DAIKIN

intelligent touch Manager

Control systems

Intelligent Touch Manager

NEW

Download the WAGO selection tool from **my.daikin.eu**

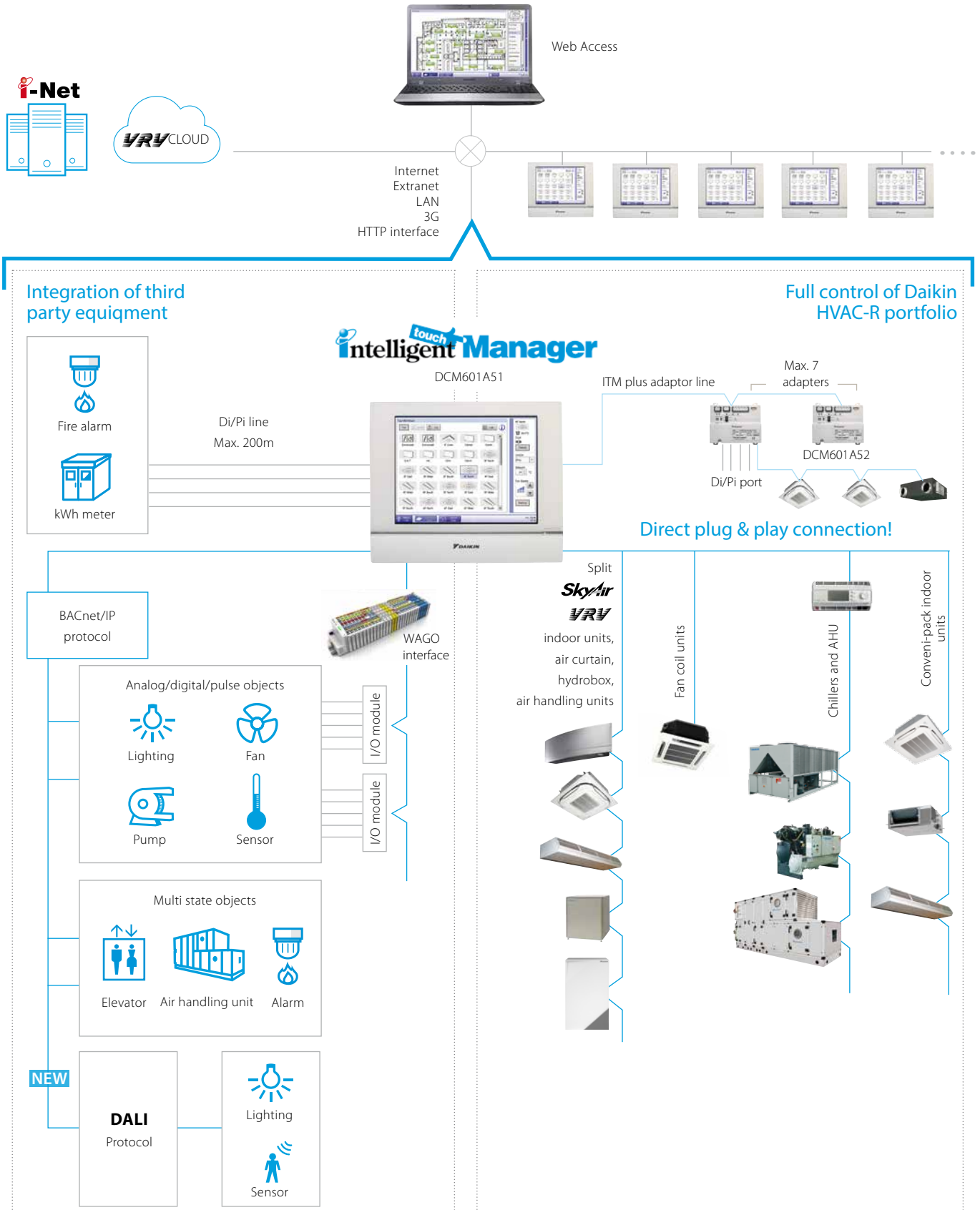
Mini Building Management System

Complete Daikin mini BMS for building climate control

› Integrate full Daikin portfolio
› Integrate 3rd party equipment

System

Overview



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.

Available languages: English, French, German, Italian, Spanish, Dutch, Portuguese.

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

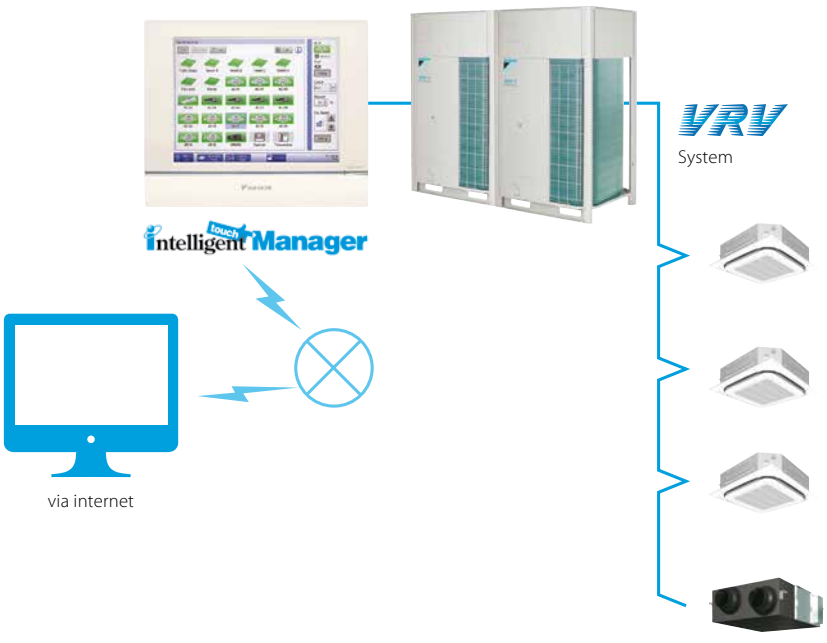
System settings

Operation management

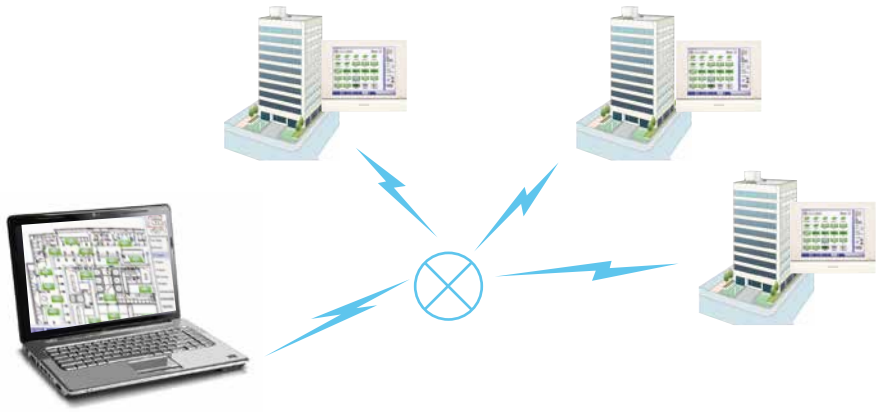
All functions directly accessible via standard web interface

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.



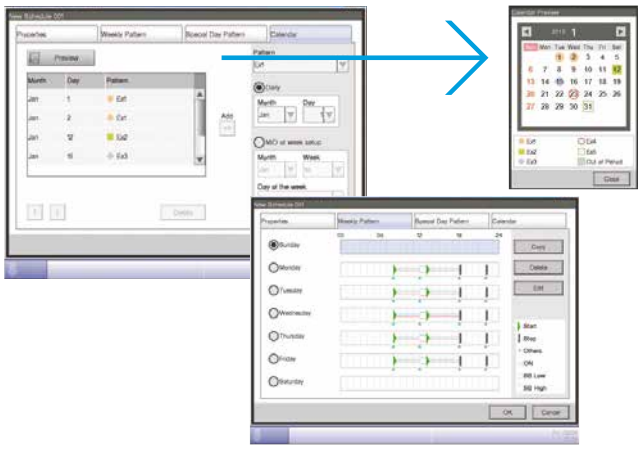
Central control of multiple buildings



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.

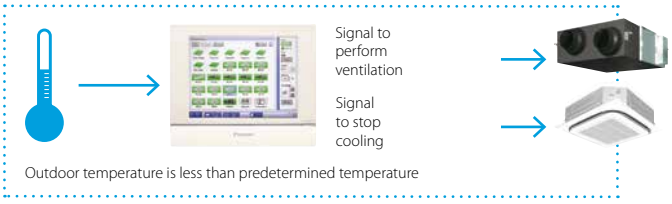
Interlock with other equipment

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

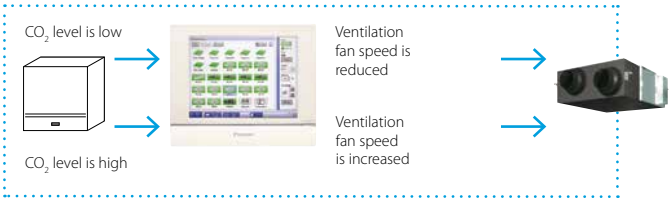
When the outdoor temperature is lower than the indoor setpoint, cooling operation stops and outdoor air is directly introduced through the ventilation unit to save energy.

* No separate sensor and setup is needed to measure outdoor temperature



Example 2 Ventilation control

Ventilation equipment is controlled depending on the indoor CO_2 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

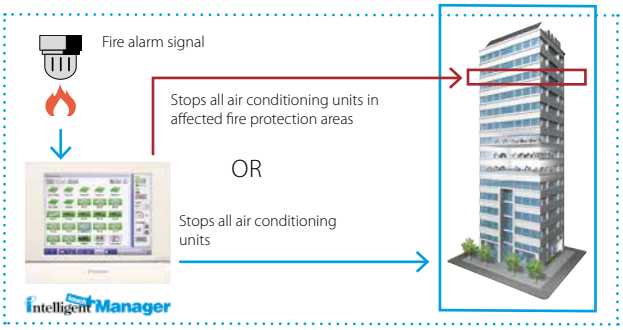
When the A/C system is switched to cooling, the underfloor heating is stopped.

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.

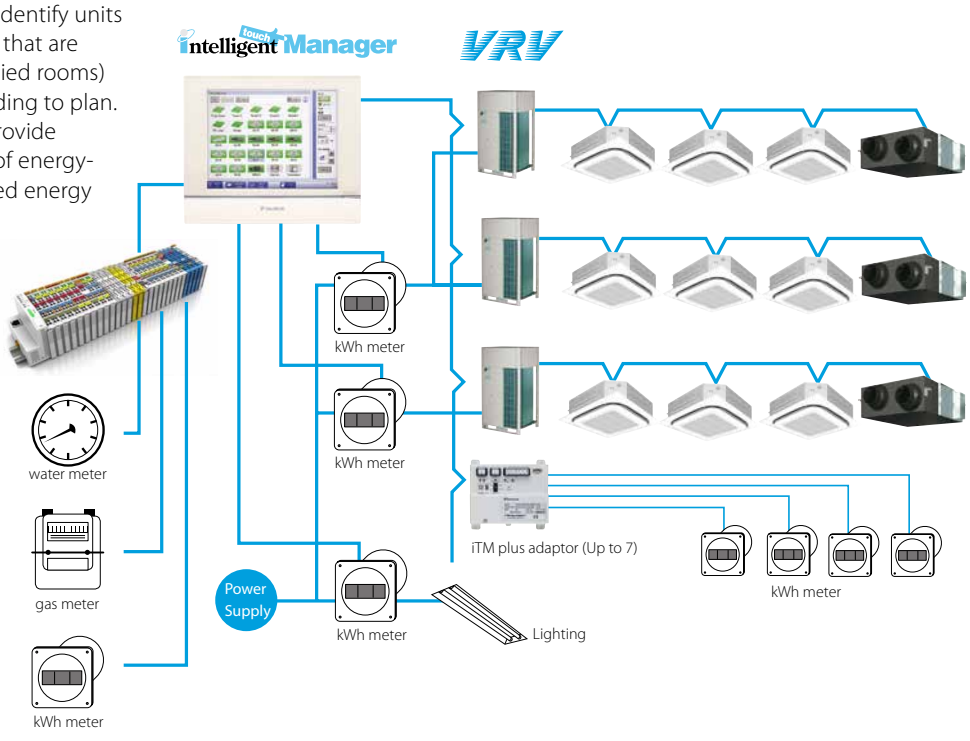


Smart energy management tools

Energy navigator

Energy consumption of all the equipment (including air conditioning units) can be easily monitored by using the Energy Navigator. Users can indentify 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

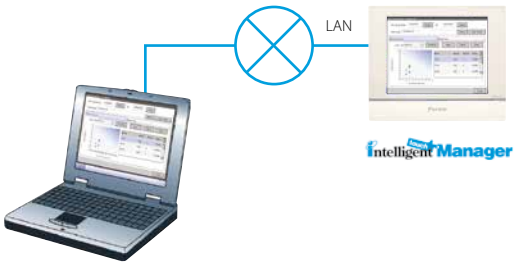
Monthly energy consumption

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

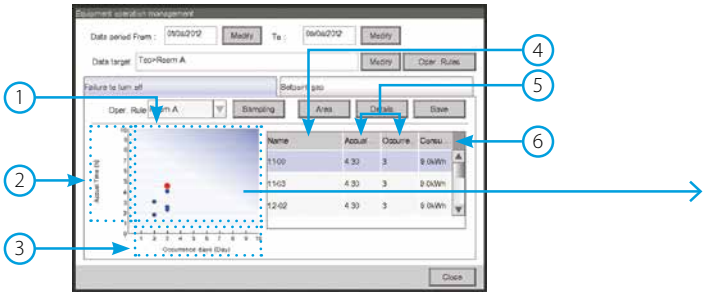
1 - Current year's energy use
2 - Current year's cumulate line
4 - Previous year's cumulate line
5 - Previous year's energy use

Energy management information can be checked via PC

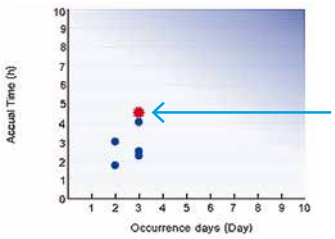


Energy consumption is evaluated for each room.

Based on the accumulated data, the intelligent Touch manager 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



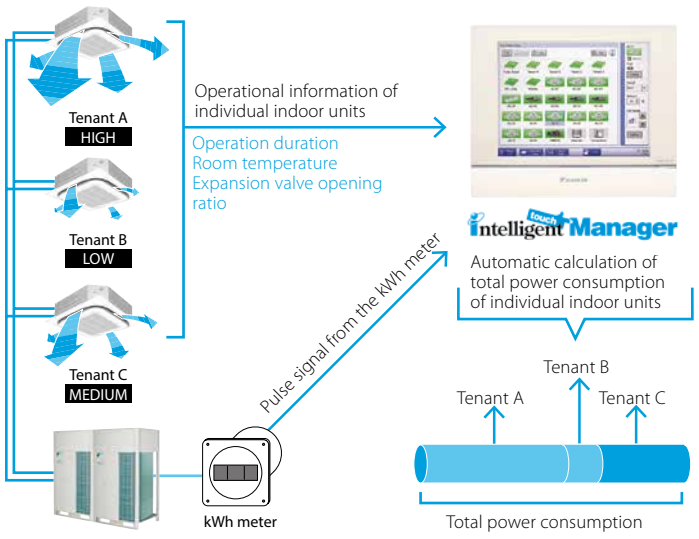
The more to the upper right a room is, the higher the extra energy consumption is.

PPD calculates air conditioning usage to divide across tenants

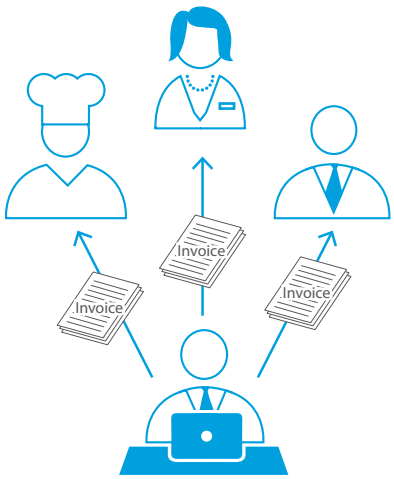
PPD function

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.

Operational information of individual indoor units are monitored, allowing for distribution of power consumption at 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.

Other energy saving tools

Automatic changeover

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

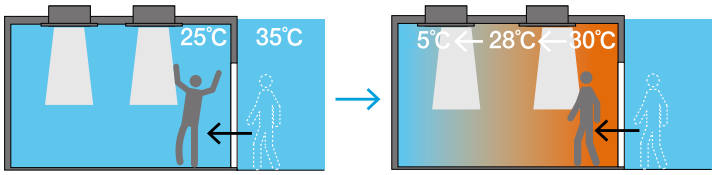
* In the case of heat pump type VRV, cooling/heating operations can be changed at the same time for the entire VRV system.

Remote control set point limitation

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

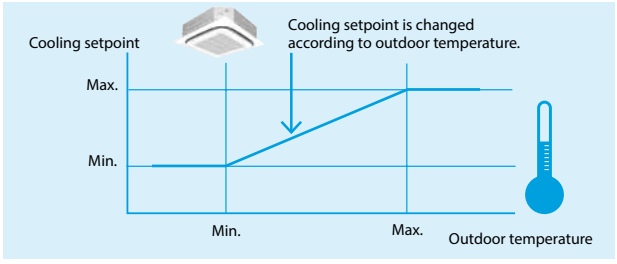
Sliding Temperature

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 "cold shock" from exposure to a sudden drop in temperature and can also enhance energy savings.



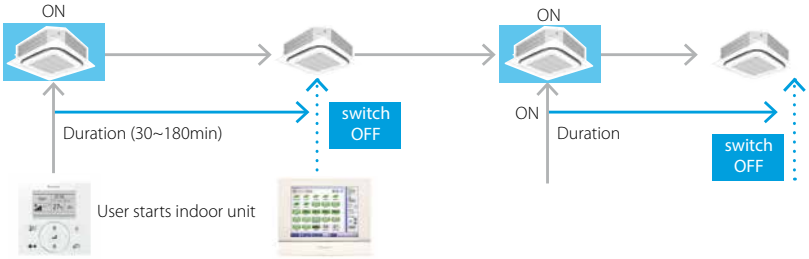
Heat shock is likely to occur when differences between indoor and outdoor temperatures are substantial.

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

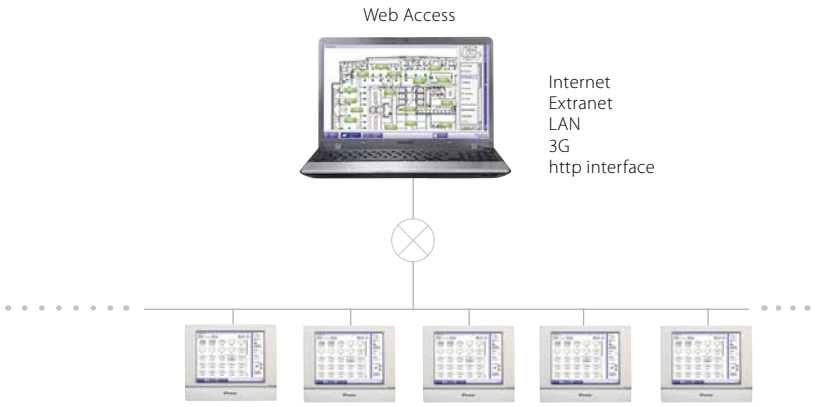
in size & integration

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, ...

1 Entrance – Biddle air curtain
2 Rooms – VRV heat recovery for climate control & Daikin Altherma Flex Type for hot water
3 Banquet hall – VRV or Chiller with air handling unit for climate control and ventilation
4 Kitchen – Convenipack for refrigeration

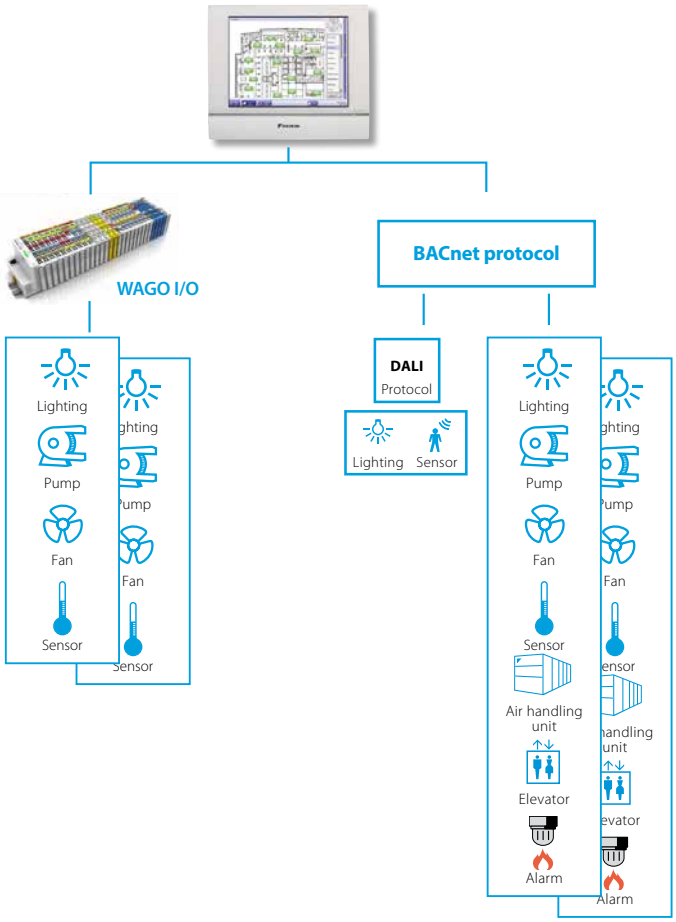
From simple A/C control to small BMS integrating lighting, pumps, …

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

NEW DALI protocol
- › Control and monitor the lights
- › Easier facility management: receive error signal when light or light controller has a malfunction
- › Flexible approach and less wiring needed
- › Easier to make groups and control scenes
- › Connection through WAGO BACnet IP interface and WAGO DALI software

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

HTTP interface
- › Communication to any third party controller (home automation, BMS, etc.)



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 interuption 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

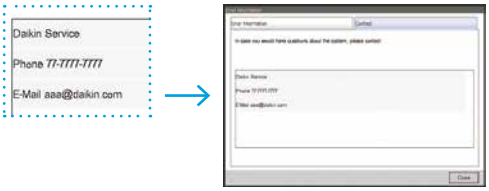
3. Check can be done at night

4.Verify the result

Simplified trouble shooting

Display of maintenance contact information

Contact information of maintenance contractors can be registered and displayed.



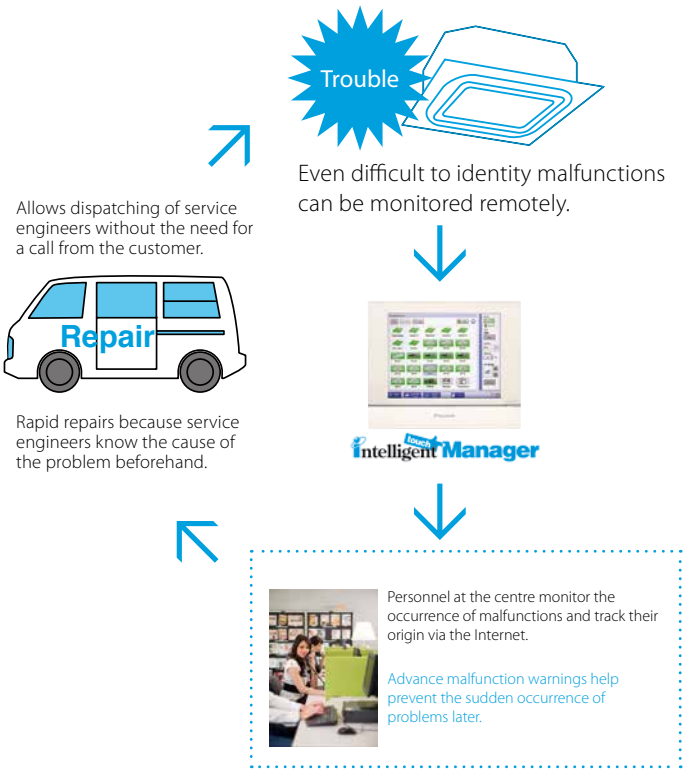
E-mail alerts for reporting malfunctions

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.

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.



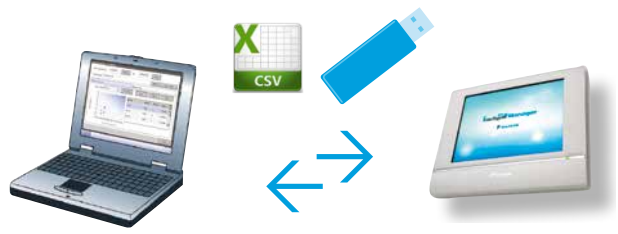
Save time on commissing thanks to the pre commissioning tool

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



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 DIII connection management points: 512)
	Areas		Maximum number of areas: 650 Maximum area hierarchies: 10
	Supported languages		English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese and Japanese
	Monitoring screens	Icon view	Icons show the operation status of equipment.
		List view	Detailed information of each management point is displayed.
		Layout view	Up to 60 screens can be created.
	History		Up to 500,000 events are recorded in history including malfunctions, operations, automatic control, and system information. Operation origin is also recorded.
Automatic control	Schedule		Number of programmes:100 Up to 20 actions/day can be set.
		Weekly schedule	7 Days of the week + 5 special days can be set.
		Yearly calendar	Special days can be specified by date or month/week/day of the week. Special day settings can be reused every year.
		Seasonal schedule	Programmes for respective seasons can be switched by date.
	Interlock		Number of programmes:500 Interlock trigger state can be 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 shift can be set for high and low pattern. 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 previousyear. Inefficient operation of vrv indoor units is automatically identified, and energy waste is calculated.
Remote access	Web access		Web browsers can display the same type of screen as the intelligent touch manager. Up to 4 administrators and 60 general users can be registered. Screens and operation accessible to general users can be restricted.
	E-mail alerts		Up to 10 e-mail addresses can be set. Addresses for sending malfunction alerts can be set by range of management points. The smtp server authentication method is selectable from no authentication, pop before smtp, and smtp-auth.
System	Automatic registration		Indoor units connected to DIII-net are automatically detected, and icons for respective models are automatically registered.
	Security		Screen lock functions are available. Access restrictions can be set for each general user.
	Screen savers		Screen savers are selectable from 3 patterns.
	Setting of contact information		Contact information for servicing can be registered.
Air conditioning network service	Air conditioning network service system		A service agreement needs to be concluded.
	Energy saving air conditioning network Service system		A service agreement needs to be concluded.

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 where required)	
	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)	
	FCU (FWC-BT/BF, FWF-BT/BF)	
	Central control adaptor kit (DTA107A55)	
Hydrobox	DIII-compatible units (HXY-A,HXHD-A, EKHBRD-ACV1, EKHBRD-ACY1,EKHVMRD-A,EKHVMYD-A)	Maximum: 512 *1
Outdoor	VRV outdoor units (VAM/VKM)	Maximum: 80
Ventilator	Heat Reclaim Ventilator	Maximum: 512 *1
D3 Chiller	D III -compatible air-cooled chillers (UWA/Y)/ water-cooled chillers (ZUW)	Maximum: 280 *2
	DIII-compatible inverter chillers (EWAQ-BAWN/BAWP, EWAQ-ADVP/ACV3/ACW1, EWYQ-BAWN/BAWP,EWYQ-ADVP/ACV3/ACW1)	Maximum: 56
Di	Di port of intelligent Touch Manager	Maximum: 31 *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: 31 *3
	Pi port of iTM plus adaptor	
Internal Pi	Energy consumption of VRV outdoor units	Maximum: 80
External Ai	Wago Ai	Maximum: 512 *4
Internal Ai	Room temperature, setpoint D3 Chiller outlet/inlet water temperatures	
External Ao	Wago Ao	Maximum: 512 *4
Daikin AHU	POL638.70 BACnet connection (via MT3 - EKMBACIP)	Maximum: 20 *5
BACnet	Di	Maximum: 512 *6
	Dio	Maximum: 512 *6
	Ai	Maximum: 512 *6
	Ao	Maximum: 512 *6
	MSi	Maximum: 512 *6
	MSio	Maximum: 512 *6

Total number of any management points may not exceed 650

*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 Do, External Ai, and Internal Ai
*5: Maximum number of McQuay AHU management points.
*6: Total of BACnet connection management points. Daikin 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)
DCM007A51	Open HTTP interface
DCM008A51	iTM energy navigator software (Option)
DCM009A51	BACnet client option (Max. 50 BACnet server on one ITM)
WAGO I/O system	I/O interface 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

Locally supplied equipment

Item	Specification
USB memory	USB 2.0 USB sticks up to 32 GB can be used
PC for Web access	Windows 7 Professional SP1 (32bit, 64bit) Windows 8.1 Pro (32bit, 64bit) Monitor: 1024x768 or higher Web browser: Internet Explorer 11 Firefox 42.0 Google chrome 46.0 Flash player 1.20.00 or later

NEW

Download the WAGO selection tool from **my.daikin.eu**

- Easy selection of WAGO materials
- Material list creation
- Time saving
  - Includes wiring schemes
  - Contains commissioning/preset data for iTM

ITM application matrix

		Office		Retail		Hotel	Infrastructure cooling
		Medium	Big (multiple tenants)	Medium	Big (shopping mall)		
Automatic Control functions	Schedule	●	●	●	●	●	●
	Interlock Control	●	●	●	●	●	●
	Emergency Stop	●	●	●	●	●	●
	Auto Changeover	●	●	●	●	●	
	Temperature Limit	●	●	●	●	●	
	Sliding Temperature	●	●	●	●	●	
	Heating Mode Optimization	●	●	●	●	●	
	Timer Extension	●	●	●	●	●	
	Setback	●	●	●	●	●	
	Remote Controller locking/limitation	●	●	●	●	●	●
Data Management functions	Power Proportional Distribution		●		●		
	Energy Navigator	●	●		●		●
Eco Mode functions	Setpoint Shift Control	●	●	●	●	●	
Remote Access Functions	Web Remote Management	●	●	●	●	●	●
	Email Error Report	●	●	●	●	●	●
	HTTP Open Protocol support	●	●	●	●	●	●
Total solution control	DX control (Split, Sky Air, VRV)	●	●	●	●	●	●
	AHU and domestic hot water integration		●		●	●	
	DALI lighting integration	●	●	●	●		
	3rd party I/O integration	●	●	●	●	●	●

For small applications the intelligent Tablet Controller is recommended

Daikin Europe N.V. Naamloze Vennootschap Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Responsible Editor)

FSC

ECPEN17-302 12/16

The present publication supersedes ECPEN15-302.
Printed on non-chlorinated paper.