DAIKIN

Control Systems
Connect with Daikin

Connect with Daikin

If you are a user or installer it is important you can **interact with our systems** in the easiest way, from **anywhere you are**. For any user our interfaces create **peace of mind** that their system is running in the best possible way.

White   Silver   Black

Depending on the type of user and application Daikin develops controls and cloud services to ensure the best experience.

› For home owners it means **app and voice control** of their home comfort.

› For hotel owners it means easy and stylish **personal control for guests**, with an integration in hotel booking software for central control

› For technical managers it means **cloud access** to all sites, with the possibility to benchmark, optimize performance

› For installers it means **easy transfer of settings during commis-sioning**, remote retrieval of errors and preventive alerts to save time on maintenance or interventions

Our controls enable you to **connect with your customer**, save time, improve your comfort intelligently and reduce energy bills.

Remote monitoring

homehub

Control
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For latest data, please consult my.daikin.eu

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Control solutions summary

Daikin offers various control solutions adapted to the requirements of even the most demanding commercial application.

› Basic control solutions for those customers with few requirements and limited budget
› Integrating control solutions for those customers who would like to integrate Daikin units into their existing BMS system

› Advanced control solutions for those customers who expect Daikin to deliver a mini BMS solution, including advanced energy management

Shop

	Unit control		Integrating control				Advanced control			
	BRP069*	BRC1H52 W/S/K	RTD-20	EKMBPP1	KLIC DI V2	EKMBDXB	DCC601A51	DCM601B51	DGE601A51	DGE602A51
	Smartphone control for up to 50 indoor units	1 remote controller for 1 indoor unit (group)	1 gateway for 1 indoor unit (group)	1 gateway for 1 indoor unit (group)	Two additional probes can be connected	1 gateway for max. 64 indoor unit(s) (groups) & 10 outdoors	1 unit for 32 indoor unit(s)	1 iTM for 64 indoor unit(s) (groups) (1)	Up to 512 units with extension modules via Daikin Cloud Plus	Max 64 units via Daikin Cloud Plus
Automatic control of A/C	●	●	●	●	●	●	●	●		●
Limit control possibilities for shop staff	●	●	●	●	●	●	●	●	●	●
Create zones within the shop			●				●	●	●	●
Interlock with eg. Alarm, PIR sensor			●				● (limited)	●	●	●
Integration into smart home systems	● (5)									
Integrate Daikin units into existing BMS via Modbus			●	●		●				
Integrate Daikin units into existing BMS via KNX					●					
Integrate Daikin units into existing BMS via HTTP								●		
Monitor energy consumption	● (3)	● (3)						●	●	●
Advanced energy management								●	●	●
Allows free cooling								●		
Voice control	● (4)									
Integrate Daikin products cross pillars into Daikin BMS								●		
Integrate third party products into Daikin BMS								●	●	
Online control	●							● (2)	●	●
Manage multiple sites									●	●

(1) 7 iTM plus adapters (DGE601A52 and DGE601A53) can be added to have 512 indoor groups and 80 outdoor (systems) | (2) Through own IT set-up (not Daikin cloud server) | (3) Not available on all indoors | (4) Only for BRP069C51, connection to Google Assistant and Amazon Alexa | (5) Only for BRP069C51, contact your local sales representative for an overview of available services.

Hotel

	Unit control	Integrating control		Advanced control			
	BRC1H52 W/S/K	RTD-20	KLIC DI V2	DCM010A51	DCM601B51	DGE601A51	DGE602A51
	1 remote controller for 1 indoor unit (group)	1 gateway for 1 indoor unit (group)	Two additional probes can be connected	1 interface for up to 2,500 indoor units	1 iTM for 64 indoor unit(s) (groups) (1)	Up to 512 units with extension modules via Daikin Cloud Plus	Max 64 units via Daikin Cloud Plus
Hotel guest can control & monitor basic functionalities from his room	●						
Limit control possibilities for hotel guests	●	●	●	●	●	●	●
Interlock with window contact		●			●	●	●
Interlock with key-card		●			●	●	●
Integrate Daikin units into existing BMS via Modbus		●					
Integrate Daikin units into existing BMS via KNX			●				
Integrate Daikin units into existing BMS via HTTP				●			
Integrate Daikin unit control in hotel booking software				●			
Oracle Opera PMS				●			
Monitor energy consumption					●	●	●
Advanced energy management					●	●	●
Integrate Daikin products cross pillars into Daikin BMS					●		
Integrate third party products into Daikin BMS					●	●	●
Online control					●	●	●

(1) 7 iTM plus adapters (DGE601A52 and DGE601A53) can be added to have 512 indoor groups and 80 outdoor (systems)

Office

	Unit control	Integrating control			Advanced control			
			LonWorks Interface	BACnet Interface	intelligent Controller			
	BRC1H52 W/S/K	EKMBDXB	DMS504B51	DMS502A51	DCC601A51	DCM601B51	DGE601A51	DGE602A51
	1 remote controller for 1 indoor unit (group)	1 gateway for max. 64 indoor unit(s) (groups) & 10 outdoors	1 gateway for 64 indoor unit(s) (groups)	1 gateway for 128 indoor unit(s) (groups), 20 outdoors (2)	1 unit for 32 indoor unit(s) (groups)	1 iTM for 64 indoor unit(s) (groups) (1)	Up to 512 units with extension modules via Daikin Cloud Plus	Max 64 units via Daikin Cloud Plus
Automatic control of A/C	•	•	•	•	•	•	•	•
Centralised control for management		•	•	•	•	•	•	•
Local control for office staff	•				•	• Through web	•	•
Limit control possibilities for office staff	•	•	•	•	•	•	•	•
Integrate Daikin units into existing BMS via Modbus		•						
Integrate Daikin units into existing BMS via HTTP						•		
Integrate Daikin units into existing BMS via LonTalk			•					
Integrate Daikin units into existing BMS via BACnet				•				
Energy consumption read out	• (3)					•	•	•
Monitor energy consumption						•	•	•
Advanced energy management						• (5)	•	•
PPD software to distribute used kWh/indoor unit				• (4)		•	•	•
Integrate Daikin cross pillar products into Daikin BMS						•		
Integrate third party products into Daikin BMS						•	•	•
Online control							•	•
Manage multiple sites							•	•

(1) 7 iTM plus adapters (DGE601A52 and DGE601A53) can be added to have 512 indoor groups and 80 outdoor (systems) | (2) Extension (DAM411B51) needed to have up to 256 indoor unit(s) (groups), 40 outdoors | (3) Not available on all indoor units | (4) via DAM412B51 option | (5) via DCM002A51 option

Infrastructure cooling

	Unit	Integrating	Advanced
	BRC1H52W/S/K	RTD-10	DCM601B51
	1 remote controller for 1 indoor unit (group) (2)	1 gateway for 1 indoor unit (group) Up to 8 gateways can be linked together	1 iTM for 64 indoor unit(s) (groups) (1)
Automatic control of A/C	•	•	•
Back-up operation	•	•	•
Duty rotation	•	•	•
Limit control possibilities in the technical cooling room	•	•	•
If room temperature above max., then show alarm & start standby unit.		•	•
If an error occurs, an alarm will be shown.	•	•	•
If an error occurs, activate an alarm output	Via KRP2/4A option (3)	•	Via WAGO I/O

(1) 7 iTM plus adapters (DGE601A52 and DGE601A53) can be added to have 512 indoor groups and 80 outdoor (systems) | (2) Infrastructure cooling functions only compatible with indoor units connected to RZQG*/RZAG* outdoor units. | (3) See option list of indoor unit

Onecta App
Now available with voice control

The Onecta App is for those who live their life on the go and who want to manage their Daikin system from their smartphone.

onecta

Voice control

To provide users with even more comfort and ease, the Onecta App now offers voice control. This hands-free feature cuts down on clicks to manage units faster than ever before.

Cross-functional and multilingual, voice control pairs well with any smart device, including Google Assistant and Amazon Alexa.

works with the Google Assistant   amazon alexa

Set the living room temperature to 21 degrees

Alright, setting the living room to 21 degrees

Example of using the voice control via Google Assistant

"Alexa, set the room temperature to 20°C"

"The room temperature is set to 20°C"

Scan the QR code to download the app now

Schedule

Set up a programme outlining when the system should operate, and create up to six actions per day.

☑ Schedule room temperature and operation mode
☑ Enable holiday mode to save costs

Control

Customise the system to fit your lifestyle and year-round comfort levels.

☑ Change room and domestic hot water temperature
☑ Turn on powerful mode to boost hot water production

Monitor

Receive a thorough overview of how the system is performing and how much energy it consumes.

☑ Check the status of the heating system
☑ Access energy consumption graphs (day, week, month)

Function availability depends on the system type, configuration and operation mode.
The app functionality is only available if both the Daikin system and the app have a reliable internet connection.

NEW

Now with Indoor & Outdoor Air Quality Information on fingertips

The new Daikin Air Purifiers MCK70Z & MC80Z are now integrated with Daikin Onecta App. In our mission to inform consumers everything related to their indoor and outdoor air quality, the app now also lets consumers monitor the outdoor air quality. This means that control of good indoor air quality is available easily on the fingertips through the smartphones.

For more information on our new Onecta App Integrated Daikin Air Purifiers, please refer to the Residential Air Quality Chapter

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Individual control systems

Possible Onecta Connections

For heating

	OUTDOOR		INDOOR		connection to Onecta	
					WLAN	**LAN**
ASHP	Daikin Altherma 3 H HT	EPRA14/16/18D*	F	ETVH/X/Z16-E7	standard	optional: BRP069A62
			ECH$_2$O	ETSH(B)/X(B)16-E7		
			W	ETBH/X16-E7		
	Daikin Altherma 3 H MT	EPRA08/10/12E*	F	ETVH/X/Z12-E	standard	optional: BRP069A62
			ECH$_2$O	ETSH(B)/X(B)12-P-E		
			W	ETBH/X12-E		
	Daikin Altherma 3 R MT	ERRA-EV*	F	ELVH/X/Z-E	standard	optional: BRP069A62
			ECH$_2$O	ELSH/X(B)-E		
			W	ELBH/X-E		
	Daikin Altherma 3 R	ERGA-E*	F	EHVH/X/Z-E	standard	optional: BRP069A62
			ECH$_2$O	EHSH(B)/X(B)-P-E		
			W	EHBH/X-E		
	Daikin Altherma 3 R	ERLA11/14/16D*	F	EBVH/X/Z-D	optional: BRP069A78 or BRP069A71	optional: BRP069A62
			ECH$_2$O	EBSH(B)/X(B)-D		
			W	EBBH/EBBX-D		
	Daikin Altherma 3 R	ERLA03DV	F	EHFH/Z03-S18D3V	✕	optional: BRP069A62 or BRP069A61
	Daikin Altherma 3 H	EPGA-DV7	F	EAVH/X/Z-D7	✕	optional: BRP069A62 or BRP069A61
			W	EABH/X-D7		
	Daikin Altherma 3 M	EBLA09/11/14/16D(7)			optional: BRP069A78	optional: BRP069A62
		EDLA09/11/14/16D				
	Daikin Altherma 3 M	EBLA04/06/08E			standard	optional: BRP069A62
		EDLA04/06/08E				
	Daikin Altherma R HT	ERR/SQ-AV1/Y1		EKHBRD-DV/Y17	✕	✕
HYBRID	Daikin Altherma R Hybrid	EVLQ-CV3		EHYHBH-AV32	✕	optional: BRP069A62 or BRP069A61
			Boiler	EHYKOMB33AA2/3		
	Daikin Altherma H Hybrid	EJHA-AV3	Boiler	EHY2KOMB28/32A A	✕	optional: BRP069A62 or BRP069A61
GS/WS	Daikin Altherma 3 GEO			EGSAH/X-(U)D9W	✕	standard
	Daikin Altherma 3 WS			EWSA-D	✕	standard
COMB.	Daikin Altherma 3 C Gas W			D2CND-A1/A4		optional: DRGATEWAYAA
				D2TND-A4		

In case both WLAN and LAN options are possible, we advice to choose WLAN if possible as the WLAN adaptors offer more possibilities (e.g. remote MMI update, more remote installer settings)

For RA

	Model #	WLAN	User settings	Field settings
Ururu Sarara	FTXZ-N	optional - BRP069B42	basic	no
Daikin Emura	FTXJ-M*	standard - included in the box	basic	no
	FTXJ-A*	integrated	all	yes
	FTXTJ-A*	integrated	all	yes
Stylish	FTXA-A/B*	integrated	basic	no
	FTXTA-C*	integrated	all	yes
	FTXA-C*	integrated	all	yes
Perfera	FTXM-R	integrated	basic	no
	FTXTM-S	integrated	all	yes
	FTXM-A	integrated	all	yes
	FTXTM-S	integrated	all	yes
Comfora	FTXP-M*	optional - BRP069B45	basic	no
	FTXP-N*	integrated	all	yes
Sensira	FTXF-D	optional - BRP069B45	basic	no
	FTXF-E	optional - BRP069C47	all	yes

For Daikin Air Purifiers

Model #	WLAN
MCK80Z/ZB	integrated
MCK70W/BFW & MCKZOH/BFH	integrated

For VRV
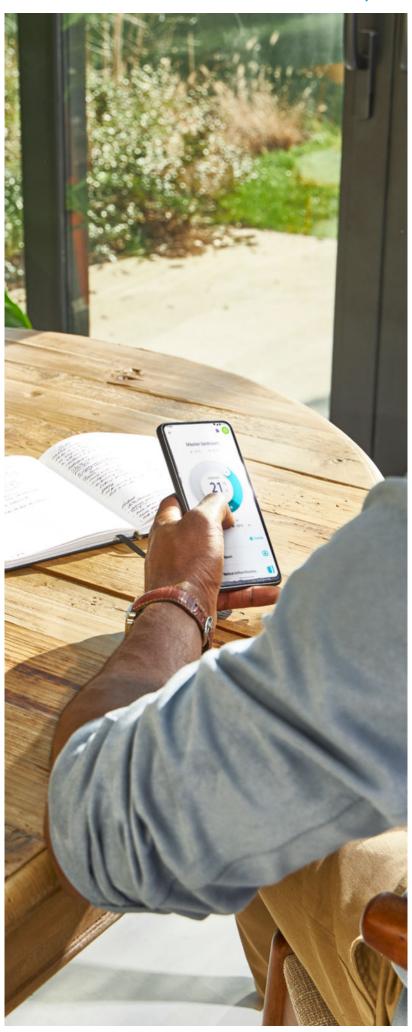
	Model #	WLAN
VRV 5 indoor units	FXFA-A	Optional: **BRP069C51** (1)
	FXZA-A	
	FXDA-A	
	FXSA-A	
	FXMA-A	
	FXHA-A	
	FXUA-A	
	FXAA-A	

(1) Must be combined with BRC1H52W/S/K

For Sky Air

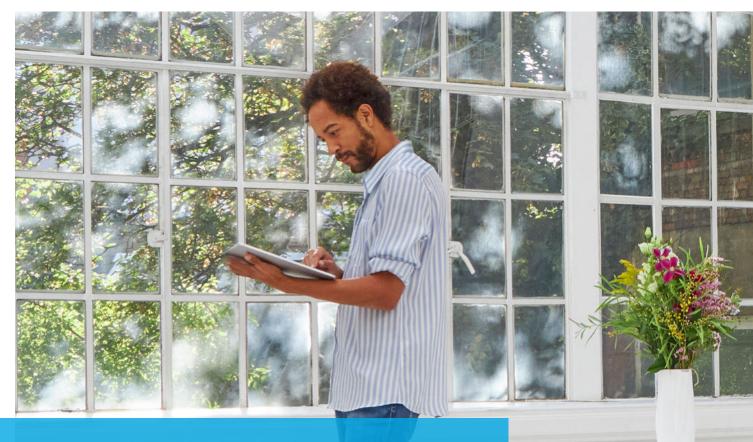|	Model #	WLAN
Sky Air	FDXM-F9	Optional **BRP069C81** (1)
	FFA-A9	
	FBA-A(9)	
	FDA125A	
	ADEA-A	
	FAA-B	
	FHA-A(9)	
	FUA-A	
	FVA-A	
	FNA-A9	
	FCAG-B	Optional **BRP069C82** (2)
	FCAHG-H	
	FDA200-250A	Optional **BRP069C82** (3)

(1) Only possible in combination with wired or wireless remote control |
(2) EWHAR1 is required if autocleaning panel & Onecta is connected.; Cannot be combined with KRP4A53; Only possible in combination with wired or wireless remote control | (3) Cannot be combined with KRP4A51 and KRP2A51

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homehub

Daikin Home Energy Management
Introducing HomeHub

Daikin HomeHub
(reference EKRHH)

is a centralised controller for residential applications.

NEW

Daikin HomeHub can, depending on the user's needs, support two different modes:

☑ **As a controller:**

> › HomeHub is the main controller intended to optimize the energy consumption of a Daikin Altherma or Multi+ (DHW) heat pump in combination with a PV system.

☑ **As an interface:**

> › HomeHub is used to control our Daikin Altherma heat pump from a home automation or energy management system through a local interface

Basic specifications:

> › Daikin P1-P2 connectivity
> › LAN connectivity for features upgrades and Modbus IP
> › Modbus RTU connectivity
> › Configuration, control and feedback through the MMI of the Daikin Altherma or Multi+ (DHW) tank

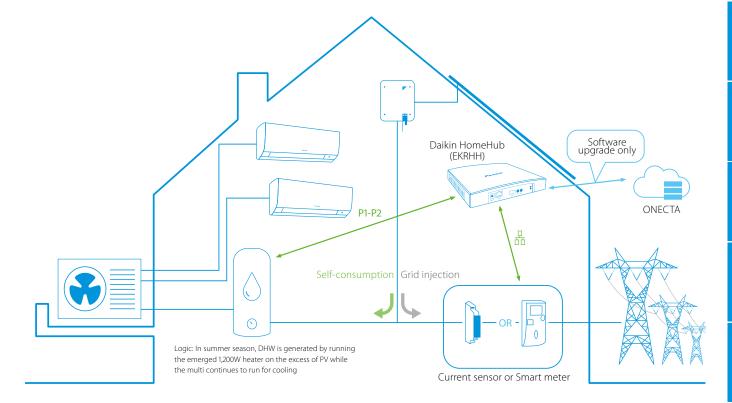# With this first release, **three use cases** are launched:

> › Use Case 1: PV self-consumption for Daikin Altherma
> › Use Case 2: PV self-consumption for Multi+ (DHW)
> › Use Case 3: Modbus RTU/IP for Daikin Altherma

Use Case 1: PV self-consumption for Daikin Altherma

PV self-consumption for Daikin Altherma is optimizing the energy consumption of the heat pump by using the energy generated by the PV panels. This is achieved by using the solar energy, which would normally be injected into the grid, to heat up the domestic hot water or to buffer energy in space pre-heating or pre-cooling.

Use Case 2: PV self-consumption for Multi+ (DHW)

This use case shows similarity with use case 1 for Daikin Altherma. However, the excess of energy is in this case directly supplied to the emerged booster heater of the DHW tank. This will accelerate the generation of DHW at a low cost.

Daikin HomeHub (EKRHH)

Software upgrade only

ONECTA

P1-P2

Self-consumption | Grid injection

Logic: In summer season, DHW is generated by running the emerged 1,200W heater on the excess of PV while the multi continues to run for cooling

OR

Current sensor or Smart meter

Use Case 3: Modbus RTU/IP for Daikin Altherma

This use case integrates Daikin Altherma units in a home automation or energy management system through Modbus IP/RTU. The interface provides comfort and energy features.

For a full list of the interface features, please consult the installation manual of the HomeHub.
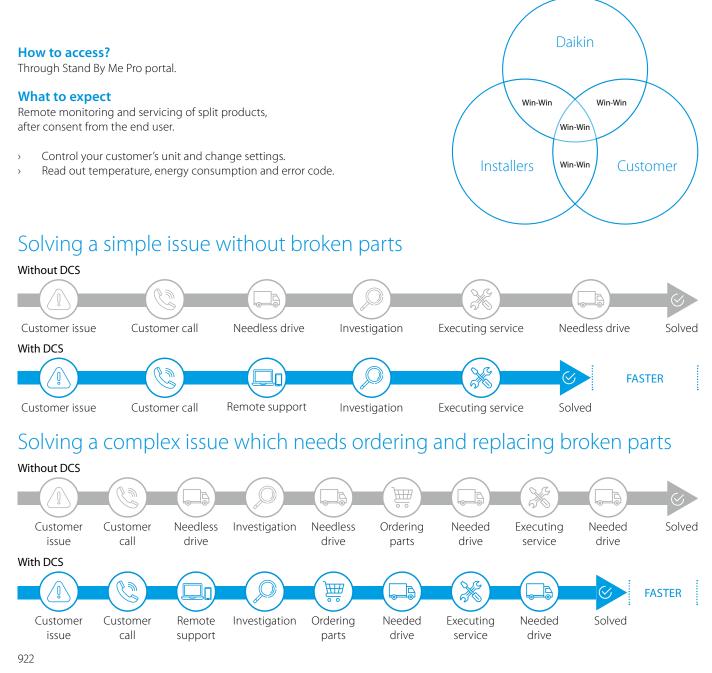
We are just starting in 2023, more to follow soon!

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DCS residential
Remote monitoring and cloud service

From the professional portal, installers can activate the remote monitoring allowing them to supervise your installation on multiple parameters, from their location. They will get an automatic notification in case there is something wrong with the installation. By changing certain settings, they can improve your comfort immediately. Save time and get a better support, thanks to these new features.

How to access?
Through Stand By Me Pro portal.

What to expect
Remote monitoring and servicing of split products, after consent from the end user.

› Control your customer's unit and change settings.
› Read out temperature, energy consumption and error code.

Daikin

Win-Win   Win-Win

Win-Win

Installers   Win-Win   Customer

Solving a simple issue without broken parts

Without DCS

Customer issue — Customer call — Needless drive — Investigation — Executing service — Needless drive — Solved

With DCS

Customer issue — Customer call — Remote support — Investigation — Executing service — Solved   FASTER

Solving a complex issue which needs ordering and replacing broken parts

Without DCS

Customer issue — Customer call — Needless drive — Investigation — Needless drive — Ordering parts — Needed drive — Executing service — Needed drive — Solved

With DCS

Customer issue — Customer call — Remote support — Investigation — Ordering parts — Needed drive — Executing service — Needed drive — Solved   FASTER

Visualization

Overview per product, showing the selected parameters

Adding Markers

Up to 5 markers can be placed and customized

Parameter Panel

Easily select the required parameters and change colours

Exporting (Image/CSV)

Export the data of a selected period in CSV or as an image

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Madoka wired remote controller

Madoka

The beauty of simplicity.

Silver
RAL 9006 (metallic)
BRC1H52S

Black
RAL 9005 (matte)
BRC1H52K

White
RAL9003 (glossy)
BRC1H52W

User-friendly wired remote controller with premium design

Madoka combines refinement and simplicity

›   Sleek and elegant design

›   Intuitive touch-button control

›   Three display options: standard, detailed and **new symbolic view**

›   Three colours to match any interior

›   Compact, measures only 85 x 85 mm

›   Advanced settings **copy function** and commissioning via smartphone

› CO_2 concentration visualisation

reddot award 2018
winner

iF DESIGN AWARD 2018
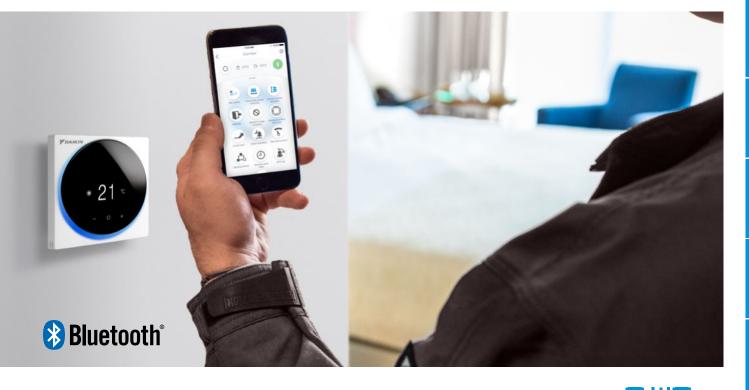
Madoka Assistant

Simplifies the advanced settings such as schedule
or set point limitation

☑ Visual interface simplifies advanced settings such as schedule setting,
   energy saving activation, setting restrictions, etc.
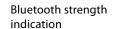
☑ Save field settings and schedules on your phone and upload to multiple
   controllers, saving time and cost

☑ Easy and quick commissioning

☑ Featuring Bluetooth® low energy technology

Easy setting of schedules

Advanced user settings

Bluetooth strength indication

Field settings

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BRC1H52W / BRC1H52S / BRC1H52K

Madoka wired remote controller for Sky Air and VRV

BRC1H52W
Symbollic view
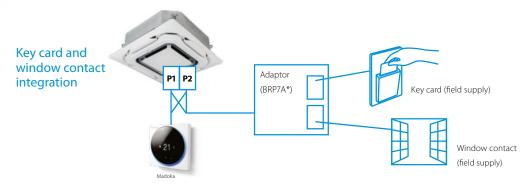
BRC1H52S
Standard view

BRC1H52K
CO$_2$ visualisation

A complete redesigned controller focussed to enhance user experience

› Sleek and elegant design
› Intuitive touch-button control
› Three display options: standard, detailed and **symbolic view**
› Direct access to basic functions
  (on/off, set point, mode, target values, fan speed, louvres, filter icon & reset, error & code)
› Three colours to match any interior
› Compact, measures only 85 x 85 mm
› Real time clock with auto update to daylight saving time

Hotel application features

› Energy saving through key card, window contact integration and set point limitation (BRP7A*)
› Flexible setback function ensures room temperature remains within comfortable limits
  to ensure guest comfort

Key card and window contact integration

P1 P2

Adaptor
(BRP7A*)

Key card (field supply)

Window contact
(field supply)

Madoka

Madoka Assistant: Advanced settings can be easily done via your smartphone

A range of energy-saving functions that can be selected individually

› Temperature range restriction:
  Save on energy by setting the low temperature
  limit in cooling mode and the high temperature
  limit in heating mode (1)
› Setback function
› Adjustable presence detector and floor sensor
  (available on the Round Flow and Fully Flat
  Cassettes)
› Automatic temperature reset
› Auto off timer

Kilowatt-hour consumption tracking (2)

The kWh indicator displays indicative power
consumption for the last day/month/year.

Other functions

› Three user access levels: Basic user, Advanced and
  Installer to match user requirements and prevent
  improper use.
› Save field settings and schedules on your phone and
  upload to multiple controllers, saving time and cost
› Mark frequently used menu's as favourites for direct
  access
› Up to three independent schedules can be
  programmed, allowing you to switch easily between
  them throughout the year (e.g. summer/winter/
  mid-season)
› Menu settings can be individually locked or
  restricted
› The outdoor unit can be set to quiet mode and
  power consumption limit control by schedule (3)
› Real-time clock that updates automatically for
  daylight saving

DUTY ROTATION

Cost-effective solution for infrastructure cooling applications

› Only in combination with RZAG* / RZQG*
› Duty rotation

After a certain period of time, the operating unit will go into standby and the standby unit will take over, extending the system lifetime.
Rotation interval can be set for 6, 12, 24, 72 or 96 hours, as well as weekly.

› Back-up operation: if one unit fails, the other unit will start automatically

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(1) Also available in auto cooling/heating changeover mode
(2) For Sky Air FBA, FCAG and FCAHG pair combinations only

(3) Only available on RZAG*, RZASG*, RZQG*, RZQSG*

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BRC1HHDW / BRC1HHDS / BRC1HHDK

Madoka wired remote controller
for Daikin Altherma 3 heat pumps

A new generation of user interface, redesigned and intuitive

BRC1HHDW

BRC1HHDS

BRC1HHDK

Intuitive control with a premium design:

The smooth curves of the Madoka controller offer a sleek, refined shape which is distinguished by its striking blue circular display. Presenting a clear visual reference with large easy to read numbers, the controller features are accessed through three touch buttons, which combine intuitive control with easy adjustability for an enhanced user experience.

Three colours to match any interior design:

No matter your interior design, Madoka will match it. Silver gives an additional touch to stand out in any interior or application, while Black is an ideal match for darker, stylish interiors. White offers a sleek, modern look.

Easily set operation parameters:

Setting and finetuning your controller is simple and helps you attain higher energy savings and more comfort. The system enables you to select the space operation mode (heating, cooling or automatic), set the desired room temperature and control the domestic hot water temperature.

Easy Update via Bluetooth:

It is strongly recommended that the user interface has the latest software version. To update the software or check if updates are available, you need a mobile device and the Madoka Assistant app. This app is available from Google Play and the Apple Store.

Available on the App Store

GET IT ON Google Play

www.daikin.eu/madoka

EKRUCB*

Wired remote control for Heating

Control

› Manage space heating, cooling, domestic hot water and among others, booster mode
› User-friendly remote control with contemporary design
› Easy to use with direct accessibility to all main functions

Comfort

› An additional user interface can include a room thermostat in the space to be heated
› Easy commissioning: intuitive interface for advanced menu settings

* only in combination with EKRTETS

General features

Several languages possible depending on the model, including: English, German, Dutch, Spanish, Italian, French, Greek, Russian, etc.

Applicable Daikin units

› Daikin Altherma R (F/W)
  - Daikin Altherma M
› Daikin Altherma R Hybrid
› Daikin Altherma GEO
› Domestic hot water heat pump

Graphical screen with backlight

Info

On/Off

21.0°C

Home

Confirm

Navigational buttons

Menu back

Applicable Daikin units

			BRC1HHDW/S/K	EKRUCB*	EKRUHML*	DOTROOMTHEAA
Daikin Altherma 3 H HT (F/W)	14-16-18 kW	EPRA14-18D7 + ETV/B*-E7	•			
Daikin Altherma 3 H HT ECH2O	14-16-18 kW	EPRA14-18E + ETS*-E7	•			
Daikin Altherma 3 H MT (F/W)	8-10-12 kW	EPRA08-12E + ETV/B*-E	•			
Daikin Altherma 3 H MT (ECH2O)	8-10-12 kW	EPRA08-12E + ETS*-E	•			
Daikin Altherma 3 R (F/W)	4-6-8kW	ERGA-E* + EHV/B*-E	•			
Daikin Altherma 3 R ECH2O	4-6-8kW	ERGA-E* + EHS*-E	•			
Daikin Altherma 3 R (F/W)	11-14-16 kW	ERLA-D* + EBV/B*-D	•			
Daikin Altherma 3 R ECH2O	11-14-16 kW	ERLA-D* + EBS*-D	•			
Daikin Altherma 3 M	4-6-8-9-11-14-16 kW	E(B/D)LA-E/D*	•			
Daikin Altherma R Hybrid	5-8 kW	EVLQ-CV3		•		
Daikin Altherma H Hybrid	4 kW	EJHA-AV3			•	
Daikin Altherma 3 GEO	6-10 kW	EGSA(H/X)-D9W	•			
Daikin Altherma 3 C Gas W	12-35 kW	D2CND-A1A/A4A				•

Individual room control system for temperature adjustment of heating and cooling systems

General features
› Improve energy efficiency of the home
› Universally deployable and scalable
› Easy and intuitive installation, operation and maintenance
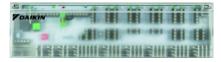› Cost effective and convenient for the end-user

Comfort

With the help of an electronic room-by-room control system, users can regulate the temperature individually in each room.

In addition to the warmth output of the actual heating surfaces, the room temperature control system also takes all other heat sources into account, such as sunshine, warmth from lights or people, and other sources of warmth, such as a fireplace or a tiled stove. On the basis of a continuous comparison of the target and current temperatures, the room temperature control system opens and closes the individual heating circuits by way of electrical valve actuators.

System components

Base station
EKWUFHTA1V3
The Daikin Wired Base Station is the central connection unit of a room-by-room temperature control for the surface temperature adjustment of heating and cooling systems.

Wired digital thermostat
EKWCTRDI1V3
The setting of the desired room temperature and the operation, can be performed comfortably via a rotary control with rotary-push action and soft ratchet. The well-structured and language-neutral symbols of the display always clearly indicate all settings.

Wired analog thermostat
EKWCTRAN1V3
An optimum price-performance ratio is offered for rooms where only a very good temperature control is desired, without the comfort function of the display variant.

Valve actuator
EKWCVATR1V3
The Daikin Valve Actuator is a thermoelectric valve drive for opening and closing valves on heating circuit distributors of concealed heating and cooling systems.
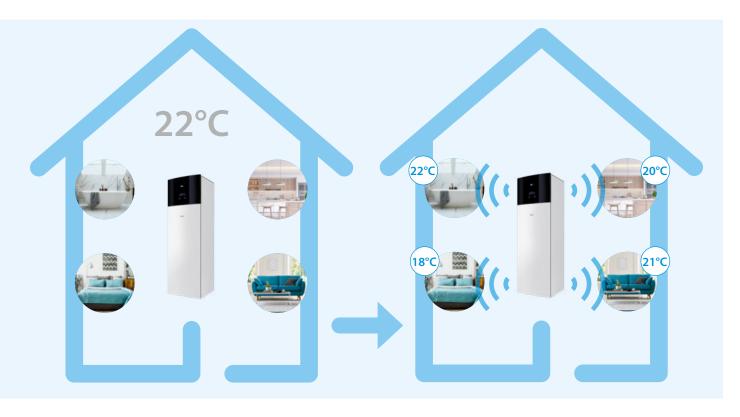
Applicable Daikin units
› Combinable to all Daikin Altherma units

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Individual wireless room controllers

Our individual wireless room controllers allow for a total flexibility in heating your home.

☑ **Personalize your heating schedule**

A traditional heating system allows you to control the temperature in only one room. With Daikin Home Controls you can choose the perfect temperature for each area separately.

☑ **Wireless control for a better flexibility**

Get rid of cables and have control from anywhere you are, thanks to the Onecta app.

Our wireless range of controllers makes your life easier. As soon as they are installed, you can program or control each room temperature from the intuitive app.

BRC1E53A

User friendly remote control for Sky Air and VRV

Graphical display of indicative electricity consumption (Function available in combination with FBA-A, FCAG and FCAHG)

A series of energy saving functions that can be individually selected

› Demand control (1)
› Temperature range limit
› Setback function
› Presence & floor sensor connection
  (available on round flow and fully flat cassette)
› kWh indication (2)
› Set temperature auto reset
› Off timer

Cost-effective solution for infrastructure cooling applications
> Only in combination with RZAG* / RZQG*

DUTY ROTATION

Other functions

› Up to 3 independent schedules
› Possibility to individually restrict menu functions
› Choice of display between symbol or text
› Real time clock with auto update to daylight saving time
› Built-in backup power for clock (up to 48 hours). Settings are always kept in case of power loss.
› Supports multiple languages:
  BRC1E53A: English, German, French, Dutch, Spanish, Italian, Portuguese

(1) Only available on RZAG*, RZASG*, RZQG*, RZQSG* | (2) For Sky Air FBA, FCAG and FCAHG pair combinations only

BRC1D52

Wired remote control for Sky Air and VRV

› Schedule timer: Five day actions can be set
› Home leave (frost protection): during absence, the indoor temperature can be maintained at a certain level. This function can also switch the unit ON/OFF
› User friendly HRV function, thanks to the introduction of a button for ventilation mode and fan speed
› Immediate display of fault location and condition
› Reduction of maintenance time and costs

BRC1D52

BRC4*/BRC7*

Infrared remote control

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

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

BRC4*/BRC7*

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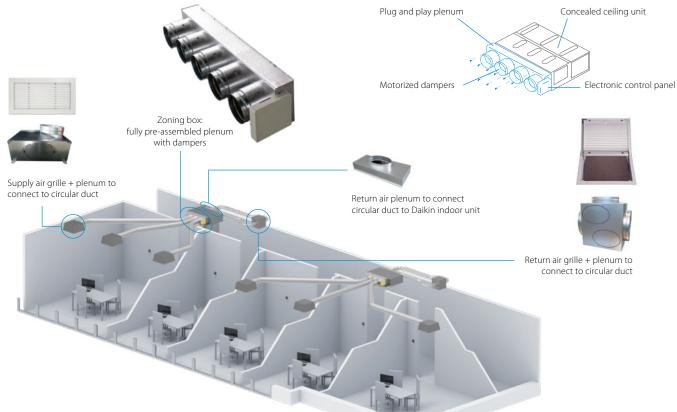
Multi-zone controller

The multi-zoning system is a room-by-room controller. It is fitted with motorised dampers, which immediately adapt using Daikin ducted solutions. This system supports control of up to 8 zones connected to one indoor unit via a centralised thermostat located in the main room and individual thermostats for each of the zones.

Easy selection via our NEW software!

Plug and play plenum

Concealed ceiling unit

Motorized dampers

Electronic control panel

Zoning box: fully pre-assembled plenum with dampers

Supply air grille + plenum to connect to circular duct

Return air plenum to connect circular duct to Daikin indoor unit

Return air grille + plenum to connect to circular duct

Compatibility

Number of motorised dampers	Reference	Dimensions H x W x D (mm)	Ø (mm)	FDXM-F9 25	35	50	60	FBA-A(9) 35	50	60	71	100	125	140	ADEA-A 71	100	125	FXDQ-A3 15	20	25	32	40	50	63	FXSQ-A 15	20	25	32	40	50	63	80	100	125	140
Standard plenum 2	AZE(Z/R)6DAIST07XS2	300 x 930 x 454	200															•	•	•	•															
	AZE(Z/R)6DAIST07S2							•	•																•	•									
3	AZE(Z/R)6DAIST07XS3																	•	•	•	•													
	AZE(Z/R)6DAIST07S3							•	•																•	•									
4	AZE(Z/R)6DAIST07S4	300 x 1,140 x 454						•	•																•	•									
	AZE(Z/R)6DAIST07M4									•	•				•												•	•						
5	AZE(Z/R)6DAIST07M5	300 x 1,425 x 454	200							•	•				•												•	•						
	AZE(Z/R)6DAIST07L5											•	•	•		•	•															•	•	
6	AZE(Z/R)6DAIST07M6	300 x 1,638 x 454								•	•				•												•	•						
	AZE(Z/R)6DAIST07L6											•	•	•		•	•															•	•	
7	AZE(Z/R)6DAIST07L7	515 x 1,425 x 454										•	•	•		•	•															•	•	
	AZE(Z/R)6DAIST07XL7																																	•
8	AZE(Z/R)6DAIST07L8											•	•	•		•	•															•	•	
	AZE(Z/R)6DAIST07XL8																																	•
Medium plenum 2	AZEZ6DAIBS07XS2	250 x 930 x 454																•	•	•	•														
	AZEZ6DAIBS07S2							•	•																•	•									
3	AZEZ6DAIBS07XS3																	•	•	•	•													
	AZEZ6DAIBS07S3							•	•																•	•									
	AZEZ6DAIBS07M3									•	•				•												•	•						
4	AZEZ6DAIBS07S4	250 x 1,140 x 454	200					•	•																•	•									
	AZEZ6DAIBS07M4									•	•				•												•	•						
	AZEZ6DAIBS07L4											•	•	•		•	•															•	•	
5	AZEZ6DAIBS07S5	250 x 1,425 x 454						•	•																•	•									
	AZEZ6DAIBS07M5									•	•				•												•	•						
	AZEZ6DAIBS07L5											•	•	•		•	•															•	•	
	AZEZ6DAIBS07XL5																																	•
6	AZEZ6DAIBS07M6	250 x 1,638 x 454								•	•				•												•	•						
	AZEZ6DAIBS07L6											•	•	•		•	•															•	•	
	AZEZ6DAIBS07XL6																																	•
Slim plenum 2	AZE(Z/R)6DAISL01S2	210 x 720 x 444		•	•													•	•	•															
3	AZE(Z/R)6DAISL01S3		200	•	•													•	•	•															
4	AZE(Z/R)6DAISL01M4	210 x 930 x 444																				•	•												
5	AZE(Z/R)6DAISL01L5	210 x 1,140 x 444				•	•																	•											

(1) Z models are reversible; R models are heating only
(2) Medium Ceiling Void reversible units can be blocked to heating only via AZX6MCS module

Controls

3 controller versions are available to choose from: Colour, touch or simplified

AZCE6BLUEZEROCB (Wired)

Bluezero - main thermostat
› Intuitive graphical, colour touch screen for controlling multiple zones

Lite - zone thermostat
› Simplified thermostat with touch buttons for temperature control

AZCE6LITECB (Wired)
AZCE6LITERB (Wireless)

Think - zone thermostat
› Graphic touch button with low-energy e-ink screen for controlling single zones

AZCE6THINKRB (Wireless)

AZX6WSPHUB

Webserver for remote control
› Cloud based remote control of multizoning kit(s)
› Configuration and control of zones (temperature, operation mode, ...)
› Access via webportal, or Android/IOS application
› Supports Ethernet and WIFI
› AZX6WSPHUB:
    › For installation on DIN rail
    › 32 zoning boxes can be controlled
› AZX6WSC5GER:
    › For installation in the unit
    › Controls one zoning box

AZX6WSC5GER

AZX6WSPBAC

BACnet or KNX gateway
› Allows ON/OFF control of each zone
› Control of temperature for each zone
› Status indication of operation mode
› One gateway needed per system

AZX6KNXGTWAY

Options and modules

Optional bus cable
(2 x 0.5 mm² | 2 x 0.22 mm²)

AZX6CABLEBUS15 (15 m)
AZX6CABLEBUS100 (100 m)

ON/OFF zone module
› On/Off of the zone through voltage free contact

AZCE8ACCOFF

Heating only module
› Locks medium reversible multizoning kit to heating only

AZX6MCS

Grilles and plenums

Supply air grilles and plenums

RDHV040015BKX

Wall type supply grille
› With horizontal and vertical adjustable flaps

RLQV040015BKX

Ceiling type supply grille
› With horizontal flaps angled at 15°
› Vertical flaps can be adjusted manually

PREJ040015T

Plenum for supply grille
› To connect circular ducts to discharge grille
› Insulated, galvanised steel
› Diameter 250mm

Return air grilles and plenums

RRFR050050BTX

Return air grille with integrated filter
› Filters particles from the air

BR500

Plenum for return grille
› To connect 1 up to 4 circular ducts to the return air grille
› Diameter 250mm

AZCEZDAPR07*

Plenum for return air
› To connect 1 up to 4 circular ducts to the Daikin concealed ceiling units
› Diameter 250mm
› Different sizes (XS, S, M, L, XL) to fit the indoor unit

Daikin mAP

Digital interface for your HVAC equipment

The Daikin mAP is the brand-new Digital HMI solution for all Daikin Applied products, designed to let end-users and technician operate easily and effectively from their smartphone or tablet while performing field activities.

Daikin mAP

NEW

Digital Interface

The Daikin mAP is the brand-new Digital HMI solution for all Daikin Applied products, designed to let end-users and technician operate easily and effectively from their smartphone or tablet while performing field activities.

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Control

Change settings and control parameters with more flexibility.

☑ Up to 4 user levels with different privileges
☑ Improved unit access security
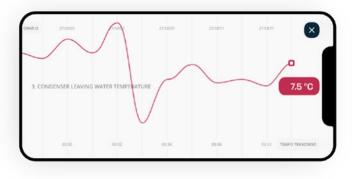
Select

Explore and search for a specific unit parameter.

☑ Search bar to easily find the desired parameter
☑ Select & change and pin in the dashboard your preferred parameters

Monitor

Start a live monitoring and trending of your preferred parameters

☑ Background monitoring for a non-stop operations
☑ Export and share monitoring data in .CSV file
☑ Up to 20 live trends and monitoring

Centralised remote controller

Centralised control of the Sky Air and VRV system can be achieved via 2 user friendly compact remote controllers. These controls may be used independently or in combination with:
1 group = several (up to 16) indoor units in combination
1 zone = several groups in combination.
A centralised remote control is ideal for use in tenanted commercial buildings subject to random occupation, enabling indoor units to be classified in groups per tenant (zoning).

DCS302C51

Centralised remote control

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

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

DCS301B51

Unified ON/OFF control

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

DCS601C51

intelligent touch Controller

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

i-Net

third party controller (domotics, BMS, etc.) via http interface

Ethernet

Fire alarm

Forced OFF contact input

DIII-NET

Indoor units   HRV

DCS601C51

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

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

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

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

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

Open interface
› Communication to any third party controller (domotics, BMS, etc.) is possible via open interface (http option DCS007A51)
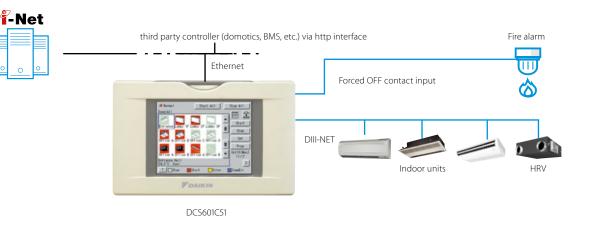
Connectable to
› VRV
› HRV
› Sky Air
› Split (via interface adapter)

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DCC601A51

intelligent Tablet Controller

Advanced centralised controller

- Intuitive and user-friendly interface
- Flexible concept for stand alone applications
- Total solution thanks to integration of 3rd party equipment

Local solution
› Offline centralised control
› Stylish optional screen fits any interior

System layout

Local solution

AL-CCD07-VESA-1

Alarm

Window contact

Pulse input or Digital input

intelligent Tablet Controller

DCC601A51 | WAGO power supply | CPU module | I/O module

Split, *SkyAir*, *VRV*, ventilation, air curtains

Centralised control systems

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Total solution

› Total solution thanks to a large integration of
  Daikin products and 3rd party equipment
› Connect a wide range of units (Split, Sky Air, VRV, Ventilation, Biddle air curtains)
› Simply control your entire building centrally
› Increased customer shopping experience by better management of your shop
  comfort level

User friendly touch control

› Stylish Daikin supplied optional screen
  for local control fits any interior
› Intuitive and user-friendly interface
› Full solution with simple control
› Easy commissioning

Flexible

› Pulse/digital inputs for 3rd party equipment such as kWh meters, emergency
  input, window contact, …
› Control up to 32 indoor units per controller and 320 units per site

(1) only available in combination with certain indoor units

Pulse input

Digital input

Indoor uit

Functions overview

		Local solution
Languages		Depends on local device
System layout	N° of connectable indoor units	32
	Multiple sites control	
Monitoring & control	Basic control functions (ON/OFF, mode, filter sign, setpoint, fan speed, ventilation mode, room temperature, …)	●
	Remote control prohibition	●
	All devices ON/OFF	●
	Zone control	
	Group control	●
	Weekly schedule	●
	Yearly schedule	
	Interlock control	●
	Set point limitation	
	Visualisation of energy use per operation mode	
Connectable to	DX split, Sky Air, VRV	●
	Modular L Smart, VAM, VKM ventilation	●
	Air curtains	●

For available Daikin Cloud Service options refer to the option list

intelligent touch Manager

Mini BMS

with full integration across all product pillars

DCM601B51

intelligent touch Manager

- Price competitive mini BMS

- Cross-pillar integration of Daikin products

- Integration of third party equipment

Download the WAGO
selection tool from
my.daikin.eu
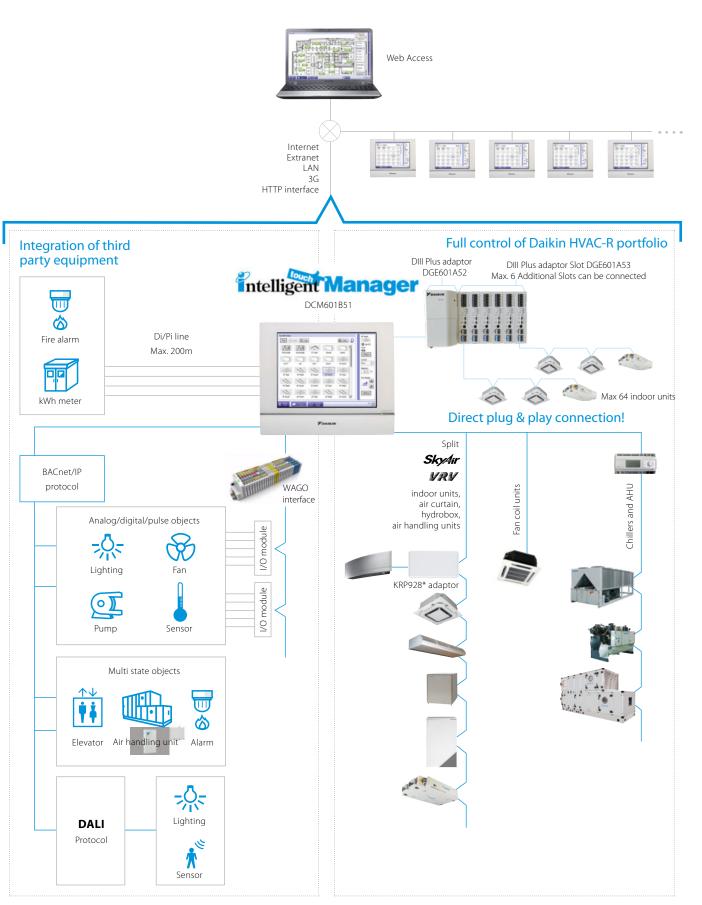
› Easy selection of WAGO materials
› Material list creation
› Time saving
  - Includes wiring schemes
  - Contains commissioning/preset data for iTM

Check on

You Tube

https://www.youtube.com/
DaikinEurope

Centralised control systems

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System overview

Web Access

Internet
Extranet
LAN
3G
HTTP interface

Integration of third party equipment

Full control of Daikin HVAC-R portfolio

DIII Plus adaptor
DGE601A52

DIII Plus adaptor Slot DGE601A53
Max. 6 Additional Slots can be connected

intelligent touch Manager

DCM601B51

Fire alarm

Di/Pi line
Max. 200m

kWh meter

Max 64 indoor units

Direct plug & play connection!

BACnet/IP protocol

WAGO interface

Split

SkyAir

VRV

indoor units,
air curtain,
hydrobox,
air handling units

Fan coil units

Chillers and AHU

Analog/digital/pulse objects

I/O module

I/O module

Lighting

Fan

KRP928* adaptor

Pump

Sensor

Multi state objects

Elevator   Air handling unit   Alarm

DALI
Protocol

Lighting

Sensor

941

Centralised control systems

intelligent touch Manager

User friendliness

› Intuitive user interface
› Visual lay out view and direct access to indoor unit main functions
› All functions direct accessible via touch screen or via web interface
› Simplified electrical wiring, only one power supply & one connection wiring required

Smart energy management

› Monitoring if energy use is according to plan
› Helps to detect origins of energy waste
› Powerful schedules guarantee correct operation throughout the year
› Save energy by interlocking A/C operation with other equipment such as heating
› Peak Power Cut off Control: Activating this feature in schedule function allows users to operate the outdoor unit in 4 settings i.e. 100%,70%, 40% and 0%
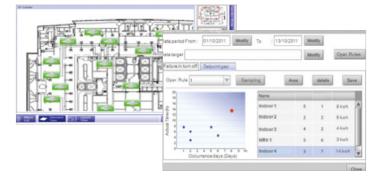
Flexibility

› Cross-pillar integration (heating, air conditioning, applied systems, refrigeration, air handling units)
› BACnet protocol for 3rd party products integration
› I/O for integration of equipment such as lights, pumps… on WAGO modules
› Modular concept for small to large applications
› Control up to 512 indoor unit groups via one ITM and combine multiple ITM via web interface

Easy servicing and commissioning

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

Flexibility in size
64 up to 512 groups

Plug & play

Split

SkyAir

VRV

Fan coils

Chillers and AHU

HRV ventilation

DALI Protocol — Lighting, Sensor

BACnet/IP protocol — Lighting, Air handling unit, Pump, Elevator, Fan, Alarm, Sensor

WAGO I/O — Lighting, Fan, Pump, Sensor
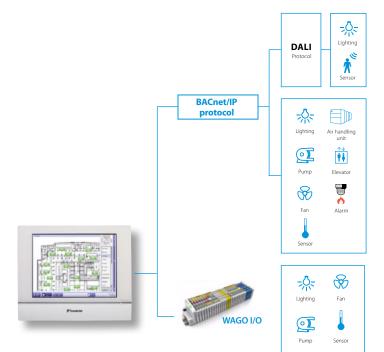
Functions overview

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

Management
› Web access via html 5
› Power Proportional Distribution (option)
› Operational history (malfunctions, …)
› Smart energy management
  - monitor if energy use is according to plan
  - detect origins of energy waste
› Setback function
› Sliding temperature

WAGO Interface
› Modular integration of 3rd party equipment
› Large variety of input and outputs available. For more details refer to the options list

Open http interface
› Communication to any third party controller (domotics, BMS, etc.) is possible via http open interface (http option DCM007A51)

System layout
› Up to 512 unit groups can be controlled (ITM + 7 iTM Plus adapters)

Control
› Individual control (512 groups)
› Schedule setting (Weekly schedule, yearly calender, seasonal schedule)
› Interlock control
› Setpoint limitation
› Temperature limit
› Schedule function to activate quiet operation mode on outdoor unit
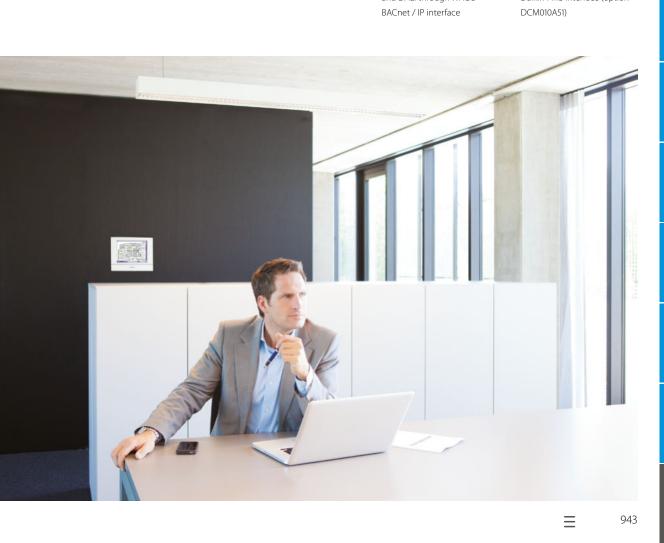
DALI integration
› Control and monitor the lights
› Easier facility management: receive error signal when light or light controller has a malfunction
› Flexible approach and less wiring needed, compared to classic light scheme
› Easier to make groups and control scenes
› Connection between intelligent Touch Manager and DALI through WAGO BACnet / IP interface

Connectable to
› DX Split, Sky Air, VRV
› HRV
› Chillers (via MT3-EKCMBACIP controller)
› Daikin AHU (via MT3-EKCMBACIP controller)
› Fan coils
› LT and HT hydroboxes
› Biddle Air curtains
› WAGO I/O
› BACnet/IP protocol
› Daikin PMS interface (option DCM010A51)

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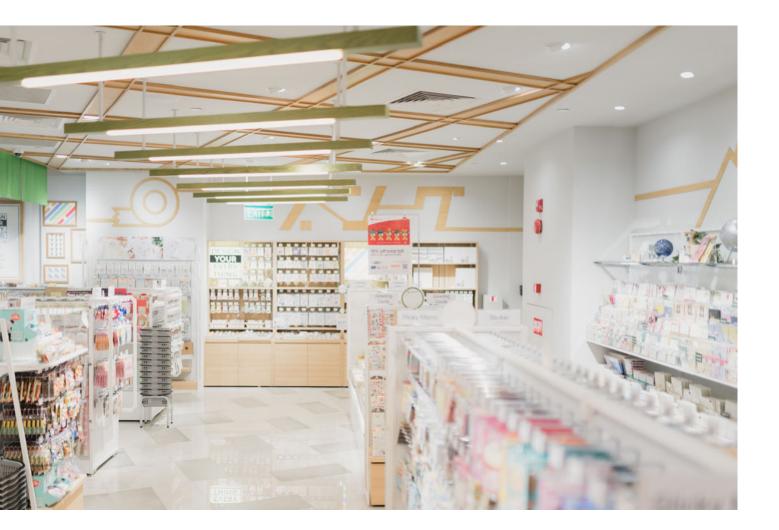
Introduction to
Daikin Cloud Plus

Daikin Cloud Plus is a cloud-based remote control and monitoring solution for Daikin commercial HVAC installations. Using enhanced control, monitoring and predictive logic, Daikin Cloud Plus provides real-time data and support from Daikin experts to help you identify cost-saving opportunities, increase the lifetime of your equipment and reduce the risk of unexpected issues.

The ultimate control over your indoor climate and air quality

› Save energy & reduce costs
› Enhance comfort & satisfaction
› Smart control from anywhere
› Ensure healthy indoor environment
› Maximize uptime (remote prediction, monitor & diagnose)
› Integrates easily with building systems

Supporting your business and helping you succeed

› Maximize comfort and satisfaction of your staff, customers, tenants, …
› Save energy & reduce costs
› Facilitate your sustainability goals
› Cost effective control and energy monitoring of HVAC and other facility systems such as lighting
› Limits the necessity for on-site interventions
› Minimizes downtime and engineer call outs

Benefits

Easy control of multiple sites

☑ Remote control and manage sites remotely
☑ Floor plan control per site
☑ Multi-site access
☑ Permission based access

Save energy & meet sustainability goals

☑ Monitor energy consumption trends
☑ Smart control of systems to save energy
☑ Insights to improve HVAC system performance
☑ Reduced costs
☑ Contribute to carbon neutrality

Connectivity and integration possibilities

☑ Simple to advanced edge controllers
☑ Various interfaces
☑ Advanced security

Manage, monitor and control indoor climate from anywhere

☑ Limits the necessity for on-site control
☑ Minimizes downtime and engineer call outs
☑ Optimized maintenance
☑ Monitoring of indoor air quality

From one to ∞ sites

LOCAL CONTROL

DAIKIN CLOUD PLUS

Customer

Installer/ technical manager

Main applications

Light commercial and commercial systems

Non-food retailers

Hotels

Offices

Schools

Healthcare

Ranges

VRV and Sky Air, air curtains. Integration through I/O. BACnet available in 2024.

› Direct integration with lights and other facility systems using Daikin Cloud Plus as master of the building
› Integration with BMS, Daikin Cloud Plus as part of the system

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Cloud application interface

Dashboard

Equipment List

Energy Consumption

Layout View

* Features depend on unit compatibility and region.
   Images are indicative and might change if the product evolves.

What can Daikin Cloud Plus do for you?

Were you aware that HVAC systems account for as much as 40% of the total energy consumption in buildings?

› Daikin Cloud Plus logs historical data and allows you to monitor, compare HVAC consumption
› Daikin Cloud Plus allows you to integrate with energy meters so you can monitor not only HVAC but also other energy consumers (facility, gas, water, …)
› Daikin Cloud Plus allows you to configure and control the system smarter to save energy with restrictions, "if this than that" rules, schedules, etc.

Are you interested in tracking the progress of sustainability goals or the sustainability policies you put into action?

› Daikin Cloud Plus allows you to monitor, analyse and compare HVAC energy consumption
› Daikin Cloud Plus allows you to remote control and manage new cooling or heating related policies (e.g. heating setpoint of 1° lower)

How do you ensure maximum comfort and minimal interruptions of cooling and heating?

› Daikin Cloud Plus can predict failures to anticipate and prevent unplanned downtime of the heating or cooling
› Daikin Cloud Plus real-time system error notifications to ensure a direct response in case something goes wrong
› Daikin Cloud Plus logs all events in the system and visualized the temperature evolutions
› Daikin Cloud Plus remote system access to indoor and outdoor unit operational data reduces engineering visits on site

How to manage and remote control one or multi-site building estate and apply uniformization in climate control?
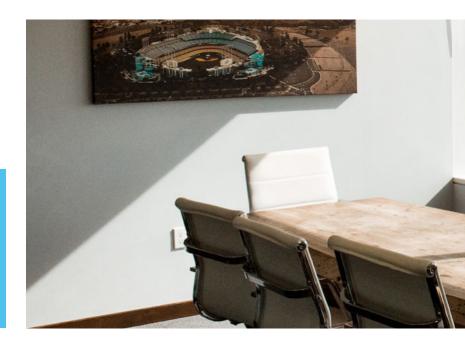
› Daikin Cloud Plus allows you to monitor, manage and control multiple sites from anywhere
› Daikin Cloud Plus allows to compare multiple sites

How give peace of mind about indoor air quality?

› Daikin Cloud Plus integrates with IAQ sensors and can take automated actions or provide warnings where needed
› Daikin Cloud Plus allows to monitor and analyse the indoor air quality in order to take necessary actions

How to control my other systems at the facility?

› Daikin Cloud Plus provides possibilities to integrate with other facility systems as a stand-alone system, such as integration with lighting system
› Daikin Cloud Plus provides possibilities to integrate with other facility managment systems like BMS or BEMS

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Main
features

Remote Control, Demand Control and Scheduling

Control and monitor the climate of your buildings at any time, from anywhere. From a web browser, it is possible to adjust your units' parameters, including temperature setpoints, fan speeds, heating or cooling operation modes and much more. All these parameters can be scheduled for maximum convenience during weekdays, weekends, holidays, office hours, opening hours, etc. Schedules are stored on the controller so the units are functioned as scheduled despite the internet connection. Additionally, units can be positioned in a visual floor plan to make it easier to locate an unit and change the setpoints remotely. Demand control reduces the peak consumption with minimal impact on comfort by predicting future needs and adjusting the operational capacity of the units accordingly.

Energy Monitoring

Get detailed visualization and export energy data of your buildings. Powerful graphs, comparisons and visualisations are available to help you assess the performance and potential improvements to reduce excessive energy and lower your energy costs. Next to detailed energy data of HVAC systems, it is possible to add external meters to measure consumption of lighting and water systems.

Interlocking

Smart rules can be integrated to optimize the operation of your units by setting specific triggers and scheduling necessary actions when these conditions happen. Through "if this, then that" principle, both the comfort of users and the efficiency of units can be optimized. For example, a rule can be: "If a window is open, then after 5 minutes, turn off the air-conditioner". Furthermore, the system enables setting restrictions remotely. For example, a user can only change the temperature between certain limits, which gives users control over their comfort while restricting extreme settings.

Multi-site Management

Get a map view of all your sites with status alerts, benchmark and compare sites to one another. From the map view, you can get direct access to each site to monitor and control the site remotely. This helps to reduce site visits and get insights that lead to opportunities for reducing operational costs while maintaining great comfort levels.

Building Integration

Not only HVAC but other facilities in the buildings can be controlled from the central platform. For example, the lighting system can be included in schedules and integrated with interlocking to have one single point of control and optimize energy efficiency for your buildings.

Alarm History & Email Notification

Get detailed overview of alarms relating to your sites and real-time status of the alarms. Receive alarms notification email with access to alarm details on Daikin Cloud Plus platform.

Power Consumption Distribution

Proportional distribution of power consumption allows you to calculate the consumption for specific areas in your buildings. For example, you can calculate how much power is used by a tenant on a certain floor. For this function, energy meters are required.

Remote Field Settings

Field settings of outdoor units can be adjusted remotely. This allows technicians and building operators to adjust, configure and monitor outdoor units from a distance, reducing the need to be at the location, save time and costs associated with travel, labour and maintenance, increase efficiency and overall performance.

Site History

Trace schedule trigger units or manual actions that were done on the units and sites. Past events, changes, and adjustments, enabling you to identify trends, gauge performance improvements, and strategize for the future. By drawing from historical data, you'll make informed decisions, adapt strategies, and drive continuous enhancements, revolutionizing your HVAC management approach.

Prediction & Email Notification

Early fault predictive algorithms help to prevent major failures. Based on the alarm and operational data, unit-specific prediction logic allows you to preventively, see whether a unit could run into issues. Prediction logic alarms will be generated in this case, allowing early warnings and ensuring smooth operation.

Operational Data Access

Effortlessly monitor, analyse, and fine-tune HVAC parameters remotely, enabling you to make informed decisions on the go. Real-time access to operational data, performance metrics, and energy usage empowers you to adjust settings, troubleshoot anomalies, and maintain peak efficiency, all while minimizing the need for physical intervention. Operational data can be downloaded for further analysis and periodical reporting.

Indoor & Outdoor Unit Analysis

Dive into comprehensive insights into each unit's performance, energy consumption, and environmental impact. Seamlessly compare data across units, pinpointing inefficiencies and optimizing your system's overall effectiveness. With a holistic view of indoor and outdoor units, you'll achieve unprecedented levels of operational harmony and energy savings.

* Features depend on unit compatibility and region.
Images are indicative and might change if the product evolves.

Use cases

For retailers
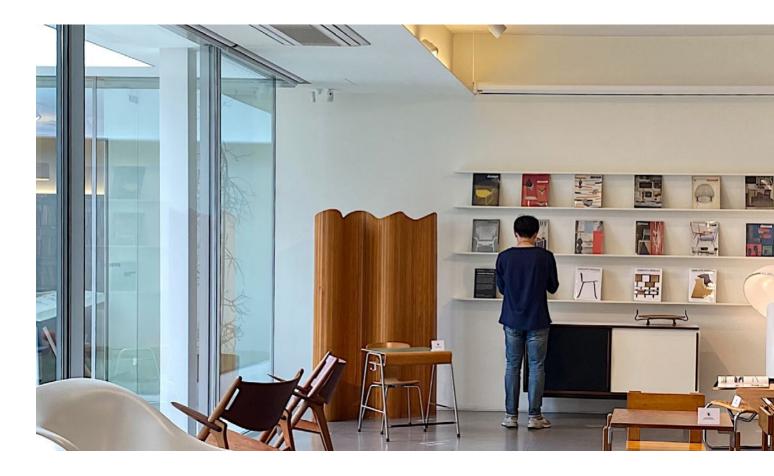
> Remote control and monitoring of all units in different shops from a centralized platform
> Testing and validating parameters and standardizing settings for shops
> Energy visualizations and exports
> Remote control over lightings

For hotels
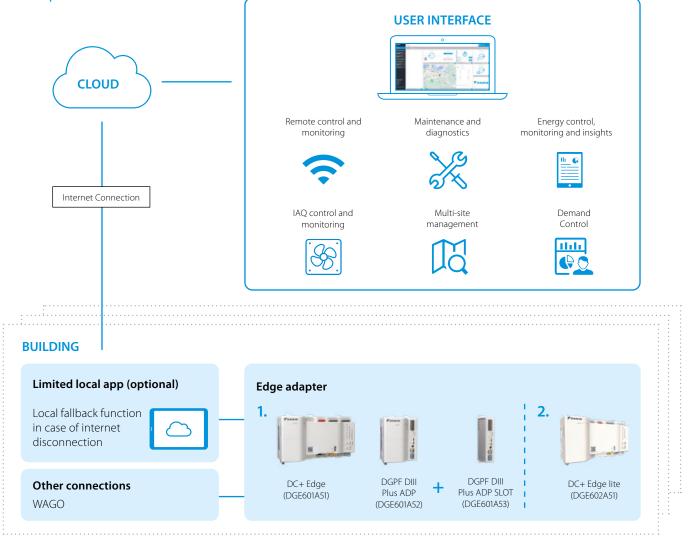
> Setting temperature ranges for rooms to avoid extreme settings by guests
> Energy monitoring
> Scalability made easier thanks to standardized system settings

For offices

> Setting temperature ranges for office areas to avoid extreme settings by staff
> Detailed energy monitoring and export of data per tenant of different office areas
> Estimation of energy consumption and setting the right pricing for each tenant
> Scheduling and restrict controls to avoid energy waste and save energy costs

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Composition

USER INTERFACE

Remote control and monitoring	Maintenance and diagnostics	Energy control, monitoring and insights
IAQ control and monitoring	Multi-site management	Demand Control

CLOUD

Internet Connection

BUILDING

Limited local app (optional)

Local fallback function in case of internet disconnection

Other connections

WAGO

Edge adapter

1.

DC+ Edge
(DGE601A51)

DGPF DIII
Plus ADP
(DGE601A52)

+

DGPF DIII
Plus ADP SLOT
(DGE601A53)

2.

DC+ Edge lite
(DGE602A51)

Controllers & accessories

Controllers and their connections

Controller Features

				DGE601A51 (Edge)	DGE602A51 (Edge lite)
Controller specification	I/F	DIII	port	2	1
			(Indoor unit connection / port)	64	64
		Ethernet	Internet	1	1
			2nd LAN port (BACnet)	1(N.A. yet)	0
		RS485	WAGO	1	0
		ADP	For DIII NET Plus ADP	1	0
			(Maximum expansion)	6	
		Contact	Di/Pi	8	4
			Do	3	2
	Number of connection	DIII management points	Standard	128	64
			Maximum with ADP	512	-
		Total management points	Including AC and other facilities	1,000	76

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CONTROL SYSTEMS

Daikin Applied Europe
Control Solutions

intelligent **Chiller** **Manager**

The intelligent Chiller Manager is a factory-engineered control solution to manage a chiller plant room. It is responsible for the **optimal sequencing and staging** of Chillers, Heat Pumps and Multipurpose units even in a **mixed plant configuration** and in both Heating and Cooling modes.
The extended control solution integrated the management of Cooling Towers and manifolded Pumps for air and water cooled chiller plant.
By reaching higher plant performance and efficiency levels, the intelligent Chiller Manager is the best and qualified solution for your HVAC equipment in a wide range of **Applications**.

Key Benefits

› High performance
› Lower energy & Maintenance Costs
› Increase reliability & lifetime
› Remote control and monitoring through Daikin on Site
› **No additional installation required**

intelligent
SECONDARY CIRCUITS
Management

intelligent
COOLING TOWER
Management

Microtech® 4 Unit Controller

The new **Microtech® 4** (MT4) controller is **faster, smarter and connected**. With the hardware improvements introduced by the new controller on all air/water cooled chillers, **advanced logics and algorithms** development at unit level are possible. Communication protocols like **Modbus** and **BACNet** are also available without any additional hardware required because the MT4 controller supports them natively.

Daikin on Site

Daikin on Site is the unique solution for remote monitoring and smart maintenance. It allows a complete remote operation of every unit with different users and levels of access.

Daikin on site is fully compatible with All Daikin Applied Europe products and it can integrate **third-party products** like **IoT devices** (i.e. IAQ sensors).

Daikin has developed two offers called Daikin on Site: Partner and Daikin on Site: Premium.

REMOTE MONITORING

REPORTING

ALARM TROUBLESHOOTING

ENERGY ANALYSIS

REFRIGERANT LEAKAGE DETECTION

Building management system Integration

With MT4 unit the communication protocols such as **Modbus** and **BACNet** are available directly from the controller and activated from Factory when ordered or through the after-sales channel.

Performance Monitoring

With MT4, advanced algorithms implementation in the unit controller are possible, such as the **Performance Monitoring** (Option 186).
This **sensor-less algorithm** calculates the unit cooling capacity by using refrigerant pressure and temperature readings. Electrical power is calculated either from compressor VFD power and fan, or directly measured through optional energy meter. As a standard, **no extra-hardware is required.**

intelligent
PUMP
Management

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intelligent *Chiller* **Manager**

Factory-engineered system control to manage a chiller plant room

Thus optimising its performance and increasing its reliability by:
› Optimal start-up, sequencing & staging of chillers
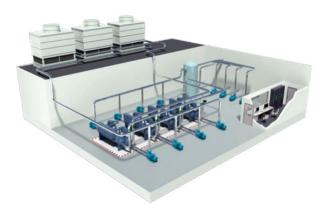› Matching chiller capacity to load demand

iCM's main functionalities:

Availability
Determines whether chillers are available or not, based on:
› Inputs from the chiller unit controllers
› Modbus communication status
› Pump status

Sequencing
Optimises the order in which available chillers are turned on and off depending on operating hours, energy efficiency, etc.

Staging
Calculates **energy-optimal stage-up/stage-down** of the chiller by determining the increased capacity demand by capacity control, compensation of temperature and rotation. This function aims at providing the most energy-efficient combination of chillers on a continuous basis.

Stopping Last Chiller/Recycling
Captures a rise in demand when the **last chiller is staged down,** by operating the pump dedicated to the next ON chiller at a minimum VFD frequency.

Min/Max Operating Chiller Setting
Ensures that the number of operating chillers always **stays within a certain range,** regardless of changes in demand.

Primary Pump control
Primary evaporator and condenser pump control for dedicated and manifolded pumps thanks to iPM panel

Secondary Pump Control
Control of up to 12 secondary circuits thanks to iSM panel extension

Cooling Tower Optimization
Control and Optimization of Cooling Tower systems thanks to iCT extension modules.

Remote Connection through Daikin on Site
24/7 monitoring and control of iCM plants through Daikin on Site cloud service.

Why choose iCM?

› Optimise performance
› Increase reliability
› Reduce energy costs
› Reduce maintenance costs
› Factory-engineered and tested
› Remote control and monitoring. From one-time commissioning to real-time commissioning

> **Daikin is the best qualified partner to optimise the operation of a Daikin chiller plant room.**

Remote control and monitoring possibilities
(valid for both Standard and Customised versions)

› **Connectivity to Daikin's remote monitoring and control system (www.daikinonsite.com)** for remote monitoring and service providing Internet connection to the main controller
› **Integration with general BAS/BMS** offered through BACnet or Modbus Modules based on BACnet/IP or Modbus RTU/RS-485 protocols
› **Built-in HMI, Remote HMI, Web HMI and daikinonsite.com** are available for control and configuration

Integrated logics for Plant Management

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intelligent Chiller **Manager**

Key Benefits

› High performance
› Lower energy & Maintenance Costs
› Increase reliability & lifetime
› Remote control and monitoring through Daikin on Site
› **No additional installation required**

Control strategies

Advanced control strategies can be chosen to optimise units life time and the energy efficiency of a chillers plant:

› by sequencing it is decided which unit must start or stop
› by staging the unit shares the load based on a threshold specified by the user

Control options

iCM can manage:

› Up to 16 units Heating/Cooling mode, with iCM expanded kit
› Up to 8 units Heating/Cooling mode
› Special control options such as:
   VPF, Demand Limit, Rapid Restart
   are managed by iCM in a multiple unit system
› Heat recovery option management
› Free cooling option management
› Manifolded pumps management (evaporator/condenser) –
   iPM control panel is required
› Cooling tower system management –
   iCT control panel is required
› Secondary circuits management - iSM control panel is required

What are the main differences between Master/Slave and iCM?

For Daikin unit equipped with MT4, iCM are set of functions embedded directly in the unit controller. In addition for those applications not covered by the embedded functions, iCM customized are also available.

While Master/Slave can manage systems composed by units model of the same type, iCM can manage cooling, heating and plants made of different kind of units

Feature	Master/Slave	New iCM
Number of chillers	UP TO 2	UP TO 16
Plants with All Chillers	same models	YES
Plants with all Heat Pumps	same models	YES
Plants with Multipurpose	YES	YES
Mix of Chillers (max 2 circuits) + Multipurpose	NO	**YES**
Mix of Chillers + Heat Pumps	NO	**YES**
Chillers with Heat Recovery	NO	**YES**
Chillers with free cooling	NO	**YES**
Units with modulable capacity control	YES	YES
Units with step capacity control	YES	YES

Product line-up

intelligent Chiller Manager

iCM as unit option 184 (up to 16 with iCM expanded kit):
› Up to 8 daikin chillers
› Mixed systems (Chiller + heat pumps or chillers + multipurpose)
› Heating/cooling operating modes
› Heat recovery and Free cooling management
› Units with modulable and step capacity control

Intelligent Pump Manager:
› Up to 5 dedicated or manifolded pumps (evaporator or condenser)
› Up to 10 dedicated or manifolded pumps (evaporator or condenser)
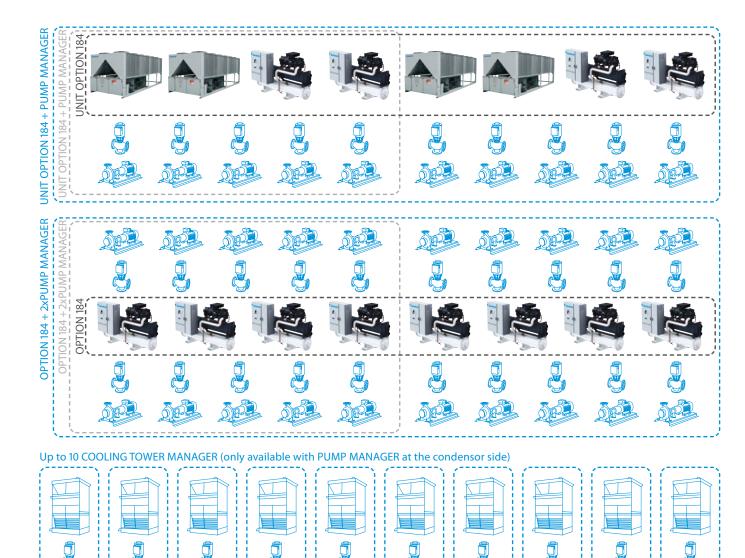
Intelligent Cooling Tower Manager:
› Up to 10 manifolded cooling towers (available with Pump Manager at the condenser side)

intelligent Secondary Circuits Manager:
› Up to 8 pumps divided in up to 4 pump groups (up to 3 ism can be connected for a total of 12 pump groups and 24 secondary pumps)

Up to 10 COOLING TOWER MANAGER (only available with PUMP MANAGER at the condensor side)

Up to 3 INTELLIGENT SECONDARY MANAGER (each iSM can control up to 4 pump groups and up to 8 pumps)

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Individual Modbus interfaces

RTD-RA

› Modbus interface for monitoring and control of residential indoor units

NEW DAIKIN MODBUS ADAPTOR SIMPLE (EKMBPP1)

› Modbus interface for monitoring & control of Sky air, VRV & ventilation units.
› Smart grid control for Sky air indoor units.

RTD-10

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

RTD-20

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

RTD-HO

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

RTD-W

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

NEW Daikin HomeHub EKRHH

› Modbus RTU/IP interface for Daikin Altherma 3
› Integrate the Daikin Altherma 3 air-to-water heat pump in a home automation or energy management system

DCOM-LT/MB

› Modbus interface of Daikin Altherma air-to-water heat pumps, hybrid heat pumps and ground source heat pumps

DCOM/LT-IO

› Voltage & resistance control in addition to Modbus

Overview functions

Main functions		RTD-RA	EKMBPP1	RTD-10	RTD-20	RTD-HO
Dimensions	H x W x D mm	80 x 80 x 37.5	100 x100 x 20		100 x100 x 22	
Key card + window contact						✓
Set back function		✓				✓
Prohibit or restrict remote control functions (setpoint limitation, ...)		✓	✓	✓	✓**	✓
Modbus (RS485)		✓	✓	✓	✓	✓
Group control		✓(1)	✓	✓	✓	✓
0 - 10 V control				✓	✓	
Resistance control				✓	✓	
IT application		✓		✓		
Heating interlock				✓	✓	
Output signal (on/defrost, error)				✓	✓****	✓
Retail application					✓	
Partitioned room control					✓	
Air curtain			✓***	✓***	✓	

(1): By combining RTD-RA devices

Control functions	RTD-RA	EKMBPP1	RTD-10	RTD-20	RTD-HO
On/Off	M,C	M	M,V,R	M	M*
Set point	M	M	M,V,R	M	M*
Mode	M	M	M,V,R	M	M*
Fan	M	M	M,V,R	M	M*
Louver	M	M	M,V,R	M	M*
HRV Damper control		M	M,V,R	M	
Prohibit/Restrict functions	M	M	M,V,R	M	M*
Forced thermo off	M				
Smart Grid Control		M			

Monitoring functions	RTD-RA	EKMBPP1	RTD-10	RTD-20	RTD-HO
On/Off	M	M	M	M	M
Set point	M	M	M	M	M
Mode	M	M	M	M	M
Fan	M	M	M	M	M
Louver	M	M	M	M	M
RC temperature		M	M	M	M
RC mode		M	M	M	M
N° of units		M	M	M	M
Fault	M	M	M	M	M
Fault code	M	M	M	M	M
Return air temperature (Average/Min/Max)	M	M	M	M	M
Filter alarm		M	M	M	M
Termo on	M	M	M	M	M
Defrost		M	M	M	M
Coil In/Out temperature	M	M	M	M	M

Main functions		RTD-W
Dimensions	H x W x D mm	100x100x22
On/off prohibition		✓
Modbus RS485		✓
Dry contact control		✓
Output signal (operation error)		✓
Space heating / cooling operation		✓
Domestic hot water control		✓
Smart Grid control		

Control functions	RTD-W
On/Off Space heating/cooling	M,C
Set point leaving water temperature (heating / cooling)	M,V
Room temperature setpoint	M
Operation mode	M
Domestic Hot water ON	
Domestic Hot Water reheat	M,C
Domestic Hot Water reheat setpoint	
Domestic Hot Water storage	M
Domestic Hot Water Booster setpoint	
Quiet mode	M,C
Weather dependent setpoint enable	M
Weather dependent curve shift	M
Fault/pump info relay choice	
Control source prohibition	M

Smart grid mode control	
Prohibit Space heating/cooling	
Prohibit DHW	
Prohibit Electric heaters	
Prohibit All operation	
PV available for storage	
Powerful boost	

Monitoring functions	
› On/Off Space heating/cooling	M,C
› Set point leaving water temperature (H/C)	M
› Room temperature setpoint	M
› Operation mode	M
› Domestic Hot Water reheat	M
› Domestic Hot Water storage	M
› Number of units in the group	M
› Average leaving water temperature	M
› Remocon room temperature	M
› Fault	M,C
› Fault code	M
› Circulation pump operation	M
› Flow rate	
› Solar pump operation	
› Compressor status	M
› Desinfection operation	M
› Setback operation	M
› Defrost/ start up	M
› Hot start	
› Booster Heater operation	
› 3-Way valve status	
› Pump running hours accumulated	M
› Compressor running hours accumulated	
› Actual leaving water temperature	M
› Actual return water temperature	M
› Actual DHW tank temperature (*)	M
› Actual refrigerant temperature	
› Actual outdoor temperature	M

Control functions	EKRHH
Leaving water main heating or cooling setpoint	✓
Operation mode	✓
Space heating/cooling ON/OFF	✓
Room thermostat control heating or cooling setpoint	✓
Room thermostat ON/OFF	✓
Quiet mode ON/OFF	✓
DHW reheat set point	✓
DHW reheat ON/OFF	✓
DHW powerful mode ON/OFF	✓
Weather dependent mode and offset	✓
SG operation mode	✓
Power limit during recommended on / buffering	✓
General power limit	✓

Monitoring functions	
Error code	✓
Circulation pump running	✓
Compressor running	✓
Backup heater running	✓
Disinfection operation	✓
Defrost/startup/hot start	✓
Operation mode	✓
Leaving water temperature PHE/BUH	✓
Return water temperature	✓
Domestic hot water temperature	✓
Ambient temperature	✓
Liquid refrigerant temperature	✓
Flowrate	✓
Room temperature	✓
Heat pump power consumption	✓
DHW operation / space heating operation	✓
Leaving water temperature lower and upper limit	✓

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

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MARINE INDUSTRY

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FAN COIL UNITS

AIR HANDLING UNITS

COMMERCIAL & TRANSPORT REFRIGERATION
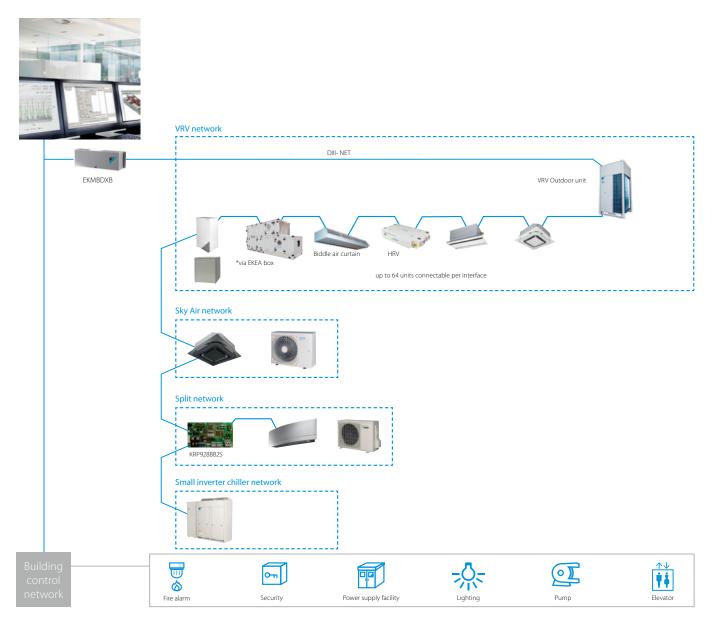
CONTROL SYSTEMS

Standard protocol interfaces

EKMBDXB
DIII-net Modbus interface

Integrated control system for seamless connection between Split, Sky Air, VRV and small inverter chillers and BMS systems

› Communication via Modbus RS485 protocol
› Detailed monitoring and control of the VRV total solution
› Easy and fast installation via DIII-net protocol
› As the Daikin DIII-net protocol is being used, only one modbus interface is needed for a group of Daikin systems (up to 10 outdoor units systems).

EKMBDXB

VRV network
DIII- NET
VRV Outdoor unit
*via EKEA box
Biddle air curtain
HRV
up to 64 units connectable per interface

Sky Air network

Split network
KRP928BB2S

Small inverter chiller network

Building control network

Fire alarm | Security | Power supply facility | Lighting | Pump | Elevator
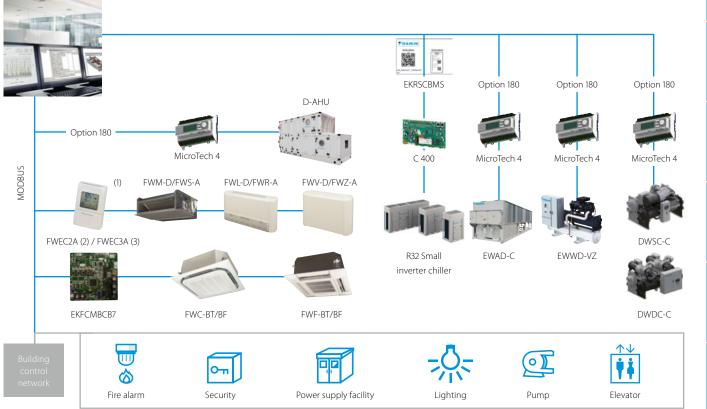
			EKMBDXB7V1
Maximum number of connectable indoor units			64
Maximum number of connectable outdoor units			10
Communication	DIII-NET - Remark		DIII-NET (F1F2)
	Protocol - Remark		2 wire; communication speed: 9,600 bps or 19,200 bps
	Protocol - Type		RS485 (modbus)
	Protocol - Max. Wiring length	m	500
Dimensions	HeightxWidthxDepth	mm	124x379x87
Weight		kg	2.1
Ambient temperature - operation	Max.	°C	60
	Min.	°C	0
Installation			Indoor installation
Power supply	Frequency	Hz	50
	Voltage	V	220-240

Modbus interface

Integrate chillers, fan coil units and air handling units in BMS systems via modbus protocol

MODBUS

Option 180

MicroTech 4

D-AHU

(1)   FWM-D/FWS-A   FWL-D/FWR-A   FWV-D/FWZ-A

FWEC2A (2) / FWEC3A (3)

EKFCMBCB7   FWC-BT/BF   FWF-BT/BF

EKRSCBMS   Option 180   Option 180   Option 180

C 400   MicroTech 4   MicroTech 4   MicroTech 4

R32 Small   EWAD-C   EWWD-VZ   DWSC-C
inverter chiller

DWDC-C

Building control network

Fire alarm   Security   Power supply facility   Lighting   Pump   Elevator

(1) The communication module is integrated in the controller   (2) Connection to FWV-D, FWL-D & FWM-D   (3) Connection to FWV-D, FWL-D, FWM-D and to FWZ-A, FWR-A, FWS-A

Integrate Refrigeration units in BMS systems via modbus protocol

BRR9A1V1

DIII net

Daikin Modbus
Communication Interface
BRR9A1V1

Monitoring system
3rd party equipment

Daikin indoor units and
Biddle air curtains

Conveni-pack   ZEAS   Multi-ZEAS

Booster unit   Booster unit

* For all connectable indoor units and Biddle air curtains please refer to the Conveni-pack pages in this catalogue

961

KLIC-DDV3
KLIC-DI_V2

KNX interface

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

Connect split indoor units to KNX interface for Home Automation system

Concept

light

house

Interface Daikin protocol/ KNX

Domotica Controller

shutter control

tv

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

Concept

light

shop

Interface Daikin protocol/ KNX

Domotica Controller

shutter control

tv

KNX interface line-up

The integration of Daikin indoor units through the KNX interface allows monitoring and control of several devices, such as lights and shutters, from one central controller. One particularly important feature is the ability to programme a 'scene'

- such as "Home leave" - in which the end-user selects a range of commands to be executed simultaneously once the scenario is selected. For instance in "Home leave", the air conditioner is off, the lights are turned off, the shutters are closed and the alarm is on.

KNX interface for

	KLIC-DDV3 size 45x45x15mm	KLIC-DI_V2 size 90x60x35mm	
	Split	Sky Air	VRV
Basic control			
On/Off	•	•	•
Mode	Auto, heat, dry, fan, cool	Auto, heat, dry, fan, cool	Auto, heat, dry, fan, cool
Temperature	•	•	•
Fan speed levels	3 or 5 + auto	2 or 3	2 or 3
Swing	Stop or movement	Stop or movement	Swing or fixed positions (5)
Advanced functionalities			
Error management	Communication errors, Daikin unit errors		
Scenes	•	•	•
Auto switch off	•	•	•
Temperature limitation	•	•	•
Initial configuration	•	•	•
Master and slave configuration		•	•

DCM010A51
PMS Interface

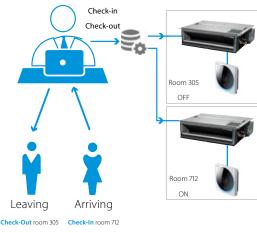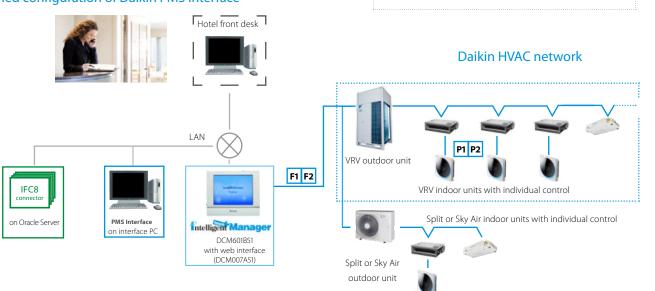# Hotel interface connecting Daikin HVAC Property Management Systems

Features

- User-friendly interface for easy front desk support in hotels, conference centers, …
- Compatible with Oracle Opera PMS (formerly known as Micros Fidelio)
- Automated push of indoor unit settings based on the Opera PMS Check-In and Check-Out commands
- Energy saving thanks to the possibility to limit temperature setpoint
- Up to 5 customized operation profiles based on weather conditions
- Available in 23 languages
- Up to 2,500 units / rooms can be managed
- The Daikin PMS is using the FIAS protocol, designed by Oracle, to interface with the Property Management System.

Hotel case example:

- › On check-in the HVAC for the room is automatically switched on
- › On check-out the HVAC for the room is automatically switched off.
- › Increased hotel customer experience by pre-heating / cooling of booked rooms

Hotel front desk

Check-in
Check-out

Room 305
OFF

Room 712
ON

Leaving   Arriving

Check-Out room 305   **Check-In** room 712

Room view showing room status: check-in, check-out, pre-heating / cooling status, room temperature and A/C status

HVAC settings can be easily observed and changed by the reception desk

Multiple room types (bedroom, meeting room, …) can be defined with customized A/C settings for each type

Simplified configuration of Daikin PMS interface

Hotel front desk

LAN

IFC8 connector

on Oracle Server

PMS Interface on interface PC

F1 F2

intelligent Manager
DCM601B51 with web interface (DCM007A51)

Daikin HVAC network

VRV outdoor unit

P1 P2

VRV indoor units with individual control

Split or Sky Air indoor units with individual control

Split or Sky Air outdoor unit

DMS502A51 / EKACBACMSTP / EKCMBACIP / EKCMBACMSTP

BACnet Interface

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

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

BMS

VRV network

DMS502A51   Central Controller

DIII- NET

VRV Outdoor unit

HRV

up to 256 units connectable per interface

Remote Control

BACNET / ETHERNET

Applied systems network

Option 184 - iCM   Modbus RS485

MicroTech 4   MicroTech 4   MicroTech 4

Option 182
(BACnet IP)
Option 181
(BacNET MS/TP)

OR

EKCMBACIP
EKCMBACMSTP   EKCM200J

DWSC-C

DWDC-C

Air handling unit network

EKCMBACIP
EKCMBACMSTP

Fire alarm   Security   Power supply facility

Building
control
network

Pump   Lighting   Elevator

DMS504B51

LonWorks Interface

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

LON BMS

VRV network

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

LonTalk

ETHERNET (TCP/IP)

adapter

DMS504B51   Central Control

DIII- NET

VRV
Outdoor
unit

HRV

up to 64 units connectable per interface

Remote Control

adapter   LonTalk

LonPoint   LonPoint

Building
control
network

Security   Fire alarm
System

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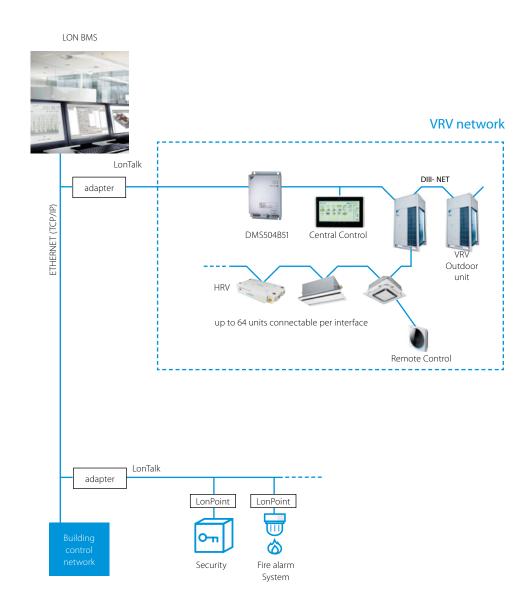
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Daikin on Site (DoS)

☑ Remote service levels

Level	Delivery
Alerts and web application	• 24/7/365 automated alarm and event monitoring by customer themselves • Automated notification via email to customers • Access to Daikin on Site web application
Active monitoring	• Remote alarm analysis and diagnostics by Daikin Affiliate Experts • Smart mobilization of authorized service personnel
Connected Service Plan	• Remote alarm analysis and diagnostics by Daikin Affiliate Experts • Smart mobilization of authorized service personnel • Complemented with a Daikin Service Plan

DoS PREMIUM / DoS PARTNER

	DoS PREMIUM	DoS PARTNER
Access to unit parameters	FULL PARAMETERS	MAIN PARAMETERS
Dashboard and Web graphics	DETAILED UNIT'S WEB GRAPHICS	DASHBOARD INCLUDED
Core features	INCLUDED	INCLUDED
Advanced features	INCLUDED	NOT INCLUDED
Target Market	Daikin Affiliates	Service Companies

☑ Features & Compatibilities

Main Feature List	PARTNER	PREMIUM
Datapoints	up to 200	up to 500
History	1-year	10-years
Reporting	✔	✔
API access	Internal Use	Internal Use
Core Features		
Map & KPI		✔
Remote Alarm Notification	✔	✔
Alarm Dashboard	✔	✔
Datapoint List	✔	✔
Web Graphics		✔
Dashboard	✔	✔
Trend Viewer	✔	✔
Scheduler	✔	✔
Web Access	✔	✔
Advanced features		
Leak Detection		✔
Trend Analysis		✔
Predictive maintenance		✔
Optimization		✔

☑ Quotation and order process

› An monthly access fee is invoiced to affiliates for each connection. For additional info, contact DENV **fqs.servicebusiness@ daikineurope.com**
› Invoicing starts as of activation of a connection by the affiliate DoS key-user.
› Dos Partner is based on yearly fee.
› Dos Premium is based on monthly fee.
› Affiliates offer local annual contracts into the market, based on the above proposed levels.
› To access the DEMO PLANT, please contact **fqs.servicebusiness@daikineurope.com**

☑ Benefits

› Peace of mind, with control over operation and maintenance budgets.
› Control and measuring: remote site assessment, relevant dashboards, access to real-time and historical data from anywhere, whenever needed.
› Optimal performance: team-up with Daikin's expertise, quick alarm resolution, remote service and software updates.
› Energy efficiency: enhanced control (remote control and master-slave), energy metering
› Available as standalone (access only) or fully integrated in Daikin's Service Plans.

☑ For whom

› Daikin on Site is a multi-feature platform. It has the ambition to be a collaborative platform for all people managing the operation and maintenance of the chiller plants and/or AHUs.
› DoS Premium ➔ Direct Service Business for Affiliates
› Include advanced features
› DoS Maint ➔ Service partners or Facility managers
› Specific products for Service Partners

☑ Practicals

› No hardware investment required.
› Easy commissioning.
› Annual access fee per connection (pay per use).
› Unlimited users per connection allowed.
› Different access roles for operators, trained service and Daikin.
› Internet and data privacy secure.

☑ Connectivity

Chillers MT3 & MT4 controlled chillers

› Chiller software is 'DoS ready'.
› No extra hardware required.

Find the overall DoS software release planning in the compatibility list on **www.mydaikin.eu**

AHU – MT3 controlled

› Uses IP port of controller to connect to LAN or modem.

› New chillers:
  delivered from factory 'DoS ready'.

Installed base:
› Chiller software update is required; see compatibility list on **www.mydaikin.eu.**

Chillers MT2 controlled

› Unique device for any MTII controlled Unit.
› New features, as the possibility to control additional sensors.
› Possibility to connect the unit with BMS of the customer.

ALC DC8

ALC DC8 EU.SB.5000081

Unified version of Gateway to connect chillers controlled by MTII (Carel pCO$_2$-pCO3-pCO5) to DoS.

Supersede existing models:
EU.SB.5000052
EU.SB.5000001
EU.SB.5000004

iCM embedded – Chiller plant manager

intelligent Chiller Manager

› ICM is DoS-ready.
› No extra hardware required.

› Uses IP port of controller to connect to LAN or modem.

Look for iCM documentation on my.daikin.eu

Measurement and Monitoring kit for targeted energy audit

› M&M is DoS-ready.
› No extra hardware required.

› Uses IP port of controller to connect to LAN or modem.

Look for sales index 'target energy audit'.

A compatibility table is available on Daikin Extranet.
If you do not find it, then **fqs.servicebusiness@daikineurope.com** and **fqs.technicalsupport@daikineurope.com** will assist you.

The table provides information of required hardware, software and monitoring features for each chiller model.
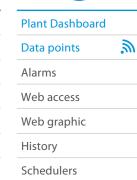
☑ Roles and access levels

Plant Dashboard	Plant Dashboard	Plant Dashboard	Plant Dashboard
Data points 🔊	Data points 🔊	Data points 🔊	Data points 🔊
Alarms	Alarms	Alarms	Alarms
Web graphic	Web access	Web access	Web access
History	Web graphic	Web graphic	Web graphic
Schedulers	History	History	Upgrade
Documentation	Schedulers	Schedulers	Schedulers
	Documentation	Documentation	Tasks
			Documentation
			Plant settings

☑ Few screenshot examples (more on Daikin on Site)

Circuit overview – real-time data

For maintenance check and diagnostics.

Plant overview, with real-time data
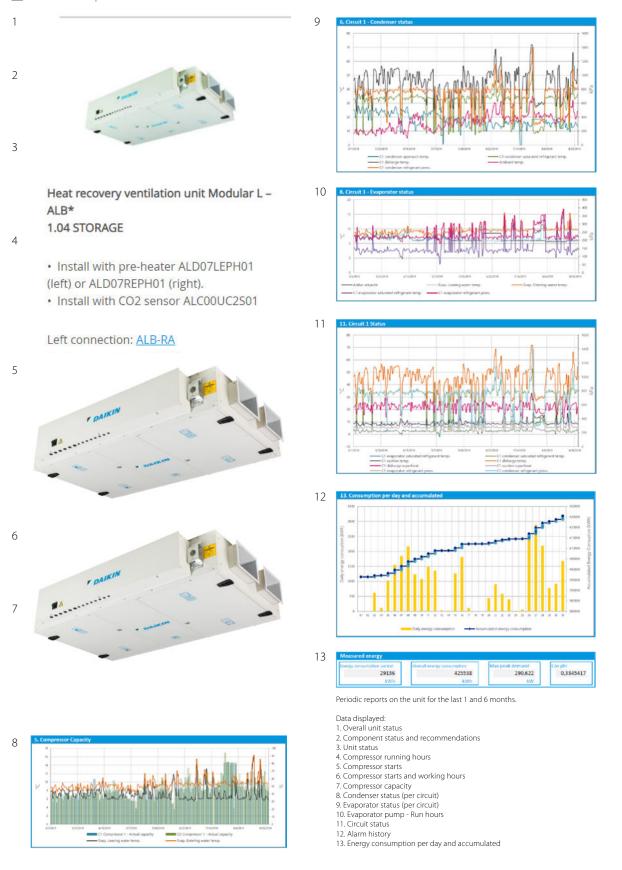
Full insight in the plant operation for commissioning and optimization.

Pre-engineered dashboards for each user role.
Easy customizable by each user.

Historical data: select parameters, select period, zoom, …
Full insight in the equipment operation for diagnostics and optimization.

☑ Periodic reports

Heat recovery ventilation unit Modular L – ALB*
1.04 STORAGE

- Install with pre-heater ALD07LEPH01 (left) or ALD07REPH01 (right).
- Install with CO2 sensor ALC00UC2S01

Left connection: ALB-RA

Periodic reports on the unit for the last 1 and 6 months.

Data displayed:
1. Overall unit status
2. Component status and recommendations
3. Unit status
4. Compressor running hours
5. Compressor starts
6. Compressor starts and working hours
7. Compressor capacity
8. Condenser status (per circuit)
9. Evaporator status (per circuit)
10. Evaporator pump - Run hours
11. Circuit status
12. Alarm history
13. Energy consumption per day and accumulated

More info on: https://my.daikin.eu/denv/en_US/home/service-and-solutions.html
Sharepoint for Reports download: https://denv.sharepoint.com/sites/DaikinonSiteReporting
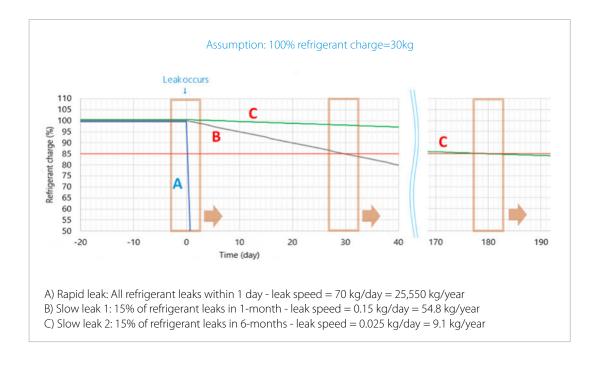
Leak detection function on DoS

☑ Description

Through an extensive analysis of working data of the unit, a Machine Learning algorithm will detect potential gas losses by notifying the Operator. The algorithm can detect losses that are in a range of 0-15% of the total amount of gas.

Automatically available on DoS PREMIUM plants → Tz units equipped with liquid temperature sensor.
In case of potential slow leakages, it notifies the operator raising an Alarm.
Through a dedicated section the Operator can see the status of the Unit and if the probability of a gas leakage.

Assumption: 100% refrigerant charge=30kg

A) Rapid leak: All refrigerant leaks within 1 day - leak speed = 70 kg/day = 25,550 kg/year
B) Slow leak 1: 15% of refrigerant leaks in 1-month - leak speed = 0.15 kg/day = 54.8 kg/year
C) Slow leak 2: 15% of refrigerant leaks in 6-months - leak speed = 0.025 kg/day = 9.1 kg/year

☑ Available informations on dashboard

› Last Check: indicates when the algorithm performed for the last time.
› Cx Status: indicates if there are leakages or not in the circuit.
› Cx Leak occurrences: indicates how many times the algorithm detected a possible leakage
› Cx Avg prob of Leakage: indicates the probability to have leakages
› Cx Messages: indicates in case of no data availability if the algorithm performed or not

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IEQ Sensor

Our New Indoor Environmental Quality Sensor

Daikin's newest device measures and analyzes your indoor environment to improve your well-being

Why
Indoor Air Quality Matters

☑ Indoor Air Quality

Indoor Air Quality (IAQ) refers to the quality of the air in indoor environments, which affects building's occupants during their everyday lives. When designing HVAC systems for residential buildings, schools, offices, or light commercial buildings, many things must be considered. While it is important to meet the cooling and heating demand, we should also consider aspects such as ventilation, air filtration, and indoor air quality.

Did you know that breathing indoor air, whether it is at home, at the office, or in a hotel room, can be much more polluted than outdoor air? Remember that 90% of our life is spent indoors, and indoor air quality can be 2 to 5 times worse than outdoor air.

☑ Indoor Air Quality components

Indoor Environment Quality (IEQ) is broader than IAQ, and includes lighting, noise, and electromagnetic fields.

1. Ventilation
Ensures the provision of fresh and clean air

2. Energy recovery
Delivers energy savings by transferring heat and moisture between airflows

3. Air processing
Ensures clean and healthy air by filtering out pollen, dust, and odours that are harmful to our health

4. Humidification
Ensures the desired moisture level in the conditioned space

☑ Ventilation

Ventilation systems ensure optimal climate conditions by providing a fresh, healthy, and comfortable environment for buildings of all sizes, as well as for different applications.

In a completely closed room, air cannot easily enter or leave, causing air pollutants to accumulate which could affect the health of the people who use the room. Ventilation is essential for diluting and removing these air pollutants.

A well-maintained ventilation system with an adequate air-exchange rate have been demonstrated to be an effective solution to protect people from contaminants, including viruses.

☑ Monitoring Indoor Air Quality

Nowadays, most things that surround us can be monitored and tracked, even Indoor Air Quality (IAQ). Monitoring and tracking IAQ values can help us to understand how our surrounding environment affects our well-being, and then take action to improve the quality of the environment in which we live, whether this is our homes, the office, a restaurant, schools, or shops.

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Features

The Daikin IEQ Sensor measures your well-being by tracking indoor air quality values, environmental comfort, and electromagnetic pollution. It is available with 12 sensors and 15 parameter measures, and connects through your Wi-Fi network or via NB-IoT technology.

☑ **Complete Standalone Installation**

The Daikin IEQ Sensor does not have to be paired with another product, for an extremely easy and completely standalone installation that takes about a minute. The device can be powered up with microUSB power supply (included). The material code is AIRSENSEPROPLUS.

☑ **Caelum Monitoring Platform**

The device connects to Caelum, Daikin's monitoring platform, at www.daikiniaq.com. This enables you to easily monitor Indoor Air Quality levels and create regular reports based on the data detected by the sensor. You can even use the platform to show your indoor air quality levels to your visitors.

☑ **Mobile App**

The configuration app is available as Daikin AirSense on both the App Store and Play Store. Once installed on your mobile device and logged in, scan the QR code on the IEQ sensor and the app will guide you through the entire configuration process. Once your sensor is configured, you will have access to the entire set of functions from your mobile.

☑ **Connectivity**

The IEQ sensor ensures perfect integration with Daikin on Site and Daikin Cloud Service, Daikin's remote monitoring and smart maintenance platform. It gives you perfect control over the entire heating, ventilation and air conditioning system installed in your building. You can use interlock function between IAQ sensor and AHUs.

☑ **Available ReFilter tools**

Product Hierarchy

› Material – Product hierarchy: Accessory
› Material name: AIRSENSEPROPLUS
› Business Pillar: SERVICES

☑ **Green Building Certification**

Installing the Daikin IEQ sensor can help you achieve better sustainability ratings and green building projects certified with LEED and WELL certification thanks to Indoor Environmental Quality credits.

☑ **Video wall**

The video wall is a great tool to have a general overview of the measurements conducted by the device. This screen can be shared with the occupants of the buildings to show in each moment the Indoor Air Quality status.

☑ **Communication capability**

NB-IoT: This technology can reach devices in areas where reception is poor or difficult to reach. Complete standalone installation. This is a perfect solution for service purposes where access to local Wi-Fi is not allowed or not available.

Wi-Fi: Easy and complete standalone installation.

Daikin IEQ Sensor kit

The IEQ sensor kit comes in a carton box containing the following items:

› Power Supply plug
› USB - Micro USB Cables
› Wall fixing kit
› Quick installation guides

NB-IoT or WiFi?

Communication is either Wifi or NB-IoT network (mobile network). The NB-IoT services is available in the following 18 countries: Austria, Belgium, Czech Republic, Denmark, Estonia, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Portugal, Romania, Spain, Switzerland, United Kingdom. NB-IoT services carry a fee (invoiced after the first year of usage).

☑ Sensor characteristics

Fine Dust (PM10/PM2.5)
Range: 0 to 1,000 µg/m3
Precision: (from 0 µg/m3 to
100 µg/m3): ±15 µg/m3
Precision: (from 100 µg/m3 to
1,000 µg/m3): ±15%
Resolution: 1 µg/m3

Temperature
Range: -40 °C to 85 °C
Precision: ±1 °C (between 0 °C and 65 °C)
Resolution: 0.1 °C

Humidity
Range: 0 to 100% RH
Precision: ±3% RH
Resolution: 0.1% RH

Ambient Light
Range: 0 lux to 120,000 lux
Precision: ±10%
Resolution: 0.1 lux

Air Pressure hPa
Range: 300 to 1,100 mbar (hPa)
Precision: 0.1 mbar (hPa)
Resolution: 0.1 mbar (hPa)

Electrosmog
LF Range: 0 - 20,000 nT - Range: 5 Hz - 120 Hz
Precision: ±5% - Resolution: 25nT
HF Range: 0 to -10 V/m - Range: 50 MHz - 300 GHz
Precision: ±10% - Resolution: 0.1 V/m
Measurements performed on 3 axes

CO_2
Range: 0 to 5,000 ppm
Precision: ±30 ppm (between 0 and 1,000 ppm)
±3% (over 1,000 ppm)
Resolution: 1 ppm

TVOC
Range: 0 ppb to 1,187 ppb
Resolution: 1 ppb
Precision: ±10%

Air quality
Range: 0 to 500
Precision: ±15%
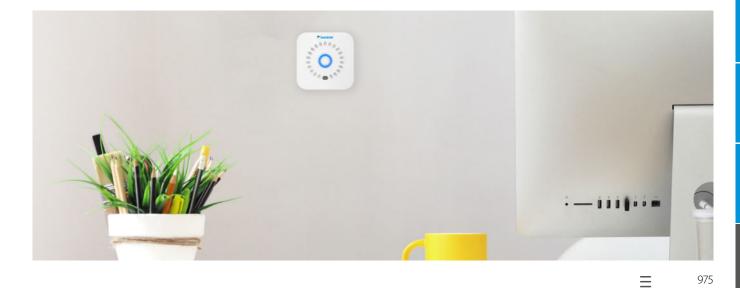Resolution: 0.1

Sound Pressure
Range: 28 to 120 dBspl
Frequency: from 50 Hz to 20 KHz
Precision: ±1 dBspl
Resolution: 0.1 dBspl

CO_2e
Range: 400 to 6,000 ppm
Precision: 20%
Resolution: 1 ppm

**Wi-Fi networks & signal intensity
(2.4GHz band)/(PM10-PM2.5)**
Detects Access Point n° in band 2.4Ghz
and overall signal level
(from 0 to -100 dBm)

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EKPCCAB4

Daikin Configurator Tool + Software

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

Simplified commissioning

The Daikin configurator for VRV is an advanced
software solution that allows for easy system
configuration and commissioning:
› Less time is required on the roof configuring
 the outdoor unit
› Multiple systems at different sites can be managed
 in exactly the same way, thus offering simplified
 commissioning for key accounts
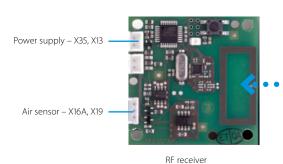› Initial settings on the outdoor unit can be easily
 retrieved

Simplified
commissioning

Retrieve initial
system settings

976

K.RSS

Wireless room temperature sensor for Sky Air and VRV

Flexible and easy installation

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

Connection diagram Daikin indoor unit PCB (FXSQ example)

Power supply – X35, X13

Air sensor – X16A, X19

RF receiver

RF sensor (transmitter)

Specifications

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

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

KRCS*

Wired room temperature sensor for Sky Air and VRV

› Accurate temperature measurement,
  thanks to flexible placement of the sensor
› Specific model code for each indoor unit can be
  found in the option tables

Specifications

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

977

ADAPTER PCBs

Simple solutions for unique requirements
Concept and benefits

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

			Connectable to:		
			Split	**Sky Air**	**VRV**
	(E)KRP1B* adapter for wiring	› Facilitates integration of auxiliary heating apparatus, humidifiers, fans, damper › Powered by and installed at the indoor unit		●	●
	KRP2A*/KRP4A* Wiring adapter for electrical appendices	› Remotely start and stop up to 16 indoor units (1 group) (KRP4A* via F1 F2) › Remotely start and stop up to 128 indoor units (64 groups) (KRP2A* via P1 P2) › Alarm indication/ fire shut down › Remote temperature setpoint adjustment › Cannot be used in combination with a central controller		●	●
	SB.KRP58M2	› Low noise and demand control option for RZAG-N* and RZASG-M* series. › Obligatory mounted plate EKMKSA2 needs to be ordered separately		●	
	KRP58M51	› Low noise and demand control option for RZA-D series. › Includes obligatory mounted plate EKMKSA3 › Obligatory mounting plate EKMKSA3 needs to be ordered separately		●	
	DTA104A* Outdoor Unit External Control Adapter	› Individual or simultaneous control of VRV system operating mode › Demand control of individual or multiple systems › Low noise option for individual or multiple systems			●
	DCS302A52-9 Unification adapter for computerized control	› Enables unified display (operation/malfunction) and unified control (ON/OFF) from BMS system › Must be used together with Intelligent Touch Controller or intelligent Touch Manager › Cannot be combined with KRP2/4* › Can be used for all VRV indoor models			●
	KRP928* Interface adapter for DIII-net	› Allows integration of split units to Daikin central controls	●		
	KRP980* Adapter for split units without an S21 port	› Connect a wired remote control › Connect to Daikin central controls › Allow external contact	●		
	KRP413* Wiring adapter normal open contact / normal open pulse contact	› Switch off auto restart after power failure › Indication of operation mode / error › Remotely start / stop › Remotely change operation mode › Remotely change fan speed	●		

Some adapters require an installation box, refer to the option lists for more information

Accessories

EKRORO		› External ON/OFF or forced off › Example: door or window contact
EKRORO 3		› External ON/OFF or forced off › F1/F2 contact › Example: door or window contact
KRC19-26A		› Mechanical cool/heat selector › Allows switching over an entire system between cooling/heating/fan only › Connects to the A/B/C terminals of the unit
BRP2A81		› Cool/heat selector PCB › Required to connect KRC19-26A to a VRV IV outdoor unit

Individual and centralised controls

	BRC1D*	BRC1E*	BRC1H*	DCS301B51	DST301B51	DCS302C51	DCS601C51
Madoka Assistant app for advanced settings			●				
Electrical box KJB111A	●	●	●				
Electrical box KJB212A(A) (1)	●	●		●	●		
Electrical box KJB311A(A)						●	
Electrical box KJB411AA							●

(1) recommended as wider (more stable mounting)

Intelligent Tablet Controller - DCC601A51

		intelligent Controller
		Options for local control
Wired screen for local control	AL-CCD07-VESA-1	●
Commissioning tool		●
Software update tool		●

Standard protocol interfaces - DMS502A51

		BACnet Interface
DIII-net expansion board (2 ports), connects up to 128 additional indoor units	DAM411B51	●
Digital pulse inputs (12) for PPD functionality	DAM412B51	●

Intelligent Chiller Manager

		intelligent Manager
Differential Pressure Sensor 4-20 mA 0-160 kPa	EKQDP2M016	●
Differential Pressure Sensor 4-20 mA 0-250 kPa	EKQDP2M020	●
Differential Pressure Sensor 4-20 mA 0-400 kPa	EKQDP2M040	●
Differential Pressure Sensor 4-20 mA 0-600 kPa	EKQDP2M060	●
ModBus RTU communication module	EKCM200J	●
BACnet IP communication module	EKCMBACIP	●

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FAN COIL UNITS
AIR HANDLING UNITS
COMMERCIAL & TRANSPORT REFRIGERATION
CONTROL SYSTEMS

Intelligent Touch Manager - DCM601B51

		intelligent Manager
DIII Plus Adaptor - Allows connection of additional 64 indoor units/groups. Only one adaptor can be connected (for more units, use DIII Plus Adaptor Slots)	DGE601A52	●
DIII Plus Adaptor - Allows connection of additional 64 indoor units/groups. Up to 6 Adaptor Slots can be added to a DIII Plus Adaptor	DGE601A53	
iTM plus adapter – Allows connection of an additional 64 indoor units/groups. Up to 7 adapters can be connected	DCM601A52	●
iTM PPD software – Allows distribution of used kWh by indoor units connected to the iTM	DCM002A51	●
iTM HTTP interface - Allows communication to any third party controller via http interface	DCM007A51	●
iTM Energy navigator – Energy management option	DCM008A51	●
iTM BACnet Client option – Enables integration of third party devices to the iTM via the BACnet/IP protocol. (This is not a gateway and cannot replace DMS502A51)	DCM009A51	●
Property Management System (PMS) interface option - Enables to connect to third party PMS systems	DCM010A51	● Oracle Opera PMS

WAGO interface options for intelligent Touch Manager

Required or optional WAGO base modules

Module type	Model code	Specifications	
24 V DC power supply	787-712	100 to 240 V AC —> 24 V DC, 2.5 A	Required
Communications unit (Bus coupler)	WGDCMCPLR2	RS-485, Max:115.2kbps, not programmable	Required
Connector (1)	750-960		Required
Terminator module	750-600		Required
Power supply module	750-613	IN: 24 V DC, OUT: 5 V DC	Optional

Supported WAGO I/0 modules

I/0 module type	Model code	Specifications	N° of contacts
Di	750-400	No-voltage contact input Contact rating: 24 V DC / 4.5 mA"	2
	750-432		4
	750-430	No-voltage contact input Contact rating: 24 V DC / 2.8 mA	8
Do	750-513/000-001	No-voltage contact output Contact rating: 230 V AC / 30 V DC, 2 A	2
	750-504	No-voltage contact output Contact rating: 24 V DC / 0.5 A	4
Ai	750-454	Rated at 4 to 20 mA: 12-bit resolution	2
	750-455		4
	750-479	Rated at –10 to 10 V: 13-bit resolution	2
	750-459	Rated at 0 to 10 V: 12-bit resolution	4
Ao	750-554	Rated at 4 to 20 mA: 12-bit resolution	2
	750-555		4
	750-560	Rated at –10 to 10 V: 10-bit resolution	2
	750-559	Rated at 0 to 10 V: 12-bit resolution	4
Thermistor	750-461/020-000	NTC20K thermistor	2
	750-461	Pt 100/RTD	2
	750-460		4
	750-461/000-003	Pt 1000/RTD	2
	750-460/000-003		4
	50-461/000-004	Ni 100/RTD	2
	750-461/000-005	Ni1000 TK6180/RTD	2
	750-460/000-005		4
Pi	750-638	Minimum pulse width: 1 ms	2

(1) This connector must be attached to a communications unit that is connected to the RS485 port (2-pin) of the iTM unit.

(2) To connect intelligent Touch Manager to the Daikin Cloud Service, the IoT gateway (EU.SB.5000072) and AC/DC converter (999175A) is needed.

Power supply

T1 = 3~, 220V, 50Hz
V1 = 1~, 220-240V, 50Hz
VE = 1~, 220-240V/220V, 50Hz/60Hz*
V3 = 1~, 230V, 50Hz
VM = 1~, 220~240V/220~230V, 50Hz/60Hz
W1 = 3N~, 400V, 50Hz
Y1 = 3~, 400V, 50Hz

* For VE power supply only 1~, 220-240V, 50Hz data is displayed in this catalogue.

Conversion table refrigerant piping

inch	mm
$^1/_4''$	6.4 mm
$^3/_8''$	9.5 mm
$^1/_2''$	12.7 mm
$^5/_8''$	15.9 mm
$^3/_4''$	19.1 mm
$^7/_8''$	22.2 mm
$1\,^1/_8''$	28.5 mm
$1\,^3/_8''$	34.9 mm
$1\,^5/_8''$	41.3 mm
$1\,^3/_4''$	44.5 mm
$2''$	50.8 mm
$2\,^1/_8''$	54 mm
$2\,^5/_8''$	66.7 mm

F-gas regulation

Any refrigeration system that contains fluorinated greenhouse gases is in scope of the F-gas regulations.
For fully/partially pre-charged equipment: contains fluorinated greenhouse gases. Actual refrigerant charge depends on the final unit construction, details can be found on the unit labels and in the notes underneath the specification tables in this catalogue.
For non pre-charged equipment (including, but not limited to racks): its functioning relies on fluorinated greenhouse gases.
The F-gas regulations do not apply to systems that contain only natural refrigerants such as propane or carbon dioxide.

Measuring conditions

Air conditioning

1) Nominal cooling capacities are based on:	
Indoor temperature	27°CDB/19°CWB
Outdoor temperature	35°CDB
Refrigerant piping length	7.5m - 8/5m VRV
Level difference	0m
2) Nominal heating capacities are based on:	
Indoor temperature	20°CDB
Outdoor temperature	7°CDB/6°CWB
Refrigerant piping length	7.5m - 8/5m VRV
Level difference	0m

Refrigeration

|		
ZEAS	Chilling	Evaporating temp. -10°C; outdoor temp. 32°C; Suction SH10°C
	Freezing	Evaporating temp. -35°C; outdoor temp. 32°C; Suction SH10°C
Conveni-Pack	Mix Air conditioning and refrigeration operating mode	Indoor temp. 27°CDB/19°CWB; outdoor temp. 32°CDB; piping length:7.5m; level difference: 0m; refrigeration side: Evaporating temp. -10°C; outdoor temp. 32°CDB; Suction SH: 10°C
	Mix heating and refrigeration operating mode (Heating recovery 100% mode)	Indoor temp. 20°C; outdoor temp. 7°CDB,6°CWB; advertised refrigerant load (Evaporating temp. -10°C; Suction SH: 10°C); piping length:7.5m; level difference: 0m
Booster unit		Evaporating temp. -35°C; outdoor temp. 32°C; suction SH 10K; saturated temp. to discharge pressure of booster unit -10°C
CCU/SCU	Medium temperature application	Medium temperature application: Outside ambient temp. 32°C; Evaporating temp. = - 10°C and 10K superheat;
	Low temperature application	Low temperature application: Outside ambient temp. 32°C; Evaporating temp. = -35°C and 20°C suction gas temperature
Zanotti	Uni-Block, Bi-Block, Wineblock	High temperature	When normally running: +10°C / +30°C
		Medium temperature	When normally running: 0°C / 30°C
		Low temperature	When normally running: -20°C / +30°C
	CU (one, twin, and more compressor(s))	Medium temperature	Outside ambient temp. 32°C; Evaporating temp. = -10°C and 20°C suction gas temperature
		Low temperature	Outside ambient temp. 32°C; Evaporating temp. = -35°C and 20°C suction gas temperature

Applied systems
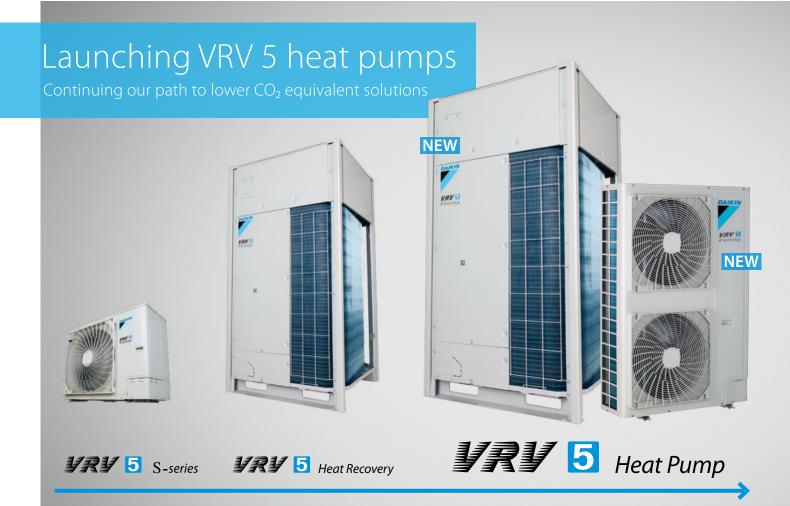
Air cooled	Cooling only	Evaporator: 12°C/7°C	Ambient: 35°CDB
	Heat pump	Evaporator: 12°C/7°C	Ambient: 35°C
		Condenser: 40°C/45°C	Ambient: 7°CDB/6°CWB
Water cooled	Cooling only	Evaporator: 12°C/7°C	
		Condenser: 30°C/35°C	
	Heating only	Evaporator: 12°C/7°C	
		Condenser: 40°C/45°C	
Condenserless chiller		Evaporator: 12°C/7°C	
		Condensing temperature: 45°C / liquid temperature: 40°C	
Fan coil units	Cooling	Indoor temperature 27°CDB, 19°CWB; entering water temperature 7°C, water temperature rise 5K	
	Heating	2-pipe	Indoor temperature 20°CDB, 15°CWB; entering water temperature 45°C, water temperature drop 5K
		4-pipe	Indoor temperature 20°CDB, 15°CWB; entering water temperature 65°C, water temperature drop 10K
Air Handling Units		Temperature and humidity conditions: Extract air 22°C / 50%; Fresh air -10°C / 90%	

The sound pressure level is measured via a microphone at a certain distance from the unit. It is a relative value, depending on the distance and acoustic environment (for measuring conditions: please refer to the technical databooks). The sound power level is an absolute value indicating the "power" which a sound source generates. For more detailed information please consult our technical databooks.

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Launching VRV 5 heat pumps

Continuing our path to lower CO_2 equivalent solutions

NEW

NEW

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Decarbonisation of buildings made easy:

Benefit from leading VRV 5 technology!

Adapts to any building
› Extensive piping lengths & heights
› 5 low sound steps down to 41 dB(A)

Reduces the CO_2 footprint significantly
› High, real life seasonal efficiency
› Lower GWP refrigerant R-32

Shîrudo Technology provides peace of mind
› Easy installation of R-32 VRV in any size of room
› Factory-integrated refrigerant control measures avoids time-consuming studies
› 3rd party certification according to the product standard IEC60335-2-40

Widest R-32 portfolio to match any application
› 11 indoor unit models in 96 variations
› Plug & Play ventilation solutions from 150 up to 140,000 m³/h
› Strong range of intuitive, cloud based controls

Specialised advice and support
› Maximise BREEAM, LEED, … scores thanks to VRV 5 and our expert support
› Online support software to ensure compliance with product standards

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