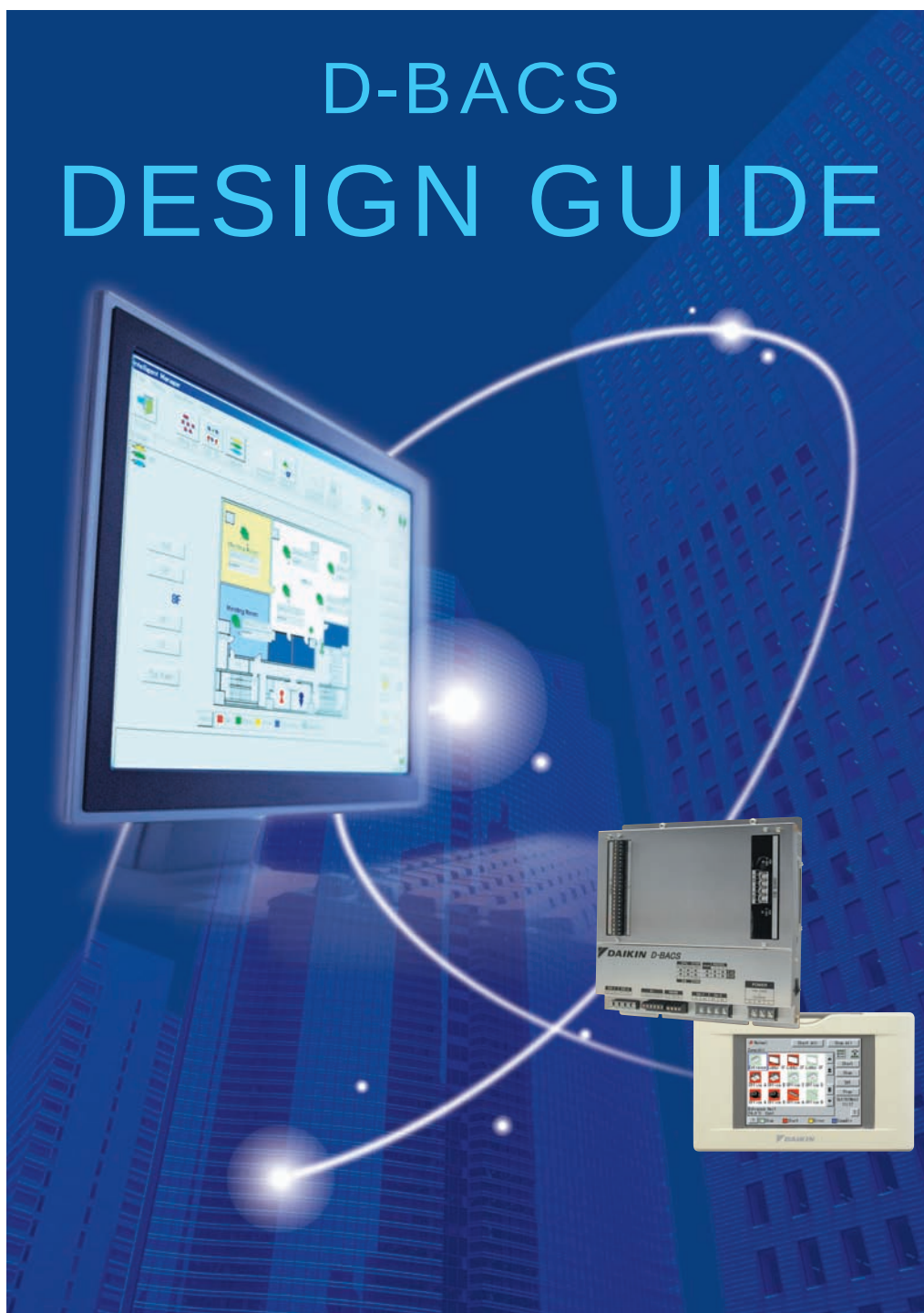


Daikin Buildings Air-conditioning Control System

D-BACS DESIGN GUIDE



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1. Introduction

1.1 DAIKIN Building Air-conditioning Control System (D-BACS) Overview

D-BACS is a building air-conditioning control system built upon Daikin's unique high-speed multiplexed-transmission technology. D-BACS can integrate and centrally control various air-conditioners. With Daikin's VRV system at the center various Daikin air-conditioning units, such as total heat exchangers, SkyAir, room air-conditioners, package air-conditioners, and screw chillers can be integrated into the system. D-BACS can be also combined with other third-party building facilities, such as ventilation air blowers, pumps, and illuminations.

D-BACS can mainly control operations such as:

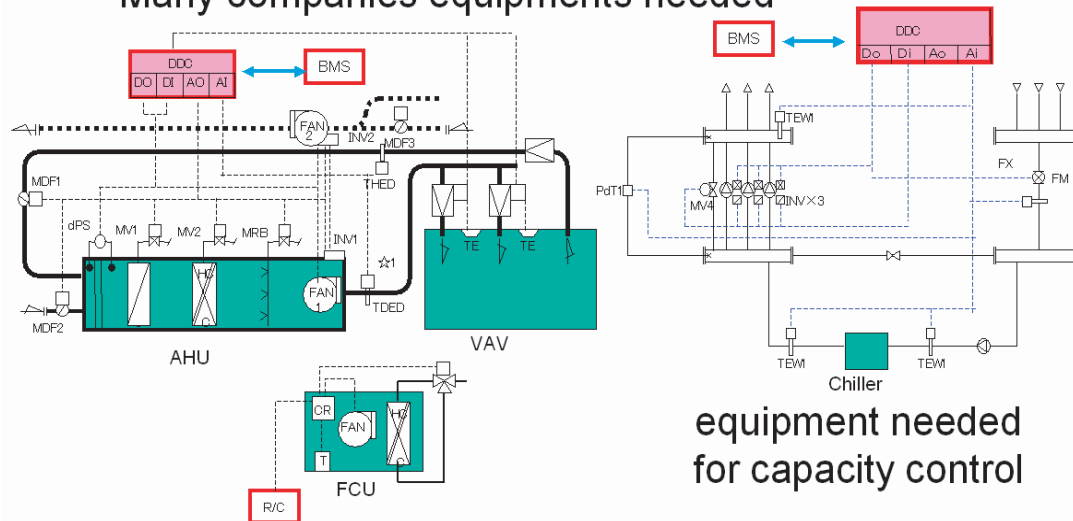
1. Starting/Stopping equipment operation
2. Setting temperatures
3. Setting air volume for indoor unit fans in VRV system and total heat exchanger
4. Switching of cooling and heating
5. Displaying abnormalities

1.2 Advantages of D-BACS over Automatic Control by Central System

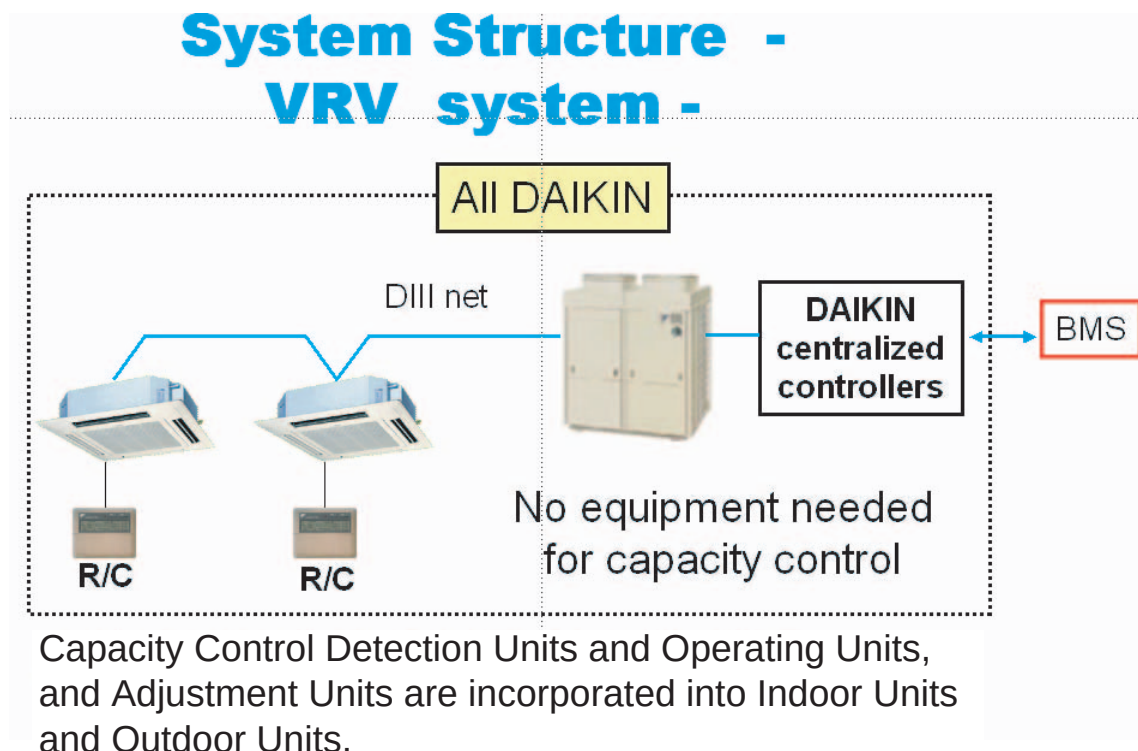
To enable automatic control in a central system, a capacity control and remote control must be designed carefully for each different third-party air-conditioner, thus requiring a special system engineer (SE).

System Structure - Central system -

Many companies equipments needed



On the contrary, the D-BACS system built around VRV basically does not require such a design process for the capacity control, because a detection unit (mainly sensors), an operation unit (mainly valves), and an adjustment unit etc. are already incorporated in the product at the time of factory shipment.



Therefore, a general air-conditioner facility designer can design an air-conditioner facility around Daikin's VRV system without special knowledge. In addition, D-BACS can fully satisfy control-related customer requirements.

1.3 How to Use this Document

All the contents of this document are written for general air-conditioner facility designers. An air-conditioner facility designer must provide the most economical and most efficient air-conditioner facility to end-users, comprehensively taking all aspects of the air-conditioner into consideration, including air, water, refrigerant, environment, energy consumption, and facility management. In particular, to allow efficient operation of the air-conditioner facility, management or operation of the air-conditioning system must be examined thoroughly. All aspects of the management and operation of the air-conditioning system must be designed based on user requirements.

Daikin's controlling equipment described in this document enables designers to fully satisfy user requirements. Therefore, this document is an essential for source of information for air-conditioning system design.

This document covers almost all of the controlling equipment available from Daikin. This single document enables the designers to explain the position or functions of equipment, required end-user operations, and prepare a proposal of the air-conditioning system for a particular property. The designer of an air-conditioner facility can design a controlling system for the property, and prepare the documents, such as below, for presentation to the end-user:

1. Equipment List: Types and quantities of equipment required
2. System Diagram: Diagram of connections between equipment items
3. Layout Plan for Controlling Equipment: Layout plan for each floor
4. Initial Settings: Minimum settings required for system operation, especially when there is a mixture of control equipment types.

For the documentation required after satisfying the end user and obtaining the approval for the proposal, please refer to installation guide and operation guide for the equipment for construction and test-operations. Also, separate Engineering Data are available for the following products. If more detailed information about anything from total planning to test-operation is required, or if you are an engineer specialized in control technology itself, our recommendation is to refer to the Engineering Data:

- | | |
|---------------------------------|-----------|
| 1. intelligent Touch Controller | ED72-423B |
| 2. intelligent Manager | ED72-746 |
| 3. BACnet® | ED72-749 |
| 4. LONWORKS® | ED72-333 |

1.4 Safety Precautions



Safety Precautions

For design, installation and maintenance, be sure to read the catalogue, this manual and the installation and operation manual enclosed in the unit, and to follow their instructions.

Be sure to follow the "WARNING" (Failure to follow these instructions may cause a heavy injury or death.) and the "CAUTIONS" (Failure to follow these instruction may cause the injury or damage on the property.) described in the installation manual and etc.

<Cautions when designing the system>

1. Select the right products for your applications.
2. Be sure to consider the safety, electric shock and electric leakage when you design the system.
3. Be sure to follow the instructions in this manual for the operating range, characteristics of performance and limitation for installation and etc.

<Cautions for the installation/operation>

1. Be sure to follow the safety pre-cautions described in the installation and operation manuals.
2. Be sure to install correctly according to the descriptions of the installation manual. Make sure to perform by the authorized personnel the works such as a electrical work which requires the qualification.
3. Be sure to perform the commissioning of the system properly, and be sure that the power supply is correct and there is no electric leakage and other abnormalities, such as abnormal sound, abnormal smell, smoke and etc. Also keep a record of all the test operating data all the time.
4. Be sure to explain the contents of the operation manual when you hand over the job to the customer, and also ask the customer to keep this manual wherever the operator can refer to all the time.
5. Hand over to the customer the warranty card duly filled.

<Cautions for maintenance>

1. Follow the instructions in the operation manual.
2. Be sure to perform the maintenance of the system properly, and be sure that the power supply is correct and there is no electric leakage and other abnormalities, such as abnormal sound, abnormal smell, smoke and etc. Also record all the maintenance data and keep this record all the time.

1.5 Open Network Glossary

Term	Explanation
Ai Unit	Connecting adapter that communicates information from environmental sensors (temperature, pressure, humidity and voltage/electric current) to measurement unit.
ANSI	American National Standards Institute
Architecture	Refers to the overall design concept of the computer from hardware to software. It is a systematic layout detailing the connection between the communications network and the devices in an open network.
ASHRAE	American Society of Heating, Refrigeration and Air-conditioning Engineers, Inc.
BACnet	Building Automation Control Network
BAS	Building Automation System Users: Building management engineers Main functions: Facility device status monitoring Alarm monitoring Operation management (scheduling) Automatic control of facilities
Bind	Refers to one of the activities included in a test run. Specifically, the logical address is appropriated and allocated.
Binding	Refers to the logical connecting between the network variables that the user wishes to communicate. It is a setting that enables communication of nvo from one device/machine and nvi from another. This is a job usually handled by an NI.
BMS	Building Management System Refers to a system for building management (management of electricity charges, equipment and the like). BASs are configured within BMSs. Users: Building management engineers Main functions: Facility equipment ledger management Repair history management Maintenance schedule management Billing data Well known BMS manufacturers in Japan include NEC, YBS, YJ, Fujitsu, Panasonic and Oki.
Broadcast	Refers to the simultaneous transmission of a message to all the devices connected in a system. Messages involved in the communication between devices connected within a network are simultaneously sent to all the devices within the network.
Centralized remote controllers	Devices for collectively programming and managing operation of multiple air conditioners, installed in facility from one or many locations.
Closed Network	Refers to a system configured by only one manufacturer that does not allow access by other manufacturers. DIII-NET is one such example.
Commission	The work conducted when the central monitoring panel is connected to a gateway. Specifically, the data within the gateway is sent to the central monitoring panel for data confirmation. Refers to installation of settings in the node after the communication content is set via binding.
Communication Traffic Volume	Refers to the traffic volume determined according to the number of nodes and network variables and the frequency of communication between these two.
Configuration Property	Refers to parameters related to the behavior of the LON nodes. Configuration properties are set for the respective nodes by an NI when the network is being installed. They are assigned to the nodes' nonvolatile memory. Unlike network variables, configuration properties represent semi-fixed variable values.
CRC	Central Remote Controller A device that allows remote controllers of up to 64 indoor units, groups or zones (total of 128 indoor units). The single device provides centralized control to each connected indoor units for functions such as individual/zone/simultaneous operation start/stop, room temperature control, etc. The device offers the same control as individual remote controllers.

Term	Explanation
D-BACS	It stands for Daikin Building Air-conditioning Control System . Means centralized air-conditioning management and control system based on highly expandable DAIKIN original network communication technology, DIII-NET. It is DAIKIN products that can be mainly controlled through DIII-NET on D-BACS. And with various expander adapters connected, functions and usage of control system can be expanded for following 3 sections of devices: 1) Equipment (electricity, plumbing, elevator, ventilation, fire alarm, lighting, car park and crime/disaster prevention panel), 2) meters (electricity, gas and water supply) and 3) environmental monitoring sensors (temperature, pressure, humidity and voltage/current).
Di Unit	Device by which DAIKIN centralized controllers are able to monitor operation and malfunction of up to 8 individual building facility equipment through DIII-NET, and pass them to centralized controllers. 'I' in Di stands for INPUT from building facility equipment, and Di unit is only able to receive INPUT signal from equipment, while Dio unit can receive operation signals from centralized controllers, and distribute OUTOUT signals to individual building equipment.
Dio Unit	Device that is able to control operation, and monitor operation and malfunction for building equipment. 'I' in Dio stands for INOUT from building facilities, while 'o' stands for OUTOUT to building facilities. This means Dio unit can control building facility equipment for both ON and OFF operation. Di unit can only monitor ON and OFF operation from building facility equipment.
DIII-NET	Refers to Daikin Industries original communication network for A/C communications. (closed network)
Echelon	The U.S. company that developed the LON.
Ethernet	Refers to the name of and standard pertaining to a LAN product developed by Xerox. Jointly developed by Xerox, DEC and Intel in 1980, Ethernet is the LAN used within BASS.
Free Topology	Refers to a branched free-type connection arrangement within a network. Daikin's Interface for LONWORKS® only supports free topology.
Gateway	Refers to a device that translates the different communication codes sent between central monitoring panels and A/C units to enable mutual communication. It is used when more than one network is connected. Interface for LONWORKS® and the Master Station are two such examples.
General	Refers to the term 'general' used when conducting general or batch control. When controlling an entire system, control is not conducted on each particular A/C unit, but on a generalized basis (all of the A/C units together).
Group	System of up to 16 indoor units controlled simultaneously from single or double remote controllers.
Heartbeat	Refers to a function that cyclically communicates values of specific network variables. Even if a main monitoring node does not request the data (does not confirm the status of the A/C unit), the machine itself will automatically send the values. It allows the user to conclude that the node is operating normally while this value is being sent.
HIM	Human Interface Module A device that incorporates the concept of the standard BAS protocol supported by the Institute of Electrical Installation Engineers of Japan (IEIEJ). It enables the setting of parameters for status display, control and monitoring of building equipment. It refers to a human interface device that performs On/Off operations and the like.
Icont	Intelligent Controller A device that incorporates the concept of the standard BAS protocol supported by the IEIEJ. It is a control device that is connected to either the building equipment or devices targeted for control via an interface. It refers to a device that can support functions of independent monitoring, control and the like.
IEIEJ	Institute of Electrical Installation Engineers of Japan

Term	Explanation
IEIEJ Specifications	Refers to the specifications established by the institute that determines them for the Japanese version of the BACnet. (The international specifications must be certified, however, by ASRAE.) The IEIEJ Specifications feature functions added onto the BACnet according to demand in the Japanese market. Related discussions are currently being held with ASHRAE. The points of discussion are as follows: 1. Measurement: The data type used to calculate electric energy, heat and the like. This is absolutely necessary in energy management. 2. Power demand: The method of determining the contract demand with electric power companies differs with respect to the country. Accordingly, it is necessary in Japan to interpret the average electric power used over 30 minutes as the maximum electricity demand. 3. Common data dissemination methods: Due to the common adoption of comprehensive monitoring systems in Japan, it is necessary to have a system by which large volumes of disaster-related data can be efficiently transmitted. This point has not been considered in the BACnet. 4. Collective objects: Devices that support several forms of data should be managed on a per device basis. This will be proposed by the Japanese side (IEIEJ).
intelligent Manager III	A centralized control system for VRV that can be connected to up to 1,024 indoor units. It features various functions such as targeted power control function, fire alarm linkup, database maintenance and error prediction (Air Conditioning Network Service System). These functions effectively make it BMS specialized for air conditioning. Synonyms: i-Touch Controller, Air Conditioning Network Service System. i-Manager is served as the specialized air-conditioning control system.
intelligent Touch Controller	Multi-function system management controller that allows you to operate and monitor up to 128 VRV indoor units or 64 groups on colour LCD touch screen. It comes with functions that are combined with CRC, Unified ON/OFF controller and Schedule Timer. And it also includes applied functions such as electric power distribution, Change Over Setting, Temperature Limit Setting, Heating Optimization Settings. Furthermore, this device can be connected with LAN or public telephone line.
Interoperability	Refers to the coordinated interlinking between related devices. An example of this is the control of lighting, A/C, TV and the like with one R/C. If each of the respective companies involved uses a different protocol, then they have to disclose their protocols and carry out discussions on several occasions to coordinate efforts, which leads to an increase in costs. However, an open network essentially obviates such a situation and allows machines manufactured by different companies to operate together without any problems. For example, if A company's sensor breaks down, then it is possible to buy and install a product manufactured by B company that will readily operate (interconnectivity). Different devices are, thus, able to communicate and link up with each other.
iPU	intelligent Processing Unit Units for use of Intelligent Manager III
I/O	INPUT/OUTPUT Examples: Di (Digital input), Do (Digital output), Ai (Analog input), Ao (Analog output)
LON	Local Operating Network Refers to an intelligent distributed control network developed by the U.S. company, Echelon.
LONMARK	The logo for products manufactured according to the guidelines established by the LONMARK Association.
LONMARK	Refers to the LONMARK Interoperability Association. The LONMARK Association is a nonprofit organization established to promote the use of LONWORKS. It consists of some 350 companies from all over the world, including 19 from Japan. The LONMARK Association was formed in order to create standard specifications for connection to LONs between different vendors (companies).
LONMAKER	Refers to the Echelon-developed tool (software) that allows installation commissioning (addressing), variable binding, variable browsing (monitoring) and the like.
LONTALK	Refers to the protocol used in LONs.
LONWORKS	The generic term used to refer to the hardware, software, protocol and the like used to design, configure and manage/service LONs.
Multi-vendor	Refers to various machine/device manufacturers. The term 'multi-vendor environment' is also often used.
Network Variable	The unit in which data are sent/received in communication between nodes. There are two types: network variable input (nvi) and network variable output (nvo).
Neuron Chip	Refers to a LON chip. It is the interface used to access the LON.

Term	Explanation
NI	The acronym for Network Integrator . In the narrow sense, NI is the term used to refer to companies that have signed an NI contract with ECHELON. In the broad sense, NI is the generic term used to refer to companies and engineers that configure LONWORKS system networks proposed by ECHELON. The work of an NI is included in that of an SI (system integrator) or SE (system engineer) in the case of computer systems. In LONWORKS systems, the work of an NI involves network topology and network.
NI companies in Japan	Obayashi Corporation Takasago Thermal Engineering Co., Ltd. DAI-DAN Co., Ltd. NTT DATA Corporation Hitachi Plant Engineering & Construction Co., Ltd. Shimizu Corporation Yukoukeisou Co., Ltd. Chiyoda Keiso Co., Ltd. System instrumentation Co., Ltd. Hibiya Engineering, Ltd. Shinryo Corporation Mita Engineering Co., Ltd. Taikisha Ltd. Creight Co., Ltd. Kyowa Exeo Corporation As of August 2001
Node	Refers to the devices connected by cable to the LON. In other words, it refers to the devices to be controlled by the LON or BACnet. VRV, valves and sensors are some examples.
nvi	Network Variable Input
nvo	Network Variable Output
Object	Monitoring items and data. Refers to something that regulates the operation of the object to be controlled. The equivalent of a LON's SNVT or BACnet's object.
Open Network	Refers to a network in which machines with different specifications are able to communicate with each other.
Profile	In terms of a LON, the following are examples of items that are determined for each function of the respective nodes in the LON: - Network variable type - Meaning of the network variable (function) - Range and meaning of the network variable value (function). Standardizing these ensures interconnectivity. However, a LON is not configured for VRVs or PAs, so profiles for such A/C systems must be created by each manufacturer in accordance with the respective network variable regulations. (Due to the fact that the profiles differ with respect to the manufacturer, profiles such as those for VRVs and PAs are not certified by LONMARK. However, because they conform with regulations, they can be treated as open networks by disclosing the network variables.
Polling	When the control station does not have the necessary data (the central monitoring panel does not have any commands), it sends requests at regular intervals to each tributary station asking whether it has any data transmission requests (data that the tributary station would like to communicate to the control station). The control station sequentially gives each of the tributary stations request transmission rights, allowing them to send the respective data.
Property	Refers to each of the elements comprising an object.
Protocol	The agreed rules and regulations used in communication between different computer programs. When the protocol differs, two computer programs are unable to comprehend each other (communicate).
P.P.D	It stands for Power Proportional Distribution Proportional calculation of electric consumption of VRV indoor unit
Router	Refers to a device used for connections between different networks. A router forwards data packets between networks. In an internal (in-company) LAN, it is used to connect the LANs installed on a per floor basis. Meanwhile, a dial-up router is used to connect the Internet with a LAN. Routers are also used for connections between an Ethernet and LON, for example, in the field of open protocols used for building control.
R/C	Remote Controller A Controller that let you individually control the operation of indoor unit for Air-conditioners

Term	Explanation
SE	System Engineer System Engineer (SE) is a generic term used in the computer industry to refer to engineers who install computers and communications devices for end-users. System engineers also generally confirm proper operation of OS (operating software) and AS (application software) after set up. These capabilities are, of course, necessary in the case of a BAS, but unlike the so-called computer systems, the SE must also determine necessary specifications in order for vendors to manufacture systems that can effectively realize functions and achieve desired performance levels detailed on the provided drawings. In addition, appropriate instruction to and/or coordination between related parties, such as departments that design and create hardware and software, according to the pertinent process as well as the promotion of smooth system configurations are also responsibilities of the SE.
Selecting	When a control station (central monitoring panel) sends data to a tributary station (DMS II or Interface for LONWORKS®), a message is first sent to the latter to check if the data can be received. The data is then sent upon receipt of an affirmative response from the tributary station (indicating that the data can be received).
SI	System Integrator System Integrator (SI) is a generic term used in the computer industry to refer not only to the work of selecting hardware and software suited to configured computer systems, setting up networks and altering software to accompany the systems to be installed but also to the companies/engineers who perform the work. BASs, including building management systems, represent a type of computer system, so the responsibilities of an SI are the same. In addition, the responsibilities of the SI also include: a thorough understanding of functions and features of the targeted electric equipment, A/C system and the like; coordination between hardware, software and network designs provided by a multiple number of vendors; and smooth configuring of systems to meet the objectives within a predetermined cost in cooperation with design supervisors and BA orderers.
Single Vendor	Refers to a situation involving only one vendor or manufacturer.
SNVT	Standard Network Variable Types Refers to the variables used to control A/C units within LONs. These variables have been established by the The Japan Refrigeration and Air Conditioning Industry Association (JRAIA) and are the standard variables in Japan. They are the equivalent of codes for control and monitoring items that enable interoperability in LONs. (Predefined objects)
TCP-IP	Transmission Control Protocol/Internet Protocol TCP-IP is a standard protocol supported in all OS such as UNIX, an OS used in mid- to large-sized computers, Windows and Mac. TCP-IP was designed by an organization associated with the U.S. Department of Defense to allow for communications between computers through another route even if a part or parts of a network were destroyed.
Topology	Refers to the connection arrangement within a network. Equivalent to the wiring method in DIII-NET. Star and bus are some examples of topologies.
Unicast	Refers to the sending of messages only to specified devices. Specifically, it is the sending of messages between devices connected in a network on a one-to-one basis.
Unit	Minimum unit of indoor unit or outdoor unit: One indoor unit shall be assumed to be one unit, and one outdoor unit with refrigerating cycle shall be assumed to be one unit.
UNVT	User-defined Network Variable Types Refer to the variables used to control A/C units within LONs. They are determined according to specific projects (buildings, etc.) and, thus, are usually not used.
Vendor	The seller or manufacturer
XIF File	Refers to a file comprised of data containing network variables for LON nodes. The company manufacturing the node (in this case, Daikin) creates the file and submits it to the NI upon receipt of an order for a system.
Zone	A specified air-conditioning area that requires the same control in a building.

Part 1

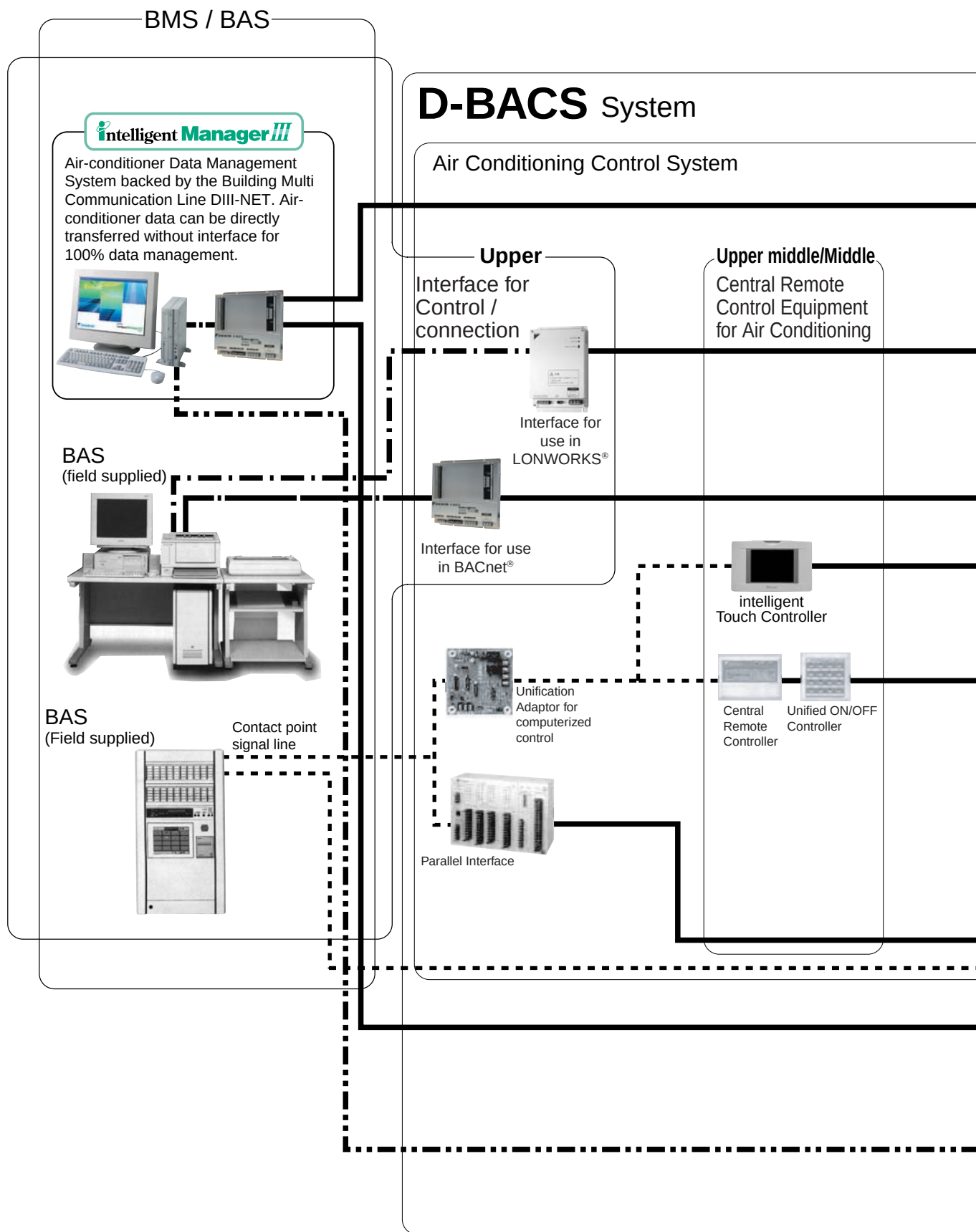
Outline of D-BACS System

1. D-BACS (DAIKIN Building Air Conditioning Control System) System Over View	2
1-1 D-BACS System Integrated System Diagram.....	2
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1. D-BACS (DAIKIN Building Air Conditioning Control System) System Over View

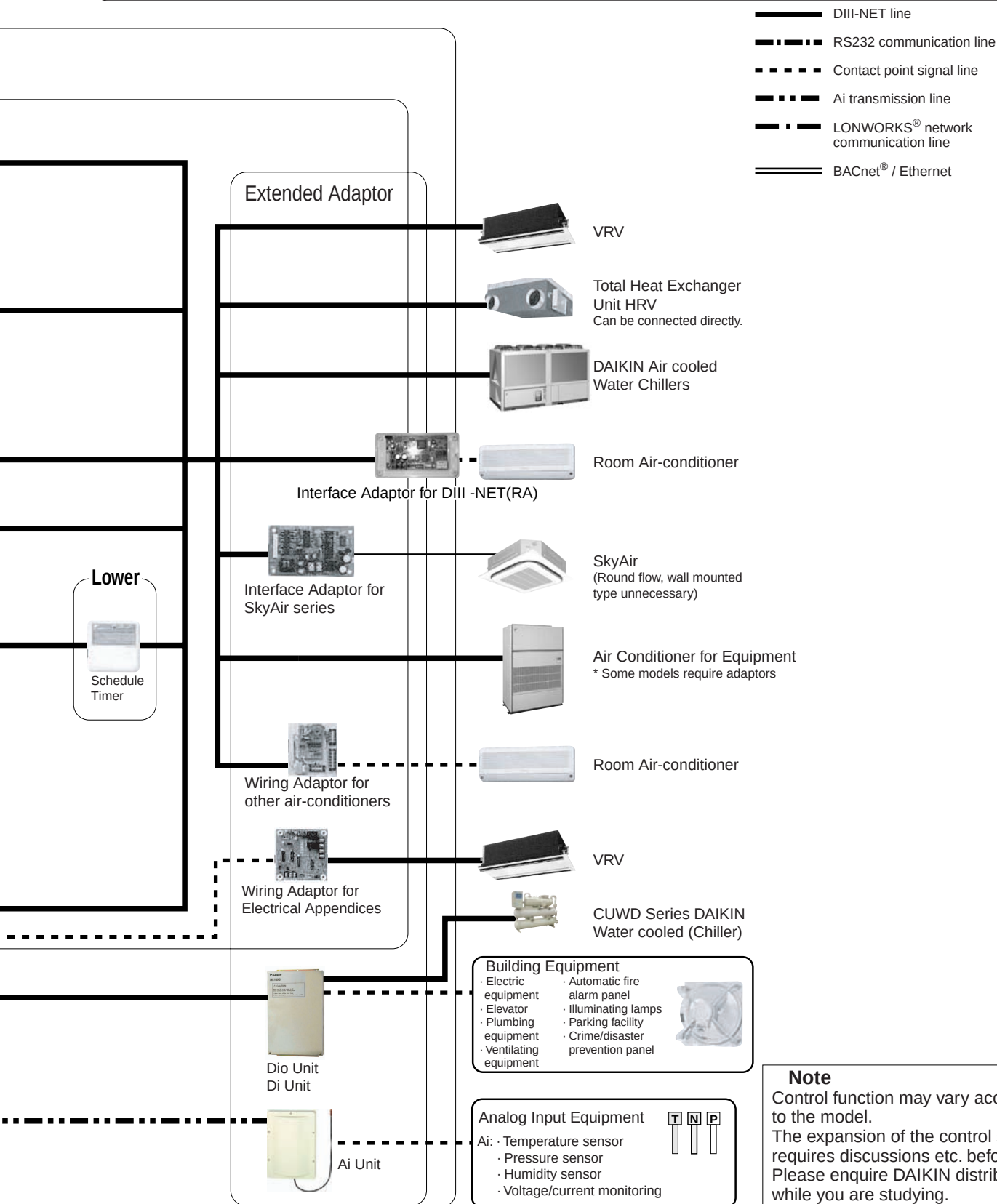
1.1 D-BACS System Integrated System Diagram

A variety of central control systems with high speed communication DIII-NET method are provided. By combining a variety of controllers, the system implements not only advanced multiple operational controls for buildings but also advanced building integrated monitoring systems that control a variety of building equipment.



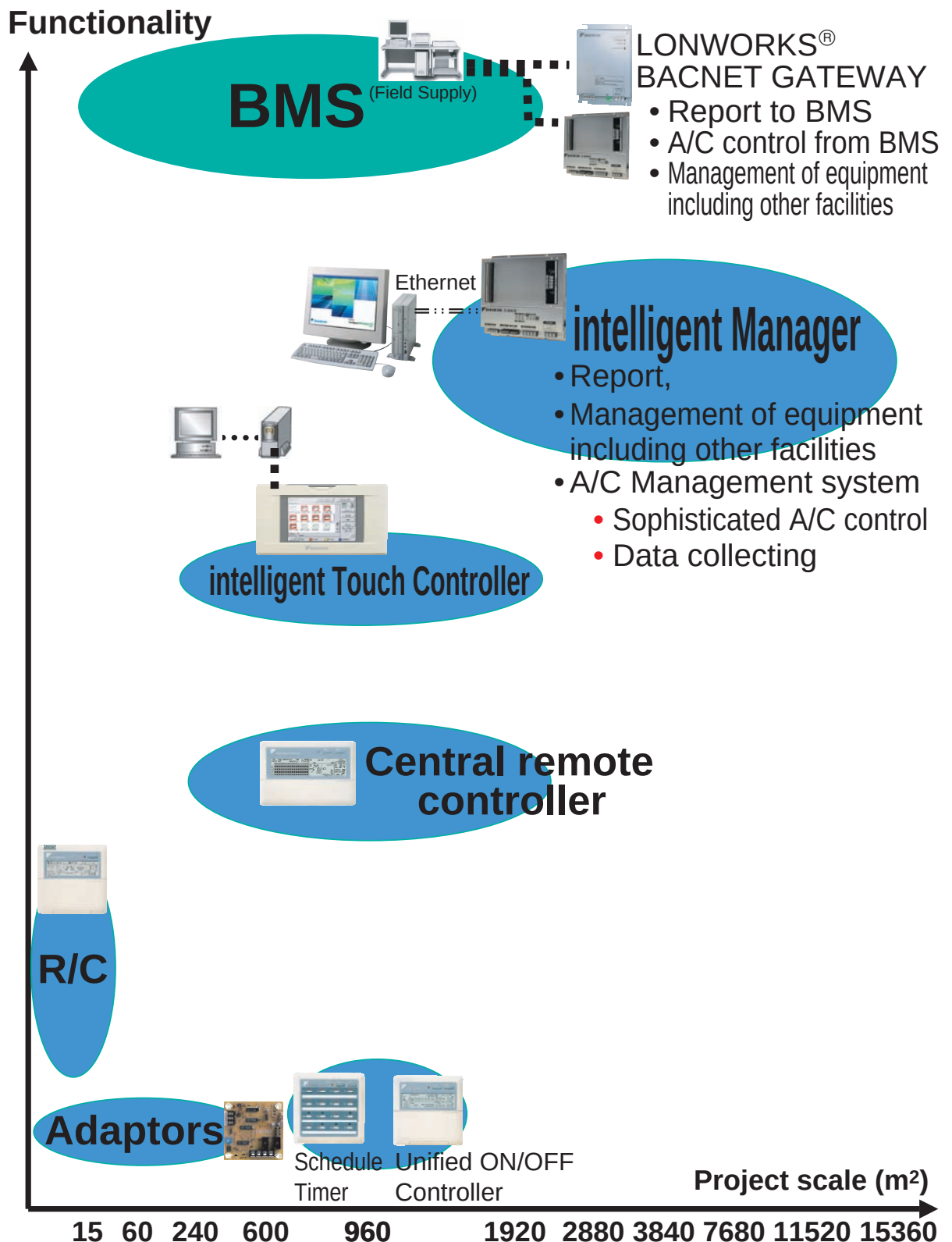
The features of DIII-NET

- * Integrates a variety of air-conditioning machines extending throughout a building while provides accurate control and monitoring.
- * Reduces the wiring in a building by providing the nonpolar double wire system. The wiring work is easy to accomplish with few faulty wiring.
- * Later installation is also easy to accomplish. In total, up to two kilometers can be extended for wiring.
- * A variety of controllers can be combined which also allows construction of a hierarchical risk diversification system.
- * Our total heat exchangers and central air-conditioning machines can also be controlled totally.



2. System Over View

2.1 Targeted Project Scale and Map



2.2 Number of Group for Centralized-Control Devices Connectable with Indoor-Units

Name	Model	Communication	Gp. Qt 1 4 16 40 64 128 192 256 512 768 1024	15	60	240	600	960	1920	2880	3840	7680	11520	15360
[Central]	DCS302CA61	DIII-NET	1							Reference floor space (m²) based on the assumption as 1Gp. 1Hp equal to 15m²				
			2											
[ON/OFF]	DCS301BA61	DIII-NET	1											
[Schedule]	DST301BA61	DIII-NET	1											
[Dio]	DEC102A51	DIII-NET	1											
[Intelligent Touch Controller]	DCS601C51	DIII-NET	1							Individual operation Batch operation Possible PC Control				
	+DCS601A52	DIII-NET	1											
[Intelligent Manager]	DAM602B52	DIII-NET	1											
	DAM602B51 (64Gp x 4 ports)	DIII-NET	1											
		DIII-NET	2											
		DIII-NET	3											
		DIII-NET	4											
[BAC-net]	DAM502B51	BACnet	1											
[LONWORKS®]	DMS504B51	Lon Talk	1											
[Unification]	DCS302A52	Contact signal	1							(+DCS302CA61, or DCS601C51)				
[Adaptor 1]	[KRP4A----]	Contact signal	1											
[Adaptor 2]	[KRP2A----]	Contact signal	1											

Reference floor space (m²)
based on the assumption as
1Gp. 1Hp equal to
15m²

Individual operation

Batch operation

Possible PC Control

2.3 Control Function of the Devices

Ex: On/Off, temperature, air flow and mode setting, operation and an malfunction display

Name	Model	Communication	ON/OFF	Temperature	Fan	Mode	Operation	Error
[Wired R/C]	BRC1C62	For VRV I/U	For 1Gp.	For 1Gp.	H/L	C/H	Display	Display
[Central]	DCS302CA61	DIII-NET	For each Gp.					
[ON/OFF]	DCS301BA61	DIII-NET	For each Gp.				Lamp for each Gp.	
[Schedule]	DST301BA61	DIII-NET	Simultaneous control				one lamp for all	
[Dio]	DEC102A51	DIII-NET	For each Gp.				Signal for each Gp.	
[Intelligent Touch Controller]	DCS601C51	DIII-NET	For each Gp.				Code for Each Gp.	
	+DCS601A52	DIII-NET	For each Gp.				Code for Each Gp.	
[Intelligent Manager]	DAM602B52	DIII-NET	For each Gp.				Code for Each Gp.	
	DAM602B51 (64Gp x 4 ports)	DIII-NET	For each Gp.				Code for Each Gp.	
		DIII-NET	For each Gp.				Code for Each Gp.	
		DIII-NET	For each Gp.				Code for Each Gp.	
[BAC-net]	DAM502B51	BACnet	For each Gp.				Code for Each Gp.	
[LONWORKS®]	DMS504B51	Lon Talk	For each Gp.				Code for Each Gp.	
[Unification]	DCS302A52	Contact signal	Simultaneous control				Signal for all	
[Adaptor 1]	[KRP4A----]	Contact signal	For 1Gp.				Signal for 1Gp.	
[Adaptor 2]	[KRP2A----]	Contact signal	Simultaneous control				Signal for all	

3. List of D-BACS System Equipment

3.1 List of Control System Equipment

Equipment using DIII-NET		Unit Name	Applied Model	Page
Upper	intelligent Manager III	DAM602B51/52	VRV series, SkyAir series, Room Air-conditioner, HRV unit, Other Air-conditioner	
	BACnet Interface	DAM502B51		
	DMS-IF	DMS504B51		
	Parallel Interface	DPF201A51/52/53		
Upper middle	intelligent Touch Controller	DCS601C51		
Middle	Central remote Controller	DCS302CA61		
	Unified ON/OFF controller	DCS301BA61		
Lower	Schedule Timer	DST301BA61		
DIII-NET expansion adaptor	DIII-NET Plus Adaptor	DCS601A52	intelligent Touch Controller	
	DIII-NET Expander Adaptor	DTA109A51	VRV indoor units	295
Interface for DIII-NET	Unification Adaptor for Computerized Control	DCS302A52	intelligent Touch Controller & Central remote Controller	274
	Di/Dio Unit	DEC101A51/ DEC102A51	other facilities than air conditioners	299/ 311
	Interface Adaptor for SkyAir Series	DTA102A52	DAIKIN SkyAir series	334
	Interface Adaptor for DIII-NET(SA)	DTA112BA51	DAIKIN SkyAir series	337
	Interface Adaptor for DIII-NET(RA)	KRP928B2S	DAIKIN Room Air-conditioner	348
	Wiring Adaptor for Other Air-conditioners	DTA103A51	DAIKIN Other Air-conditioner	344
	Central control Adaptor Kit	DTA107A55	DAIKIN FD series & UAT(Y) series	338
	External Control Adaptor for Outdoor Unit *	DTA104A61/62/53	VRV outdoor units	287
	Wiring Adaptor for Electrical Appendices (1) *	KRP2A61/62/53	VRV indoor units	277

Equipment not using DIII-NET		Unit Name	Applied Model	Page
Adaptor	Wiring Adaptor for Electrical Appendices (2) *	KRP4A51/52/53/54	VRV indoor units	325
	Adaptor for Wiring	KRP1B56/59/61, KRP1C3	VRV indoor units	352

Note: Wiring Adaptor with "" mark cannot be used with Upper, Upper middle, Middle, Lower grade equipment.

Equipment using DIII-NET		Unit Name	Applied Model	Page
	Ai Unit	DAM101A51	intelligent Manager III	320

3.2 Main Specifications and Functions of the Equipment

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.

Control Method	Objective / Use	Unit Name and Model	Function	Standard Number of Units	
Control by Remote Controller	Local operation of remote controller	Example of typical use			
	Remote operation of remote controller	For control from distant place		1 remote controller controls 1 indoor unit	
	2 remote control	For control from 2 places (distant or local)		2 remote controllers control 1 indoor unit	
	Group control *1	For the control of plural indoor units on a floor at the same time		1 remote controller controls up to 16 indoor units simultaneously	
	*1 Group control by 2 remote controllers	For above control from distant place.		2 remote controllers control up to 16 indoor units from 2 different places simultaneously	
	Forced OFF command from outside	Forced OFF for forgetting to turn equipment off, or in times of an emergency.		Same as the number of units controlled by remote controller	
	Combining control by remote controller	Operation of other equipment combined with the operation of indoor unit		Same as the number of units controlled by remote controller	

BRC1C62



*2 BRC2C51



Operational functions

- Start/Stop (ON/OFF)
- Operation Mode Selection
- Temperature setting
- Timer setting (Settings in units of 1 hour up to a maximum of 72 hours)
- Air flow setting
- Air flow direction adjustment (Swing flap)

Indication function

- Operating display
- Program dry function display
- Defrost/Hot start display
- Filter sign
- Temperature setting display
- Timer display
- Air flow display
- Abnormal operation display

* In case of group control all the indoor units in the system are set to the same value and each unit is controlled individually by its internal thermostat. (Not by the thermostat equipped in remote controller) In common case of double remote control the last command priority. (Selection between main and sub controller is essential)

Note)

Some functions cannot be set depending on the shape of indoor unit.

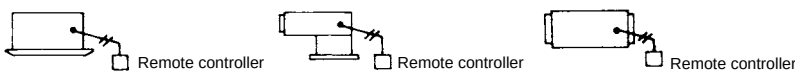
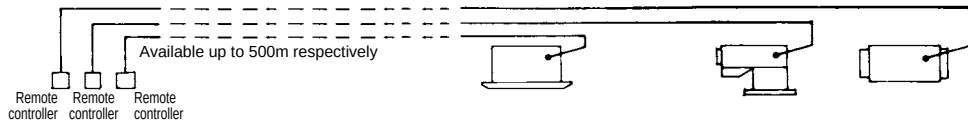
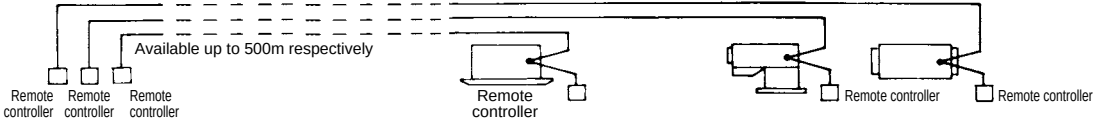
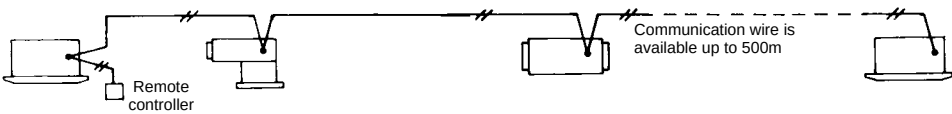
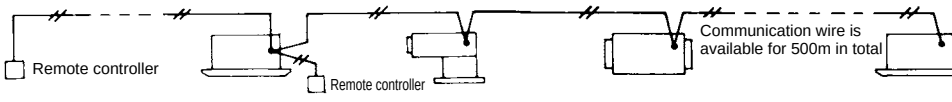
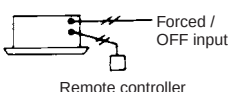
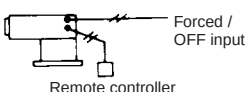
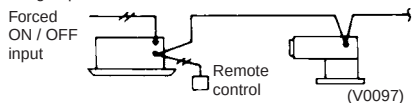
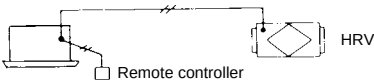
- In the right figure, a wired remote controller is used for the system configuration. However, the same control is available if the controller is replaced by a wireless.
- When using two remote controllers, it is not possible to set both of them for wireless remote controllers. Be sure to set at least one of them for a wired remote controller.

- Forcibly stops indoor unit operation by command from outside.
- During remote controller group control, input a command from outside to any one of the indoor units.

- Operates HRV in accordance with indoor unit operation.

*1 In case of group control, the remote controller used as master control must be selected with auto-swing function (BRC1A61). When the group has cassette (FXC (Q)), FXF (Q) or ceiling suspended (FXH (Q)) or cassette corner (FXK (Q)) or wall mounted (FXA (Q)) models.

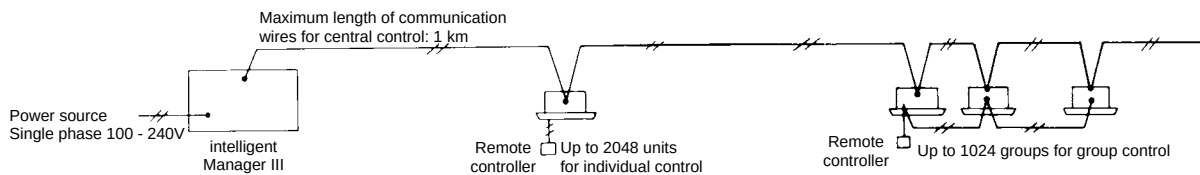
*2 In case of using BRC2A51 (Simplified Remote Controller) to Heat Recovery Series, be sure not to use this independently. Use with other remote controllers (BRC1A51 · 52, BRC1C62 or KRC19-26A or DCS302A51).

	Outline of System
	
	
	
	
	
	■ For local operation of remote controller  Remote controller  Remote controller ● For group control  (V0097)
	■ For HRV 

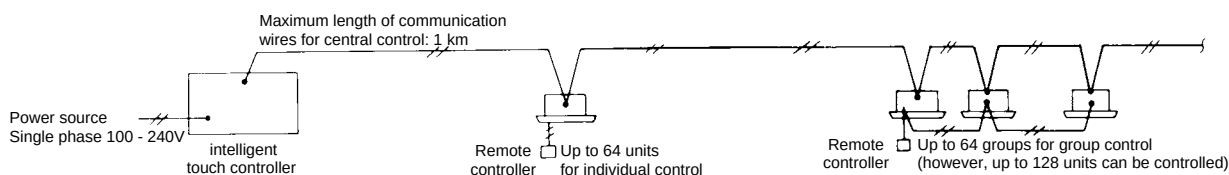
Control Method		Objective / Use	Unit Name and Model	Function	Standard Number of Units	
Central Control	intelligent Manager III	For providing total management of a Daikin VRV system as well as equipment from other manufacturers, such as air conditioning, lighting, and water supply systems.	DAM602B51 	■ Simple Operation and Management ■ Data Management ■ Total Building Management ■ Automated Operation Management ■ Web Access Function ■ Open Network Support ■ Air Conditioning Network Service System	Up to 1024 groups (Max. 1024 indoor units with P.P.D.)	
	intelligent Touch Controller	For control all indoor units just like remote controller Provides three remote control functions, central remote controller, Unified ON/OFF controller and schedule timer.	DCS601C51 	■ Adds various functions other than the functions of existing central remote controller. ■ Scheduled operation and function to distribute electricity proportionally. ■ Simple handling through a large sized liquid crystal display. ■ Adopts a touch-panel ■ Twin centralized control function	Controls up to 64 groups (Max. 128 indoor units) with one intelligent Touch Controller.	
	Central remote controller	For control all indoor units just like remote controller	DCS302CA61 	Double central control function ■ LCD remote control function is possible by each indoor unit zone ■ Individual/unified operation ■ Up to 8 schedule patterns may be set with the combined use of schedule timer. ■ Temperature setting by each zone ■ Individual room control operation at the time of central control ■ Command to prohibit remote control operation. ■ Sequential start function ■ Individual setting function of air blow direction and volume	One central remote controller may control a maximum of 64 groups of indoor units (However, up to 128 units)	
	Unified ON/OFF controller	For ON/OFF operate all indoor units just like remote controller	DCS301BA61 	■ Double central control function ■ Indoor unit ON/OFF control ■ Individual/unified operation ■ Remote controller operation rejected command (Central remote controller given priority when used in combination with central remote controller.) ■ Sequential start function	Controls up to 16 groups of indoor units with one unified ON/OFF controller. Max. 128 units	
	Schedule timer	For carrying out weekly schedule operation by 1-minute units	DST301BA61 	■ 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	
Equipment control system			Di/Dio Unit Ai Unit	■ The use of this unit makes it possible to be connected to facility equipment (for example, pumps, illumination appliances, fans, etc.).		

Outline of System

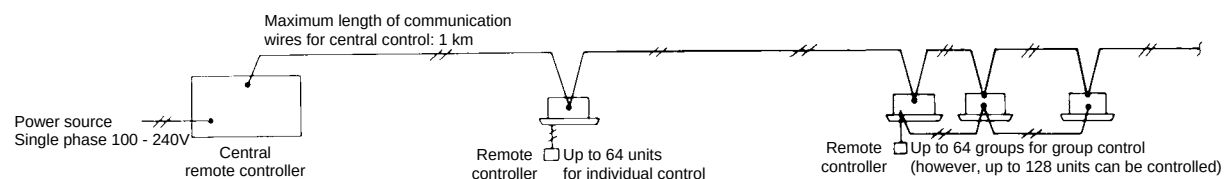
■ When using 1 unit of IPU



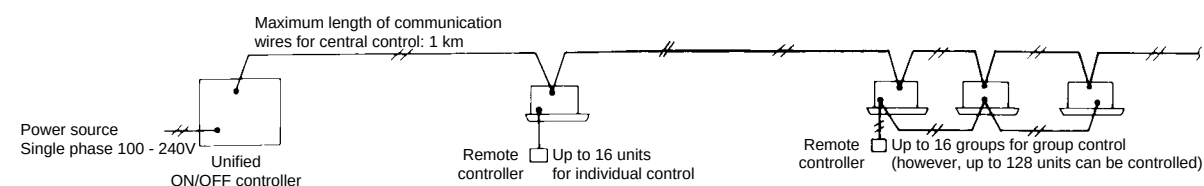
■ When using 1 unit of intelligent touch controller



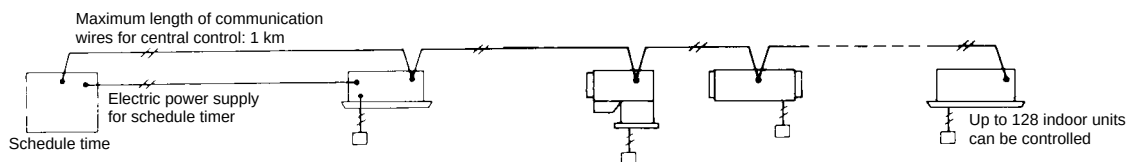
■ When using one central remote controller



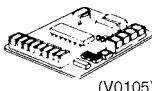
■ When using 1 unified ON/OFF controller



■ When using one unit of schedule timer

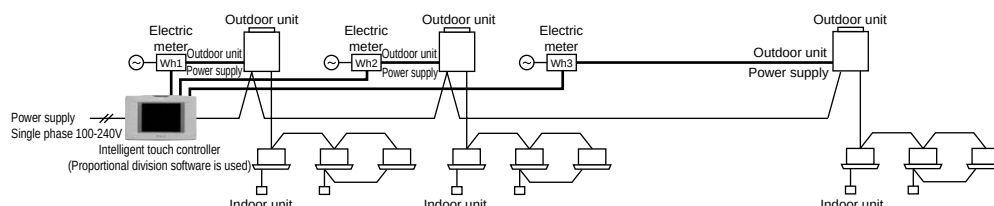
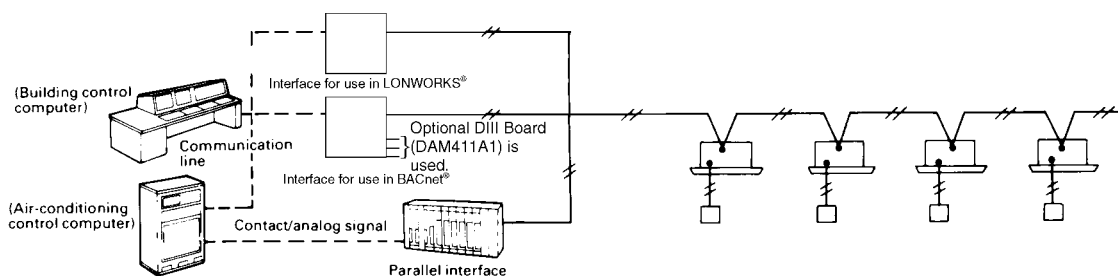


Note: For the schedule timer, take the electric power supply from the indoor unit.

Control Method	Objective / Use	Unit Name and Model	Function	Standard Number of Controllers	
Building Control System	Building control computer, air-conditioning control computer and control system for air-conditioning are carried out by communication and contact signal.	- Interface for use in BACnet® DMS502B51 - Optional DIII board DAM411A1 - Optional Di Board DAM412A1 - Parallel interface DPF201A51, 52, 53 - Interface for use in LONWORKS® DMS504B51	- Interface for use in BACnet® Interface unit to allow communications between VRV and BMS. - Parallel interface Carries out operation and monitoring function of each indoor unit by contact and analog signal. - Interface for use in LONWORKS® The LON Gateway functions as the interface for a building monitoring system and cannot be w-installed on the DIII-NET along with following equipment / devices that have similar functions.	Interface for use in BACnet® : Up to 256 indoor units (256groups) When the option DIII board is used Parallel Interface, Interface for use in LONWORKS® Up to 64 indoor units (64 groups)	
Power Proportional Distribution (P.P.D)	Performs monitoring of accumulated charges and operation for each indoor unit. Intelligent Touch Controller	- i-Manager III - intelligent Touch Controller (Proportional division software is used)	- Air conditioning charges are accumulated for each indoor unit. - Registration can be made for each tenant. - Operation/stop/abnormality monitoring for an indoor unit is available for each tenant.	A charge management unit can cover 64 indoor units.	
Adaptor	Wiring adaptor for electrical appendices (2)	With remote temperature setting  (V0104) KRP4A51 KRP4A52 KRP4A53 KRP4A54 Built into indoor unit	- Normally open or momentary open type contactor 12~24 VDC or no-voltage - Various control methods available by mode select switch - Voltage, no-voltage selector switch - Alarm and operation display signal (no-voltage) - Selector switch of zone/individual of alarm display - Remote temperature setting (resistance input of 0~135Ω) - Selector switch for remote controller temperature setting enable/inhibit * For group unified control, the setting becomes the same for all connected indoor units, and each indoor unit is controlled individually by built-in thermostat.	1 PC board controls 1 indoor unit.	
	Wiring adaptor for electrical appendices (1)	With remote temperature setting  (V0105) KRP2A53 KRP2A61 KRP2A62 Built into indoor unit	* In case of using wiring adaptor for Electrical Appendices (2), the control by 2 remote controller is not available. Function is the same as above. Used only when 3 groups or more of HRV are interlocked and operated. * In case of integrated zone control, settings for all indoor units connected to respective groups become the same, and each indoor unit is controlled by built-in thermostats.	1 PC board simultaneously controls 1 group of indoor units (max. 16 units).	
	Adaptor for wiring	 Built into indoor unit KRP1B56, 57, 59, 61 KRP1C3	- Necessary when electric heater and humidifier are incorporated optionally - Operation indicating signal is made by taking out compressor operation signal.	1 adaptor controls electric heaters and humidifiers.	
	Adaptor for connection with optional controllers for centralized control	- Unification adaptor for computerized control DCS302A52 - Interface adaptor for SkyAir series DTA102A52 - Wiring adaptor for other air conditioners DTA103A51	- Unification adaptor for computerized control allows you to simultaneously turn indoor units connected to the central remote controller on or off or display at the central monitor panel, etc. - Interface adaptor for SkyAir series, wiring adaptor for other air conditioners and wiring adaptor for 'H' indoor unit are for connection of optional controllers for centralized control.	- Simultaneously controls by one unification adaptor for computerized control, all indoor units connected to a central remote controller. - Controls one indoor unit by one interface adaptor for SkyAir series, wiring adaptor for other air conditioners, and wiring adaptor for 'G(J)' indoor unit.	

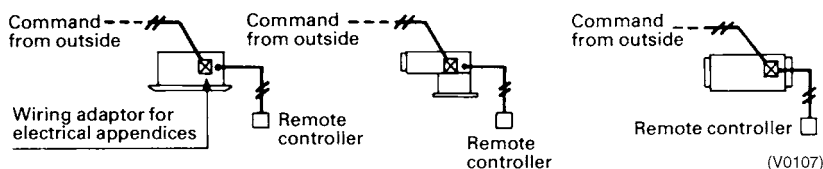
Note) Central control units such as central remote controller cannot be used at the same time.

Outline of System



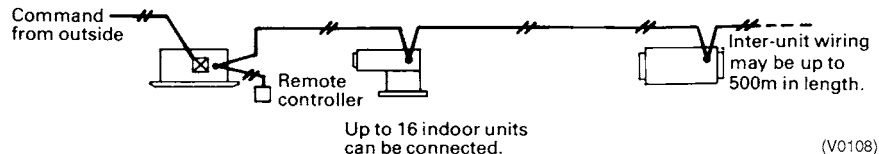
■ Individual Control (Controls Indoor Units Individually.)

- Individual control (Controls indoor units individually.)



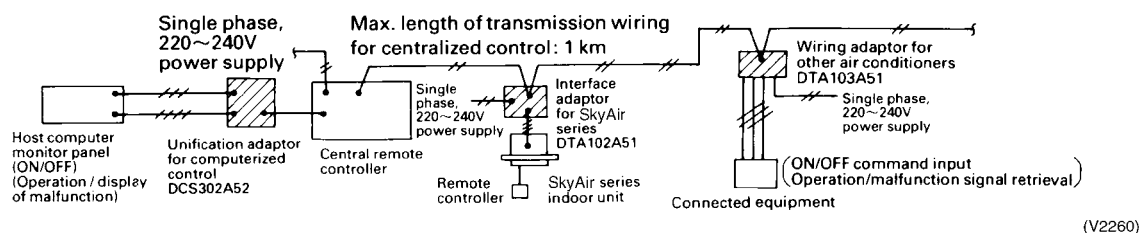
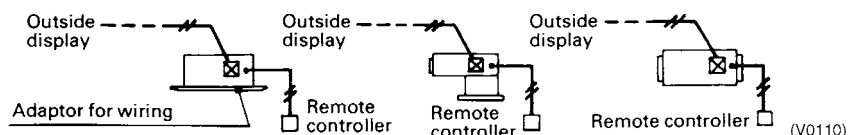
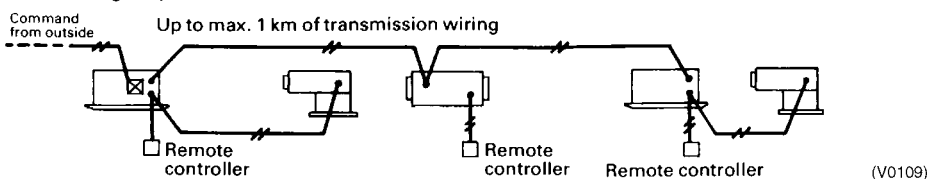
■ Group Unified Control (Controls group controlled indoor units all at once and simultaneously.)

- Group unified control (Controls group controlled indoor units all at once and simultaneously.)

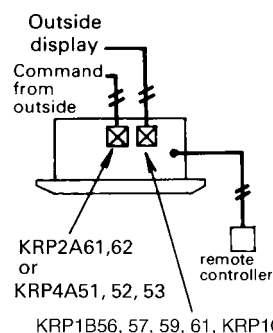


■ Zone Unified Control (Unified, simultaneous control of up to 64 groups of group controlled indoor units consisting of up to 16 units each.)

- **Zone unified control** (Unified, simultaneous control of up to 64 groups of group controlled indoor units consisting of up to 16 units each.)



- KRP1B56, 57, 59, 61, KRP1C3, KRP2A61,62 and KRP4A51,52,53 can be built-in together into the indoor units



Combined use of wiring adaptor for Electrical Appendices (1) and (2) is not available.

4. List of Control System Equipment and Functions

		Control								Monitoring								Other controls					
Type	Number of controllable indoor units for each controller	ON/OFF	Temperature setting	Cool/heat changeover	Remote control acceptance/rejection	Air flow rate setting	Air flow direction setting	Forced thermostat OFF	Weekly schedule control	ON/OFF status	Error	Malfunction code	Indoor temperature	Filter sign	Power estimation	Status output with thermostat ON	Fan status output	Without remote controller	Zone control	Forced OFF by external contact	ON/OFF by external contact	Demand control	Low operating noise control
intelligent Manager III	1024 groups	●	●	●	●	●	●	—	●	●	●	●	●	●	●	—	●	●	●	● ^{*1}	●	●	×
LONWORKS®	64 groups	●	●	●	●	●	●	●	—	●	●	●	●	●	—	●	—	●	—	●	—	—	—
BACnet®	256 groups	●	●	●	●	●	●	●	—	●	●	●	●	●	● ^{*2}	●	●	●	×	●	×	×	×
Parallel interface	16 groups	●	●	×	●	×	×	×	×	●	●	×	●	●	×	×	×	×	×	●	●	×	×
intelligent Touch Controller	128 groups	● ^{*3}	●	●	●	●	●	×	●	●	●	●	●	●	● ^{*2}	×	×	●	●	●	×	×	×
Central remote controller	64 groups	●	●	●	●	▲	▲	×	×	●	●	●	×	●	×	×	×	●	●	●	×	×	×
Unified ON/OFF controller	16 groups	●	×	×	●	×	×	×	×	●	●	—	—	—	—	—	—	—	—	●	—	—	—
Schedule timer	128 groups	●	×	×	●	×	×	×	●	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Wired Remote Controller	—	●	●	●	×	●	●	×	×	●	●	●	●	●	×	×	×	×	×	×	×	×	×
Wireless Remote Controller	—	●	●	●	×	●	●	×	×	●	●	●	●	●	×	×	×	×	×	×	×	×	×
Simplified Remote Controller	—	●	●	●	×	●	—	×	×	●	●	●	●	×	×	×	×	×	×	×	×	×	×
Remote Controller for Hotel Use	—	●	●	●	×	●	—	×	×	●	●	●	●	×	×	×	×	×	×	×	×	×	×
Wired Remote Controller with Weekly Schedule Timer	—	●	●	●	×	●	●	×	●	●	●	●	●	●	×	×	×	×	×	×	×	×	×
Interface adaptor for SkyAir series	—	●	●	●	●	▲ ^{*5}	▲ ^{*5}	▲ ^{*4}	×	▲ ^{*5}	▲ ^{*5}	●	▲ ^{*6}	●	×	▲ ^{*7}	▲ ^{*4}	●	—	×	×	×	×
Interface adaptor for DIII-NET(RA)	—	●	●	×	●	×	×	—	×	●	●	●	●	×	×	×	×	×	●	×	×	×	—
Wiring adaptor for other air conditioners	—	●	×	×	×	×	×	×	×	×	●	×	×	×	×	×	×	—	—	—	×	—	—
Di, Dio unit	—	● ^{*8}	×	×	×	×	×	×	×	●	●	×	×	×	×	×	×	×	×	×	×	×	×
Unification adaptor for computerized control	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	●	—	—
Wiring adaptor for electrical appendices (2)	16 units	●	●	×	●	×	×	×	×	●	●	—	—	—	—	—	—	—	—	●	●	●	—
Wiring adaptor for electrical appendices (1)	64 groups	●	●	×	●	×	×	●	×	●	●	—	—	—	—	—	—	—	—	●	●	●	—
Adaptor for wiring	1 unit	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—
External control adaptor for outdoor unit	10 units (Outdoor unit)	×	×	●	×	×	×	×	×	—	—	—	—	—	—	—	—	—	—	—	—	●	●

● : Possible

▲ : Possible under condition

× : Impossible

— : Outside the application

*1 "Emergency Stop" function is possible.

*2 Optional accessory is required.

*3 Possible when DIII-NET PLUS adaptor are used in combination. If not, 64 groups.

*4 OFF when interlocked with BACnet®.

*5 Possible from central control equipment (i.e., intelligent Touch Controller, LONWORKS®, BACnet®, or Unified ON/OFF Controller)

*6 Possible with parallel interface.

*7 Possible with BACnet® or LONWORKS®.

*8 Dio unit only.

5. Functions of Centralized Controllers

DIII : Fundamental policy, BMS : Depending on BMS manufacturer													
Yes: Possible or Available, No: Impossible or non-existent													
Central control device name		Intelligent Touch Controller		Intelligent Manager III				Remote Controller	BACnet™ Gate-way	LonTalk™ Inter-face	Central Remote Controller	Unified ON/OFF controller	Schedule timer
Product name or System name				iM 128	iM 256	iM 512	iM 768	iM 1024					
Hardware Model Name for one system		DCS601 C51	DCS601 C51	DAM602 B52	DAM602 B51	DAM602 B51x2	DAM602 B51x3	DAM602 B51x4	BRC1C62	DMS502 B51	DMS502 B51	DCS301 BA61	DST301BA 61
		DCS601 A52									DMS504B 51	DCS302 CA61x2	
Function		Detail											
No. of DIII line/port		1	2	2	4	4 x 2	4 x 3	4 x 4		1	4	1	1
No. of Groups		64	128	128	256	512	768	1024		64	256	16	128
No. of Controllable Indoor Units (Max. NO. of units is 128 per DIII-NET line.)		128 Note: 64 with P.P.D.	256 Note: 128 with P.P.D.	512 Note: 256 with P.P.D.	1024 Note: 512 with P.P.D.	1536 Note: 768 with P.P.D.	2048 Note: 1024 with P.P.D.			128	depending on data collection cycle : 30, 60, 120-second data collection cycle, and possible communication volume (Items/ second)	128	128
No. of Outdoor Unit		10	10 x 2	20	40	80	120	160		10	40	10	10
Max. of the same connectable centralized control units on the DIII-NET for multiple installation sites facilitate management		2	3	4						1		8	16
For the above case when installed in multiple sites, Setting with connectors or on screens or with switches for Master/slave setup		Screen: Master / Slave		Unnecessary				Yes				Switch: Main/Sub	
Connector for a parent centralized control		CN1		Unnecessary						Un-necessary		X1A	
Necessity of power supply		Yes / N-L		Yes / N-L						Yes / N-L		Yes / N-L	
Connections / wiring conditions													

DIII : Fundamental policy, BMS : Depending on BMS manufacturer																									
Central control device name		Yes: Possible or Available, No: Impossible or non-existent				Intelligent Touch Controller				Intelligent Manager III				Remote Controller	BACnet™ Gate-way	LonTalk™ Inter-face	Central Remote Controller	Unified ON/OFF controller		Schedule timer					
Product name or System name		Intelligent Touch Controller		iM 128		iM 256		iM 512		iM 768		iM 1024		Remote Controller	BACnet™ Gate-way		LonTalk™ Inter-face	Central Remote Controller	Unified ON/OFF controller		Schedule timer				
Hardware Model Name for one system		DCS60 1C51		DAM60 2B52		DAM60 2B51		DAM60 2B51x2		DAM60 2B51x3		DAM60 2B51x4		BRC1C62	DMS50 2B51		DMS50 2B51		DMS504B 51	DCS302 CA61		DCS302 CA61x2	DCS301 BA61	DCS301 BA61x8	DST301BA 61
		DCS60 1A52																							
Function																									
Operation method		Touch panel application		Windows style Input by office computer		BMS		BMS		BMS		BMS		7000 times for one unit per year	Push designated keys	Push On/Off button only	Push designated keys	Push On/Off button only	Push designated keys	Push On/Off button only	Push designated keys	Push On/Off button only	Push designated keys	Push On/Off button only	Push designated keys
Operation (On)		Yes		Yes		Yes		Yes		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Stop (Off)		Yes		Yes		Yes		Yes		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Unified On/Off		Yes		Yes		Yes		Yes		Yes		Yes		No	BMS	BMS	BMS	BMS	BMS	BMS	BMS	BMS	BMS	BMS	BMS
Cooling/Heating mode setting		Yes		Yes		Yes		Yes		Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Temperature Setting		Yes		Yes		Yes		Yes		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Filter sign reset		Yes		Yes		Yes		Yes		Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Wind direction		Yes		Yes		Yes		Yes		Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Fan speed		Yes		Yes		Yes		Yes		Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Ventilation Mode		Yes		No		No		No		No		No			No	No	No	No	No	No	No	No	No	No	No
Ventilation Volume		Yes		No		No		No		No		No			No	No	No	No	No	No	No	No	No	No	No
System Forced Off Input		Yes / Terminal DI1-COM		Yes / OPDi		By Forced-off command		By Forced-off command		By Forced-off command		By Forced-off command		T1,T2 & By Forced-off command	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	Yes / T1-2	No
Forced thermostat Off		No		No		No		No		No		No			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Individual remote controller rejection / acceptance		Yes		Yes		Yes		Yes		Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Centralized control prohibited or permitted : Sub Group Address Control Operation Rejection		No		No		No		No		No		No			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

DIII : Fundamental policy , BMS : Depending on BMS manufacturer																	
Yes: Possible or Available, No: Impossible or non-existent										BMS : Depending on BMS manufacturer							
Central control device name		Intelligent Touch Controller		Intelligent Manager III				Remote Controller	BACnet™ Gate-way	LonTalk™ Inter-face	Central Remote Controller	Unified ON/OFF controller		Schedule timer			
Product name or System name				IM 128	IM 256	iM 512	iM 768	iM 1024									
Hardware Model Name for one system	DCS60 1C51	DCS60 1C51	DCS60 1A52	DAM60 2B52	DAM60 2B51	DAM60 2B51x2	DAM60 2B51x3	DAM60 2B51x4	BRC1C62	DMS50 2B51	DMS50 2B51	DMS504B 51	DCS302 CA61	DCS302 CA61x2	DCS301 BA61	DCS301 BA61x8	DST301BA 61
	Function																
	By Group/Zone		Yes		Yes						Group:Yes, Zone:No		Group:Yes, Zone:No		Yes		No
on/off status		Yes		Yes						Yes		Yes		Yes		No	
Operation Mode		Yes		Yes						Yes		Yes		No		No	
Temperature Setting the set room temperature		Yes		Yes						Yes		Yes		No		No	
Individual remote controller rejection / acceptance		Yes		Yes						Yes		Yes		No		No	
System Forced Off		Yes		Yes						Yes		Yes		Yes		Yes	
Zone name		Yes		Yes										No		No	
Group name		Yes		Yes						BMS		BMS		No		No	
Detailed Group/Zone Name		Yes		Yes						BMS, Zone:No		BMS Zone:No		No		No	
Type : Air conditioner, ventilation, DIII Dio or Di		Yes		Yes						No		No		No		No	
DIII address		Yes		Yes						Yes		Yes		No		No	
Schedule Setup		Yes		Yes						BMS		BMS		Yes/Time NO.		(Yes)	
HEATING OPTIMIZATION SETTINGS		Yes		Yes						No		No		No		No	
TEMPERATURE LIMIT SETTINGS		Yes		Yes						No		No		No		No	
CHANGE OVER SETTINGS		Yes		Yes						No		No		No		No	
Cool/Heat option : Presence /Absence /Under Selection : Master remote controller for Cool/heat selection		Yes		No						No		No		Yes		No	

Monitor

DIII : Fundamental policy, BMS : Depending on BMS manufacturer																	
Yes: Possible or Available, No: Impossible or non-existent					BMS : Depending on BMS manufacturer												
Central control device name		Intelligent Touch Controller		Intelligent Manager III				Remote Controller	BACnet™ Gate-way		LonTalk™ Inter-face	Central Remote Controller		Unified ON/OFF controller	Schedule timer		
Product name or System name				IM 128	IM 256	IM 512	IM 768	IM 1024									
Hardware Model Name for one system		DCS60 1C51	DCS60 1C51	DAM60 2B52	DAM60 2B51	DAM60 2B51x2	DAM60 2B51x3	DAM60 2B51x4	BRC1C62	DMS50 2B51	DMS50 2B51	DMS504B 51	DCS302 CA61	DCS301 BA61	DCS301 BA61x8	DST301BA 61	
			DCS60 1A52					DAM41 1B51									
		Function		Detail													
		Outdoor Unit Address		Yes													
Alarm sign (Error / normal) or Error status		Yes															
Error Code by 2-digit		Yes															
Error Indoor Unit No.		Yes															
Room temperature (Suction temperature)		Yes															
Filter sign		Yes															
Fan Speed		Yes															
Wind direction		Yes															
Thermostat status (Thermostat On/Off)		No															
Compressor status (Compressor On/Off)		No															
Forced thermostat-off		No															
Centralized control prohibited or permitted : Sub Group Address Control Operation Rejection		No															
A/C communication status		Yes															
Heater operating status for built-in heater in an indoor unit		No															
Indoor fan status (On/Off)		No															
Energy efficiency		No															
Shift of the set temperature by 2 degree		No															
Defrost		No															

DIII : Fundamental policy, BMS : Depending on BMS manufacturer																	
Yes: Possible or Available, No: Impossible or non-existent																	
Central control device name		Intelligent Touch Controller		Intelligent Manager III			Remote Controller	BACnet™ Gate-way	LonTalk™ Inter-face	Central Remote Controller		Unified ON/OFF controller	Schedule timer				
Product name or System name				iM 128	iM 256	iM 512	iM 768	iM 1024									
Hardware Model Name for one system		DCS60 1C51	DCS60 1C51	DAM60 2B52	DAM60 2B51	DAM60 2B51x2	DAM60 2B51x3	DAM60 2B51x4	BRC1C62	DMS50 2B51	DMS50 2B51	DCS301 BA61	DCS302 CA61x8				
		Function		Detail													
System setup	Password (PW) Setup	Yes / 1		Yes / 30			No			BMS		No		No			
		Yes / 1															
	Time zone setup & Time setup (according to area, summer time, time of day)		Yes		Yes			No			Set time zone		BMS		No	No	
	Backlight Setup		Yes		No (depending on PC)										No	No	
	Group Setup		Yes		Yes			No			BMS		BMS		No	No	
Schedule setup	Zone Setup	Yes		Yes			No					Yes		No		No	No
		Yes		Yes			No			BMS		BMS		No		(Yes)	
	Daily setting for a year (13 months) / By group / zone		Yes		Yes			No			BMS		BMS		No		No
	Each day (time, minute) / By group / zone		Yes		Yes			No			BMS		BMS		No		No
	Types of days schedulable : ex:Sun-Sat + Special day 1-10 = 17 types in total		Yes		Yes						BMS		BMS		No		No
CHANGE OVER SETTINGS	No. of time settings for each day set		16		20						BMS		4		No		4
	No. of the above-mentioned schedule settings		8		128						BMS		8		No		8
	For locations where the temperature difference during the day at night is very large / No. of Groups		Yes / 128 Gp.		Yes								No		No		No

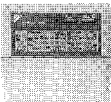
DIII : Fundamental policy, BMS : Depending on BMS manufacturer																	
Yes: Possible or Available, No: Impossible or non-existent																	
Central control device name		Intelligent Touch Controller		Intelligent Manager III				Remote Controller	BACnet™ Gate-way		LonTalk™ Inter-face	Central Remote Controller		Unified ON/OFF controller		Schedule timer	
Product name or System name				iM 128	iM 256	iM 512	iM 768	iM 1024									
Hardware Model Name for one system		DCS60 1C51 DCS60 1A52		DAM60 2B52	DAM60 2B51	DAM60 2B51x2	DAM60 2B51x3	DAM60 2B51x4	BRC1C62		DMS50 2B51 DAM41 1B51		DCS302 CA61 DCS302 CA61x2		DCS301 BA61 DCS301 BA61x8		DST301BA 61
Function		Detail															
TEMPERATURE LIMIT SETTINGS		Prevention of excessive temperature increases/decreases in unattended rooms (Cooling OFF at 4 deg. C below the max. temp. and heating OFF at 4 deg. C above the min. temp. in terms of suction temp.)		Yes / 128 Gbps. for 1 setting, 8 settings				No				No		No		No	
HEATING OPTIMIZATION SETTINGS		Fan operation stop in order to prevent temperature increases (circulating of a small volume of refrigerant) during the Heating mode or thermo Off (because there is no Fan Off function)		Yes				Yes				No		No		No	
Control of other facilities		On/Off with using equipment of Di, Do unit, ADP		Yes				Yes						Yes		Yes	
SLIDING TEMPERATURE SETTINGS		Automatic temperature setting to minimize drastic temperature differences with the outdoors		No				Yes				No		No		No	
POWER LIMIT CONTROL		Providing control to limit A/C power consumption to the set targets		No				YES*1				No		No		No	
ECO MODE		Within the daily interval during the calendar based seasons, 3 groups of indoor units can be stopped for a ratio of 10, 20,30,40%, and/or 2 outdoor units can be lowered for the capacity for a ratio of 40, 70%		No				Yes				No		No		No	
Energy efficiency		Shift of the set temperature by 2 degree		No				YES, the same as *1				No		No		No	
Watch DOG		An office PC can receive telephone remote monitor of error messages from the iM PC.		No				Yes				BMS		No		No	
Remote intelligent Manager		An office remote PC can control and monitor the iM monitoring PC via public phone lines.		No				Yes				BMS		No		No	
Interlocking				Yes				Yes/100 links				No		No		No	

System setup

DIII : Fundamental policy, BMS : Depending on BMS manufacturer																									
Yes: Possible or Available, No: Impossible or non-existent																									
Central control device name		Intelligent Touch Controller		Intelligent Manager III						Remote Controller	BACnet™ Gate-way		LonTalk™ Inter-face	Central Remote Controller		Unified ON/OFF controller		Schedule timer							
Product name or System name				iM 128	iM 256	iM 512	iM 768	iM 1024																	
Hardware Model Name for one system		DCS60 1C51	DCS60 1C51 DCS60 1A52	DAM60 2B52	DAM60 2B51	DAM60 2B51x2	DAM60 2B51x3	DAM60 2B51x4		BRC1C62	DMS50 2B51 DAM41 1B51	DMS50 2B51	DMS504B 51	DCS302 CA61	DCS302 CA61x2	DCS301 BA61	DCS301 BA61x8	DST301BA 61							
Function		Detail																							
System setup	Fire Emergency Stop program		No but T1-T2		Yes/32 programs														BMS	BMS	No but T1-T2	No but T1-T2	No but T1-T2		
	Power failure and recovery processing control??		No		Yes														BMS	BMS	No	No	No		
	History Display		Yes		Yes														BMS	BMS	No	No	No		
	Touch Panel Calibration		Yes		No (Depending on PC)																No	No	No		
	Version information		Yes		Yes																No	No	No		
	Graphical report		No		Yes														BMS	BMS	No	No	No		
	Visual Navigation		No		Yes														BMS	BMS	No	No	No		
	TIMER EXTENSION		No		Yes														BMS	BMS	No	No	No		
	Cumulated Running Time and Cumulated start/stop Count		No		Yes														BMS	BMS	No	No	No		
	Automatic Inspection of Meters indicating pulses of electrical power, water or gas amount		No		Yes																No	No	No		
Measuring	Presence of function or Necessary option		DCS002C51		Yes																				
	Record retention period		13 months		iPU : 2days / PC: dependant of PC																				
	No. of Wattmeter connection port		3 ports		18	18	OPDi	18+19	18+19+ 19	18+19+ 19+ 19	No	No	No	No	No	No	No	No							
	Local supplied equipment like Electric power meter with pulse output + personal computer		Yes		Yes																				
Power Proportional Distribution (P.P.D.)				plus UPS, HUB																No	No	No	No	No	
Web function		Yes		No																No	BMS	BMS	No	No	No

6. Central Control Equipment Combinations

The table below shows which combinations of central control equipment are possible and which are not.

							
	DAM602B51/52	DMS504B51	DMS502B51	DCS302CA61	DCS601C51	DCS301BA61	DST301BA61
intelligent Manager	NG	NG	NG*4	OK	OK	OK	NG
Interface for use in LONWORKS®	NG	NG	NG	OK	OK	OK	NG
Interface for use in BACnet®	NG*4	NG	NG	OK	OK	OK	NG
Central Controller	OK	OK	OK	NG*3	OK	OK	OK
intelligent Touch Controller	OK	OK	OK	OK	OK	OK	NG
Unified ON/OFF	OK	OK	OK	OK	OK	NG*2	OK
Schedule Timer *1	NG	NG	NG	OK	NG	OK	NG

*1 The schedule timer cannot be used by itself. Use in combination with the central remote controller or unified ON / OFF controller.

*2 May be used in combination if control range differs
(up to 8 units: Up to 16 units in the double central control mode).

*3 Control range should be changed.
(up to 2 units: Up to 4 units in the double central control mode).

*4 BACnet is available for only monitoring.

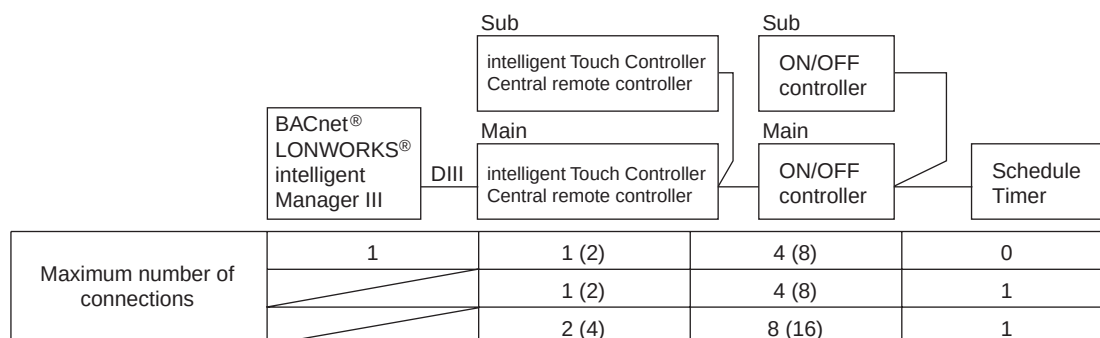
■ If using in combination with central control equipment, the relation between them is last command priority.

■ If using in combination with central control equipment, the remote control mode is decided by the setting of the highest priority item in the priority rank shown in the table below.

Priority Ranking of Remote Control Mode Settings

	intelligent Manager III	Interface for use in LONWORKS®	Interface for use in BACnet®	Parallel Interface	Central Remote Controller	intelligent Touch Controller	Unified ON/OFF Controller	Schedule Timer
Priority Ranking	1	1	1	1	2	2	3	4
	Upper				Upper-middle		Middle	Lower

<For one DIII-net line>



Values in () indicate total numbers including both Main and Sub.

7. List of Applicable Models of DAIKIN

Devices which can be connected to DIII-NET

Purpose	Model No.	Description
Air conditioner	VRV and HRV	VRV III series, VRV II series, VRV III-S series, VRV II-S series
		VRV PLUS series
		VRV Inverter "K" series
		VRV Heat recovery system
		VRV-W II (Water Cooled VRV)
		HRV unit
	Air cooling chiller	Air cooling chiller of 40HP or more can be directly connected. The one with a high outside air specification is excluded.
	Water cooling chiller	ZUW can be connected if the adaptor PC board is installed.
Air conditioner connector	DTA102A52	Adaptor to connect SkyAir
	DTA112BA51	
	DTA107A55	Adaptor to connect Packaged air conditioner
	DTA109A51	DIII-NET extension adaptor
	KRP928B2S	Adaptor to connect Room air conditioner
Equipment connector	DTA103A51	State monitoring and operation of equipment provided by other companies Input/output are available at one point.
	DEC101A51	State monitoring of equipment provided by other companies Input/output are available at up to 8 points.
	DEC102A52	State monitoring and operation of equipment provided by other companies Input/output are available at up to 4 points.

Part 2

Fundamental of DIII-NET

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1. Design of DIII-NET

1.1 Features of DIII-NET

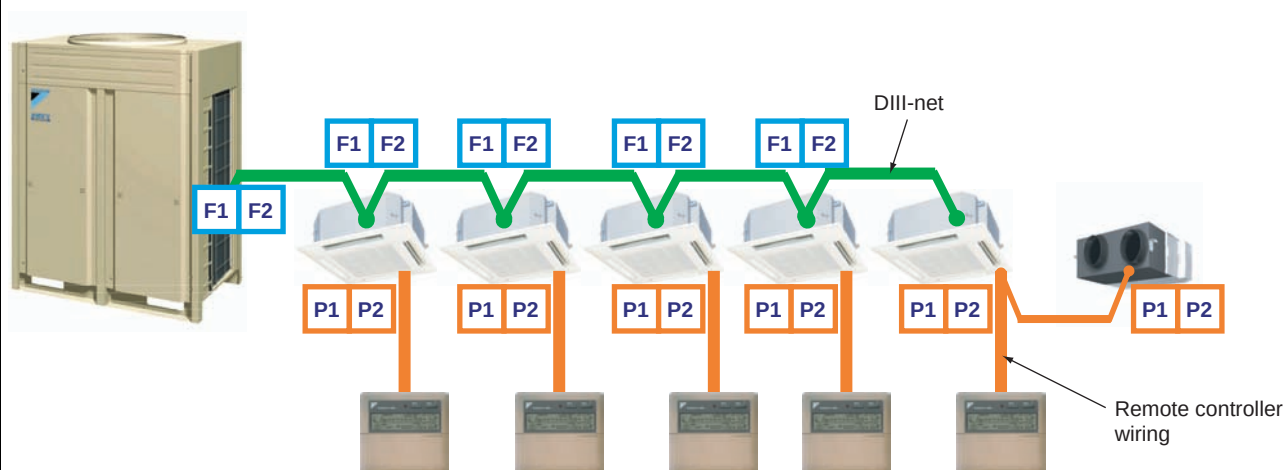
What is DIII-NET?

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 total heat exchangers and heat source devices is also available.

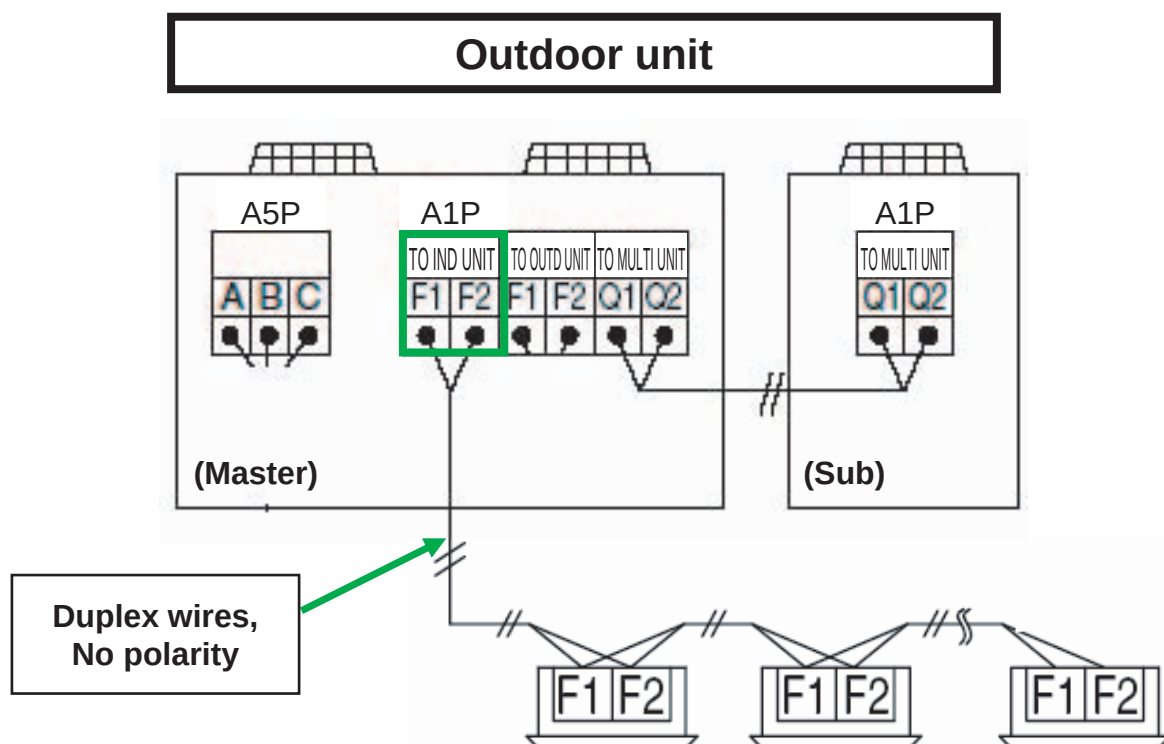
2. DIII-NET Design Standard

2.1 Terminal Number



Just for operation with each remote controller

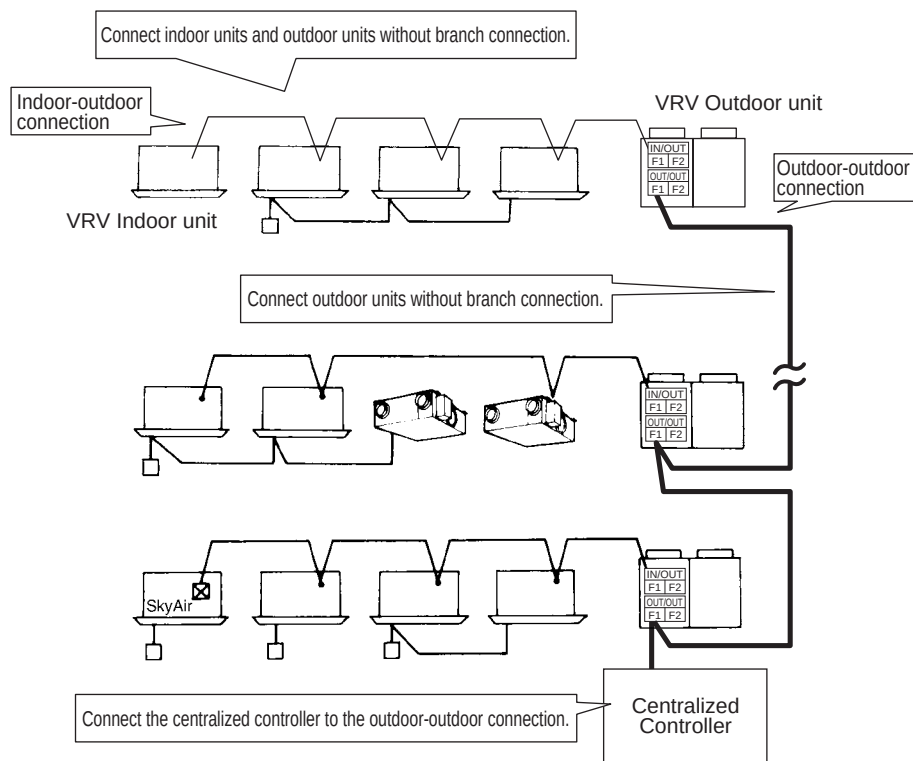
2.2 Detail of Outdoor Unit Terminal No.



2.3 Connection Method

2.3.1 Correct wiring

[Example]



Note

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

2.3.2 Bad example

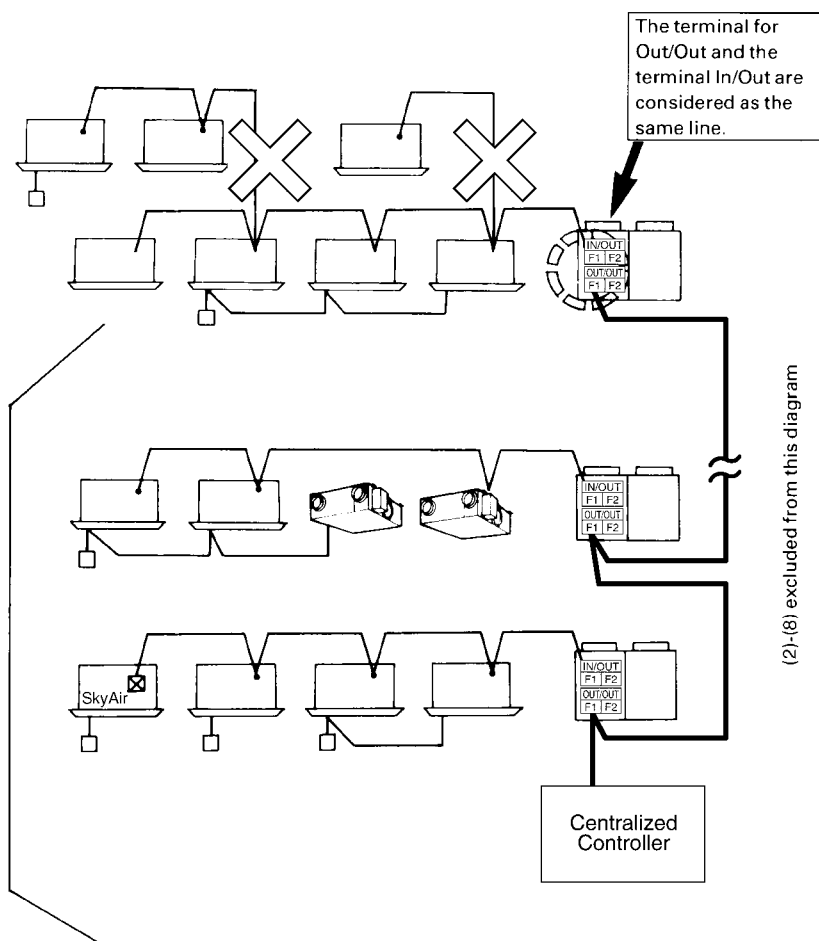


Caution

Communication problems could occur.

[Bad Example 1]

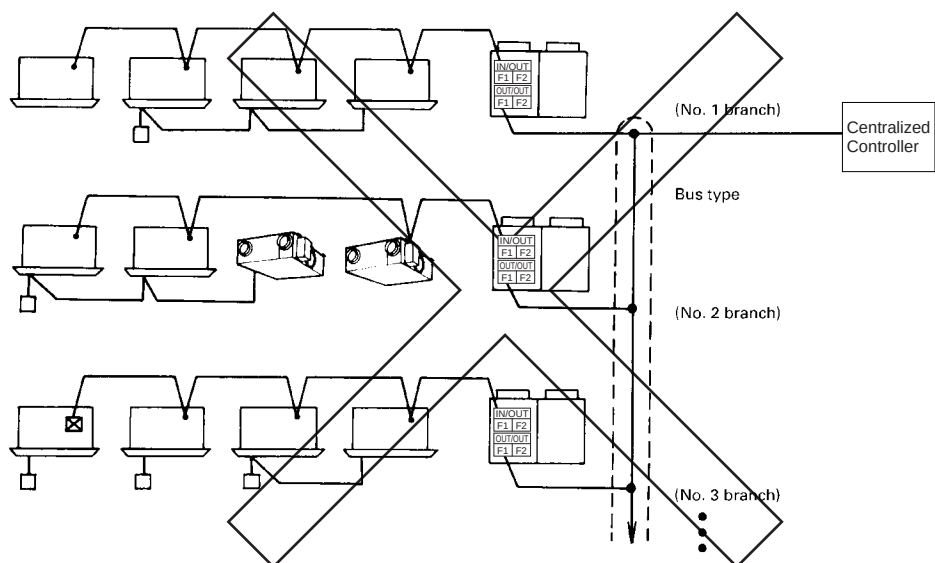
- When the central remote controller are connected to the control wiring between the outdoor units.



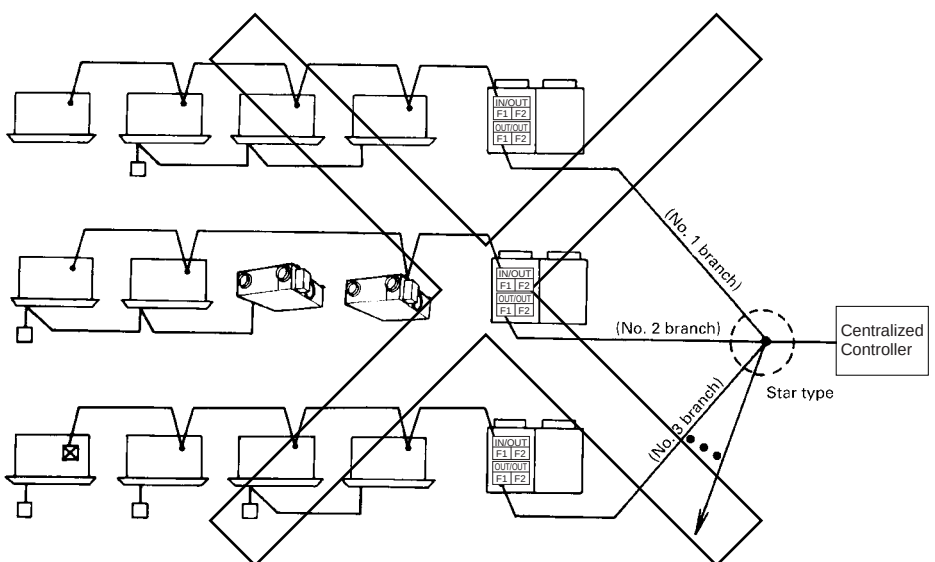
Caution

As shown above, the central remote controllers should 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 controller is out of order.)

[Bad Example 2]



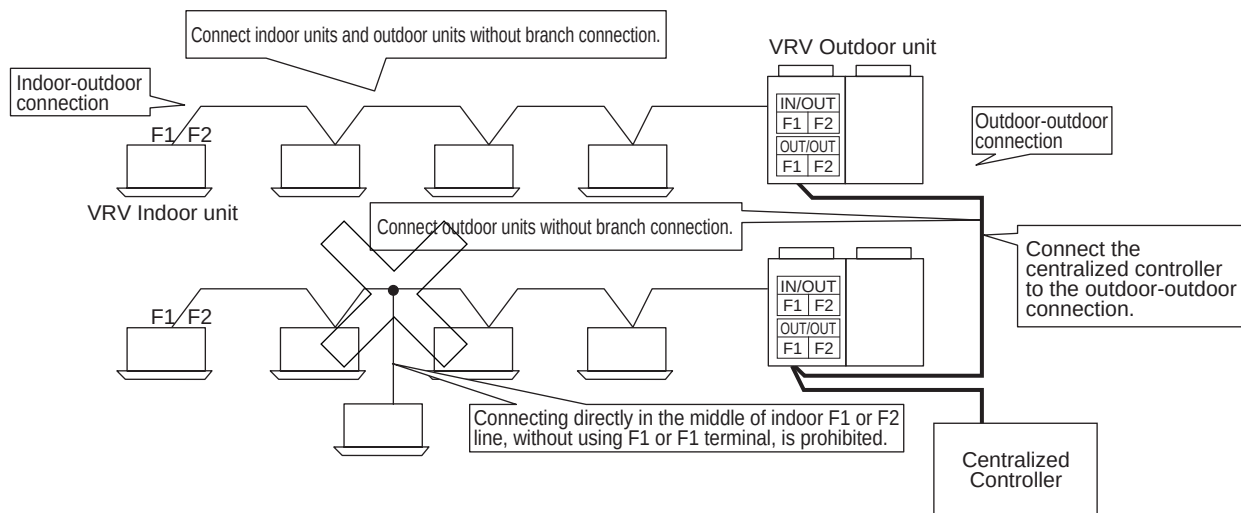
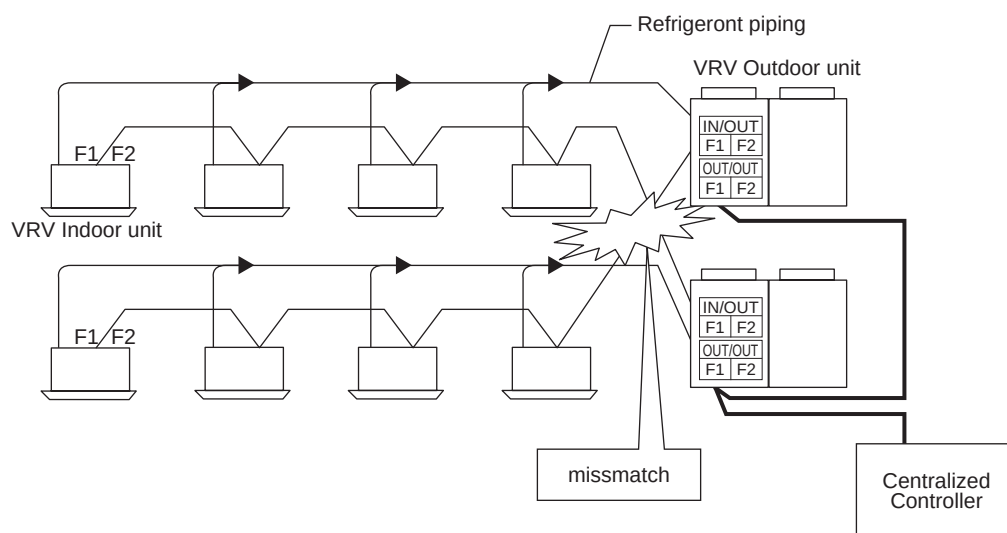
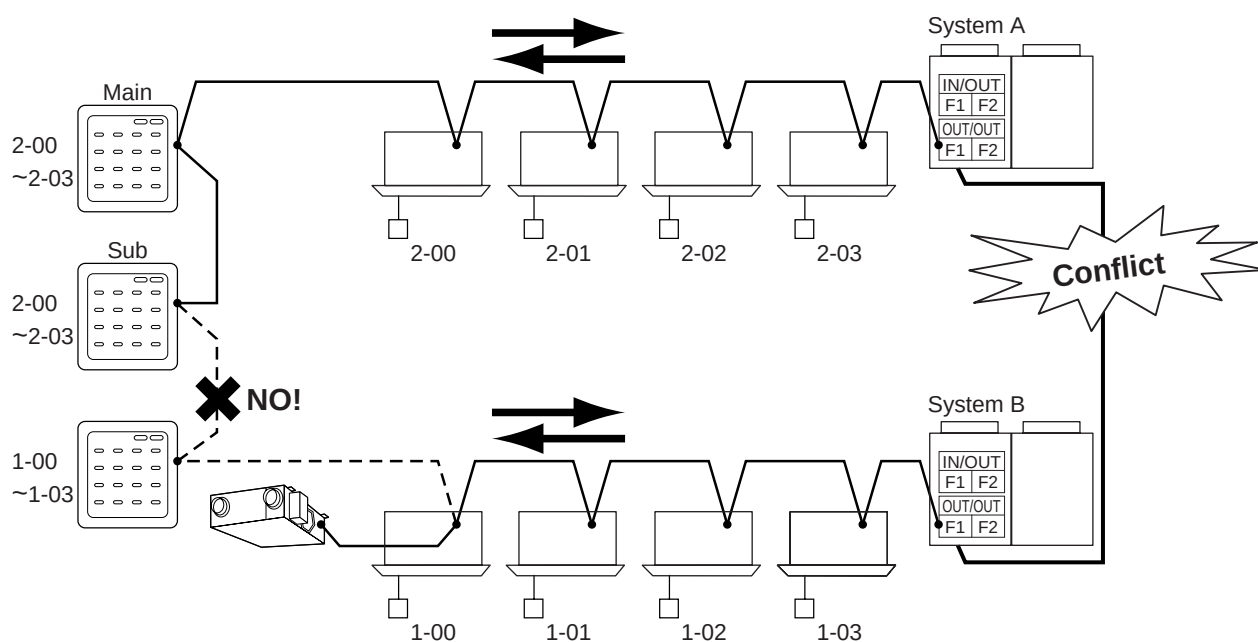
[Bad Example 3]



Caution

[Reason]

Communication problems could occur.

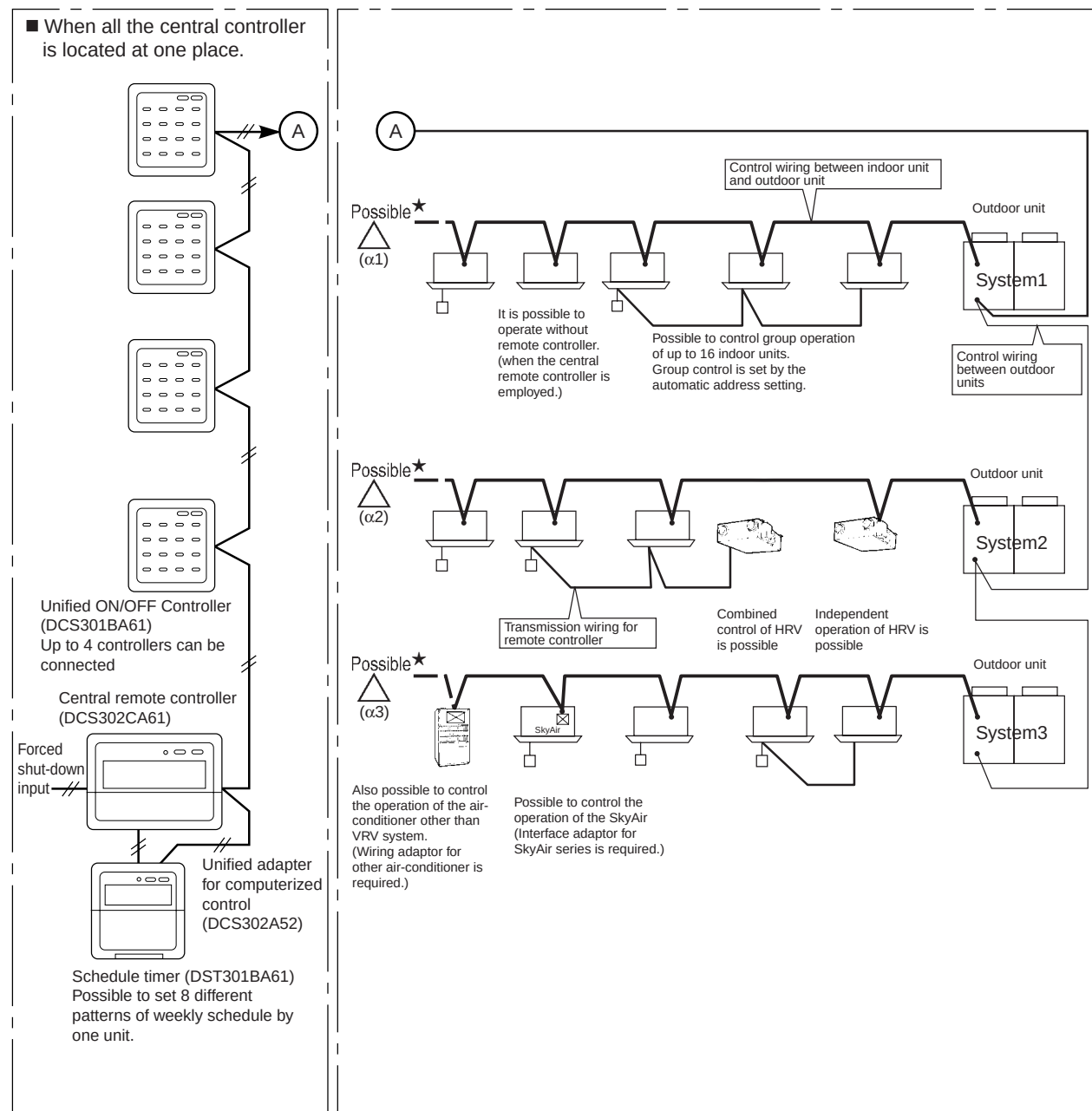
[Bad Example 4]**[Bad Example 5]****[Bad Example 6]**

2.3.3 Wiring Example

Example of Control Wiring

- Be sure to connect the wiring of the central controller 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 central controller are connected to A.

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

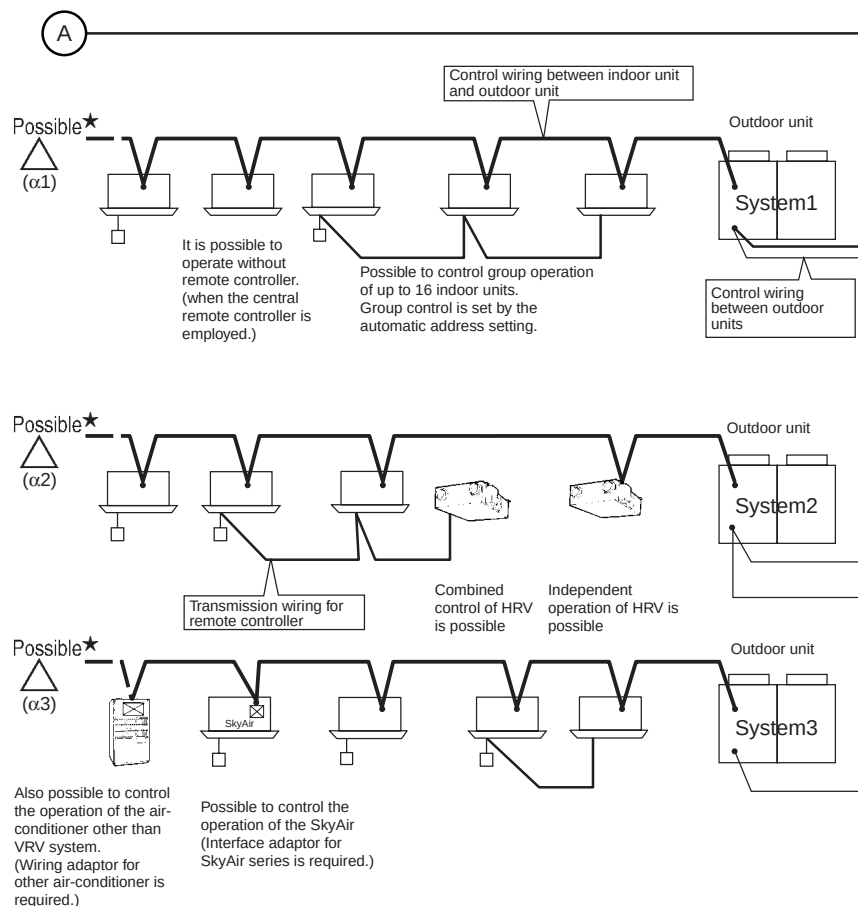
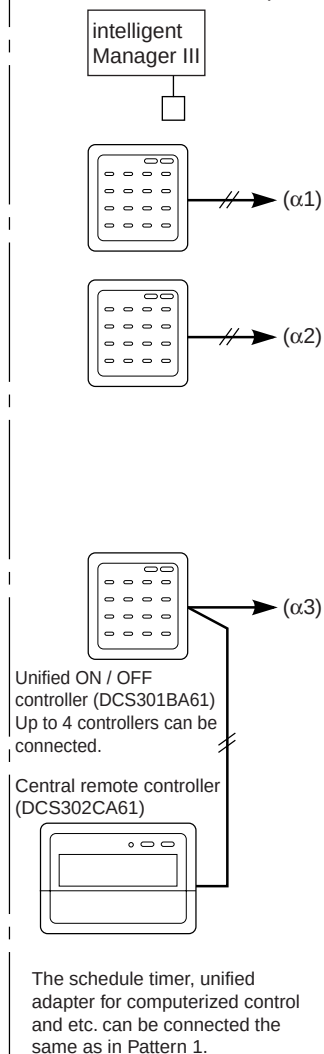


Caution

- ★1. It is not recommended to connect a centralized device on (αi), as there is a risk to loose control over all systems.
Ex.; If central remote controller is connected on α 1, and System1 shut down, control over System2 and System3 units is lost.

<Pattern 2>

- When the central controllers are located at several places.



The advantages when the central controller are connected to A.

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



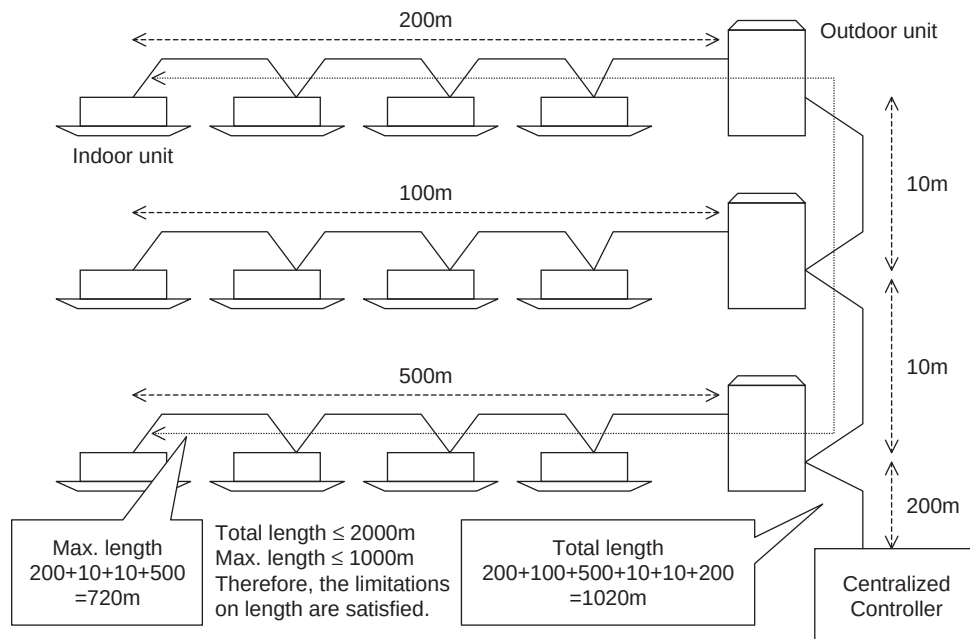
Caution

- ★1. It is not recommended to connect a centralized device on (αi), as there is a risk to loose control over all systems.
Ex.; If central remote controller is connected on α 1, and System1 shut down, control over System2 and System3 units is lost.

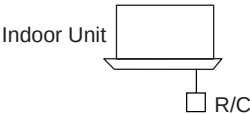
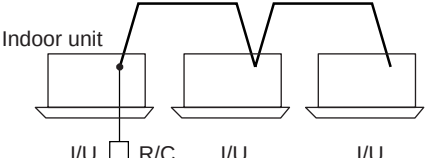
3. Wiring Length

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

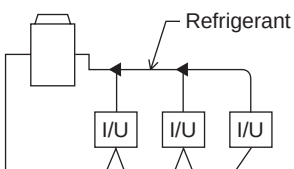
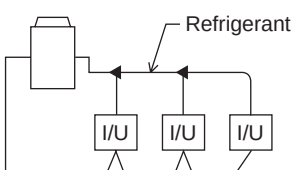
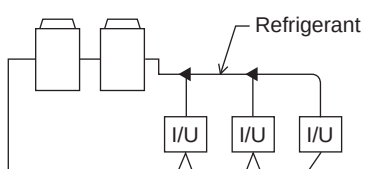
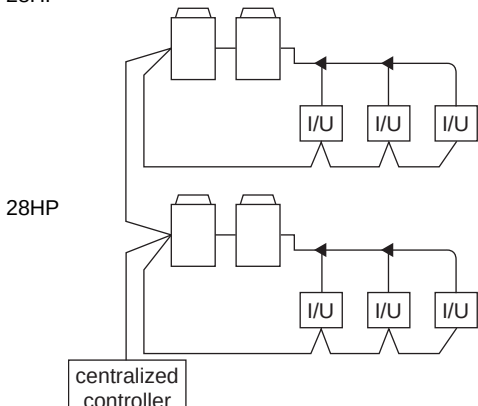
[Example]



4. Unit and Group

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

I/U: Indoor unit O/U: Outdoor unit

Outdoor Unit	No. of Unit
10HP  Refrigerant I/U I/U I/U	1
18HP  Refrigerant I/U I/U I/U	1
28HP  Refrigerant I/U I/U I/U	1
28HP  centralized controller I/U I/U I/U I/U I/U I/U	2

5. Number of Connectable Units

5.1 Number of Connectable Units

	Central Control Equipment	Unit	Outdoor Unit	Other Adaptors
Target Controller (Max. Number)	■ Intelligent Manager III (1 unit) ■ intelligent Touch Controller (2 units) (Note 1) ■ Central remote controller (2 units) (Note 1) ■ Unified ON/OFF controller (8 units) (Note 1) ■ Schedule timer (1 unit) ■ Interface for use in BACnet® (1 unit) ■ Interface for use in LONWORKS® (1 unit) ■ Parallel interface (4 units)	■ VRV Indoor unit ■ HRV unit ■ Adaptor for SkyAir units (Interface adaptor for SkyAir series.) ■ Wiring adaptor for other air-conditioner (FD, UAT, etc.) ■ Wiring adaptor for Room air-conditioner (Interface adaptor for Room air-conditioner.) ■ BS unit (Note 3) ■ Wiring adaptor ■ Chiller unit	Outdoor unit for VRV system	■ External control adaptor for outdoor unit ■ Wiring adaptor for electrical appendices (1) ■ Dio / Di unit ■ Ai unit
Number of Units	(Note 2)	Up to 128 units (Note 5)	Up to 10 units (Note 4)	Up to 10 units

Note:

1. When you have a 2 central control system (to control one system from 2 central locations), 2 intelligent Touch Controllers, 4 central remote controllers and 16 unified ON/OFF controllers can be connected. However, a maximum of 128 units can only be controlled.
2. 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 adaptors ≤ 160 units**

■ **Central Conversion number of central control equipment (*) + Indoor units + Outdoor units + other adaptors ≤ 200 units**

(Note: (*) is converted one central control equipment except unified ON/OFF controller as 10 units.)

3. When BS unit is installed, BS unit is not counted in the number. However, the indoor units after BS unit should be counted.
4. The outdoor unit is limited up to a 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.
5. When the parallel interface is connected, the number of indoor units are 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.

5.2 Flow Chart to Determined the Number of Units to Connected

CHECK SHEET FOR NUMBER OF UNIT IN ONE SYSTEM

Centralized controller	Qty	Y/N
No. of IPU of intelligent Manager		
intelligent Touch Controller (Note1)		
Central remote controller (Note 1)		
Unified ON/OFF controller		
Schedule timer		
Interface for use in BACnet® (Note 3)		
Interface for use of LONWORKS®		
Parallel interface		
Total		

Unit	Qty	Y/N
VRV		
SkyAir with adaptor		
HRV(VAM)		
Wiring adaptor for other air conditioner		
BS unit (Note 2)		
Optional DIII Ai unit		
Total		

Outdoor unit	Qty	Y/N
RXY-M, RXYQ-M(A), REYQ-M		
RX-M, RXQ-MA		
Total		

Other adaptors	Qty	Y/N
External control adaptor for outdoor unit		
Wiring adaptor for electrical appendices(1)		
Di unit	8×	
Dio unit	4×	
Ai unit		
Total		

≤ 2
 ≤ 2
 ≤ 8
 ≤ 1
 ≤ 1
 ≤ 4
 ≤ 7
 ≥ 8

	×	10
	×	10
	×	1 (A)
	×	10
	×	10
	×	10

=	
=	
=	
=	
=	
=	

≤ 200

≤ 128
 $\leq 10 (B)$
 ≤ 10

+

+

+

+

(V2304)

Note 1:

Condition

(A) means;

■ Central control equipment + Indoor units + Outdoor units + other adaptors ≤ 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.

Note:

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

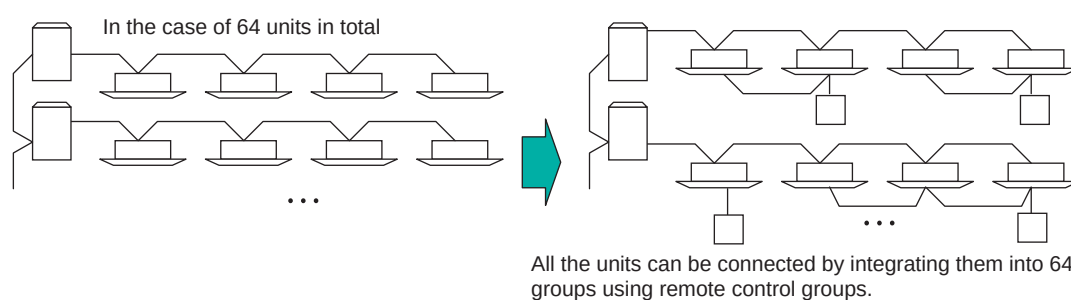
5.3 Number of Units to be Connected [VRV] (Supplementary Explanation)

- Up to 10 VRV outdoor units can be connected to DIII-NET.
 - An outdoor unit which consists of multiple modules is counted as one unit.



- Up to 64 VRV indoor units 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.)
 - When you use proportional power, the number of indoor units that can be connected is 64 units at the maximum even if you create remote control groups.

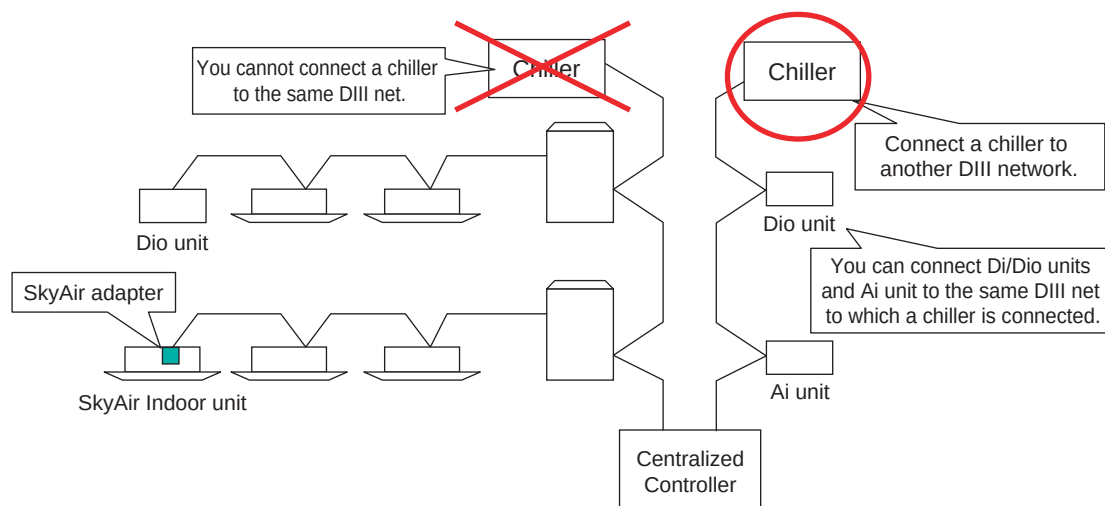
[Example]



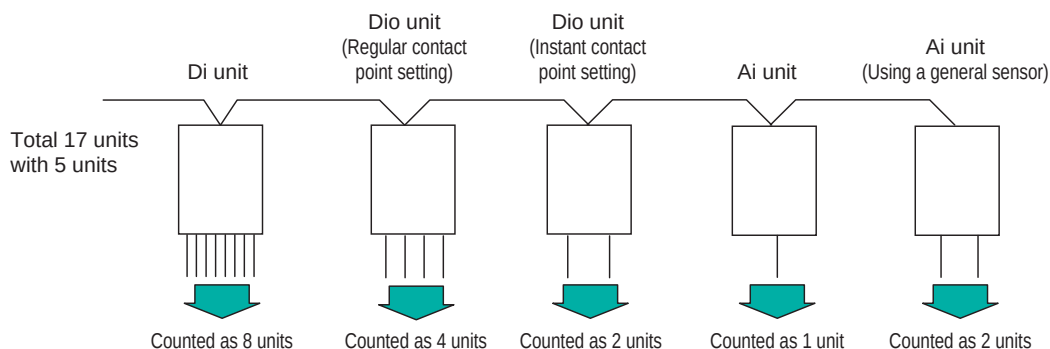
5.4 Connection of Devices other than VRV

- You can connect adapters and other devices (SkyAir adapter, RA 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, SkyAir, and RA are connected.
 - If you connect a chiller which accommodates DIII-NET to a centralized controller, divide the DIII-NET for VRV use and for the chiller.

[Example]



- The maximum number of adapters, except VRV indoor units, to be connected is 64 units including VRV indoor units.
 - One air conditioner connecting adapter (SkyAir adapter, etc.) is counted as one unit.
 - One Di unit is counted as 8 units.
 - One Dio unit is counted as 4 units.
 - When the output of a Dio unit is set to an instant contact point, one unit is counted as 2 units.
- * Regarding Di/Dio units, if you specify the number of units to be connected to each unit, you can reduce the number of units connected to one unit.
- One Ai unit is counted as one unit.
- When you use a general sensor, one unit is counted as 2 units.



6. Group and Zone

6.1 Definition

Group control

- The group means the indoor units connected by the same control wiring for remote controller (connected to terminal P1 and P2) and all the unit in group have "the same setting" and "the same operation".
- The indoor units in the group are controlled by the remote controller for indoor unit.
- The number of indoor units in one group is up to 16 units.

Zone control

- The zone means the indoor units connected by the same control wiring for central remote controller (connected to terminal F1 and F2) and all the unit in zone have "the same setting".
- The zone control of the indoor unit is operated by the central remote controller.
- From 1 up to 64 zones can be controlled by the central remote controller.
- The number of groups you can set in one zone is from 1 up to 64 groups.
- Up to 16 units can be set in one group, and up to 64 groups (up to 128 units) can be connected.

Centralized controllers are capable of controlling/monitoring up to 64 groups of indoor units (hereafter "groups").

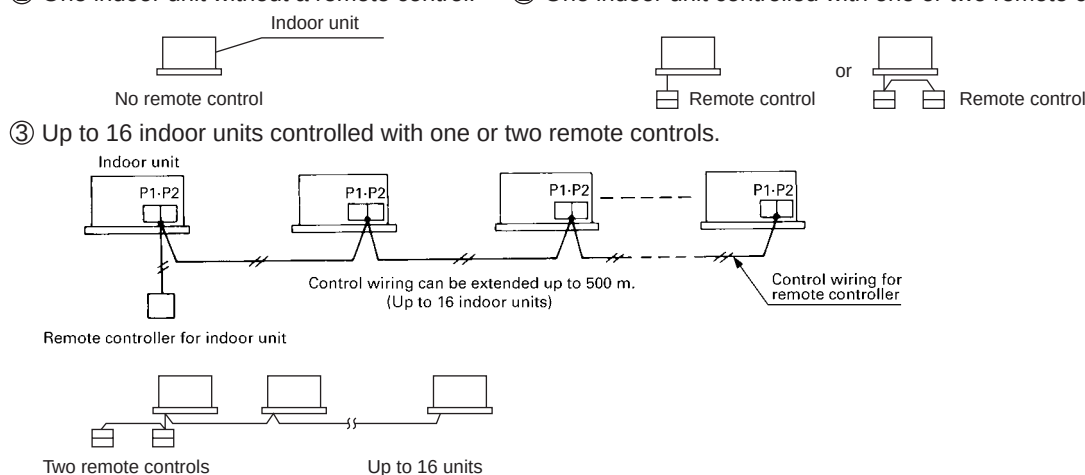
The main functions of the centralized controllers include :

1. Collective starting/stopping of operation of the indoor units connected to the centralized controller.
2. 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.
3. Scheduling by zone or group.
4. Monitoring of the operation status by zone or group.
5. Display of the air conditioner operation history.
6. Compulsory contact stop input from the central monitoring panel (non-voltage, normally-open contact).

6.2 Patterns of Group and Zone

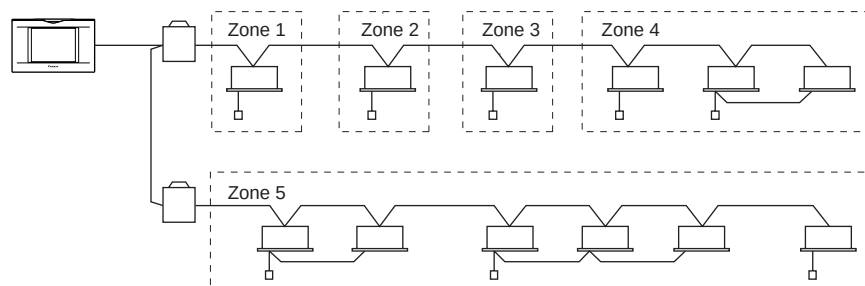
* A group of indoor units include:

- ① One indoor unit without a remote control. ② One indoor unit controlled with one or two remote controls.



* Zone control with the centralized controller

* Zone control, which allows collective settings for more than one group, is available with the centralized controller, which facilitates the setting operations.



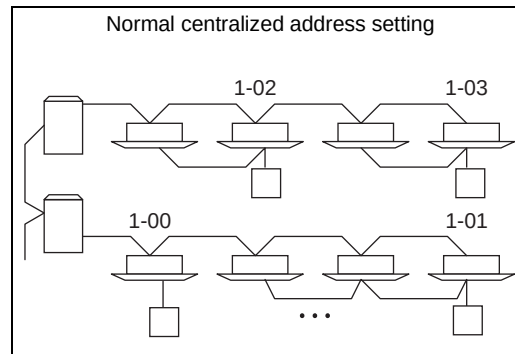
- One setting makes the same setting for all of the units in one zone.
- Up to 128 zones can be set with one centralized controller. (The maximum number of groups in one zone is 64.)
- Groups can be zoned at will with the centralized controller.
- Indoor units in one group can be divided into more than one zone.
- 1 Zone is not limited to 1 Group and vice versa.

6.3 Group Address Number

- Set a centralized address to a device to be connected to DIII-NET.
- The range of addresses to be set is 64 types as shown below.

1-00~1-15	16 types	Total 64 types
2-00~2-15	16 types	
3-00~3-15	16 types	
4-00~4-15	16 types	

- You cannot set a same address on a same DIII-NET.
- You do not need to set a centralized address to a child unit in a remote control group.
 - In the case of proportional power, you need to set a centralized address to a child unit in a remote control group as well.



6.4 Setting Group No. for Centralized Control

Set the group number of each group of the indoor unit from the remote controller. (In case of no remote controller, also connect the remote controller and set the group No. Then, remove the remote controller.)

6.4.1 Wired Remote Controller <BRC1C62>

1. Turn ON the power of the indoor unit and unified ON/OFF controller. (Unless the power is ON, no setting can be made.)

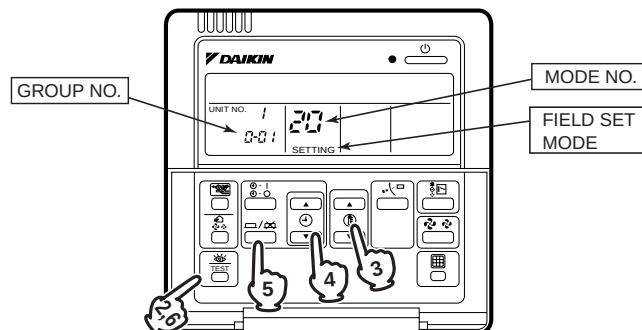
Check that the installation and electrical wiring are correct before turning the power supply ON.

When the power supply is turned ON, all LCD appear once and the unit may not accept the operation for about one minute with the display of "HOST" flashing (an interval of ON, ON, and OFF).

2. While in the normal mode, hold down the "TEST" button for a minimum of 4 seconds.

The remote controller will enter the FIELD SET MODE.

3. Select the MODE No. "00" with the "MODE" button.
4. Use the "GROUP" button to select the group No. for each group.
(Group numbers increase in the order of 1-00, 1-01, ...1-15, 2-00, ... 8-15.)
5. Press "SET" to set the selected group No.
6. Press "TEST" to return to the NORMAL MODE.



Note:

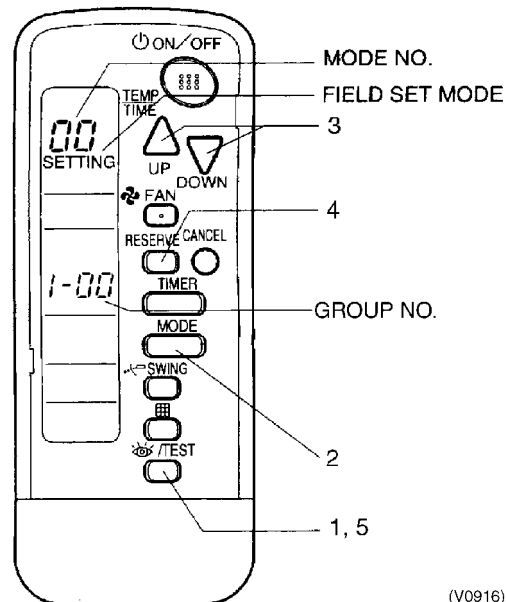
- For simplified remote controller, see the installation table.
- For setting group No. of HRV and wiring adaptor for other air conditioners, etc., refer to the instruction manual attached.

NOTICE

Enter the group No. and installation place of the indoor unit into the attached installation table. Be sure to keep the installation table with the operation manual for maintenance.

6.4.2 Wireless Remote Controller <BRC4C, 7C, 7E>

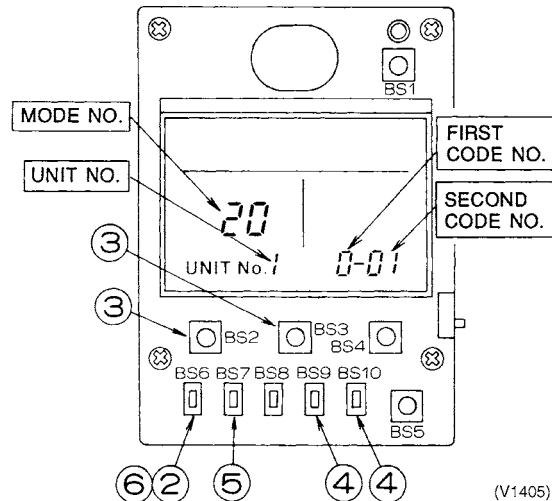
1. When in the normal mode, push "  " button for 4 seconds or more, and operation then enters the "field set mode."
2. Set mode No. "00" with "  " button.
3. Set the group No. for each group with "  " "  " button (advance/backward).
4. Enter the selected group numbers by pushing "  " button.
5. Push "  " button and return to the normal mode.



(V0916)

6.4.3 Simplified Remote Controller <BRC2C51>

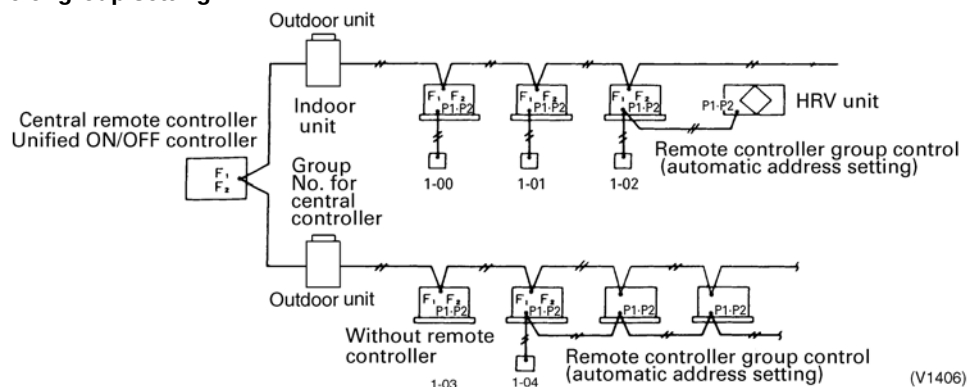
1. Remove the cover of remote controller.
2. While in normal mode, press the [BS6] BUTTON (field set) to enter the FIELD SET MODE.
3. Select the mode No. [00] with [BS2] BUTTON (temperature setting ▲) and [BS3] BUTTON (temperature setting ▼).
4. Select the group No. with [BS9] BUTTON (set A) and [BS10] BUTTON (set B). (Group Nos. increase in the order of 1-00, 1-01.....1-15, 2-00,.....4-15. However, the unified ON/OFF controller displays only group No. set within the range of control.)
5. Press [BS7] BUTTON (set/cancel) to set group No.
6. Press [BS6] BUTTON (field set) to return to the NORMAL MODE.



<Cautions>

- Even in the system without remote control, connect the remote controller once to set group No. for central control equipment and remove the remote controller after setting.
- When you set the group No., be sure to supply the power to the central remote controller, the unified ON/OFF controller and the indoor unit.

<Example of group setting>

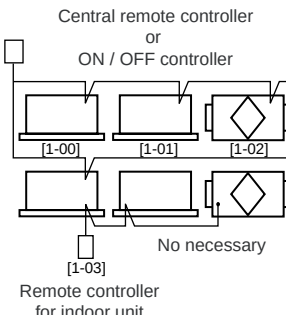
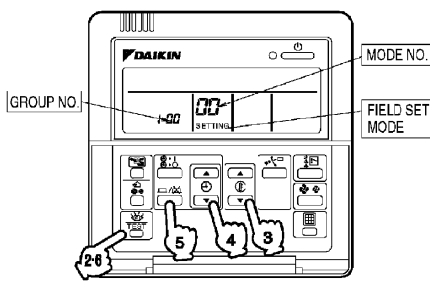
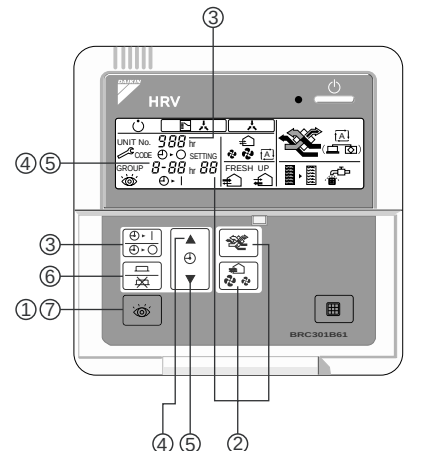


Cautions

When the power is supplied, all the display appears once on the remote controller and then the display changes to [88] for about one minute and during that time the remote controller does not function. However, this is not a malfunction of remote controller.

6.4.4 HRV Wired Remote Controller <BRC301B61>

The following shows the procedure how to set the group number for the centralized controller by the remote controller for indoor unit.

Purpose	Controller	Operating procedure
When you use the central remote controller and the unified ON / OFF controller, you have to set the each unit connected to the central transmission line. <Example> 	●Remote controller for indoor unit BRC1C62 	Set the group number of each group of the indoor unit from the remote controller. (In case of no remote controller, also connect the remote controller and set the group No. Then, remove the remote controller.) (1) Turn ON the power of the indoor unit and central remote controller. (Unless the power is ON, no setting can be made.) Check that the installation and electrical wiring are correct before turning the power supply ON. (When the power supply is turned ON, all LCD appear once and the unit may not accept the operation for about one minute with the display of "88".) (2) While in the normal mode, hold down the " " button for a minimum of 4 seconds. The remote controller will enter the FIELD SET MODE. (3) Select the MODE No. "88" with the " " button. (4) Use the " " button to select the group No. for each group. (Group numbers increase in the order of 1-00, 1-01,... 1-15, 2-00,... 8-15.) (5) Press " " to set the selected group No. (6) Press " " to return to the NORMAL MODE.
	●BRC301B61 	The unit in [] does not require the group no. setting for the centralized controller connected to the central transmission line. (Auto-address setting) ① Press the INSPECTION button for more than four seconds. ② Use the VENTILATION MODE, AIR FLOW RATE to select the mode no. "00". ③ Use the top or lower section of the TIMER button to set the group no. for the centralized controller. (When you use the unified ON / OFF controller, it displays only the group no. selected by the setting switch for zone control.) ④ Press the PROGRAM / CANCEL button to enter the setting group no. shown on the display. ⑤ Press INSPECTION button to return to normal mode.

Note:

- Do not duplicate the group number.
- Be sure to supply the power to the remote controller side.
(It cannot be set without the power supply.)

Initial setting for "Central zone control"

When HRV unit is connected to the central transmission line (terminal connector no. (F1) and (F2)), it is necessary to make a initial setting of "collective zone interlock" by the remote controller for indoor unit. (Factory set "OFF".)

Make initial setting as follows.

Combination with central controller

Central controller ○: Possible ×: Impossible

Centralized controllers				Operation · function		Initial setting for "central zone control"
Multi-function centralized controller	Unified ON / OFF controller	Schedule timer	Adapter PCB for remote control	Interlocked operation (Automatic selection)	Independent operation / stop (By central controller)	
1 unit	—	—	—	○	×	ON
				×	×	OFF
1 unit	1 – 4 units	—	—	○	×	ON
				×	○	OFF
1 unit	—	1 unit	—	○	×	ON
				×	×	OFF
1 unit	1 – 4 units	1 unit	—	○	×	ON
				×	○	OFF
—	1 – 4 units	—	—	It is impossible to operate.		ON
				×	○	OFF
—	—	1 unit	—	It is impossible to operate.		ON
				×	○	OFF
—	—	1 unit	—	○	×	ON
				×	× (Only collective operation)	OFF
—	—	—	1 unit	○	×	ON
				×	× (Only collective operation)	OFF

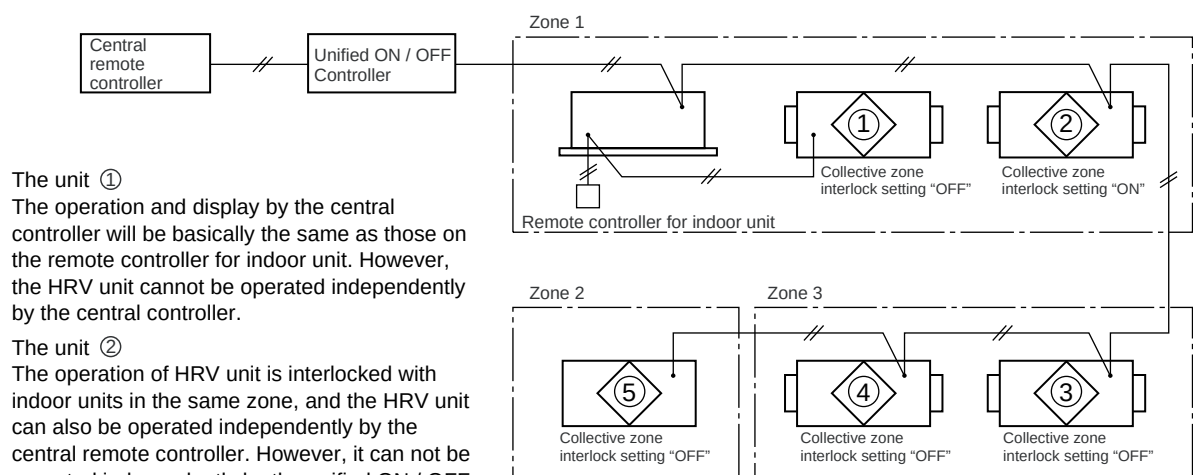
Cautions

When you make an initial setting "ON", the interlocked operation has a priority, and it is impossible to operate / stop HRV unit independently by the central remote controller or the unified ON / OFF controller. If there is no indoor unit for interlocked operation in the same zone, make an initial setting "OFF".

When you make an initial setting "OFF", the independent operation of HRV unit has a priority, and the interlocked operation is not possible.

When the HRV unit is operated independently by the central controller, the HRV unit will not operate until the preset time elapses if the precool / preheat time setting is set. Therefore, please do not set the precool / preheat time setting in normal operation.

Example of system



(HC0095)

The unit ①

The operation and display by the central controller will be basically the same as those on the remote controller for indoor unit. However, the HRV unit cannot be operated independently by the central controller.

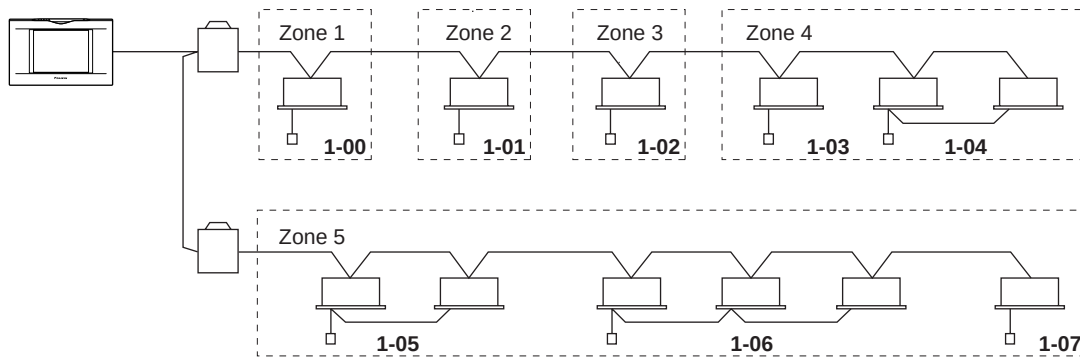
The unit ②

The operation of HRV unit is interlocked with indoor units in the same zone, and the HRV unit can also be operated independently by the central remote controller. However, it can not be operated independently by the unified ON / OFF controller.

The unit ⑤

When the central remote controller is used, each unit will be one zone, unless you set the zone for plural units.

6.5 Zone Address Number



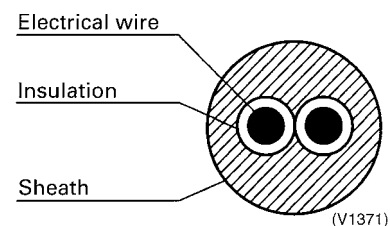
EM04A055A

7. 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(★)	

<Example>Section of cord



- ★ 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.



Cautions:

1. Never use a 3 or more core of cord or cable.
2. The size of wire should be 0.75~1.25mm².
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.

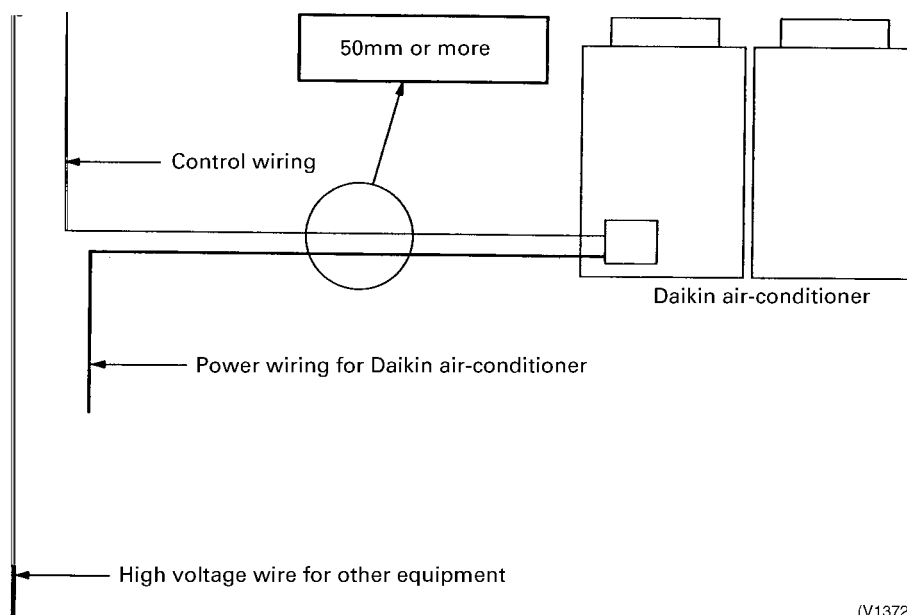
Capacity of power wiring		Distance between Power wiring and control wiring	
		Daikin air-conditioner (★1)	Other air-conditioners
220V or less	10A or less	50mm or more (★2)	300mm or more
	50A or less		500mm or more
	100A or less		1000mm or more
	100A or more		1500mm or more



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.
3. 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]



8. Combination of Multiple Central Remote Controllers <DCS302CA61 • DCS301BA61 • DST301BA61>

8.1 Check for Centralized Control Devices in Simultaneous Use

intelligent Touch Controller requires the following two settings. Note that these settings may vary depending on the types of centralized control units in simultaneous use. Check for centralized control units in each customer and list the necessary intelligent Touch Controller settings in the form of the next page, referring to a summary given in the following table before starting to make the settings.

1. Making the setting for the master or slave

When two intelligent Touch Controller's are connected or one central controller and one intelligent Touch Controller are used, one unit must be set up as the master and another as the slave.

(Only the intelligent Touch Controller set up as the master permits you to make the settings for remote control permission/inhibition and setup temperature limitation.)

*Note that the intelligent Touch Controller must be set up as the master when only one intelligent Touch Controller is available.

2. Setting the connector for DIII-NET parent centralized control

Attach the connector only to one of the centralized control units connecting to the DIII-NET communication line and remove all the other centralized control units.

Only the unit provided with the connector supplies power to the DIII-NET communication line.

Read the following descriptions for master/slave settings and relationship among settings required for DIII-NET parent centralized control.

	Unit name	Connector setup for DIII-NET parent centralized control	Master/slave setup
Upper	intelligent Manager	Be sure to always mount the connector for parent centralized control.	No master/slave setting required. (Remote control inhibition can be allowed at any time.)
	BACnet® Interface		
	DMS-IF		
	Parallel interface		
Middle	intelligent Touch Controller	For presence of upper unit ⇒ Remove the connector for parent centralized control. For absence of upper unit ⇒ Attach the connector for parent centralized control to one of the middle-grade units for use.	Set one of the middle units as the master and another as the slave. Master = Settings for remote control inhibition can be made (when the upper unit is not used). Slave = Settings for remote control inhibition cannot be made . When the upper unit is used together : ⇒ Settings for remote control inhibition cannot be made . *DIII-The NET PLUS adaptor has no master/slave relationship.
	Central controller		
	DIII-NET PLUS adaptor		
Lower	ON/OFF controller	For presence of upper or middle unit ⇒ Remove the connector for parent centralized control. For absence of upper and middle units ⇒ Attach the connector for parent centralized control to one of the lower units for use.	For details of master/slave settings on the ON/OFF controller, refer to the D-BACS Design Guide.)

Qty.	Unit name	Connector setup for parent centralized control	Master/slave
1	intelligent Manager	To be mounted	
	BACnet® Interface		
	DMS interface		
	Parallel interface		
1	intelligent Touch Controller	To be removed	Remote control inhibition setting disabled for master
	Central controller		
1	DIII-NET PLUS adaptor	To be removed	
4	ON/OFF controller	1. To be removed 2. To be removed 3. To be removed 4. To be removed	1. Master 2. Slave 3. Master 4. Slave

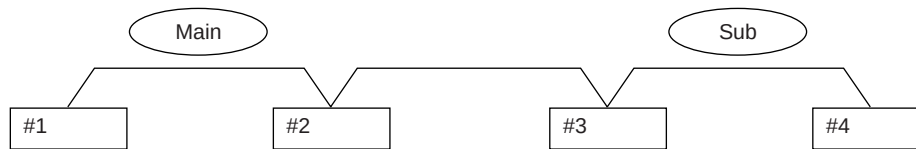
***Example of entry**

Master/slav : Memo field to be used in setting a connector For DIII-NET parent centralized control. Make an entry, Referring to an example of entry.

- Quantity : Enter the quantity of units connected.
- Connector setup for DIII-NET centralized control
Specify whether the unit is a parent or a child
- Master/Slave : Specify whether the unit is a master or a slave.

	Unit name	Connector setup for DIII-NET parent centralized control	Master/slave setting
	intelligent Manager		
	BACnet® Interface		
	DMS interface		
	Parallel interface		
	intelligent Touch Controller		
	Central controller		
	DIII-NET PLUS adaptor		
	ON/OFF controller		

8.2 Combination of intelligent Touch Controller and Central Remote Controller



Combination	#1		#2		#3		#4	
	1-00~4-15	Main/ Sub	5-00~5-15	Main/ Sub	1-00~4-15	Main/ Sub	5-00~5-15	Main/ Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	intelligent Touch Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	intelligent Touch Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	intelligent Touch Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	intelligent Touch Controller	Sub	Central Remote Controller	Sub
Impossible	Central Remote Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	intelligent Touch Controller	Sub
Possible	Central Remote Controller	Main	Central Remote Controller	Main	Central Remote Controller	Sub	Central Remote Controller	Sub
Possible	Central Remote Controller	Main	—	—	Central Remote Controller	Sub	—	—
Possible	intelligent Touch Controller	Main	—	—	intelligent Touch Controller	Sub	—	—
Possible	Central Remote Controller	Main	—	—	intelligent Touch Controller	Sub	—	—
Possible	intelligent Touch Controller	Main	—	—	Central Remote Controller	Sub	—	—
Possible	Central Remote Controller	Main	—	—	—	—	—	—
Possible	intelligent Touch Controller	Main	—	—	—	—	—	—

8.3 Combination of DCS302CA61·DCS301BA61·DST301BA61

Centralized control equipment connection pattern		
Central remote controller DCS302CA61	Unified ON/OFF controller DCS301BA61	Schedule timer DST301BA61
1 through 4 units	—	—
	1 through 16 units	—
	—	1 unit
		1 unit

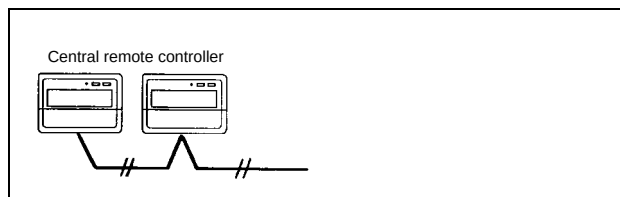
Note:

The case of respective maximum connections is when 1 zone has 1 unit and 2 centralized controls are made.

System Configuration

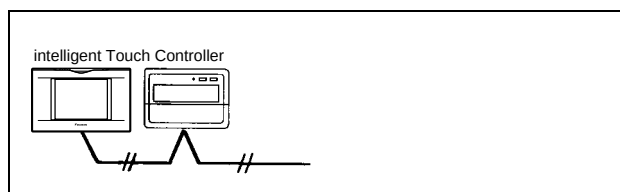
1. Central remote controller

Up to 64 zones can be controlled and start/stop operation for each group can be easily done.



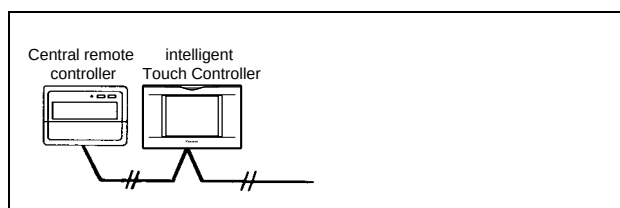
2. intelligent Touch Controller

Up to 64 zones can be controlled and start/stop operation for each group can be easily done.



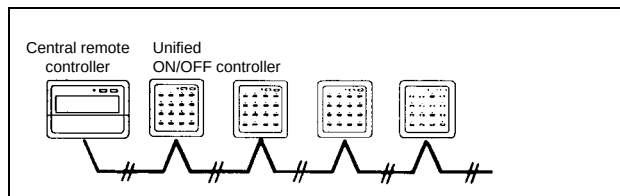
3. intelligent Touch Controller + Central remote controller

By using any of the controllers, up to 64 zones can be controlled and start/stop operation for each group can be easily done.



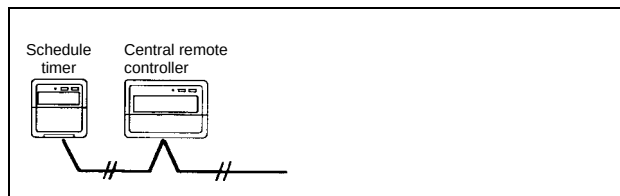
4. Central remote controller + Unified ON/OFF controller

By using the ON/OFF controller, up to 64 zones can be controlled and start/stop operation for each group can be done.



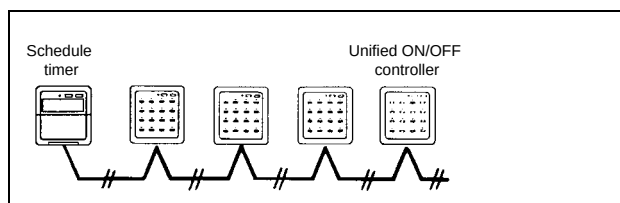
5. Central remote controller + Schedule timer

Up to 64 zones can be controlled and a scheduled operation for each zone can be done. In the weekly schedule, the Start/Stop operation can be set twice a day, and nonworking days can be set according to the day of a week.



6. Unified ON/OFF controller + Schedule timer

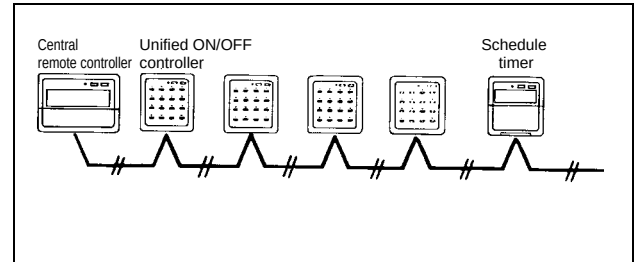
Start/stop operation for up to 64 groups can be individually set, start/stop operation can be set twice a day on the weekly schedule, and nonworking days can be set according to the day of a week. Scheduled collective start/stop operation can be set.



7. Central remote controller + Unified ON/OFF controller + Schedule timer

Up to 64 groups can be controlled and a scheduled operation for each zone can be done.

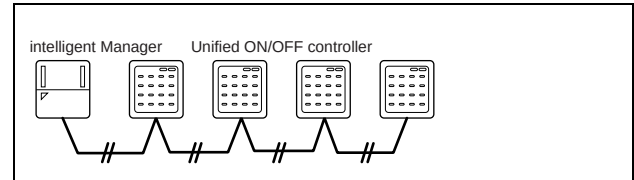
Start/stop operation can be set twice a day on the weekly schedule, and nonworking days can be set according to the day of a week. Start/stop operation for each group can be done by the ON/OFF controller.



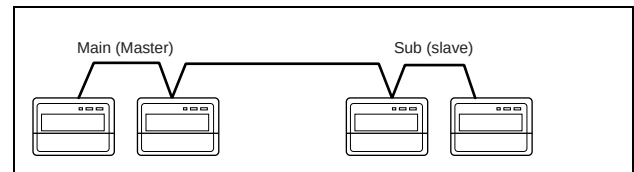
8. intelligent Manager III + Unified ON/OFF controller

Up to 8 units can be installed on one DIII-NET.

(4 units with a main setting, and other 4 units with a sub-setting)

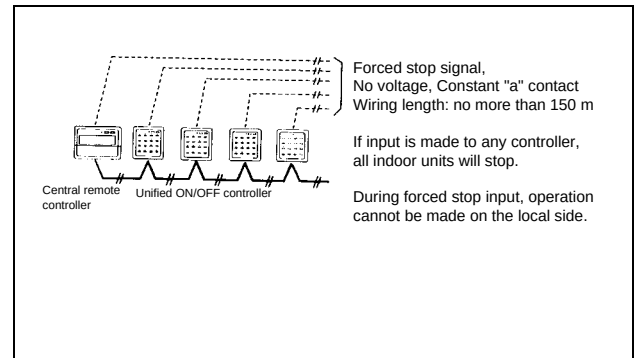


9. Central remote controller × 4



10. Forced shutdown from external equipment

The central remote controller and ON/OFF controller are equipped with a forced shutdown input terminal. If a shutdown signal for air-conditioning machines is entered, the machines are shut down collectively.

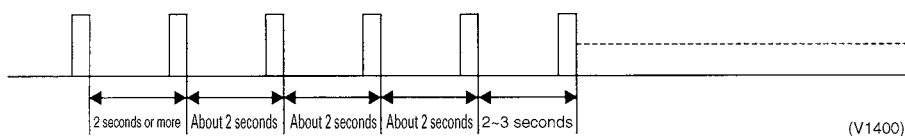


Note)

1. Do not use the forced shutdown input terminal when a data station is used simultaneously.
2. The unified ON/OFF controller and schedule timer also can be used individually.

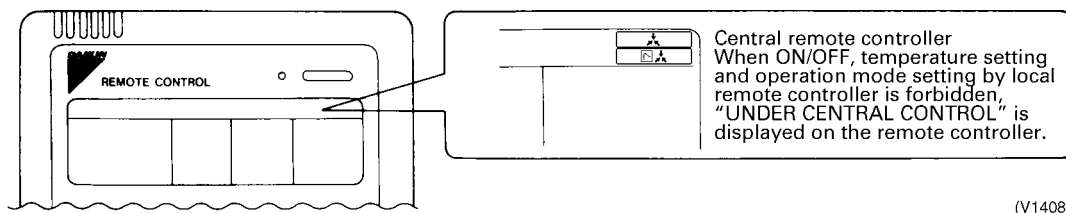
8.4 Sequential Start

<Operation command from central control equipment>



Each unit operates in sequence. For example, if you set the simultaneous operation by the central remote controller, which controls 1-00 ~ 4-15 and 5-00 ~ 8-15 groups, two outdoor units start simultaneously.

8.5 Under Central Control



C : 3P171361-1

8.6 Error Code on Intial Setting and Wiring Troubles

Malfunction code	Contents of malfunction
M1	Failure of PC board of schedule timer. Fixes The following causes are possible. Check each one. 1. PC board problems
M8	Malfunction of transmission between each optional controllers for centralized control. Fixes Check all central devices which are connected (e.g., power supply, transmission wiring, etc.).
MA	Improper combination of optional controllers for centralized control. Fixes The following causes are possible. Check each one. 1. Are all central devices combined correctly? 2. Is the master central connector attached to two or more central devices? 3. Are there 128 or more indoor units connected?
MC	Address failure of schedule timer. Fixes The following causes are possible. Check each one. 1. Do the control range addresses in the central remote controller overlap? 2. Do the control range addresses in the on/off controller overlap? 3. Are there 2 or more schedule timers connected?
U4	Transmission error between indoor unit/BEV unit and outdoor/BS unit, Transmission error between outdoor unit and BS unit
U5	Transmission error between remote controller and indoor control unit
U5	Remote controller board fault or remote controller setting fault
U6	Transmission error between indoor units
U7	Transmission error between outdoor units Transmission error between outdoor unit and ice thermal storage unit
U7	Transmission error between outdoor units (cooling/heating batch, low-noise operation)
U8	Transmission error between master remote controller and slave remote controller (slave remote controller error) Incorrect combination of indoor unit and remote controller within a single system (model)
U9	Transmission error between indoor unit/BEV unit and outdoor unit within a single system Transmission error between BS unit and indoor unit/BEV unit and outdoor unit within a single system
UC	Central control group numbers overlap
UE	Malfunction of transmission between indoor unit and optional controllers for centralized control. Fixes Inspect all indoor units which are displaying an error (e.g., power supply, transmission wiring, etc.).
—	Malfunction in indoor unit (Refer to the malfunction codes of the indoor remote controller, while also read the "CAUTION FOR SERVICING" attached to the indoor unit.)

3P124623-5C

Part 3

Remote Controllers

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1. List of Indoor Units with Corresponding Individual Operation Remote Controllers

■ VRV

Wired remote controller					
					
Wired remote controller		Simplified remote controller		Remote controller for hotel use	
BRC1C62		BRC2C51(BRC2A51)		BRC3A61	
FXC(Q)	FXD(Q)	FXD(Q)		FXD(Q)	
FXZQ	FXS(Q)	FXS(Q)		FXS(Q)	
FXF(Q)	FXM(Q)	FXM(Q)		FXM(Q)	
FXK(Q)	FXL(Q)	FXL(Q)		FXL(Q)	
FXH(Q)	FXN(Q)	FXN(Q)		FXN(Q)	
FXA(Q)	FXYD	FXYD		FXYD	
FXUQ	FXYB	FXYB		FXYB	
				Wired remote controller with weekly schedule timer	
				BRC1D61	
FXC(Q)	FXD(Q)			FXC(Q)	
FXZQ	FXS(Q)			FXZQ	
FXF(Q)	FXM(Q)			FXF(Q)	
FXK(Q)	FXL(Q)			FXK(Q)	
FXH(Q)	FXN(Q)			FXH(Q)	
FXA(Q)	FXYD			FXA(Q)	
FXUQ	FXYB			FXUQ	



Wireless Remote Controller			
For H/P	For C/O	Indoor Units	
BRC7C62	BRC7C67	FXC(Q)	Ceiling Mounted Cassette Type (Double Flow)
BRC7E530W	BRC7E531W	FXZQ	Ceiling Mounted Cassette Type (Multi Flow) 600x600
BRC7E61W	BRC7E65	FXF(Q)	Ceiling Mounted Cassette Type (Multi Flow)
BRC4C61*	BRC4C63*	FXK(Q)	Ceiling Mounted Cassette Corner Type
BRC4C62*	BRC4C64*	FXS(Q)	Ceiling Mounted Built-in Type
		FXM(Q)	Ceiling Mounted Duct Type
		FXD(Q)	Slim Ceiling Mounted Duct Type
		FXYD	Ceiling Mounted Duct Type (Low Silhouette Type)
		FXYB	Ceiling Mounted Built-in Type (Rear Suction)
		FXL(Q)	Floor Standing Type
		FXN(Q)	Concealed Floor Standing Type
BRC7E63W	BRC7E66	FXH(Q)	Ceiling Suspended Type
BRC7E618	BRC7E619	FXA(Q)	Wall Mounted Type
BRC7C528W	BRC7C529W	FXUQ	Ceiling Suspended Cassette Type

(*: Ext. signal receiver is required)

■ HRV

Wired remote controller



BRC301B61

VAM

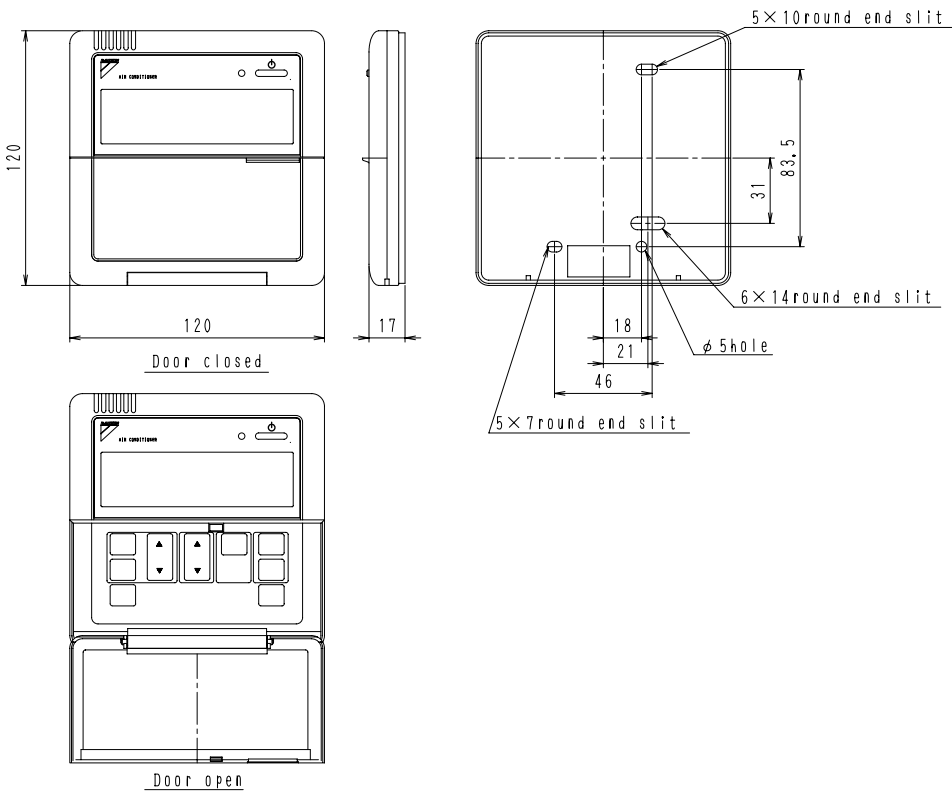
2. Dimensions of Remote Controllers

2.1 Wired Remote Controller

BRC1C62

For FXC(Q), FXF(Q), FXK(Q), FXD(Q), FXS(Q), FXM(Q), FXH(Q), FXA(Q), FXL(Q), FXUQ-M(A)

Unit (mm)



DU820-226

2.2 Wireless Remote Controller / Receiver

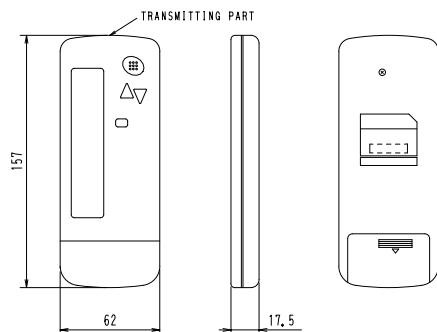
FXC(Q)

BRC7C62 For Heat Pump

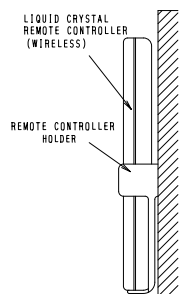
BRC7C67 For Cooling Only

Unit (mm)

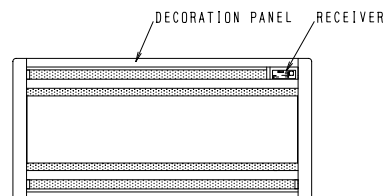
• REMOTE CONTROLLER DIMENSIONS



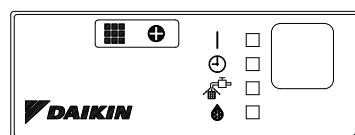
• REMOTE CONTROLLER HOLDER INSTALLATION PROCEDURE <INSTALLATION TO WALL SURFACE>



• RECEIVER INSTALLATION PROCEDURE



• RECEIVER DETAIL



• WIRELESS REMOTE CONTROLLER KIT FOR EACH DECORATION PANEL

WIRELESS REMOTE CONTROLLER KIT	DECORATON PANEL	
BRC7C62 BRC7C67	BYBC32GJW1	BYBC32G-W1
	BYBC50GJW1	BYBC50G-W1
	BYBC63GJW1	BYBC63G-W1
	BYBC125GJW1	BYBC125G-W1

3D007588A

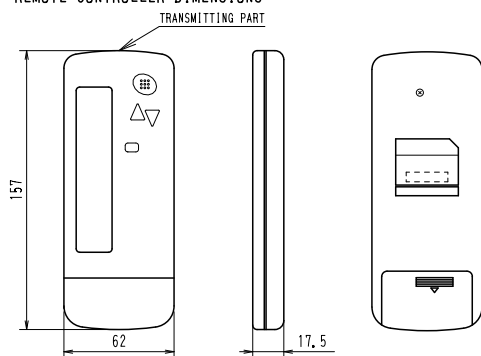
FXF(Q)

BRC7E61W .For Heat Pump

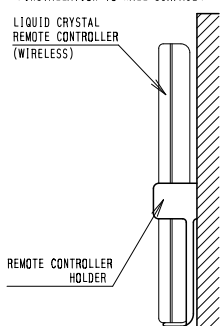
BRC7E65.....For Cooling Only

Unit (mm)

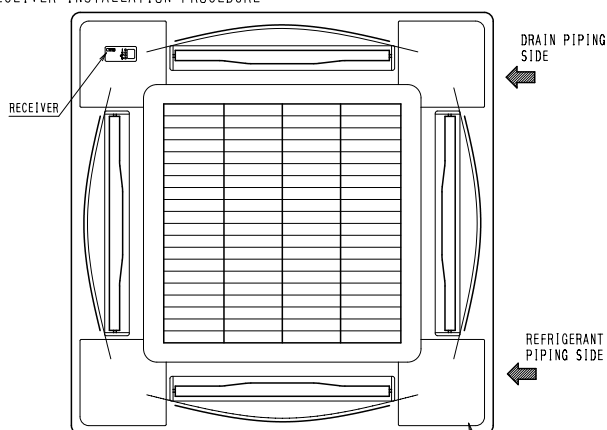
• REMOTE CONTROLLER DIMENSIONS



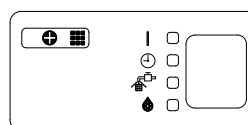
• REMOTE CONTROLLER HOLDER INSTALLATION PROCEDURE <INSTALLATION TO WALL SURFACE>



• RECEIVER INSTALLATION PROCEDURE



• RECEIVER DETAIL



• WIRELESS REMOTE CONTROLLER KIT FOR EACH DECORATION PANEL

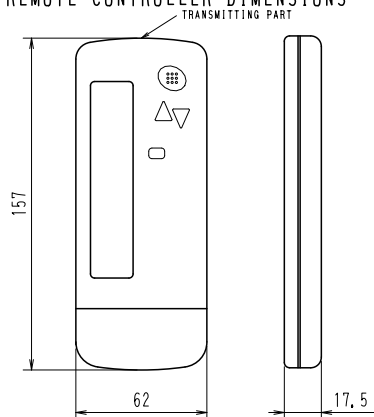
WIRELESS REMOTE CONTROLLER KIT	DECORATION PANEL
BRC7E51W BRC7EA51W	BYCP125DJW1 BYCP125DAW1
BRC7E61W	BYCP125D-W1
BRC7E65	

3D034088A

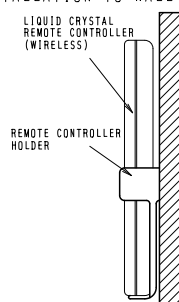
**FXD(Q), FXS(Q), FXM(Q), FXL(Q), FXN(Q)
FXYB, FXYD-KA**

**BRC4C62 ... For Heat Pump
BRC4C64 ... For Cooling Only**

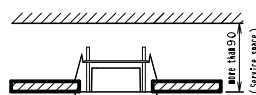
• REMOTE CONTROLLER DIMENSIONS



• REMOTE CONTROLLER HOLDER
INSTALLATION PROCEDURE
<INSTALLATION TO WALL SURFACE>



• Service space for ceiling installation

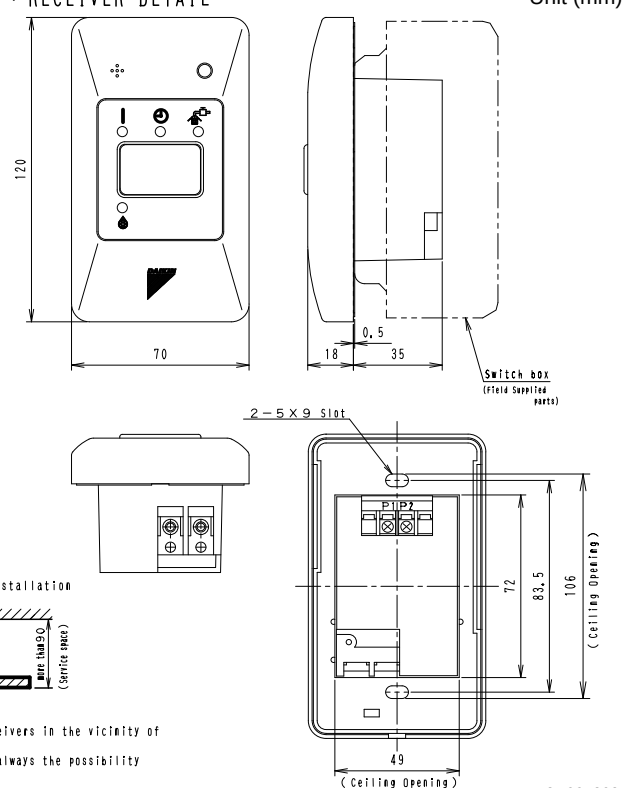


NOTE Do not install more than 3 receivers in the vicinity of one another. With 4 or more units, there is always the possibility of malfunction.

FXK(Q)

**BRC4C61 ... For Heat Pump
BRC4C63 ... For Cooling Only**

• RECEIVER DETAIL



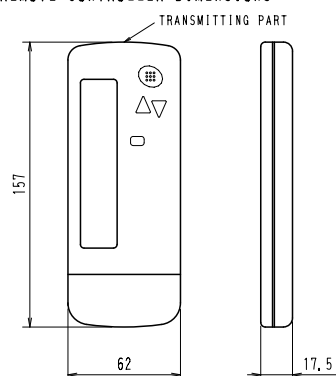
Unit (mm)

3D007898A

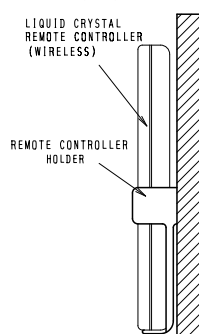
FXH(Q)

**BRC7E63W .For Heat Pump
BRC7E66.....For Cooling Only**

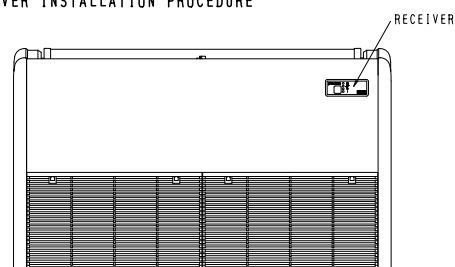
• REMOTE CONTROLLER DIMENSIONS



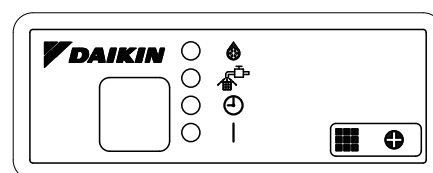
• REMOTE CONTROLLER HOLDER
INSTALLATION PROCEDURE
<INSTALLATION TO WALL SURFACE>



• RECEIVER INSTALLATION PROCEDURE



• RECEIVER DETAIL

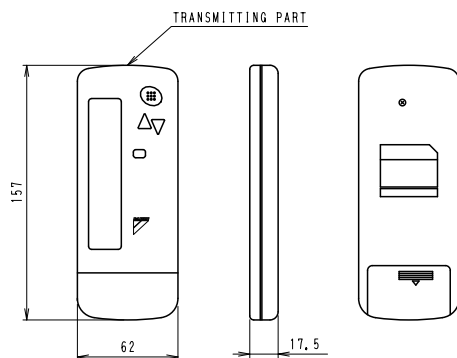


Unit (mm)

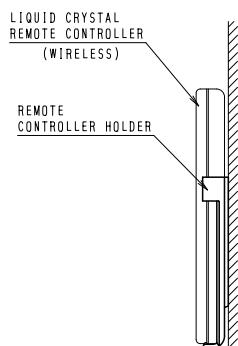
3D028963B

FXA(Q)**BRC7E618 ... For Heat Pump****BRC7E619 ... For Cooling Only**

• REMOTE CONTROLLER DIMENSIONS

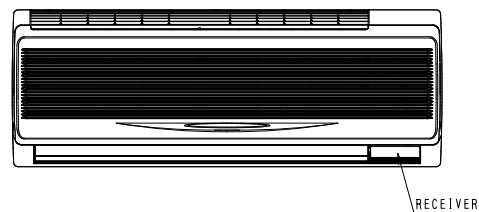
• REMOTE CONTROLLER HOLDER
INSTALLATION PROCEDURE

< INSTALLATION TO WALL SURFACE >

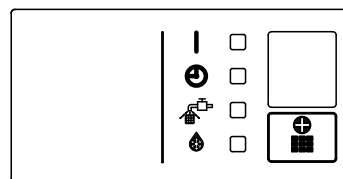


• RECEIVER INSTALLATION PROCEDURE

Unit (mm)



• RECEIVER DETAIL



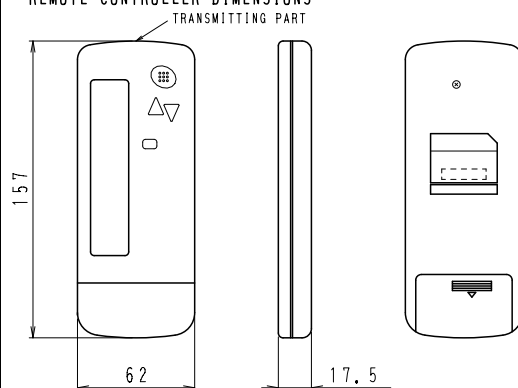
• WIRELESS REMOTE CONTROLLER KIT

WIRELESS REMOTE CONTROLLER KIT		INDOOR UNIT
BRC7E618	BRC7EA618 (For H/P)	FXA ~ LVE (C)
BRC7E619	BRC7EA619 (For C/O)	

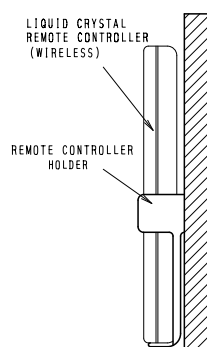
3D034905B

FXU(Q)**BRC7C528W ... For Heat Pump****BRC7C529W ... For Cooling Only**

• REMOTE CONTROLLER DIMENSIONS

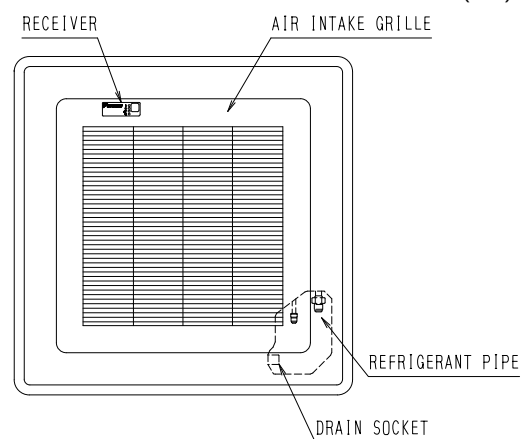
• REMOTE CONTROLLER HOLDER
INSTALLATION PROCEDURE

< INSTALLATION TO WALL SURFACE >



• RECEIVER INSTALLATION PROCEDURE

Unit (mm)



• RECEIVER DETAIL

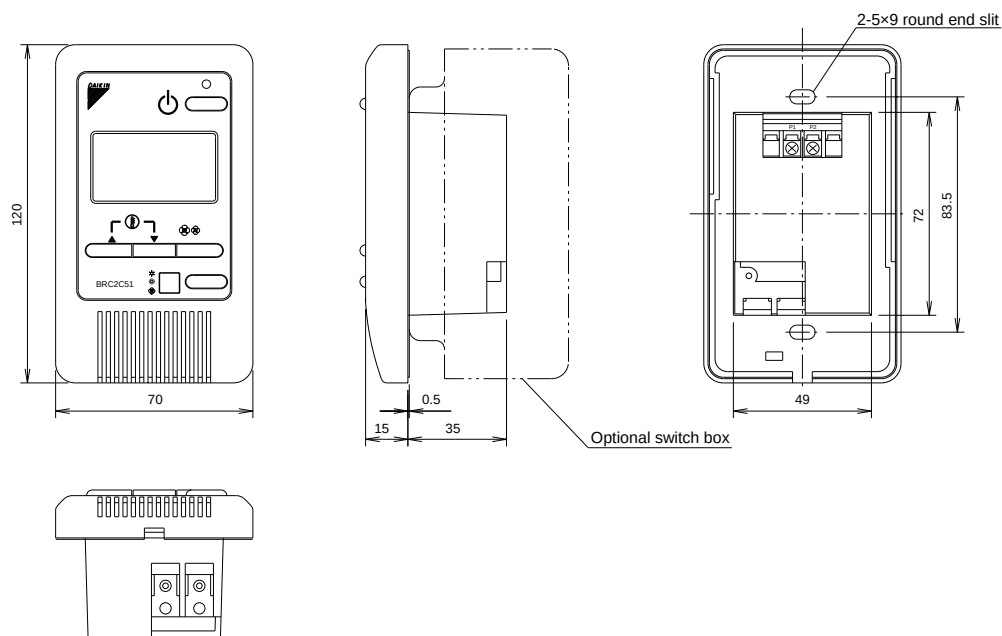


• WIRELESS REMOTE CONTROLLER KIT FOR EACH INDOOR UNIT

INDOOR UNIT	WIRELESS REMOTE CONTROLLER KIT			
	HEAT PUMP SYSTEM		COOLING ONLY SYSTEM	
FUY71 • 100 • 125FJV1	BRC7C528W	BRC7CA528W	BRC7C529W	BRC7CA529W

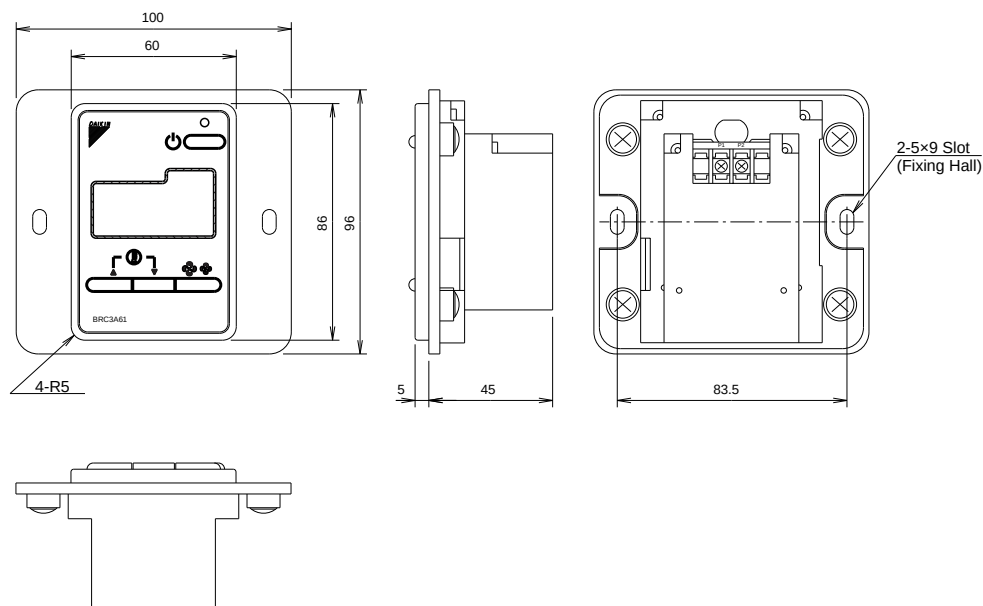
3D014035A

2.3 Simplified Remote Controller
BRC2C51



3D050645

2.4 Remote Controller for Hotel Use
BRC3A61



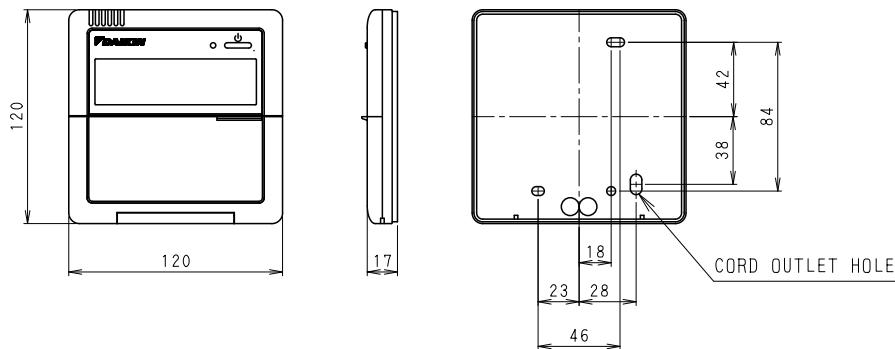
DU223-205

2.5 Wired Remote Controller with Weekly Schedule Timer

BRC1D61(9)

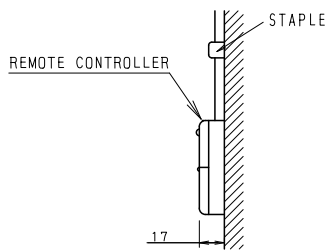
• REMOTE CONTROLLER DIMENSIONS

Unit (mm)

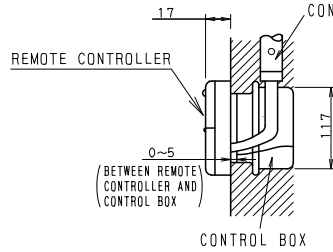


• INSTALLATION METHOD

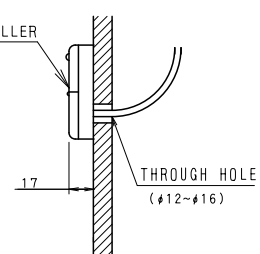
△ EXPOSED BODY, EXPOSED CORD



□ EXPOSED BODY, EMBEDDED CORD



□ EXPOSED BODY, EMBEDDED CODE



NOTE) 1. REMOTE CONTROLLER CORD AND STAPLE ARE NOT ATTACHED, THEY ARE FIELD SUPPLIED PARTS.

• SPECIFICATIONS OF CORD

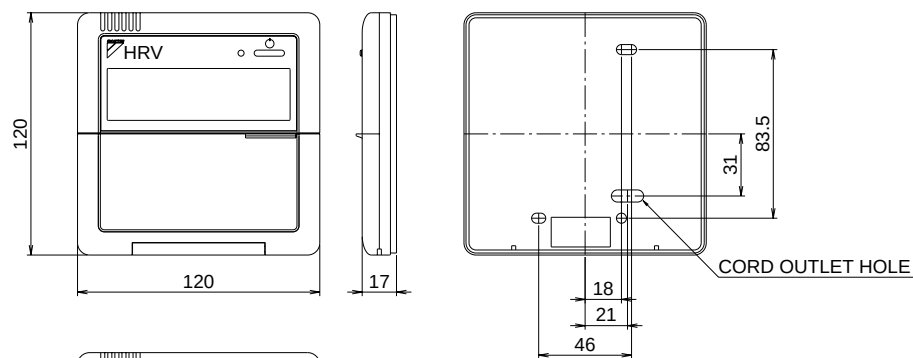
	FOR AUSTRALIA	FOR OTHER COUNTRIES
TYPE	SHIELD WIRE (INSULATED THICKNESS: 1mm OR MORE)	VINYL CORD WITH SHEATH OR CABLE (INSULATED THICKNESS: 1mm OR MORE)
SIZE	0.75 ~ 1.25 mm ²	
TOTAL LENGTH	500 m	

3D048117

2.6 Wired Remote Controller for HRV

BRC301B61

Unit (mm)



NOTE) 1. REMOTE CONTROLLER CORD AND STAPLE ARE NOT ATTACHED. THEY ARE FIELD SUPPLIED PARTS.
(HOWEVER, THEY ARE ATTACHED TO CEILING SUSPENDED TYPE AND WALL MOUNTED TYPE OF SKYAIR SERIES.)

	SPECIFICATIONS OF CORD
TYPE	SHIELDING WIRE (2 WIRES)
SIZE	0.75 ~ 1.25 mm ²
TOTAL LENGTH	500 m

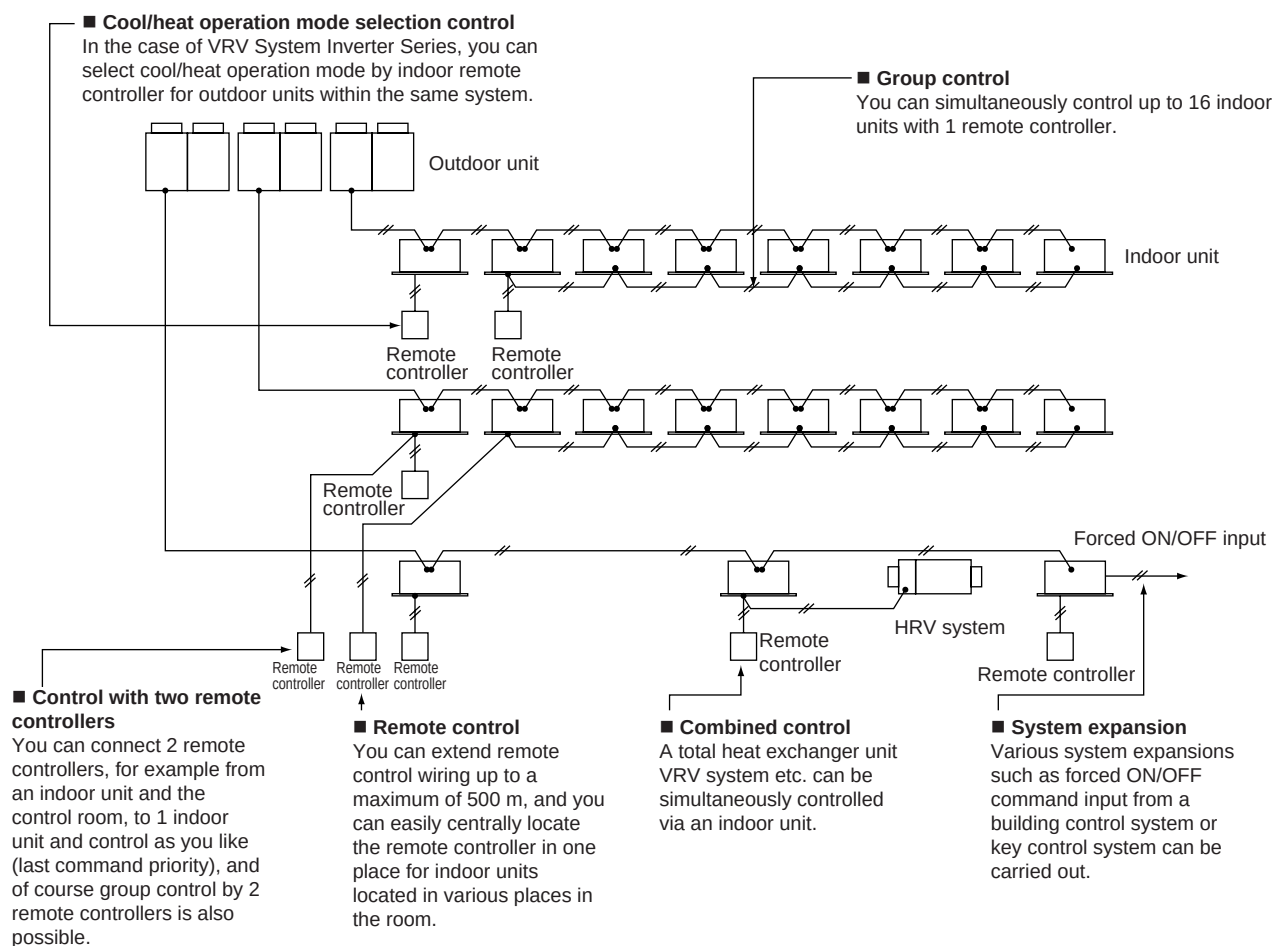
3D013155A

3. Functions of Remote Controllers

3.1 Function List

Appearance				
Type	Wired R/C	Wireless R/C	Simplified R/C	R/C for Hotel Use
ON/OFF	Possible	Possible	Possible	Possible
Temp. setting	Possible	Possible	Possible	Possible
Air flow rate setting	Possible	Possible	Possible	Possible
Air flow direction setting	Possible	Possible		
Timer setting	Possible	Possible		
Mode setting	Possible	Possible	Possible	
Filter sign reset	Possible	Possible		
Inspection/Test operation	Possible	Possible		

3.2 Example of Control by Remote Controller



3.3 Remote Controller <BRC1C62>

3.3.1 Appearance and Functions



- Large liquid crystal screen displays complete operating status.
- Digital display lets you set temperature in 1°C units.
- Lets you individually program by timer the respective times for operation start and stop within a maximum of 72 hours.
- Equipped with a thermostat sensor in the remote controller that makes possible more comfortable room temperature control.
- Monitors room temperature and preset temperature by microcomputer, and can select cool/heat operation mode automatically. (VRV System Heat Recovery Series only)
- Enables you to select cool / heat / fan operation mode with the indoor remote controller of your choice without using the cool / heat selector. (VRV System Inverter series, Heat Recovery series, Plus series)
- Constantly monitors malfunctions in the system for 40 items, and is equipped with a "self-diagnosis function" that lets you know by message immediately when a malfunction occurs.
- Lets you carry out various field settings by remote controller.
- Ventilation mode change over and ventilation air flow switch for HRV.

Note: For connection unit series

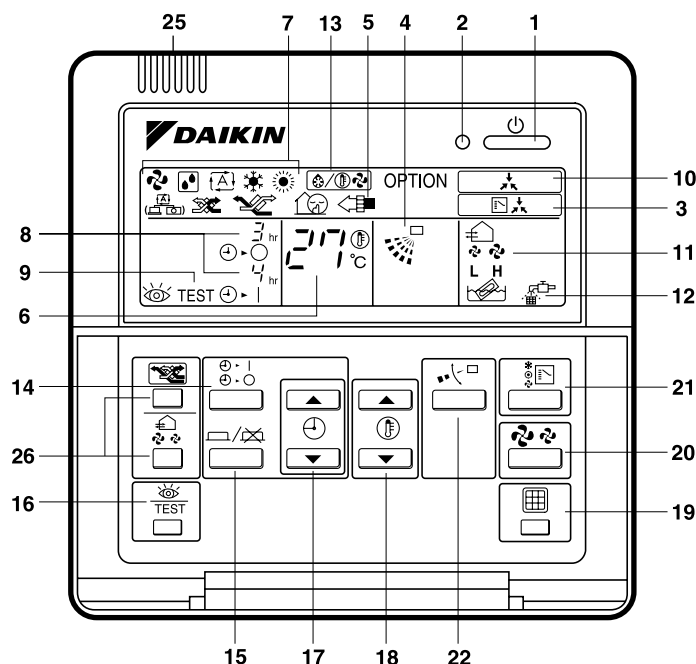
- * If indoor units from the Connection unit series are connected within a single refrigerant system to indoor units from any other series, cooling/heating switchover will not be possible using the remote controller of the Connection unit series indoor units. However, if the remote controller of an indoor unit from the other series is set as a master remote controller, cooling/heating switchover will be possible.
- * If all indoor units are from the Connection unit series, an outdoor unit Cool/Heat selector will be needed to enable cooling/heating switchover.
- * In case of Heat Recovery System
Cooling/Heating changeover is possible when connecting with BS unit.

■ Control functions by remote controllers

		2-remote controller control	Group control	Remote control	Combined control	Remarks
Wired remote controllers		○	○	○	○	—
Wireless remote controllers	Light receiver incorporated type	△(*1)	○	×	△(*2)	*1. Possible if wired (main), wireless (sub) *2. Since there is no ventilation mode, independent HRV unit operation is impossible. Only simultaneous ON/OFF with indoor unit is possible.
	Separate light receiver type	△(*1)	○	×	△(*2)	
Simplified remote controller		○	○	○	○	—

- Note:**
1. 2-remote controller control: By connecting two remote controllers to one indoor unit, control may be made freely from two places.
*2 When using 2 remote controllers, combined use with group remote control adapter is impossible.
 2. Group control: A maximum of 16 indoor units may be controlled simultaneously by one remote controller.
 3. Remote control: Remote control wiring may be extended to a maximum of 500 m and therefore the indoor unit may be controlled from 500 m away. (Separate operation wireless remote controller type may be operated from 200 m away.)
 4. Combined control: Combined simultaneous control of the HRV unit with indoor units may be made.

3.3.2 Name and Function



1. On/off button

Press the button and the system will start. Press the button again and the system will stop.

2. Operation lamp (red)

The lamp lights up during operation.

3. Display “ ” (changeover under control)

It is impossible to changeover heat/cool with the remote controller which display this icon.

4. Display “ ” (air flow flap)

Refer to the chapter “Operation procedure - Adjusting the air flow direction”.

5. Display “ ” (ventilation/air cleaning)

This display shows that the ventilation unit are in operation. (these are optional accessories)

6. Display “ ” (set temperature)

This display shows the temperature you have set.

7. Display “ ” “ ” “ ” “ ” “ ” (operation mode)

This display shows the current operation mode.

8. Display “ ” (programmed time)

This display shows the programmed time of the system start or stop.

9. Display “ TEST ” (inspection/test operation)

When the inspection/test operation button is pressed, the display shows the mode in which the system actually is.

10. Display “ ” (under centralized control)

When this display shows, the system is under centralized control. (This is not a standard specification.)

11. Display “ ” (fan speed)

This display shows the fan speed you have selected.

12. Display “ ” (time to clean air filter)

Refer to the operation manual of indoor unit.

13. Display “ ” (defrost/hot start)

Refer to the chapter “Operation procedure - Explanation of heating operation.”

14. Timer mode start/stop button

Refer to the chapter “Operation procedure - Programming start and stop of the system with timer.”

15. Timer on/off button

Refer to the chapter “Operation procedure - Programming start and stop of the system with timer.”

16. Inspection/test operation button

This button is only used by qualified service persons for maintenance purposes.

17. Programming time button

Use this button for setting the programming start and/or stop time.

18. Temperature setting button

Use this button for setting the desired temperature.

19. Filter sign reset button

Refer to the operation manual of indoor unit.

20. Fan speed control button

Press this button to select the fan speed of your preference.

21. Operation mode selector button

Press this button to select the operation mode of your preference.

22. Air flow direction adjust button

Refer to the chapter "Operation procedure - Adjusting the air flow direction".

23. Thermistor

It sense the room temperature around the remote controller.

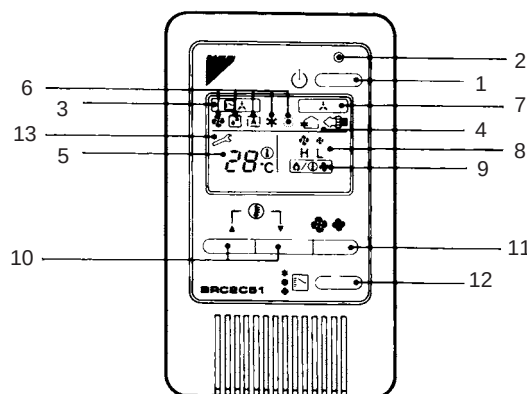
24. These button are used when the ventilation unit are installed (These are optional accessories)

Refer to the operation manual of the ventilation unit.

NOTE

- Figure shows the remote controller which is opened the cover.
- For FXS, FXM, FXL and FXN, the air flow direction adjust button (22) is not available and the display (4) shows "NOT AVAILABLE" when pressed.

3.4 Simplified Remote Controller <BRC2C51 (BRC2A51)>



REMOTE CONTROLLER: NAME AND FUNCTION OF EACH SWITCH AND DISPLAY			DISPLAY "  " (UNDER CENTRALIZED CONTROL)
1	ON/OFF BUTTON Press the button and the system will start. Press the button again and the system will stop.	7	When this display shows, the system is UNDER CENTRALIZED CONTROL. (This is not a standard specification)
2	OPERATION LAMP (RED) The lamp lights up during operation. Blinks in case of stop due to malfunction.	8	DISPLAY "  " (FAN SPEED). The display shows the fan speed: "HIGH" or "LOW".
3	DISPLAY "  " (CHANGEOVER UNDER CONTROL) It is impossible to changeover heat/cool with the remote controller when it shows this display. (As for details, see "SETTING OF MASTER REMOTE CONTROLLER" in the operation manual attached to the indoor unit.)	9	DISPLAY "  " (DEFROST / HOT START) Indicates that defrost or hot start (during which the fan is stopped till the temperature of air supply rises enough at the start of a heating run) is progress.
4	DISPLAY "  OPTION" (VENTILATION) This display shows that the total heat exchanger (HRV) are in operation.	10	TEMPERATURE SETTING BUTTON Use this button for SETTING TEMPERATURE of the thermostat. ▲ : Each press raises the set temperature by 1°C. ▼ : Each press lowers the set temperature by 1°C. The variable temperature range is 16°C to 32°C.
5	DISPLAY " 28.0 " (SET TEMPERATURE) This display shows the set temperature. Only given during a cooling or heating operation.	11	FAN SPEED CONTROL BUTTON Press this button to select the fan speed, HIGH or LOW, of your choice.
6	DISPLAY "  " (OPERATION MODE) This display shows current OPERATION MODE. "  " is not available with outdoor units specially designed for cooling only. "  " is reserved only for outdoor units capable of heat recovery.	12	OPERATION MODE SELECTOR BUTTON Press this button to select OPERATION MODE.
		13	DISPLAY "  " (MALFUNCTION) Indicates malfunction and blinks if the unit stops operating due to malfunction. (As for details, see "TROUBLE SHOOTING" in the operation manual attached to the indoor unit.)
		For the sake of explanation, all indications are shown in the figure above contrary to actual running situations.	

Note:

1. Following functions are not including in this controller.

- Auto swing function.
- Timer setting function.
- Display of time to clean air filter.

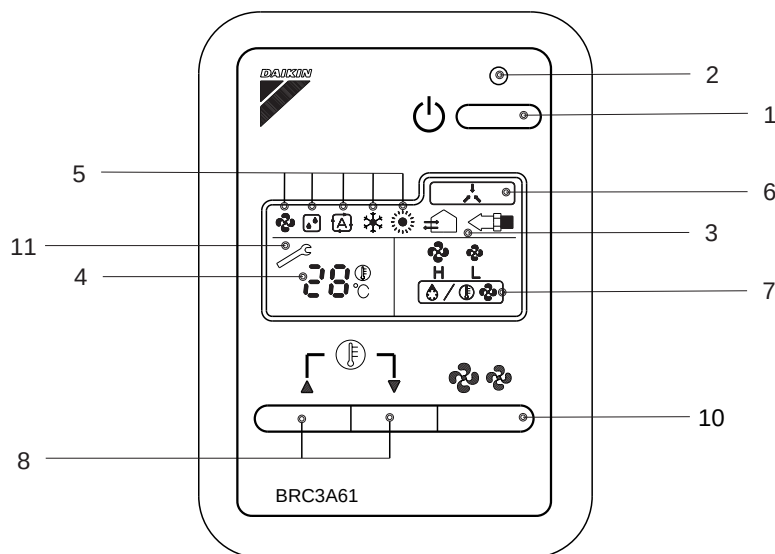
2. For setting, refer to page 86.

3. For BRC2C51

- Equipped with a thermostat sensor in the remote controller that makes possible more comfortable room temperature control.
- Complied with the RoHS directive (BRC2A51).

C : 2PA52942

3.5 Remote Controller for Hotel Use <BRC3A61>



REMOTE CONTROLLER: NAME AND FUNCTION OF EACH SWITCH AND DISPLAY			
1	ON/OFF BUTTON	7	DISPLAY " H L " (FAN SPEED)
	Press the button and the system will start. Press the button again and the system will stop.		The display shows the fan speed: "HIGH" or "LOW".
2	OPERATION LAMP (RED)	8	DISPLAY " (DEFROST/HOT START)
	The lamp lights up during operation. Blinks in case of stop due to malfunction.		Indicates that defrost or hot start (during which the fan is stopped till the temperature of air supply rises enough at the start of a heating run) is progress.
3	DISPLAY " VENTILATION / AIR CLEANING" OPTION" (VENTILATION / AIR CLEANING)	9	TEMPERATURE SETTING BUTTON
	This display shows that the total heat exchange are in operation. (This is optional accessory)		Use this button for SETTING TEMPERATURE of the thermostat. ▲ : Each press raises the set temperature by 1°C ▼ : Each press lowers the set temperature by 1°C The variable temperature range is 16°C to 32°C.
4	DISPLAY " 28°C " (SET TEMPERATURE)	10	FAN SPEED CONTROL BUTTON
	This display shows the set temperature. Only given during a cooling or heating operation.		Press this button to select the fan speed, HIGHT or LOW, of your choice.
5	DISPLAY " " " " " " " " " " (OPERATION MODE)	11	DISPLAY " (MALFUNCTION)
	This display shows current OPERATION MODE. " " is not available with outdoor units specially designed for cooling only. " " is reserved only for outdoor units capable of heat recovery.		Indicates malfunction and blinks if the unit stops operating due to malfunction. (As for details. see "TROUBLE SHOOTING" in the operation manual attached to the indoor unit or the outdoor unit.)
6	DISPLAY " (UNDER CENTRALIZED CONTROL)		
	When this display shows, the system is UNDER CENTRALIZED CONTROL (This is not a standard specification)		

(NOTE)

- For the sake of explanation, all indications are shown in the figure above contrary to actual running situations.
- This remote controller does not have "AIR FLOW DIRECTION ADJUST BUTTON".
Don't operate the flap adjusting air flow direction by your hand.
(FXF(Q), FXC(Q), FXH(Q), FXA(Q), FXK(Q))

3PA61137

3.6 Wired Remote Controller with Weekly Schedule Timer <BRC1D61>

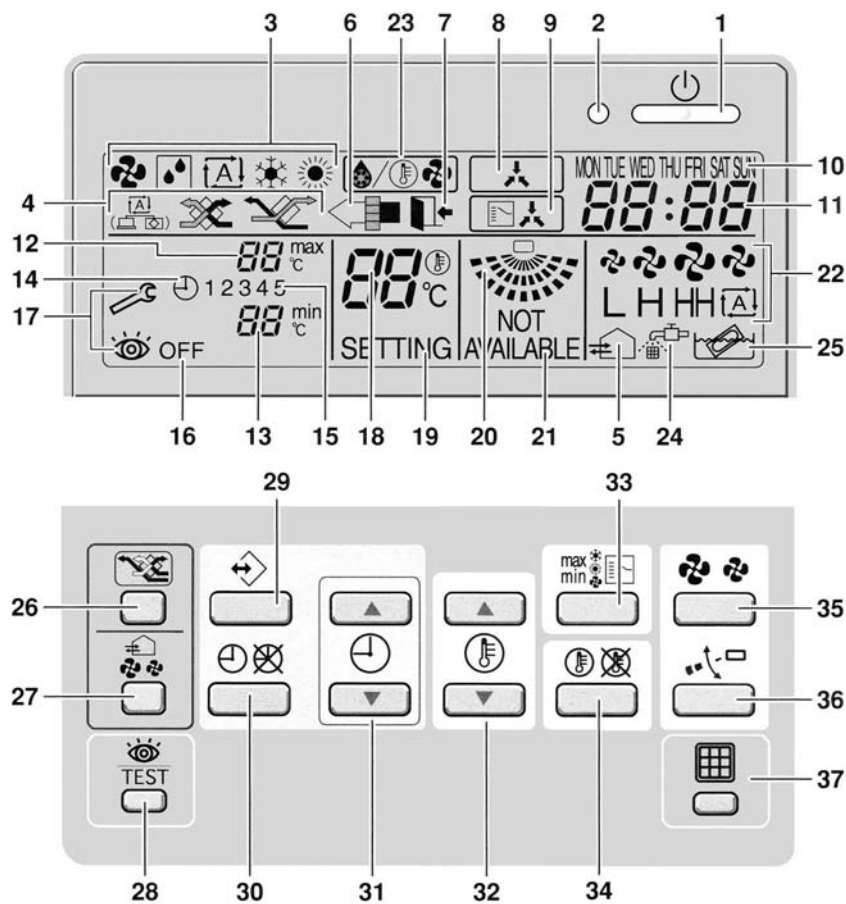


Figure 1

■ Name and Function of Switches and Icons (Refer to figure 1)

3P107422-3D

- 1 ON/OFF BUTTON Press the ON/OFF button to start or stop the system.
- 2 OPERATION LAMP The operation lamp lights up during operation or blinks if a malfunction occurs.
- 3 OPERATION MODE ICON These icons indicate the current operation mode (FAN, DRY, AUTOMATIC, COOLING, HEATING).
- 4 VENTILATION MODE ICON These icons indicate the current ventilation mode (HRV only) (AUTOMATIC, HEAT EXCHANGE, BYPASS).
- 5 VENTILATION ICON The ventilation icon appears when the ventilation is adjusted with the ventilation amount button (HRV only). Simultaneously, the ventilation amount is indicated by the fan speed icon (see 22).

- 6 AIR CLEANING ICON This icon indicates that the air cleaning unit (option) is operational.
- 7 LEAVE HOME ICON The leave home icon shows the status of the leave home function.

ON	Leave home is enabled
FLASHING	Leave home is active
OFF	Leave home is disabled

- 8 EXTERNAL CONTROL ICON This icon indicates that another controller with higher priority is controlling or disabling your installation.
- 9 CHANGE-OVER UNDER CENTRALISED CONTROL ICON This icon indicates that the change-over of the installation is under centralised control assigned to another indoor unit or optional cool/heat selector connected to the outdoor unit (= master remote controller).

3P107422-3D

10 DAY OF THE WEEK INDICATOR

MON TUE WED THU FRI SAT SUN

The day of the week indicator shows the current week day (or the set day when reading or programming the schedule timer).

11 CLOCK DISPLAY **88:88**

The clock display indicates the current time (or the action time when reading or programming the schedule timer).

12 MAXIMUM SET TEMPERATURE **88**^{max} °C

The maximum set temperature indicates the maximum set temperature when in limit operation.

13 MINIMUM SET TEMPERATURE **88**^{min} °C

The minimum set temperature indicates the minimum set temperature when in limit operation.

14 SCHEDULE TIMER ICON ⊕

This icon indicates that the schedule timer is enabled.

15 ACTION ICONS 1 2 3 4 5

These icons indicate the actions for each day of the schedule timer.

16 OFF ICON OFF

This icon indicates that the OFF action is selected when programming the schedule timer.

17 INSPECTION REQUIRED and

These icons indicate that inspection is required. Consult your installer.

18 SET TEMPERATURE DISPLAY **88**^{°C}

This indicates the current set temperature of the installation (not shown in LIMIT operation or in FAN or DRY mode).

19 SETTING SETTING

Not used, for service purposes only.

20 AIR FLOW DIRECTION ICON

This icon indicates the air flow direction (only for installations with motorised air flow flaps).

21 NOT AVAILABLE ^{NOT AVAILABLE}

^{NOT AVAILABLE} is displayed whenever a non-installed option is addressed or a function is not available.

22 FAN SPEED ICON

This icon indicates the set fan speed.

23 DEFROST/HOTSTART MODE ICON

This icon indicates that the defrost/hotstart mode is active.

24 AIR FILTER CLEANING TIME ICON

This icon indicates the air filter must be cleaned. Refer to the manual of the indoor unit.

25 ELEMENT CLEANING TIME ICON

This icon indicates the element must be cleaned (HRV only).

26 VENTILATION MODE BUTTON

The ventilation mode button operates the HRV; refer to the HRV manual for more details.

27 VENTILATION AMOUNT BUTTON

This button sets the ventilation amount; refer to the HRV manual for more details.

28 INSPECTION/TEST OPERATION BUTTON

Not used, for service purposes only.

29 PROGRAMMING BUTTON

This button is a multi-purpose button.

Depending on the previous manipulations of the user, the programming button can have various functions.

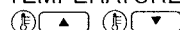
30 SCHEDULE TIMER BUTTON ⊕⊗

This button enables or disables the schedule timer.

31 TIME ADJUST BUTTON ⊕⬆ ⊕⬇

These buttons are used to adjust the clock or, when in programming mode, to adjust the programmed action time. Both buttons have an auto-repeat function.

32 TEMPERATURE ADJUST BUTTONS



These buttons are used to adjust the current setpoint or, when in programming mode, to adjust the programmed setpoint temperature (step = 1°C). Both buttons are also used to adjust the day of the week.

33 OPERATION CHANGE/MIN-MAX BUTTON



This button is a multi-purpose button. Depending on the previous manipulations of the user, it can have following functions:

- 1 select the operation mode of the installation (FAN, DRY, AUTOMATIC, COOLING, HEATING)
- 2 toggle between minimum temperature and maximum temperature when in limit operation

34 SETPOINT/LIMIT BUTTON ⊕⊗

This button toggles between setpoint, limit operation or OFF (programming mode only).

35 FAN SPEED BUTTON

This button toggles between L (Low), H (High), HH (very High),  (Automatic).

36 AIR FLOW DIRECTION ADJUST BUTTON



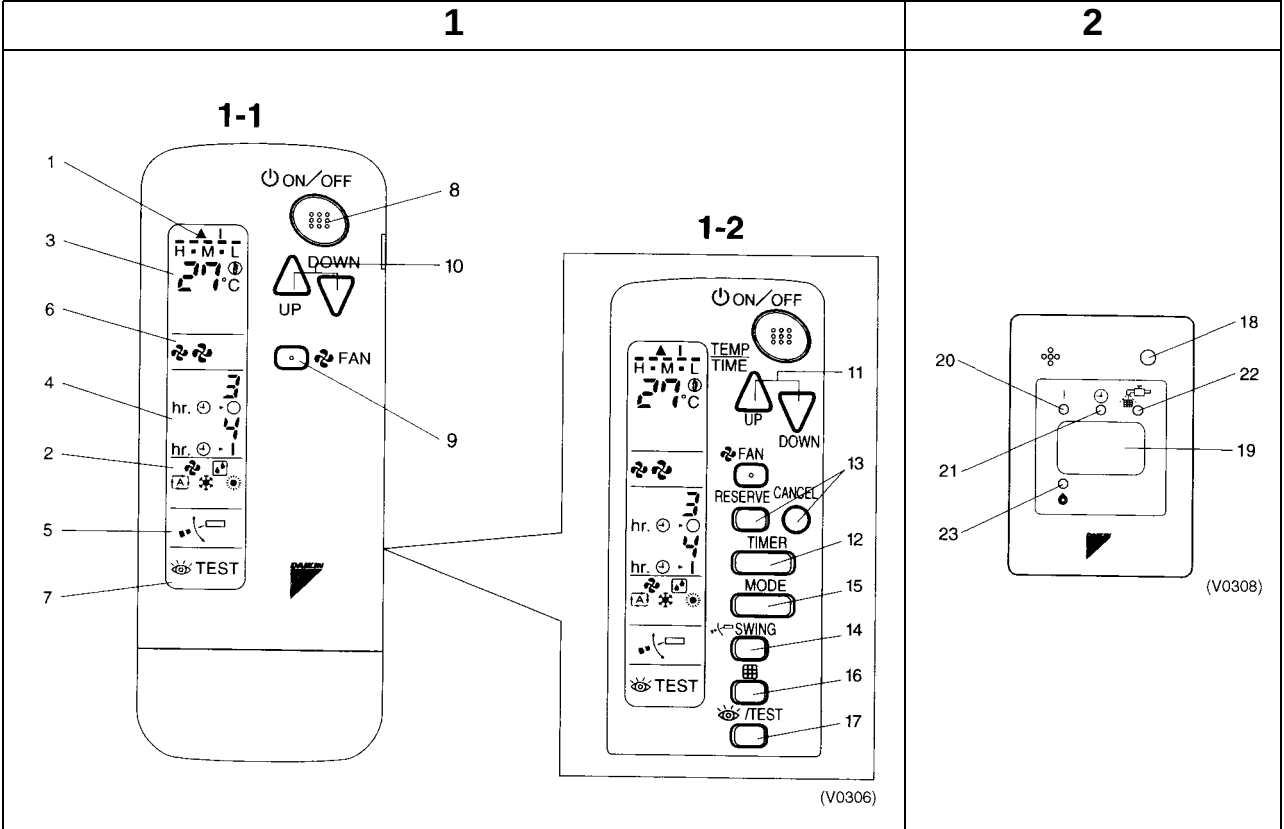
This button enables to adjust the air flow direction.

37 AIR FILTER CLEANING TIME ICON RESET BUTTON

This button is used to reset the air filter cleaning time icon.

3P107422-3D

3.7 Wireless Remote Controller <BRC4C, 7C, 7E>



C : 3PA63363-13G

Remote Controller Combination Kit Name (Main Unit + Signal Receiver)		Remote Controller Kit Name (Main Unit)
For Heat Pump	For Cooling Only	
BRC7E61W BRC7C62 BRC7E618 BRC7E63W BRC4C61 BRC7C528W BRC7E530W	—	BRC4C151
—	BRC7E65 BRC7C67 BRC7E619 BRC7E66 BRC4C63 BRC7C529W BRC7E531W	BRC4C153
BRC4C62	—	BRC4C152
—	BRC4C64	BRC4C154

■ Names and Functions of the Operating Section

1 DISPLAY "▲" (SIGNAL TRANSMISSION)

This lights up when a signal is being transmitted.

2 DISPLAY "❁" "A" "❄" "☀" (OPERATION MODE)

This display shows the current OPERATION MODE. For straight cooling type, "A" (Auto) and "☀" (Heating) are not installed.

3 DISPLAY "H.M.L" "27.0" (SET TEMPERATURE)

This display shows the set temperature.

4 DISPLAY "3 4" (PROGRAMMED TIME)

This display shows PROGRAMMED TIME of the system start or stop.

5 DISPLAY "❄" (AIR FLOW FLAP)

6 DISPLAY "❁" "❄" (FAN SPEED)

The display shows the set fan speed.

7 DISPLAY "🔍/TEST" (INSPECTION / TEST OPERATION)

When the INSPECTION / TEST OPERATION BUTTON is pressed, the display shows the system mode is in.

8 ON / OFF BUTTON

Press the button and the system will start.
Press the button again and the system will stop.

9 FAN SPEED CONTROL BUTTON

Press this button to select the fan speed, HIGH or LOW, of your choice.

10 TEMPERATURE SETTING BUTTON

Use this button for SETTING TEMPERATURE (Operates with the front cover of the remote controller closed.)

11 PROGRAMMING TIMER BUTTON

Use this button for programming "START and / or STOP" time. (Operates with the front cover of the remote controller opened.)

12 TIMER MODE START / STOP BUTTON

13 TIMER RESERVE / CANCEL BUTTON

14 AIR FLOW DIRECTION ADJUST BUTTON

15 OPERATION MODE SELECTOR BUTTON

Press this button to select OPERATION MODE.

16 FILTER SIGN RESET BUTTON

Refer to the section of MAINTENANCE in the operation manual attached to the indoor unit.

17 INSPECTION / TEST OPERATION BUTTON

This button is used only by qualified service persons for maintenance purposes.

18 EMERGENCY OPERATION SWITCH

This switch is readily used if the remote controller does not work.

19 RECEIVER

This receives the signals from the remote controller.

20 OPERATING INDICATOR LAMP (Red)

This lamp stays lit while the air conditioner runs. It flashes when the unit is in trouble.

21 TIMER INDICATOR LAMP (Green)

This lamp stays lit while the timer is set.

22 AIR FILTER CLEANING TIME INDICATOR LAMP (Red)

Lights up when it is time to clean the air filter.

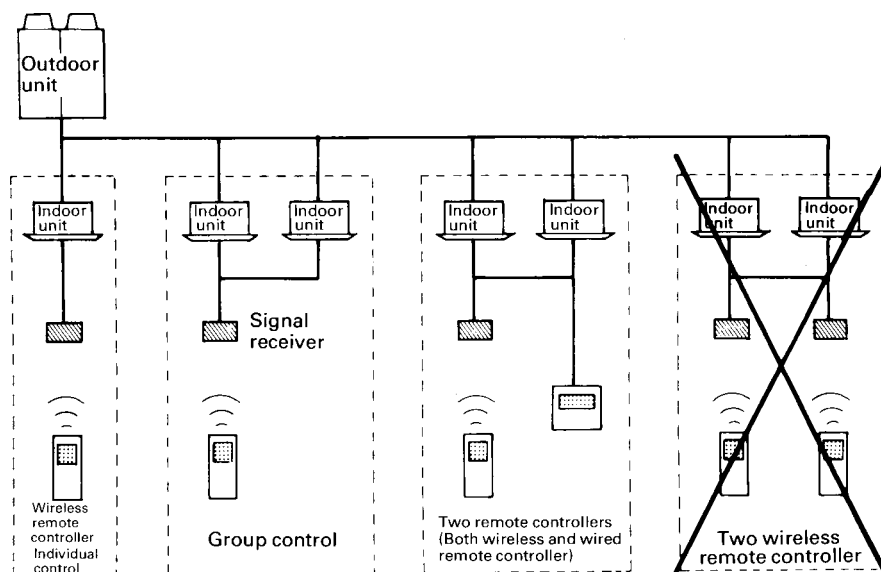
23 DEFROST LAMP (Orange)

Lights up when the defrosting operation has started.

(NOTE)

- For the sake of explanation, all indications are shown on the display in Figure 1 contrary to actual running situations.
- Fig.1-2 shows the remote controller with the front cover opened.
- If the air filter cleaning time indicator lamp lights up, clean the air filter as explained in the operation manual provided with the indoor unit. After cleaning and reinstalling the air filter, press the filter sign reset button on the remote controller. The air filter cleaning time indicator lamp on the receiver will go out.

■ Example of the System by Wireless Remote Controller



Connect the signal receiver to the control wiring of the wired remote controller.

Be sure to set the wired remote controller as main and the wireless remote controller as sub.
(If set the Main/Sub vice versa, it displays the abnormality.)

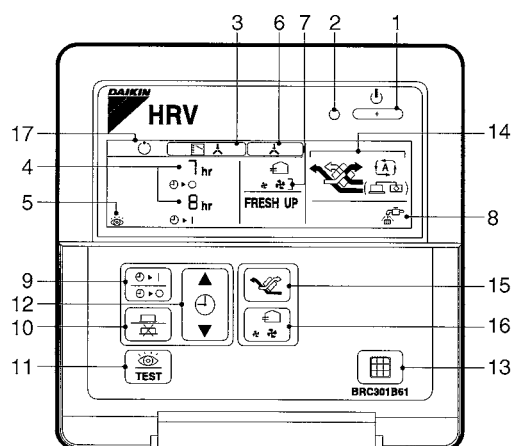
(V0305)

When you use two remote controllers, be sure to set the wired remote controller of indoor unit as Main.

It is not possible to use two wireless remote controller.

The wiring between the separate type signal receiver and the indoor unit should not exceed 200 m.

3.8 Wired Remote Controller for HRV <BRC301B61>



- Only the items marked with an asterisk (*) mark are explanation relating to the functions and display of the unit. Unmarked items are functions of the combined air conditioners. When using buttons for functions which are not available (buttons which are not described in the text) will cause "NOT AVAILABLE" to be displayed. Contact your dealer for more detailed descriptions of those functions (buttons).

***1 On/off button**

Press the button and the system will start. Press the button again and the system will stop.

***2 Operation lamp (red)**

The lamp lights up during operation.

***3 Display " " (changeover under control)**

May be displayed when combined with a VRV-system air conditioner.

While the indication is shown, the ON/OFF of HRVs can not be operated by the HRV remote controller. It is impossible to changeover heat/cool with the remote controller when this icon is displayed.

***4 Display " 3 hr " (programmed time)**

This display shows the programmed time of the system start or stop.

5 Display " TEST " (inspection/test operation)

When the inspection/test operation button is pressed, the display shows the mode in which the system actually is.

- Do not use under usual use (service person/installer only).

6 Display " " (under centralized control)

When this display shows, the system is under centralized control. (This is not a standard specification.)

During this indication appears on the display, the ON/OFF and timer operation may not be possible with the HRV remote controllers.

***7 Display " " (fan speed)**

This display shows the fan speed you have selected.

This is always displayed when you use the remote controller BRC301B61.

But, this is only displayed when the fan speed selection button is pressed. It normally displays the set fan strength of the combined air conditioner. (only to use BRC1C61, BRC1A61, A62)

***8 Display " " (time to clean air filter)**

***9 Timer mode start/stop button**

***10 Timer on/off button**

***11 Inspection/test operation button**

Pressed during inspection or "test run."

- Do not use under usual use. (service person/installer only)

***12 Programming time button**

Use this button for programming start and/or stop time.

***13 Filter sign reset button**

***14 Display " " " " "**

This displays the ventilation mode.

(BRC301B61, BRC1C61 and so on.)

(This is not displayed on the controller BRC1A61, 1A62)

***15 Ventilation fan mode selector button (available only connecting the HRV unit)**

This is pressed to switch the fan mode of the HRV unit.

***16 Ventilation fan speed control button (available only connecting the HRV unit)**

This is pressed to control the fan speed of the HRV unit. (Refer to item 11)

***17 Display " " (operation standby)**

It indicates the pre-cooling/pre-heating operation. This unit is at stop and will start operation after the pre-cooling/pre-heating operation is over.

Pre-cooling/pre-heating operation means the operation of HRVs is delayed during the startup operation of linked air conditioners such as before the office hours.

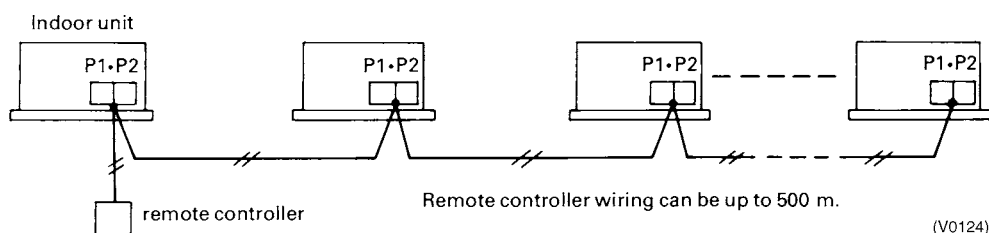
During this period the cooling or heating load is reduced to bring the room temperature to the set temperature in a short time.

4. Various Control by Remote Controller Control

4.1 Group Control

Simultaneous control of up to 16 units with a single remote controller

This is a convenient system for when you want to simultaneously control several indoor units with the same settings for air conditioning a wide, single floor.



- Wiring for remote controller group control has no polarity, P₁ and P₂ can be switched.
- All indoor units within the group have the same setting, and each indoor unit is controlled individually by its own built-in thermostat.
- Because automatic address is used, address does not have to be set by remote controller for group control.

Note:

- Only remote controller wiring is shown.
- For Connection unit series
Although group control in Connection unit series is possible, however, group control with other series is impossible.

4.2 Forced OFF or ON/OFF Control

Enables forced OFF or ON/OFF control of indoor unit by input from outside.

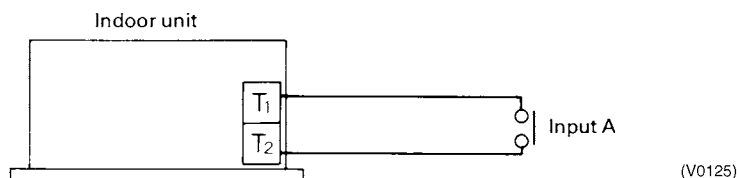
Indoor units can be started or stopped by building control or key control system.

Notes

- FXUQ-M(A) : Not available

1. Wiring method and specifications

- Remote control can be carried out by connecting input from outside to terminals T₁ and T₂ of the terminal block (for remote controller transmission wiring).



2. Contents of operation

- Operation is as given in the table on the right for input A of forced OFF and ON/OFF control.

3. How to select forced OFF and ON/OFF control

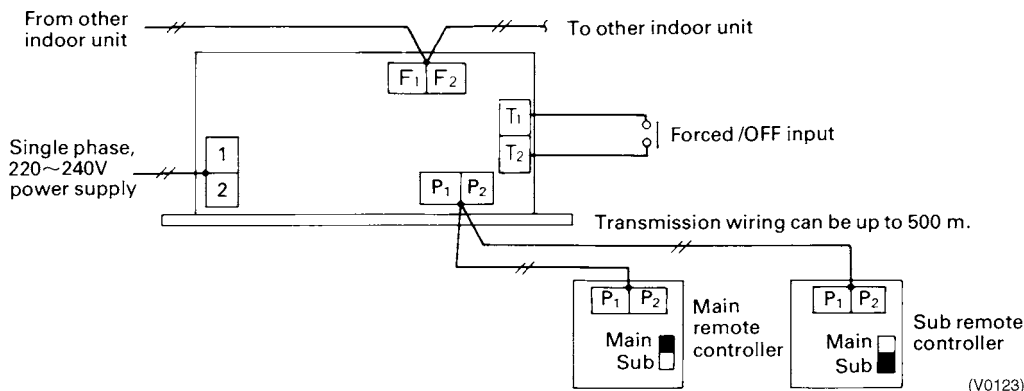
- Select input by remote controller after turning on the power supply.
- Set to the field set mode by remote controller.
- After entering the field set mode, select mode No. 12, set the first code No. to "1," and set the second code No. to "01" for forced OFF, or to "02" for ON/OFF control.
(Factory setting is set to forced OFF.)

Wiring specifications	Sheathed vinyl cord or cable (2 wire)
Wiring thickness	0.75~1.25 mm ²
Wiring length	Max. 100 m
Outside contact specifications	Contact that guarantees minimum applicable capacity of 15 VDC, 10mA
For forced OFF	For ON/OFF control
Forced OFF (remote controller rejection) by input A "ON"	Operate by switching input A from "OFF" to "ON"
Remote controller acceptance by input A "OFF"	Operate by switching input A from "ON" to "OFF"

4.3 2 Remote Controllers

1 indoor unit is controlled by 2 remote controllers from 2 separate locations

This is a convenient system for when you want to operate an indoor unit in the reception room from the office, for example, or finely operate an indoor unit from a local or remote location. (The same applies to other types of indoor units.)



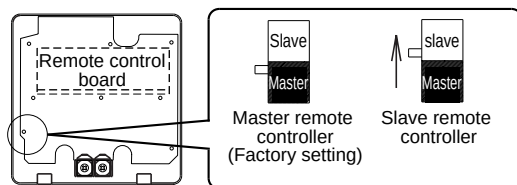
- Operation control mode of the indoor unit is last command priority.
- Remove the front panel of the remote controller and set the main/sub changeover switch on the PC board to “main” for the main remote controller, and to “sub” for the sub remote controller.

Note:

The remote controller is equipped with a thermostat sensor. If the main and sub remote controllers are mounted in separate rooms, set the main remote controller so that the thermostat sensor in the remote controller is not used.

When controlling 1 indoor unit with 2 remote controllers.

The setting of the master/slave selector switch should be changed as shown below. One is set to the master, and the other is set to a slave.



Note

- When controlling with 1 remote controller, be sure to set it to the master.
- Setting should be made before turning the power supply on.

When turning the power supply on, sometimes [88] is displayed and operation cannot be performed for about 1 minute.

4.4 Remote Controller Thermostat

Applicable

The remote control thermostat is only available in wired remote controllers, BRC1C62, BRC2C51, BRC1D61.

Method

The use of the remote control sensor can be enabled by changing field setting 10(20)-2-02 to 10(20)-2-01.

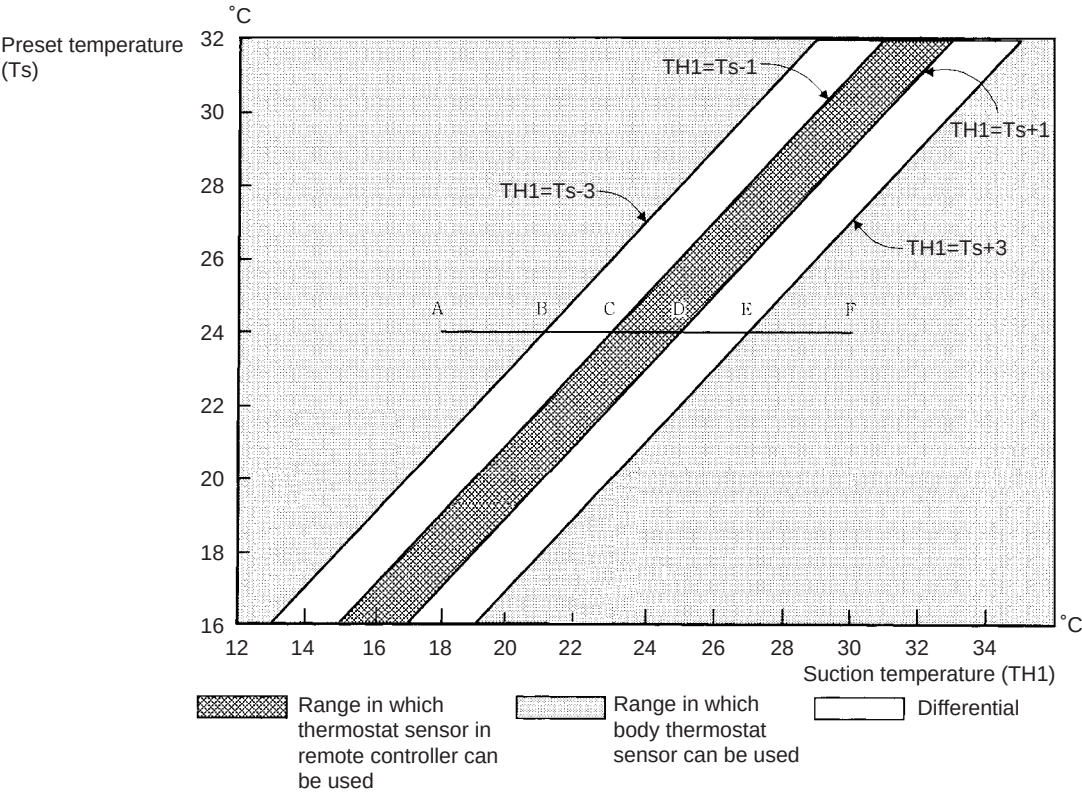
Conditions

The table below contains the condition in which the remote control thermostat is not used:

Condition	The remote controller thermostat is not used when...
1	The remote controller thermostat malfunctions.
2	Group control is used.
3	The set temperature / air suction temperature combination is out of range. (See below graph)

Cooling

The diagram below shows the operation range of the set temperature / air suction temperature combination in cooling operation:



Example

Assuming the preset temperature above is 24°C, and the suction temperature has changed from 18°C to 30°C (A --> F):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 23°C (A --> C).

Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C --> E).

Body thermostat sensor is used for temperatures from 27°C to 30°C (E --> F).

And assuming suction temperature has changed from 30°C to 18°C (F --> A):

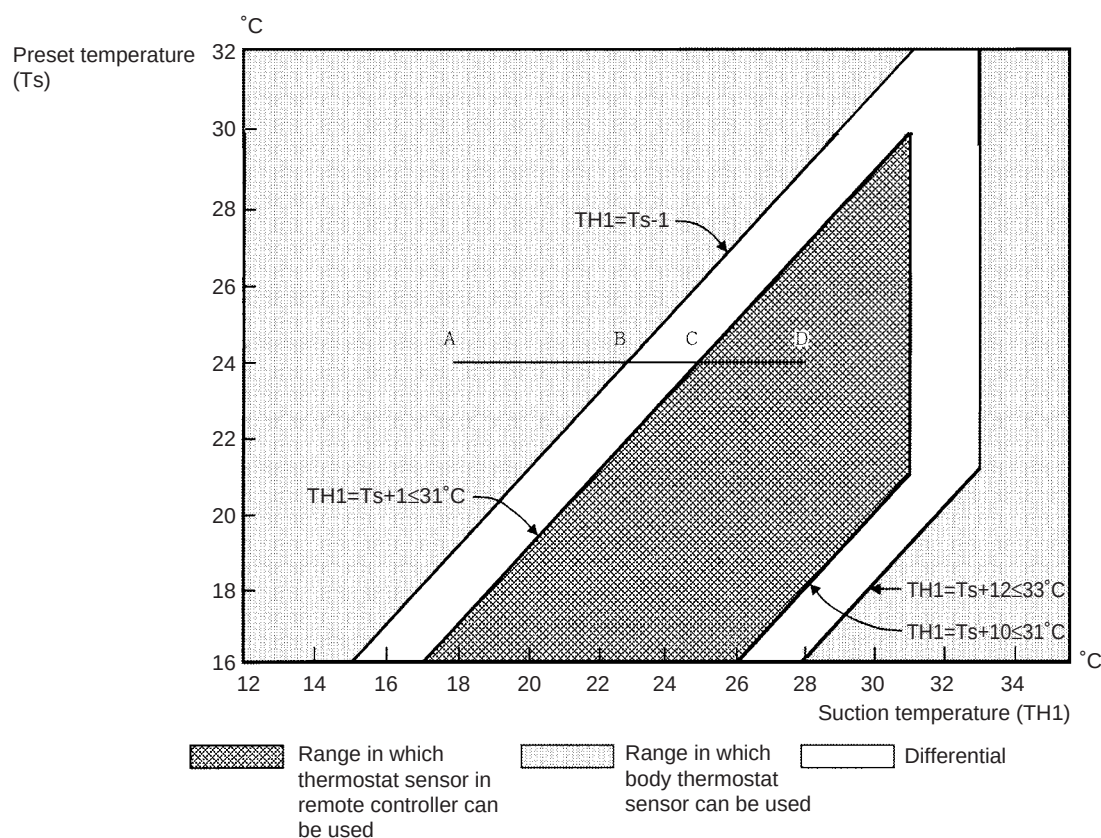
Body thermostat sensor is used for temperatures from 30°C to 25°C (F --> D).

Remote controller thermostat sensor is used for temperatures from 25°C to 21°C (D --> B).

Body thermostat sensor is used for temperatures from 21°C to 18°C (B --> A).

Heating

The diagram below shows the operation range of the set temperature / air suction temperature combination in heating operation:



Example

Assuming the preset temperature above is 24°C, and the suction temperature has changed from 18°C to 28°C (A --> D):

(This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 25°C (A --> C).

Remote controller thermostat sensor is used for temperatures from 25°C to 28°C (C --> D).

And assuming suction temperature has changed from 28°C to 18°C (D --> A):

Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D --> B).

Body thermostat sensor is used for temperatures from 23°C to 18°C (B --> A).

When heating, the hot air rises to the top of the room, resulting in the temperature being lower near the floor where the occupants are. When controlling by body thermostat sensor only, the unit may therefore be turned off by the thermostat before the lower part of the room reaches the preset temperature. The temperature can be controlled so the lower part of the room where the occupants are doesn't become cold by widening the range in which thermostat sensor in remote controller can be used so that suction temperature is higher than the preset temperature.

4.5 <KRCS01-1A> Remote Sensor

The built-in temperature control thermistor of the indoor unit is mounted in the intake port of the main body. Some difference can occur between the temperature setting of the built-in thermistor and the actual indoor temperature. In such case, remove the thermistor from the indoor unit and remount it near the living area so that the remote sensor can sense the temperature of the living area.

Models for remote sensor application

This kit can be used for all indoor units in the Skyair series and the VRV series.

Examples:

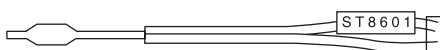
Skyair: FHYC

VRV: FXYC

If you are unsure if this kit can be used with your particular indoor unit, check the type of thermistor (inlet air temperature sensor).

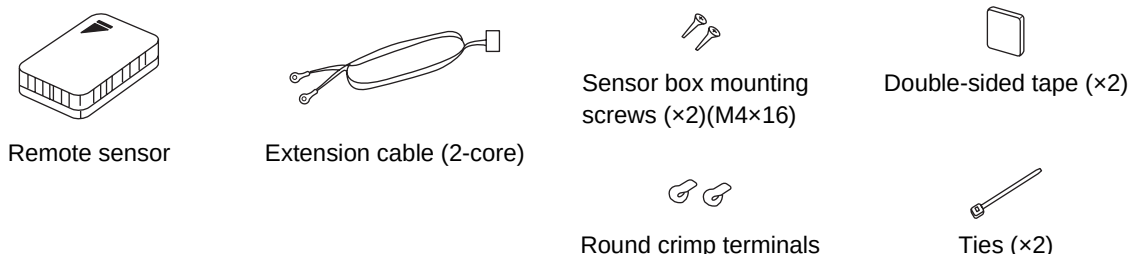
The type of thermistor is ST8601.

It is shaped as shown below.



<1> Kit components

This kit includes the following components.



<2> Mounting

i) Selecting the mounting position

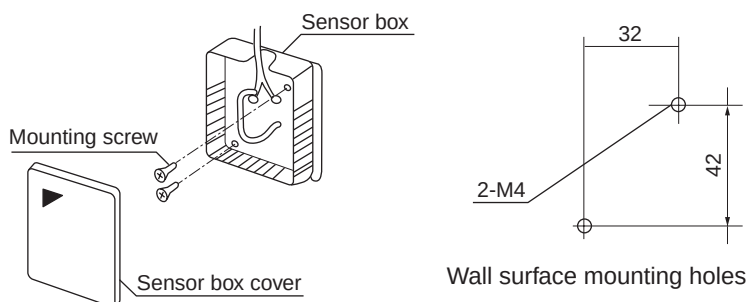
The remote sensor incorporates a thermistor to sense the temperature.

Select mounting position carefully on the basis of the following considerations.

- ① A location with an average temperature for the room being air conditioned
- ② Out of direct sunlight
- ③ Away from the influence of other heat sources
- ④ Not directly exposed to the outlet air from the air conditioner
- ⑤ Not directly exposed to the air entering the room when a door is opened.

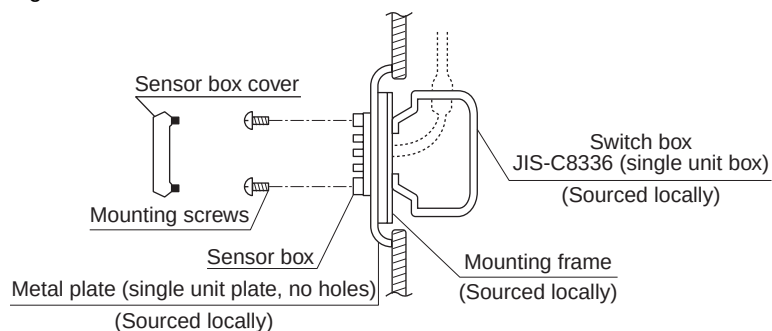
ii) Mounting

① Surface mounting

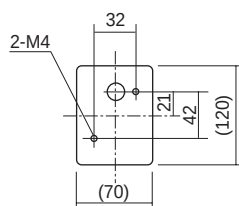


- Break out the wiring hole tabs in the sensor box using nippers or a similar tool.
- Screw the sensor box securely to the wall surface. (2 points)
- Wire to the electronic control unit in the indoor unit by first removing the existing thermistor (inlet air temperature sensor) and connecting the extension cable in its place.
(The existing thermistor is no longer required.)

② Embedded wiring



- Make sensor box mounting holes in a metal plate (sourced locally) as shown on the right. Screw the sensor box firmly into position.

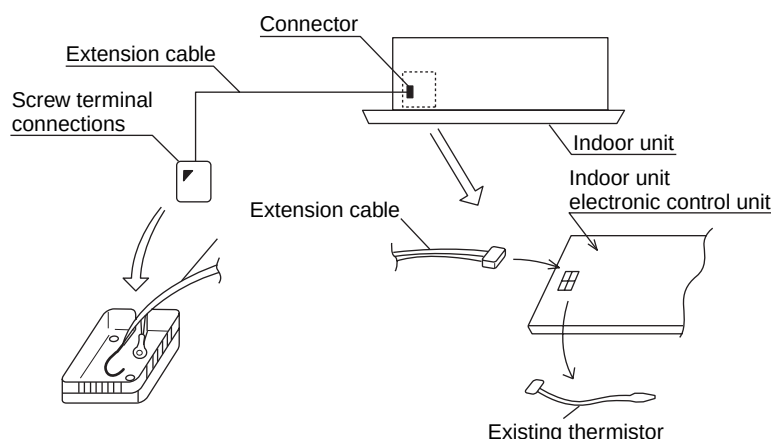


Metal plate holes machined locally

Warning: Make sure not to cover the air holes in the sensor box.

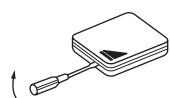
<3> Wiring guide

Use the extension cable provided to wire from the remote sensor to the electronic control unit in the indoor unit.



- Wire to the electronic control unit in the indoor unit by first removing the existing thermistor (inlet air temperature sensor) and connecting the extension cable in its place. (The existing thermistor is no longer required.)
- The position of the thermistor used for sensing the inlet air temperature is different according to the type of indoor unit. Check the wiring diagram for the indoor unit to make sure that you do not accidentally remove the wrong wiring.
- In the indoor unit switchbox, use the same wiring clamps for the extension cable as were used for the existing thermistor.
- If the extension cable is far too long, cut it to the appropriate length, strip the coating and fit the round crimp terminals provided. (Do not cut the cable at the connector end.)
- Push the sensor box cover onto the sensor box.

<Cautions for wiring>

Removing the sensor box cover

Remove the cover from the sensor box using a flat screwdriver inserted in the slot in the sensor box and the cutout in the upper case. (Under normal circumstances, do not remove the cover from the sensor box.)

1. Install the extension cable so that it will not be affected by nearby power cables or similar sources of noise. (Noise may cause malfunctioning.)
2. Make sure that wiring connections are correct and secure. Poor contact at the connections may mean that the room temperature is sensed incorrectly and cause problems.

<4> Operation test after mounting the sensor

Conduct operation tests of cooling and heating after mounting the sensor and completing the wiring.

3P011730B

5. Field Setting by Remote Controller

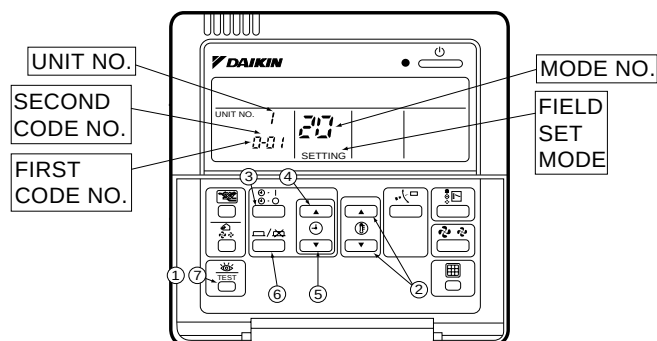
If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed. Refer to the instruction manual for each optional accessory.

5.1 Wired Remote Controller <BRC1C62>

Procedure

- ① When in the normal mode, press the "TEST" button for a minimum of four seconds, and the FIELD SET MODE is entered.
- ② Select the desired MODE NO. with the "MODE" button.
- ③ During group control, when setting by each indoor unit (mode No. 20, 21 and 23 have been selected), push the "GROUP" button and select the INDOOR UNIT NO to be set. (This operation is unnecessary when setting by group.)
- ④ Push the "UP" upper button and select FIRST CODE NO.
- ⑤ Push the "DOWN" lower button and select the SECOND CODE NO.
- ⑥ Push the "SET" button once and the present settings are SET.
- ⑦ Push the "TEST" button for about one second to return to the NORMAL MODE.

(Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10," FIRST CODE NO. to "0," and SECOND CODE NO to "02."



Mode No. Note 2	Setting Switch No.	Setting Contents		Second Code No.(Note 3)							
				01		02		03		04	
10(20)	0	Filter contamination heavy/light (Setting for display time to clean air filter) (Sets display time to clean air filter to half when there is heavy filter contamination.)	Super long life filter	Light	Approx. 10,000 hrs.	Heavy	Approx. 5,000 hrs.	—		—	
			Long life filter		Approx. 2,500 hrs.		Approx. 1,250 hrs.				
			Standard filter		Approx. 200 hrs.		Approx. 100 hrs.				
	1	Long life filter type		Long life filter		Super long life filter		—		—	
12(22)	2	Thermostat sensor in remote controller		Use		No use		—		—	
	3	Display time to clean air filter calculation (Set when filter sign is not to be displayed.)		Display		No display		—		—	
	0	Optional accessories output selection (field selection of output for adaptor for wiring)		Indoor unit turned ON by thermostat		—		Operation output		Malfunction output	
	1	ON/OFF input from outside (Set when ON/OFF is to be controlled from outside.)		Forced OFF		ON/OFF control		External protection device input		—	
	2	Thermostat differential changeover (Set when remote sensor is to be used.)		1°C		0.5°C		—		—	
	3	OFF by thermostat fan speed		LL		Set fan speed		—		—	
13(23)	4	Automatic mode differential (automatic temperature differential setting for VRV system heat recovery series cool/heat)		01:0	02:1	03:2	04:3	05:4	06:5	07:6	08:7
	5	Power failure automatic reset		Not equipped		Equipped		—		—	
	0	High air outlet velocity (Set when installed in place with ceiling higher than 2.7 m.)		N		H		S		—	
	1	Selection of air flow direction (Set when a blocking pad kit has been installed.)		F (4 directions)		T (3 directions)		W (2 directions)		—	
	3	Air flow direction adjustment (Set at installation of decoration panel.)		Equipped		Not equipped		—		—	
15(25)	4	Field set air flow position setting		Draft prevention		Standard		Ceiling Soiling prevention		—	
	5	Field set fan speed selection (fan speed control by air discharge outlet for phase control)		Standard		Optional accessory 1		Optional accessory 2		—	
	1	Thermostat OFF excess humidity		Not equipped		Equipped		—		—	
	2	Direct duct connection (when the indoor unit and heat reclaim ventilation unit are connected by duct directly.) *Note 6		Not equipped		Equipped		—		—	
	3	Drain pump humidifier interlock selection		Not equipped		Equipped		—		—	
	5	Field set selection for individual ventilation setting by remote controller		Not equipped		Equipped		—		—	
	6	Field set selection for individual ventilation setting by remote controller		Not equipped		Equipped		—		—	

Note:

- Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
- The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
- Marked are factory set.
- Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
- "88" may be displayed to indicate the remote controller is resetting when returning to the normal mode.
- If the setting mode to "Equipped", heat reclaim ventilation fan conducts the fan residual operation by linking to indoor unit.

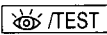
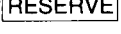
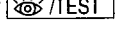
Applicable range of Field setting

	Mode	Flst	FXFQ	FXZQ	FXCQ	FXKQ	FXDQ	FXSQ	FXMQ	FXHQ	FXAQ	FXLQ	FXNQ	FXUQ	FXMQ-MF	FXYB	FXYD
Filter sign	10	0	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Ultra long life filter sign	10	1	○	○	○	—	—	—	—	—	—	—	—	—	—	—	—
Remote controller thermostat sensor	10	2	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○
Set fan speed when thermostat OFF	12	3	○	○	○	○	○	○	○	○	○	○	○	○	—	○	○
Air flow adjustment Ceiling height	13	0	○	—	—	—	—	—	—	○	—	—	—	○	—	—	—
Air flow direction	13	1	○	○	—	—	—	—	—	—	—	—	—	○	—	—	—
Air flow direction adjustment (Down flow operation)	13	3	—	—	—	○	—	—	—	—	—	—	—	—	—	—	—
Air flow direction adjustment range	13	4	○	○	○	○	—	—	—	—	—	—	—	—	—	—	—
Field set fan speed selection	13	5	○	—	—	—	○*1	—	—	○	—	—	—	—	—	—	—
Discharge air temp. (Cooling)	14	3	—	—	—	—	—	—	—	—	—	—	—	—	○	—	—
Discharge air temp. (Heating)	14	4	—	—	—	—	—	—	—	—	—	—	—	—	○	—	—

*1 Static pressure selection

5.2 Wireless Remote Controller <BRC4C, 7C, 7E>

Procedure

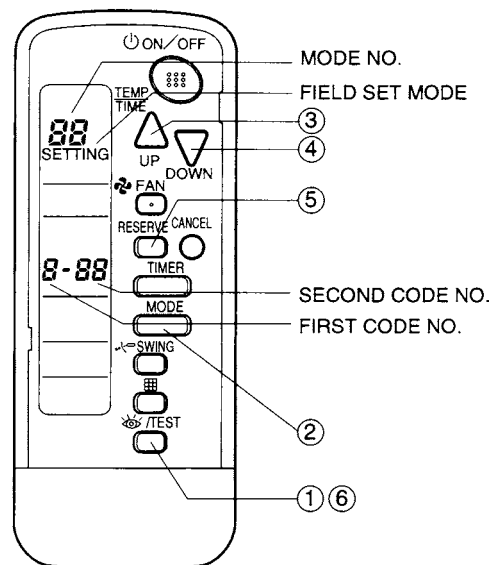
- ① When in the normal mode, push the “ /TEST” button for a minimum of four seconds, and the FIELD SET MODE is entered.
- ② Select the desired MODE NO. with the “” button.
- ③ Push the “” button and select the FIRST CODE NO.
- ④ Push the “” button and select the SECOND CODE NO.
- ⑤ Push the “” button and the present settings are SET.
- ⑥ Push the “ /TEST” button to return to the NORMAL MODE.

(Example) If the time to clean air filter is set to “Filter Contamination-Heavy”, set Mode No. to “10”, FIRST CODE NO. to “0”, and SECOND CODE NO. to “02”

MODE NO.	FIRST CODE NO.	DESCRIPTION OF SETTING		SECOND CODE NO. NOTES) 1.				
				01		02		03
10	0	Filter Contamination-Heavy/Light (Setting for spacing time of display time to clean air filter) (Setting for when filter contamination is heavy, and spacing time of display time to clean air filter is to be halved)	Long Life Filter	Light	Approx. 2,500 hrs.	Heavy	Approx. 1,250 hrs	—
	3	Spacing time of display time to clean air filter count (Setting for when the filter sign is not to be displayed)		Display		Do not display		—
12	1	ON/OFF input from Outside (Setting for when forced ON/OFF is to be operated from outside.)		Forced Off		ON/OFF Operation		—
	2	Thermostat Differential Changeover (Setting for when using the remote sensor)		1℃		0.5℃		—
13	4	Air Flow Direction Range Setting		Normal		Normal		Lower

NOTES)

1. The SECOND CODE NO. is factory set to “01”. However, for the following cases it is set to “02”.
 - Air Flow Direction Range Setting
2. Do not use any settings not listed in the table.
3. For group control with a wireless remote controller, initial settings for all the indoor units of the group are equal. (For group control, refer to the installation manual attached to the indoor unit for group control.)

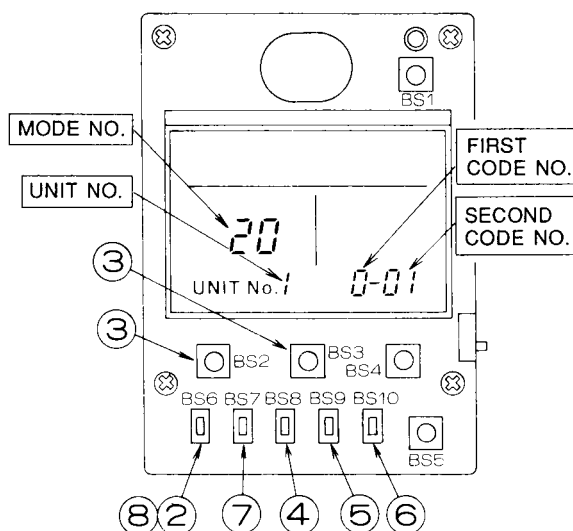


5.3 Simplified Remote Controller <BRC2C51 (BRC2A51)>

Procedure

- ① Remove the upper part of remote controller.
- ② When in the normal mode, press the **[BS6]** BUTTON (field set), and the FIELD SET MODE is entered.
- ③ Select the desired MODE No. with the **[BS2]** BUTTON (temperature setting ▲) and the **[BS3]** BUTTON (temperature setting ▼).
- ④ During group control, when setting by each indoor unit (mode No. 20, 22 and 23 have been selected), push the **[BS8]** BUTTON (unit no.) and select the INDOOR UNIT NO. to be set. (This operation is unnecessary when setting by group.)
- ⑤ Push the **[BS9]** BUTTON (set A) and select FIRST CODE NO.
- ⑥ Push the **[BS10]** BUTTON (set B) and select SECOND CODE NO.
- ⑦ Push the **[BS7]** BUTTON (set/cancel) once and the present settings are SET.
- ⑧ Push the **[BS6]** BUTTON (field set) to return to the NORMAL MODE.

(Example) If during group setting and the time to clean air filter is set to FILTER CONTAMINATION - HEAVY, SET MODE NO. to "10," FIRST CODE NO. to "0," and SECOND CODE NO. to "02."

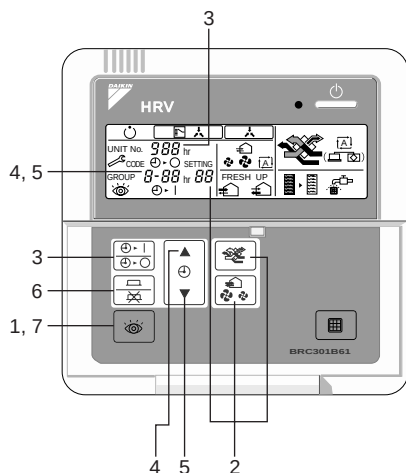


Mode No. Note) 1	FIRST CODE No.	Description of Setting		SECOND CODE No. Note) 2				
				01		02		03
10(20) Note) 6	0	Filter Contamination - Heavy/Light (Setting for spacing time of display time to clean air filter) (Setting for when filter contamination is heavy, and spacing time of display time to clean air filter is to be halved)	Long Life Filter	Light	Approx. 2,500 Hrs.	Heavy	Approx. 1,250 Hrs.	—
		Standard Filter	Approx. 200 Hrs.		Approx 100 Hrs.			
	3	Spacing Time of Display Time to Clean Air Filter Count (Setting for when the filter sign is not to be displayed)			Display		Do Not Display	
12(22)	1	ON/OFF Input from Outside. (Setting for when forced ON/OFF is to be operated from outside.)		Forced OFF		ON/OFF Operation		—
	2	Thermostat Differential Changeover (Setting for when using the remote sensor) FXC(Q), FXF(Q), FXK(Q) or FXH(Q) only		1°C		0.5°C		
13(23)	0	High Air Outlet Velocity (Setting for when installed in a high ceiling) FXF(Q) only		2.7m or less		More than 2.7 m; 3.0 m or less		More than 3.0 m; 3.5 m or less
	1	Selection of Air Flow Direction (Setting for when a blocking pad kit has been installed) FXF(Q) only		4-way flow		3-way flow		2-way flow
15(25)	1	Humidifying with thermostat OFF		Not equipped		Equipped		—
	3	Drain pump operation with humidifying		Not equipped		Equipped		

Note:

- Setting is carried out in the group mode, however, if the mode number inside the parentheses is selected, indoor units can also be set individually.
- The SECOND CODE number is set to "01" when shipped from the factory.
- Do not make any settings not given in the table on the left.
- Not displayed if the indoor unit is not equipped with that function.
- When returning to the normal mode, "88" may be displayed in the LCD in order for the remote controller to initialize itself.
- This mode is used to set the time until the display time to clean air filter lights up when using central remote controller.

5.4 HRV <BRC301B61>



The following describes the operating procedure and settings.

- 1 Press the INSPECTION button for more than four seconds to enter the local setting mode when the unit is in the normal mode.
- 2 Use the VENTILATION MODE, AIR FLOW RATE button to select the desired "mode number". (The code display will blink.)
- 3 To make setting for individual unit under group control (when mode no. 27, 28 or 29 is selected), press TIMER SETTING ON / OFF button to select the "unit No." for which the settings are to be made. (This process is not necessary when settings are made collectively for the group.)
- 4 Press the top section of the TIMER button to select the "setting switch No.".
- 5 Press the lower section of the TIMER button to select the "setting position No.".
- 6 Press the PROGRAM / CANCEL button once to enter the settings. (The code display will stop blinking and light up.)
- 7 Press the INSPECTION button to return to normal mode.

Note:

When you make the plural setting to one (or one group) indoor unit, the item 2 to 6 of the above setting procedure should be repeated and it should be returned to the "normal mode" by the procedure of item 7 at last.

■ Setting of remote controller for HRV unit

List of Settings

Mode No.		Setting switch No.	Description of Setting	Setting position No. (NOTE 1)					
Group settings	Individual settings			01	02	03	04	05	06
17	27	0	Filter cleaning time setting	Approx. 2500 hours	Approx. 1250 hours	No counting	—	—	—
		1	Nighttime free cooling operation start time (after other air conditioners operating together with the unit have been stopped)	Off	2 hours	4 hours	6 hours	8 hours	—
		2	Pre-cool/pre-heat on/off setting	Off	On	—	—	—	—
		3	Pre-cool/pre-heat time setting	30 min	45 min	60 min	—	—	—
		4	Fan speed initial setting	Normal	Ultra high	—	—	—	—
		5	Yes/No setting for direct duct connection with VRV system	No duct (Air flow setting)	With duct (fan off)	—	—	—	—
			Setting for cold areas (Fan operation selection for heater thermo OFF)	—	—	No duct		With duct	
						Fan off	Fan L	Fan off	Fan L
		6	Nighttime free cooling operation air flow setting	High	Ultra high	—	—	—	—
		7	Centralized/individual setting	Centralized	Individual	—	—	—	—
8	Centralized zone interlock setting	No	Yes	—	—	—	—		
9	Pre-heat time extension setting	0 min	30 min	60 min	90 min	—	—		
18	28	0	External signal JC/J2	Last command	Priority on external input	Priority on operation	—	—	—
		1	Setting for direct Power ON	Off	On	—	—	—	—
		2	Auto restart setting	Off	On	—	—	—	—
		3	External damper operation	—	—	On	—	—	—
		4	Indication of ventilation mode/Not indication	Indication	No Indication	—	—	—	—
		7	Fresh up air supply/exhaust setting	No Indication	No Indication	Indication	Indication	—	—
				Supply	Exhaust	Supply	Exhaust	—	—
		8	External input terminal function selection (between J1 and JC)	Fresh-up	Overall alarm	Overall malfunction	Forced off	Fan forced off	Air flow increase
9	KRP50-2 output switching selection (between 1 and 3)	Humidifying on/off	Abnormal	—	—	—	—		
19	29	0	Ventilation air flow setting	Low	Low	Low	High	High	
		2	Ventilation mode setting	Automatic	Exchange	By pass	—	—	—
		3	"Fresh Up" on/off setting	Off	On	—	—	—	—
		8	Electric heater setting	No delay	Exchange	On, off delay	On, off delay	—	—

Note:

1. ☐ indicates the setting position at the factory.
2. The settings are applied to the entire group, but if the mode no. inside the parentheses is selected, the settings can be applied to individual indoor units.
However, it is only possible to check any changes made to the settings inside the parentheses in individual mode.
(For group batch operation, the changes are made but the display remains as it was when shipped from the factory.)
3. Do not set anything not shown above. If the applicable functions are not available, they will not be displayed.
4. When returning to normal mode, the remote controller is initialized, so the display might show "88."
5. Group number setting for centralized controller
(1) Mode No. 00 : Group controller
(2) Mode No. 30 : Individual controller
* Regarding the setting procedure, refer to the section "Group number setting for centralized control" in the operating manual of either the on/off controller or the central controller.
6. Details of external input setting
"Last command" Only when HRV units are in independent operation. External input is not available with interlocked operation of HRV units and air conditioners.
"Priority on external input" Remote controllers are available while the external input terminal is closed. Remote controllers are not available while the external input terminal is open. External input is not available with interlocked operation of HRV units and air conditioners.
"Priority on operation" Either air conditioner remote controllers with interlocked operation of HRV units and air conditioners, or external input is in operation, when HRV units are in operation.
Setting is available with interlocked operation of HRV units and air conditioners.
7. Details of external input terminal function are as follows:

Setting position	Input contact	Fan operation	Operation lamp	
01	a	ON	Turn ON	Fresh up operation
02	a	ON	Turn ON	Malfunction code indicates "60"
03	a	OFF	Blinking	Malfunction code indicates "60"
04	b	OFF	Turn OFF	Automatic reset OFF
05	b	OFF	Turn ON	Automatic reset ON
06	a	ON	Turn ON	Air flow rate increases (Low→High, High→Ultra high)

* Setting position "04" does not function with interlocked operation of HRVs and air conditioners.

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Part 4

intelligent Touch Controller

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1. Part Names and Functions

1.1 Front and Side View



PCMCIA Card Slot

Used when using the optional Power Proportional Distribution (DCS002C51) or updating the intelligent Touch Controller software to a newer version.

NOTE

- Be sure to use the touch pen for operation of the touch panel of the intelligent Touch Controller. Operating with an object other than the touch pen provided may cause damage and failure.



Color LCD with Touch Panel

Provides a display for monitoring and operation.
Be sure to use the touch pen provided for operation.

Touch Pen

Use the touch pen for operation.
Be sure to use the touch pen for operation.
Use caution not to lose the touch pen.
(When the pen is lost, contact the dealer you purchased the product from.)

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1.2 Part Names on the Monitoring Screen and the Functions

Icon

Contents of the List Currently Displayed

- When Group List is displayed "Zone: Zone Name"
- When Zone List is displayed "Zone List Display"

Filter/Element Sign

Displayed when there is any air conditioner showing a filter or element sign in the zone or the group.

Zone/Group Name

Set the names in the Group Registration or Zone Registration in the System Setup Mode.

Target of Automatic Control

Displayed when there is any air conditioner with the registration of scheduled in the zone or in the group.

Description of Zone/Group

Set the names in the Group Registration or Zone Registration in the System Setup Mode.

Monitoring Screen Legend

Pressing the "?" button shows more detailed legend.

Information on Zone/Group Currently Displayed

Generally, the temperature setting and the operation mode are displayed. If any error occurs in the air conditioner, the error code is displayed.

Zone/Group Currently Displayed

The name of the zone/group currently selected is highlighted in blue flame.

Display Mode Selection

Select between Zone and Group.

System Condition Displayed Domain

Domain displaying system condition (Compulsory Stop etc.)

Displayed Abnormality in Air Conditioner or Communication

Blue triangular mark shows communication abnormality in air conditioner.
Yellow triangular mark shows abnormality in air conditioner.

Button to Switch to the System Setup Mode

Use this button for settings including the time, group, zone and schedule.

The screenshot shows a monitoring interface with a grid of zones (1F North, 1F West, 1F South, 1F East, 2F North, 2F West, 2F South, 2F East, 3F North, 3F West, 3F South, 3F East). The '1F North' zone is highlighted in blue. A 'Start All' button is at the top right, and a 'Stop All' button is below it. A 'Start' button is below 'Stop All', followed by 'Stop', 'Set', 'Prop', and a date/time display 'Oct28(Thu) 10:19'. A 'S' button is at the bottom right. A 'Normal' indicator is at the top left. A 'Zone: All' label is above the grid. A 'DAIKIN 1F NORTH 15.0°C Heat' label is below the grid. A '?' button is at the bottom left. A 'Stop' button is below '?', followed by 'Start', 'Error', and 'CommErr'.

Display for Collective Monitoring of Air Conditioners Connected to intelligent Touch Controller

When operation is normal and any air conditioner is in operation:

Red/Normal

When operation is normal and all air conditioners are in stoppage:

Green/Normal

When there is any air conditioner generating an error:

Yellow/Abnormal

When there is any air conditioner with communication error:

Blue/Abnormal

(Change in color of Start/Stop is possible by Iconcolor Settings in System Settings.)

Start All Button

Button to collectively start all the air conditioners connected to intelligent Touch Controller.

Stop All Button

Button to collectively stop all the air conditioners connected to intelligent Touch Controller.

Display Mode Selection

Select the mode among icon/list/detailed icon.
(Displayed is List in the right figure.
List display in P96.
Detailed icon display is P95.)

Group/Zone Start Button

Button to start operation of the group/zone selected.

Group/Zone Stop Button

Button to stop operation of the group/zone selected.

Group/Zone Set Button

Makes settings (temperature setting, temperature control mode, etc.) and display of the group/zone selected.

Group/Zone Prop Button

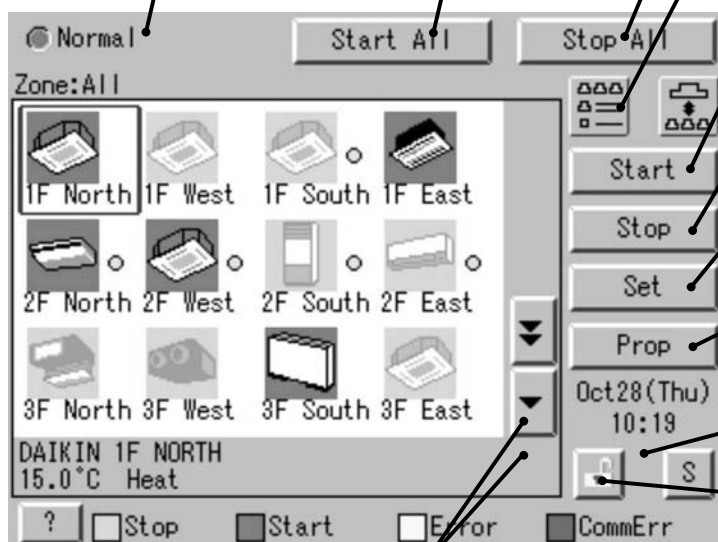
Detailed display of the group/zone selected

Current Time Display

Shows the current date and time.

Lock Setting/Cancel Button

Displays possibility of monitor operation.



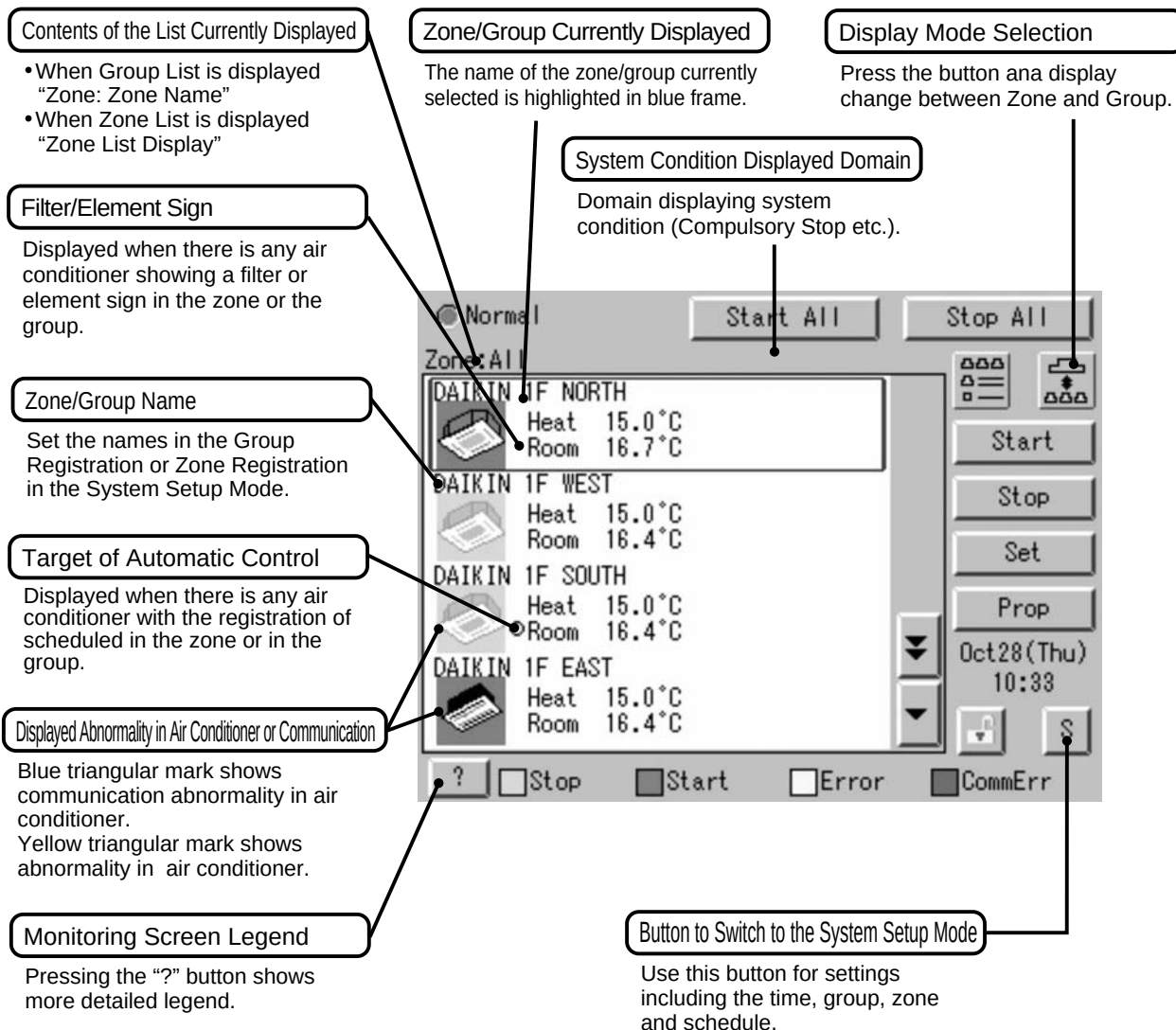
Scroll Buttons

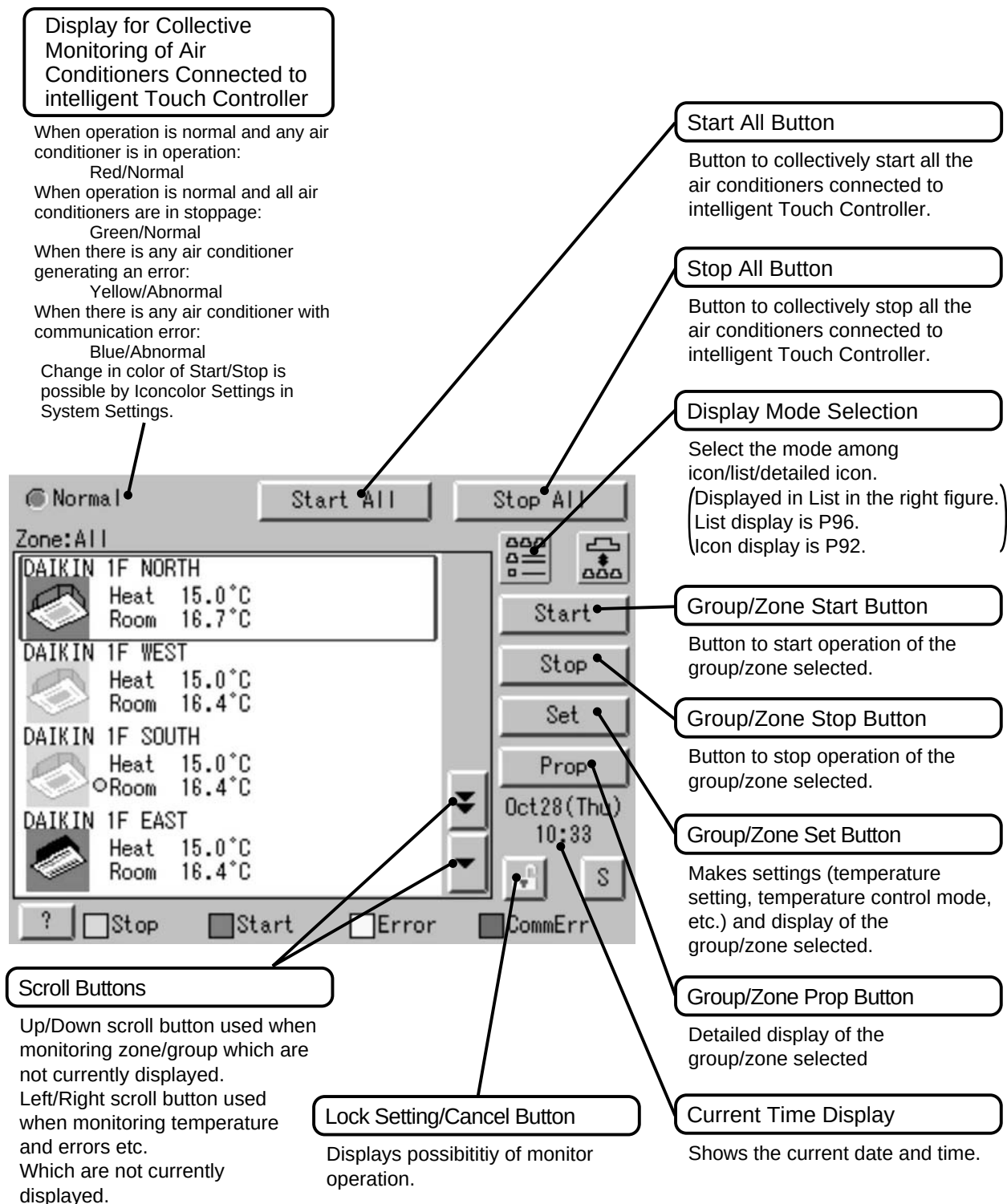
Up/Down scroll button used when monitoring zone/group which are not currently displayed.

Left/Right scroll button used when monitoring temperature and errors etc.

Which are not currently displayed.

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List

Contents of the List Currently Displayed

- When Group List is displayed "Zone: Zone Name"
- When Zone List is displayed "Zone List"

Zone/Group Name

Set the names in the Group Registration or Zone Registration in the System Setup Mode.

Target of Automatic Control

Displayed when there is any air conditioner with the registration of scheduled in the zone or in the group.

Filter/Element Sign

Displayed when there is any air conditioner showing a filter or element sign in the zone or the group.

Monitoring Screen Legend

Pressing the "?" button shows more detailed legend.

Zone/Group Currently Displayed

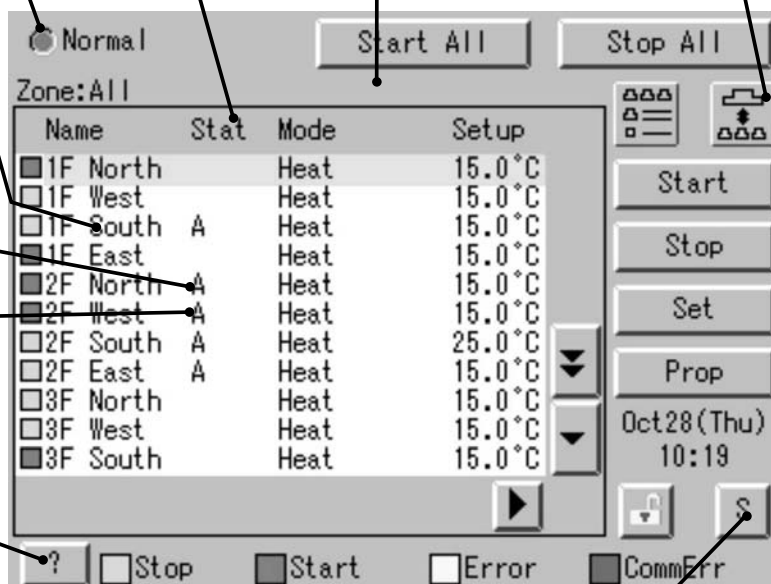
The name of the zone/group currently selected is highlighted in light-blue.

Display Mode Selection

Press the button and display change between Zone and Group.

System Condition Displayed Domain

Domain displaying system condition (Compulsory Stop etc.)



Button to Switch to the System Setup Mode

Use this button for settings including the time, group, zone and schedule.

Display for Collective Monitoring of Air Conditioners Connected to intelligent Touch Controller

When operation is normal and any air conditioner is in operation:

Red/Normal

When operation is normal and all air conditioners are in stoppage:

Green/Normal

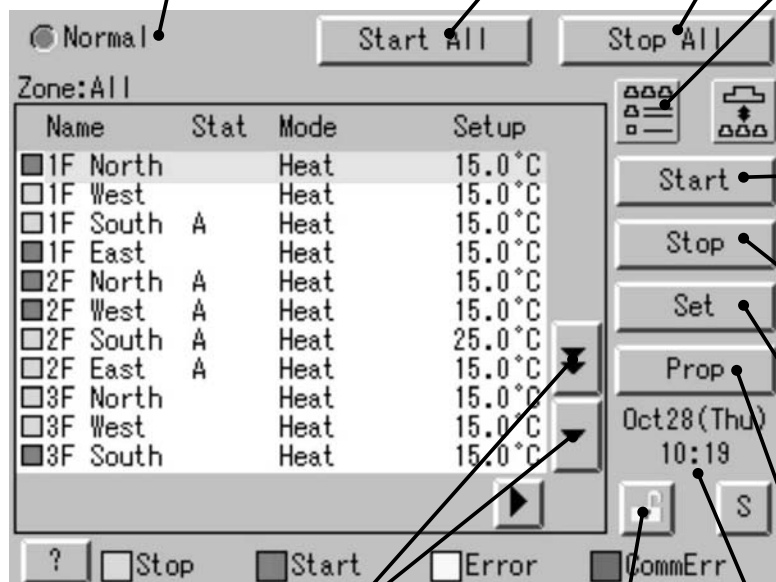
When there is any air conditioner generating an error:

Yellow/Abnormal

When there is any air conditioner with communication error:

Blue/Abnormal

(Change in color of Start/Stop is possible by Iconcolor Settings in System Settings.)



Start All Button

Button to collectively start all the air conditioners connected to intelligent Touch Controller.

Stop All Button

Button to collectively stop all the air conditioners connected to intelligent Touch Controller.

Display Mode Selection

Select the mode among icon/list/detailed icon.
(Displayed in List in the right figure.)
Icon display is P92.
Detailed icon display is P95.

Start

Group/Zone Start Button

Button to start operation of the group/zone selected.

Stop

Set

Group/Zone Stop Button

Button to stop operation of the group/zone selected.

Prop

Group/Zone Set Button

Makes settings (temperature setting, temperature control mode, etc.) and display of the group/zone selected.

Oct28(Thu)

10:19

Group/Zone Prop Button

Detailed display of the group/zone selected

Scroll Buttons

Up/Down scroll button used when monitoring zone/group which are not currently displayed.

Left/Right scroll button used when monitoring temperature and errors etc.

Which are not currently displayed.

Lock Setting/Cancel Button

Displays possibility of monitor operation.

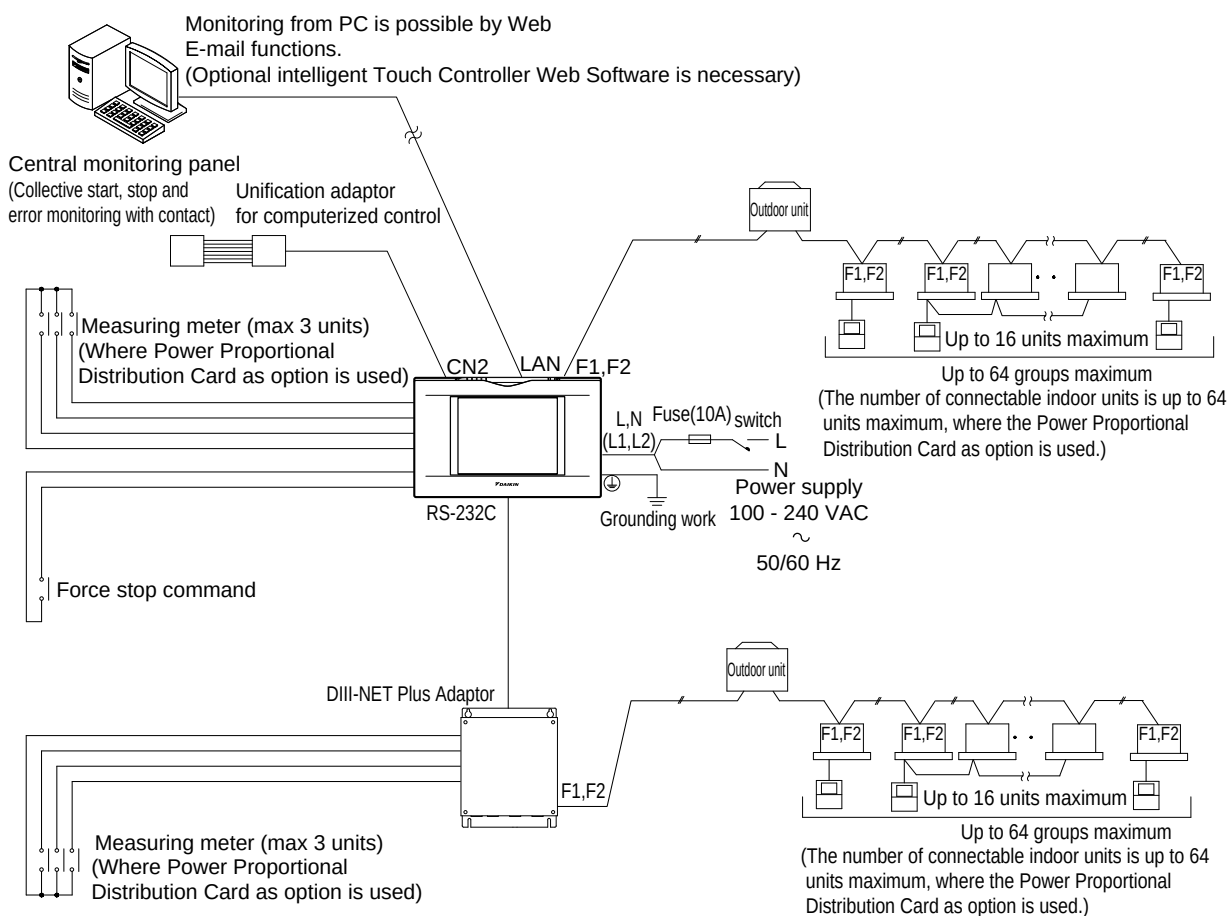
Current Time Display

Shows the current date and time.

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2. System Configuration

2.1 System Outline



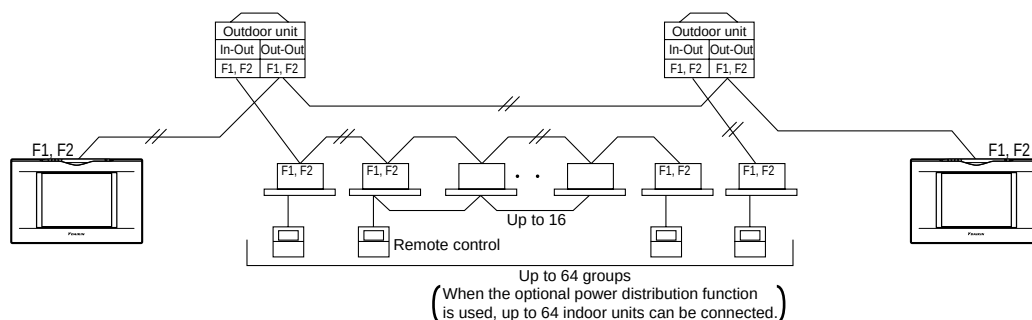
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Connecting Unification adaptor allows using the contact for normal and abnormal operation signal and collective start/stop with a contact. For details, contact the vendor you purchased the product from.

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

2.2 Double intelligent Touch Controllers

Using two intelligent Touch Controllers allows central control of indoor units from different places.



NOTE

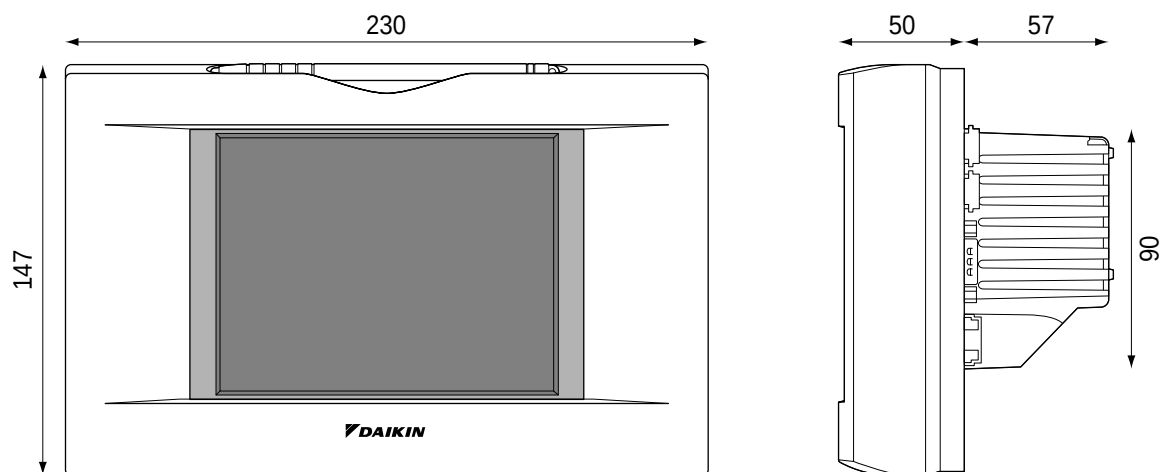
- For combination and settings for double intelligent Touch controllers, be sure to consult the vendor.

3. Specification

3.1 Specification

Name		intelligent Touch Controller (DCS601C51)	DIII-NET Plus Adaptor (DCS601A52)
Power supply		Externally supplied 100 V AC-240 V AC 50/60 Hz	Externally supplied 100 V AC-240 V AC 50/60 Hz
Installation method condition for use		JIS4 switchbox embedded in indoor wall	—
Operating condition	Surrounding temperature/humidity	0°C to 40°C/less than 85% RH (if no condensation)	-10°C to +40°C/less than 90% RH
Dimensions	(W × H × D)	230 × 147 × 107 (mm)	157 × 190 × 42 (mm)
Overseas certification	Safety of Information Technology Equipment	IEC60730 (including IEC60335)	IEC60730 (including IEC60335)
	Interference (EMC)	EN55022 Class-A , EN55024	EN55022 Class-A , EN55024
LCD Panel	Size/no. of dots/no. of colors	5.7 inches / QVGA 320 × 240 / 4096 colors	—
Communication functions	DIII -NET ×1	A/C equipment communication line	A/C equipment communication line
	10BASE-T	Web option	—
Input terminals	Digital input Di ×1	Forced Shutdown	—
	Pulse input Pi ×3	Power measuring pulse	Power measuring pulse

3.2 Dimension



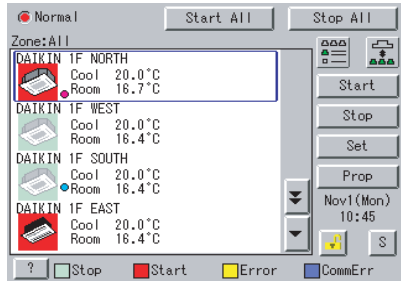
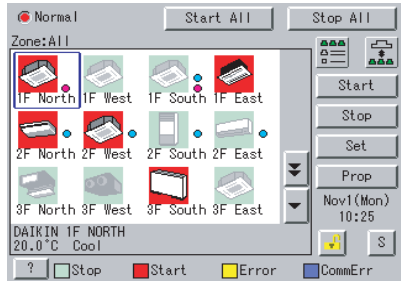
The specification and appearance of the product may be modified for improvement without prior notice.

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4. Functions

4.1 Functions

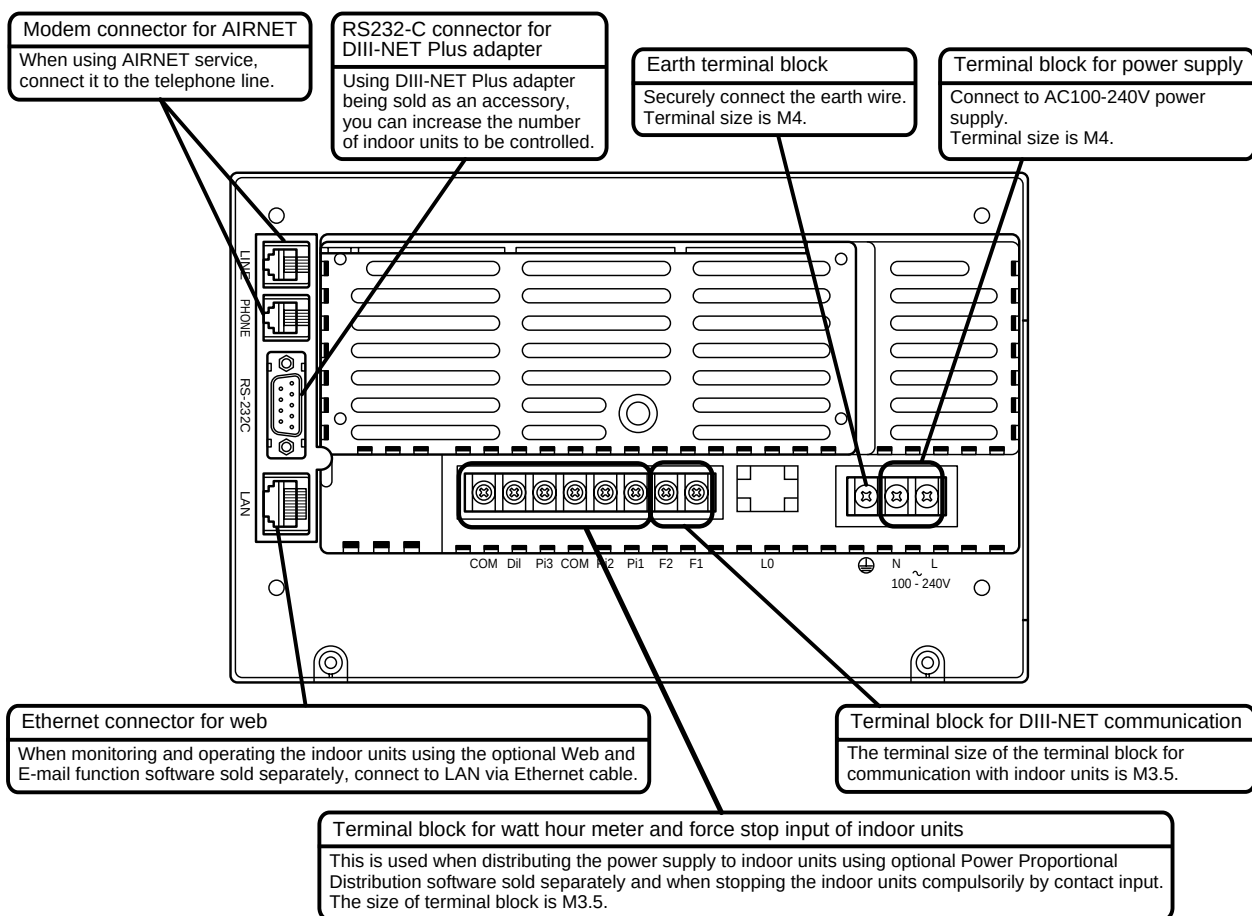
Central control device name			intelligent Touch Controller	
Product name/System name			intelligent Touch Controller main unit alone	Use with DIII-NET Plus ADP
Model name			DCS601C51	DCS601C51+DCS601A52
Function		Details		
Wiring Limitations	No. of DIII lines (ports)	No. of F1/F2	1	2 (1+1)
	No. of controllable indoor units	No. of groups	64	128 (64+64)
		No. of units connected (Max. No. of units is 128 per DIII-NET line)	128 (64 when P.P.D. is conducted)	256 (128 when P.P.D. is conducted)
	No. of controllable zones	1 zone --- 1 group or more 1 zone --- the same setting for all of the indoor units. 1 zone is from 1 up to 64 groups	128	128
	No. of outdoor units	No. of connected units (Max. No. of 10 units per 1 DIII-NET line)	10	10×2
	Required master-slave setting when installed in multiple sites	Connectors, screens and switches	On screen: (Master/Slave)	Follows the settings of the intelligent touch controller unit
	Control wiring for central settings	Determine master-slave relationship for other central control devices	CN1 (Master central setting connector)	CN1 (Master central setting connector)
Necessity of power supply		Yes / Terminal block	Yes/N-L	Yes/N-L
Operation setups	Operation		Touch panel	Operated via the intelligent touch controller touch panel
	Method of operation	Group	Yes	
	ON (OFF)	Group	Yes	
	Unified ON/OFF	All connected units	Yes	
		By group/zone	Yes	
	Cooling/Heating changeover	By group/zone	Yes	
	Temperature setting	By group/zone	Yes	
	Filter sign reset	By group/zone	Yes	
	Vane direction change	By group/zone	Yes	
	Airflow rate change	By group/zone	Yes	
	Ventilation mode	By group/zone	Yes (to be addressed as of the HRV 2005 [G type] model)	
	Ventilation rate	By group/zone	Yes (to be addressed as of the HRV 2006 [GA type] model)	
	Forced OFF input	External signal: Non-voltage, normally open contact, /Main unit terminal block 0.75-1.25 mm ² up to 150 m	Yes	Yes (Forced OFF (shutdown) is input from the contact point of the intelligent touch controller main body and conducted simultaneously with shutdown (forced OFF) of the A/C units connected to the intelligent touch controller unit.)
	Individual remote control rejection/acceptance setting	By group/zone ON/OFF, mode setting and temperature setting	Yes	

Central control device name		intelligent Touch Controller	
Product name/System name		intelligent Touch Controller main unit alone	Use with DIII-NET Plus ADP
Model name		DCS601C51	DCS601C51+DCS601A52
Function	Details		
Monitor	By group/zone	Yes	
	Screen display method	 Icon/Icon details (above picture) / List	
	Icon colour, etc.	 Changeable to ON (Green) and OFF (Red) using the system setting menu. During breakdowns or communication errors, a frame (highlight) as shown above is to be displayed in addition to the change in the icon colour.	
Other	Password setup	Password management when using the system setup menu / No. of Passwords	Yes/1
		Password management restricting operation of monitoring screens / No. of Passwords	Yes/1
	Time zone & Time setup (according to area, summer time, time of day)		Yes
	Backlight setup	Auto OFF function	Yes
	Group setup	Names and upper/lower temp. setting	Yes
	Zone setup	Zone setting	Yes
	Schedule setup	Weekly / By group/zone	Yes
		Daily setting for a year (13 months) / By group/zone	Yes
		Each day (time, minute) / By group/zone	Yes
		Types of days schedulable	Sun-Sat + Special day 1-10 = 17 types in total
		No. of time settings for each day set	16
		No. of the above-mentioned schedule settings	8
	Changeover setup	No. of control groups	64 groups 128 groups

Central control device name		intelligent Touch Controller	
Product name/System name		intelligent Touch Controller main unit alone	Use with DIII-NET Plus ADP
Model name (1 unit)		DCS601C51	DCS601C51+DCS601A52
Function	Details		
Temperature limit setup	Prevention of excessive temperature increases/decreases in unmanned rooms	Yes / 64 groups for 1 setting, 8 settings	Yes / 128 groups for 1 setting, 8 settings
Heating optimization setup	Stops fan operation in order to prevent temperature increases during the Heating mode or Thermo OFF	Yes	
Control of other facilities	ON/OFF	Di unit, Dio Unit or general purpose ADP is required	
Touch panel correction	When touch panel is not recognized anymore	Yes	
History display	The 10 most recent breakdowns are saved for each group/zone. The 500 most recent control entries are saved.	Yes	
Version information		Yes	
PPD	Option	Yes (separate software <DCS002C51> is required)	
	Record retention period	13 months	
	Wattmeter connection port	3 ports	6 ports (3 ports + 3 ports)
Web functions	Option	Yes (separate software <DCS004A51> is required)	
	Password management	Yes 1 administrator and 64 general users	
	A/C monitoring control	Yes	
	Schedule setting	Yes * Administrator only	
	e-mail (sending) function	Yes e-mail is sent when there is an error in the machines being monitored/controlled.	

5. Electric Wiring

5.1 Terminals on the Back of intelligent Touch Controller



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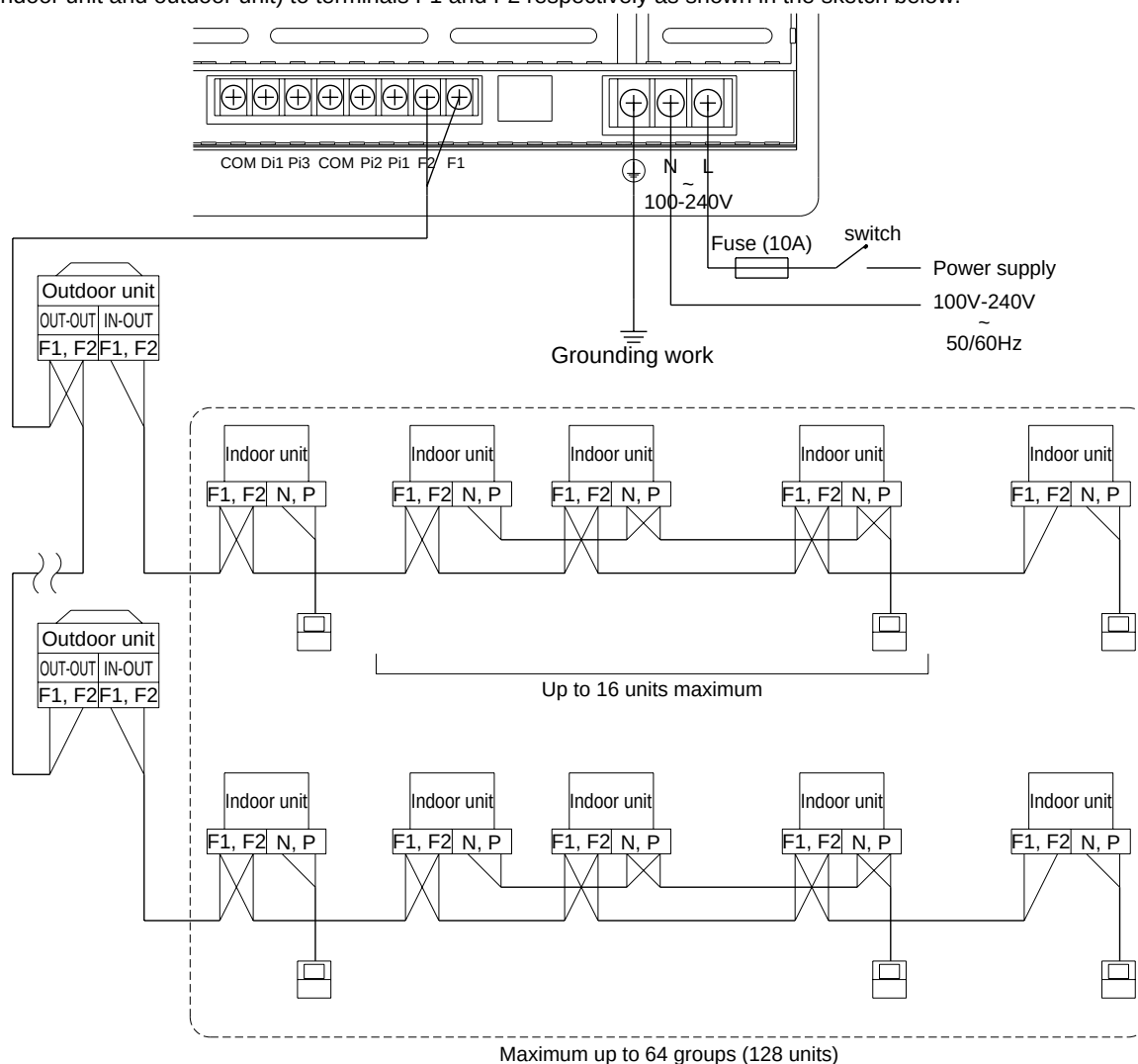
5.2 Points of Installation

(Do not fail to use a round crimp terminal with reinforcing sleeve for safety wiring connection to the intelligent Touch Controller.)

When wiring, cut off the power supply (using a local switch) and do not apply power until all work has been finished.

Wiring for power supply and Connecting wiring for DIII-NET communication of indoor units

In order to perform centralized control of indoor units using this controller, connect the power wiring to terminals L and N, earth wire to earth terminal ⊕ and connecting wiring for DIII-NET communication of air-conditioner (indoor unit and outdoor unit) to terminals F1 and F2 respectively as shown in the sketch below.



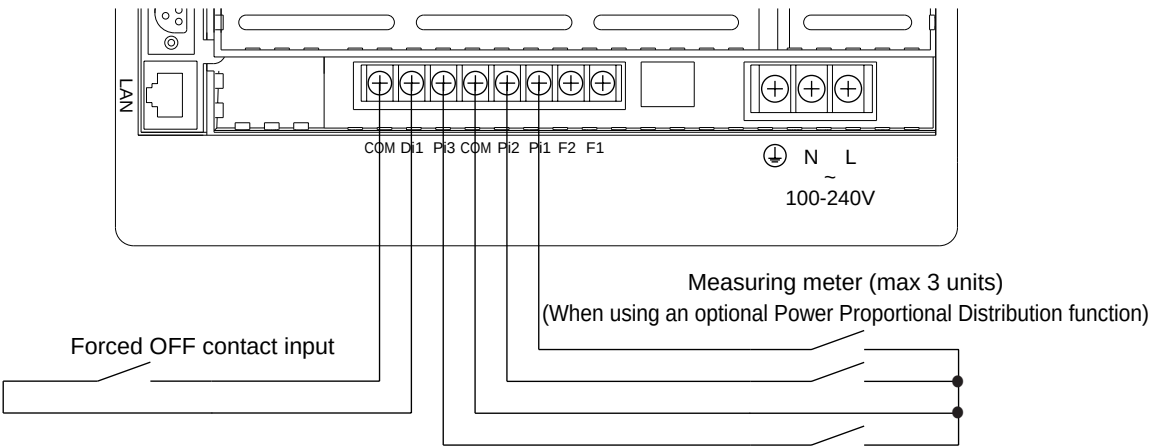
Power cable wiring	1.25mm ²
Fuse	10A
Connecting wiring for DIII-NET communication of indoor and outdoor units	0.75 - 1.25mm ² vinyl cord or cable with sheath (2 wire) ---Up to 1000m maximum (wiring length -- up to 2000m maximum) (When shield cable is used, the wiring length is available up to 1500m.) For the type of electric wire, refer to the design guide.

<< CAUTION >>

- Don't fail to perform installation of Grounding work. Don't connect the grounding wire to any of gas pipe, city water pipe, lightning rod, and telephone grounding wire.
- Don't turn ON the power supply (front switch) until all the works are complete.
- The connecting wiring for communication of indoor and outdoor units is a connecting wiring for the control. Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- Don't connect the power cable to F1, F2 terminal blocks. Wrong connection to these terminal blocks could result in damage and burning of the centralized control devices and of the electric parts of the indoor and outdoor units. This is very hazardous. Check each wired cable once more before turning ON the power switch.

5.3 Wiring for Force Stop Input and for Electric Power Distribution

In order to stop the air-conditioner through force stop input, connect the wiring for force stop input to the terminals Di1 and COM as shown in the sketch below.
In addition, in order to calculate the electric energy using optional Power Proportional Distribution software, connect the wiring for electric energy to the terminals Pi and COM as shown in the sketch below.



Wiring for force stop input	• 0.75 - 1.25mm² vinyl cord or cable with sheath (2 wire) -- up to 150m maximum • When FORCE-STOP INPUT is kept ON, the indoor units connected thereto are unable to be operated because they are force-stopped. • Use a contact which can guarantee minimum application load DC16V and 10mA. • Use an instantaneous contact of 200msec or more in current feed time, where required.
Meter wiring for power distribution (option)	• 0.75 - 1.25mm² vinyl cord or cable with sheath (2 wire) -- up to 150m maximum • The number of connectable indoor units is up to 64 units maximum, where the Power Proportional Distribution Card as option is used. • The measuring meters to be connected must meet the requirements specified below. • To be a measuring meter with pulse oscillator. (pulse/kwh) • Pulse band of 100msec or mores • Measuring meter which uses semiconductor relay for pulse output and outputs pulses from non-voltage contact

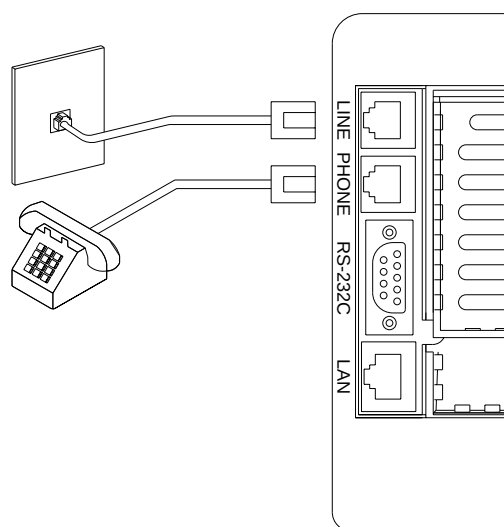
<< CAUTION >>	
• Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error. • Terminals COM are inter-connected. Connecting to either one is allowed, but the number of cables connectable to one terminal is limited to 2 pieces. • Don't connect the power cable to Pi, Di, COM terminal blocks. Wrong connection to these terminal blocks could result in damage and burning of the centralized control devices and of the electric parts of the indoor and outdoor units. This is very hazardous. Check each wired cable once more before turning ON the power switch.	

5.4 Connection to Public Telephone Line

Connect to the telephone line in order to monitor the air-conditioner via AIRNET service.
Connect to modular cable from the public telephone line to the upper connector with a stamping of LINE, and connect the modular cable of the telephone to the lower connector with a stamping of PHONE, as shown in the sketch below.

<< CAUTION >>

- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- When using AIRNET service, it is necessary to use a separate modem specified by us and enter into Maintenance Agreement with charge.

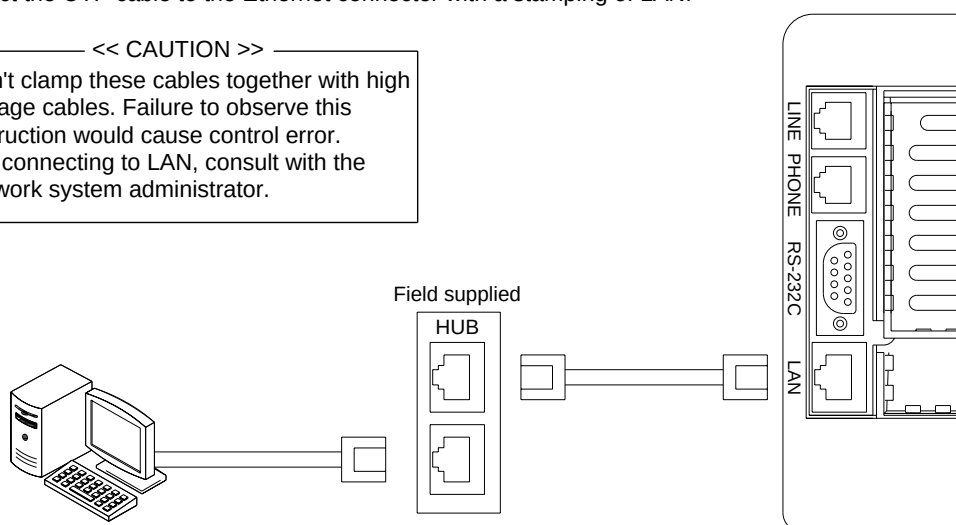


5.5 Connection to LAN

In order to monitor/control the air-conditioner using optional Web and E-mail function software sold separately, use a UTP cable to connect to LAN.
Connect the UTP cable to the Ethernet connector with a stamping of LAN.

<< CAUTION >>

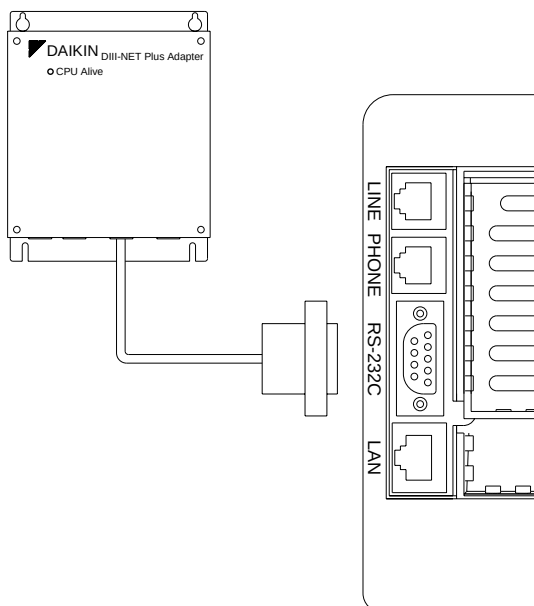
- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.
- For connecting to LAN, consult with the network system administrator.



5.6 DIII-NET Plus Adaptor Connection

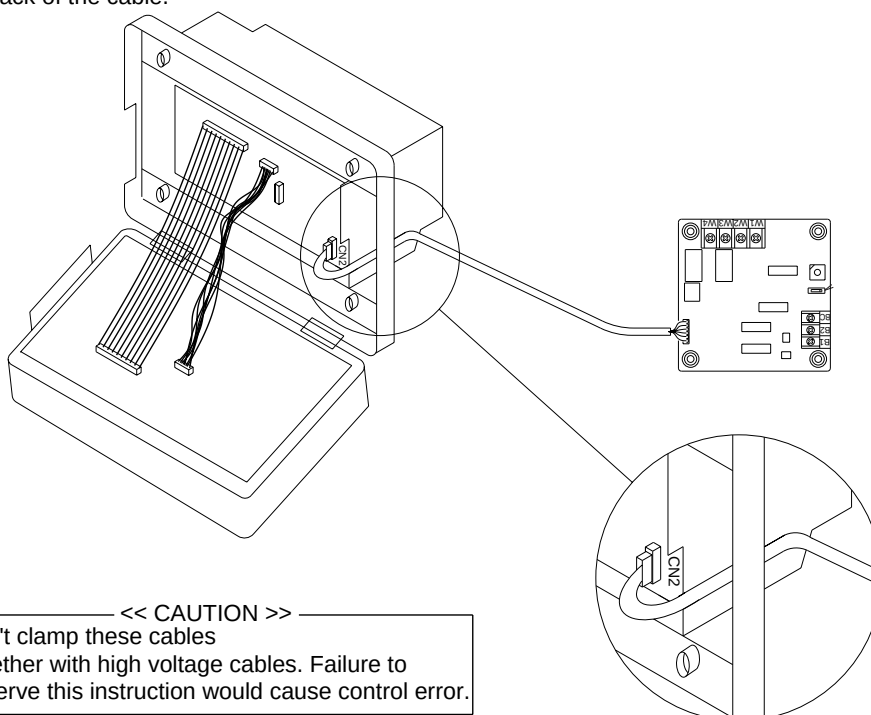
In order to increase the number of indoor units to be controlled, connect DIII-NET Plus adaptor using RS232-C cable attached to the adaptor.
For details, refer to the installation manual of DIII-NET Plus adaptor.

- << CAUTION >>**
- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.



5.7 Connection for Unification Adaptor

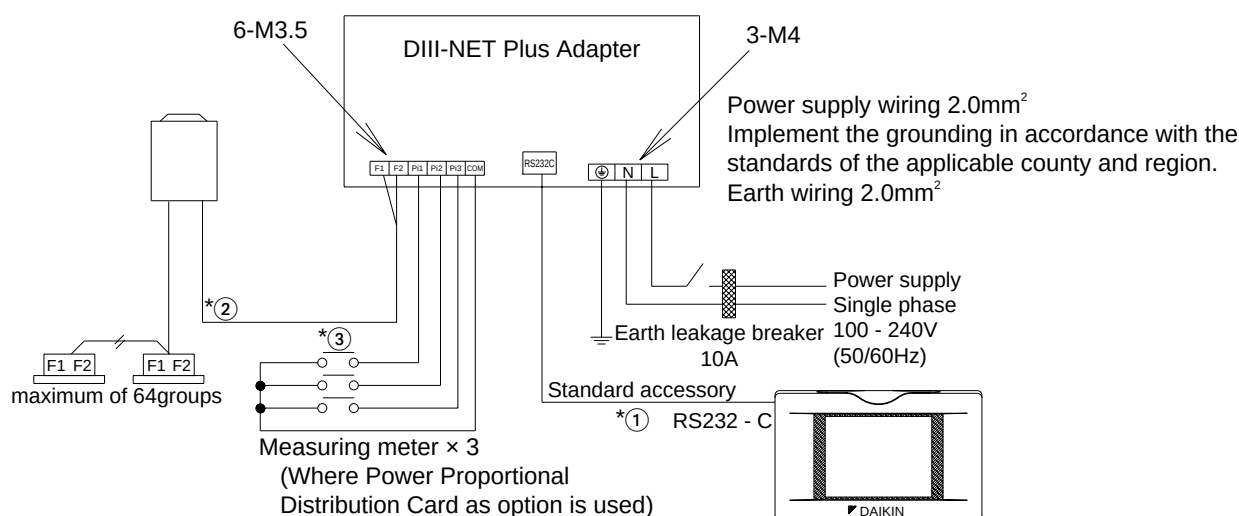
In order to perform total start and stop/situation monitoring from central supervisory board, etc., connect a Unification Adaptor sold separately.
As shown in the sketch below, open the controller and connect the cable from the Unification Adaptor to CN2 connector located on the printed board on the lower case.
If you route the cable in the cable guide groove on the lower case, you can make a smart connection without any slack of the cable.



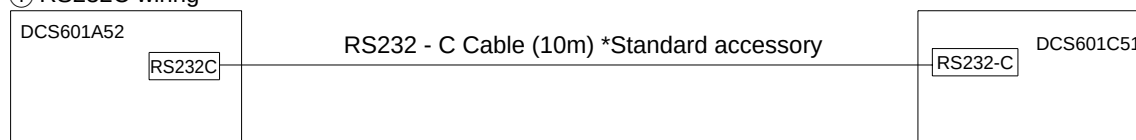
- << CAUTION >>**
- Don't clamp these cables together with high voltage cables. Failure to observe this instruction would cause control error.

5.8 DIII-NET Plus Adaptor

- Use a round crimp terminal with reinforcing sleeve for safety wiring connection to this unit.

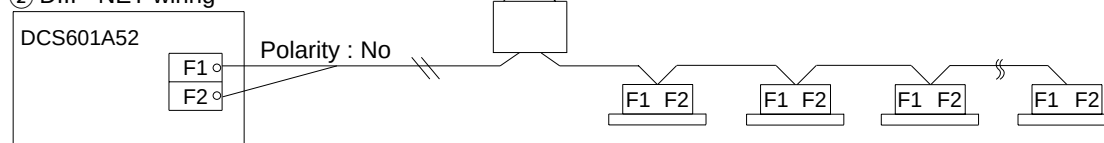


*① RS232C wiring



Wirings must be isolated from the power lines.

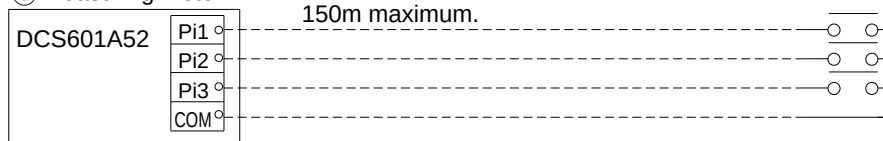
*② DIII - NET wiring



1. Do not use multicore cables with three or more cores.
2. Use wires of sizes between 0.75mm² and 1.25mm²
3. Wire length : Max 1000m
4. Do not bind the wire for DIII-NET
5. Wirings for DIII-NET must be isolated from the power lines.
6. Terminal contact size : M3.5

*③ Measuring meter

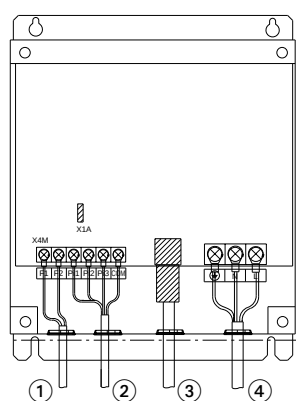
0.75~1.25mm² vinyl cord or cable with up to 150m maximum.



The measuring meters to be connected must meet the requirements specified below.

1. To be a measuring meter with pulse oscillator. (pulse/kwh)
2. Pulse band of 100msec or mores
3. Measuring meter which uses semiconductor relay for pulse output and outputs pulses from non-voltage contact1. Use a no voltage contact.
4. Use a contact which can guarantee minimum application load DC16V and 10mA.
5. Wirings must be isolated from the power lines.
6. Terminal contact size : M3.5.

- How to draw local wiring should follow the following figure.

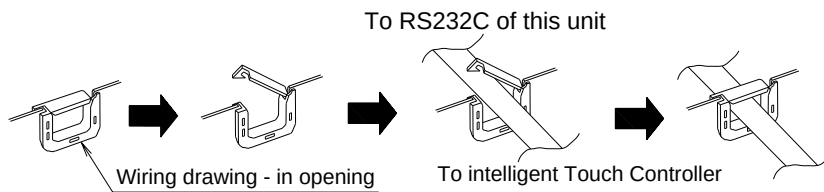


① To terminals F1, F2 of outdoor unit

② To measuring meter

③ To intelligent Touch Controller (DCS601C51)

- Please put in wiring, as shown in the following figure.

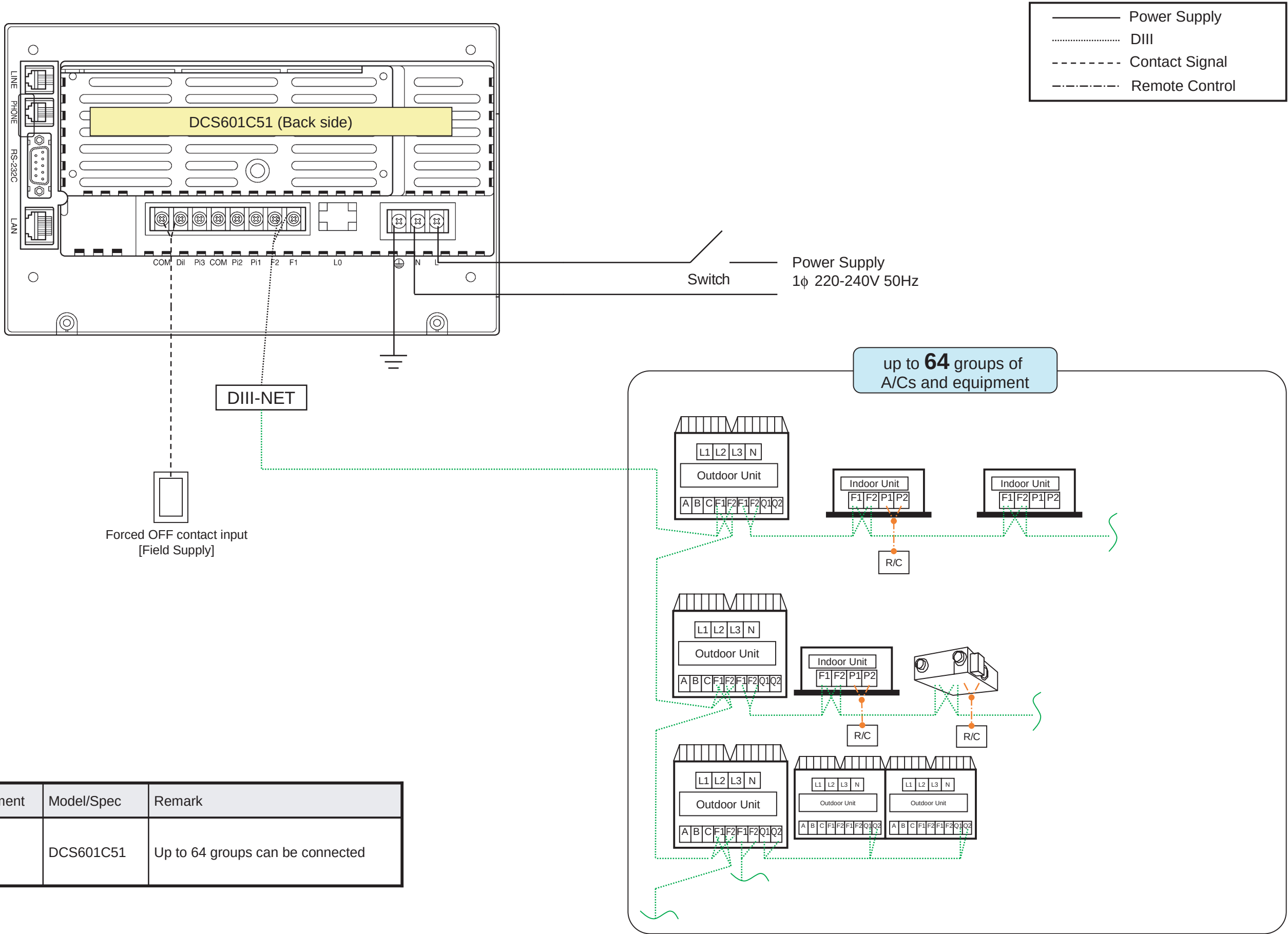


④ To 100 - 240V ~ 50/60Hz and earth

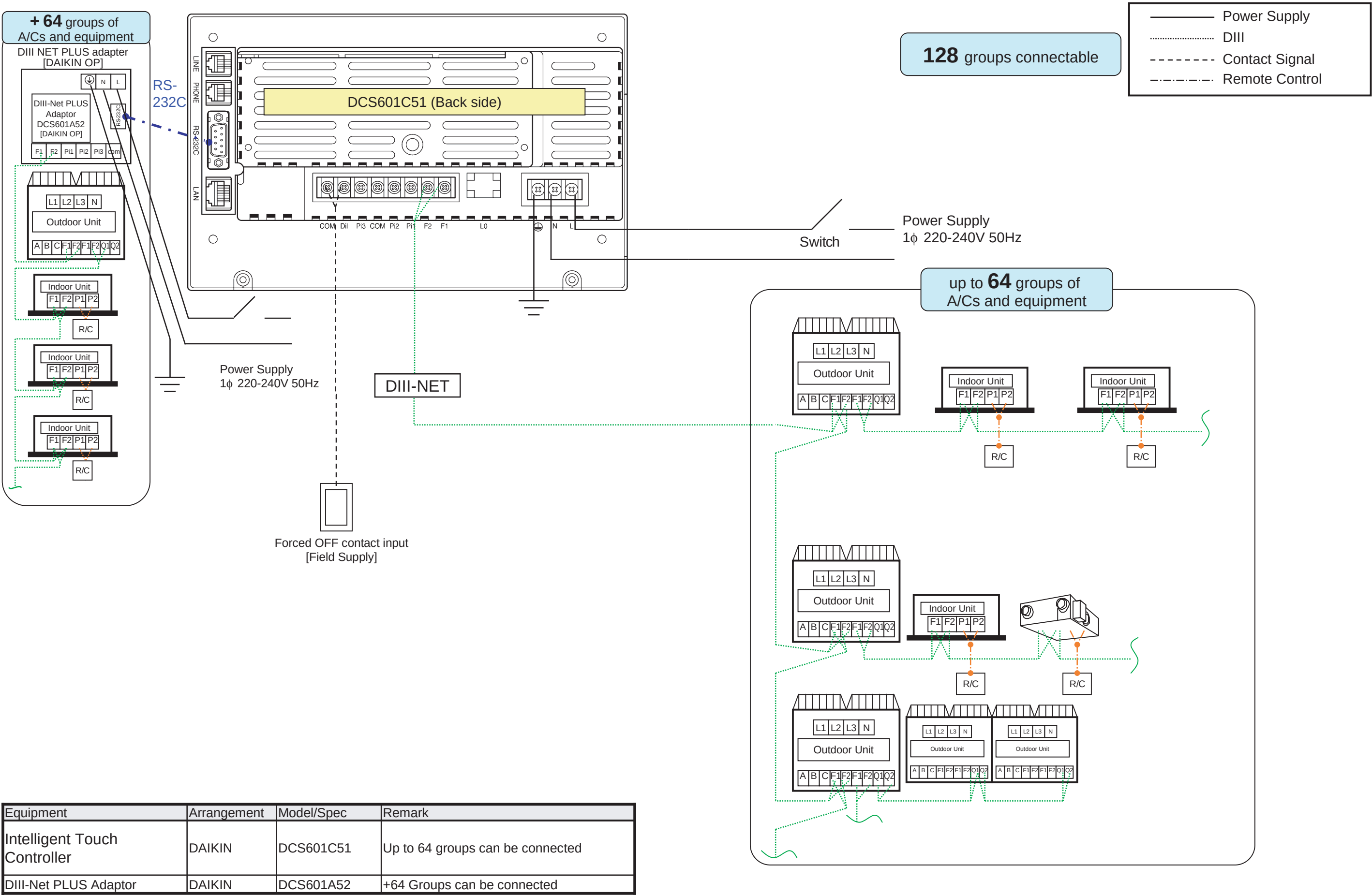
5.9 Wiring Example for intelligent Touch Controller (DCS601C51)

5.9.1 intelligent Touch Controller (DCS601C51) Only

The intelligent Touch Controller can control the air conditioning associated equipment for 64 groups.

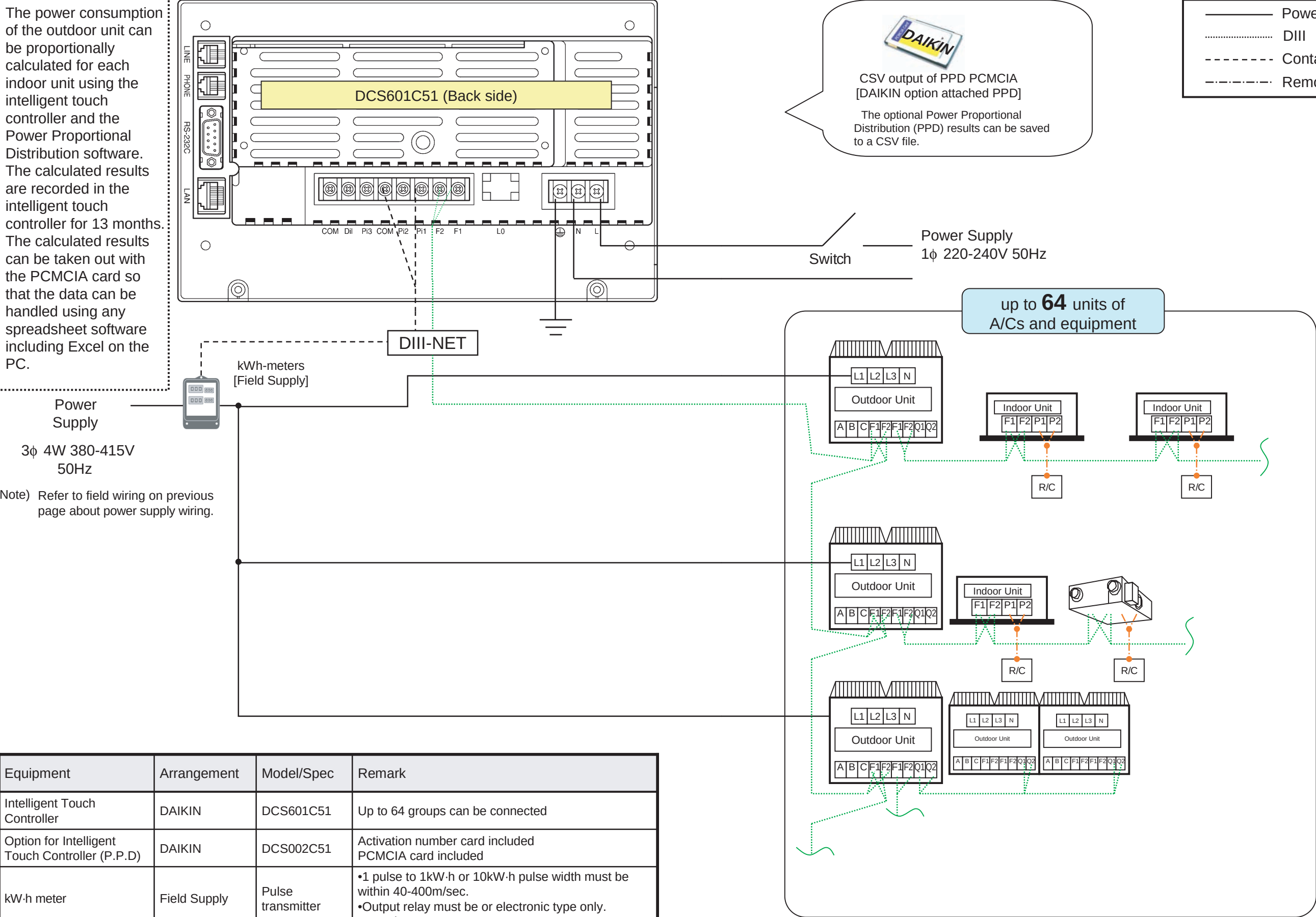


5.9.2 The Case of DIII-NET Plus Adaptor (DCS601A52) Added



5.9.3 PPD (Power Proportional Distribution) Application (DCS002C51)

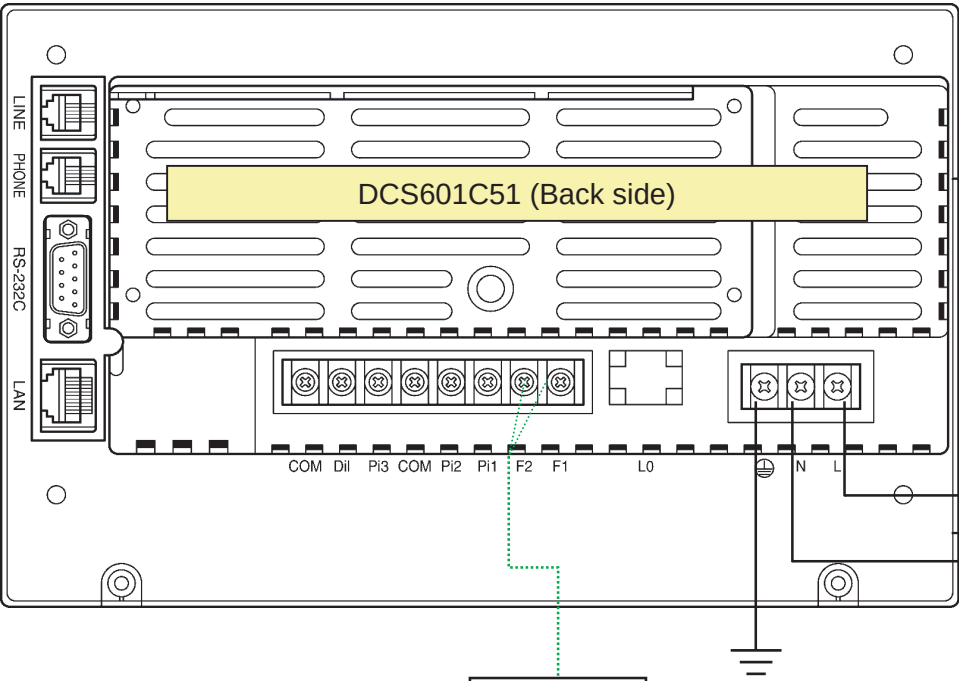
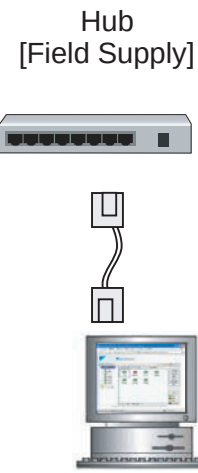
The power consumption of the outdoor unit can be proportionally calculated for each indoor unit using the intelligent touch controller and the Power Proportional Distribution software. The calculated results are recorded in the intelligent touch controller for 13 months. The calculated results can be taken out with the PCMCIA card so that the data can be handled using any spreadsheet software including Excel on the PC.



Equipment	Arrangement	Model/Spec	Remark
Intelligent Touch Controller	DAIKIN	DCS601C51	Up to 64 groups can be connected
Option for Intelligent Touch Controller (P.P.D)	DAIKIN	DCS002C51	Activation number card included PCMCIA card included
kW·h meter	Field Supply	Pulse transmitter	•1 pulse to 1kW·h or 10kW·h pulse width must be within 40-400m/sec. •Output relay must be or electronic type only. •No voltage output.

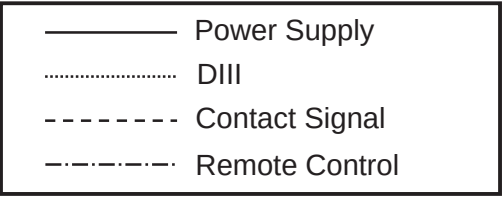
5.9.4 WEB Usage (DCS004A51)

The intelligent touch controller supports web-based remote access so that you can remotely check and control the operation of each air conditioning system through an Intranet or Internet site. (Web site, e-mail, etc.)

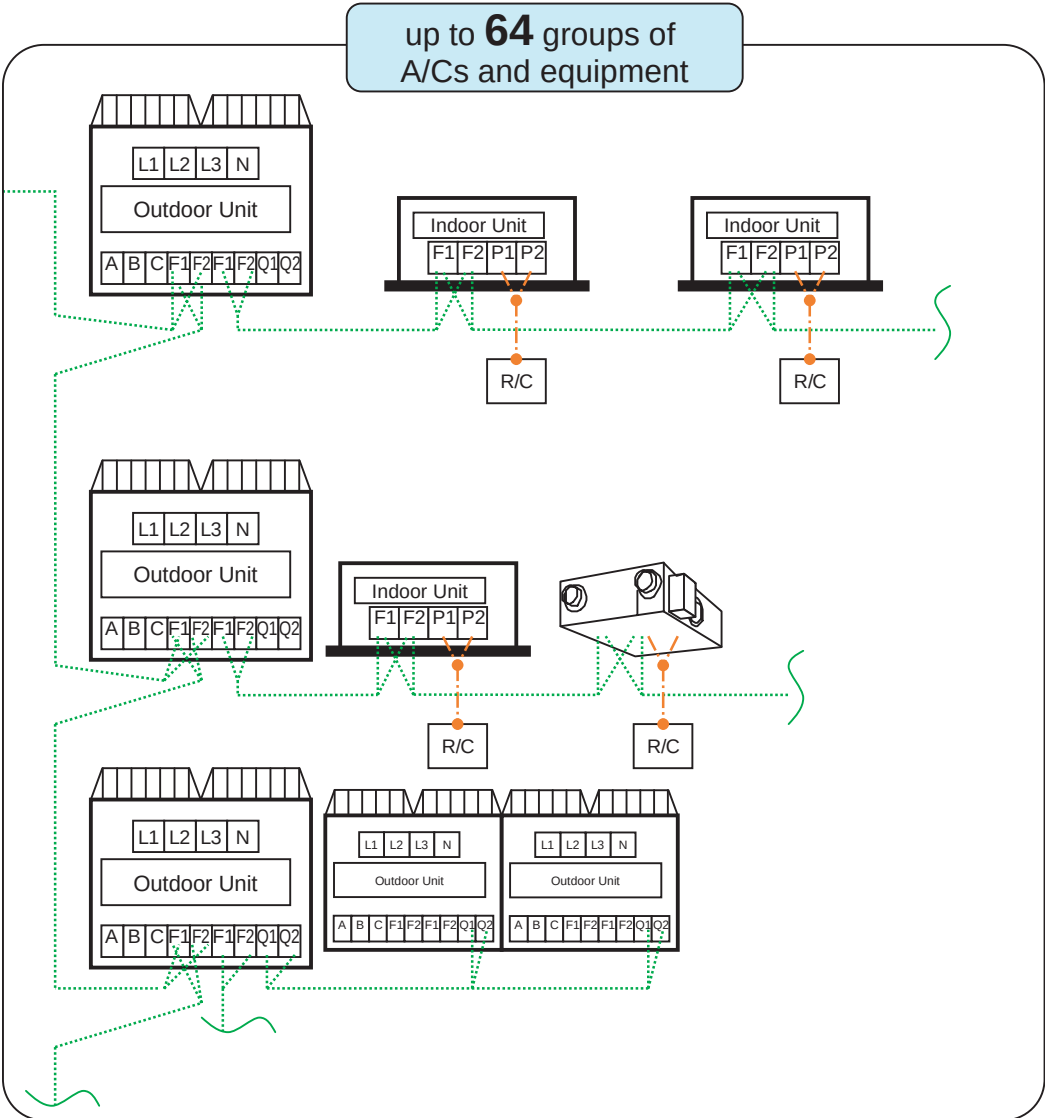


DI11-NET

Power Supply
1φ 220-240V 50Hz

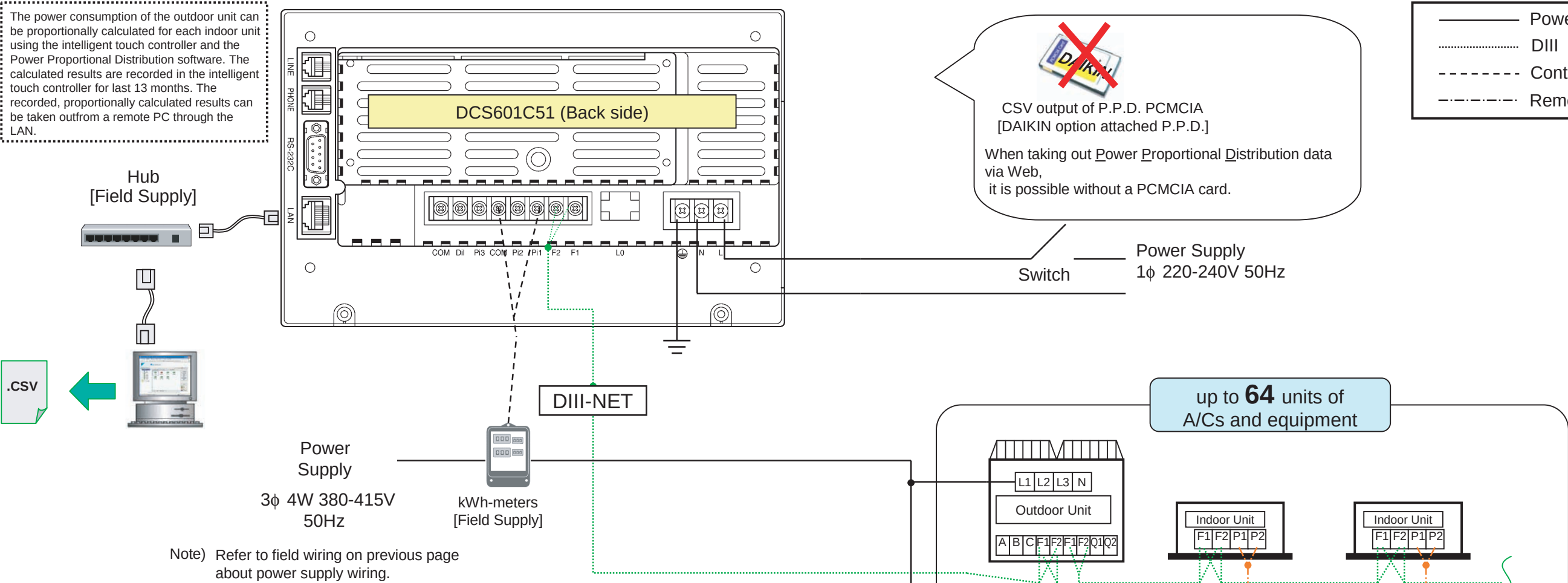


Equipment	Arrange ment	Model / Spec	Remark
Intelligent Touch Controller	DAIKIN	DCS601C51	Up to 64 groups can be connected
Option for Intelligent Touch Controller (Web)	DAIKIN	DCS004A51	Activation number card included
PC	Field Supply	•Performance : Pentium III: 800MHz,Memory:256MB,HDD:4G •Network:100Base/T Ethernet •Operation: Keyboard/Mouse,Sound and Speaker •Software: Windows XP(Professional SP2 or later) Windows 2000(Professional SP4 or later) •CRT: SVGA(800x600,1024x768,1280x1024)	
e-mail server	Field Supply		When the e-mail error alarm function is used

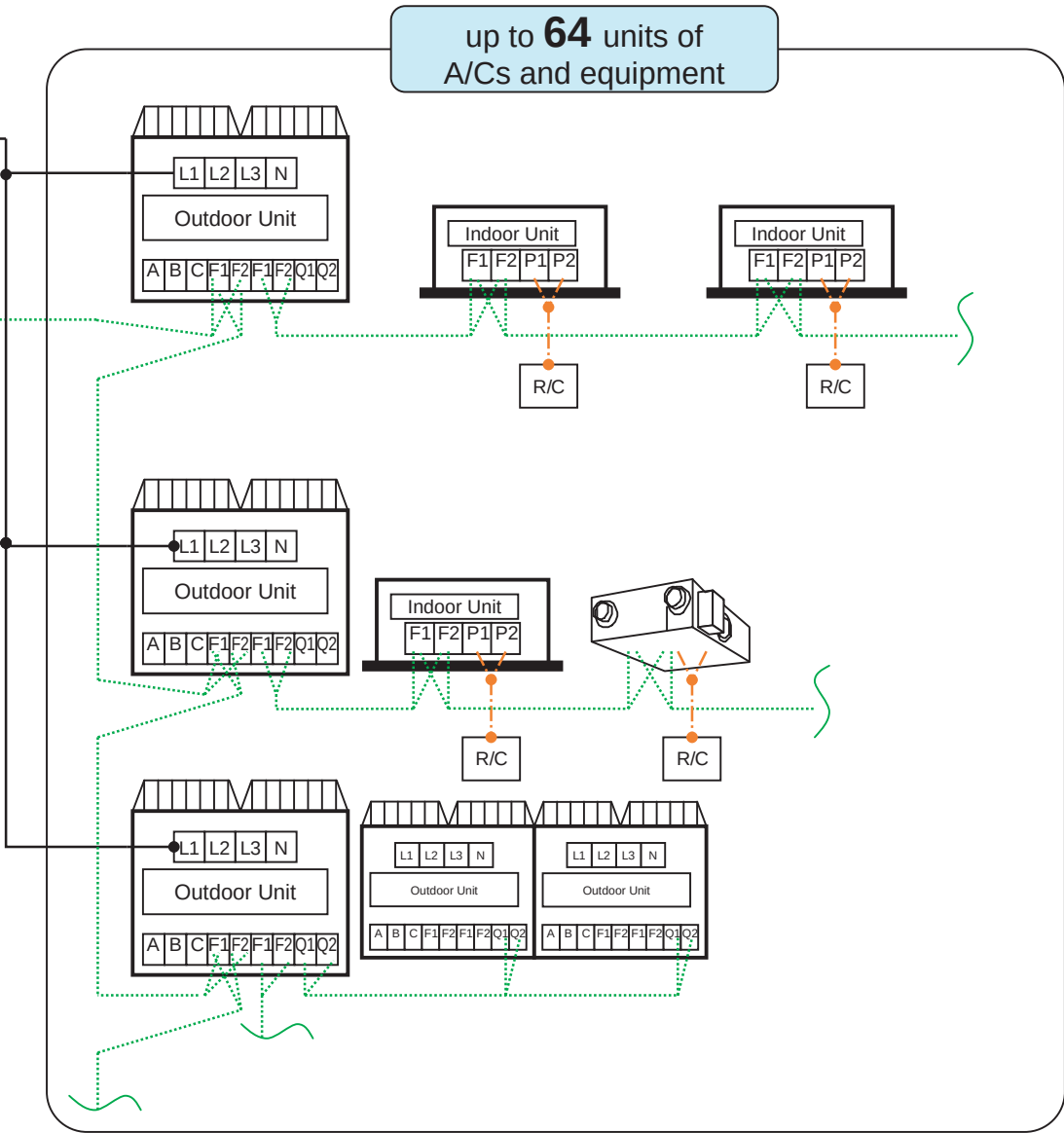


5.9.5 P.P.D. (Power Proportional Distribution) Application (DCS002C51) and WEB Usage (DCS004A51)

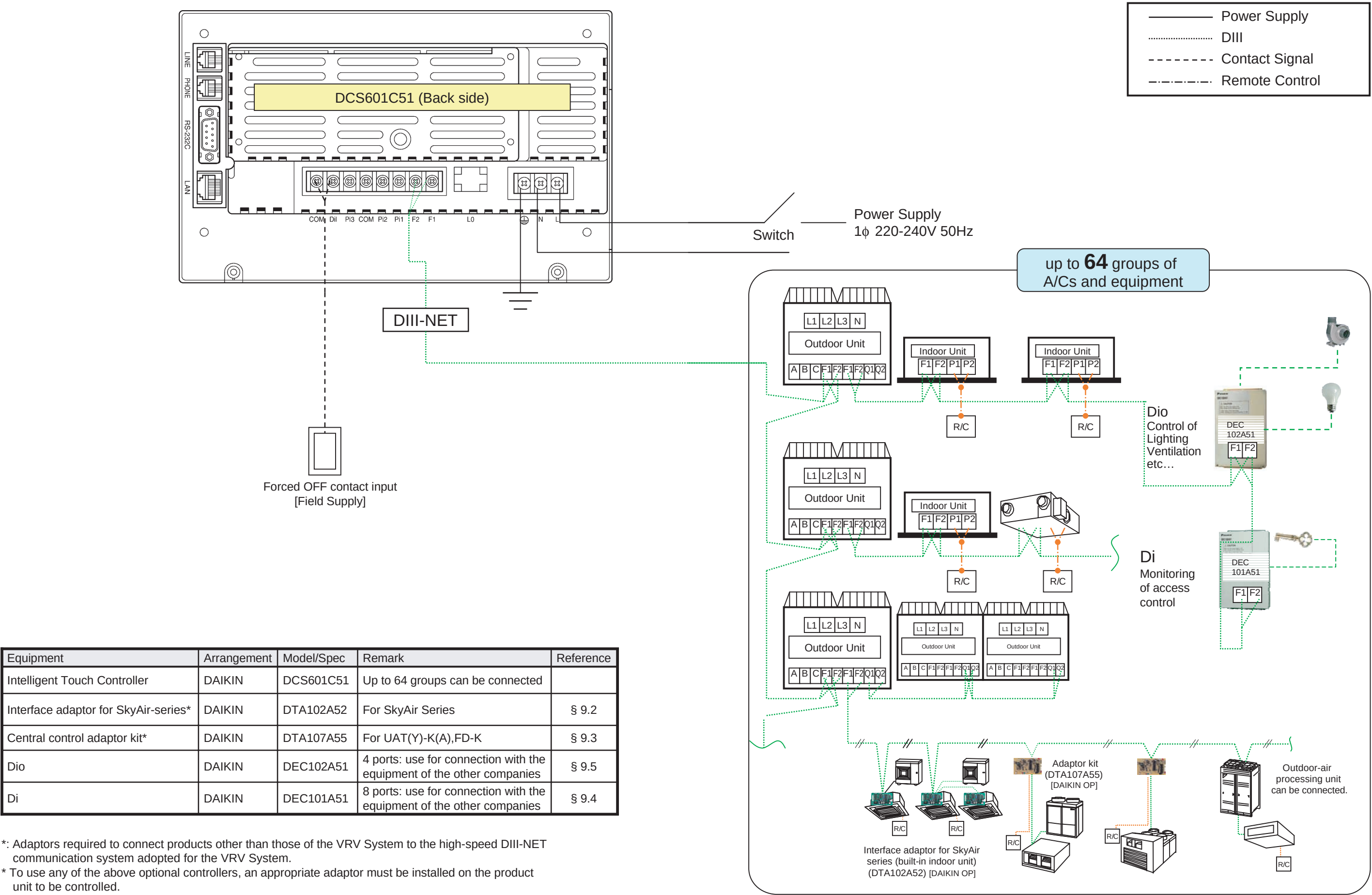
The power consumption of the outdoor unit can be proportionally calculated for each indoor unit using the intelligent touch controller and the Power Proportional Distribution software. The calculated results are recorded in the intelligent touch controller for last 13 months. The recorded, proportionally calculated results can be taken out from a remote PC through the LAN.



Equipment	Arrangement	Model/Spec	Remark
Intelligent Touch Controller	DAIKIN	DCS601C51	Up to 64 groups can be connected
Option for Intelligent Touch Controller (Web)	DAIKIN	DCS004A51	Activation number card included
Option for Intelligent Touch Controller (P.P.D)	DAIKIN	DCS002C51	Activation number card included PCMCIA card is included.
PC	Field Supply	•Performance : Pentium III: 800MHz,Memory:256MB,HDD:4G •Network:100Base/T Ethernet •Operation: Keyboard/Mouse,Sound and Speaker •Software: Windows XP(Professional SP2 or later) Windows 2000(Professional SP4 or later) •CRT:SVGA(800x600,1024x768,1280x1024)	
HUB	Field Supply	Supporting 100Base/T	
kW·h meter	Field Supply	•Pulse transmitter	•1 Pulse to 1 kW·h or 10 kW·h pulse width must be within 40-400 m/sec. •Output relay must be electronic type only. • No voltage output



5.9.6 Other Air Conditioner+Di,Dio Units



6. Web function

■ Outline of the Web function system

By using the separately sold Web function software with the intelligent Touch Controller, air conditioners connected to the intelligent Touch Controller may be monitored and controlled by a general purpose computer connected to the intelligent Touch Controller through the network.

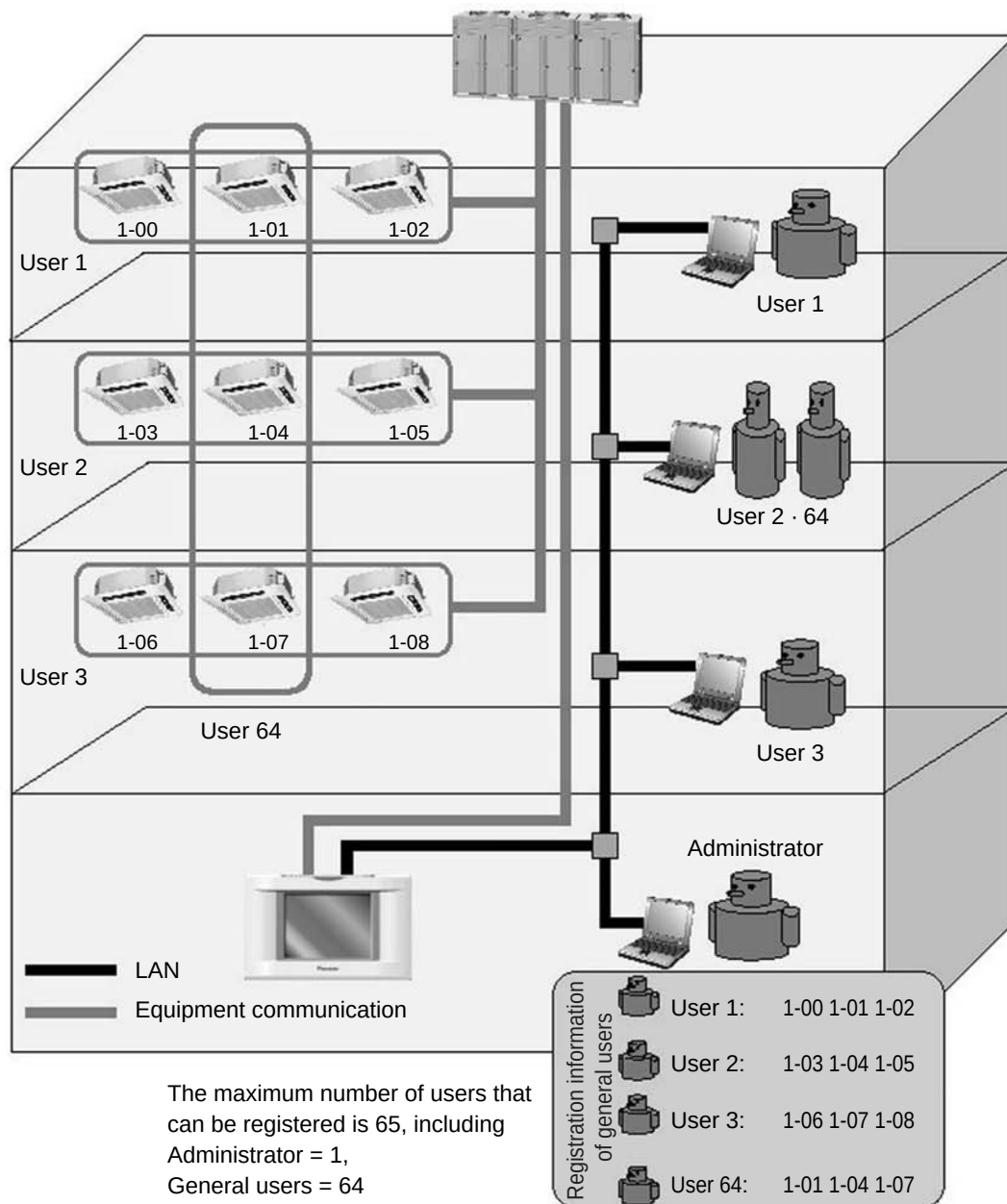
Usage examples are described below.

The Administrator may register (control) air conditioners which can be operated by each general user.

In the following example shown in Fig. 1, the users User 1, User 2, and User 3 are registered as users who may only monitor and control the nearest air conditioner.

Also, as in the case of user 64, overlapping registering of an air conditioner which can be operated by another user is possible.

Fig. 1 User setting image Figure



Note : This function may be used by using the separately sold item DCS004A51.

■ Before use

In order to use the WEB function of the intelligent Touch Controller, the PC to be used as a WEB terminal needs to satisfy the following specifications.

Make sure of them beforehand.

<Specifications required for the PC to be used as a terminal>

CUP	Pentium III 800MHz or better
OS	Windows 2000 SP 4 or better, Windows XP SP1 or better
Memory	256 MB or larger
Hard disk space	100 MB or more (need for installation of Java plug-in)
Network	10 Base-T or better
Video card display	Resolution: 1024 x 768 (XGA) or better Maximum simultaneous color: 65535 colors or more
Browser	Internet Explorer 6.0 SP1 or later *1
Java plug-in	J2SE (Java2 Platform Standard Edition) Ver.1.4.2_04 *2

*1 If the browser of your PC is not Internet Explorer 6.0 SP 1 or later, download it from the web page of Microsoft. You can download it free of charge.

Please note that the WEB function may not work properly with other browser software (e.g. Netscape, etc). Do not fail to use the browser software specified in this section.

*2 Version for Java plug-in must be J2SE (Java2 Platform Standard Edition) Ver. 1.4.2_04. We cannot guarantee work of our system with Java plug-in of versions other than Ver. 1.4.2_04. Download it (free) from the web page of SUN or consult with the shop where you purchased this product.

■ Limitation of functions by log-in name

There are two types of log-in name. One is the general users' log-in name with which you can make basic operations and the administrator's log-in name that enables you to make further detailed settings. Items you can operate with the WEB function are as follows:

● Operations an administrator can make.

- Operation of air conditioner
- Monitoring of air conditioner
- ◎ Setting of schedule
- ◎ Setting of distribution
- ◎ Setting of password
- ◎ Setting and change of general users' passwords
- ◎ Registration and deletion of a general user
(can be registered up to a maximum 64 users)
- ◎ Setting of equipment that general users can operate

● Operations a general user can make

- Operation of air conditioner
- Monitoring of air conditioner
- Change of a password

◎ Items only an administrator can operate

☆ An administrator can register zones in which each general user can make operation.

☆ A general user can operate and monitor only the equipment designated by an administrator.

■ Two different display modes on the screen

For the method of display on the screen of the PC for the intelligent Touch Controller, you can select either one mode from the following two modes:

- **Basic mode**
- **Detailed mode**

Differences in function of the basic mode and the detailed mode are as follows.

● Operations available with the basic mode

<General user>

- Monitoring of air conditioner
- Operation of air conditioner

<Administrator>

- Operation of air conditioner
- Monitoring of air conditioner

● Operations available with the detailed mode

<General user>

- Monitoring of air conditioner
- Operation of air conditioner
- Setting of function limitation for an on-hand remote controller
- Change of a password

<Administrator>

- Operation of air conditioner
- Monitoring of air conditioner
- Setting of function limitation for an on-hand remote controller
- ◎ Setting of schedule
- ◎ Setting of distribution
- ◎ Setting of a password for an administrator
- ◎ Setting and change of a general user's password
- ◎ Registration and deletion of a general user
- ◎ Setting of a general user operable zone

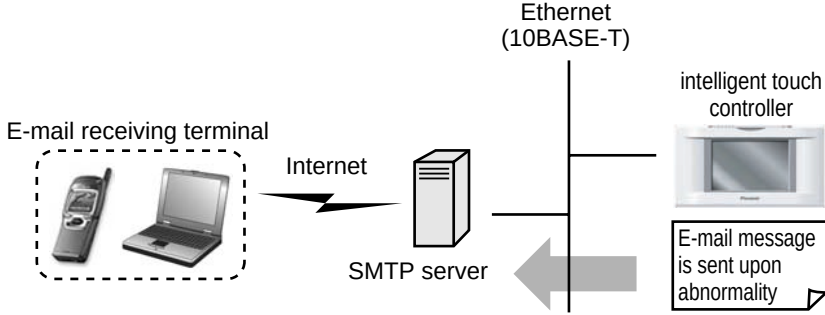
◎ Items only an administrator can operate

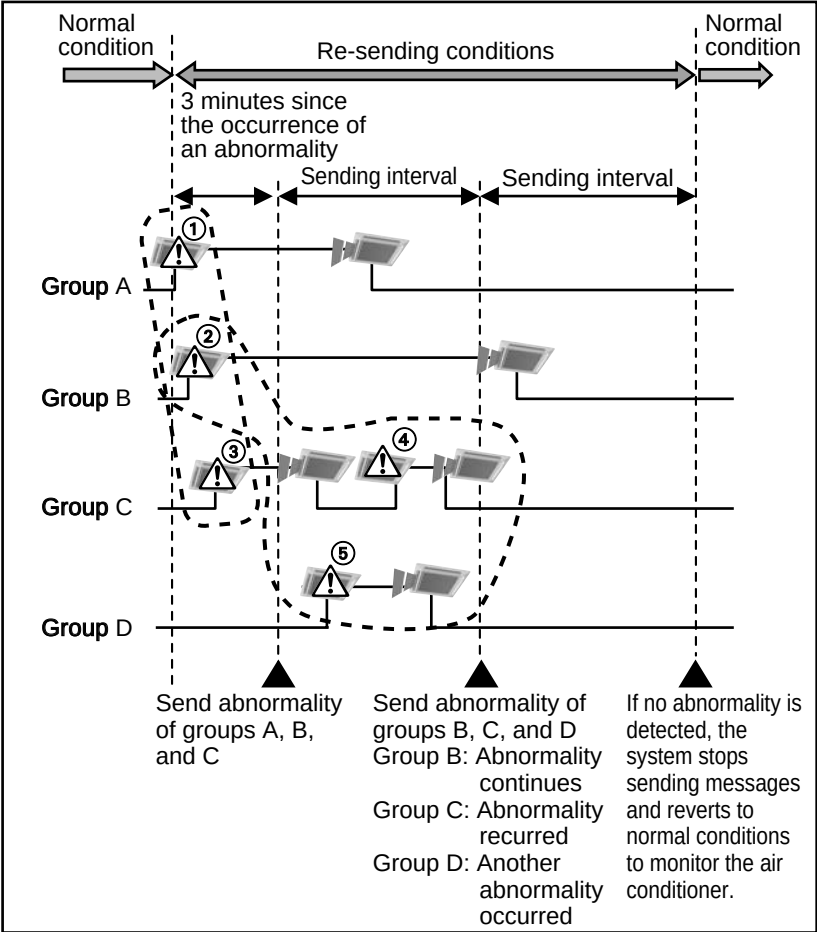
- ☆ An administrator can register zones in which each general user can make operation.
- ☆ A general user can operate and monitor only the equipment designated by an administrator.

■ Concerning E-mail settings

An additional function to signal abnormalities on an air conditioner is available, taking advantage of the web-based features.

* The E-mail service requires a separate mail server.

Title	Description	Remarks																																
E-mail settings	Using this option, any abnormality (*1) detected by the Ve-up controller is sent to a pre-registered administrator by E-mail. The details of the error, such as the date of occurrence and error codes, are sent by E-mail to a maximum of three addresses. *1: "Abnormality" refers to an error affecting an air conditioner and the system facility. E-mail message transmission is disabled if a communication error occurs between the Ve-up controller and an air conditioner or system facility. In addition, if an air conditioner alarm is handled as an abnormality by settings specified during a trial run, a mail message is sent upon the occurrence of an abnormality or alarm. The following devices are required to use the E-mail function: - Simple Mail Transfer Protocol (SMTP) server - A RFC821 compliant server which allows the transfer of E-mail messages - E-mail receiver terminal - A RFC822 compliant terminal that allows E-mail messages to be received Note: To use the E-mail function, a network setting must be specified. E-mail messages are not received on a receiver terminal unless a network setting is specified. (The DCS601C1 operating manual describes details of network settings.) The following figure shows an example of system composition:  The following settings must be specified on this system: <table><thead><tr><th colspan="2">Setting item</th><th>Description</th></tr></thead><tbody><tr><td colspan="2">E-mail function valid/invalid</td><td>Mail messages are not sent if "invalid" is specified.</td></tr><tr><td rowspan="6">SMTP Server</td><td>SMTP server address</td><td>Specify the URL (IP address) of the SMTP server.</td></tr><tr><td>SMTP server port number</td><td>Specify the port number of the SMTP server</td></tr><tr><td>"POP before SMTP" function</td><td>Specify whether to access a specified POP server before sending a mail message.</td></tr><tr><td rowspan="4">When the "POP before SMTP" function is valid</td><td>POP Server address</td><td>Specify the URL (IP address) of the SMTP server.</td></tr><tr><td>POP Server port No.</td><td>Specify port number of the SMTP server</td></tr><tr><td>POP user ID</td><td>User ID used for POP authentication</td></tr><tr><td>POP password</td><td>Password used for POP authentication</td></tr><tr><td rowspan="3">Transmitting condition</td><td>Transmission target group</td><td>Upon failure, specify the target group to which to send messages.</td></tr><tr><td>Transmission interval</td><td>If failure continues without being resolved, a mail message is sent at specified intervals. (Setting range: From 1 to 72 hours at 1-hour intervals)</td></tr><tr><td>identification name of the intelligent touch controller</td><td>Specify the character strings to be displayed as a title when receiving a message.</td></tr><tr><td>E-mail</td><td>E-mail addresses 1, 2, and 3</td><td>Specify an E-mail address. This is omissible.</td></tr></tbody></table>	Setting item		Description	E-mail function valid/invalid		Mail messages are not sent if "invalid" is specified.	SMTP Server	SMTP server address	Specify the URL (IP address) of the SMTP server.	SMTP server port number	Specify the port number of the SMTP server	"POP before SMTP" function	Specify whether to access a specified POP server before sending a mail message.	When the "POP before SMTP" function is valid	POP Server address	Specify the URL (IP address) of the SMTP server.	POP Server port No.	Specify port number of the SMTP server	POP user ID	User ID used for POP authentication	POP password	Password used for POP authentication	Transmitting condition	Transmission target group	Upon failure, specify the target group to which to send messages.	Transmission interval	If failure continues without being resolved, a mail message is sent at specified intervals. (Setting range: From 1 to 72 hours at 1-hour intervals)	identification name of the intelligent touch controller	Specify the character strings to be displayed as a title when receiving a message.	E-mail	E-mail addresses 1, 2, and 3	Specify an E-mail address. This is omissible.	
Setting item		Description																																
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	"POP before SMTP" function	Specify whether to access a specified POP server before sending a mail message.																																
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		POP Server port No.	Specify port number of the SMTP server																															
		POP user ID	User ID used for POP authentication																															
POP password		Password used for POP authentication																																
Transmitting condition	Transmission target group	Upon failure, specify the target group to which to send messages.																																
	Transmission interval	If failure continues without being resolved, a mail message is sent at specified intervals. (Setting range: From 1 to 72 hours at 1-hour intervals)																																
	identification name of the intelligent touch controller	Specify the character strings to be displayed as a title when receiving a message.																																
E-mail	E-mail addresses 1, 2, and 3	Specify an E-mail address. This is omissible.																																

Title	Description	Remarks
Timing of E-mail message transmission	Timing of setting E-mail message The following figure presents an example of timing the setting of an E-mail message. [Sending message when an abnormality has occurred under normal conditions] If an abnormality occurs in a target group of mail messages being sent, the system waits for 3 minutes since the first abnormality ((1) in the figure) before sending a mail message. * A mail message is not sent immediately after the occurrence of an abnormality. If any abnormality occurs in other groups ((2) and (3) in the figure) during the 3-minute waiting period, the abnormalities are notified collectively via a single E-mail message. [Resending a mail message] As shown in group B, if an abnormality continues after a time interval has elapsed since transmission of the first mail message, a mail message is resent. In addition, if a group recovers from an abnormality after sending a mail message and another abnormality recurs in the same group ((5) in the figure), the latest abnormality is sent in the message after the sending interval has elapsed. If another abnormality occurs within the time interval of sending messages ((4) in the figure), the abnormality is sent in the message after the sending interval has elapsed. If no abnormality is detected after the sending interval has elapsed, the system stops sending messages and reverts back to normal. *: The  symbol in the figure indicates the occurrence of an abnormality, while the  symbol in the figure indicates recovery from the same.  The diagram illustrates the timing of E-mail transmission across four groups (A, B, C, D) under normal and re-sending conditions. A timeline at the top shows a 3-minute period from the first abnormality (1) to the next sending interval. Group A has an initial abnormality (1) and a subsequent recovery. Group B has an initial abnormality (2) and a subsequent abnormality (4) during the sending interval. Group C has an initial abnormality (3) and a subsequent abnormality (5) during the sending interval. Group D has an initial abnormality (4) and a subsequent abnormality (5) during the sending interval. The diagram shows that a single message is sent for groups A, B, and C, and another message is sent for groups B, C, and D. The system reverts to normal conditions if no abnormality is detected after the sending interval has elapsed. Timing of E-mail transmission	

Title	Description	Remarks
Contents of the E-mail message	Contents of the E-mail message The following shows the contents of an E-mail message. If 3 or more abnormalities occur simultaneously, the most recent 2 items are displayed and the number of other abnormalities is displayed. From: <u>user012@daikin.co.jp</u> ← Sender mail address To: user012@daikin.co.jp ← Destination mail address Subject: Fault occurs ← Preset character strings and controller name 04/02 14:11 office 1 A6 ← The order of the date of occurrence, date of occurrence of the abnormality (month, day, hour, and minute), group name, and error code are displayed. If 3 or more abnormalities exist, the number of remaining items is displayed. 04/02 14:10 office 2 E0 Remaining mails: 1 ← Operation when sending of an E-mail message fails If an E-mail message cannot be sent, 3 further attempts are made to send the message at 2 minute intervals. However, a mail message is not resent under the following conditions: - The POP server returns a user authentication error. - The SMTP server returns a permanent fault response. - When a trial mail message is sent. E-mail transmission history A history of success/failure in sending E-mail message is saved for a maximum 300 messages.	