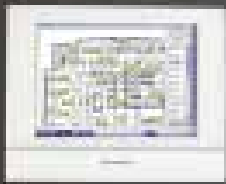


Control systems

Intelligent Touch Manager



Mini Building Management System



Complete Daikin mini BMS for building climate control

- › Integrate full Daikin portfolio
- › Integrate 3rd party equipment

User friendly

p 4

- › intuitive user interface
- › Visual layout view and direct access to indoor unit main functions
- › All functions directly accessible via both touch screen and web interface

Smart energy management

p 6

- › Enables monitoring if energy use is according to plan
- › Detect origins of energy waste, thus maximizing efficiency
- › Powerful schedules guarantee correct operation throughout the year
- › Save energy by interlocking air conditioning operation with other equipment as heating, lights, ...
- › Setback function
- › Sliding temperature

Flexible in size & integration

p11

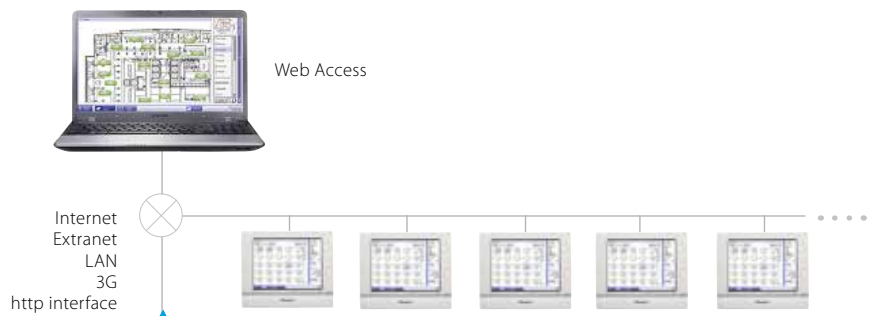
- › Integrate full Daikin portfolio (Heating, Air conditioning, Applied System, Refrigeration)
- NEW** › BACnet protocol including multi state objects for 3rd party products integration
- › I/O for integration of equipment such as lights, pumps... on WAGO modules
- › Modular concept for small to large applications
- › Connect an unlimited number of ITM to your laptop or PC

Easy servicing and commissioning

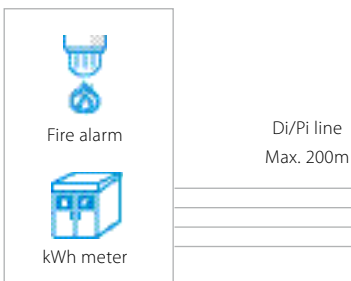
p12

- › Remote refrigerant containment check preventing on site visit
- › Simplified troubleshooting
- › Save time on commissioning thanks to the pre-commissioning tool
- › Auto registration of indoor units
- › Contact information of maintenance contractors can be registered and displayed
- › E-mails are sent automatically to alert of malfunctions and potential trouble

System Overview



Integration of third party equipment

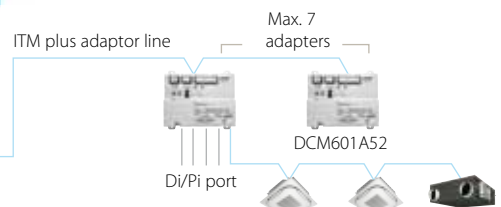


Intelligent Manager

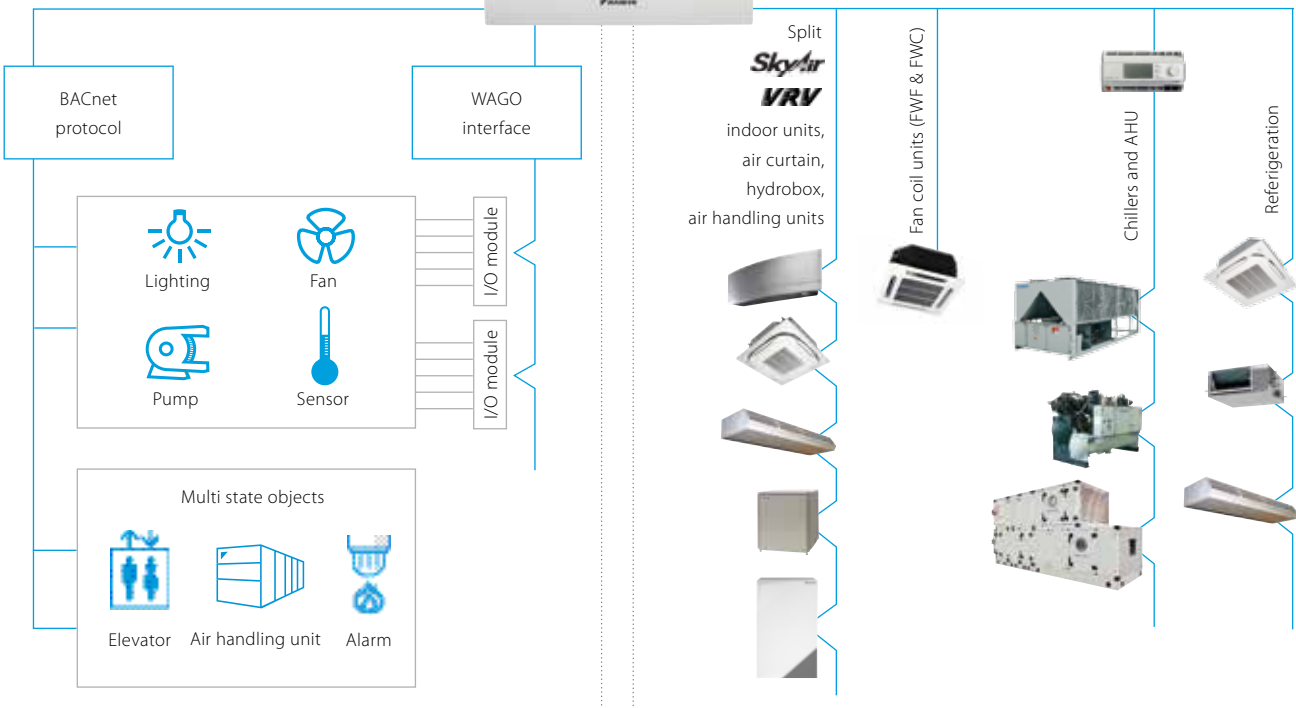
DCM601A51



Full control of Daikin HVAC-R portfolio



Direct plug & play connection!



User friendliness

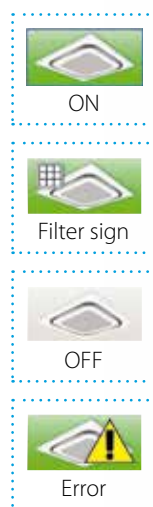
Intuitive user interface

Intuitive menu screens enable, even novice users to operate and monitor the system like an expert.



List view

Designed for simplicity, this menu provides a quick view of overall status and essential information in a list format. Using the sorting function, air conditioning units operating under the same conditions and status are identified for comparison and assessment.



Layout view

A special feature utilizes building floor plans to provide a visual representation of system equipment. Without having to memorise equipment names, users can visually locate any installed equipment by searching its position on the floor plan. By selecting the indoor unit, all main functions are directly accessible.



Comprehensive management history

Rather than simply recording malfunctions, the intelligent Touch Manager provides a comprehensive history for equipment events including operation, status change, automatic control, and settings. This assists in system optimisation for additional energy savings and comfort as well as for preventive maintenance.

Easy access to a wide range of menus

Users can easily access advanced menus, simply by touching the menu icon from the main screen.



Automatic control



System settings

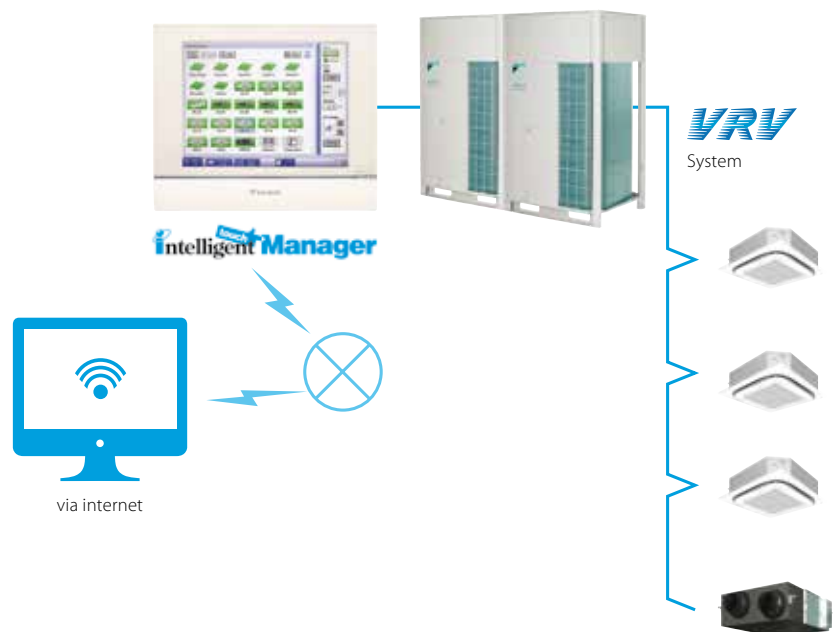


Operation management

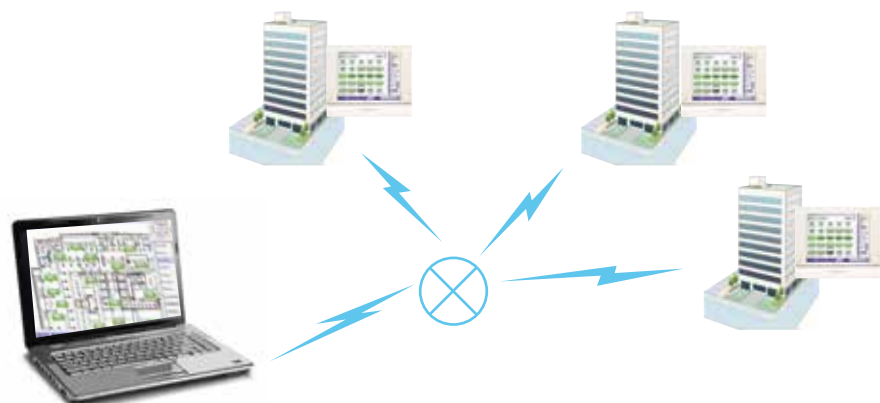
All functions directly accessible via standard web interface

Air conditioning control via PC

Manage your air conditioning system via your PC, using the same visual layout as on the intelligent Touch Manager itself.



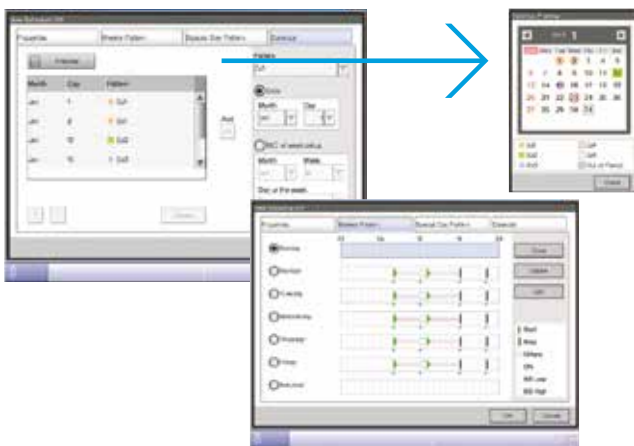
Central control of multiple buildings



Smart energy management

Powerful schedules guarantee correct operation throughout the year

Calendar settings can automate daily management of air conditioning equipment for the entire year to optimize energy savings and comfort.



A weekly schedule can be set for any air conditioning unit and its group. Administrator can also set Start/Stop, Setpoint and below conditions:

- > Pre-Cool/Heat • Setback High/Low
- > Remote Controller restriction • Timer Extension
- > Setpoint shift • fan Speed • Setpoint restriction

Holidays and special days can be set. Monthly schedules can be easily checked on the calendar.

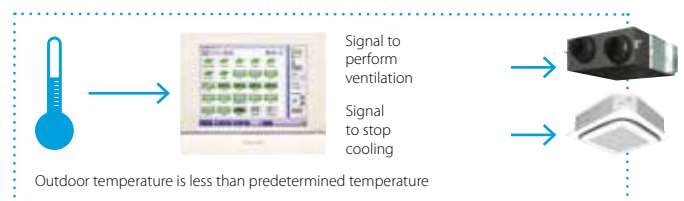
An expiration date can be set for each schedule. This enables a schedule pattern to be automatically changed according to the season.

Interlock with other equipment

The intelligent Touch Manager offers interlock possibilities that extend beyond simple starting and stopping interlock. This automatic interlock enables the system to maximise air conditioning equipment performance via free cooling or time-delayed ventilation.

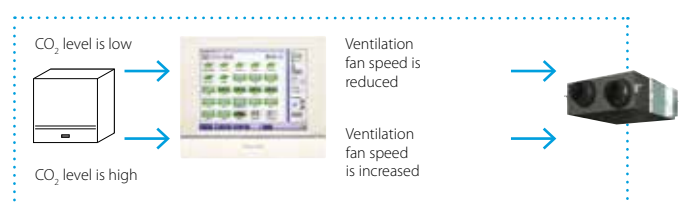
Example 1 Free cooling

When the outdoor temperature is lower than the indoor setpoint, cooling operation stops and outdoor air is directly introduced through the ventilation unit to save energy.



Example 2 Ventilation control

Ventilation equipment is controlled depending on the indoor CO₂ levels. Energy losses by over ventilation are prevented while comfort is maintained.



Interlock insures all system components work together, saving energy and increasing comfort.

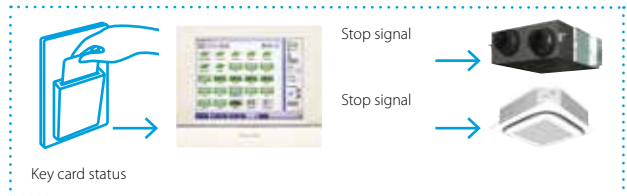
Example 3 Air conditioning interlock with underfloor heating

When the A/C system is switched to cooling, the underfloor heating is stopped.



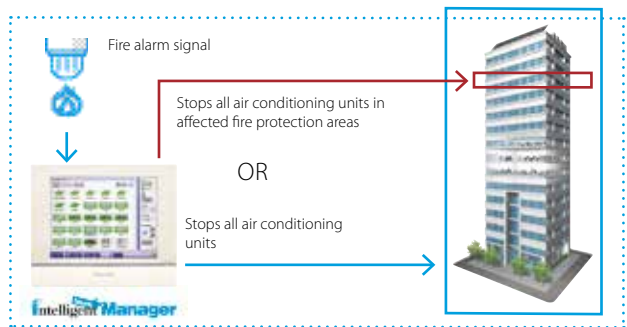
Example 4 Air conditioning interlock according to room occupancy status

Keycard control systems and occupancy sensors detect the room occupancy status and automatically change the setpoint or stop the air conditioning operation in unoccupied rooms.



Example 5 Fire alarm

By interlocking fire alarms, the system can perform an emergency stop of air conditioning and ventilation units.

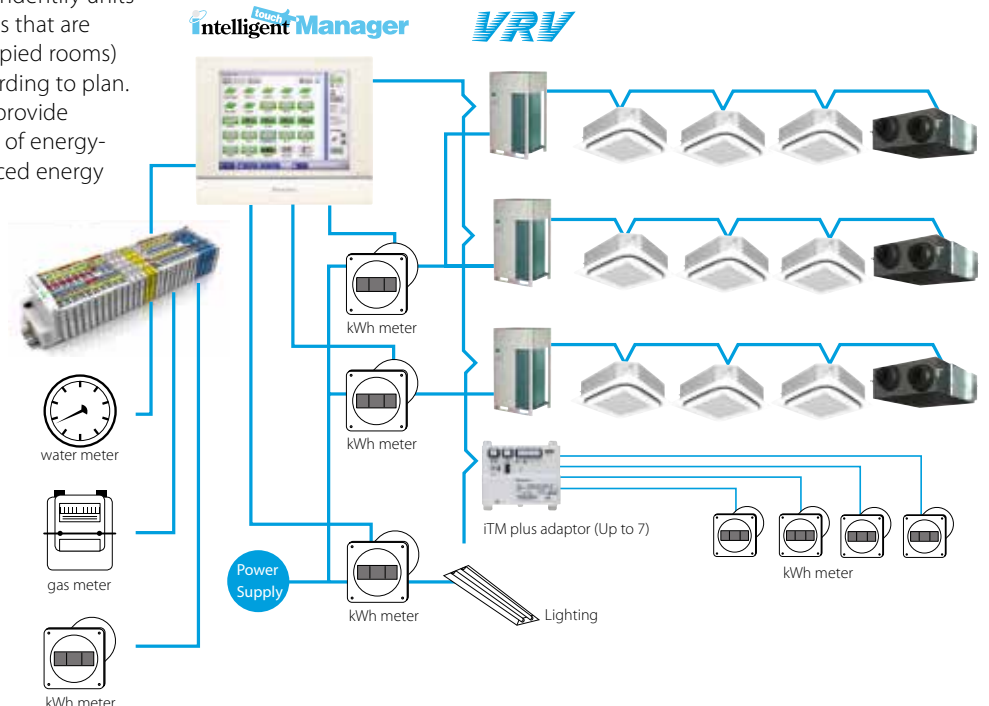


Smart energy management tools

Energy navigator

Energy consumption of all the equipment (including air conditioning units) can be easily monitored by using the Energy Navigator. Users can identify units that are an origin of energy waste (units that are overcooling or kept running in unoccupied rooms) and can follow up if energy use is according to plan. 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 energy meters.



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

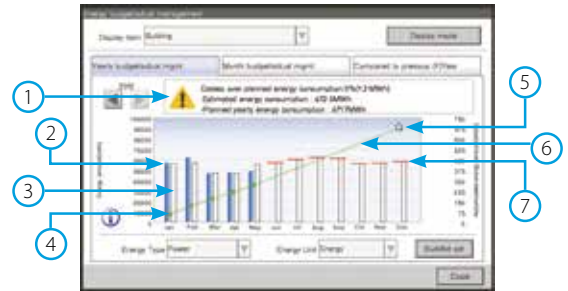
Energy consumption data is presented on a daily and monthly basis. Also, energy targets and projected energy consumption data as well as comparison data with the previous year's actual results are presented in a user-friendly format to help ensure energy-saving control.

Daily energy consumption



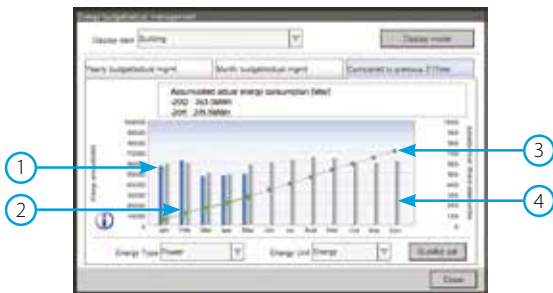
- 1 - Warning indication
- 2 - Actual daily energy consumption
- 3 - Cumulate line
- 4 - Current month's target
- 5 - Prediction line
- 6 - Daily average to achieve month's target

Monthly energy consumption



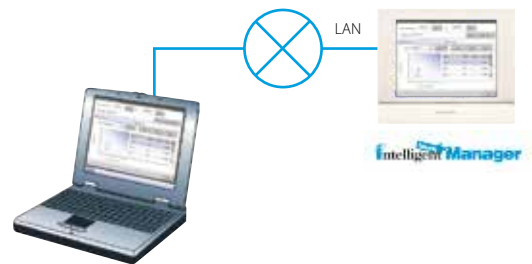
- 1 - Warning indication
- 2 - Actual monthly energy consumption
- 3 - Monthly target energy consumption
- 4 - Cumulate line
- 5 - Current year's target
- 6 - Prediction line
- 7 - Monthly target to achieve year's target

Comparison from the previous year



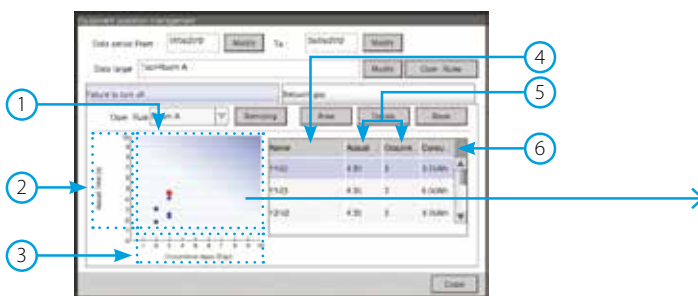
- 1 - Current year's energy use
- 2 - Current year's cumulate line
- 3 - Previous year's cumulate line
- 4 - Previous year's energy use
- 5 - Previous year's energy use

Energy management information can be checked via PC

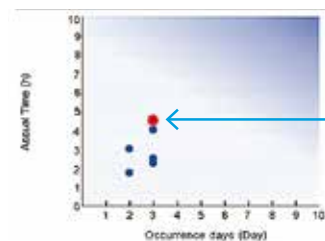


Energy consumption is automatically evaluated for each room.

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. The system points out in which rooms the biggest energy savings can be achieved.



- 1 - Plot area
- 2 - Number of hours of rule deviation
- 3 - Number of days of rule deviation
- 4 - Room name
- 5 - Number of hours and days of rule deviation
- 6 - Extra energy consumption



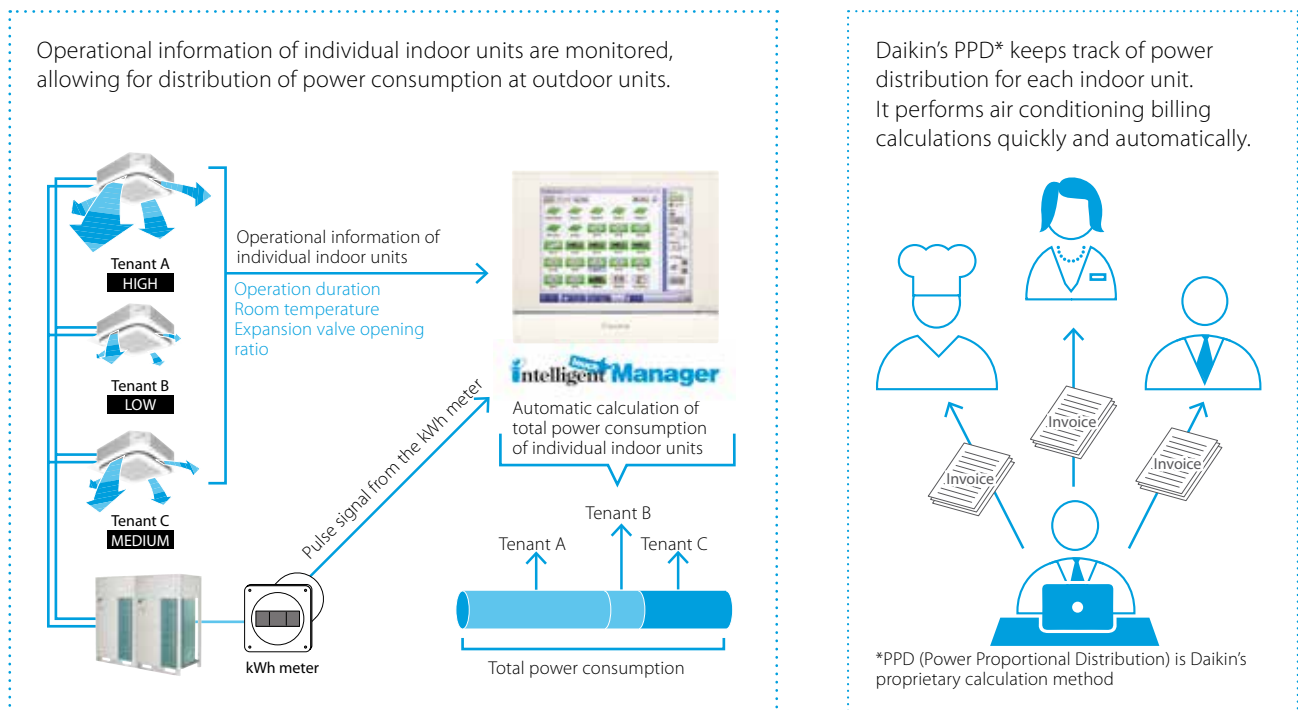
The more to the upper right a room is, the higher the extra energy consumption is.



PPD calculates air conditioning usage across tenants

PPD function

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.



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.



Other energy saving tools

Automatic changeover

Cooling/heating operations of each room can be automatically changed based on setpoint and room temperature.

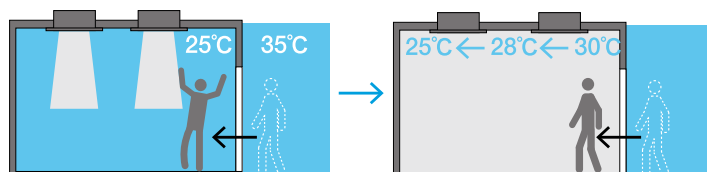
* In the case of heat pump type VRV, cooling/heating operations can be changed at the same time for the entire VRV system.

Remote control set point limitation

Specify the minimum and maximum set point, so the user cannot select a temperature outside the range, saving energy.

Sliding Temperature

This function is designed to change setpoint to reduce differences between the outdoor and indoor temperatures. Particularly useful at building entrances and similar locations, this function effectively prevents a "heat shock" from exposure to a sudden drop in temperature and can also enhance energy savings.

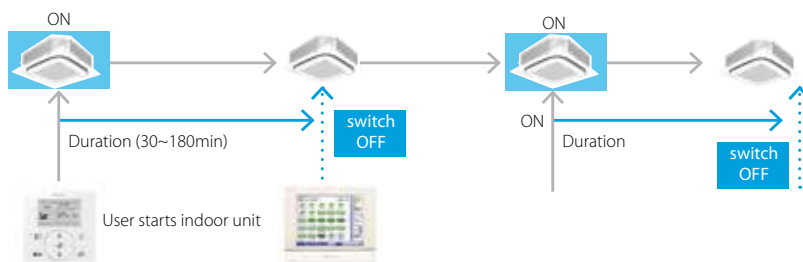


Heat shock is likely to occur when differences between indoor and outdoor temperatures are substantial.

Heat shock can be prevented by providing a gradual decline in temperature that minimises the steep differences between indoor and outdoor temperatures near entrances.

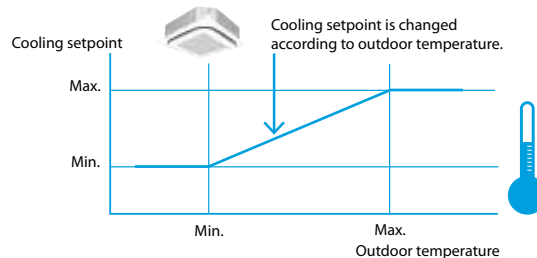
Timer Extension

To conserve energy when rooms are left unoccupied, the system switches off the air conditioning after a predetermined time. This can be a true energy saver for a variety of building types including school classrooms, meeting rooms, ...



Setback

Unoccupied rooms such as offices at night have no need for maximum air conditioning operation to maintain a suitable room environment. The setback feature changes the air conditioning setpoints in unoccupied rooms to prevent unnecessary energy consumption and provide lower electricity costs.



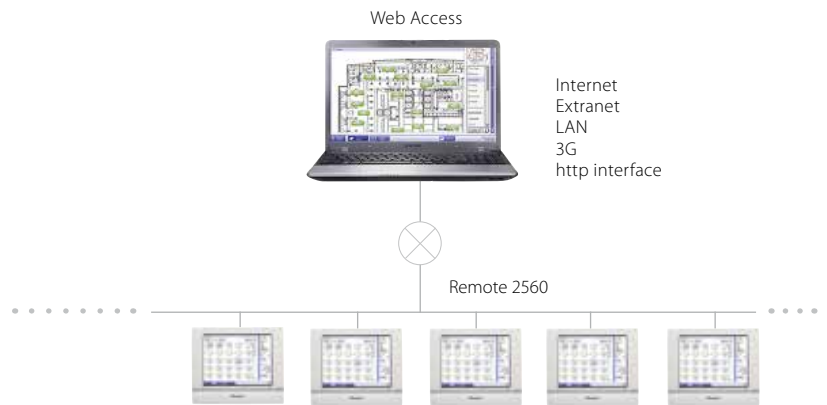
Flexible in size & integration

In size

modular design for use in small to large applications

A single intelligent touch controller can manage up to 512 groups of indoor units (in combination with up to 7 iTM plus adaptors).

Via the web access function you can control an unlimited amount of iTM's and indoor unit groups.



In integration

controlling the total solution

Intelligent Touch Manager mini BMS in combination with Daikin's energy efficient product portfolio.

- > Manage ALL HVAC-R equipment from one central location, plug & play
- > Smart energy management
- > Interlock with other third party equipment such as alarms, key card, ...

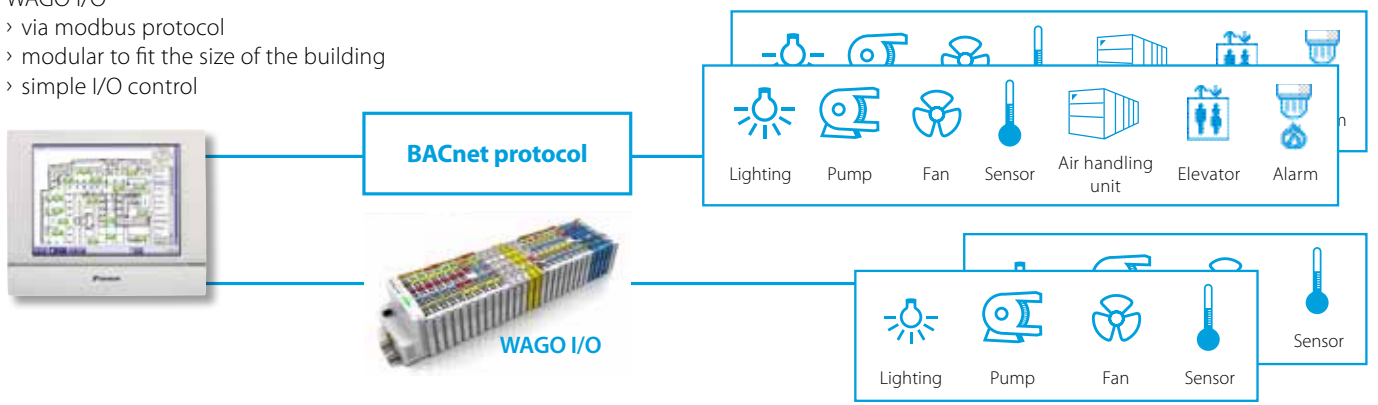
From simple A/C control to small BMS integrating lighting, pumps, ...

BACnet protocol

- > direct connection on ITM
- > modular to fit the size of the building
- > simple I/O control
- > stepped control via multi state objects

WAGO I/O

- > via modbus protocol
- > modular to fit the size of the building
- > simple I/O control





Easy servicing and commissioning

Remote refrigerant containment check

Easy, comfortable and cost efficient compliance to F-gas requirement for bi-yearly refrigerant containment check.

No need for the installer to go on site:
› Remotely set the time and date for refrigerant containment check.

No interruption of indoor comfort of the tenants
› Remote check can be done at night

How it works?



1. Remotely set the time



2. Connect to the site via 3G or internet



3. Check can be done at night



4. Verify the result

Simplified trouble shooting

Display of maintenance contact information

Contact information of maintenance contractors can be registered and displayed.



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. Equipment models, error codes, etc are sent enabling recipients to take immediate action.



E-mail alerts are sent to smartphones and PCs.



VRV System



Up to 10 e-mail addresses can be registered.



Air Conditioning Network Service System (Optional Maintenance Service).

The intelligent Touch Manager connects seamlessly to Daikin's 24-hour Air Conditioning Network Service System.*
 Daikin's Air Conditioning Network Service System monitors and verifies remotely of operation status of air conditioning units. By its ability to predict malfunctions, this service provides customers a peace of mind.

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

Save time on commissioning thanks to the pre commissioning tool

Commissioning of a VRV system was never easier and faster. 3 flexible ways enable you to commission the VRV system the way you want.

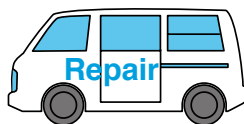
1. Commission the VRV directly from the ITM and save time by:
 - > auto registration of connected indoor units
 - > automatic allocation of the correct indoor unit type and icon
2. Export the settings of the commissioned system and easily customize them via your PC:
 - > save time by working from your PC
 - > make the customization from anywhere you want, no need to be on site
3. Prepare the project with the pre engineering tool before commissioning:
 - > reduce time on site as you only need to upload the settings
 - > make the customization from anywhere you want, no need to be on site



Even difficult to identify malfunctions can be monitored remotely.



Allows dispatching of service engineers without the need for a call from the customer.



Rapid repairs because service engineers know the cause of the problem beforehand.



Intelligent Manager



Personnel at the centre monitor the occurrence of malfunctions and track their origin via the Internet.

Advance malfunction warnings help prevent the sudden occurrence of problems later.



Intelligent Touch Manager function

Category	Function	Remarks	
Basic functions	Itm plus adaptor (dcm601a52)	Maximum number of adaptors: 7	
	Management points	Maximum number of management points: 650 (Number of d connection management points: 512)	
	Areas	Maximum number of areas: 650 Maximum area hierarchies: 10	
	Supported languages	English, french, german, italian, spanish, portuguese, dutch, chinese and japanese	
	Monitoring screens	Icon view	Icons show the operation status of equipment.
		List view	Detailed information of each management point is displayed.
		Layout view	Up to 60 screens can be created.
	History	Up to 100,000 events are recorded in history including malfunctions, operations, automatic control, and system information. Operation origin is also recorded.	
	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.	
Automatic control	Interlock	Number of programmes:500 Interlock is possible for on/off, malfunction, analogue value, and operation mode switching.	
	Emergency stop	Number of programmes:31	
	Automatic changeover	Number of changeover groups:512	
	Temperature limit	Number of temperature limit groups: 8 Upper limit range: 32-50°C Lower limit range: 2-16°C	
	Sliding temperature	Number of sliding temperature groups: 8 Outdoor temperature range: 18-34°C Setpoint range: 16-32°C	
	Heating mode optimisation (hmo)	Unneeded heating is prevented.	
	Timer extension	Operation stop is selectable from 30, 60, 90, 120, and 180 minutes.	
	Setback	Setback setpoint can be set for 2 patterns. Temperature range: 1-7°C, -1 -7°C (setpoint shift amount).	
	Data control	Power proportional distribution	Hourly power proportional distribution results up to 13 months are recorded. The system supports data output in csv format.
		Energy navigator	Actual results of daily/monthly energy consumption are shown in graphs. Comparisons can be made with predetermined values/actual results of the previous year. Inefficient operation of vrv indoor units is automatically identified, and energy waste is calculated. Web browsers can display the same type of screen as the intelligent touch manager.
Remote access	Web access	Up to 4 administrators and 60 general users can be registered. Screens and operation accessible to general users can be restricted. Up to 10 e-mail addresses can be set.	
	E-mail alerts	Addresses for sending malfunction alerts can be set by range of management points. The smtp server authentication method is selectable from no authentication, pop before smtp, and smtp-auth.	
System	Automatic registration	Indoor units connected to d-net are automatically detected, and icons for respective models are automatically registered.	
	Security	Screen lock functions are available. Access restrictions can be set for each general user.	
	Screen savers	Screen savers are selectable from 3 patterns.	
	Setting of contact information	Contact information for servicing can be registered.	
Air conditioning network service	Air conditioning network service system	A service agreement needs to be concluded.	
	Energy saving air conditioning network Service system	A service agreement needs to be concluded.	

Types of management points and target equipment/interface

Management point	Supported equipment	Number of management points
Indoor	D III -compatible indoor units	Maximum: 512 *1
	Interface adaptor for SkyAir (DTA102A52)	
	Interface adaptor for residential indoor unit (KRP928BB2S)	
	AHU connection kit (EKEQMCB,EKEQDCB,EKEQFCB)	
	Biddle Air curtain (CYVS-DK-*BN/*SN,CYVM-DK-*BN/*SN, CYVL-DK-*BN/*SN)	
Hydrobox	FCU (FWC-BT/BF, FWF-BT/BF) Central control adaptor kit (DTA107A55)	Maximum: 512 *1
	DIII-compatible units (HXY-A,HXHD-A, EKHBRD-ACV1, EKHBRD-ACY1,EKHVMRD-A,EKHVMYD-A)	
Outdoor	VRV outdoor units	Maximum: 80
Ventilator	Heat Reclaim Ventilator	Maximum: 512 *1
D3 Chiller	D III -compatible air-cooled chillers (UWA/Y)/ water-cooled chillers (ZUW)	Maximum: 320 *2
	DIII-compatible inverter chillers (EWAQ-BAWN/BAWP, EWAQ-ADVP/ACV3/ACW1, EWYQ-BAWN/BAWP,EWYQ-ADVP/ACV3/ACW1)	
Di	Di port of intelligent Touch Manager	Maximum: 32 *3
	Di port of iTM plus adaptor	
External Di	Wago Di	Maximum: 512 *4
D3 Dio	General-purpose adaptor (DTA103A51)	Maximum: 512 *4
External Dio	Wago Di, Do	
Pi	Pi port of intelligent Touch Manager	Maximum: 32 *3
	Pi port of iTM plus adaptor	
Internal Pi	Energy consumption of VRV outdoor units	Maximum: 80
External Ai	Wago Ai	
Internal Ai	Room temperature, setpoint	Maximum: 512 *4
	D3 Chiller outlet/inlet water temperatures	
External Ao	Wago Ao	Maximum: 512 *4
McQuay AHU	POL638.70 BACnet connection	Maximum: 20 *5
	Di	Maximum: 512 *6
	Dio	Maximum: 512 *6
	Ai	Maximum: 512 *6
	Ao	Maximum: 512 *6
	MSi	Maximum: 512 *6
	MSio	Maximum: 512 *6

*1: Total of D 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 Do, External Ai, and Internal Ai *5: Maximum number of McQuay AHU management points. *6: Total of BACnet connection management points. McQuay AHU management point should count as 20 per management point.

Daikin supplied equipment

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 equipment connection(Option)

Locally supplied equipment

Item	Specification
USB memory	USB 2.0
	Up to 32GB memory can use
PC for Web access	Windows XP Professional SP3 (32bit)
	Windows VISTA Business SP2 (32bit)
	Windows 7 Professional SP1 (32bit,64bit)
	Monitor: 1024x768 or more Web browser: Internet Explorer 8, 9 Firefox 10.0 Flash Player Ver11.1
WAGO I/O system	Modbus communication unit: WGDCMCPLR
	DC24V power supply unit: 787-712
	DC24V power supply module: 750-613
	Connector: 750-960
	Terminator module: 750-600
	Di module: 750-400, 750-432, 750-430
	Do module: 750-513/000-001, 750-504
	Ai module: 750-454, 750-479, 750-455, 750-459, 750-461, 750-461/000-003, 750-461/000-004, 750-461/000-005, 750-460, 750-460/000-003, 750-460/000-005
	Ao module: 750-555, 750-559, 750-554, 750-560
	Pi module: 750-638
Thermistor module: 750-461/020-000	



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