power supply voltage of 100 to 240 VAC (at 50/60 Hz) is required. Near this terminal block, there is a blue resin cable mount used for securing the power supply cables with cable ties.
B **[DIII]** No Use.
C **[LINE, PHONE]** No Use.
D **[RESERVE]** No Use.
E **[RS-485]** No Use.
F **[plus ADP IF]** No Use.
G **[Di (1-4), COM]** No Use.
H **[LAN]** The socket for connecting the iTM integrator to an Ethernet network.

Front panel

Located below the monitor display on the front panel are four LEDs that indicate the operating status of the iTM integrator. Sliding the front slide cover down and then removing a screwed cover reveals terminals used during the setup after installation or during maintenance work.

<Front face of iTM integrator>



A **[SERVICE LAN]** The socket for temporarily connecting the iTM integrator to a LAN from its front face, instead of its rear face, during installation or maintenance.

B **[LAN SW]** The switch for selecting which Service LAN socket, one on the front face or one on the rear face, is to be activated. You cannot close the cover when the switch set to "FRONT". To close the cover, select "BACK".

C **[BACKUP]** The switch for turning on/off the backup power supply for retaining the current settings.

D **[DIII MASTER]** No Use.

E **[CPU ALIVE]** LED (Green) The LED that indicates that the CPU is operating normally. The CPU is operating normally when this LED is blinking and malfunctioning when it is on or off.
(It takes about 10 seconds for detection of the abnormality.)
On: Installation failure
Off: A hardware failure occurred.

F **[LAN LINK]** LED (Green) The LED that indicates whether or not the hardware connection is established normally between the iTM integrator and the equipment connected to the LAN port. It lights green when the LAN port is linked normally.

G **[DIII MONITOR]** LED (Yellow) This LED blinks when data is being sent or received on DIII-NET.

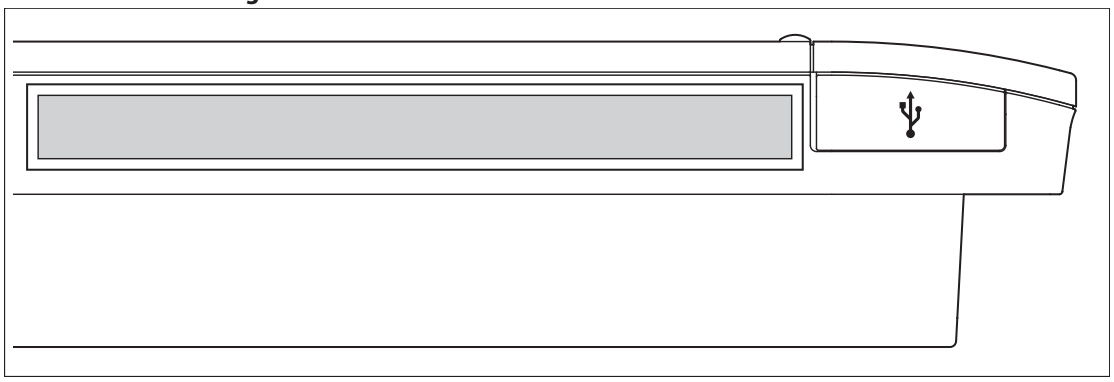
H **[MONITOR]** key and LED (Orange/Green) Each time you press this key, the monitor display turns on/off. The color of the LED also changes accordingly to the condition of the monitor display.
Off: The monitor is powered off.
On (Orange): The monitor display is off.
On (Green): The monitor display is on.

I **[RESET//]** The switch for restarting the iTM integrator.

Side face

On the left side face of the iTM integrator, a USB port cover is provided. You use this cover during setup after installation or during maintenance. You also see an attached label, bearing the model, weight, power ratings and the serial number of the iTM integrator.

<Side face of iTM integrator>



[ψ] Pulling up the rubber cover reveals a USB socket. This socket can be raised 90 degrees, so you can plug in a USB device to it from the front direction when there is no clearance from the side edge of the unit.

Determining installation place

Be sure to install the iTM integrator in a place that meets the conditions described in 1.4.1 through 1.4.3 below.

Installation place and mounting direction

Below are the description of the installation place and mounting direction. Be sure to confirm.

- Installation place: Indoor, free from dust and water splashes
- Mounting direction: Vertical

Environmental conditions

Make sure that the installation environment meets the following conditions.

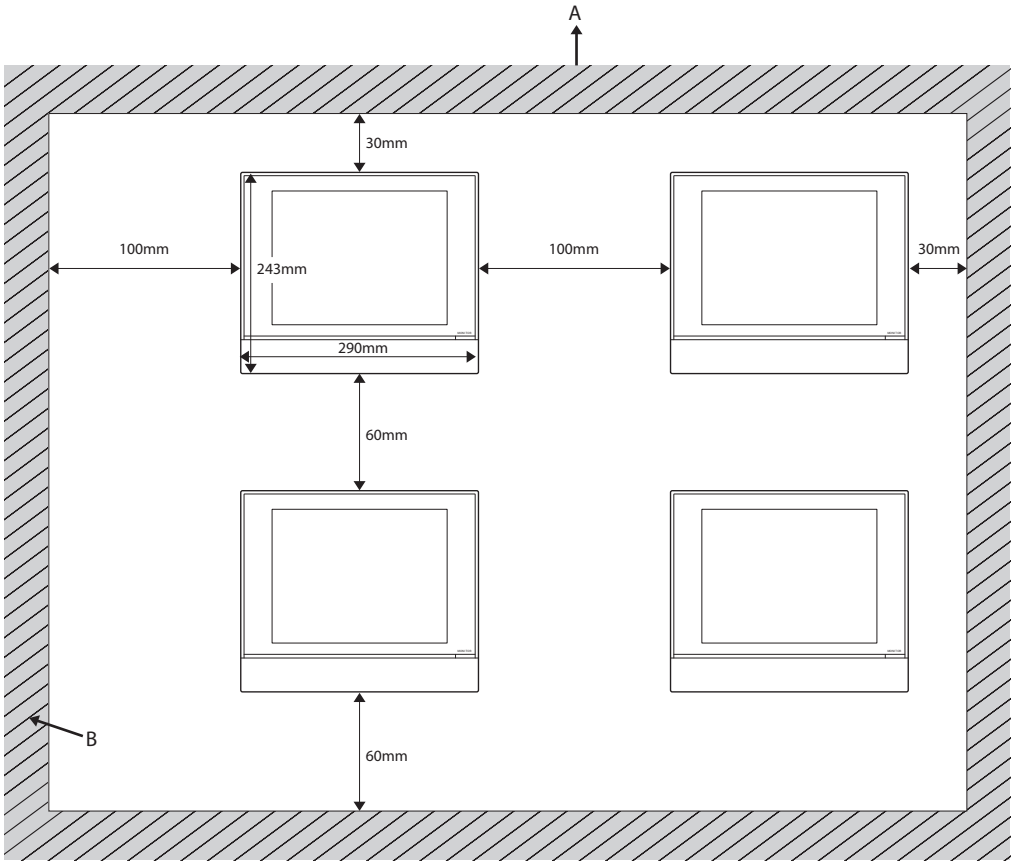
- The ambient temperature must be 0 to 40 °C.
- The ambient humidity must be 85% RH or less (without condensation).
- There must be no electromagnetic disturbance.

3.3.3. Required space

To install the iTM integrator, the following space is required. Make sure that there is a minimum clearance of 30 mm from the top edge, 100 mm from the left side edge, 30 mm from the right side edge, and 60 mm from the bottom edge of the unit.

<Installation space required for iTM integrator>

Required installation space



A Top
B Wall

3.3.4. Connections

This chapter describes the procedure for connecting the iTM integrator with the intelligent Touch Manager.

Required procedures
- 2.3 Connecting power supply
- 2.2 Connecting a LAN cable

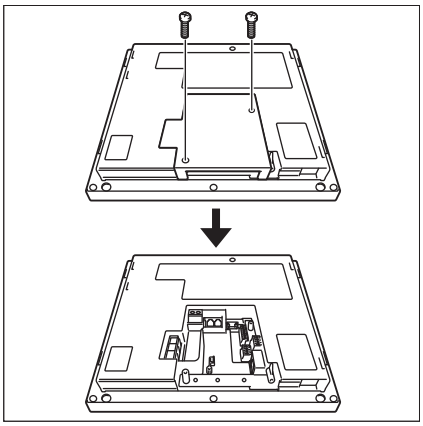
WARNING

- **Do not turn the power supply on until all connections are made. Also, make sure that the local circuit breaker, if available, is turned off. Not doing so may cause an electric shock.**
- **After completing connections, check again that all wires are connected correctly before turning on the power supply.**
- **All field supplied parts and materials, electric works must conform to local codes.**
- **All wiring must be performed by an authorized electrician.**

Removing terminal cover from rear face

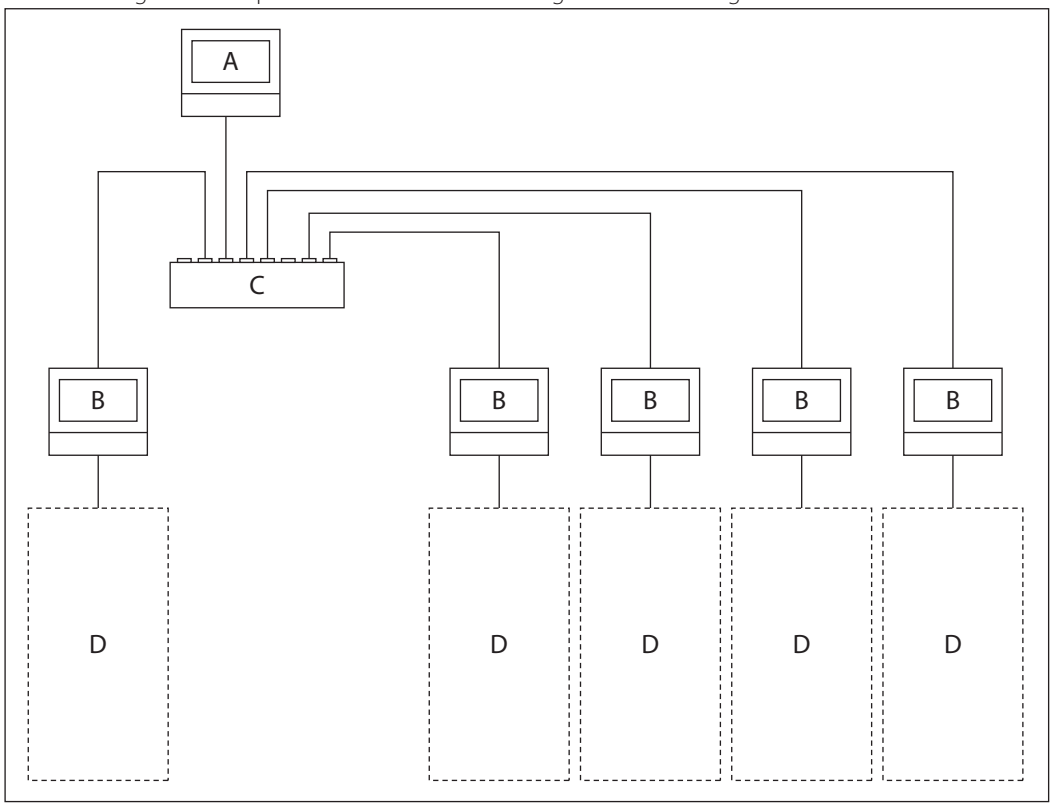
Before you start any of these connection procedures, remove the terminal cover from the rear face. To do so, remove two screws using a Phillips screwdriver.

<Removing terminal cover>



Connecting a LAN cable

Connecting your iTM integrator with network enables you to operate the intelligent Touch Manager from iTM integrator.
One iTM integrator can operate a maximum of 5 intelligent Touch Manager.



A iTM integrator
B intelligent Touch Manager
C Hub
D Air conditioners or other devices that the intelligent Touch Manager is monitoring.

⚠ WARNING

Do not clamp the cables with high-current lines such as a power cable.

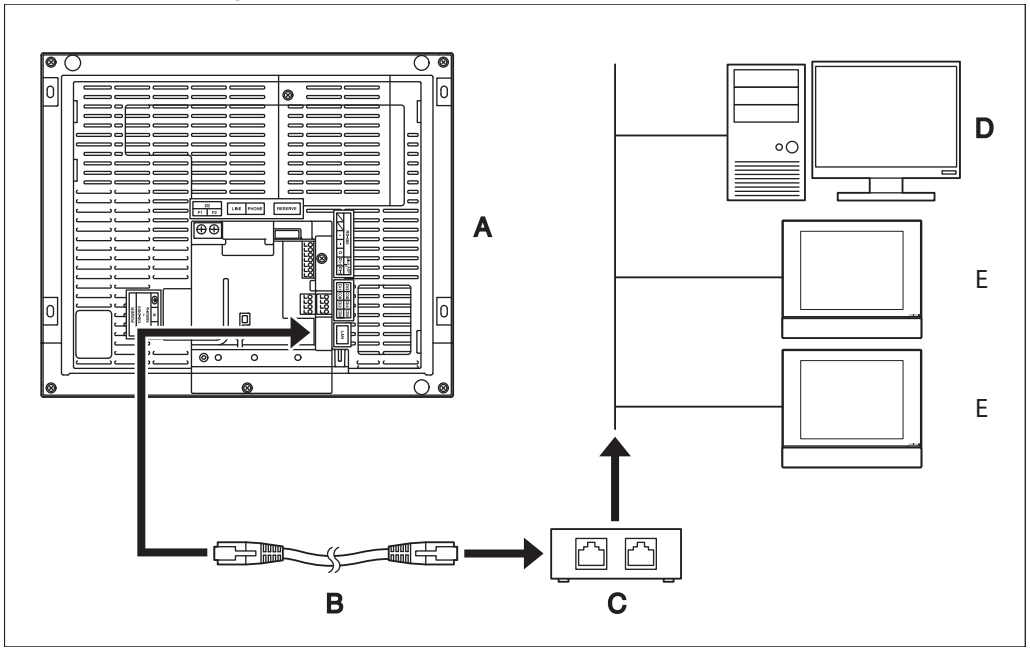
NOTE

For how to connect the iTM integrator to a PC network, contact your network administrator.

Terminals location and conceptual connection diagram

Using a LAN cable, connect the LAN socket to the network hub.

<Conceptual drawing of LAN connection>



A Rear face of iTM integrator
B LAN cable
C Hub
D PC
E intelligent Touch Manager

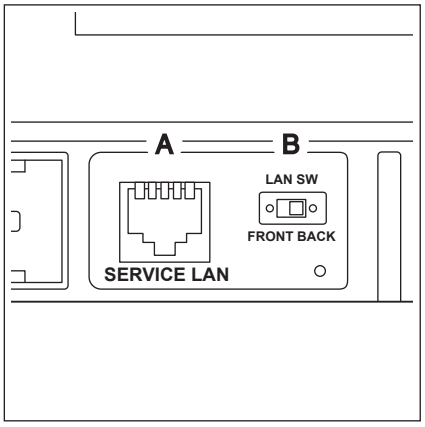
Requirements that must be met

- Applicable cable standard: 100Base-TX or 10Base-T
- Connector standard: RJ-45

NOTE

- If you are connecting to a LAN temporarily during installation or maintenance, use the SERVICE LAN terminal located on the front face.
  Changing the position of the LAN SW switch to "FRONT" causes the SERVICE LAN socket to activate (enabled for use).
- You cannot close the cover when the switch set to "FRONT". To close the cover, select "BACK".

<SERVICE LAN socket and LAN SW switch>



A SERVICE LAN
B LAN SW

4. Accessories

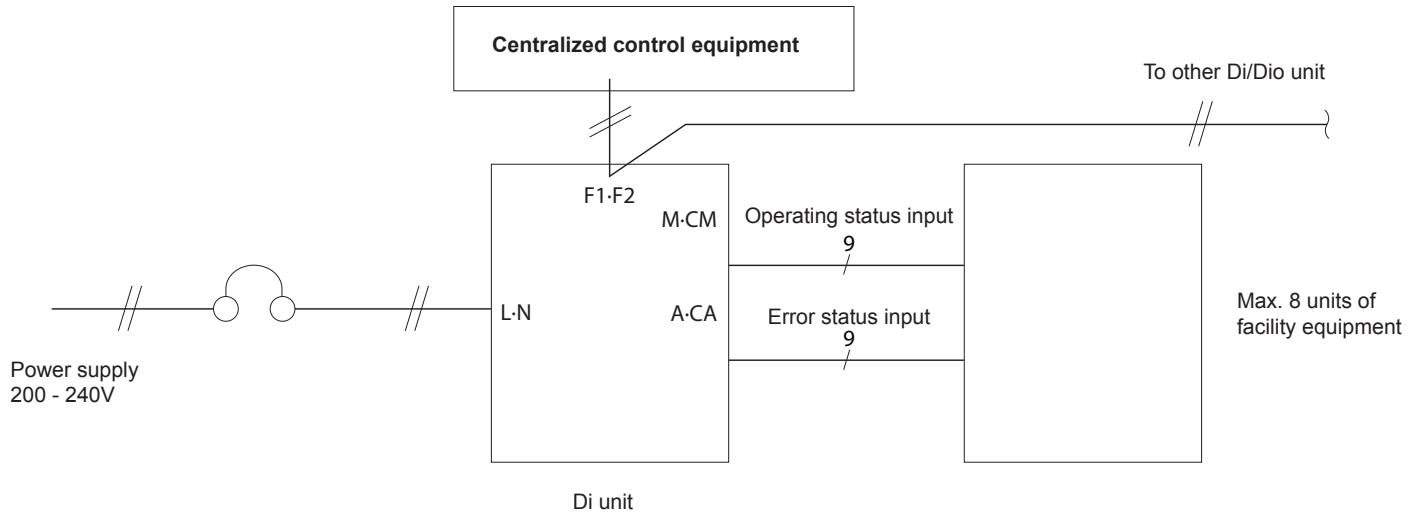
4.1. Di Unit <DEC101A51>

Using this unit, connection of other facilities other than air conditioner is made possible, such as power supply facility, sanitary facility, anti-disaster facility, and crime prevention facility.

Function

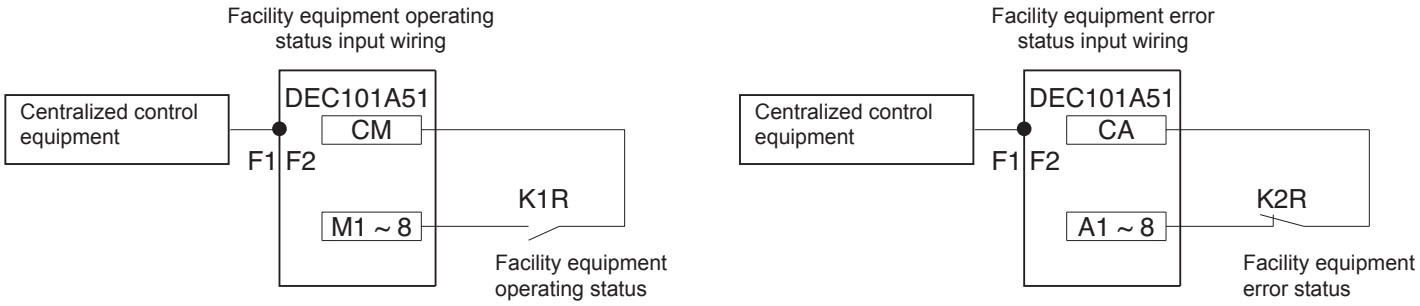
Type	BRC1C62	DEC101A51
Group/Zone / Item	One Group	Up to 4 groups
ON/OFF	Possible	Impossible
Temp. setting	Possible	Impossible
Airflow rate setting	Possible	Impossible
Airflow direction setting	Possible	Impossible
Timer setting twice a day	Possible	Impossible
Mode setting	Possible	Impossible
Filter sign reset	Possible	Impossible
Inspection/Test operation	Possible	Operation & Error display only by lamps

Unit (DEC101A51)



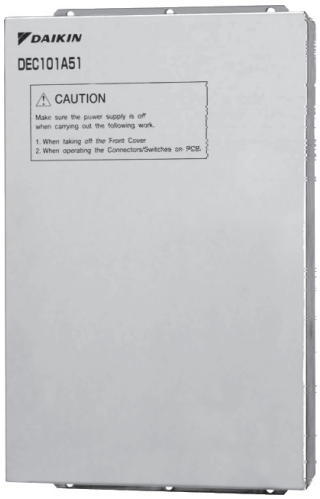
Operating and error input

When the contact is "Open" or "Closed", "Error" is produced. For changeover, refer to "**2. Initial Setting** ②"
Input specifications: No-voltage "a" contact
(The welding current is approx. 10mA when the applied voltage is 20 to 30VDC and the contact is "Closed".)
For input, use the contact for micro current. (12VDC, 1mA max.)

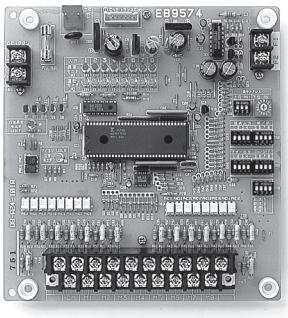


Part Names and Functions

Appearance

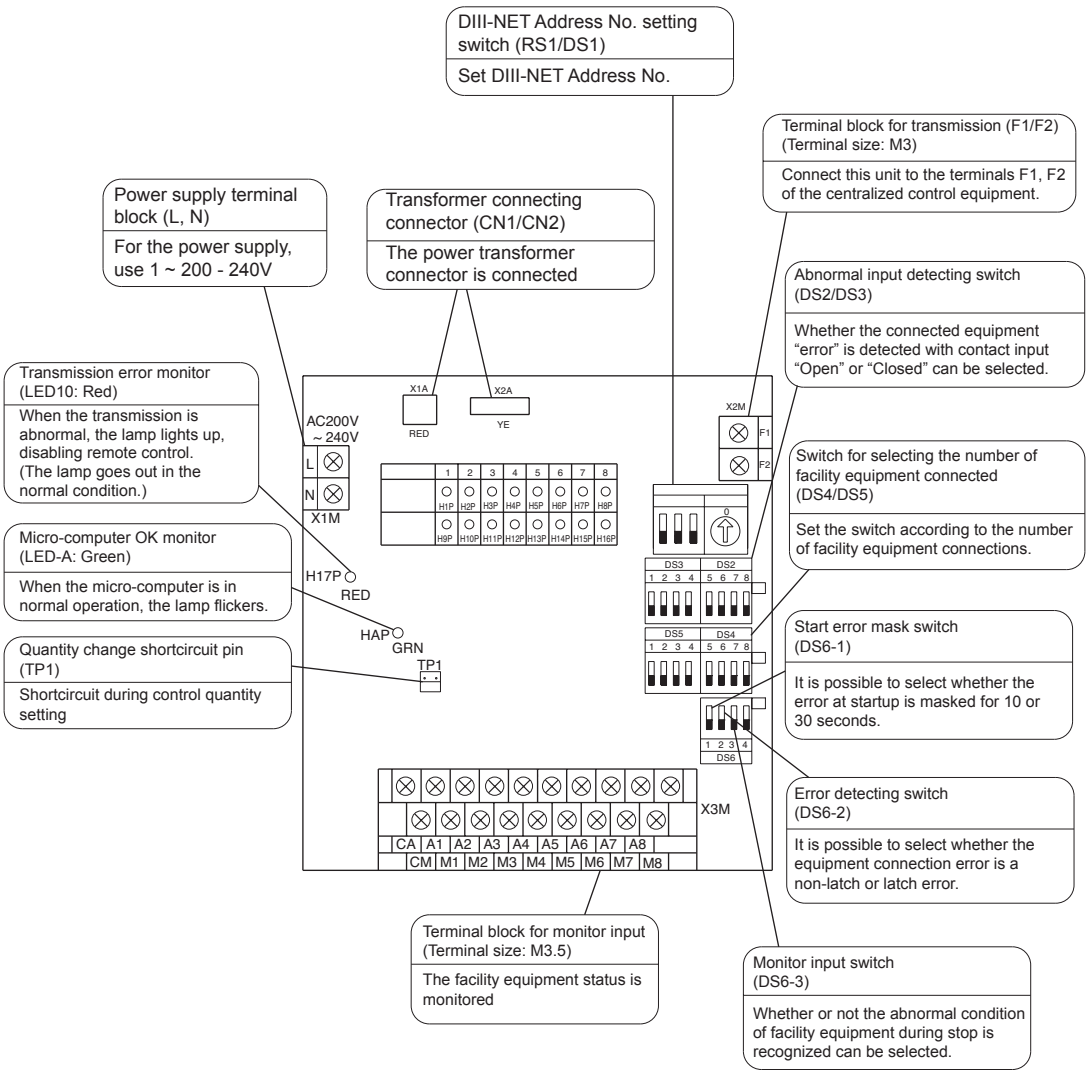


Di Unit
DEC101A51



PCB in DEC101A51

The figure below shows the printed circuit board built in this equipment.



Specifications

		Di board
Input contacts		16 points.
		8 pairs based on a pair of On/Off input and abnormality input
		* Contact information(On/Off, Abnormality) is transmitted to intelligent Touch Controller / intelligent Manager III through DIII-Net communication.
Installation method		Indoor installation
Power supply		To be supplied from outside
Rating		AC200-240V, 50/60Hz
Applied Standard		Safety standard: IEC730, EMC standard: CISPR22-A (EMI), CISPR24 (EMS)
Environment for use	Outdoor air temperature	–15 to 60 °C
	Ambient humidity	95%RH or less (no condensation)
Environment for storage	Outdoor air temperature	–20 to 60 °C
	Ambient humidity	95%RH or less (no condensation)

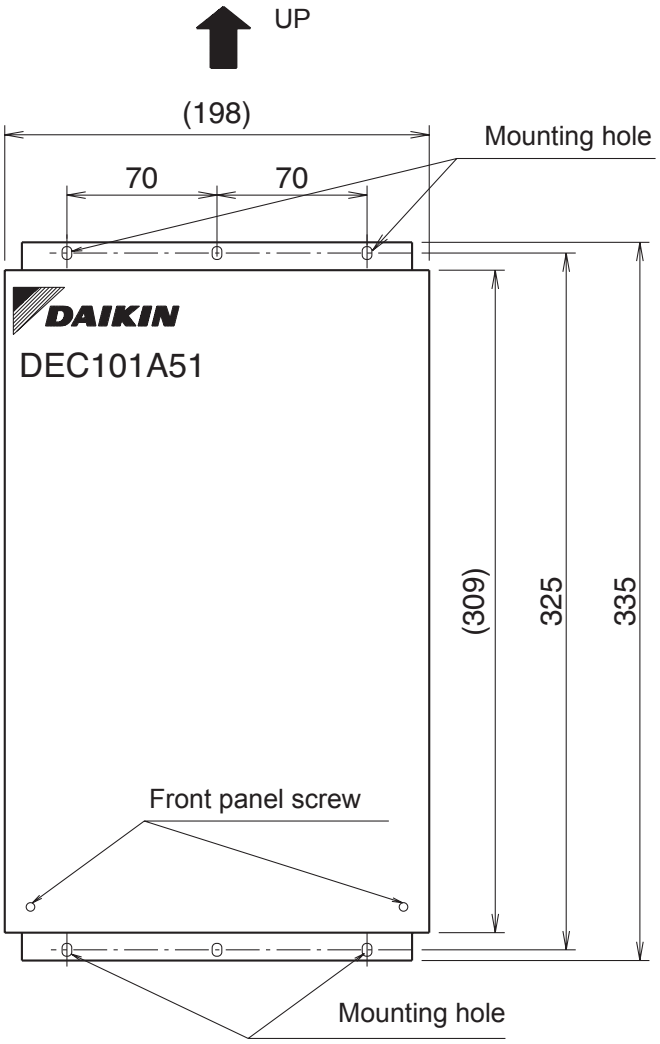
Installation

(Installation Place)
- Install the unit indoors where it is not exposed to water and dust or dirt.
- Install the unit where both temperature and humidity do not become high.
  (Operating (available) temperature: -10 ~ +40°C)
  (Operating (available) humidity: 10 ~ 85%)
- Connect the wiring to be connected in the field from the lower surface side.
  It is, therefore, necessary to make arrangements so as not to attach other equipment within 80mm from the lower surface ot this equipment.
- Install this equipment in a place in wich only the authorized personnel can touch it.

(Installation Direction)
- Install this equipment vertically to the floor surface. It should be noted that if it is installed in the horizontal direction, a malfunction or failure may result.

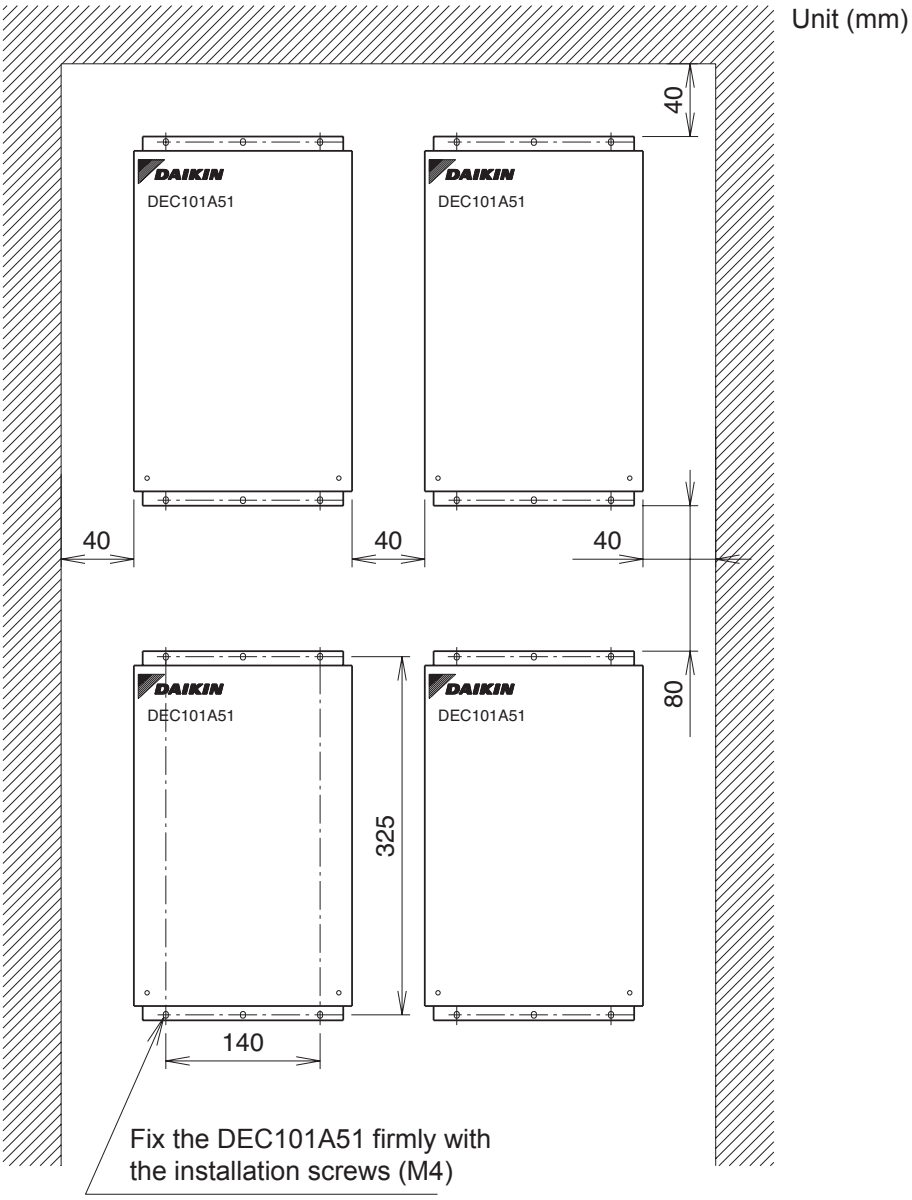
(Installation Method)
- Ensure that this equipment is installed with 4 screws (screw size M4 min.).

Unit (mm)



Restrictions in Continuous Installation

In case where several devices are set up and installation inside the power board is carried out, each equipment installation space and space between the wall surface and this equipment should be left at least as shown below.



(To Remove Front Panel:)

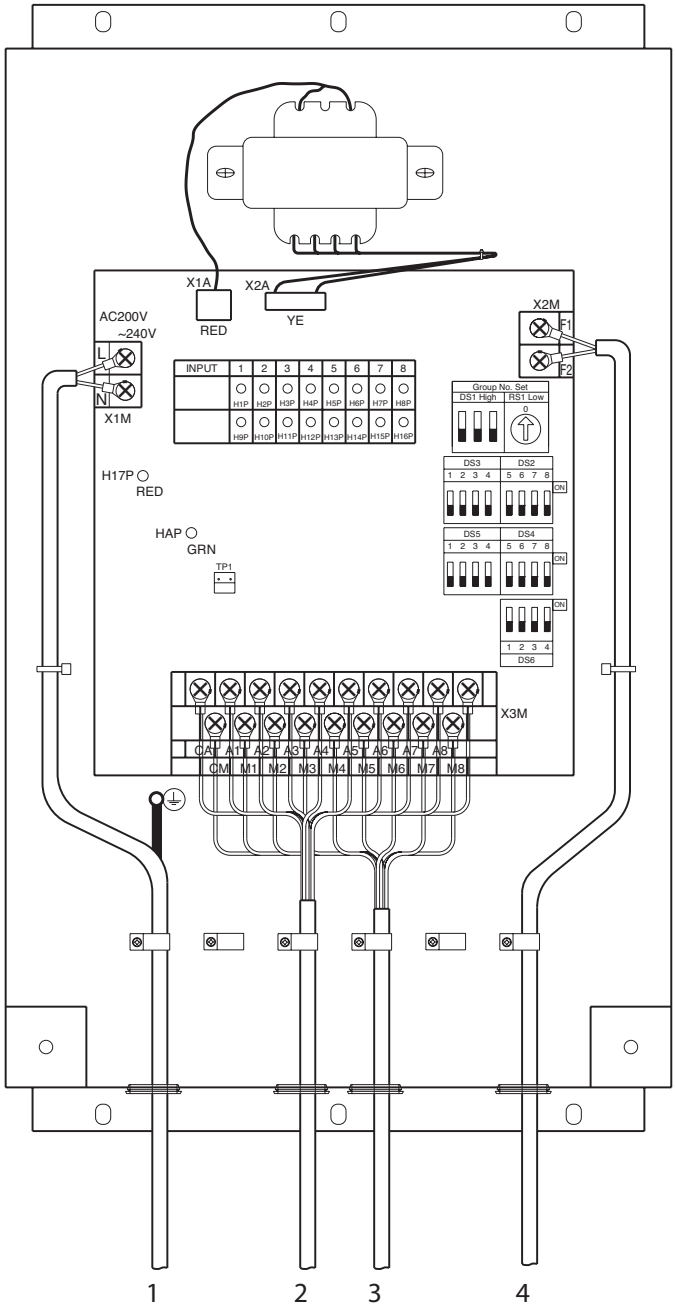
"1.5.4 Electric Wiring Work and Initial Setting" should be performed with the front panel removed. The front panel can be removed by detaching 2 front panel screws shown in the figure above and sliding it lightly to the upper side. Upon completion of all wiring connections and setting operations, close the front panel as it was and screw it firmly.

Electric Wiring Work and Initial Setting

Electric wiring work

Wiring Lead-In

For wiring connection, remove the front panel (secured with 2 screws) of this equipment.
Upon completion of operation given in this paragraph and **"2. Initial Setting"** below, close the front panel with the screws described above.



Clamp

Clamp

① To 1 ~ 200 - 240 V and earth

② To facility equipment

③ To facility equipment

④ To terminals F1, F2 of the centralized control equipment or terminals F1, F2 of other equipment (outdoor unit, DEC101A51, 102A51)

(1) Wire connections and wire clamping should be as shown in the figure above
(2) No simultaneous clamping is allowed for high-voltage wiring (power supply wiring (L/N) & earth wiring), low-voltage wiring <Communication wiring (F1/F2), operation input wiring (CM, M1 to 8) and abnormal input wiring (CA, A1 to 8)> since malfunctioning may result. Also, in case where the wirings described above are routed in parallel, be sure to connect the wirings at least 50 mm apart from the other.

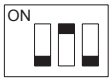
Initial setting

• DEC101A51 Switch Settings

	Name	Operation	OFF	ON
DS2	Abnormal input detection Open/Close (Concentrated address +4 to 7)	Abnormal input detection method Open: Close (Normal) Æ Open (Abnormal) Close: Open (Normal) Æ Close (Abnormal)	Open	Close
DS3	Abnormal input detection Open/Close (Concentrated address +0 to 3)		Open	Close
DS4	Buzzer output ON/OFF (Concentrated address +4 to 7)	ON/OFF switching of buzzer output of buzzer unit upon detection of failure.	ON	OFF
DS5	Buzzer output ON/OFF (Concentrated address +0 to 3)		ON	OFF
DS6-1	Startup failure	Masking time after detecting operation input.	10 seconds	30 seconds
DS6-2	Failure detection	Recovery method upon detection of failure.	Automatic reset	Retained
DS6-3	Monitor input	Detection of failure under halting status.	Yes	No

Note:
All are set to "OFF" upon shipment from factory.

① Set the top address of this equipment with the DIII-NET setting switch (DS1/RS1).
Using the DIII-NET setting switch (DS1), set the range of Address No. that is set in this equipment. Address Nos. 1-00 to 1-15 are factory controlled before shipment.

Control range DS1	1-00 ~ 1-15	2-00 ~ 2-15	3-00 ~ 3-15	4-00 ~ 4-15
Control range DS1 (high order) setting (Address range)				

When a product is discharged from the factory.

This indicates the switch knob.

Set Address No. (low order) with the centralized address setting switch (RS1)
Referring to the table below, set the address number low order.
(Address Nos. are 1-00, 1-01, --- 1-15, 2-00, --- 4-15.)

RS1 Switch Setting Table

Position	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
Address No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Low order

<when a product is discharged from the factory>

<Example>
When Address No. is set to 1-08

High order: 1 Low order: 8

Address No. indicates the following portion in this case

1-08
High order Low order

In this case, it follows that this equipment uses Address Nos.

1-08 to 1-15.
(8 numbers max.)

* Number of centralized addresses used
The number of centralized addresses used is determined by the top address set in this item and the number of facility equipment connected that is set in “③ TP1 Setting (Facility equipment quantity change)”.

Example 1:
When the top address was set to “1-00” and the number of facility equipment was set to “2”, it follows that “1-00” and “1-01” are being used.

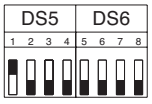
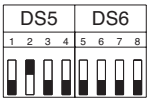
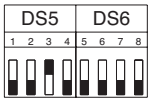
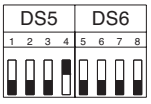
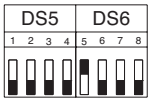
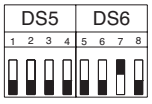
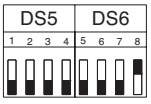
Example 2:
When the top address was set to “3-15” and the number of facility equipment was set to “8”, it follows that “3-15”, “4-00”, “4-02”, “4-03”, “4-04”, “4-05” and “4-06” are being used.

<CAUTION>
This equipment can use the addresses between “1-00” and “4-15”.
(It is impossible to use Address 5-00 and subsequent addresses, and use any address in duplication.
Example:
When the top address was set to “4-14”, the number of facility equipment cannot be set to “8”.
In this case, set it to “1” or “2”.)

②DS2 & DS3 Setting
This switch selects whether the input is abnormal with the abnormal input contact (A1 to A8) open or closed.
OFF (factory preset before shipment) - - - - - - - - Abnormal in the open condition
ON - Abnormal in the closed condition
The relationship between each switch and abnormal input is as described below.

Input A1 : DS2, 3-1
Input A2 : DS2, 3-2
Input A3 : DS2, 3-3
Input A4 : DS2, 3-4
Input A5 : DS2, 3-5
Input A6 : DS2, 3-6
Input A7 : DS2, 3-7
Input A8 : DS2, 3-8

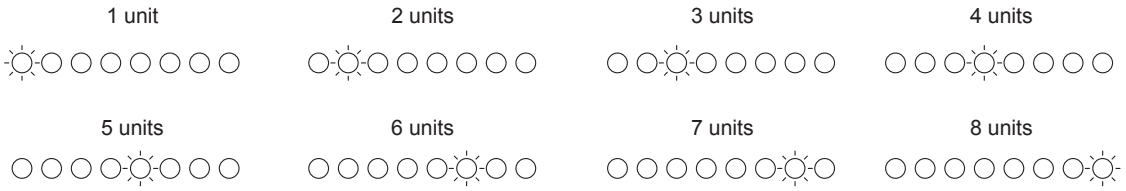
③TP1 Setting (Facility equipment quantity change)
This function is used to set the number of facility equipment controllable with this equipment.
(The number of controllable facility equipment factory shipment is 8.)
(Setting Method)
1. Turn the power “ON” with TP1 short-circuited and change the quantity of facility equipment according to the DS4, 5 setting. The relation between DS4, 5 setting and facilty equipment quantity is as per the table below.
2. Turn the power OFF.
3. Open the TP1 and turn all DS4, 5 switches “OFF”.
4. Turn the power ON again.
5. Short-circuit the TP1, and check to see if the setting coincides with the number of facility equipment connected to this equipment.
6. Finally, open the TP1.

TP1	Shortcircuit (with power “ON”)			
DS4 DS5				
Setting Contents	1 unit	2 units	3 units	4 units
TP1	Shortcircuit (with power “ON”)			
DS4 DS5				
Setting Contents	5 units	6 units	7 units	8 units

 This indicates the switch knob.

By short-circuiting the quantity change TP1 in the normal operating condition, the setting status can be confirmed.

Operation monitor

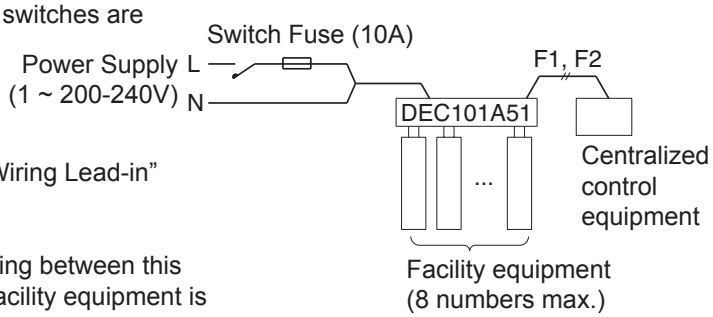


☼ This indicates LED lighting.

Electric wiring connection

Wiring Procedure

①<F1/F2> wiring between this equipment and centralized control equipment is required.
②The connection to the facility equipment and setting of various switches are required.
See the "**Wiring with Facility Equipment**" paragraph.
③Connect the power supply and earth.
See the "**Power Supply & Earth Wiring**" paragraph.
④For the wiring connection and clamping method, refer to the "Wiring Lead-in" paragraph.



Wiring with Facility Equipment <CAUTION> The length of wiring between this equipment and facility equipment is 100m max.

Power Supply & Earth Wiring

- For power supply, 1 ~ 20 0-240V is used. the wiring to the power terminal block (L/N) is required. The electric wire used should be 1.25 to 2.0mm^2. After checking the power supply specifications, make correct connections.
- Connect the earth wiring to the "⏚" terminal. Use a 2.0mm^2 wire.

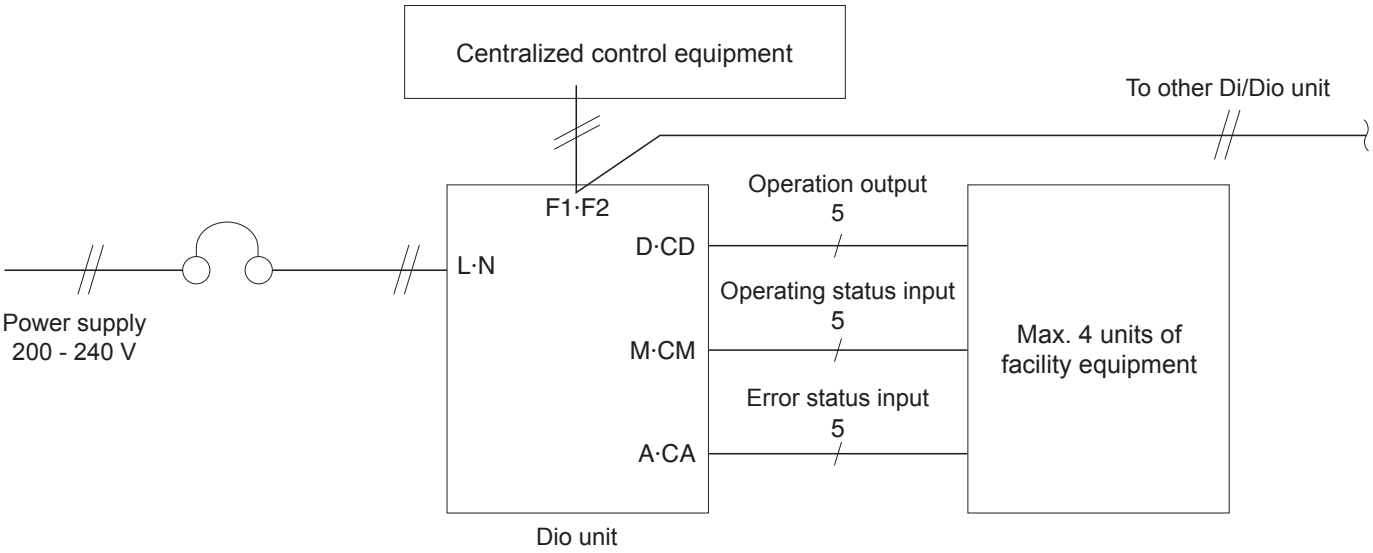
4.2. Dio Unit <DEC102A51>

Using this unit, connection of other facilities other than air conditioner is made possible, such as power supply facility, sanitary facility, anti-disaster facility, and crime prevention facility.

Function

Type	BRC1C62	DEC102A51
Group/Zone / Item	One Group	Up to 4 groups
ON/OFF	Possible	Possible
Temp. setting	Possible	Impossible
Airflow rate setting	Possible	Impossible
Airflow direction setting	Possible	Impossible
Timer setting twice a day	Possible	Impossible
Mode setting	Possible	Impossible
Filter sign reset	Possible	Impossible
Inspection/Test operation	Possible	Operation & Error display only by lamps

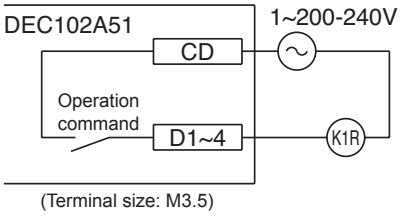
• Dio Unit (DEC102A51)



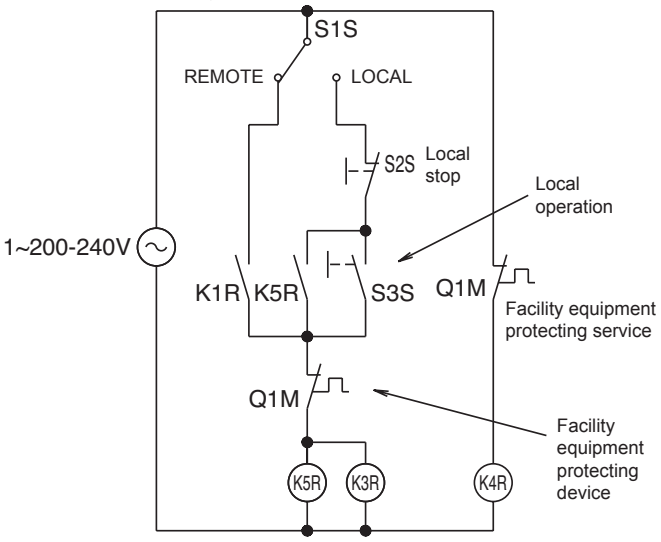
Operation output

It is possible to select continuous 1 output (4 points) or instantaneous 2 output (ON/OFF pair-2 points).
For switching, refer to 2. Initial Setting ④

• Wiring at Continuous Output (Up to 4 facility equipments can be connected.)

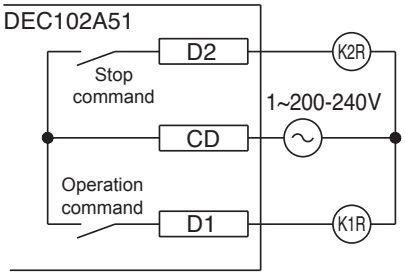


Facility Equipment Operation Circuit Example

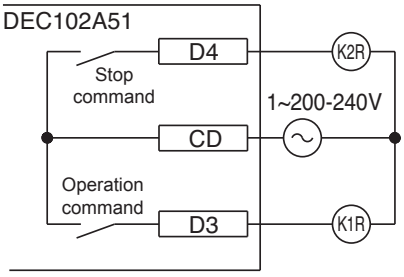


• Wiring at Instantaneous Output (Up to 2 facility equipments can be connected.)

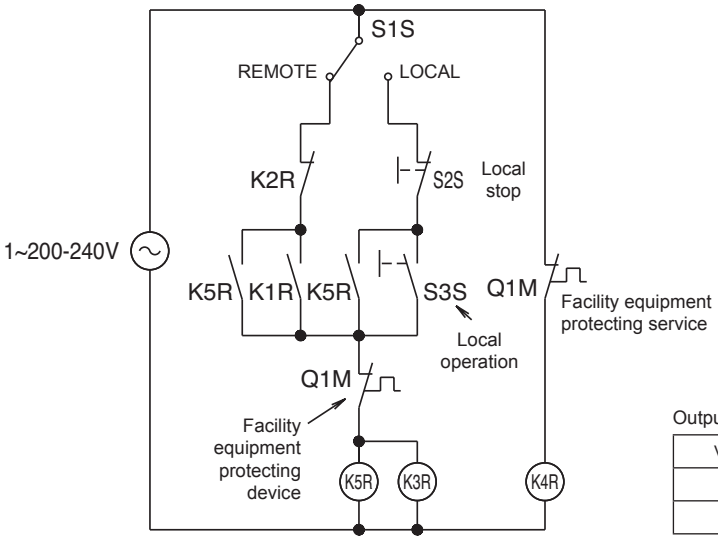
Output wiring for facility equipment 1



Output wiring for facility equipment 2



Facility Equipment Operation Circuit Example



Output SPEC: No-voltage “a” contact

Voltage SPEC	Maximum Current	Minimum Current
200-240V	1.5A (Resistive Load)	10mA
DC5~24V	2A (Resistive Load)	10mA

Operation input

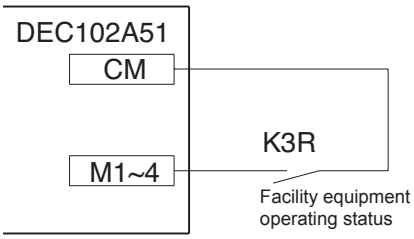
When the contact is “Closed”, “Run” is to be inputted.
Input SPEC: No-voltage “a” contact (When applied voltage is 20 tot 30V DC and the contact is “Closed”, the welding current is approx. 10mA.)

Abnormal input

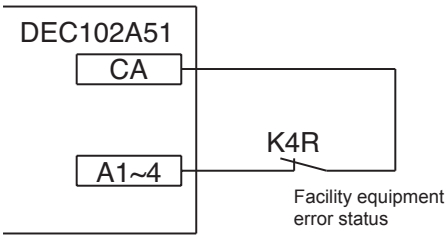
When the contact is “Open” or “Closed”, “Error” is produced. For changeover, refer to “**1.5.4 Electric Wiring Work and Initial Setting”**

Input specifications: No-voltage “a” contact (The welding current is approx. 10mA when the applied voltage is 20 to 30V DC and the contact is “Closed”.)
For input, use the contact for micro current. (12V DC, 1mA max.)

Facility equipment operating status input wiring



Facility equipment error status input wiring



When the switch was set to “Ins.” (Instantaneous Output), the operation input terminals M3, M4 and abnormal input terminals A3, A4 are not used.

Terminal used in case where the switch was set to “Continous Output” (Con.) or “Instantaneous Output” (Ins.)

Facility equipment (Up to 4 units can be connected to single DEC102A51.)	Terminal used in the case of setting to “Continuous Output”					
	Run/Stop output terminal		Operation input terminal		Abnormal input terminal	
1st equipment	CD	D1	CM	M1	CA	A1
2nd equipment	CD	D2	CM	M2	CA	A2
3rd equipment	CD	D3	CM	M3	CA	A3
4th equipment	CD	D4	CM	M4	CA	A4

Facility equipment (Up to 2 units can be connected to single DEC102A51.)	Terminal used in the case of setting to “Instantaneous Output”							
	Operation output terminal		Stop output terminal		Operation input terminal		Abnormal input terminal	
1st equipment	CD	D1	CD	D2	CM	M1	CA	A1
2nd equipment	CD	D3	CD	D4	CM	M2	CA	A2

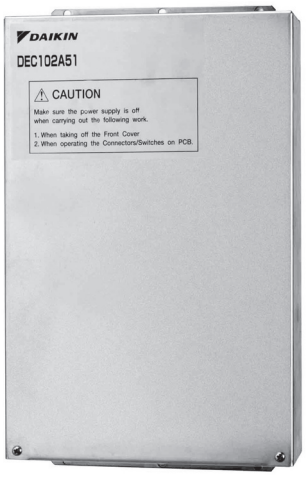
When the switch was set to “Ins.” (Instantaneous Output), the operation input terminals M3, M4 and abnormal input terminals A3, A4 are not used.

Power Supply & Earth Wiring

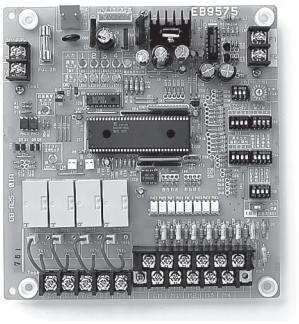
- For power supply, 1~200-240V is used. The wiring to the power terminal block (L/N) is required.
  The electric wire used should be 1.25 to 2.0mm^2.
  After checking the power supply specifications, make correct connections.
- Connect the earth wiring to the “⏚“ terminal. Use a 2.0mm^2 wire.

Part Names and Functions

Appearance

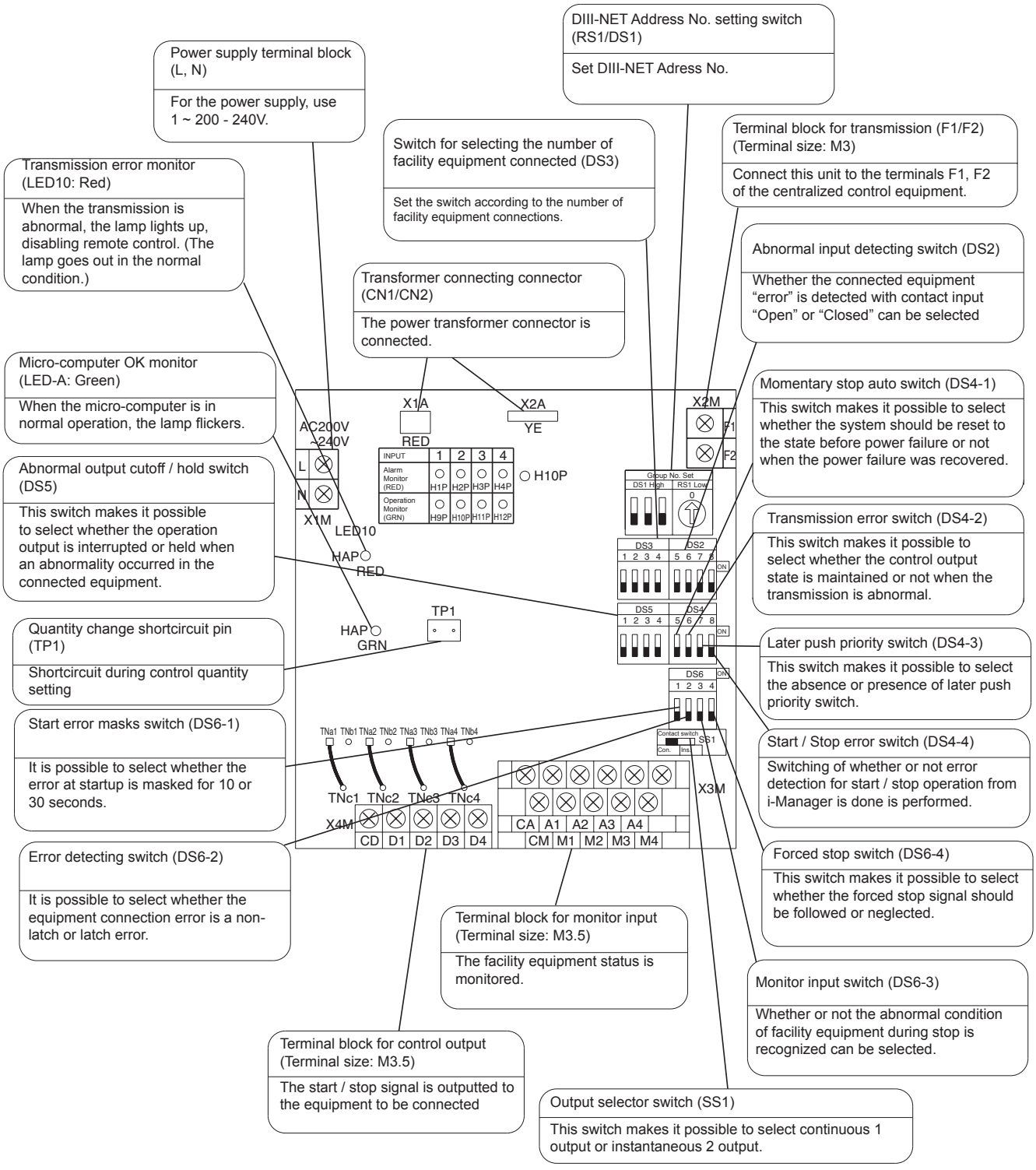


Dio Unit
DEC102A51



PCB in DEC102A51

The figure below shows the PC board built in this equipment.



Specifications

		Dio board
Input contacts		8 points. 4 pairs based on a pair of On/Off input and abnormality input
		* Contact information(On/Off, Abnormality) is transmitted to intelligent Manager III through DIII-Net communication.
Output contacts		4 points. In case of normally output, 4 units are controllable. In case of instantaneous output, 2 units are controllable.
		* From intelligent Touch Controller / intelligent Manager III, On/Off and control of the equipment with the external contacts are possible through DIII-NET communication.
Installation method		Indoor installation
Power supply		To be supplied from outside
Rating		AC200-240V, 50/60Hz
Applied Standard		Safety standard: IEC730, EMC standard: CISPR22-A (EMI), CISPR24 (EMS)
Environment for use	Outdoor air temperature	–15 to 60 °C
	Ambient humidity	95%RH or less (no condensation)
Environment for storage	Outdoor air temperature	–20 to 60 °C
	Ambient humidity	95%RH or less (no condensation)

Output specs: Voltage free "a" contact

Voltage specs	**Maximum current**	**Minimum current**
AC200–240V	1.5 A (resistance load)	10mA
DC5–24V	2.0 A (resistance load)	10mA

Input specs: Voltage free "a" contact
Micro current load contact input (DC12V, 1 mA or less)
Wiring length: 150 m

Installation

(Installation Place)

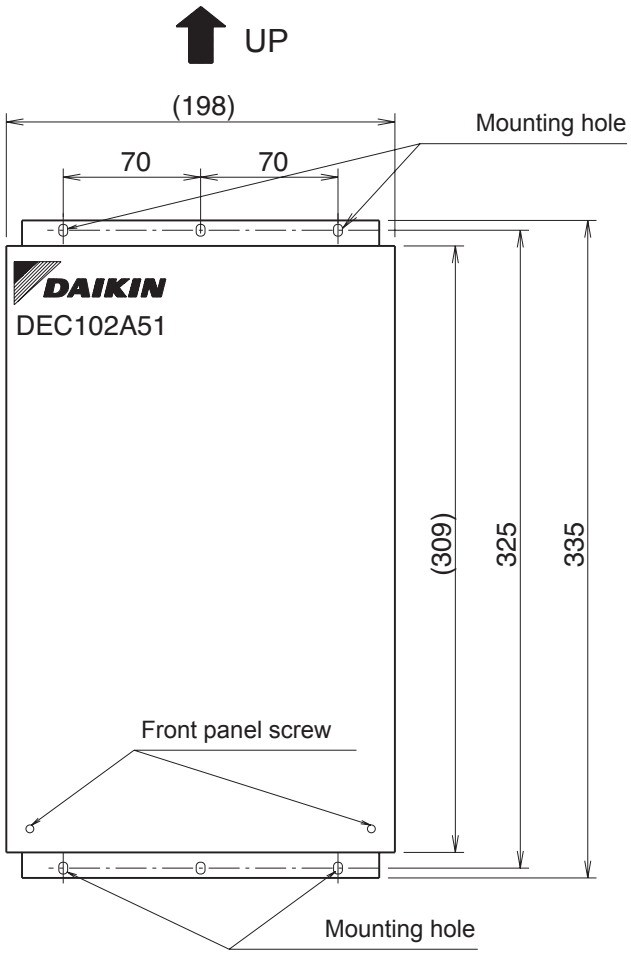
- Install the unit indoors where it is not exposed to water and dust or dirt.
- Install the unit where both temperature and humidity do not become high.
  (Operating (available) temperature: -10 ~ +40°C)
  (Operating (available) humidity: 10 ~ 85%)
- Connect the wiring to be connected in the field from the lower surface side.
  It is, therefore, necessary to make arrangements so as not to attach other equipment within 80mm from the lower surface of this equipment.
- Install this equipment in a place in which only the authorized personnel can touch it.

(Installation Direction)

- Install this equipment vertically to the floor surface. It should be noted that if it is installed in the horizontal direction, a malfunction or failure may result.

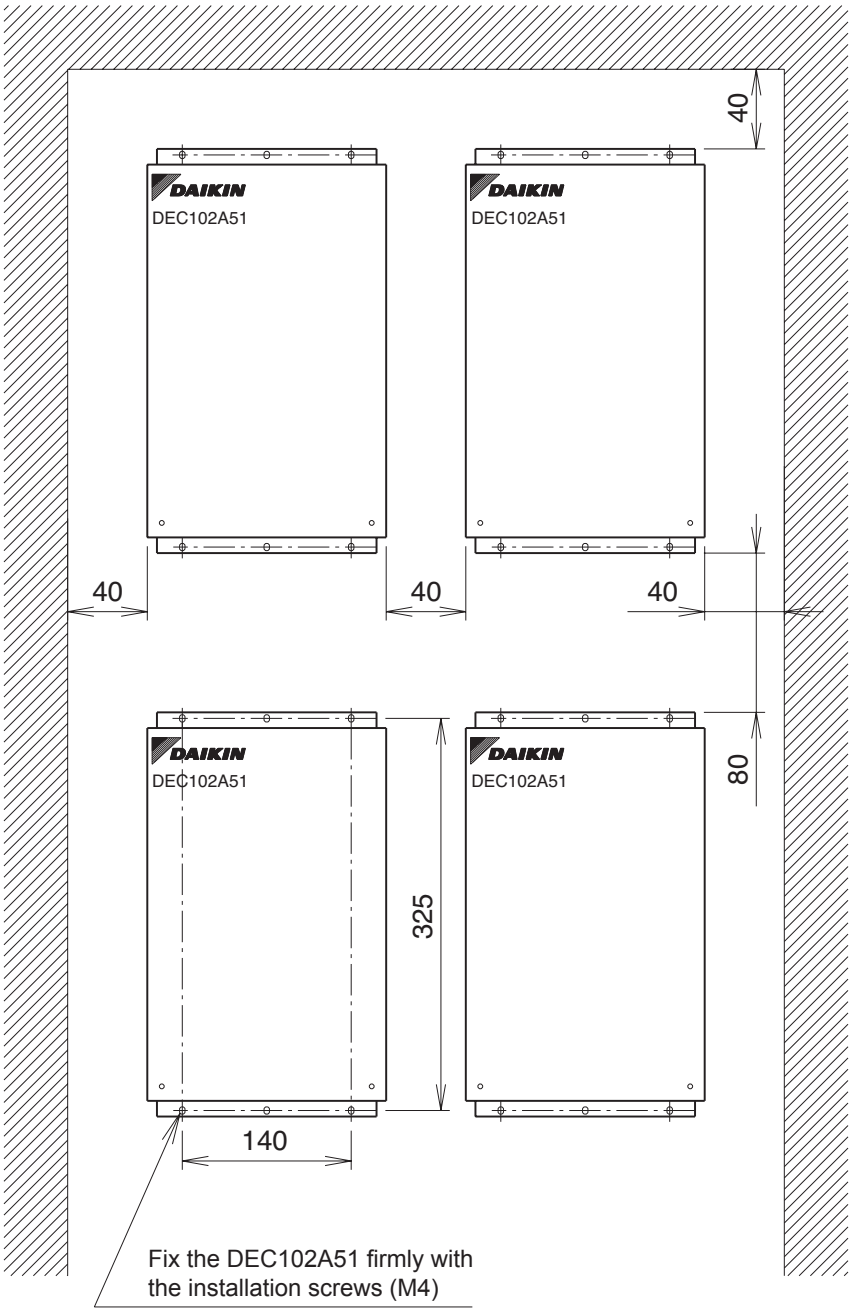
(Installation Method)
Install in container box or in panel.
- Ensure that this equipment is installed with 4 screws (screw size M4 min.).

Unit (mm)



Restrictions in Continuous Installation

In case where several devices are set up and installation inside the power board is carried out, each equipment installation space and space between the wall surface and this equipment should be left at least as shown below.



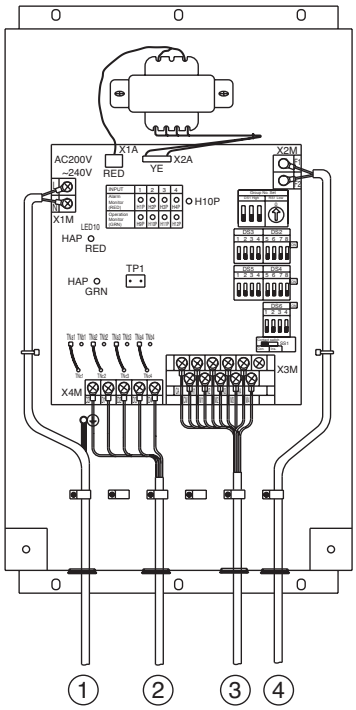
(To Remove front Panel:)

"1.4.4 Electric Wiring Work and Initial Setting" should be performed with the front panel removed.

The front panel can be removed by detaching 2 front panel screws shown in the figure above and sliding it lightly to the upper side. Upon completion of all wiring connections and setting operations, close the front panel as it was and screw it firmly.

Electric Wiring Work and Initial Setting

Electric Wiring Work



No simultaneous clamping is allowed for high-voltage wiring <power supply wiring (L/N), earth wiring, relay output wiring (CD, D1 to 4)>, low-voltage wiring <communication wiring (F1/F2), operation input wiring (CM, M1 to 4) and abnormal input wiring (CA, A1 to 4)> since malfunctioning may result. Also, in case where the wirings described above are routed in parallel, be sure to connect the wirings at least 50mm apart from the other.

① To 1~200-240V and earth
② To facility equipment
③ To facility equipment
④ To terminals F1, F2 of the centralized control equipment or terminals F1, F2 of other equipment
(outdoor unit, DEC101A51, 102A51)

Initial setting

• DEC102A51 Switch Settings

	Name	Operation	OFF	ON
SS1	Output switching	Switching control output	Always output "1"	Always output "2"
DS2	Abnormal input detection Open/Close	Failure detection Open: Close (Normal) Æ Open (Abnormal) Close: Open (Normal) Æ Close (Abnormal)	Open	Close
DS3	Buzzer output ON/OFF	ON/OFF switching of buzzer output of buzzer unit upon detection of failure.	ON	OFF
DS4-1	Instantaneous automatic recovery	Recover control output after power failure to status before the power failure.	No	Yes
DS4-2	Transmission failure	Shut off control output upon detecting transfer failure.	Yes	No
DS4-3	Last command priority	Allowing start/stop control from facility.	Yes	No
DS4-4	Start/stop failure	Detecting start/stop failure. (*1)	No	Yes
DS5	Abnormal output shutoff/retain	Shut off control output upon detecting failure.	Yes	No
DS6-1	Startup failure	Masking time after detecting operation input.	10 seconds	30 seconds
DS6-2	Failure detection	Operation upon recovery from failure.	Automatic reset	Retained
DS6-3	Monitor input	Detecting failure under halting status.	Yes	No
DS6-4	Forced termination	Ignoring forced stop signal.	No	Yes

Note:

1. All are set to "OFF" upon shipment from factory.
2. *1 If operating feedback input is not detected within 10 seconds after 1 operation input is received, it results in start/stop failure.

Factory preset before shipment

C/C : Centralized control equipment
C/D : Connectable Devices or Facility equipment

Switch	Condition	Factory preset before shipment
DS1	Range of address No.	1-00, 01, 02, 03
DS2	A1 - AM	Abnormal in the open condition
DS4-1	Power failure, then after power recovery	Stop
DS4-2	Communication abnormal	Stop
DS4-3	Last command priority or C/C only	Last command priority
DS4-4	Operation commands from C/C reach to C/D , but no operation.	No abnormality signal to C/C
DS5	Of abnormal in C/D,	CD- D1~4 is "turned off".
DS6-1	Mask time for abnormal input after operation command from C/C	10 seconds
DS6-2	After error of C/D is recovered	Automatic reset
DS6-3	Abnormal input + stop state of C/D	Error display on C/C
DS6-4	Forced stop command from C/C	C/D stop
SS1	Continuous output "Con" / Instantaneous output "Ins"	Continuous output
TNa	"a" contact or "b" contact for CD- D1~4	"a" contact
DS3	Number of C/D	4

"a" contact: make-contact, "b" contact: break-contact

① Set the top address of this equipment with the DIII-NET setting switch (DS1/RS1). Using the DIII-NET setting switch (DS1), set the range of Adress No. that is set in this equipment. Address Nos. 1-00 to 1-15 are factory controlled before shipment.

Control range DS1	1-00 ~ 1-15	2-00 ~2-15	3-00 ~ 3-15	4-00 ~ 4-15
Control range DS1 (high order) setting (Address range)	 *			

* when a product is discharged from the factory


This indicates the switch knob.

Set Address No. (low order) with the centralized address setting switch (RS1).
Referring to the table below, set the address number low order.
(Address Nos. are 1-00, 1-01, -- 1-15, 2-00, --- 4-15.)

RS1 Swith Setting Table * When a product is discharged from the factory

Position	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Address No.	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15

In this case, it follows that this equipment uses Address Nos. 1-08 to 1-11. (4 numbers max.)

<Example>
When Adress No. is set to 1-08

High order: 1 Low order: 8

Address No. indicates the following portion in this case.

1-8
High order Low order

* Number of centralized addresses used
The number of centralized adresses used is determined by the top address set in this paragraph and the number of facility equipment connected that is set in "⑤ TP1 setting (Facility equipment quantity change)" paragraph.

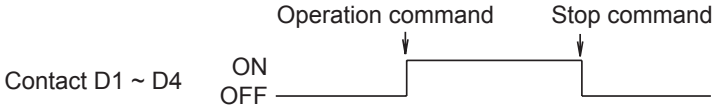
Example 1: When the top address was set to "1-00" and the number of facility equipment was set to "2", it follows that "1-00" and "1-01" are being used.
Example 2: When the top address was set to "3-15" and the number of facility equipment was set to "4", it follows that "3-15", "4-00", "4-01" and "4-02" are being used.

<CAUTION>
This equipment can use the addresses between "1-00" and "4-15".
(It is impossible to use Address 5-00 and subsequent addresses, and use any address in duplication.
Example: When the top address was set to "4-14", the number of facility equipment cannot be set to "4".
In this case, set it to "1" or "2".)

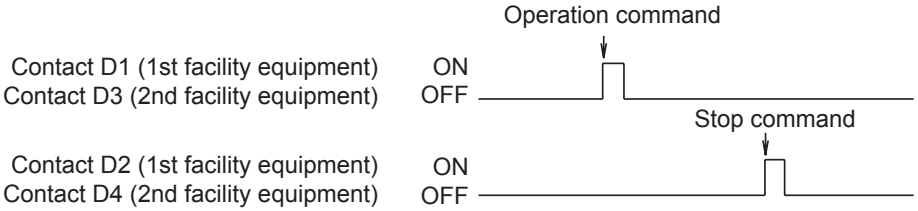
② DS2 Setting
This switch selects whether the input is abnormal with the abnormal input contact (A1 to A4) oper or closed.
OFF (factory preset before shipment) --- Abnormal in the open condition
ON --- Abnormal in the closed condition
The relationship between each switch and abnormal input is as described below.
Input A1: DS2-1 Input A2: DS2-2
Input A3: DS2-3 Input A4: DS2-4

③ DS4-1 Setting
This switch selects the control output status after power failure occurred in this equipment and the power was recovered.
OFF (factory preset before shipment) --- The control to power after power recovery is handled as stop output.
ON --- The control output after power recovery is handled as output before power failure.

④ DS4-1 Setting
This switch selects continuous output or instantaneous output for control outputs (D1 to D4) commanded to the facility equipment. Set to “Con.” side (factory preset before shipment) --- Continuous output (Contacts D1 to D4 at the time of operation command from the centralized control equipment: ON-Contacts D1 to D4 at stop command: OFF)



Set to “Ins.” side --- Instantaneous output
(Contact D1 or D3 at the time of operation command from the centralized control equipment: ON for one second only-Contact D2 or D4 at stop command: ON for one second only)



⑤ TP1 Setting (Facility equipment quantity change)
This function is used to set the number of facility equipment controllable with this equipment.
(The number of controllable facility equipment factory preset before shipment is 4.)
(Setting Method)
1. Turn the power “ON” with TP1 short-circuited and change the quantity of facility equipment according to the DS3 setting. The relation between DS3 setting and facility equipment quantity is as per the table below.
2. Turn the power “OFF”.
3. Open the TP1 and turn all DS3 switches “OFF”.
4. Turn the power ON gain.
5. Short-circuit the TP1, and check to see if the setting coincides with the number of facility equipment connected to this equipment.
6. Finally, open the TP1.

* The number of connectable facility equipment is 4 max. at continuous output, and 2 max. at instantaneous output.

TP1	Short circuit (with power “ON”)			
DS3	DS3 1 2 3 4	DS3 1 2 3 4	DS3 1 2 3 4	DS3 1 2 3 4
Setting Contents	1 Unit	2 Units	3 Units	4 Units

This indicates the switch knob.

By short-circuiting the quantity change TP1 in the normal operating condition, the setting status can be confirmed.

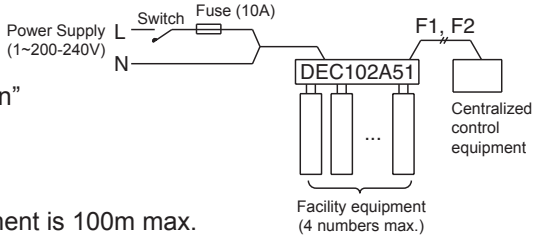
Operation Monitor	1 Unit	2 Units	3 Units	4 Units
	☼○○○	○☼○○	○○☼○	○○○☼

☼

Electric wiring connection

Wiring Procedure

①<F1/F2> wiring between this equipment and centralized control equipment is required.
②The connection to the facility equipment and setting of various switches are required.
See the “**Wiring with Facility Equipment**” paragraph.
③Connect the power supply and earth.
See the “**Power Supply & Earth Wiring**” paragraph.
④For the wiring connection and clamping method, refer to the “Wiring Lead-in” paragraph.



Wiring with Facility Equipment

<CAUTION> The length of wiring between this equipment and facility equipment is 100m max.

5. Power proportional distribution

System Architecture

Confirmation of Watthour Meter

For distribution of electric energy, the integrating watthour meter with pulse transmitter is required.
It is important to confirm that the specifications coincide with each other, and also to confirm with the division in charge (normally, electrical work division, not air-conditioning div.).

Specifications of watthour meter to be connected to intelligent Manager

a) To be an integrating watthour meter with pulse transmitter.
b) The output pulse unit (pulse weight) is to be from 0.1 kWh/pulse to 10 kWh/pulse.
c) The pulse width is to be within 20~400 msec and pulse interval have to be more than 100 msec.
d) The semiconductor relay is to be used for pulse output, and it to be no-voltage output.

If the specifications are not coincident, there is a possibility that the following imperfections are caused:

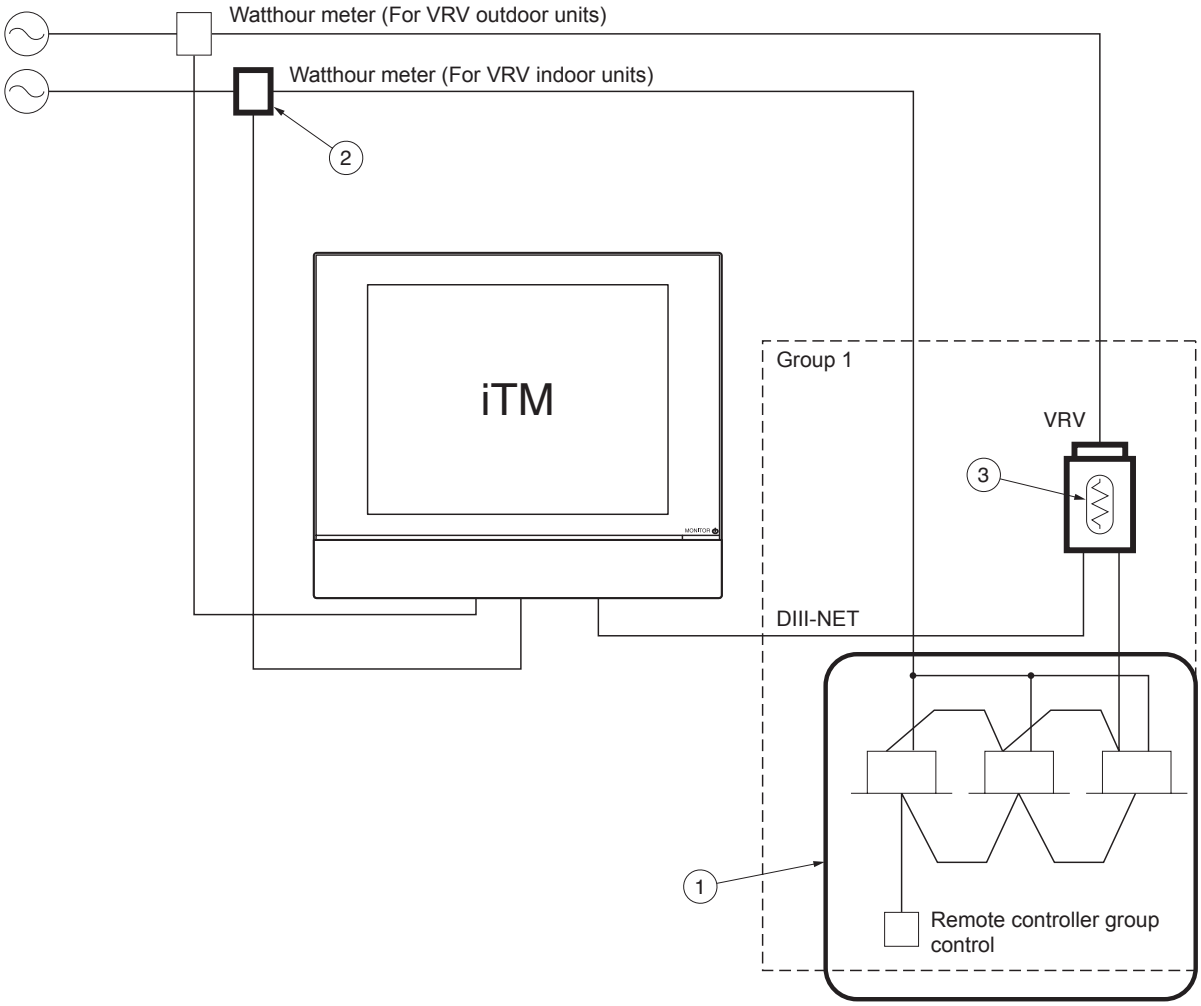
- If the pulse width is not within 20~400 msec.
  If it is less than 20 msec, the pulse input cannot be detected, and the result of calculation is smaller than the real value.
  In addition, if more than 400 msec, more than 2 pulses is detected for 1-pulse input, and the result of calculation is larger than the real value.
- If use of contact other than electronic type relay.
  If it is a mechanical relay, the pulse may not accurately be detected due to relay chattering.

Confirm the following items for the construction process.

- Construction of pulse signal line is kept away from power cables
  For this pulse signal line, the voltage DC16V should be applied from the intelligent Manager side. It should be constructed separating from the power cables.
- Max. distance to be 200 m
  Confirm that the distance with the watthour meter~intelligent Manager is within 200 m.

Design Precautions

Calculation Condition



(1) Remote controller group ①

Also in the indoor unit (sub-unit) with remote controller group, set the group address for correct electric energy distributing.
(The group address for sub-unit can be set in the site set mode "30" of the remote controller.
However, after setting with "30", if set with "00", the sub-unit address will be deleted.)

⟶ An imperfection in case collective distribution is done with main-unit running state without setting of group address at sub-unit

Even if the remote controller group control is done, each indoor unit has different thermostat state depending on its installation place.
Therefore, the distribution result will differ depending on the decision which indoor unit is to be as main unit.

(2) In case power consumption of indoor unit to be included ②

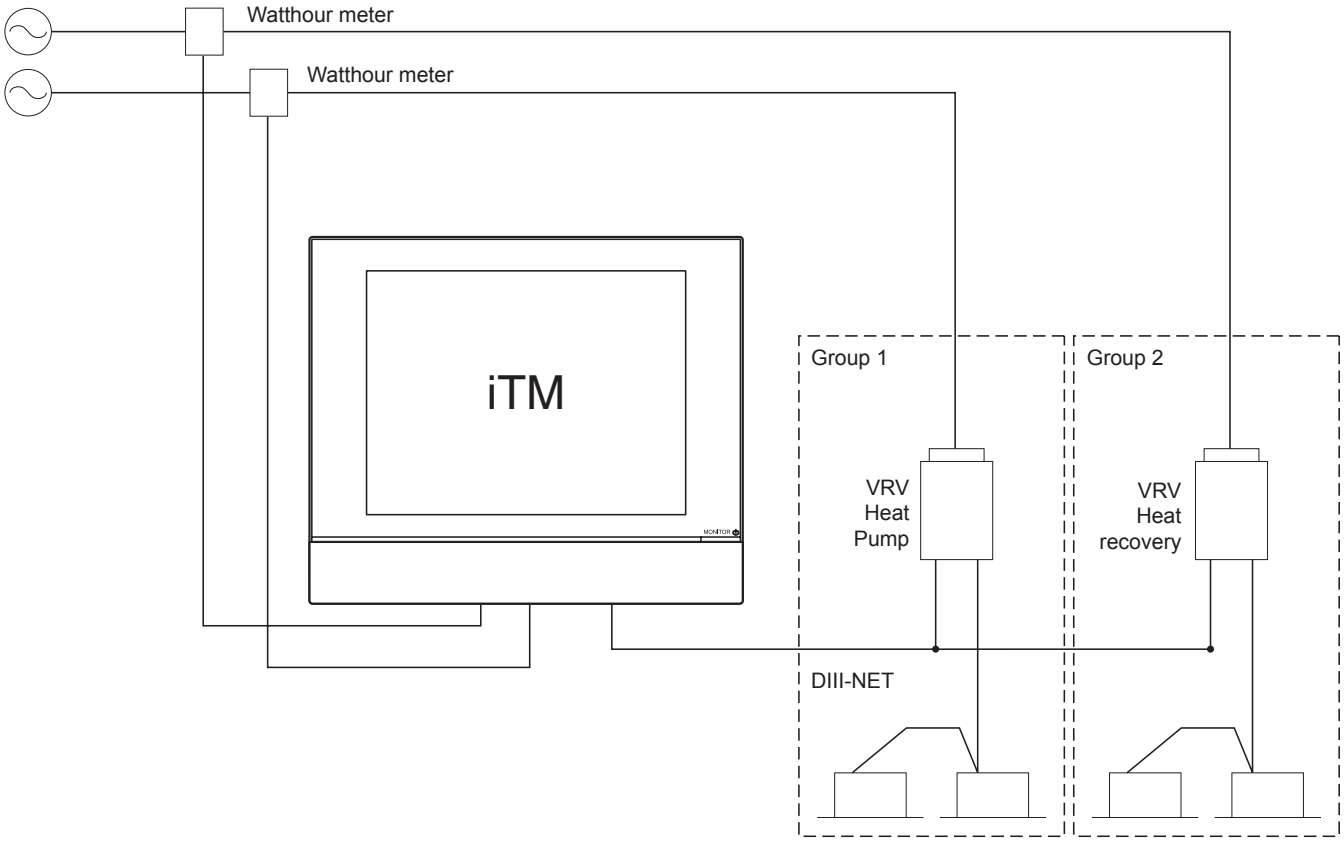
It is necessary to connect the watthour meter to the power supply line of the indoor unit and input its pulse to iTM.
In this case, "included power of Fan" has to be set to "Yes" in the PPD setup tool.

(3) Calculation of electric power (Crankcase heater / PCB power consumption) at stopping ③

1. In case of calculation for crankcase heater and PCB when not in operation.
   (1) The electric power consumed by crankcase heater of the outdoor unit is divided by the capacity of each indoor unit.
   Note: The calculation also includes the indoor units which are not in operation. (eg.vacant)
   In this case, "included power during STOP" has to be set to "Yes" in the PPD setup tool.
2. In case of not calculating for crankcase heater and PCB when not in operation.
   (1) It is possible to exclude the power consumed by crankcase heater and PCB.
   Therefore the power will not be added to each indoor unit.
   In this case, "included power during STOP" has to be set to "No" in the PPD setup tool.

Setting of Each Electric Power Group

Watthour meters have to be installed for Heat Pump type VRV and Heat Recovery type VRV respectively as shown below figure and make power groups respectively.



The Reason why VRV Heat Recovery must not be Included

For Heat Recovery outdoor units, the watthour meter must be independently installed.

(1) For heat recovery, there is a case that the power consumption is less than VRV and VRV Plus.

(2) However, if different systems are put on the one meter, the electric power distribution would be calculated by constant counting, and the calculation result would then more than the actual value on all indoor units.

Therefore, it is necessary to install the watthour meter independently as shown in Fig. 2.
In addition, the power port No. in Address Table must be different from others. (To be set at test operation)

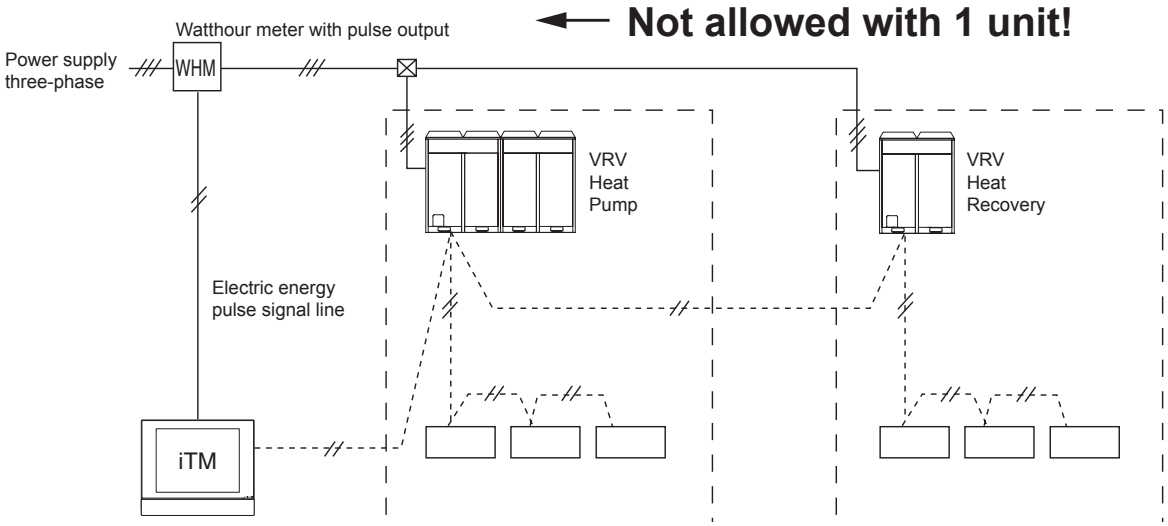


Fig.1 Not Recommended : Watthour meter is shared.

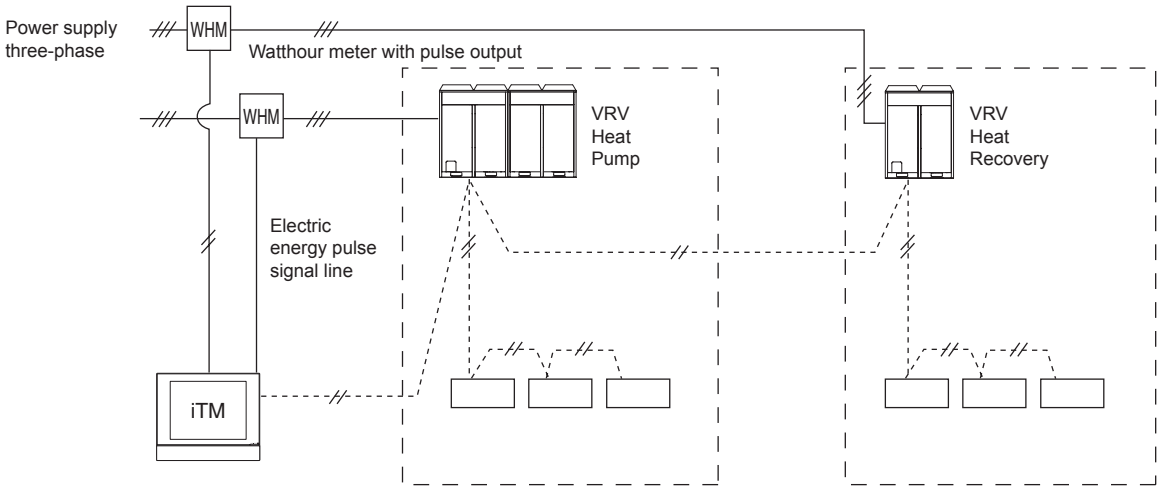


Fig.2 Recommended : Heat Recovery and other system watthour meter are separated.

Caution:

It is possible to register to the same electric power group for the following combination.

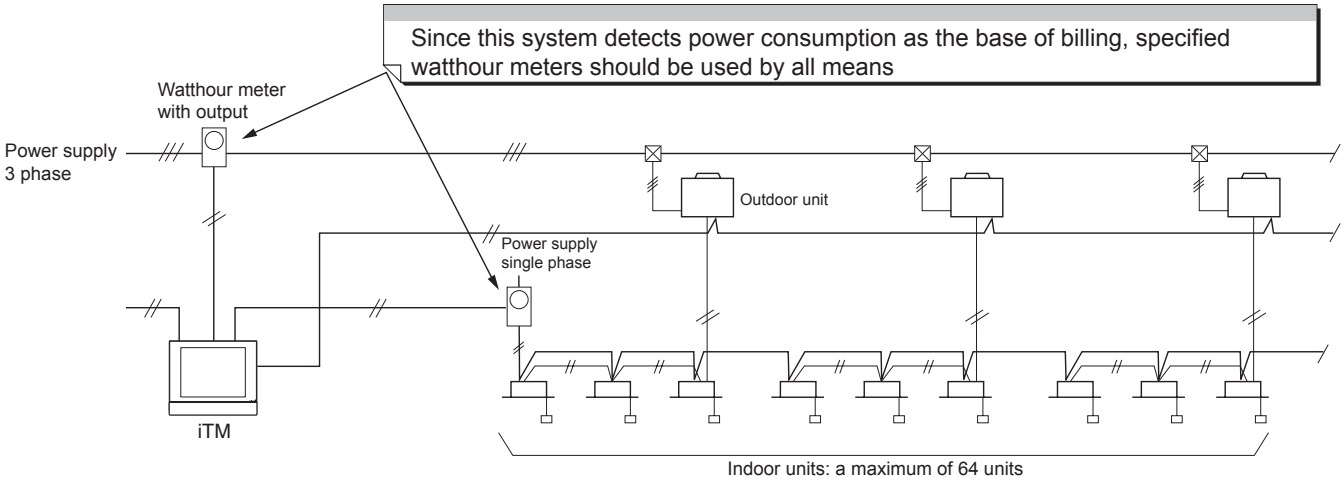
1. VRV, VRVII Heat Pump (R-22, R-407C)
2. VRV Heat Recovery (R-22, R-407C)
3. VRVII, VRVIII Heat Pump (R-410A)
4. VRVII, VRVIII Heat Recovery (R-410A)

When the combination of the above-mentioned is not observed, a correct power proportional distribution calculation cannot be done.

Explanations of Power Proportional Distribution

What is the Power Proportional Distribution (PPD)

(System Ex. : Normal VRV)



- Previously the general way for requesting the electricity charge at tenant buildings was that a management staff read a watthour meter and billed the tenants by manual-account based on the operation time which were counted through time-counters.
  However, this method takes a lot of time for the management staff. In addition, as air-conditioning consumes much different electricity for either the operation of air-conditioning (thermostat-ON) or the operation of fan only (thermostat-OFF), it might cause to give unfair sense to the tenants inhabited in the spaces with different heat load, though "operation-time" itself is the same.
  For instance, even if a certain higher set temperature is applied in summer for energy saving, fee for air-conditioning may equal to the fee without set temperature so far as it is counted based on the operation time.
- Electric energy distributing function of iTM carries out the proportional division computation in consideration of those thermostat-ON and thermostat-OFF operations and saves time for building management staffs to read watthour meters, and also supplies tenants printed data useful for making the bills.
  Namely, iTM is the product created by the concept to help the assignment of bill-issuing and offers users the reasonable price of the products.
- Yet, since the iTM is constantly assuming each indoor unit's power consumption based on the data which is transferred from indoor units, it should be noticed that the iTM is not which complies with the Weight and Measure Act as shown in the catalogue.
  The details of the cause to count error is described at chapter 1.3.2.

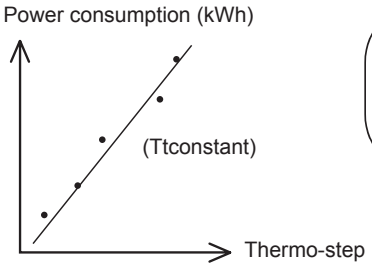
(1) Count method (for a conventional VRV system)

1) The following proportional division calculation is carried out every one hour and assigns the power consumption of air-conditioning system to each indoor unit.
   Heat load depending on the operation conditions of air-conditioner = power consumption of indoor unit's fan
   + power consumption of optional heater
   + the rated power consumption in cooling (*1) ×a
   + the rated power consumption in heating (*1) ×b

$$a = (a1+a2\times T) \times \frac{\text{Thermo.-step (*2)}}{10}$$

$$b = (b1-b2\times T) \times \frac{\text{Thermo.-step (*2)}}{10}$$

a1, a2: correction factor for cooling
b1, b2: correction factor for heating
T: indoor unit's suction air temperature



*1: The value which is registered at the test operation, adapting the indoor unit's capacity

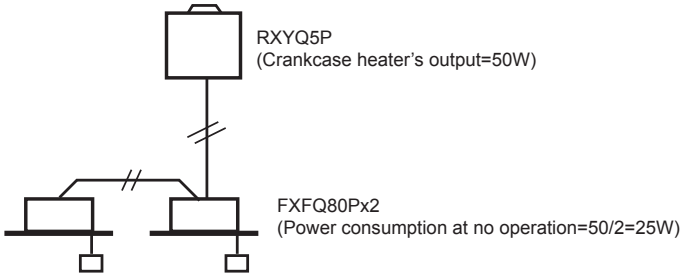
As shown in the left, heat load is calculated from an equation of the first degree which approximates the correlation, among thermostep, indoor unit's suction air temperature and power consumption, into the lineair line under the standard conditions of the unit.

*2: "Thermo.-step" signifies that an air-conditioning capacity is expressed in a range of the values 0-5 mainly based on the opening grade of an electronic expansion valve in an indoor unit.

Indoor units N's power consumption (kWh) = total pulse input from wattmeters x

$$\frac{\text{Heat load by one hour calculated through the operating of air-conditioner N}}{\text{total heat load by one hour calculated through the operating conditions of all the air-conditioners}}$$

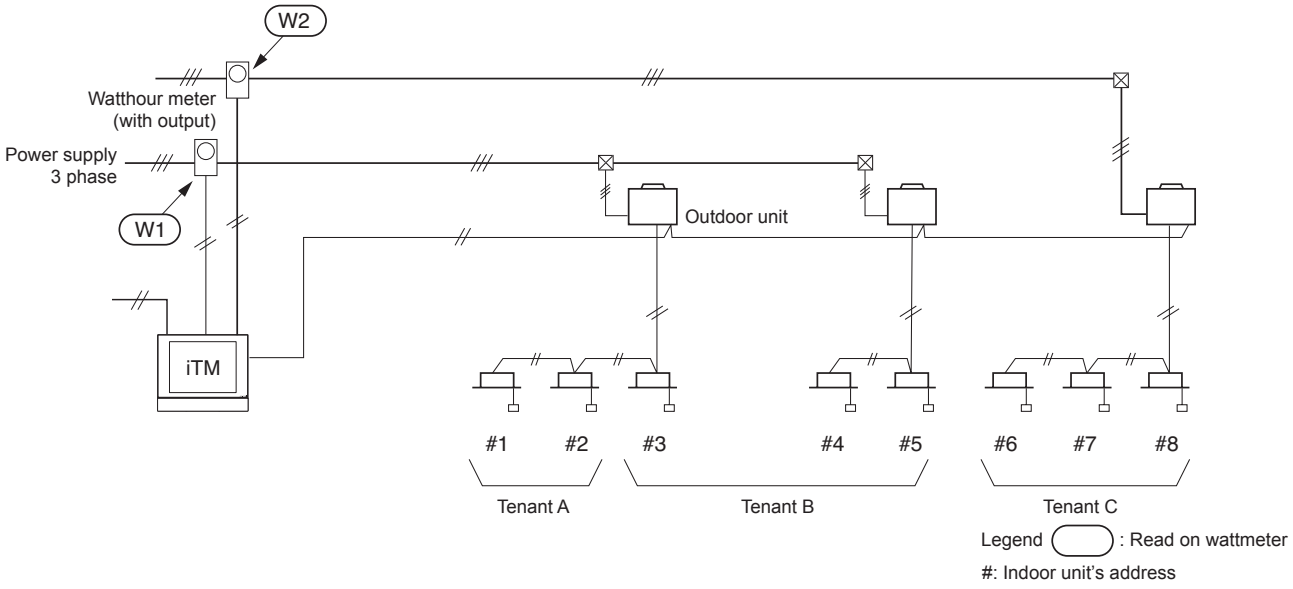
2) Counting the electricity at the stopped condition of the unit
Even if a VRV is stopped or in the condition of thermostat -OFF (the condition that the compressors are stopped as the temperature in the space where all the indoor units are installed falls down to the set temperature), the VRV consumes energy due to the energy consumption mainly by the crankcase heater in the outdoor unit.
When the iTM is used, the rated power consumption of the crankcase heater is divided by the number of indoor units in usual connection (for instance, two indoor units of 2.5 HP are connected to an outdoor unit of 5 HP etc.) and the value is registered at the test operation, adapting each indoor unit's capacity.
(Example)



The iTM counts the indoor unit's operating conditions every 20 seconds.
Since the indoor units send ON/OFF data of the crankcase heater to iTM, it adds one(+1) to the power counter inside iTM at no operation of the air-conditioner when the crankcase heater is ON.
When this counter reaches 180, it judges that the crankcase heater was ON for one hour, and in case of the above mentioned indoor unit, the counter goes back to zero after 25 Wh is added to the counting result.
This calculation process is conducted separately from the proportional division computation mentioned on this section, and this input is got rid of from the pulse input of the watthour meter. Because of this procedure, the power consumption in the space where the air-conditioner is not used at all is counted constantly every month.
(However, as this air-conditioning system is a multi-system, in case that one outdoor unit is shared to another tenant, the count output can be seen in lower value rather than the crankcase heater's power consumption registered, because the crankcase heater does not actuate when another tenant operates the VRV.)

Count Accuracy

(1) Cause of error
(System example)



<Case of arising error>

❶ (W1) + (W2) ≒ Count conclusive total for indoor unit #1~#8 → Refer to the "REASON"

❷ (W1) ≠ Count conclusive total for indoor unit #1~#5

(W2) ≠ Count conclusive total for indoor unit #6~#8 → Refer to the next page

❶ (W1) + (W2) ≒ Count conclusive total for indoor unit #1~#8* : The reason to get and the error size

- **REASON**
  iTM counts every one hour's power consumption.
  Though fraction in case of computation occurs at this time, it is computed after leaving off a 1-W figure to avoid the risk for the owners.
  As a result, the error by the leaving-off occurs by 0.5W/ hour in average value as per each indoor unit.

(Calculation example)

(1) Count for errors in 8-day
Tenant A + B : 0.5 (Wh) × 24 hr × 8 days × 5 units = + 0.48 kWh
Tenant C : 0.5 (Wh) × 24 hr × 8 days × 3 units = + 0.288 kWh
total = + 0.768 kWh

(2) Assuming that the reads on watthour meters are as follows:
W1: read on watthour meter = 490 kWh
W2: read on watthour meter = 200 kWh
total = 690 kWh

(3) Finally it is concluded as total error = 0.768 / 690 × 100 = 0.11%

❷ (W1) ≠ Count conclusive total for indoor unit #1~#5 :

(W2) ≠ Count conclusive total for indoor unit #6~#8 :

iTM counts the power consumption as the following conditions (1)~(6) for the standards. So, the gap to be raised from these conditions may cause the error. Since these errors vary depending on the surrounded situations, the worst error value cannot be drawn out from the computing.

(1) Combination rate of indoor units connected to an outdoor unit	(100%)
(2) Outdoor air temperature	(35°C)
(3) Indoor unit's suction air temperature	(19°C)
(4) Piping length	(5m)
(5) Level difference	(0m)
(6) Pipe diameter	(f22.2)

(2) The way to reduce errors

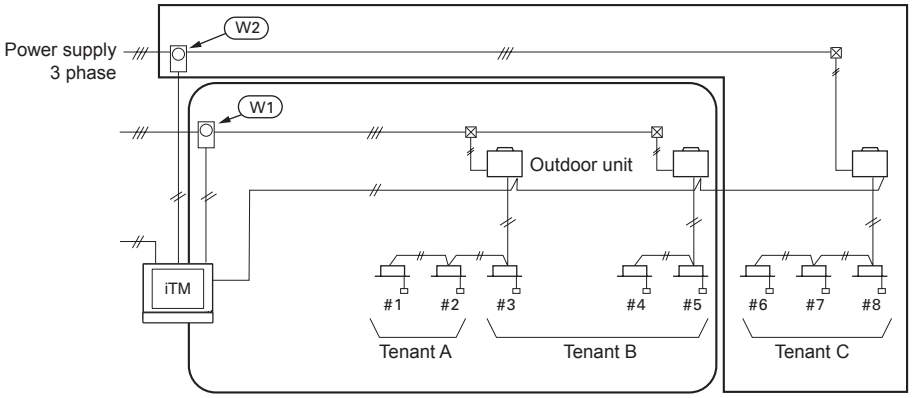
The error ❶ cannot be reduced, however this error is small and negligible, therefore so it can generally clear troubles if excusing the reason caused to tenants.

The way to reduce the error ❷ will be described as follows.

As shown in the drawing below, when the relation between a watthour meter and indoor units are clear, "Power group setting" for each watthour meter can reduce the error.

On the above example, watts at W1 and watts at W2 are shared by indoor units #1~#5 and indoor units #6~#8, respectively.

The above setting results in the followings:



(W1) = Count conclusive total for indoor unit #1~#5

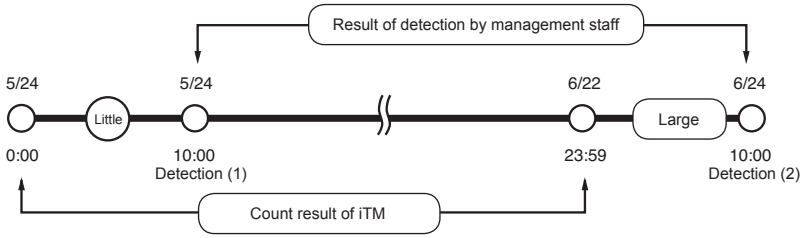
(W2) = Count conclusive total for indoor unit #6~#8

Caution:

If management staff checks the watts in the procedure mentioned below, they would find the calculation to be incorrect due to an uncompleted cycle.

Example:

(1) May/24th, read watthour meter and records the watts at 10:00 am
(2) June/24th, read watthour meter and records the watts at 10:00 am
(3) When the count in a period of May/24th to June/23rd is printed out, the total value does not meet the value detected mentioned above on (2) - (1).



iTM stores the information collected in a period of 0:00 am through 23:59 pm as one day information as shown above.

It results in the fact that there are ten hours gaps between on the first day of the counting and on the last day of the count in the above mentioned column of "Result of detection by management staff" and "Count result".

As shown in the figure above, this error increases in the season from the intermediate forwarding to the season in which air-conditioning is highly required.

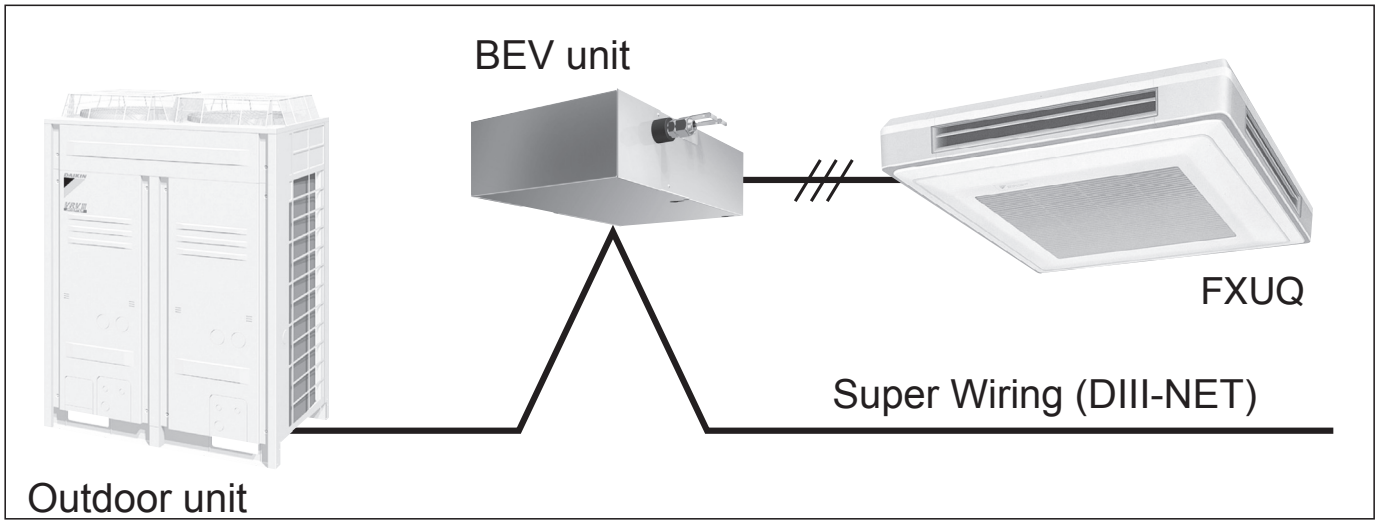
For more accuracy, it is necessary to compare with the value detected at 0:00 am.

Notes

• It is not possible to apportion power consumption for the VRV series indoor unit FXUQ (ceiling suspended cassette type).

(Reason)

VRV and Sky Air use different methods to calculate thermo step, which is a parameter necessary for power consumption apportionment. For the VRV, the indoor unit calculates thermo step. Whereas for the Sky Air, the outdoor unit calculates thermo step. Although FXUQ is a Sky Air-based indoor unit, it cannot gather thermo step information from the outdoor unit because of an intervening BEV unit. Therefore, power consumption apportionment is not possible.



Reference Material

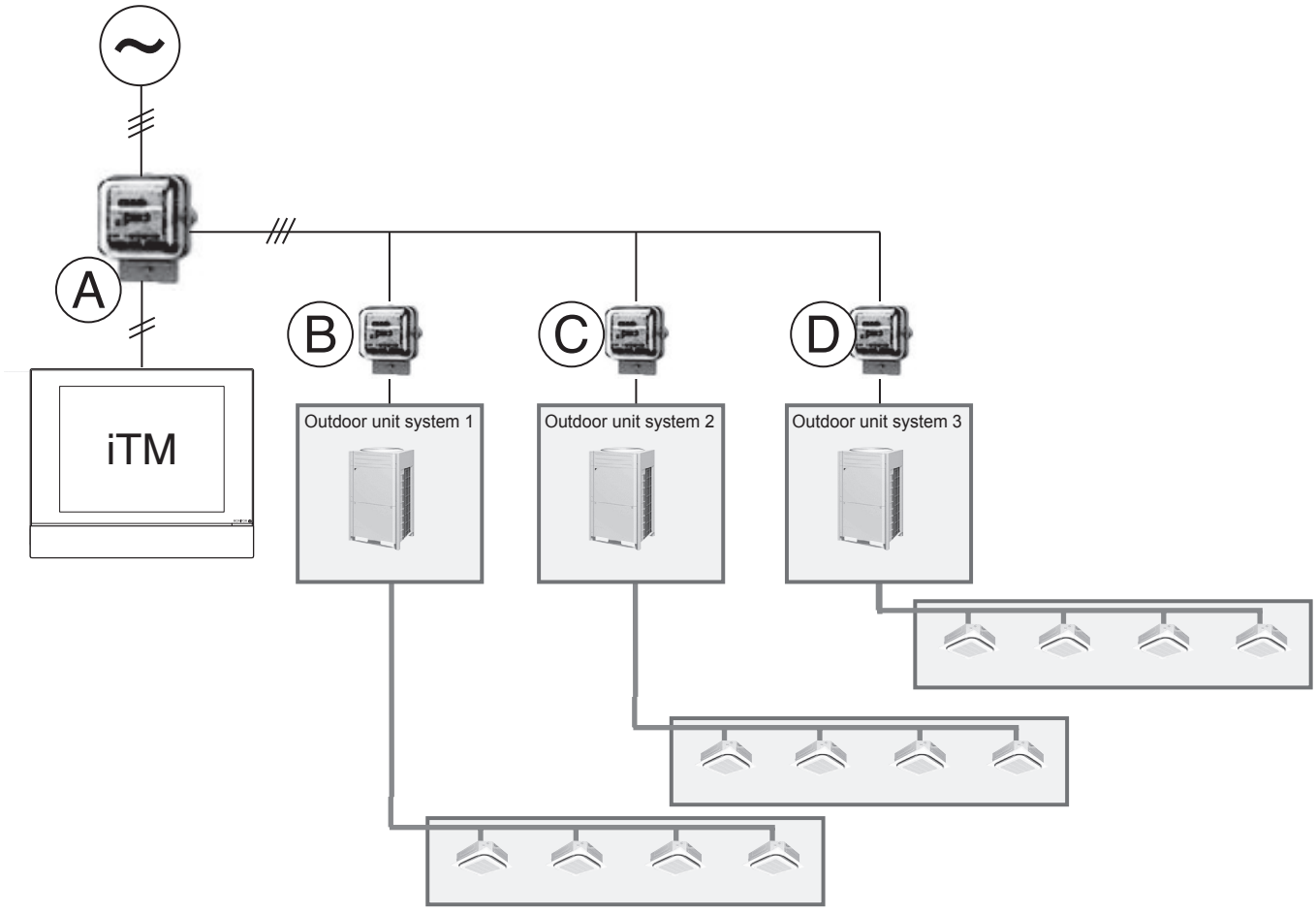
Case Examples

(1) A value on a wattmeter of each outdoor unit system does not correspond to PPD result.

Electric power of wattmeter A is nearly the same as that of wattmeters B + C + D.
However, the PPD result of outdoor unit system 1 (4 indoor units) does not correspond to the value on wattmeter B.

[Reason]
An intersystem difference causes this problem.
The PPD function does not recognize how many outdoor units exist in an electric power group. It regards outdoor units as one big unit to perform PPD calculation.

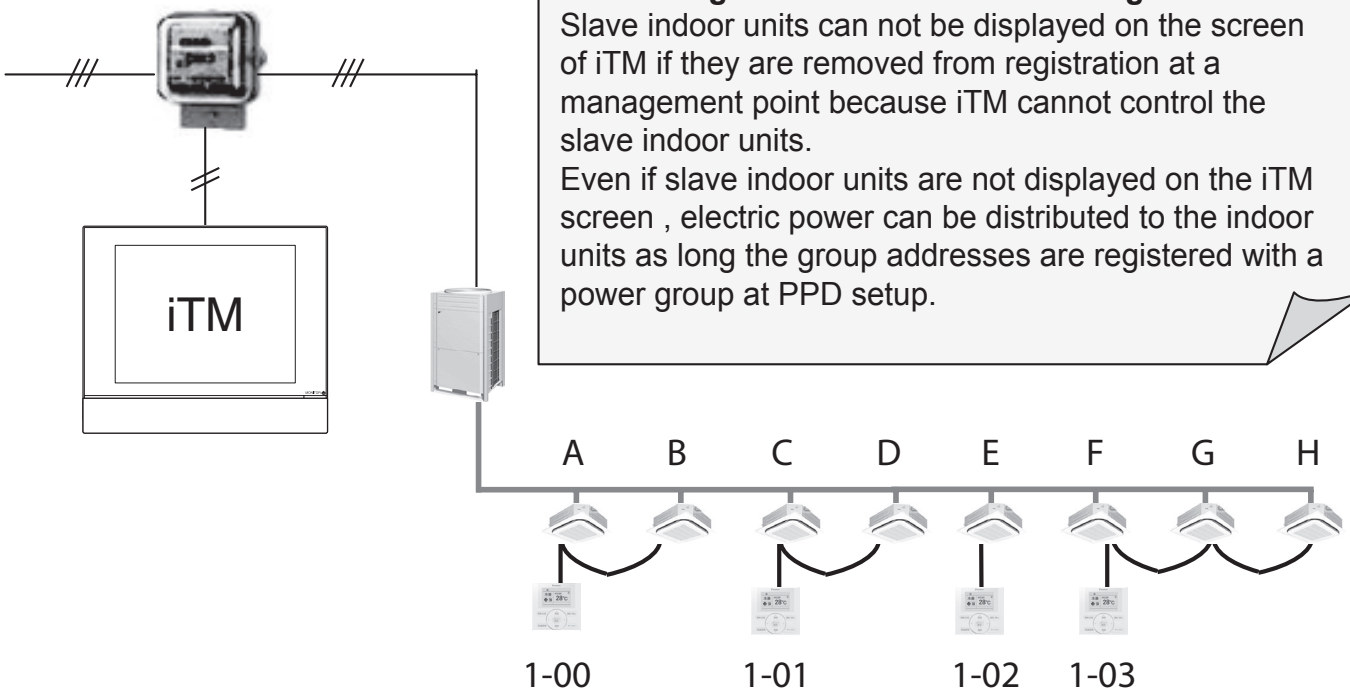
[Countermeasure]
If each outdoor unit system has a watthour meter, make a power group for each outdoor unit system.



(2) A group address is not set to a slave indoor unit with remote controller group.

iTM cannot control slave indoor units (Indoor units B, D, G, and H in the following figure) in remote controller group. In general, the setting of a group address is not required for control with a remote controller group. However, it is necessary to set a group address even to slave indoor units and register it with a power group at PPD setup because a thermo. step and a suction air temperature for each slave indoor units are required for PPD.

If a group address is not set, electric power is not distributed to the indoor unit.
Electric power is distributed among indoor units whose group addresses are registered.

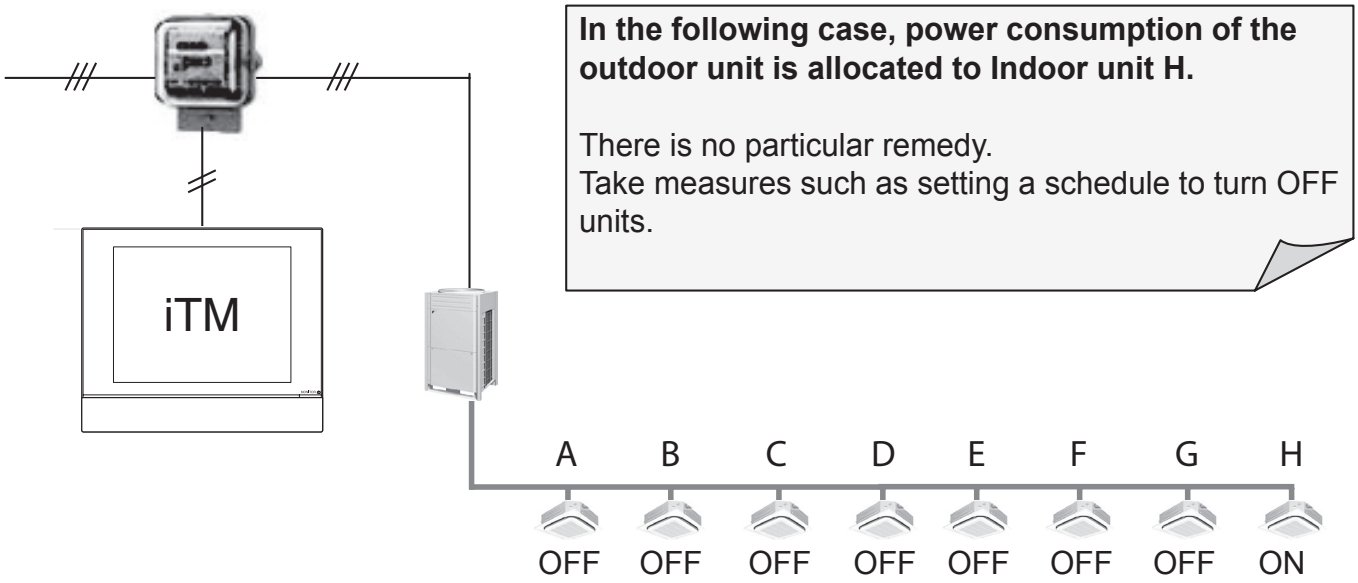


Set a group address to B, D, G, and H for PPD. This setting can be configured in the field setting No. 30 by remote controller.
The setting method is described in Page 332.
Slave indoor units can not be displayed on the screen of iTM if they are removed from registration at a management point because iTM cannot control the slave indoor units.
Even if slave indoor units are not displayed on the iTM screen , electric power can be distributed to the indoor units as long the group addresses are registered with a power group at PPD setup.

(3) A PPD calculation result for a certain tenant is excessively large.

iTM distributes electric power based on operation data from an indoor unit.
If only one VRV indoor unit is in operation, electric power consumed by an outdoor unit increases because a compressor is turned ON only for one indoor unit in operation.
Stopped indoor units do not consume energy power at stopping (standby electricity) because the compressor is turned ON and the crankcase heater is turned OFF.

If accidentally keeping an air conditioner ON at a certain tenant, the power consumption will increase.



(4) When setting the Excluded Time, is there a way to get to know a PPD result of the time?

A power pulse and a thermo. step are not counted during the excluded time.
There is no way to get to know a PPD result or a power pulse inputted during the excluded time.

6. Design of DIII-NET

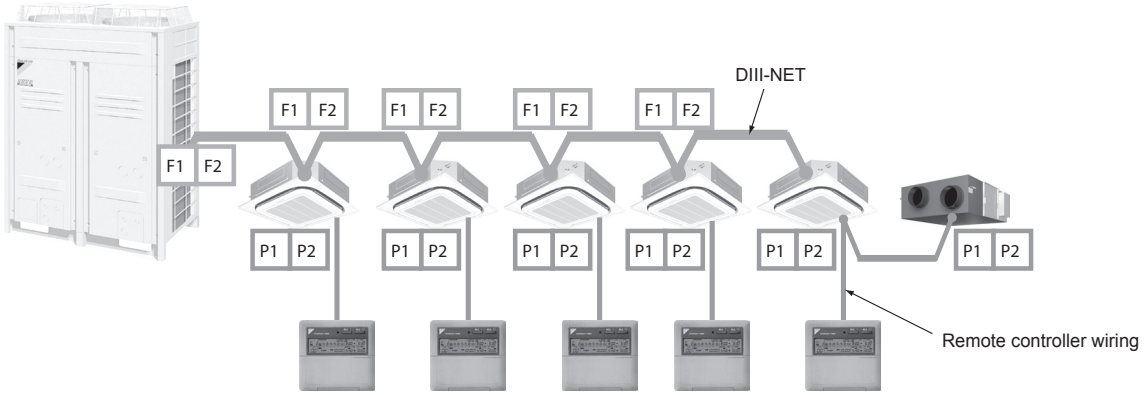
Features of DIII-NET

What is DIII-NET?

DIII-NET is a proprietary high-speed communication method developed by Daikin, with which huge amount of information can be transmit at high speed and various facilities of a building, such as air conditioners, can be freely connected via networks in accordance with the usage, scale, and conditions.

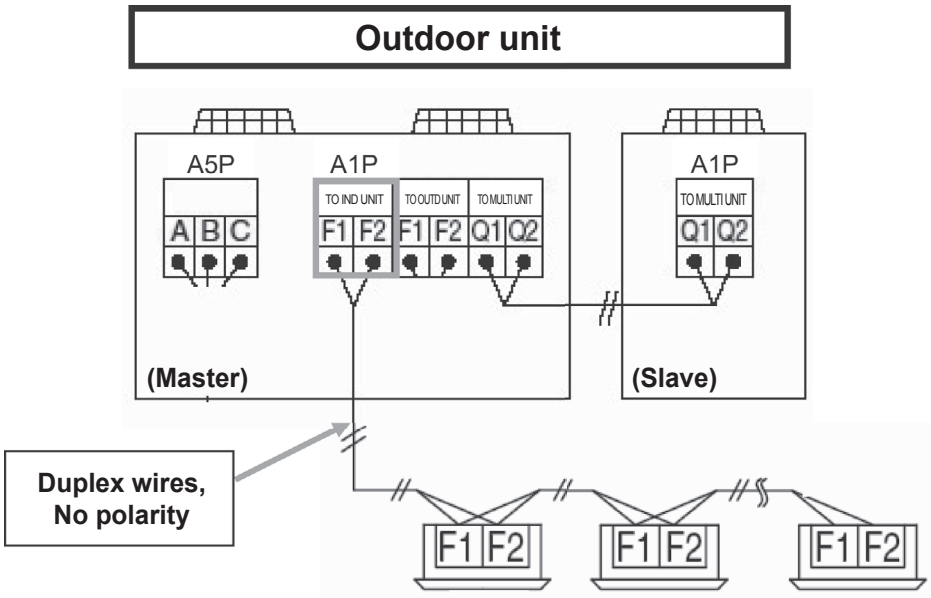
- Various types of air-conditioners installed in a whole building are integrated, and detailed monitoring and control are provided.
- The non-polar 2-wire system reduces the number of required cables inside a building. It also reduces mis-connection, facilitating the connection operation.
- Post-installation can be done easily. Wiring up to 2km in total extension is available.
- Various control devices can be freely connected, and hierarchical risk diversification system can be established as well.
- Comprehensive management of our Heat Reclaim Ventilator and heat source devices is also available.

Terminal Number



Just for operation with each remote controller

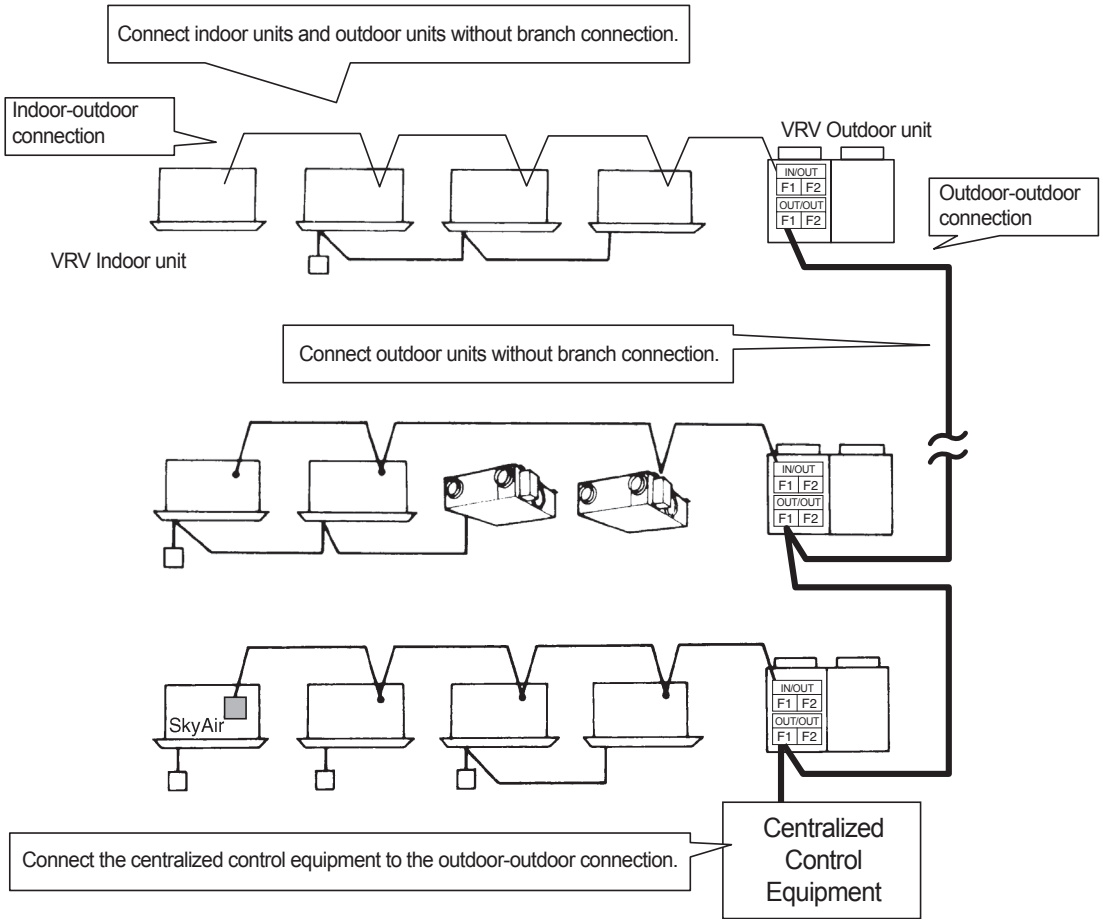
Detail of Outdoor Unit Terminal No.



Connection Method

Correct Wiring

- Series wiring method only should be used.
  [Example]



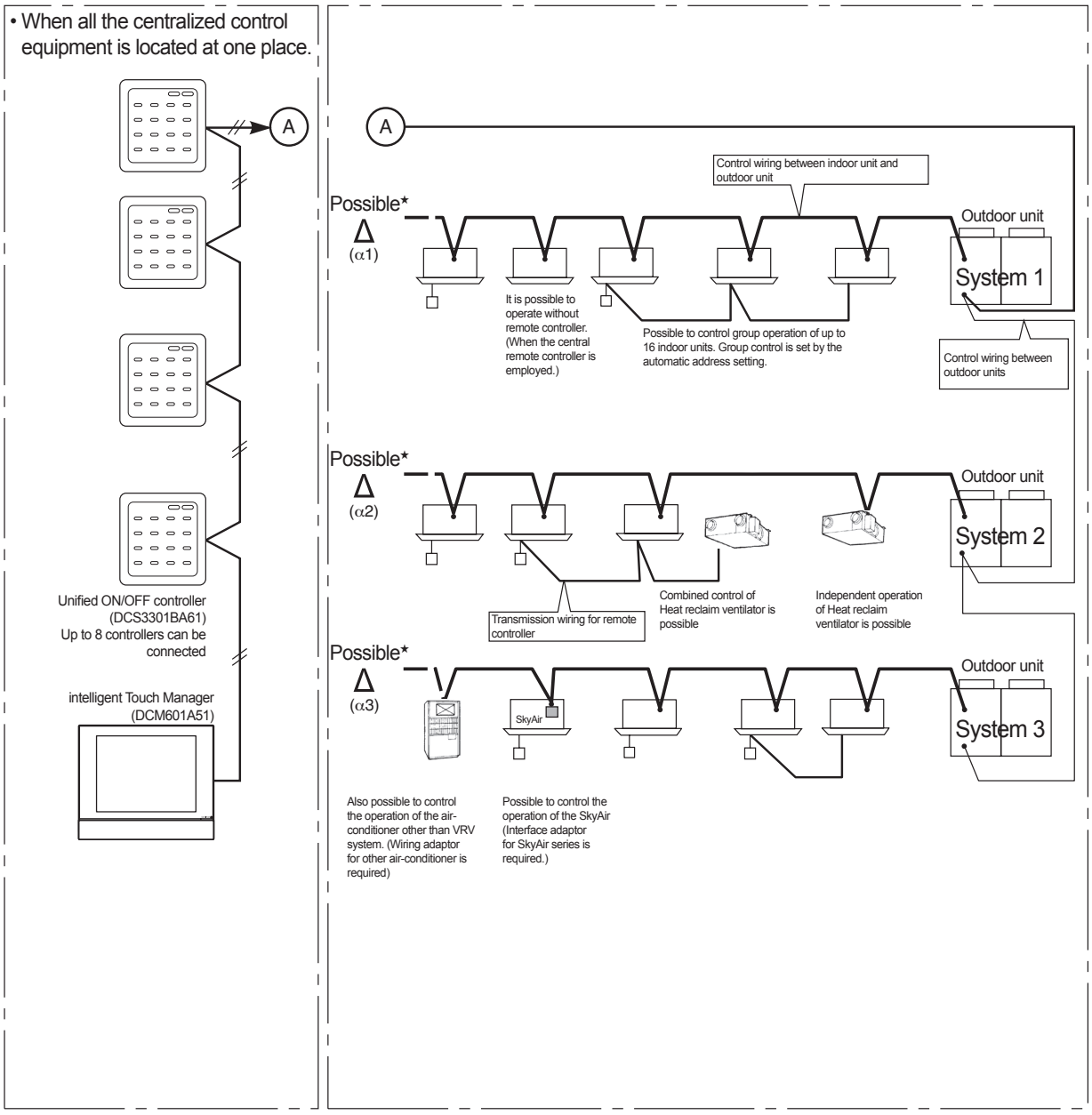
Caution:
Be sure to have indoor-outdoor control wiring and that of refrigerant system coincide.
Crossed wiring will cause malfunctioning.

Wiring Example

Example of Control Wiring

- Be sure to connect the wiring of the centralized control equipment to control wiring between outdoor units.
  When wiring connections are made between indoor and outdoor units, there may be cases where control over normal systems may become impossible if one of the connected systems should happen to fail.
- Be sure to prevent the connection of three wires on the same terminal.

<Pattern 1>



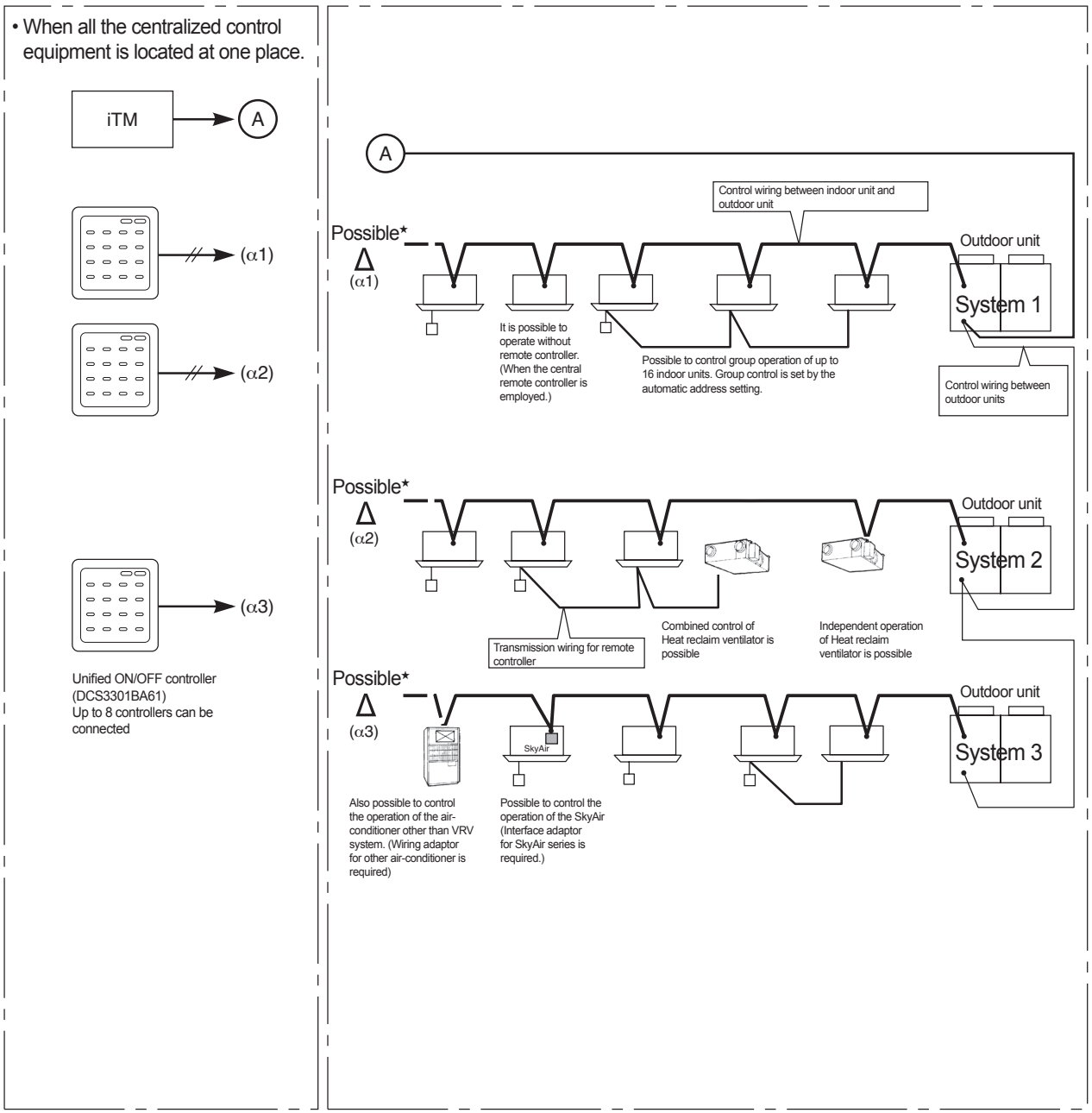
The advantages when the centralized control equipment are connected to A.

- If the centralized control equipment are connected to A, it is still possible to have a centralized control, even if the power supply of other circuit connected to the centralized control equipment is shut off. (even if the power is shut off due to long vacation etc.)

Caution:

★ 1. It is not recommended to connect the centralized control equipment on (a1), (a2), (a3), as there is a risk to loose control over all systems.
Ex.; If intelligent Touch Manager (iTM) is connected on (a1), and System1 shut down, control over System2 and System3 units is lost.

<Pattern 2>



The advantages when the centralized control equipment are connected to A.

- If the centralized control equipment are connected to A, it is still possible to have a centralized control, even if the power supply of other circuit connected to the centralized control equipment is shut off. (even if the power is shut off due to long vacation etc.)

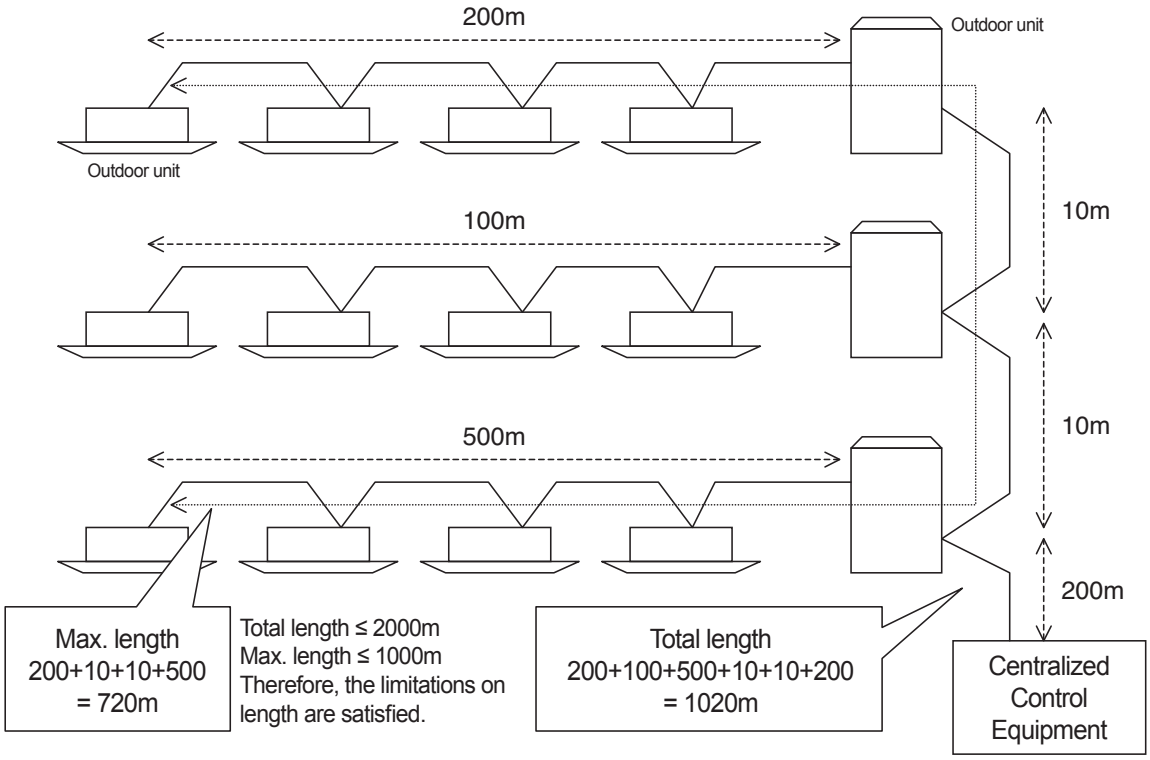
Caution:

★ 1. It is not recommended to connect the centralized control equipment on (a1), (a2), (a3), as there is a risk to loose control over all systems.
Ex.; If intelligent Touch Manager (iTM) is connected on (a1), and System1 shut down, control over System2 and System3 units is lost.

Wiring Length

- Total length must be 2000m or less. (The total wiring length is 1500m when shielded wire use.)
- Max. length must be 1000m or less.

[Example]



Recommendation of Installation DIII-NET Expander Adaptor

Intelligent buildings in recent years have increased in the amount of communication equipment and power supply wiring and this may have an effect on DIII-NET communications. In the cases listed below, it is recommended that the "DIII-NET Expander Adaptor" (DTA109A51) be installed.

- Where there are 8 or more outdoor unit systems
- Where it is not possible to verify that restrictions on DIII-NET wiring length, branched wiring and wire types are observed

Wiring Specifications of DIII-NET

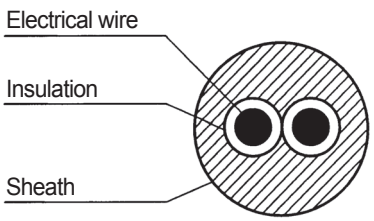
Be sure to use either 2-core sheathed vinyl cord or cable as mentioned below.

• Vinyl cab tire round cord	VCTF	JISC3306
• Vinyl insulated, vinyl sheathed cable for control	CVV	JISC3401
• Round vinyl sheathed cable for control	CVS	JISC3401
• Round vinyl insulated, vinyl sheathed cable	VVR	JISC3342
• 600V vinyl cab tire cable	VCT	JISC3312
• Polyethylene insulated vinyl sheathed cable	CPEV(★)	
• Mesh insulated cable	MVVS(★)	

★When the shield wire is used, be sure to ground the one side of the shield wire.
★Do not use the shield wire with other type of wire in the same system.

- The total wiring length is 1500m when shielded wire is used.

<Example>Section of cord



Cautions:

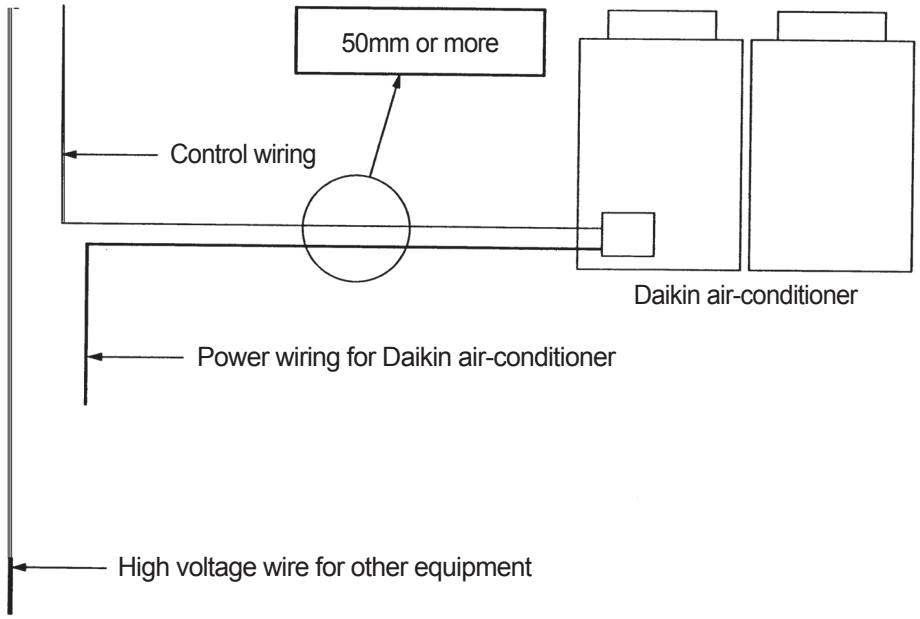
1. Never use a 3 or more core of cord or cable.
2. The size of wire should be 0.75~1.25mm^2.
3. Never bundle the cable or cord of transmission line.
4. Be sure to keep the transmission wiring distant from power wiring as shown below to prevent electrical noise.

Capacity of power wiring		Distance between Power wiring and control wiring	
		Daikin air-conditioner (★1)	**Other air-conditioners**
220V or less	10A or less	50mm or more (H★)	300mm or more
	50A or less		500mm or more
	100A or less		1000mm or more
	100A or more		1500mm or more

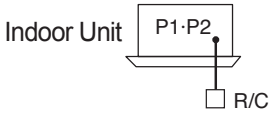
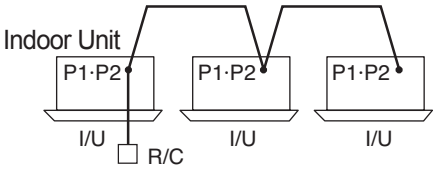
Note:

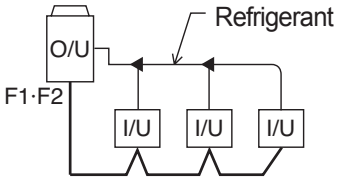
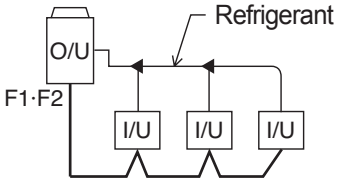
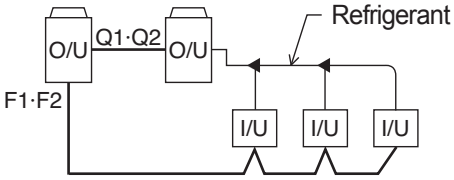
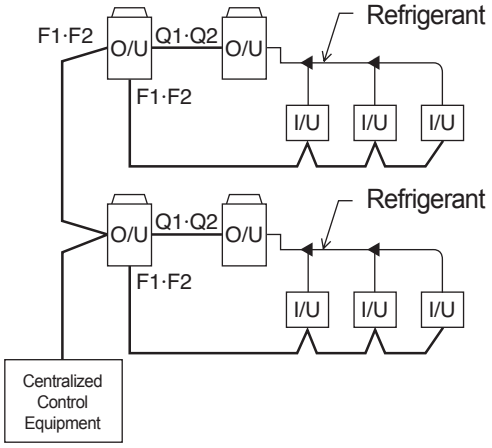
1. ★1 .....VRV system, SkyAir series and other air-conditioner.
2. ★2 .....VRV system or other Daikin air-conditioner produces less electrical noise, so that the distance of 50mm or more is sufficient. For control wiring, never use the shield wire together with other sheathed vinyl cord in the same system, which may cause the malfunction in transmission.

[Example]



Unit and Group

Indoor Unit and R/C	No. of Group	No. of Indoor Unit
	1	1
	1	3

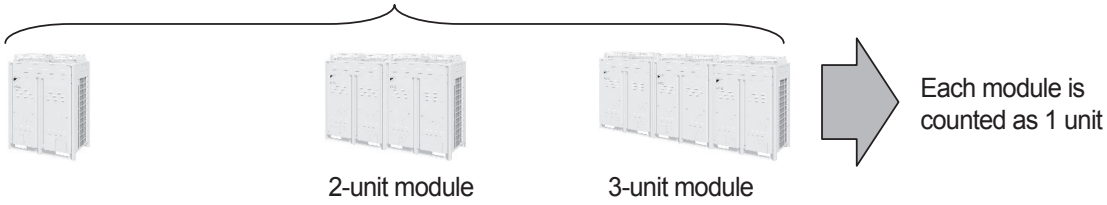
Outdoor Unit	No. of Outdoor Unit
10HP 	1
18HP 	1
28HP 	1
28HP 	2

I/U: Indoor unit O/U: Outdoor unit R/C: Remote controller

Number of Connectable Units

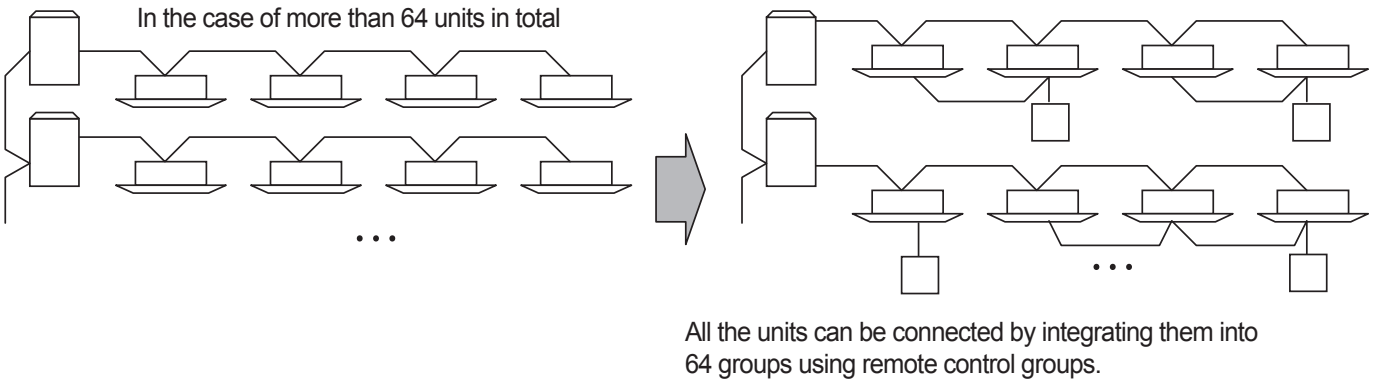
Number of Units to be Connected [VRV] (Supplementary Explanation)

- **Up to 10** VRV outdoor units can be connected to DIII-NET.
  - In case of VRVII and VRVIII, an outdoor unit which consists of multiple modules is counted as one unit.



- **Up to 64 VRV indoor unit groups** can be connected to DIII-NET.
  - If you create remote control groups of indoor units, up to 128 units can be connected. (Max. number of groups is 64.)
  - In case of power proportional distribution, the number of indoor units that can be connected is 64 units at the maximum even if you create remote control groups.

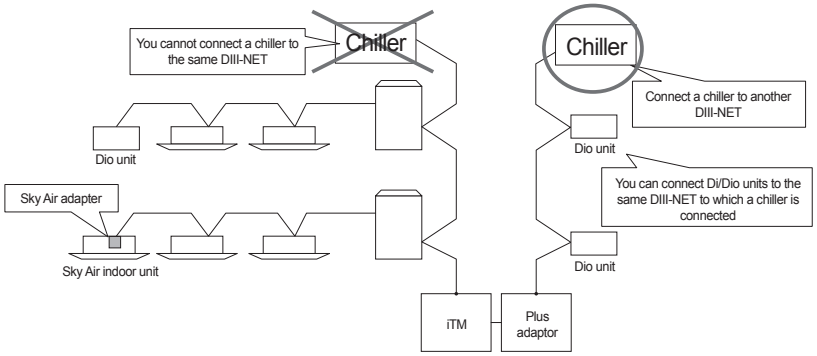
[Example]



Connection of Devices other than VRV

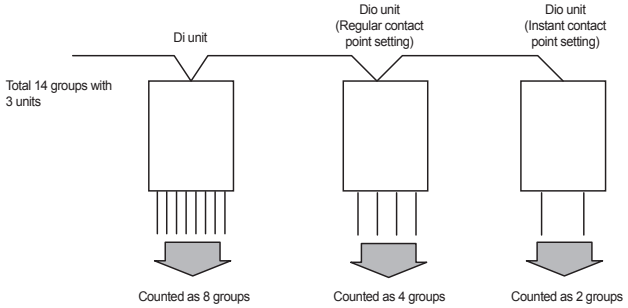
- You can connect adaptors and other devices (Sky Air adapter, Split adapter, Di/Dio units, etc.), which are not VRV, to either indoor-outdoor connection or outdoor-outdoor connection.
- You cannot connect a chiller (which accommodates DIII-NET) to the same DIII-NET to which VRV, Sky Air, and Split are connected.
  - If you connect a chiller which accommodates DIII-NET to intelligent Manager III, divide the DIII-NET for VRV use and for the chiller.

[Example]



- The maximum number of adaptors, except VRV indoor units, to be connected is 64 groups including VRV indoor untis.
  - One air-conditioner connecting adaptor (Sky Air adapter, etc.) is counted as one group.
  - One Di unit is counted as 8 groups.
  - One Dio unit is counted as 4 groups.
  - When the output of Dio unit is set to an instant contact point, one unit is counted as 2 groups.

  * Regarding Di/Dio units, if you specify the number of groups to be connected to each unit, you can reduce the number of groups connected to one unit.



Centralized control equipments which can use with intelligent Touch Manager

Following centralized control equipments can connect to the same DIII-NET with an intelligent Touch Manager.

Centralized control equipment	Description
DMS502B51(Interface for use in BACnet®) or DMS504B51(Interface for use in LONWORKS®)	One of these interfaces can connect to the same DIII-NET. DIII MASTER switch of intelligent Touch Manager should be set to "SLAVE".
DMS601A51 (intelligent Touch Manager) or DMS601A52 (iTM plus adaptor) or DCS302CA61 (Central remote controller)	One of these controllers can connect to the same DIII-NET. - DIII MASTER switch of DMS601A51 and DMS601A52 should be set to "SLAVE". - DIII Master connector of DCS302CA61 should be removed. - These controllers have to be set to "SLAVE".
DCS301BA51 (Unified On/Off controller)	Totally 8 DCS301BA51 can connect to the same DIII-NET. Refer to DCS301BA51 installation manual for setting.

Modbus Interface

RTD

RTD-RA
› Modbus interface for monitoring and control of residential indoor units

RTD-RA/SMART
› Modbus interface for monotoring and control of residential indoor units
› Limits the consumption or switches off the air conditioning whenever the total house consumption is too high
› Can be used with Split and multi split systems

RTD-NET
› Modbus interface for monitoring and control of Sky Air, VRV, VAM and VKM

RTD-10
› Advanced integration into BMS of Sky Air, VRV, VAM and VKM through either:
- Modbus
- Voltage (0-10V)
- Resistance
› Duty/standby function for server rooms

RTD-LT/CA
› Modbus interface for monitoring and control of Daikin Altherma low temperature (EHVH(X)-C / EHBH(X)-C)
› Voltage and resistance control
› Photovoltaic operation signal for energy saving

RTD-20
› Advanced control of Sky Air, VRV, VAM/VKM and air curtains
› Clone or independent zone control
› Increased comfort with integration of CO_2 sensor for fresh air volume control
› Save on runningcosts via
- pre/post and trade mode
- set point limitation
- overall shut down
- PIR sensor for adaptive deadband

RTD-HO
› Modbus interface for monitoring and control of Sky Air, VRV, VAM and VKM
› Intelligent hotel room controller

RTD-W
› Modbus interface for monitoring and control of Daikin Altherma Flex Type, VRV HT hydrobox and small inverter chiller

Overview functions






Main functions	RTD-RA	RTD-RA/SMART	RTD-NET	RTD-10	RTD-20	RTD-HO
Dimensions H x W x D mm	80 x 80 x 37,5	80 x 80 x 37,5	100 x100 x 22			
Key card + window contact						✓
Set back function	✓	✓				✓
Prohibit or restrict remote control functions (setpoint limitation, ...)	✓	✓	✓	✓	✓**	✓
Modbus (RS485)	✓	✓	✓	✓	✓	✓
Group control	✓(1)	✓(1)	✓	✓	✓	✓
0 - 10 V control				✓	✓	
Resistance control				✓	✓	
IT application	✓	✓		✓		
Heating interlock				✓	✓	
Output signal (on/defrost, error)				✓	✓****	✓
Retail application					✓	
Partitioned room control					✓	
Air curtain			✓***	✓***	✓	

(1): By combining RTD-RA devices

Control functions	RTD-RA	RTD-RA/SMART	RTD-NET	RTD-10	RTD-20	RTD-HO
On/Off	M,C	M,C	M	M,V,R	M	M*
Set point	M	M	M	M,V,R	M	M*
Mode	M	M	M	M,V,R	M	M*
fan	M	M	M	M,V,R	M	M*
Louver	M	M	M	M,V,R	M	M*
HRV Damper control			M	M,V,R	M	
Prohibit/Restrict functions	M	M	M	M,V,R	M	M*
Forced thermo off	M	M				

Monitoring functions	RTD-RA	RTD-RA/SMART	RTD-NET	RTD-10	RTD-20	RTD-HO
On/Off	M	M	M	M	M	M
Set point	M	M	M	M	M	M
Mode	M	M	M	M	M	M
fan	M	M	M	M	M	M
Louver	M	M	M	M	M	M
RC temperature			M	M	M	M
RC mode			M	M	M	M
nbr units			M	M	M	M
Fault	M	M	M	M	M	M
Fault code	M	M	M	M	M	M
Return air temperature (Average /Min/Max)	M	M	M	M	M	M
Filter alarm			M	M	M	M
Termo on	M	M	M	M	M	M
Defrost			M	M	M	M
Coil In/Out temperature	M	M	M	M	M	M


Main functions	RTD-W	RTD-LT/CA
Dimensions H x W x D mm	100x100x22	
On/off prohibition	✓	✓
Modbus RS485	✓	✓
Dry contact control	✓	✓
Output signal (operation error)	✓	✓
Space heating / cooling operation	✓	✓
Domestic hot water control	✓	✓
Smart Grid control		✓
Control functions		
On/Off Space heating/cooling	M,C	M,C,V
Set point leaving water temperature (heating / cooling)	M,V	M,R,V
Room temperature setpoint	M	M
Operation mode	M	M
Domestic Hot water ON		M,C,V
Domestic Hot Water reheat	M,C	M,C
Domestic Hot Water reheat setpoint		M,R,V
Domestic Hot Water storage	M	
Domestic Hot Water Booster setpoint		M
Quiet mode	M,C	M,C
Weather dependent setpoint enable	M	M
Weather dependent curve shift	M	M
Fault/pump info relay choice		R
Control source prohibition	M	M
Smart grid mode control		
Prohibit Space heating/cooling		C
Prohibit DHW		C
Prohibit Electric heaters		C
Prohibit All operation		C
PV available for storage		C
Powerful boost		C
Monitoring functions		
On/Off Space heating/cooling	M,C	M,C
Set point leaving water temperature (H/C)	M	M
Room temperature setpoint	M	M
Operation mode	M	M
Domestic Hot Water reheat	M	M
Domestic Hot Water storage	M	M
Number of units in the group	M	M
Average leaving water temperature	M	
Remocon room temperature	M	M
Fault	M,C	M,C
Fault code	M	M
Circulation pump operation	M	M,C
Flow rate		M
Solar pump operation		M
Compressor status	M	M
Desinfection operation	M	M
Setback operation	M	
Defrost/ start up	M	M
Hot start		M
Booster Heater operation		M
3-Way valve status		M
Pump running hours accumulated	M	M
Compressor running hours accumulated		M
Actual leaving water temperature	M	M
Actual return water temperature	M	M
Actual DHW tank temperature (*)	M	M
Actual refrigerant temperature		M
Actual outdoor temperature	M	M

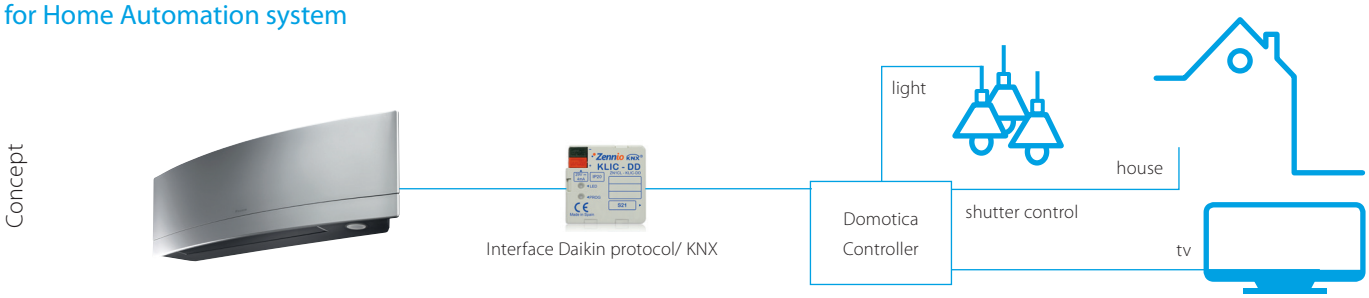
M : Modbus / R : Resistance / V : Voltage / C: control * : only when room is occupied / ** : setpoint limitation / (*) if available *** : no fan speed control on the CYV air curtain / **** : run & fault

KNX interface

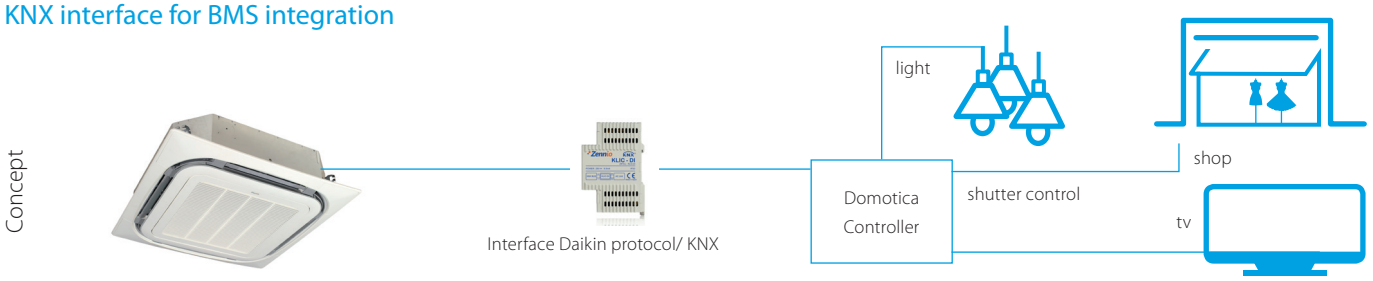
KLIC-DD
KLIC-DI

Integration of Split, Sky Air and VRV in HA/BMS systems

Connect split indoor units to KNX interface for Home Automation system



Connect Sky Air / VRV indoor units to KNX interface for BMS integration



KNX interface line-up

The integration of Daikin indoor units through the KNX interface allows monitoring and control of several devices, such as lights and shutters, from one central controller. One particularly important feature is the ability to programme a 'scenario' - such as "Home leave" - in which the end-user selects a range of commands to be executed simultaneously once the scenario is selected. For instance in "Home leave", the air conditioner is off, the lights are turned off, the shutters are closed and the alarm is on.

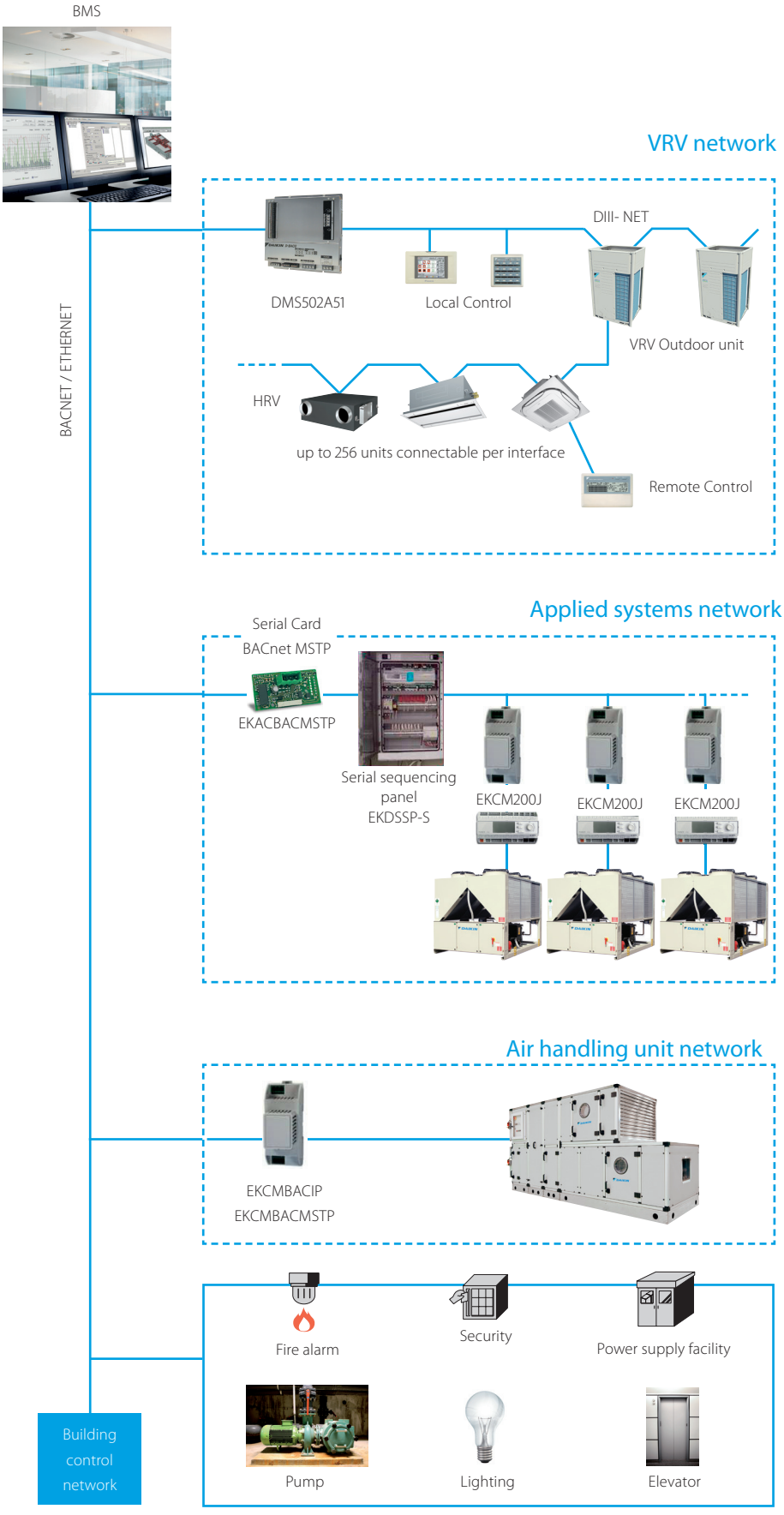
KNX interface for

	 KLIC-DD Size 45x45x15mm	 KLIC-DI Size 90x60x35mm	
	Split	Sky Air	VRV
Basic control			
On/Off	●	●	●
Mode	Auto, heat, dry, fan, cool	Auto, heat, dry, fan, cool	Auto, heat, dry, fan, cool
Temperature	●	●	●
Fan speed levels	3 or 5 + auto	2 or 3	2 or 3
Swing	Stop or movement	Stop or movement	Swing or fixed positions (5)
Advanced functionalities			
Error management	Communication errors, Daikin unit errors		
Scenes	●	●	●
Auto switch off	●	●	●
Temperature limitation	●	●	●
Initial configuration	●	●	●
Master and slave configuration		●	●

BACnet Interface

Integrated control system for seamless connection between VRV, applied systems, air handling units and BMS systems

- Interface for BMS system
- Communication via BACnet protocol (connection via Ethernet)
- Unlimited sitesize
- Easy and fast installation
- PPD data is available on BMS system (only for VRV)



BACnet interface for VRV

Compatibility with leading BMS systems

Manufacturer*	Type	
Andover Controls	Continuum ver. 1.6	1.6
Cinmetrics Sauter	OPC Server	
Honeywell	EBI	V2.0
Iconix Sauter	OPC Server	
Invensys (Sacthwell) Polar Soft	System Manager BACdoor	
Johnson Controls	Metasys BSI	V9.01C
Johnson Controls	Metasys N30	
Priva		
Reliable Systems	Mach	
Siemens	System 600 Apoaee Insight	V3.2
Siemens	System 600 Apoaee Insight	V3.4
Siemens	Desigo Insight	V1.01
Siemens	PX Desigo Insight	V2.2
TAC Pacific	OPC Server	
Trane	Tracer Summit	
Trend		
Tridium	Niagara Framework	2.301.321.v1
Trilogy		

(*) Please contact your Daikin distributor for further details or other manufacturers concerning compatibility.

Specifications

BACnet Interface (DMS502A51)		Description
Rated Electrical conditions	Rated Voltage and Frequency	Single Phase AC 200-240, 50/60 Hz
	Rated Power	Maximum 20 W
Conditions for Use	Power Supply Fluctuation	±10% of the Rated Value
	Ambient Temperature	-10~+50°C
	Ambient Humidity	0~98° (Sweating is not acceptable)
	Preservation Temperature	-20~+60°C
Performance	Insulation Resistance	50MW or more by DC500 megohmmeter
Mass		2.8 kg

Components

The following parts are attached to this unit. Make sure to check them before installation.

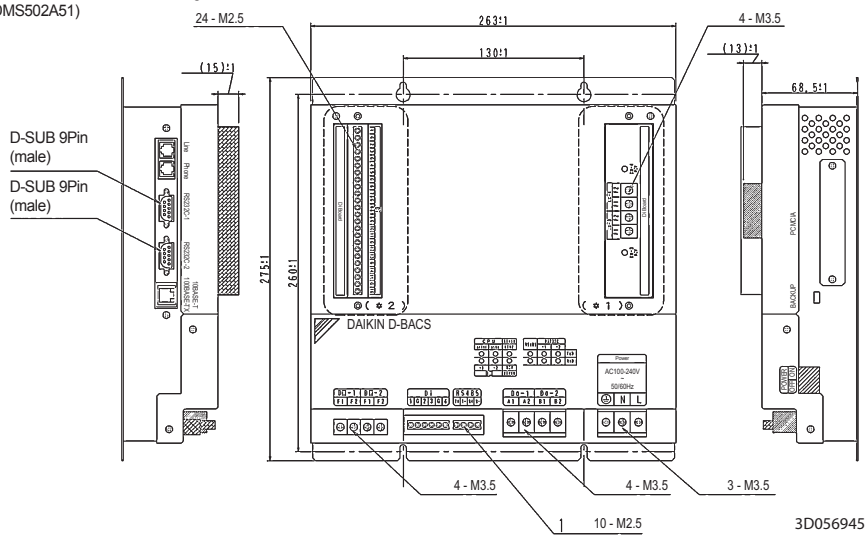
Accessories

Item		Description
DIII board	DAM411B51	Extension of 2 x DIII lines (2 x 64) indoor groups
Digital input /output	DAM412B51	In case of PPD to provide up to 12 pulse input points
Interface adapters	KRP928B2S	For connection to Split units
	DTA102A52	For connection to R-22/R-407C Sky Air units
	DTA112B51	For connection to R-410A Sky Air units

Dimensions

BACnet Interface (DMS502A51)

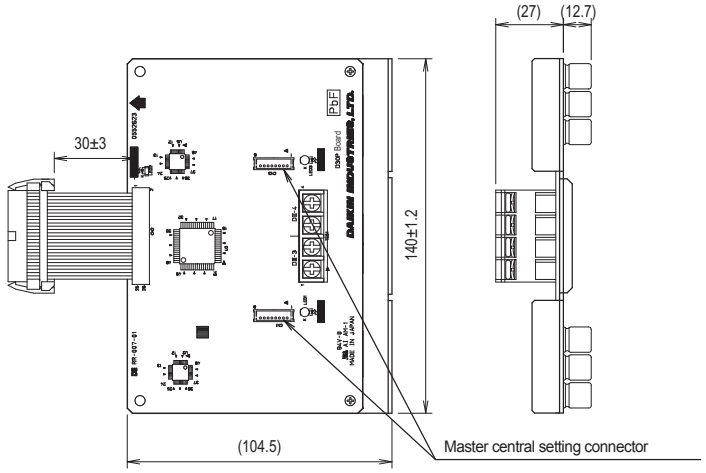
BACnet Interface outside drawing
(DMS502A51)



Option DIII board (DAM411B51)

This kit is for adding 2 ports to the DIII-NET communication port by installing it on the BACnet Interface DMS502A51. The kit can not be solely used.

Outside dimensions of PCB



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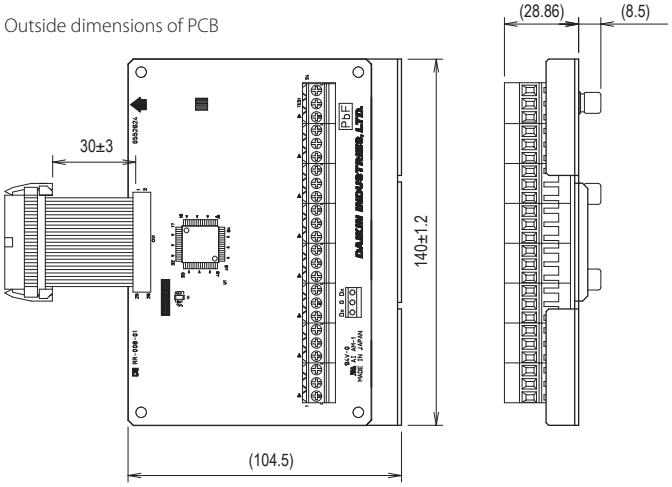
Option Digital Input / Output (DAM412B51)

Outside dimensions of PCB



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Communications Check Sheet

BACnet object list

Memner number	Name	Object name (XXX: Air Con Logical Group Number)	Object type	Unit			
				Inactive	Active		
				Text-1	Text-2	Text-3	Text-4
1	Start/stop (setting) (Note 2)	Start stop command_XXX	BO	Stop	Operation		
2	Start/stop (status)	Start stop status_XXX	BI	Stop	Operation		
3	Alarm	Alarm_XXX	BI	Normal	Malfunction		
4	Malfunction code	Malfunction code_XXX	MI	Normal	Manufacturer specific		
5	Air conditioner mode (Setting) (Note 2)	AirConModeCommand_XXX	MO	Cooling	Heating	Fan	Auto
6	Air-conditioning mode (status)	AirConModeStatus_XXX	MI	Cooling	Heating	Fan	
7	Air flow rate level (setting) (Note 2)	Air flowRate command_XXX	MO	Low	High		
8	Air flow rate level (status)	AirFlowRateStatus_XXX	MI	Low	Gigh		
9	Measured room temperature (Note 1)	Roomtemp_XXX	AI	°C			
10	Set room temerature (Note 2)	TempAdjust_XXX	AV	°C			
11	Filter sign signal	FilterSign_XXX	BI	No	Yes		
12	Filter sign segnal reset	FilterSignReset_XXX	BV	Reset			
13	Remote control enable / disable (start / stop)	RemoteControlStart_XXX	BV	Enabled	Disabled		
14	Remote control enable / disable (air-conditioning mode)	RemoteControlAirConModeSet_XXX	BV	Enabled	Disabled		
15	Blank						
16	Remote controller enable / disable (set temperature)	RemoteControlTempAdjust_XXX	BV	Enabled	Disabled		
(*)17	Central control 'lower central control disable)	CL_Rejection_XXX	BV	Enabled	Disabled		
18	Blank						
19	Accumulated power	ElecTotalPower_XXX	BV	Enabled	Disabled		
20	Communication status	CommunicationStatus_XXX	BI	Normal communication	Communication error		
(*)21	Forced system stop	SystemForcedOff_XXX	BV	Clearance	Forced stop		
22	Air direction (setting) (Note 2)	AirDirectionCommand_XXX	AV				
23	Air direction (status)	AirDirectionStatus_XXX	AI				
24	Forced thermostat disble (setting)	ForcedThermoOFFCommand_XXX	BO	Clearance	Set		
25	Forced thermostat disable (status)	ForcedThermoOFFStatus_XXX	BI	Clearance	Set		
26	Energy saving (setting)	Energy EfficiencyCommand_XXX	BO	Clearance	Set		
27	Energy saving (status)	EnergyEfficiencyStatus_XXX	BI	Clearance	Set		
28	Thermostat status	ThermoStatus_XXX	BI	OFF	ON		
29	Compressor status	CompressorStatus_XXX	BI	Stop	Operation		
30	Indoor fan status	IndoorFanStatus_XXX	BI	Stop	Operation		
31	Heater operation status	HeaterStatus_CCC	BI	Stop	Operation		

Central control (lower central control disable) and orced systemm stop are obly available for 000, 064, 128, and 192.

Notes

1 The room temperature is measured with the suction air. Since the indoor unit fan stops when the thermostat is disabled or the air conditioner is stopped, or in z special operation such as defrosting, temperature measurement may be affected by the heat exchanger, and may detect and transmit a different temperature from the actual room temperature, For this reason, this value should be considered as a reference for the room temperature.
If the building management system manufacturer uses this value for system control (e.g., switching the airconditioning mode or preset temperature), the manufactureer must take on the whole responsibility.

2 The air conditioner saves the settings for the temperature, start/stop status, air-conditioning mode, air direction, and air flow rate in the nonvolatile memory each time they are changed, so that the settings will not be lost when a power cut occurs. This nonvolatile memory has a write count limit and may cause a failure if it is written exceeding the limit count.
Therefore when the temperature, start / stop status, air-conditioning mode, air direction, and air flow rate of each indoor unit are automatically controlled from the central monitoring panel, be sure that the number of changes for each setting **should not exceed 7,000 timer per year.**

Function

Outline of functions

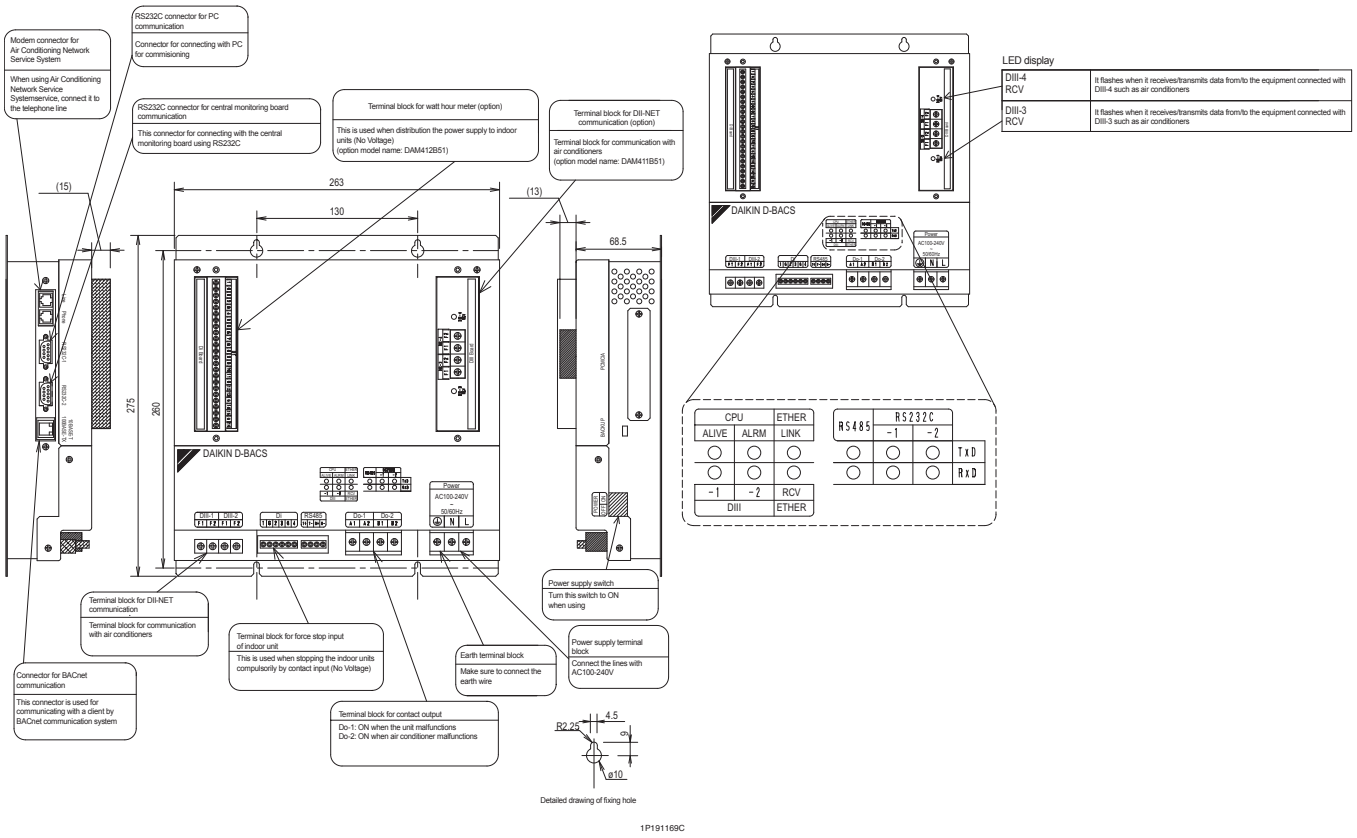
- This BACnet Interface enables interfacing between the VRV system and central monitoring board.
- Data of up to 256 groups of air conditioner (when the option DIII board is used) are controllable by the BACnet Interface.
- Air conditioners are operable and the state can be monitored from the central monitoring board by BACnet communication.

Main functions

The BACnet Interface can monitor and control air conditioners from a maximum of 256 groups, on a unit by unit basis.
Major features are listed below.

1. Switches the ON/OFF operation and monitors operational state.
2. Monitors indoor units for malfunctions.
3. Monitors and changes temperature.
4. Monitors indoor unit temperature.
5. Monitors and resets filter clean sign.
6. Switches the operation mode.
7. Sets remote control operation
8. PPD data is available on BMS-system

Names and functions of each part



LED display

CPU ALIVE	It flashes when the unit is in normal operation.
CPU ALRM	It flashes when the unit is abnormal operation.
D III -1	It flashes when it receives/transmits data from/to the equipment connected with DIII-1 such as air conditioners
DIII-2	It flashes when it receives/transmits data drom/to the equipment connected with DIII-2 such as air conditioners
Ether RCV	It flashes when it receives/tranmits data from/to BACnet client.
Ether link	It lights when the 10BASE-T acable or 100BASE-TX cable
RS485 (TxD)	This LED display cannot be used with this unit
RS485 (RxD)	This LED display cannot be used with this unit
RS232C-1 (TxD)	It flashen when it tramits data to PC
RS232C0-1 (RxD)	It flashen when it receives data from PC
RRS232C-2(TxD)	It flashes when it tranmits data to the central minitoring board.
RS232C-2(RxD)	It flashes when it receives data from the central minotoring board.

Function

Major functions of air-conditioner devices

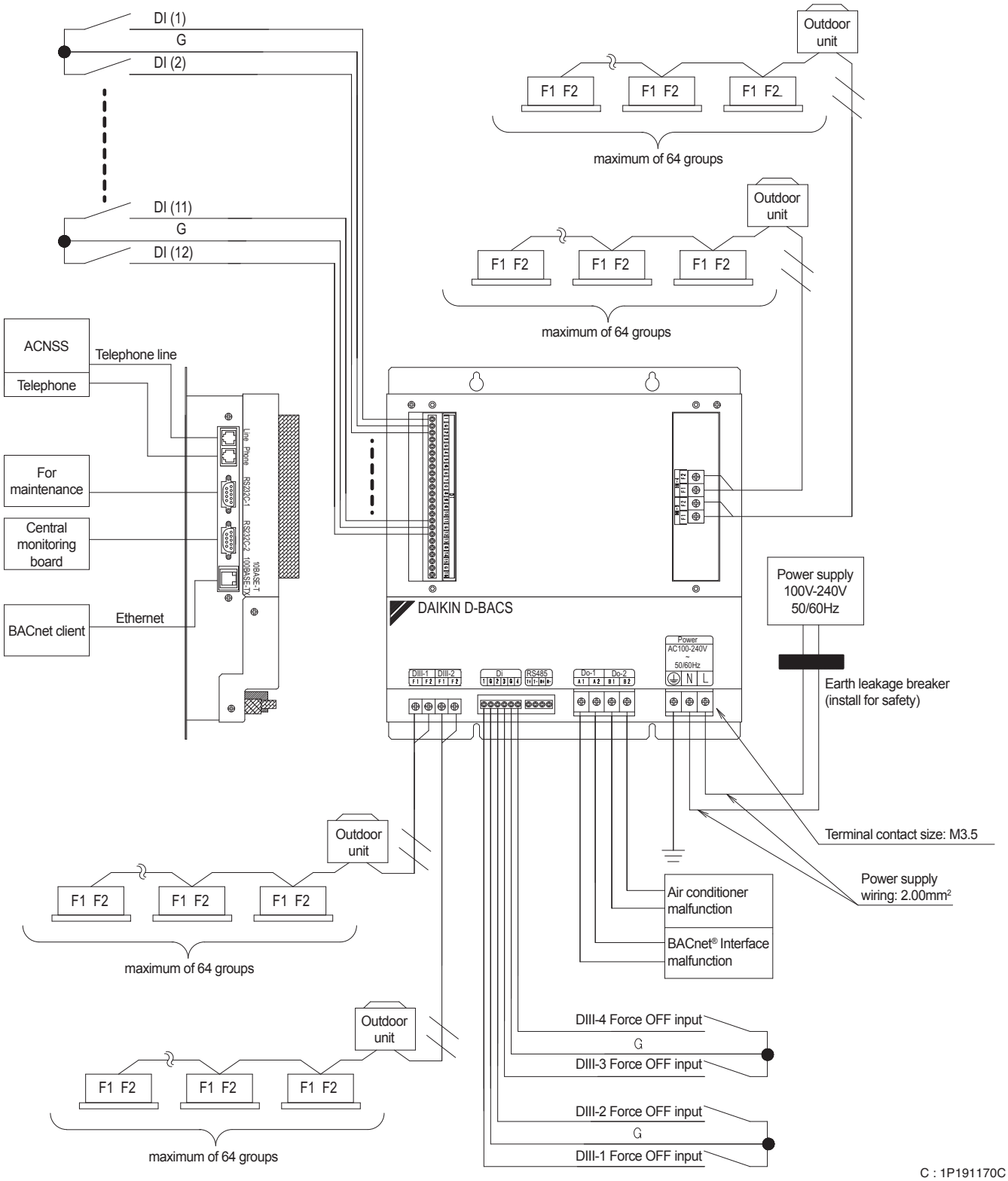
Function	Air-conditioning equipment				Remarks
	VRV Inverter series	Interface adapter for Sky Air series (SA Heat Pump)	HRV	Wiring adapter for other air-conditioners	
Start/stop control and monitoring	0	0	0	0	
Air-conditioner error notification	0	0	0	0	
Indoor air temperature monitoring	0	0	X	X	
Temperature setting and monitoring	0	0 16~32	X	X	
Air-conditioning mode setting and monitoring	0	0	X	X	Air-conditioning mode switching is effective only for indoor units for which cool/heat selection is permitted.
*1 Remote control mode setting and monitoring	0	0	X	X	
Filter sign monitoring and reset	0	X	X	X	
Cumulative power value monitoring	0	X	X	0	
Thermostat status monitoring	0	X	X	X	
Compressor operation status monitoring	0	X	X	X	
Indoor fan operation status monitoring	0	X	X	X	
Heater operation status monitoring	0	X	X	X	
Air direction setting and monitoring	0	X	X	X	
Air flow rate setting and monitoring	0	X	X	X	
Forced thermostat off setting and monitoring	0 *2	X	X	X	
Forced thermostat on setting and monitoring	0 *2	0 *2	X	X	
Energy efficiency command (Setting temperature shift)	0	X	X	X	

Notes

1 *1: Remote control mode is for acceptance or rejection of on/off operation, temperature setting and air conditioning mode setting by remote control.
2 *2: If set locally, the host is not notified. Thus, monitoring cannot be accomplished from the host.
3 The meaning of 0, C are as follows
0: Possible functions
C: Impossible functions

Wiring and Setting Procedures

System Wiring



[DIII-NET master] setting

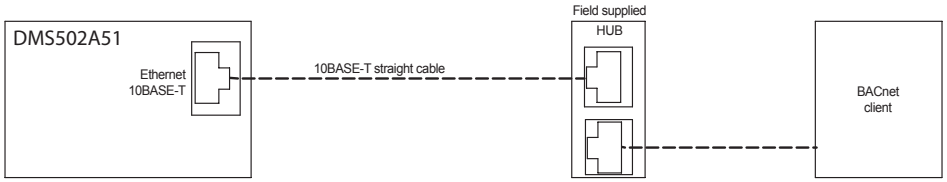
Make sure to connect the unit with [DIII-NET master]. Do not remove the master central setting connector.
Remove the master central setting connectors of the centralised management controllers or ON/OFF controllers when using togheter with other centralised controllers such as centralised management controllers or ON/OFF controllers.

Wiring and Setting Procedures

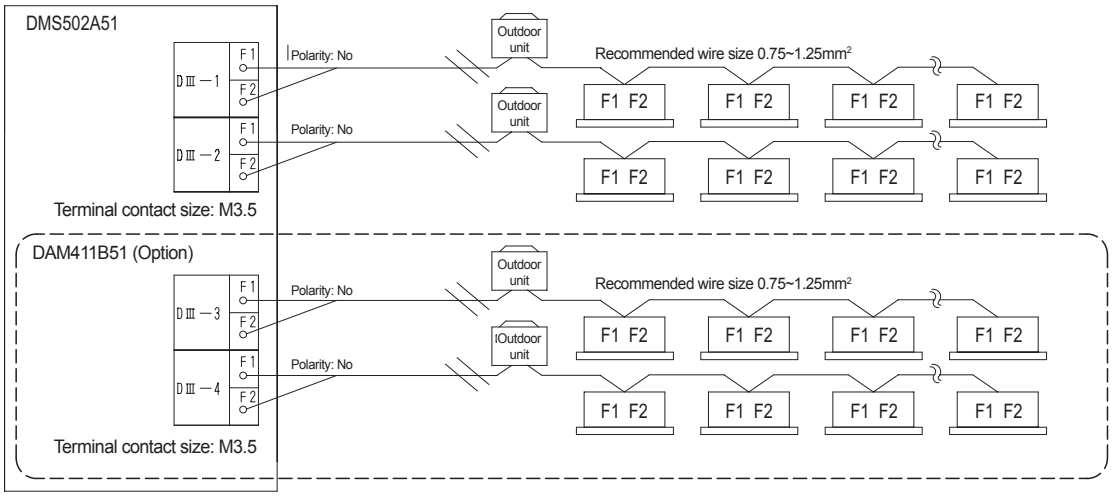
External wiring

Everything relating with field wiring must be supplied in the field.

Ethernet communication wiring



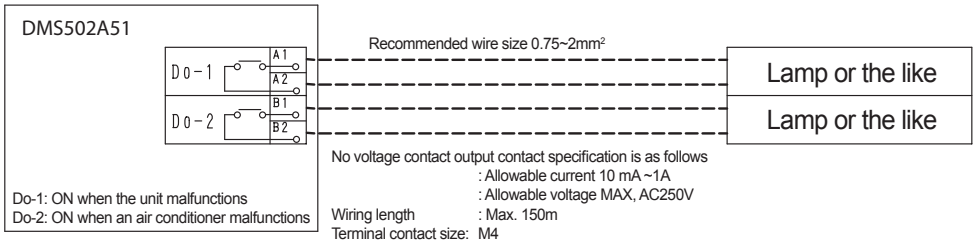
DIII-NET wiring



Cautions

1 Do not use multicore cables with three or more cores.
2 Use wires of sizes between 0.75 mm2 and 1.25 mm2.
3 Wire length: Max 1,000 m
4 Do not bind the wire for DIII-NET
5 Wirings for DIII-NET must be isolated from the power lines.

Do-1 and 2

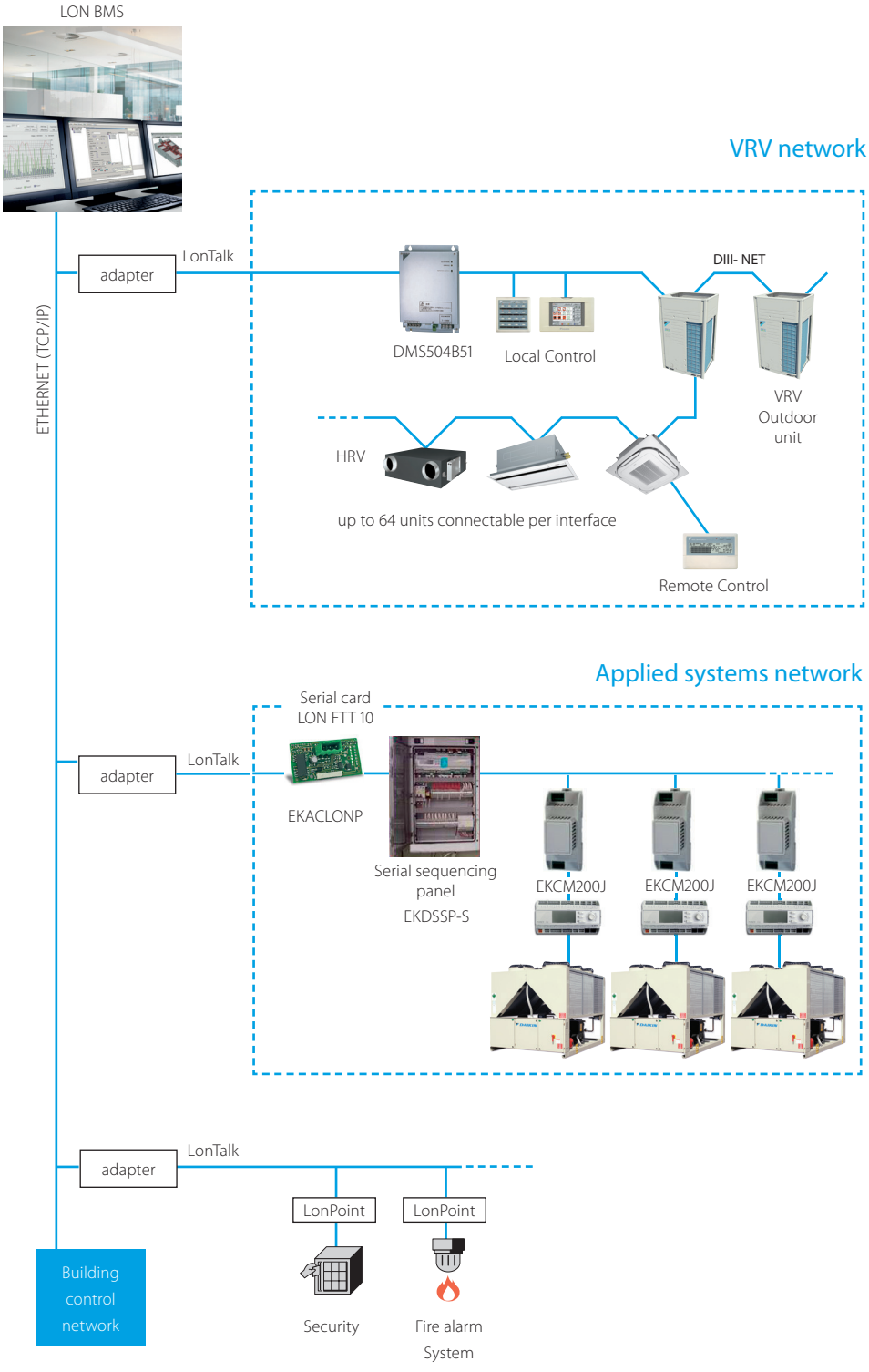


Main specifications	
Temperature range	-10~50°C
Humidity range	0~98% (No frost formation)
Power supply	1~AC200-240V 50/60Hz
Power consumption	Max.20 W
Weight	4.0 Kg

LonWorks Interface

Open network integration of VRV and applied systems monitoring and control functions into LonWorks networks

- Interface for Lon connection to LonWorks networks
- Communication via Lon protocol (twisted pair wire)
- Unlimited sitesize
- Quick and easy installation



LowWorks Interface for VRV

Survey of Functions

	Function	Description
Controlling items	ON/OFF Command	Starts/stops air conditioner operation.
	Operation Mode Setting	Sets operation mode (heating/cooling/ventilation/auto).
	Temperature Setting	Sets room temperature.
	Airflow Rate Setting	Sets airflow rate.
	Filter Sign Reset	Resets filter sign.
	Forced Thermostat OFF Setting	Sets forced thermostat OFF.
	Remote ON/OFF Control Rejection	Sets whether permit/prohibit ON/OFF control rejection of the air conditioner with a hand-held remote control.
	Remote Operation Mode Control Rejection	Sets whether permit/prohibit operation mode control rejection of the air conditioner with a hand-held remote control.
	Remote Temperature Setting Control Rejection	Sets whether permit/prohibit room temperature setting control rejection of the air conditioner with a hand-held remote control.
	System Forced OFF Setting	Forcibly stops the air conditioner connected to the DIII-NET /Resets the Forced OFF setting.
	Sub Group Address Control Rejection Setting	Permits/prohibits controlling of the centralized device connected to the DIII-NET.
Monitoring items	ON/OFF Status Report	Monitors ON/OFF status of the air conditioner.
	Operation Mode Status Report	Monitors operation mode status (heating/cooling/ventilation) of the air conditioner.
	Temperature Setting Report	Monitors the set room temperature.
	Room Temperature Report	Monitors the room temperature.
	Airflow Rate Setting Report	Monitors the set airflow rate.
	Filter Sign Report	Checks limit of filter use and monitors if it has reached the limit.
	Error Status Report	Monitors error status of the air conditioners.
	Error Code Report	Displays the manufacturer-specified error codes if any errors occur.
	Thermostat Status Report	Monitors whether the air conditioner's thermostat is working.
	Forced Thermostat OFF Setting Status Report	Monitors the forced thermostat OFF status.
	Remote ON/OFF Operation Rejection Report	Monitors the status if the air conditioner is permitting/prohibiting remote ON/OFF control with a hand-held control.
	Remote Control Operation Mode Setting Rejection Report	Monitors the status if the air conditioner is permitting/prohibiting remote control operation mode with a hand-held control.
	Remote Control Temperature Setting Operation Rejection Report	Monitors the status if the air conditioner is permitting/prohibiting remote control temperature setting with a hand-held control.
	System Forced OFF Setting Report	Monitors the status of the forced OFF setting of the air conditioner connected to the DIII-NET.
	Sub Group Address Control Operation Rejection Setting Report	Monitors the status if the air conditioner is permitting/prohibiting control of a centralized device connected to the DIII-NET.
	A/C Communication Status Report	Monitors the communication status (No Occupancy/ Communication normal/ Communication error) of the air conditioner.

Applicable Models

Function	Air Conditioners					
	VRV	Large Sky Air Multi	Sky Air (Adapter for Sky Air)	Facility A/C (Centralized control adapter)	HRV	RA (General purpose adapter)
ON/OFF operation and monitoring	▲	▲	▲	▲	▲	▲
A/C error report	▲	▲	▲	▲	▲	▲
Room temperature monitoring	▲	▲	▲	▲	X	X
Temperature setting and monitoring	▲	▲	▲	▲	X	X
Operation mode setting and monitoring (Note 3)	▲	▲	▲	▲	X	X
Remote control mode setting and monitoring	▲	▲	▲	▲	▲	X
Filter sign monitoring and reset	▲	▲	▲	X	▲	X
Thermostat status Monitoring	▲	▲	▲	X	X	X
Airflow rate setting and monitoring	▲	▲	▲	X	Only monitoring (Note 2)	X
Forced thermostat OFF setting and monitoring	▲ (Note 1)	▲	▲	X	X	X

Notes

1 When this is set from a remote control, it is not reported to the upper system and, therefore, this setting cannot be monitored by the upper system.
2 The triangle (G) denotes a function that is only available for some models.
3 Operation mode can be changed only on indoor units that allow a selection between heating and cooling.

Specifications

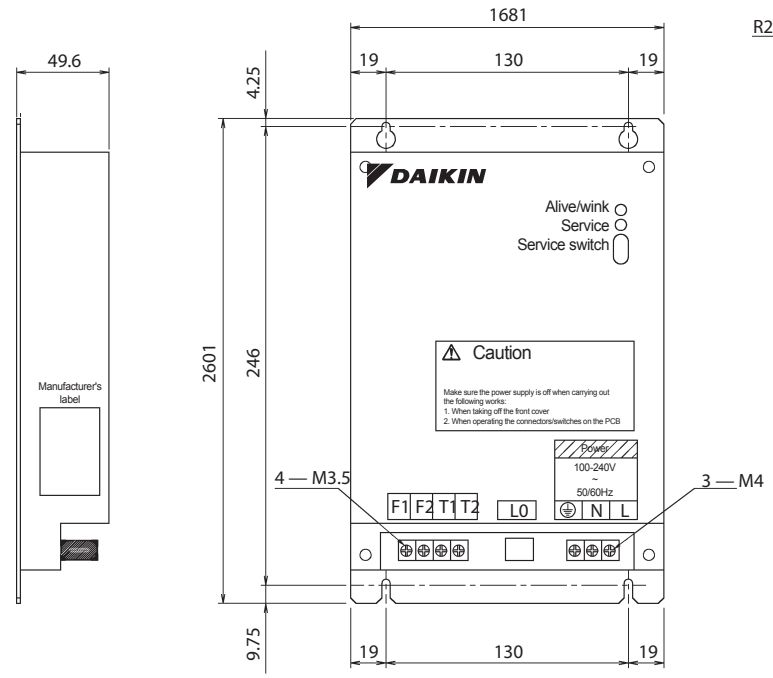
Item		Specifications
Model		DMS504B51
Dimensions	mm	168 (W) x 260 (H) x 50 (D) mm
Weight	kg	1.5 kg
Power supply		Single phase AC100-240V 50/60Hz
Power consumption		Max. 5W
Operation range		–10 to 50 °C
Storage temperature range		–20 to 60 °C
Humidity		Up to 95% (no condensation)
Protocol		LonTalk
Transmission speed		78Kbps
Installation		Mounted to indoor distribution board
Topology		FTT-10A (Free topology)
Transmission medium		Twisted pair wire
Contact input		Forced OFF x 1 (A/Cs en bloc)

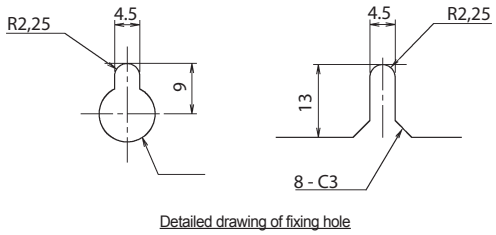
Accessories

Item		Description
Interface adapters	KRP928A2S	For connection to Split units
	DTA102A52	For connection to R-22/R-407C Sky Air units
	DTA112B51	For connection to R-410A Sky Air units

Dimensional drawing

DMS504B51





Detailed drawing of fixing hole

Notes

1 Rated electrical conditions:
Rated voltage and frequency: single phase AC100~240V 50/60Hz
Rated power: Maximu 5W

2 Conditions
Power Supply fluctuation: ±10% of the rated value
Ambient temperature: -10~+50°C
Ambient humidity: 0~95% (Sweating is not acceptable)
Preservation: -20~+60°C

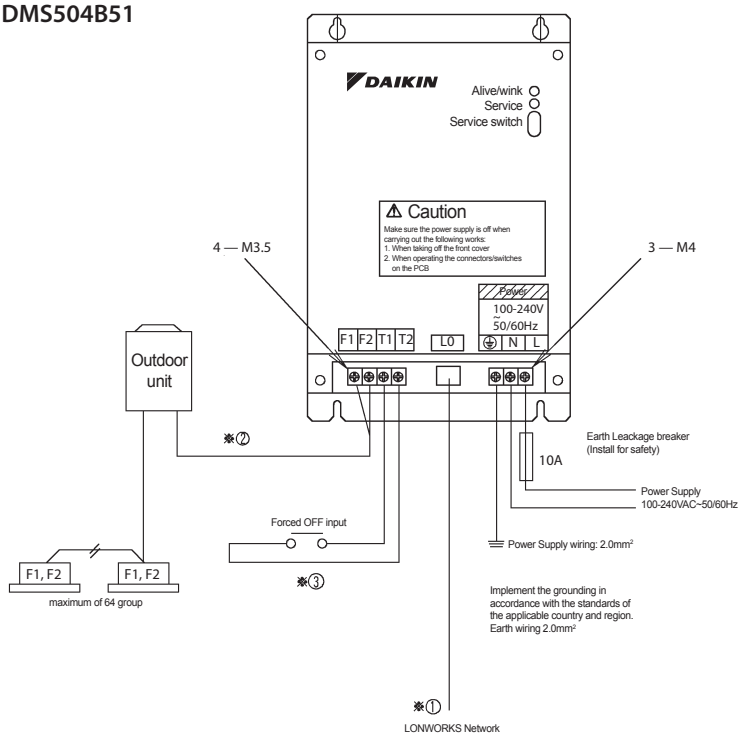
3 Performance Insulation resistance: 50MW or more by DC500 megohmeter

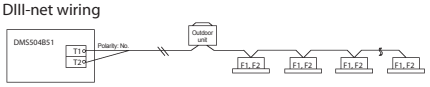
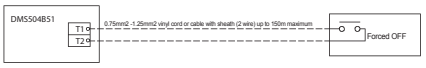
4 Weight: 1.5 kg

3D040973

External connection diagram

DMS504B51



No. ❊	Wiring specifications
1	LonWorks Network Communication wiring Use the dedicated line for the LonWorks Network 
2	DIII-net wiring  Cautions for wiring 5 Do not use multicore cables with three or more cores 6 Use wires of sizes between 0.75mm2 and 1.25mm2 7 Wire length: MAX 1,000m 8 Do not bind the wire for DIII-net 9 Wirings for DIII-net must be isolated from the power lines. 10 Terminal contact size: M3.5
3	Forced OFF input  When forced OFF input is kept on, the indoor units connected to this system are unable to be operated because they are forced off. 11 Use a no voltage contact 12 Use a contact which can guarantee mimimum application load DC16V and 10 mA 13 Do not use multicore cables with three or more cores 14 Wirings must be isolated from the power lines 15 Terminal contact Size: 3.5

3D040974

Definition of LED and switch

LED

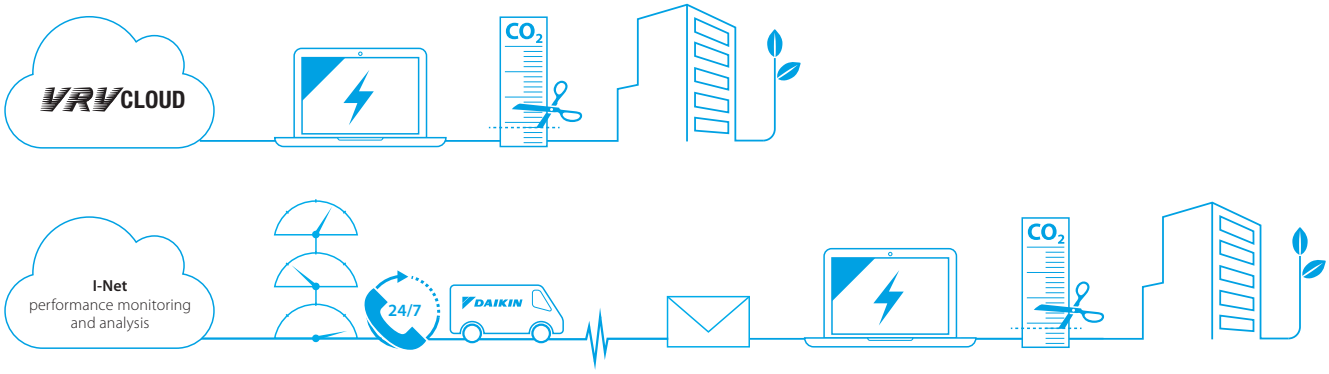
ALIVE/WINK	CPU normal monitor	Green	Normal	Blinking every 0.4 sec
		Red	WINK command reception	Blinking every 0.2 sec.
SERVICE	LON status	Yellow	Normal	Light off
			Unconfigurate state	Blinking every 0.5 sec
			SERVICE SW on	Light on
			Error	Blinking/flashing every 0.84 sec

Switch

SERVICE SW: Neuron ID is sent upon pushing this switch

What is I-Net?

A service based on our global remote monitoring technology, keeping your system trouble-free and working with top efficiency.



What does I-Net offer you

Safeguarding the lifelong optimum operation of your air conditioning system means getting geared up to operate the system in a energy efficient way and reduce unexpected breakdowns and costs to the absolute minimum. This is where I-Net helps to improve the effectiveness of your building management.

I-Net is about 'being connected' with Daikin, the Internet-based link between you, your air conditioning system and Daikin's Remote Monitoring Centre. This allows you to monitor your energy consumption and Daikin's expert service engineers to monitor your entire system's status non-stop, all year round. Through predicting malfunctions and offering technical advice from data analysis, you can maximise equipment uptime, as well as controlling energy costs with no sacrifice in comfort levels. By doing this, i-Net will prevent problems, prolong your system's service life while reducing the energy bill.

I-Net Services

i-Net consists of 2 main services: the VRV Cloud and I-Net performance monitoring and analysis.

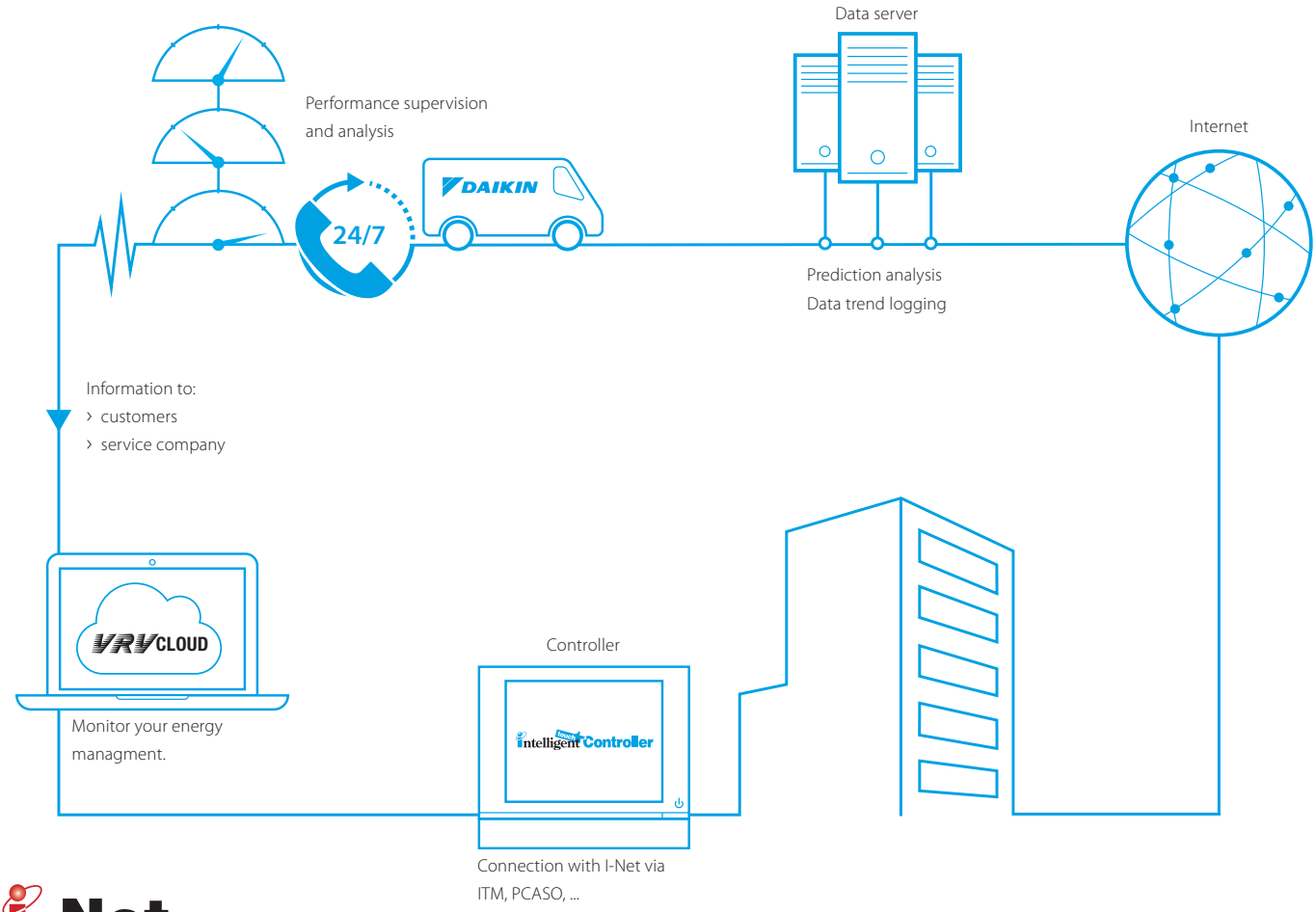
VRV Cloud

The VRV Cloud puts you in the driving seat of your energy management. The easy-to-use energy data trending and analytic tools puts you in control and shows you CO2 footprint reduction opportunities and energy savings of up to 15%.

Saving starts by measuring. Enhance your company's sustainability !

I-Net performance monitoring and analysis

Focus on your core business and hand the HVAC over to Daikin. Daikin I-Net connects your system continuously with Daikin. It notifies alarms and early warnings of system deviations to maximise system uptime and the comfort of the people in the building. Service providers have webbased access to operation data so that they are fully prepared when they arrive on-site. Specialists run trend analyses. All of which boosts your system's reliability by ensuring that it is running at optimum efficiency.



i-Net

Daikin VRV Cloud

Helps you manage your energy through Daikin technology.

› Intelligent energy visualization tool that helps you with your energy management
› 24/7 online monitoring by the customer from any location.
› User friendly visualization of VRV energy management (kWh)
› Analysis support of waste operation
› Multiple site monitoring

Performance monitoring

Daikin's unique I-Net Service aims to prevent the equipment coming to an unexpected stop or needing emergency repair.

Fast response, better prepared

› If an alarm does occur, the service provider is immediately alerted and receives all crucial information.
› Early fault indication (predictions) : operation data are 24/7 checked by I-Net prediction algorithms to act as early as possible, averting unscheduled breakdowns.
› Performance Supervision by Daikin experts enhances a maintenance plan.
› This service aims to enhance the service level, to respond fast and accurate, to save on unexpected repair costs and assure the peace of mind. Repetitive interventions and disturbance of building tenants and maintenance teams are kept to a minimum.

Long lifetime systems

› I-Net will maximise the installation's lifetime, by assuring the equipment runs in optimal conditions and avoid unnecessary stress on components.

Analysis

Be connected with Daikin's experts, this gives you a clear overview of operability and use of the air conditioning system.

› Daikin continuously monitors energy, operation and comfort data. Thanks to periodic analysis of the data, Daikin can suggest ways of improving performance.
› if there is a problem, Daikin specialists will analyse the operation data history to provide remote support.

Daikin Configurator Software

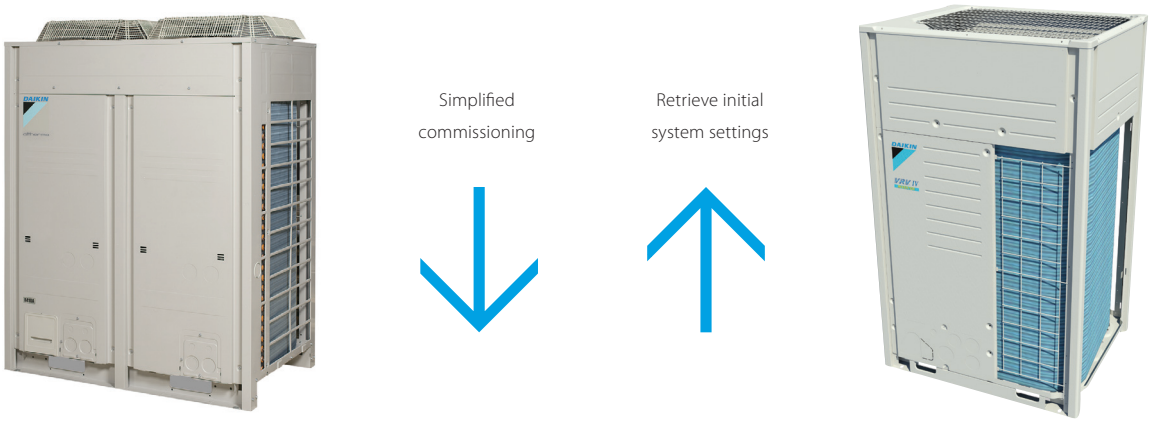
EKPCCAB3

Simplified commissioning: graphical interface to configure, commission and upload system settings

Simplified commissioning

The Daikin configurator for Daikin Altherma and VRV is an advanced software solution that allows for easy system configuration and commissioning:

- Less time is required on the roof configuring the outdoor unit
- Multiple systems at different sites can be managed in exactly the same way, thus offering simplified commissioning for key accounts
- Initial settings on the outdoor unit can be easily retrieved



Wireless room temperature sensor

K.RSS

Flexible and easy installation

› Accurate temperature measurement thanks to flexible placement of the sensor
› No need for wiring
› No need to drill holes
› Ideal for refurbishment

Connection diagram Daikin indoor unit PCB (FXSQ-P example)

Specifications

			Wireless room temperature sensor kit (K.RSS)	
			Wireless room temperature receiver	Wireless room temperature sensor
Dimensions		mm	50 x 50	ø 75
Weight		g	40	60
Power supply			16VDC, max. 20 mA	N/A
Battery life			N/A	+/- 3 years
Battery type			N/A	3 Volt Lithium battery
Maximum range		m	10	
Operation range		°C	0~50	
Communication	Type		RF	
	Frequency	MHz	868.3	

› Room temperature is sent to the indoor unit every 90 seconds or if the temperature difference is 0.2°C or larger.

Wired room temperature sensor

KRCS01-1B
KRCS01-4B

› Accurate temperature measurement, thanks to flexible placement of the sensor

Specifications

Dimensions (HxW)	mm	60 x 50
Weight	g	300
Length of branch wiring	m	12

ADAPTER PCBs

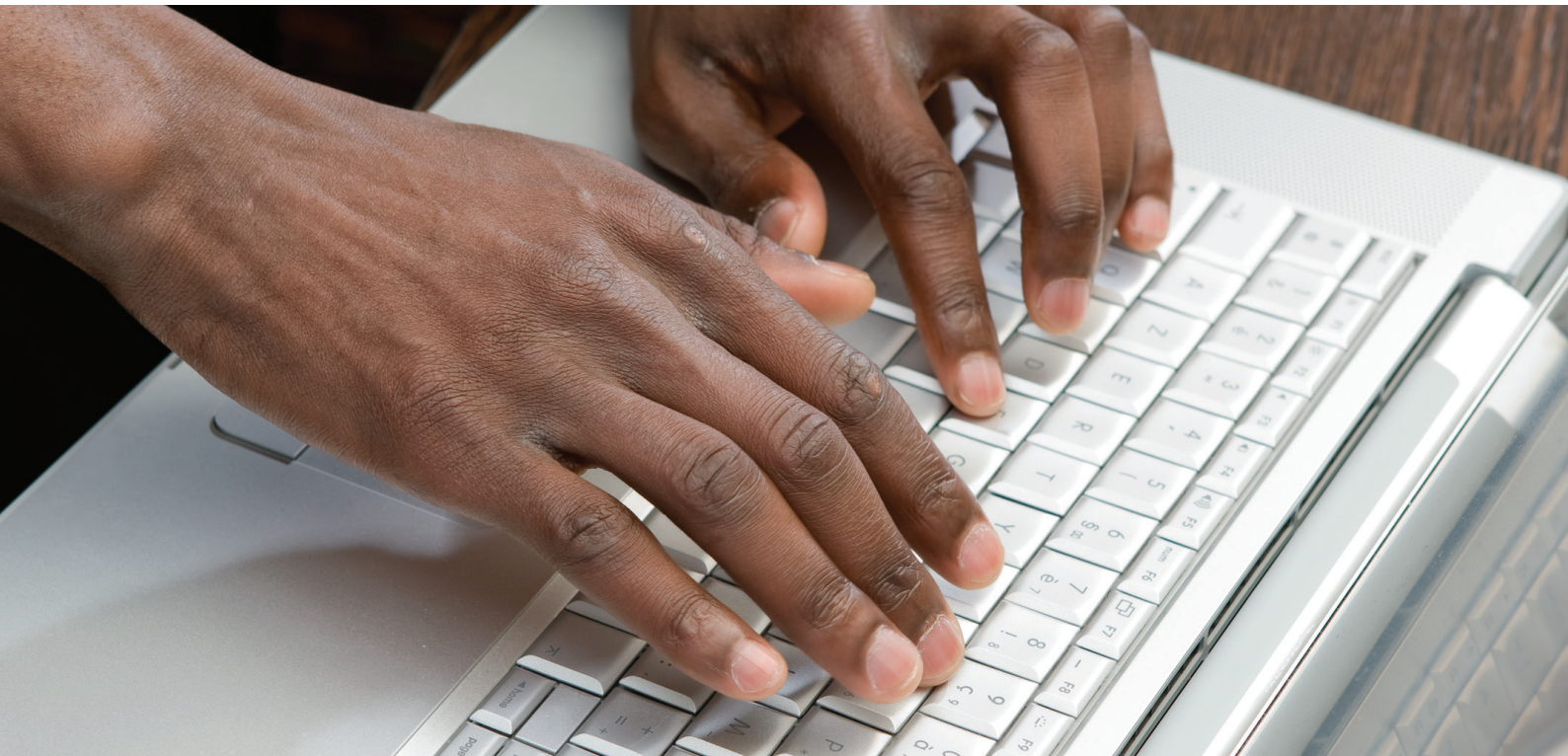
Simple solutions for unique requirements

Daikin's adapter PCBs provide simple solutions for unique requirements. They are a low cost option to satisfy simple control requirements and can be used on single or multiple units.

	**(E)KRP1B*** adapter for wiring	• Facilitates integration of auxiliary heating apparatus, humidifiers, fans, damper • Powered by and installed at the indoor unit
	**KRP2A*/KRP4A*** Wiring adapter for electrical appendices	• Remotely start and stop up to 16 indoor units (1 group) (KRP2A* via P1 P2) • Remotely start and stop up to 128 indoor units (64 groups) (KRP4A* via F1 F2) • Alarm indication/ fire shut down • Remote temperature setpoint adjustment
	**DTA104A*** Outdoor Unit External Control Adapter	• Individual or simultaneous control of VRV system operating mode • Demand control of individual or multiple systems • Low noise option for individual or multiple systems
	**KRP928*** Interface adapter for DIII-net	• Allows integration of split units to Daikin central controls
	**KRP413*** Wiring adapter normal open contact / normal open pulse contact	• Switch off auto restart after power failure • Indication of operation mode / error • Remotely start /stop • Remotely change operation mode • Remotely change fan speed
	KRP980* Adapter for split units without an S21 port	• Connect a wired remote control • Connect to Daikin central controls • Allow external contact

Concept and benefits

› Low cost option to satisfy simple control requirements
› Deployed on single or multiple units



Split

		Wall mounted									
		FTXZ-N R-32	FTXJ-LW/S R-32	FTXG-LW/S	FTXM-K R-32	CTXS-K	FTXS-K	FTXLS-K	FTXS-G	FTX-J3	FTXL-JV
											
We care	Econo mode	•	•	•	•	•	•	•	•	•	
	2-area intelligent eye		•	•	• [1] 35,42,50 class		• [1] 35,42,50 class	•			
	3- area intelligent eye	•									
	Movement sensor				• [3] 20,25 class	•	• [3] 20,25 class		•		
	Energy saving during operation standby	•	•	•	•	•	•	•		•	
	Home leave operation										
	Night set mode		•	•	•	•	•	•	•	•	•
	Fan only	•	•	•	•	•	•	•	•	•	•
	Auto cleaning filter	•									
Comfort	Comfort mode	•	•	•	•	•	•	•	•	•	•
	Powerful mode	•	•	•	•	•	•	•	•	•	•
	Auto cooling-heating changeover	•	•	•	•	•	•	•	•	•	•
	Whisper quiet (down to 19dBA)	•	•	•	•	•	•	•			
	Radiant heat										
	Indoor unit silent operation	•	•	•	•	•	•	•	•	•	•
	Comfortable sleeping mode	•									
	Outdoor unit silent operation	•	•	•	•	•	•	•	•	•	
Air flow	3-D 3-D Air flow	•	•	•	• [1] 35,42,50 class		• [1] 35,42,50 class	•	•		
	Vertical auto swing	•	•	•	•	•	•	•	•	•	•
	Horizontal auto swing	•	•	•	• [1] 35,42,50 class		• [1] 35,42,50 class	•	•		
	Auto fan speed	•	•	•	•	•	•	•	•	•	•
	Fan speed steps	5	5	5	5	5	5	5	5	5	5
Humidity control	Ururu - humidification	•									
	Sarara - dehumidification	•									
	Dry programme		•	•	•	•	•	•	•	•	•
Air treatment	Flash streamer	•									
	Titanium photocatalytic air purification filter	•	•	•	•	•	•	•	•	•	•
	Photocatalytic deodorising filter										
	Air filter										
Remote control & timer	Online controller	• available from Jan '15	•	•	•	•	•	•	•	•	•
	Weekly timer		•	•	•	•	•	•	•		
	24 Hour timer	•	•	•	•	•	•	•	•	•	•
	Infrared remote control	•	•	•	•	•	•	•	•	•	•
	Wired remote control		•	•	•	•	•	•	•	•	•
	Centralised remote control	•	•	•	•	•	•	•	•		
Other functions	Auto-restart	•	•	•	•	•	•	•	•	•	•
	Self-diagnosis	•	•	•	•	•	•	•	•	•	•
	Multi model application			•		•	•		•	•	
	VRV for residential application			•		•	•		•		
	Guaranteed operation down to -25°C			• with RXLG-M				•			•

For explanation on the benefits, see the end of this catalogue.
[1] 35,42,50 class [2] 34,50 class [3] 20,25 class [4] 35,50 class [5] available from Jan '15 [6] depending on controller [7] with RXLG-M

				Floor standing		Concealed ceiling		Flexi type	Siesta Wall mounted					
FTX-GV	**FTX-K**	**FTXK-AW/S**	**FTXB-C**	**FVXG-K**	**FVXS-F**	**FDXS-F(9)**	**FDBQ-B**	**FLXS-B(9)**	**ATXS-K**	**ATXL-JV**	**ATX-J3**	**ATX-K**	**ATXB-C**	**ATXN-NB**
														
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									• 35,50 class					
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•									• 35,50 class					
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•									• 35,50 class					
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				•	•	• depending on controller	•		•					
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*Note: blue cells contain preliminary data

Sky Air

We care	Seasonal efficiency - Smart use of energy	Seasonal efficiency gives a more realistic indication on how efficient air conditioners operate over an entire heating or cooling season.
	Inverter technology	In combination with inverter controlled outdoor units
	Home leave operation	During absence, the indoor temperature can be maintained at a certain level.
	Fan only	The air conditioner can be used as fan, blowing air without cooling or heating.
	Auto cleaning filter	The filter automatically cleans itself once per day. Simplicity of upkeep means optimum energy efficiency and maximum comfort without the need for expensive or time-consuming maintenance.
	Floor and presence sensor	The presence sensor directs the air away from any person detected in the room, when the air flow control is on. The floor sensor detects the average floor temperature and ensures an even temperature distribution between ceiling and floor.
Comfort	Draught prevention	When starting to warm up or when the thermostat is off, the air discharge direction is set horizontally and the fan to low speed, to prevent draught. After warming up, air discharge and fan speed are set as desired.
	Whisper quiet	Daikin indoor units are whisper quiet. Also the outdoor units are guaranteed not to disturb the quiet of the neightbourhood.
	Auto cooling-heating changeover	Automatically selects cooling or heating mode to achieve the set temperature.
Air treatment	Air filter	Removes airborne dust particles to ensure a steady supply of clean air.
Humidity control	Dry programme	Allows humidity levels to be reduced without variations in room temperature.
Air flow	Ceiling soiling prevention	A special function prevents air blowing out too long in horizontal position, to prevent ceiling stains.
	Vertical auto swing	Possibility to select automatic vertical moving of the air discharge louvre, for uniform air flow and temperature distribution.
	Fan speed steps	Allows to select up to the given number of fan speed.
	Individual flap control	Individual flap control via the wired remote controller makes it simple to fix the position of each flap individually, to suit any new room configuration. Optional closure kits are available as well.
Remote control & timer	Weekly timer	Timer can be set to start operation anytime on a daily or weekly basis
	Infrared remote control	Infrared remote control with LCD to start, stop and regulate the air conditioner from a distance.
	Wired remote control	Wired remote control to start, stop and regulate the air conditioner from a distance.
	Centralised control	Centralised control to start, stop and regulate several air conditioners from one central point.
Other functions	Auto-restart	The unit restarts automatically at the original settings after power failure.
	Self-diagnosis	Simplifies maintenance by indicating system faults or operating anomalies.
	Drain pump kit	Facilitates condensation draining from the indoor unit.
	Twin/triple/double twin application	2, 3 or 4 indoor units can be connected to only 1 outdoor unit even if they have different capacities. All indoor units operate within the same mode (cooling or heating) from one remote control.
	Multi model application	Up to 5 indoor units (even different capacities) can be connected to a single outdoor unit. All indoor units can individually be operated within the same mode.
	VRV for residential application	Up to 9 indoor units (even different capacities and up to 71 class) can be connected to a single outdoor unit. All indoor units can individually be operated within the same mode.

Ceiling mounted cassette units				Concealed ceiling units					Ceiling suspended units		4-Way blow ceiling suspended unit	Wall mounted unit	Floor standing units	
FCQHG-F	FCQG-F	FFQ-C	ACQ-D	FDBQ-B	FBQ-D	FDQ-C	FDQ-B	ABQ-C	FHQ-C	AHQ-C	FUQ-C	FAQ-C	FNQ-A	FVQ-C
														
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Benefits

We care icons

Seasonal efficiency, smart use of energy
Seasonal efficiency gives a more realistic indication on how efficient air conditioners operate over an entire heating or cooling season.

Auto-cleaning filter
The filter automatically cleans itself once per day. Simplicity of upkeep means optimum energy efficiency and maximum comfort without the need for expensive or time-consuming maintenance.

Inverter technology
In combination with inverter controlled outdoor units

2 area intelligent eye
Air flow is sent to a zone other than where the person is located at that moment. Detection is done in 2 directions: left and right. If no people are detected, the unit will automatically switch over to the energy-efficient setting.

3 area intelligent eye
Air flow is sent to a zone other than where the person is located at that moment. Detection is done in 3 directions : left, front and right. If no people are detected, the unit will automatically switch over to the energy-efficient setting and eventually switch off.

Energy saving during operation standby
Current consumption is reduced by about 80 % when operating on standby.

Night set mode
Saves energy, by preventing overcooling or overheating during night time.

Econo mode
This function decreases the power consumption so that other applicances that need large power consumption can be used. This function is also energy saving.

Movement sensor
The sensor detects whether someone is in the room. When the room is empty, the unit switches to economy mode after 20 minutes and restarts when a person enters the room.

Home leave operation
During absence, the indoor temperature can be maintained at a certain level.

Fan only
The air conditioner can be used as fan, blowing air without cooling or heating.

Free cooling
By exploiting the low external air temperatures to cool the water, free cooling reduces the load on the compressors and decreases considerably the annual operating costs during the cold season.

Floor & presence sensor
The presence sensor directs the air away from any person detected in the room, when the air flow control is on. The floor sensor detects the average floor temperature and ensures an even temperature distribution between ceiling and floor.

Comfort

Comfort mode
The unit automatically changes the angle of the air discharge louvre depending on the mode. In cooling operation the air will be directed rather upwards to avoid cold draught, while in heating operation the air will be directed rather downwards to avoid cold feet.

Powerful mode
If the temperature in the room is too high/low, it can be cooled down/heated quickly by selecting the 'powerful mode'. After the powerful mode is turned off, the unit returns to the preset mode.

Whisper quiet
Daikin units are whisper quiet. (with sound levels as low as 19dBA)

Outdoor unit silent operation
To ensure a quiet environment for the neighbourhood the user can lower the operation sound of the outdoor unit by 3 dB(A) via remote control.

Comfortable sleeping mode
Increased comfort function that follows a specific temperature fluctuation rhythm.

Draught prevention
When starting to warm up or when the thermostat is off, the air discharge direction is set horizontally and the fan to low speed, to prevent draught. After warming up, air discharge and fan speed are set as desired.

Auto cooling-heating changeover
Automatically selects cooling or heating mode to achieve the set temperature (heat pump types only).

Indoor unit silent operation
To ensure a quiet environment for studying or sleeping the user can lower the operation sound of the indoor unit by 3 dB(A) via remote control.

Night quiet mode (cooling only)
Lowers the operation sound of the outdoor unit automatically at night.
Installer has to make special setting on outdoor unit or wired remote controller, depending on model.

Radiant heat
The front panel of the indoor unit radiates additional heat to add to your comfort on cold days

Air flow

Ceiling soiling prevention
A special function prevents air blowing out too long in horizontal position, to prevent ceiling stains.

Vertical auto swing
Possibility to select automatic vertical moving of the air discharge louvre, for uniform air flow and temperature distribution.

Auto fan speed
Automatically selects the necessary fan speed to reach or maintain the set temperature.

Individual flap control
Flexible installation thanks to the possibility of easily closing one flap via the wired remote controller, to suit any new room configuration. Optional closure kits are available as well.

3-D Air flow
This function combines Vertical and Horizontal auto-swing to circulate a stream of cool/warm air right to the corners of even large spaces.

Horizontal auto swing
Possibility to select automatic horizontal moving of the air discharge louvre, for uniform air flow and temperature distribution.

Fan speed steps
Allows to select up to the given number of fan speed.

Benefits

Humidity control

Ururu - humidification
Moisture is absorbed from the outdoor air and evenly distributed throughout the indoor areas.

Sarara - dehumidification
Reduces indoor humidity, without affecting the room temperature, by mixing cool, dry air with warm air.

Dry programme
Allows humidity levels to be reduced without variations in room temperature.

Air treatment

Flash streamer
The Flash Streamer generates high-speed electrons that powerfully break down odours and formaldehyde .

Titanium photocatalytic air purification filter
Removes airborne dust particles, and decomposes the odours of for example tobacco and pets. It also decomposes harmful organic chemical substances such as bacteria, viruses and allergens.

Photocatalytic deodorising filter
Removes airborne dust particles, decomposes odours and restrains the reproduction of bacteria, viruses and microbes, this to ensure a steady supply of clean air.

Air filter
Removes airborne dust particles to ensure a steady supply of clean air.

Remote control & timer

Weekly timer
Timer can be set to start operation anytime on a daily or weekly basis

24 Hour timer
Timer can be set to start cooling/heating anytime during a 24-hour period.

Timer
Allows to preset the air conditioner to start/stop at a specified time.

Infrared remote control
Infrared remote control with LCD to start, stop and regulate your indoor unit from a distance.

Wired remote control
Wired remote control to start, stop and regulate the air conditioner from a distance.

Centralised control
Centralised control to start, stop and regulate several indoor units from one central point.

Online controller via app
Control your indoor unit from any location via app. (optional WLAN adapter)

Other functions

Auto-restart
The unit restarts automatically at the original settings after power failure.

Self-diagnosis
Simplifies maintenance by indicating system faults or operating anomalies.

Twin/triple/double twin application
2, 3 or 4 indoor units can be connected to only 1 outdoor unit even if they have different capacities. All indoor units operate within the same mode (cooling or heating) from one remote control.

Multi model application
Up to 5 indoor units (even different capacities) can be connected to a single outdoor unit. All indoor units can individually be operated within the same mode.

VRV for residential application
Up to 9 indoor units (even different capacities and up to 71 class) can be connected to a single outdoor unit. All indoor units can individually be operated within the same mode.

Drain pump kit
Facilitates condensation draining from the indoor unit.

Multi tenant
The indoor unit's main power supply can be turned off when leaving the hotel or office building.

Swing compressor

Scroll compressor

Screw compressor

Centrifugal compressor

Reciprocating compressor

Guaranteed operation down to -20°C
Daikin heat pumps are suitable for all climates, even withstanding severe winter conditions with an operation range down to -20°C

Guaranteed operation down to -25°C
Daikin heat pumps are suitable for all climates, even withstanding severe winter conditions with an operation range down to -25°C

Daikin products are distributed by:

DAIKIN EUROPE N.V. Naamloze Vennootschap - Zandvoordestraat 300, B-8400 Oostende - Belgium - www.daikin.eu - BE 0412 120 336 - RPR Oostende

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