

DAIPL-CN141

One touch selection to total air comfort

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ALL IN ONE System solution for management of building air conditioning

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For Energy Saving & Comfort

intelligent touch Manager maximises the advantages of VRV features

intelligent touch Manager is an advanced multi-zone controller that provides the most cost-effective way to control and monitor the Daikin VRV system.

The 10.4" LCD touch screen is easy to use with three different screen views to include the floor plan layout view, icon view and list view and menus for system configurations.

It is also easy to use with standardized remote Web Access from your PC.

It can manage a total of 650 management points consisting of up to 512 Daikin indoor unit groups (up to 1024 indoor units) along with building equipment control / monitoring with Digital Inputs / Output (Di/Dio) , Analog Inputs / Output (Ai/Ao) and Pulse input (Pi) optional devices.

The new V1.20 software meets all of your control requirements such as

- BACnet connection with a wide range of building equipment.
- WAGO Ao and Pi are newly supported and connectable WAGO modules are added.

intelligent touch Manager System Overview



Intuitive Monitoring & Control

Anybody can easily manage VRV system

The easy - to - understand icon and intuitive menu will enable users to be an expert in managing the *VRV* system



Operation management

Only When and Where Necessary

Schedule function for flexible management of time and setpoint

Saving energy by preventing wasteful operation in unoccupied periods



Not Only VRV System, but Also Other Building Equipment

Integrated control of various air conditioning-related equipment



Emergency stop for localised fire protection areas

By interlocking fire alarms, the system can perform an emergency stop of air conditioning and ventilation units and execute for either all air conditioning units or only affected fire protection areas.

Having centralised control to perform an emergency stop on localised fire protection areas offers building managers of multi-tenant buildings a choice for maximising safety of affected areas without disrupting activities of those areas that are unaffected.



Web-Access

Multiple buildings can be managed from one site

Remote monitoring control

The Web function enables management for the Daikin *VRV* system with other building equipment integrated into *intelligent touch Manager* that can be accessed from your PC*.

All operations and system configurations which you can do on the *intelligent touch Manager* touch screen can be done through Web access.

- Up to 4 administrators and 60 general users can be registered.
- Screens and operations accessible to general users can be restricted.

E-mail alert enables prompt response by service engineers based timely and precise knowledge of what happened in the system at the remote site.

- Up to 10 e-mail addresses can be set.
- SMTP server authentication method is selectable from no authentication, POP before SMTP, or SMTP-AUTH.



*Flash player is required.

E-mail alerts for reporting malfunctions

E-mail alerts are sent immediately to inform concerned parties of malfunctions involving equipment connected to the *intelligent touch Manager*. Conveying equipment models and error codes, these e-mail alerts enable recipients to take prompt action and can be set for specific equipment.



Energy Management (Energy Navigator Option)

Motivating for further energy saving

Energy saving assisted by Energy Navigator (Option)

Energy consumption trends of all the equipment (including air conditioning units) can be easily understood by using the Energy Navigator feature. Here users can identify air conditioning units that are suspected of overcooling or kept running in unoccupied rooms.

The Energy Navigator feature will also provide support in formulation and verification of energy-saving measures to help ensure advanced energy management.

Hourly energy consumption is measured and the intelligent touch Manager records data sent from the electrical meter.



Accumulated data appears in an easy-to-understand graph.

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(1) Warning indication

Actual daily energy

consumption

③ Cumulate line

Energy consumption data is presented on a daily and monthly basis. Also, energy targets and projected energy consumption data as well as comparison data with the previous year's actual results are presented in a user-friendly format to help ensure energy-saving control.





Based on the accumulated data, the intelligent touch Manager automatically identifies rooms and air conditioning units that substantially deviate from operation rules established by the user for operation time and predetermined temperature settings. A benchmark showing ways to further reduce energy consumption can be displayed to alert users to even greater energy and cost savings.



(3) Number of days of rule deviation

Tenant Management (PPD* Option)

Reporting the power consumption of VRV system for each tenant

With the PPD function, power consumption can be calculated for each indoor unit (Option)

The energy consumption is proportionally calculated for each indoor unit. The data can be used for energy management and calculation of air conditioning usage fees for respective tenants.

Operational information of individual indoor units are monitored, based on distribution of power consumption of outdoor units.



Daikin's PPD keeps track of power distribution for each indoor unit. It performs air conditioning billing calculations quickly and automatically.



 * PPD (Power Proportional Distribution) is Daikin's proprietary calculation method.

It is easy to output PPD data. PPD data is output in CSV format to a PC or USB memory device and can be freely processed and managed.



Air Conditioning Network Service System

Preventive Maintenance

The *intelligent touch Manager* can be connected to Daikin's own Air Conditioning Network Service System for remote monitoring and verification of operation status for *VRV* system. By its ability to predict malfunctions, this service provides customers with additional peace of mind.

Enhanced convenience with link to the Air Conditioning Network Service System

The intelligent touch Manager connects seamlessly to

Daikin's 24-hour Air Conditioning Network Service System.



*Because of restrictions in applicable areas and release times, please consult a Daikin representative separately for details.

Application 0

Intelligent Manager

Comfort with minimum energy

In office buildings, approx.50% of total electricity consumption is occupied by air conditioning. *intelligent touch Manager* provides a huge potential of cost saving for office application with its functions such as schedule programme and setpoint restriction.

Typical energy consumption of an office building





Case study: Energy Saving by control system

The following is an actual case of energy saving done by our control system.

By investigating *VRV* usage in each area of the building to clarify the deviation of power consumption and to find out the potential of energy saving, the new control programme succeeded in reducing 16.5% of the power consumption. Preventing *VRV* operation in unoccupied period and excessive setpoint in unnecessary area mainly contributed to the reduction. As the new programme restricted only unneccesary part of *VRV* usage, the power consumption decreased without losing comfort of users.

Control programme

				_	
Function	Before	2	After		
Schedule programme	No		Yes	-	
Satagint restriction with Schoolule function	Office	No		Yes (22 - 25degC)	1
Setpoint restriction with Schedule function	Common area	No		Yes (24 - 26degC)	-
	1821				

Average of daily Power Consumption based on actual measured data



Automatic control based on occupancy and check-in/-out status of each room

Hospitality with economy

A hotel's reputation depends on how welcomed and comfortable guests feel during their stay. Yet at the same time, hotel owners might want to focus on cost saving.

intelligent touch Manager provides optimum control for hotel application to manage comfortable & energy saving air conditioning system.

Intelligent Manager



Interlock control

Interlocking with Keycard swithes and Window contact switches, iTM automatically changes VRV operation status according to each room condition.





Application **3**

Stable operation in server room to protect valuable data



Rotation system

Two or more air conditioning units operate alternately to equalize and extend the product life cycle of VRV system.

intelligent touch Manager changes the combination of operating units and a backup unit by turns. The combination moves from the pattern 1 to 2, 2 to 3, 3 to 1 by schedule programme.



Backup operation in case of a malfunction

Backup unit automatically starts

Manager detects it and send an e-mail to a facility manager. Also intelligent touch Manager starts a backup unit by interlock programme to keep two indoor units operating.



Intelligent Manager

Additional start up at high temperature

If an abnormal increase in room temperature is detected, a backup unit automatically starts.

Note:

When temperature in a server room becomes higher than pre-determined temperature, intelligent touch Manager starts a backup unit by interlock program to maintain room temperature. At the same time, intelligent touch Manager sends an e-mail to a facility manager to notify the temperature increase.

To detect the temperature, sensors of indoor units or remote controllers are available. (No additional equipment is necessary.)



intelligent touch Manager function

Category	Function		Remarks	
	iTM plus adaptor (DCM601A52)		Maximum number of adaptors: 7	
Basic functions	Management points		Maximum number of management points: 650 (Number of DⅢ connection management points: 512)	
	Areas		Maximum number of areas: 650 Maximum area hierarchies: 10	
	Supported languages		English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese, and Japanese	
	Monitoring screens	Icon view	Icons show the operation status of equipment.	
		List view	Detailed information of each management point is displayed.	
		Layout view	Up to 60 screens can be created. (Engineering option)	
	History		Up to 500,000 events are recorded in history including malfunctions, operations, automatic control, and system information. Operation origin is also recorded.	
	Schedule		Number of programmes:100 Up to 20 actions/day can be set.	
		Weekly schedule	7 days of the week + 5 special days can be set.	
		Yearly calendar	Special days can be specified by date or month/week/day of the week. Special day settings can be reused every year.	
		Seasonal schedule	Programmes for respective seasons can be switched by date.	
	Interlock		Number of programmes:500 Interlock is possible for on/off, malfunction, analogue value, and operation mode switching.	
	Emergency stop		Number of programmes:31	
Automatic control	Automatic changeover		Number of changeover groups:512	
	Temperature limit		Number of temperature limit groups: 8	
			Upper limit range: 32-50°C Lower limit range: 2-16°C	
	Sliding temperature		Number of sliding temperature groups: 8 Outdoor temperature range: 18-34°C Setpoint range: 16-32°C	
	Heating Mode Optimisation (HMO)		Unneeded heating is prevented.	
	Timer extension		Operation stop is selectable from 30, 60, 90, 120, 150, and 180 minutes.	
Setback			Setback setpoint can be set for 2 patterns. Temperature range: 1-7°C , -17°C (setpoint shift amount)	
	Power Proportional Distribution		Hourly Power Proportional Distribution results up to 13 months are recorded. The system supports data output in CSV format.	
Data control	Energy Navigator		Actual results of daily/monthly energy consumption are shown in graphs. Comparisons can be made with predetermined values/actual results of the previous year. Inefficient operation of <i>VRV</i> indoor units is automatically identified, and energy waste is calculated.	
Domete cocces	Web access		Web browsers can display the same type of screen as the <i>intelligent touch Manager</i> . Up to 4 administrators and 60 general users can be registered. Screens and operation accessible to general users can be restricted.	
Hemote access	E-mail alerts		Up to 10 e-mail addresses can be set. Addresses for sending malfunction alerts can be set by range of management points. The SMTP server authentication method is selectable from no authentication, POP before SMTP, and SMTP-AUTH.	
	Automatic registration		Indoor units connected to DIII-NET are automatically detected, and icons for respective models are automatically registered.	
System	Security		Screen lock functions are available. Access restrictions can be set for each general user.	
	Screen savers		Screen savers are selectable from 3 patterns.	
	Setting of contact information		Contact information for servicing can be registered.	
Air Conditioning	Air Conditioning Network S	Service System	A service agreement needs to be concluded.	
Network Service	Energy Saving Air Conditioning Network Service System		A service agreement needs to be concluded.	

Types of management points and target equipment/interface

Management point	Supported equipment	Number of management points	
	DIII-compatible indoor units		
Indoor	AHU kit (EKEQFCB,EKEQDCB,EKEQMCB)		
	Interface adaptor for SkyAir (DTA102A52, DTA112BA51)	Maximum: 512 *1	
	Interface adaptor for residential indoor unit (KRP928BB2S)		
	Central control adaptor kit for package A/C (DTA107A55)		
Outdoor	VRV outdoor units	Maximum: 80	
Ventilator	Heat Reclaim Ventilator	Maximum: 512 *1	
D3 Chiller	DIII-compatible air-cooled chillers (UWA/Y) / water-cooled chillers (ZUW)	Maximum: 320 *2	
Di	Di port of intelligent touch Manager	Maximum: 32 *3	
	Di port of <i>iTM plus adaptor</i>		
D3 Di	DIIIDi Unit (DEC101A51)	Maximum: 512 *1	
External Di	WAGO Di	Maximum: 512 *4	
D3 Dio	DIIIDio Unit (DEC102A51)	Maximum: 512 *1	
50 510	General-purpose adaptor (DTA103A51)	Maximum: 512 *4	
External Dio	WAGO Di, Do		
Di	Pi port of intelligent touch Manager	Maximum: 32 *3	
FI	Pi port of <i>iTM plus adaptor</i>		
Internal Pi	Energy consumption of VRV outdoor units Maximum: 80		
External Pi	WAGO Pi (Not available for PPD function)		
External Ao	WAGO Ao	Maximum: 512 *4	
External Ai	WAGO Ai		
Internal Ai	Room temperature, setpoint of indoor units D3 Chiller outlet/inlet water temperatures		
BACnot Di	BACnot object BI/RO/RV/ con ba linked		
BACnot Dio	BAChet object BI/BO/BV can be linked		
BACnot Ai	BAChet object BI/BO/BV can be linked	Maximum: 512 *5	
BAChet As			
	BAChel obejci AU/AV can be inked		
AHU "	BAChet connectable AHU using Micro i ech III Maximum: 20		

*1: Total of DIII connection equipment (Indoor, Ventilator, D3 Chiller, D3 Di, D3 Dio) *2: Maximum number of management points for D3 Chiller only *3: Total of Di/Pi management points *4: Total of External Di, External Dio, External Ai, External Ao, External Pi and Internal Ai *5: Total of BACnet points (include AHU*6) *6: AHU count as 20 BACnet points

DAIKIN supplied equipment & Software option

Model	Item			
DCM601A51	intelligent touch Manager			
DCM601A52	iTM plus adaptor (Option)			
DCM002A51	iTM power proportional distribution software (Option)			
DCM008A51	iTM energy navigator software (Option)			
DCM009A51	BACnet client software (Option)			
WAGO I/O system	Di module (DC24V/4.5mA) : 750-400,750-432 Di module (DC24V/2.8mA) : 750-430 Do module (AC230V/DC30V 2A) : 750-513/000-001 Do module (DC24V 0.5A) : 750-504 Ai module ($4\sim$ 20mA 12bit) : 750-454,750-455 Ai module ($-10\sim$ 10V 13bit) : 750-459 Ai module ($0\sim$ 10V 12bit) : 750-554,750-555 Ao module ($4\sim$ 20mA 12bit) : 750-554,750-555 Ao module ($0\sim$ 10V 10bit) : 750-560 Ao module ($0\sim$ 10V 12bit) : 750-559	Thermistor module (NTC20K) : 750-461/020-000 Thermistor module (Pt 100/RTD) : 750-461/750-460 Thermistor module (Pt 1000/RTD) : 750-461/000-003,750-460/000-003 Thermistor module (Ni 100/RTD) : 750-461/000-004 Thermistor module (Ni 1000 TK6180/RTD) : 750-461/000-005,750-460/000-005 Pi module : 750-638		

Locally supplied equipment

Item	Specification			
USB memory	USB 2.0 Up to 32GB memory can use			
PC for Web access	Web browser : Internet Explorer 11 Firefox 26.0 Chrome 32.0 Flash Player Ver11.9.900.170			

intelligent touch Manager

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

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



iTM plus adaptor (DCM601A52) Input/Output port

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

 $\begin{array}{l} \mathsf{POWER}\ \mathsf{SUPPLY}:\ \mathsf{DCM601A52}\ \mathsf{AC100V-240V(\pm10\%)(50/60Hz)}\\ \mathsf{INPUT}:\ \mathsf{6W}\\ \mathsf{MASS}:\ \mathsf{0.5kg}\\ \mathsf{FUSE}\ \mathsf{AMP}:\ \mathsf{3.15A}\\ \mathsf{Operating}\ \mathsf{temperature}\ \mathsf{limit}:\ -10^\circ\mathsf{C}\ +50^\circ\mathsf{C}\\ \mathsf{Operating}\ \mathsf{humidity}\ \mathsf{limit}:\ \mathsf{MAX.15}\ -\ 85^\circ\!\!\mathsf{S}\\ \mathsf{Storage}\ \mathsf{temperature}\ \mathsf{range}:\ -15^\circ\!\!\mathsf{C}\ -\ +60^\circ\!\!\mathsf{C}\\ \mathsf{Installation}\ \mathsf{direction}:\ \mathsf{Vertical}\ \mathsf{direction}\ \mathsf{only}\\ \end{array}$



Daikin offers a variety of control systems

Convenient controllers that offer more freedom to administrators



Connect VRV to your BMS via BACnet® or LONWORKS®



Compatible with BACnet® and LONWORKS®, the two leading open network comunication protocols, Daikin offers interfaces that provide a seamless connection between VRV and your BMS.

Dedicated interfaces make Daikin air conditioners freely compatible with open networks

BACnet[®]

Seamless connection between VRV and BACnet[®] open network protocol.



LONWORKS® PRANCE Facilitating the network integration of VRV and LONWORKS®



Notes: 1.BACnet[®]is a registered trademark of American Society of Heating , Refrigerating and Air-Conditioning Engineers(ASHRAE). 2.LONWORKS® is a trademark of Echelon Corporation registered in the United States and other countries.

- 1. A Daikin-trained engineer must perform installation of the intelligent Touch Manager.
- 2. The clock of the intelligent Touch Manager should be adjusted once a month.
- 3. Daikin's unique PPD system calculates the energy consumption of each indoor unit based on its operation data output. Note that PPD is not a "meter" adapted to the methods of measuring electrical power consumption in each country. Tenant billing systems differ by country according to each country's respective legal system. Data obtained by PPD is for reference use only and should not be used for official financial transactions.
- 4 Ask an authorized Daikin dealer to install Daikin products. Do not try to install the product yourself or get it installed by any unauthorized dealer.

5 Use only those parts and accessories supplied or specified by Daikin. Ask authorized Daikin dealer for any repairs or components.

Warranty of the product / component shall be void if non specified spares are used or repaired by a non Daikin dealer.



Organization: DAIKIN INDUSTRIES, LTD. AIR CONDITIONING MANUFACTURING DIVISION

Scope of Registration: THE DESIGN/DEVELOPMENT AND MANUFACTURE OF COMMERCIAL AIR CONDITIONING, HEATING, COOLING, REFRIGERATING EQUIPMENT, HEATING EQUIPMENT, RESIDENTIAL AIR CONDITIONING EQUIPMENT, HEAT RECLAIM VENTILATION, AIR CLEANING EQUIPMENT, COMPRESSORS AND VALVES.



All of the Daikin Group's business facilities and subsidiaries in Japan are certified under the ISO 14001 international standard for environment management.

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