



VRV IV+

Sets the Standard... Again



VRV IV+ heat pump and water cooled systems

High Ambient



Why choose Daikin

Our promise is to ensure that your customers can depend on Daikin for the ultimate in comfort, so that they are free to focus on their own working and home lives.

We promise to dedicate ourselves to technological excellence, a design focus and the highest quality standards so that your customers can trust and rely on the comfort we deliver.

Our promise to the planet is absolute. Our products are at the forefront of low energy consumption and we continuously innovate to reduce the environmental impact of HVACR solutions further.

We lead where others follow. We will continue our global leadership in HVACR solutions as our specialist expertise in all market sectors combined with 90 years' experience enable us to deliver added value in long-lasting relationships based on trust, respect and credibility.



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Over 30 years of

VRV History



R-22



R-407C



1987

Introduction the original VRV air conditioning system to Europe, invented by Daikin in 1982

> Up to 6 indoor units connected to 1 outdoor unit

1998

Launch inverter series with R-407C

> Up to 16 indoor units connected to 1 outdoor unit

2004

Expand to light commercial sector with **VRVII-S**

- > Available in 4, 5, 6HP capacities
- > 1 system can be installed in up to 9 rooms

2008

Launch of heat pump optimised for heating (VRV III-C)

- > Extended operation down to -25C
- > 2-stage compressor systems

1991

1994

1998

2003

2004

2005

1991

Introduce VRV heat recovery

> Simultaneous cooling and heating

1994

Awarded ISO9001 certification

2003

Introduce VRVII-- the first R-410A VRF system

Available in cooling, heat pump and heat recovery

> 40 units connected to single refrigerant circuit

2005

Extends VRVII inverter range with water cooled VRV-WIII

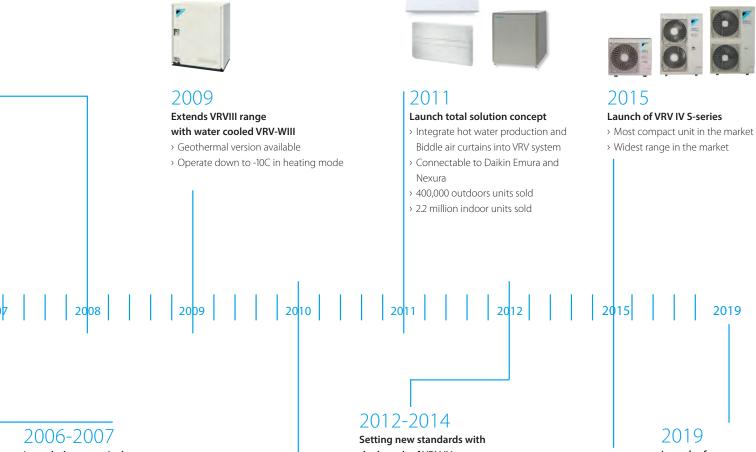
> Available in heat pump and heat recovery





R-410A





Launch the extensively

re-engineered VRVIII

- > Available in cooling, heat pump and heat recovery
- > Automatic charging and testing
- > Up to 64 units connected to 1 system



2010

Launch of replacement VRV (VRVIII-Q)

> Upgrade to replace older VRV units using R-22 refrigerant





the launch of VRV IV

- > 28% improved seasonal efficiency
- > Continuous heating on heat pumps
- > Available in heat pump, heat recovery, water-cooled and replacement series







Launch of VRV IV i-series

> Unique product concept

> The invisible VRV

2015



Launch of VRV IV+

- > 7th generation of inverter compressor with back pressure control
- > Improved seasonal efficiency (15% on average)



VRV IV+

3 revolutionary standards

- > Variable Refrigerant Temperature
- > Refrigerant-cooled PCB
- > VRV configurator

+ unique VRV IV+ core technologies

- > Newly-developed inverter compressor with back pressure control
- > 4-side heat exchanger
- > Improved SEER and EER
- > Predictive control
- > Outer rotor DC fan motor



Variable refrigerant

temperature

Customise your VRV for best seasonal efficiency and comfort

Thanks to its revolutionary variable refrigerant temperature technology (VRT), VRV IV+ continuously adjusts both the inverter compressor speed and the refrigerant temperature, providing the necessary capacity to meet the building load with the highest seasonal efficiency at all times!

- Seasonal efficiency increased by 28% (compared to conventional VRF)
- > Fistt weather compensating control on the market
- Customer comfort is assured thanks to higher outblow temperatures (preventing cold draughts)

How does it work?

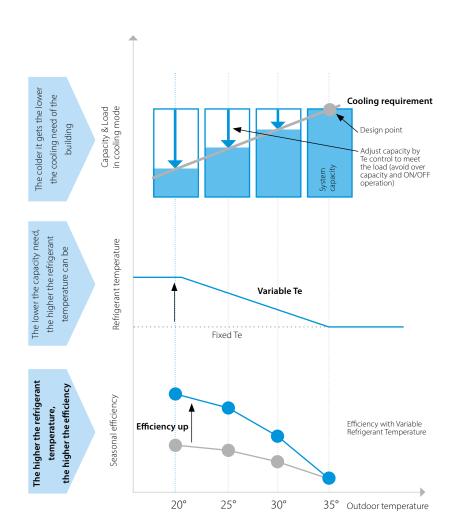
VRF standard

Capacity is controlled only with the variance of the inverter compressor

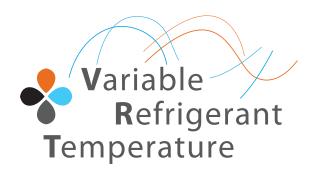
Daikin VRV IV+

Variable Refrigerant Temperature control for energy saving in partial load condition.

The capacity is controlled by the inverter compressor AND variation of the evaporating (Te) and condensing (Tc) temperature of the refrigerant in order to achieve the highest seasonal efficiency.







8 Different modes to maximise efficiency and comfort

For maximum energy efficiency and customer satisfaction, the outdoor unit needs to adapt the evaporating/condensing temperature at the optimum point for the application.





How to set the different modes?

Set up the main operation mode
of the cyctom

Define how the system reacts to changing loads



of the system	to changing loads	
Step 1	Step 2	
Automatic* Evaporating AND condensing temperature automatically selected according to ambient temperature	Powerful	Where a quick increase of load is expected such as conference rooms. Quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
Quick reaction speed Top efficiency	Quick	Same as above but slower response than the powerful mode.
The perfect balance: Achieves top efficiency throughout the year, reacts quickly on the hottest days	Mild *	This mode would be suitable for most office applications and it is the factory set mode. The perfect balance: Slower reaction speed with top efficiency
High sensible Target Te can be selected between 7°Cto 11°C	Powerful	Gives customer choice for fixing coil temperature which avoids cold draughts. A quick reaction speed to changing load has priority, with temporarily colder outblow as a result.
Quick reaction speed Top efficiency	Quick	Same as above but slower response.
	Mild	The air off temperature remains fairly constant. Suitable for low ceiling rooms.
Year round top efficiency	Eco	Coil temperature would not change due to fluctuating load. Suitable for computer or low ceiling rooms.
Basic Current VRF standard	No submodes	This is how most other VRF systems work and can be used for all general type of applications.

^{*} Factory setting

VRV

configurator software

Software for simplified commissioning, configuration and customisation

- > Graphical interface
- Manage systems over multiple sites in exactly the same way
- > Retrieve initial settings





Configurator software for simplified commissioning

The VRV configurator 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.





User friendly interface instead of push buttons

7-segment display

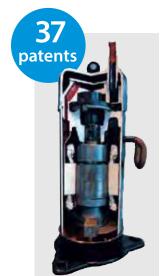
for quick and accurate error diagnosis

Outdoor unit display for quick on-site settings and easy read out of errors together with the indication of service parameters for checking basic functions.

- > Easy-to-read error report
- Clear menu indicating quick and easy on-site settings
- > Indication of basic service parameters to quickly check basic functions: high pressure, low pressure, frequency and operation time history of compressors, temperature of discharge/suction pipe.
- No need to unmount the big front panel of the unit thanks to the service access



Unique VRV IV+ core technologies



NEW Scroll compressor

Back pressure control **UNIQUE**



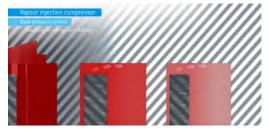
- > Pressure port increases pressure below the scroll in low load operation, preventing refrigerant leak from the high to low pressure side
- > Increased partial load efficiency



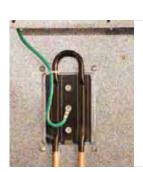
The back pressure control port sends high pressure refrigerant to the back of the scroll, preventing refrigerant leakage







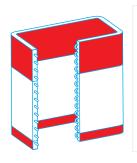
Refrigerant leak at low load with conventional compressor



Refrigerant-cooled PCB

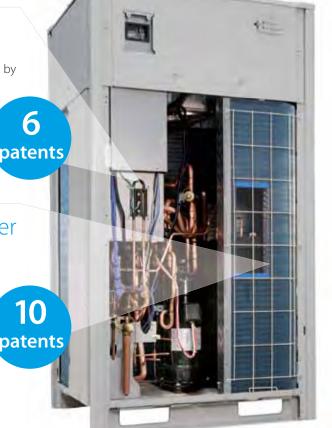
- > Reliable cooling because it is not influenced by ambient air temperature
- > Smaller switchbox for smoother air flow through the heat exchanger increasing heat exchange efficiency by 5%





4-sided, 3-row condenser coil

- > Condenser coil surface up to 50% larger
- > (up to 235m²), leading to 30% more efficiency

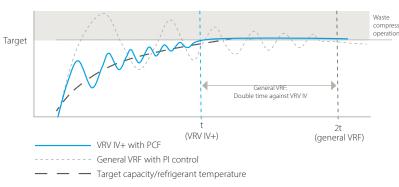


UNIQUE

Predictive Control Function (PCF)

- Reaches the target capacity/refrigerant temperature faster
- > Reaches the target without overshooting, so there is no waste, leading to improved efficiency
- Three capacity settings give more precise control for user comfort

The large number of Daikin systems already in operation and which are monitored by our Intelligent Network software put us in the unique position of being able to analyse this data and develop the predictive compressor control function.



VRV IV: PCF

Compressor works with predictive data for the control

> result: quick convergence to the target temperature and reduction of waste operation of the compressor

General VRF: Pi control

Compressor works with feedback only for the control

> result: waste operation and longer time before reaching target set point



DC fan motor

UNIQUE

Outer rotor DC motor for higher efficiency

- Larger rotor diameter results in greater force for the same magnetic field, leading to better efficiency
- Better control, resulting in more fan steps to match the actual capacity

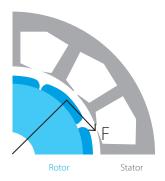
Sine wave DC inverter

Optimizing the sine wave curve results in smoother motor rotation and improved motor efficiency.

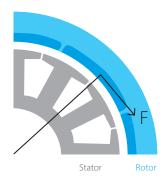
DC fan motor

The use of a DC fan motor offers substantial improvements in operating efficiency compared to conventional AC motors, especially during low speed rotation.

Conventional motor with inner rotor



Daikin outer rotor



E-Pass Heat Exchanger

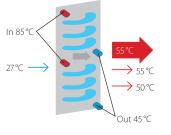
Optimising the heat exchanger's path layout prevents heat being transferred from the overheated gas section to the sub-cooled liquid section which is a more efficient way to use the heat exchanger.

I-demand function

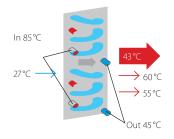
Limit maximum power consumption.

The newly introduced current sensor minimizes the difference between the actual power consumption and the pre-defined power consumption.

Standard heat exchanger



e-Pass heat exchanger



Power consumption





Consultants

Daikin's VRV IV+ technology maximises flexibility and leads the way in customisation to match individual building requirements in comfort and energy, with reduced running costs.

- > Technical design support
- > Ecological design meets and exceeds legal requirements
- > Maximum flexibility to meet customer requirements
- › Advanced software tools assist with system design
- $^{\rm >}$ Complies with ESMA UAE, MEW-Kuwait, SASO-KSA, and QCC Abu Dhabi regulations

Building owners

VRV IV+ is the ultimate in customised comfort and intelligent control tailored to your individual needs and to maximise energy efficiency. Annual cost savings up to 28% (compared to conventional VRF).

- > Up to 40% energy consumption saving over conventional AC system
- > Single point of contact for the design and maintenance of your climate system
- > Integrated system, combining air conditioning, ventilation, etc.
- > Allows maximum energy efficiency
- Multiple systems can be managed in exactly the same way for the key accounts
- Dedicated after-sales service to ensure fast on-site support

Installers

Daikin VRV IV+ sets the standard with state-of-theart technology and time-saving commissioning and servicing.

- > Simplified and time-saving commissioning with VRV configurator
- > Wide range of outdoor units (up to 48HP)
- One supplier = one point of contact
- > Maximum flexibility to meet customer requirements
- > Customised training to maximise expertise

Outdoor units can be single units or combined in multiple units as a module for larger capacity applications



VRV IV+



Water cooled VRV



VRV IV S-series

Anti-Corrosion Treatment

Special anti-corrosion treatment of the heat exchanger provides 5 to 6 times greater resistance against acid rain and salt corrosion.

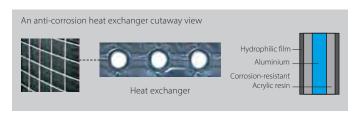
The provision of rust proof steel sheet on the underside of the unit gives additional protection.

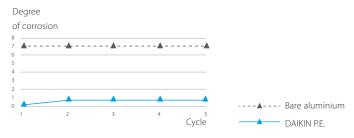
Performed tests:

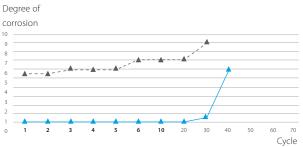
- > VDA Wechseltest
- > Contents of 1 cycle (7 days):
- > 24 hours salt spray test SS DIN 50021
- > 96 hours humidity cycle test KFW DIN 50017
- > 48 hours room temperature & room humidity testing period: 5 cycles

Kesternich test (SO2)

- > contents of 1 cycle (48 hours) according to DIN50018 (0.21)
- > testing period: 40 cycles







The total solution

One system - multiple applications for hotels, offices, retail shops and home.

Typically, many buildings today rely on several separate systems for heating, cooling & air curtain As a result energy is wasted. To provide a much more efficient alternative, VRV technology has been developed into a total solution managing up to 70% of a building's energy consumption, giving large potential to cost saving.



Heating and cooling for year round comfort



 Controls for maximum operating efficiency



Ventilation for high quality environments





Flexible piping design

Total piping length	1000m
Longest length actual (Equivalent)	165m (190m)
Longest length after first branch	90m¹
Level difference between indoor and outdoor units	90m¹
Level difference between indoor units	30m

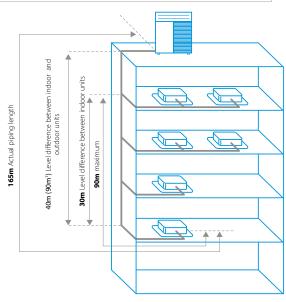
^{*}Refer to technical data book for more information and restrictions.

Free combination of outdoor units

Outdoor units can be used as single units or multiple units combined as a module for larger capacity applications. This allows for maximum optimization for smaller footprints or highest efficiency.

Indoor installation

The VRV optimised fan blade shape increases output and reduces pressure loss. Together with the high ESP setting (up to 78.4 Pa), it makes VRV outdoor units ideal for indoor installation using ducts.



Recommended cable size

Model		RXYTQ8U7YF	RXYTQ10U7YF	RXYTQ12U7YF	RXYTQ14U7YF	RXYTQ16U7YF				
Power cable	Sq mm	4	4	4	6	6				
Control cable size		0.75 to 1.25 sq.mm PVC sheathed, non-shielded, 2-core								
Circuit breaker size	A	20.0	25.0	32.0	32.0	40.0				

 $Note: These \ are \ the \ minimum \ required \ values. \ Refer \ to \ local \ regulations \ for \ further \ information.$

Products overview **JRJ IV**

Model **Product name** /RV IV+ heat pump Daikin's solution for comfort & low energy consumption Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units RXYTQ-U Incorporates VRV IV+ standards & technologies such as YRY IV+ Variable Refrigerant temperature. Air cooled - heat pump Space saving solution without compromising on efficiency > Space saving trunk design for flexible installation VRV IV-S > Covers all thermal needs of a building via a single point of contact: accurate RXYSQ-T temperature control, ventilation, air handling units VRV IV S-series > Connect VRV indoor units > Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature Ideal for high rise buildings, using water as heat source > Reduced CO₂ emissions thanks to the use of geothermal energy as a renewable energy source > No need for an external heating or cooling source when used in geothermal Water-cooled mode **RWEYQ-T**

Water cooled VRV IV

- > Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units
- > Compact & lightweight design can be stacked for maximum space saving
- > Incorporates VRV IV standards & technologies such as Variable Refrigerant temperature
- > Variable Water Flow control option increases flexibility and control
- > Connect wide range of VRV indoor units
- > 2 analogue input signals allowing external control

VRV IV W series



Capacity (HP)

Product name	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
RXYTQ-U VRV IV+ (50/60Hz)		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
RXYSQ-T VRV IV S-series (50Hz-8/10/12HP 50/60Hz-6HP)	•																					
RWEYQ-T ***********************************		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			

Single unit

Multi combination

Products overview **JRJ**

Capacity class

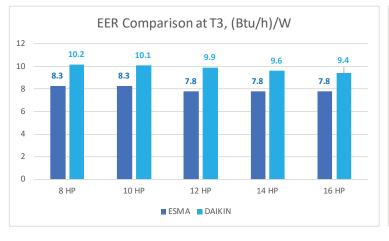
	Model		Product name	15	20	25	32	40	50	63	71	80	100	125	140	200	250	400 5
	UNIQUE Round flow cassette NEW	360° air discharge for optimum efficiency and comfort > Auto cleaning function ensures high efficiency Intelligent sensors save energy and maximize comfort > Flexibility to suit every room layout > Lowest installation height in the market! > Widest choice ever in decoration panel designs and colours with new black panel	FXFQ-BVEB		•	•	•	•	•	•		•	•	•				NE Black design
_	UNIQUE Fully flat cassette	Unique design that integrates fully flat into the ceiling > Perfect integration in standard architectural ceiling tiles > Blend of iconic design and engineering excellence > Intelligent sensors save energy and maximize comfort > Small capacity unit developed for small or well-insulated rooms > Flexibility to suit every room layout	GN RD	•	•	•	•	•	•									
	2-way blow ceiling mounted cassette	Thin, lightweight design installs easily in narrow ceiling spaces Depth of all units is 620mm, ideal for narrow ceiling spaces Flexibility to suit every room layout Reduced energy consumption thanks to DC fan motor The flaps close entirely when the unit is not operating Optimum comfort with automatic air flow adjustment to the required load	FXCQ-AVEB		•	•	•	•	•	•		•		•				
	Slim concealed ceiling unit	Slim design for flexible installation Compact dimensions enable installation in narrow ceiling voids Medium external static pressure up to 44Pa Only grilles are visible Small capacity unit developted for small of well-insulated rooms Reduced energy consumption thanks to DC fan motor	FXDQ-A3VEB	•	•	•	•	•	•	•			uto c	EW lean optic			N	lulti z opti
	Concealed ceiling unit with medium ESP	Slimmest yet most powerfull medium static pressure unit on the market! Slimmest unit in class, only 245mm Low operating sound level Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths Automatic air flow adjustment function measures the air volume and static pressure and adjusts it towards the nominal air flow, guaranteeing comfort	FXSQ-A2VEB	•	•	•	•	•	•	•		•	•	•	•		N	Multi z opti
	Concealed ceiling unit with high ESP	ESP up to 200, ideal for large sized spaces > Optimum comfort guaranteed no matter the length of ductwork or type of grilles, thanks to automatic air flow adjustment > Reduced energy consumption thanks to DC fan motor > Flexible installation as the air suction direction can be altered from rear to bottom suction	FXMQ-P7VEB9						•	•		•	•	•				
	140 Pa Concealed ceiling unit with high ESP	ESP up to 140 Pa, ideal for large sized spaces Optimum comfort guaranteed no matter the length of ductwork or type of grilles, thanks to automatic air flow adjustment Reduced energy consumption thanks to DC fan motor Flexible installation as the air suction direction can be altered from rear to bottom suction	FXMQ140PVE												•			
	Concealed ceiling unit with high ESP	ESP up to 270, ideal for extra large sized spaces > Only grilles are visible > Large capacity unit: up to 28kW cooling capacity	FXMQ-MAVE													•	•	
	Wall mounted unit	For rooms with no false ceilings nor free floor space > Flat, stylish front panel is more easy to clean > Small capacity unit developted for small of well-insulated rooms > Reduced energy consumption thanks to DC fan motor > The air is comfortably spread up- and downwards thanks to 5 different discharge angles	FXAQ-PVER1 FXAQ-PVE		•	•	•	•	•	•								
	Ceiling suspended unit	For wide rooms with no false ceilings nor free floor space > Ideal for comfortable air flow in wide rooms thanks to Coanda effect > Rooms with ceilings up to 3.8m can be heated or cooled very easily! > Can easily be installed in both new and refurbishment projects > Can even be mounted in corners or narrow spaces without any problem > Reduced energy consumption thanks to DC fan motor	FXHQ-AVEB				•			•			•					
	UNIQUE 4-way blow ceiling suspended unit	Unique Daikin unit for high rooms with no false ceilings nor free floor space Rooms with ceilings up to 3.5m can be heated up or cooled down very easily > Can easily be installed in both new and refurbishment projects > Flexibility to suit every room layout > Reduced energy consumption thanks to DC fan motor	FXUQ-AVEB								•		•					
	Floor standing unit	For perimeter zone air conditioning > Can be installed in front of glass walls or free standing as both the front and the back are finished > Ideal for installation beneath a window > Requires very little installation space > Wall mounted installation facilitates cleaning beneath the unit	FXLQ-P2VEB		•	•	•	•	•	•								
	Concealed floor standing	Ideal for installation in offices, hotels and residential applications > Discretely concealed in the wall, leaving only the suction and discharge grilles visible > Can even be installed underneath a window			•	•	•	•	•	•								
	unit	Requires very little installation space as the depth is only 200mm High ESP allows flexible installation	FXNQ-A2VEB															45.0 5

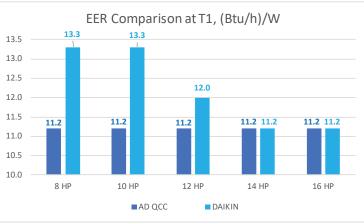
- (1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m
- (2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m

RXYTQ-U7YF

VRV IV+ heat pump

Model			RXYTQ8U7YF	RXYTQ10U7YF	RXYTQ12U7YF	RXYTQ14U7YF	RXYTQ16U7YF					
Cooling T1 ⁽¹⁾ 35°C	Capacity	НР	8	10	12	14	16					
(Nominal)	Capacity	kW	22.4	28.0	33.5	40.0	45.0					
	Capacity	Btu/h	76,450	95,550	114,350	136,500	153,550					
	EER	(Btu/h) / W	13.29	13.31	12.01	11.24	11.19					
	PI	kW	5.75	7.18	9.52	12.14	13.72					
Cooling T3 ⁽²⁾ 46°C	Capacity	Btu/h	68,950	86,000	97,250	109,200	119,800					
	Capacity	kW	20.2	25.2	28.5	32.0	35.1					
	EER	Btu/h	10.21	10.10	9.92	9.64	9.36					
	PI	kW	6.75	8.51	9.8	11.33	12.79					
	Pl out	kW	6.57	8.29	8.64	10.17	11.63					
Heating (nominal) (3)	Capacity	kW	22.4	28.0	33.5	40.0	45.0					
	Capacity	Btu/h	76,450	95,550	114,350	136,500	153,550					
	COP	kW/kW	3.99	3.89	3.64	3.63	3.48					
	PI	kW	5.62	7.20	9.19	11.01	12.92					
Sound level (nominal)	Sound pressure	dBA	57	59	61	61	64					
Dimensions	HxWxD	mm	1685x930x765		1685 x 1	240 x 765						
VRV IV+ Net Weight		kg	198	234	234	283	283					
Operation range cooling	Outdoor				-5 ∼ 55°CDB							
	Indoor				14~25°CWB							
Operation range heating	Outdoor		-20 ~ 15.5°CWB									
	Indoor				15 ~ 27°CDB							
Refrigerant	Туре				R-410A							
Pipe connection	Liquid		Ø 9.52 mm	Ø 9.52 mm		Ø 12.7 mm						
	Gas		Ø 19.1 mm	Ø 22.2 mm		Ø 28.6 mm						
Total Piping Length	System Actual	m			1000							
Max connectable indoor u	nits				64							
Wiring length				Total	Wiring Length: 2	000m						
Compressors			1 1 1 2 2									
Power supply			3 Phase/ 380-415V/50Hz 3 Phase/ 400V/60Hz									





- (1) indoor temperature: 26,7°CD B, 19,4°CWB, outdoor temperature: 35°CDB, AHRI 1230:2010, power input indoor units (duct type) included. (As per AHRI)
- (2) indoor temperature: 29,0°CDB, 19,0°CWB, outdoor temperature: 46°CDB, ISO15042:2011, power input indoor units (duct type) included. (As per ESMA)
- (3) Heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m.





VRV IV S-series heat pump

Space saving solution without compromising on efficiency

- > Space saving trunk design for flexible installation
- > Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units.
- > Wide range of indoor units:
- > Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature and full inverter compressors
- > Possibility to limit peak power consumption between 30 and 80%, for example during periods with high power demand
- > Contains all standard VRV features

Specifications

VRV IV-S heat pump



Model		RXYSQ-	6TMYFK
	Capacity	HP	6
Cooling T1 ⁽¹⁾ 35°C	Capacity	kW	15.3
Nominal	Capacity	Btu/h	52,000
	EER	(Btu/h) / W	11.42
	PI	kW	4.55
	Capacity	kW	12.89
C 1: T2(2) 4.00C	Capacity	Btu/h	44,000
Cooling T3 ⁽²⁾ 46°C	EER	(Btu/h) / W	8.36
	PI	kW	5.26
	Capacity	kW	12.3
1 1/2)	Capacity	Btu/h	42,000
Heating (nominal) ⁽³⁾	COP	kW/kW	4.31
	PI	kW	2.87
Sound Level (nominal)	Sound Pressure	dBA	51
Dimensions	H×W×D	'	1615 x 940 x 460
Veight	Unit	Kg	175
Operation Range	Outdoor		-5~55CDB
Cooling	Indoor		14~25 CWB
Operation Range	Outdoor		-20~15.5CWB
Heating	Indoor		15~27 CDB
Refrigerant	Туре		R-410A
No. of Communities and	Liquid		9.52
Pipe Connections	Gas		22.2
otal Piping Length	System Actual	m	300
Max. Connectable Indoor Units			12
Power Supply			380-415V/50Hz 400V/60Hz

⁽¹⁾ Indoor temperature: 26.7 °CDB, 19.4 °CWB, Outdoor temperature: 35 °CDB, AHRI 1230:2010, power input indoor units (duct type) included. As per AHRI/SASO

⁽²⁾ Indoor temperature: 29 °CDB, 19 °CWB, outdoor temperature: 46 °CDB, ISO15042:2011, power input indoor units (duct type) included. As per ESMA.

⁽³⁾ Heating capacities are based on indoor temperature: 20 °CDB, outdoor temperature: 7 °CDB, 6 °CWB, equivalent refrigerant piping: 5m, level difference: 0m.

VRV IV water cooled series - 50Hz

Ideal for high rise buildings, using water as heat source

- Unified range for standard and geothermal series simplifies stock.
 Geothermal series reduce CO₂emmisions thanks to the use of geothermal energy as a renewable energy source
- > No need for an external heating or cooling source when used in geothermal mode
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units, Biddle air curtains and hot water
- > Wide range of indoor units
- Compact & lightweight design can be stacked for maximum space
- > savino
- > Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature and full inverter compressors
- 2-stage heat recovery: first stage between indoor units, second stage between outdoor units thanks to the storage of energy in the water circuit
- > Available in heat pump and heat recovery version
- > Variable Water Flow control option increases flexibility and control
- > 2 analogue input signals allowing external control
- > Contains all standard VRV features

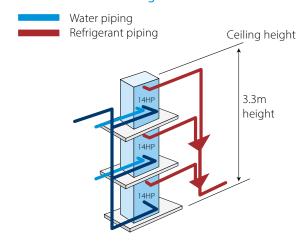
Main Benefits

- Minimal technical room space required
- Indoor installation makes units invisible from the outside



RWEYQ

Stacked configuration



Outdoor unit				RWEYQ	8T9	10T9	12T9	14T9				
Capacity range				HP	8	10	12	14				
Cooling capacity	Nom.	30°C inlet water	temperature Nom. Waterflow	kW	22.4	28.0	33.5	40.0				
Heating capacity	Nom.	20°C inlet water	temperature Nom. Waterflow	kW	25.0	31.5	37.5	45.0				
Power input - 50Hz	Cooling	30°C inlet water	temperature Nom. Waterflow	kW	3.5	4.9	6.0	7.9				
	Heating	20°C inlet water	temperature Nom. Waterflow	kW	3.9	4.9	6.2	8.4				
EER at nom. capacity	30°C inlet wa	ater temperatur	re Nom. Waterflow	kW/kW	6.40	5.75	5.55	5.04				
COP at nom. capacity	20°C inlet wa	ater temperatur	re Nom. Waterflow	kW/kW	6.50	6.40	6.10	5.37				
Maximum number	of connect	able indoor	units			64	ł(1)					
Indoor index	Min.				100	125	150	175				
connection	Nom.				200	250	300	350				
	Max.				300	375	450	525				
Dimensions	Unit	HeightxWi	dthxDepth	mm		980x76	57x560					
Weight	Unit			kg		18	35					
Sound pressure level	Cooling	Nom.		dBA	48	50	56	58				
Operation range	Inlet water	Cooling	Min.~Max.	°CDB		10-	~45					
	temperature	Heating	Min.~Max.	°CWB		10~	~45					
	Temperature a	around casing	Max.	°CDB		4	.0					
	Humidity are	ound casing	Cooling~Heating	%		80-	~80					
Refrigerant	Type/GWF)				R-410A	/2,087.5					
	Charge			kg/TCO2Eq	7.90	/16.5	9.60/	20.0				
Piping connections	Liquid	OD		mm	9,	52	12	,7				
	Gas	OD		mm	19.1 (2)	22.2 (2)	28.6	5 (2)				
	HP/LP gas	OD		mm	15.90 (3) / 19.10 (4)	19.10 (3) / 22.20 (4)	19.10 (3) / 28.60 (4)	22.20 (4) / 28.60 (3)				
	Drain	Size				14mm OD	/ 10mm ID					
	Water	Inlet/Outle	et		ISO 228-G1 1/4 B/ISO 228-G1 1/4 B							
	Total pipir	ng length	System Actual	m		30	00					
Power supply	Phase/Fre	quency/Volt	tage	Hz/V		3N~/50/	/380-415					
Current - 50Hz	Maximum	n fuse amps ((MFA)	Α		2	5					

(1) Actual number of connectable indoor units depends on the indoor unit type (VRV indoor, Hydrobox, RA indoor, etc.) and the connection ratio restriction for the system (50% <= CR <= 130%) (2) In case of heat pump system gas pipe is not used. (3) In case of heat recovery system. (4) In case of heat pump system



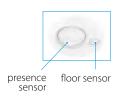
New round flow cassette



- Bigger flaps and new sensor logic further improves equal air distribution in the room
- > Widest ever choice in panels for cassette units, with up to 8 different panels



Comes with the known benefits: 360° air flow discharge and intelligent sensors*



> Auto cleaning panels available in black and white





Auto cleaning filter

Dust can simply be removed using a vacuum cleaner without opening the unit.

* Available as an option

Experience a new way

of air conditioning control and

commissioning





User-friendly wired remote controller with premium design

A complete redesigned controller focused on enhancing user experience

- Sleek and elegant design
- Intuitive touch button control
- 2 colors to match any interior design
- Compact, only 85x85mm
- Advanced settings and commissioning via smartphone









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.
- ☑ Easy and quick commissioning, saves time and cost for installers
- ✓ Featuring Bluetooth® low energy technology

Easy setting of schedules



Advanced user settings



Installer settings



Field settings



Control Solutions Summary

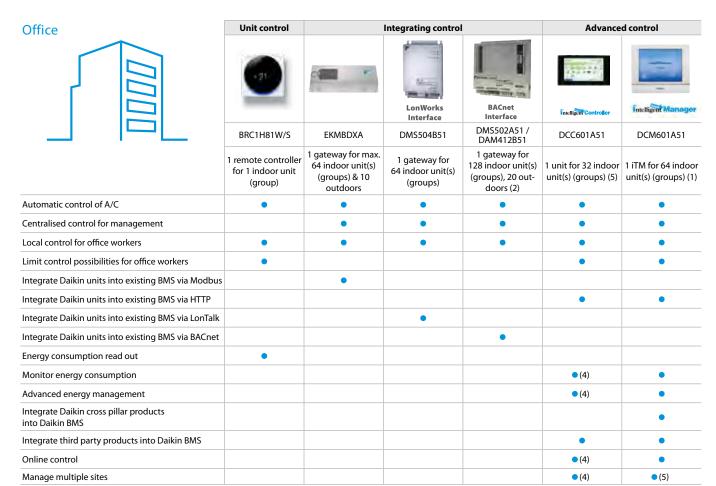
Daikin offers various control solution adapted to the requirements of even the most demanding commercial application.

- > Basic control solutions for those customers with few requirements and limited budget
- > Integrating control solutions for those customers that would like to integrate Daikin units into their existing BMS system
- Advanced control solutions for those customers that expect Daikin to deliver a mini BMS solution, including advance energy management

Shop		Unit co	ontrol	li	ntegrating con	Advanc	ed control	
	Ö	-21			11		Intelligent Controller	(set) Manager
	BRP069* Online controller	BRC1H81W/S	RTD-20	RTD-Net	KLIC-DI	EKMBDXA	DCC601A51	DCM601A51
	Smart phone 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)	1 gateway for 1 indoor unit		1 unit for 32 indoor unit(s) (5)	1 iTM for 64 indoor unit(s) (groups) (1)
Automatic control of A/C	•	•	•	•	•	•	•	•
Limit control possibilities for shop staff		•	•	•	•	•	•	•
Create zones within the shop			•				•	•
Interlock with eg. Alarm, PIR sensor			•				(limited)	•
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		• (4)					• (2)	•
Advanced energy management							• (2)	•
Allows free cooling							•	•
Integrate Daikin products cross pillars into Daikin BMS								•
Integrate third party products into Daikin BMS							•	•
Online control	•						• (2)	• (3)
Manage multiple sites							• (2)	• (3)

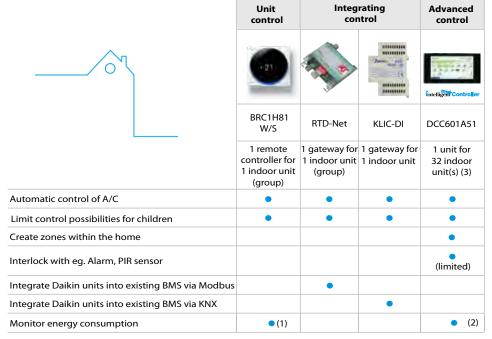
^{(1) 7} iTM plus adapters (DCM601A52) can be added to have 512 indoor groups and 80 outdoor (systems) (2) Via Daikin cloud service (3) Through own IT set-up (not Daikin cloud server) (4) Not available on all indoors (5) Up to 10 DCC601A51 can be combined as a single site on Daikin Cloud Service

Hotel	Unit control	Integratin	ig control	Advanced control
	311		- 11	Intelligent Managor
	BRC1H81W/S	RTD-HO	KLIC-DI	DCM601A51
	1 remote controller for 1 indoor unit (group)	1 gateway for 1 indoor unit (group)	1 gateway for 1 indoor unit	1 iTM for 64 indoor unit(s) (groups) (1)
Hotel guest can control & monitor basic functionalities from his room	•	•	• (3)	•
Limit control possibilities for hotel guests	•	•	•	•
Interlock with window contact	• (2)	•		•
Interlock with key-card	• (2)	•		•
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				•
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 (DCM601A52) can be added to have 512 indoor groups and 80 outdoor (systems) (2) extension needed to go to 256 indoor unit(s) (groups), 40 outdoors (3) ON/OFF only (4) Via Daikin cloud service (5) Through own IT set-up (not Daikin cloud sever)

Home Automation



⁽¹⁾ Not available for all indoors (2) via Daikin cloud service (3) Up to 10 DCC601A51 can be combined as a single site on Daikin Cloud Service

⁽⁵⁾ Up to 10 DCC601A51 can be combined as a single site on Daikin Cloud Service



DCC601A51

Advanced

centralised controller

- Intuitive and user-friendly interface
- Flexible concept for stand alone and multi site applications
- Total solution thanks to integration of 3rd party equipment
- Monitor & control your small commercial building, no matter where you are

with Cloud connection

2 solutions:

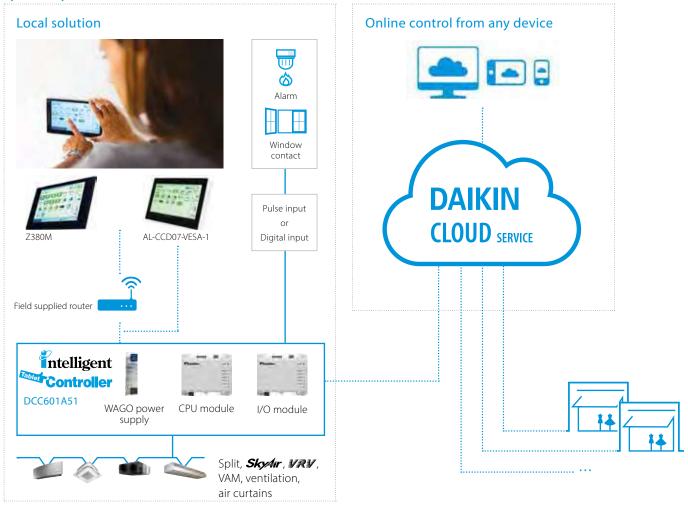
Local solution

- > Offline centralised control
- > Stylish optional screen fits any interior

Cloud solution

- Flexible online control from any device (Laptop, tablet...)
- > Monitor & control one or multiple sites
- Benchmark the energy consumption of different installations
- > Energy consumption follow-up to comply with local regulations

System layout



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)
- > Simply control your entire building centrally
- > Increased customer shopping experience by better management of your shop comfort level

Daikin Cloud Services

- > Control your building no matter where you are
- > Monitor and control multiple sites
- Installer or technical manager can remotely login to the cloud for first troubleshooting
- Benchmark the energy consumption of different installations (1)
- > Manage & track your energy use

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

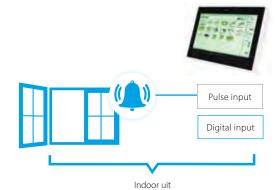
- > Inputs via digital and pulse input for 3rd party equipment such as kWh meters, emergency input, window contact, ...
- Modular concept allows your cloud to grow with your business
- Control up to 32 indoor units per controller and 320 units per site



Intuitive control from the cloud



Easy follow up of energy consumption



Functions overview

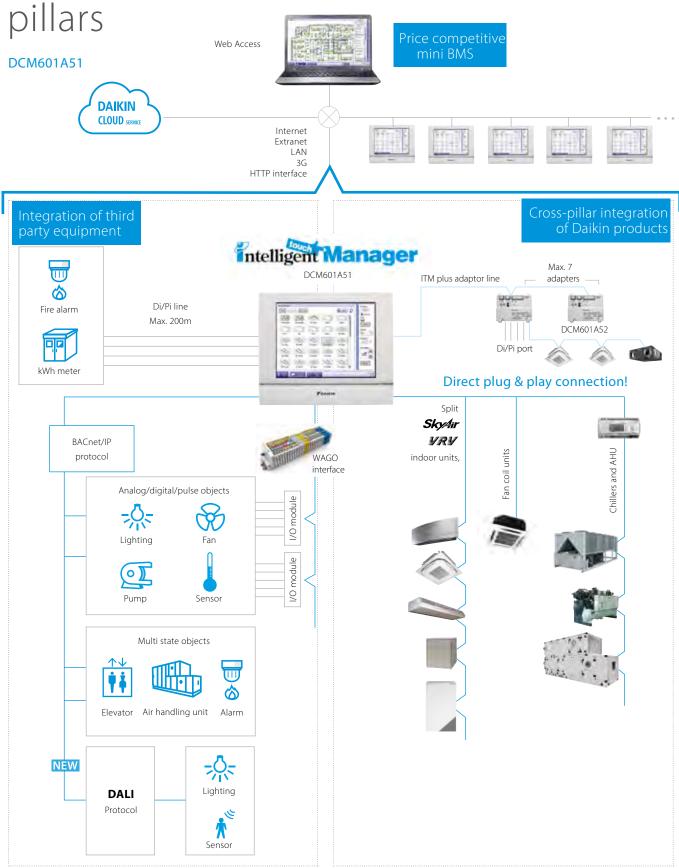
		Local solution	Cloud solution
Languages		Depends on local device	EN, DE, FR, NL, ES, IT, EL, PT, RU, TR, DA, SV, NO, FI, CS, HR, HU, PL, RO, SL, BG, SK
System layout	N° of connectable indoor units	32	32
	Multiple sites control		•
Monitoring & control	Basic control functions (ON/OFF, mode, filter sign, setpoint, fan speed, ventilation mode, room temperature, \ldots)	•	•
	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, VAM	•	•

Mini BMS





with full integration across all product





User friendliness

- > Intuitive user interface
- Visual lay out view and direct access to indoor unit main funtions
- All functions direct accessible via touch screen or via web interface

Smart energy management

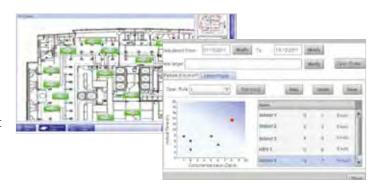
- > Monitoring if energy use is according to plan
- > Helps to detect origins of energy waste
- > Powerful schedules guarantee correct operation throughout the year
- Save energy by interlocking A/C operation with other equipment such as heating

Flexibility

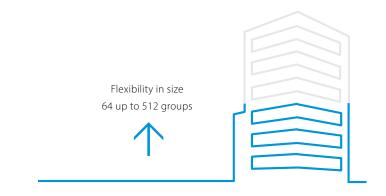
- > Cross-pillar integration (heating, air conditioning, applied systems, refrigeration, air handling units)
- > BACnet protocol for 3rd party products integration
- > I/O for integration of equipment such as lights, pumps... on WAGO modules
- > Modular concept for small to large applications
- Control 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







Functions overview

Languages

- > English
- > French
- > German
- > Italian
- > Spanish
- > Dutch
- > Portuguese

Control

- Individual control (512 groups)
- Schedule setting (Weekly schedule, yearly calender, seasonal schedule)
- > Interlock control
- > Set point limitation
- > Temperature limit

Management

- > Web access
- 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

System layout

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

WAGO Interface

- > Modular integration of
- 3rd party equipment
- WAGO coupler (interface between WAGO and iTM)
- Di module
- Do module
- Ai module
- Ao module
- Thermistor module
- Pi module

Open http interface

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

Connectable to

- DX Split, Sky Air, VRV
- Chillers (via MT3-EKCMBACIP controller)
- Daikin AHU (via MT3-EKCMBACIP controller)
- Fan coils
- WAGO I/O
- BACnet/IP protocol
- Daikin PMS interface (option DCM010A51)

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

Daikin Cloud Service

to achieve optimal operation



Daikin Cloud Service is a cloud-based remote control and monitoring solution for DX systems. Using enhanced control, monitoring and predictive logic, Daikin Cloud Service 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.

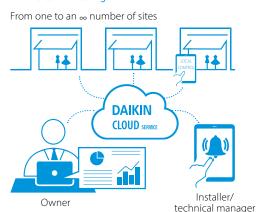
Monitor & control* your system no matter where you are while teaming up with Daikin experts

Remote control and energy visualisation

Puts you in the driving seat of your energy management

- ✓ Control and monitor your premises, wherever you are
- ✓ Centralised control and monitoring of all your premises
- ✓ Check errors remotely without having to go on site
- ✓ Visualise energy consumption and reduce energy waste by comparing different premises

Multi-site monitoring



Remote support and diagnostics

Daikin specialist supervision, so you can focus on your core business

- ☑ Early warning of system deviations to maximise system uptime and avoid emergency repairs
- Service providers have access to operational data so they arrive on site prepared
- ▼ Remote expert assistance in case of errors



Advice and optimisation

Get the best out of your system through expert advice

✓ Periodical analysis and optimisation report by experts

Personalised actions to maximise energy efficiency and comfort

✓ Increased system lifetime as the system runs as it should

Daikin Cloud Service requires a subscription. Contact your local sales representative for more information.

^{*} Remote Control function via Daikin Cloud Service only available for sites with an Intelligent Tablet controller

Daikin Cloud Service packages

	Control and monitoring	Remote support and diagnostics	Advice and optimisation
Remote control, scheduling and interlocking	(DCC601A51 only)	(DCC601A51 only)	(DCC601A51 only)
Energy monitoring	✓	✓	✓
Multi-site benchmark	✓	✓	✓
Alarm history and e-mail notifications	✓	✓	✓
Predictions and e-mail notifications	Х	✓	✓
Operational data access	Х	✓	✓
Indoor use analysis	Х	✓	✓
Outdoor use analysis	Х	✓	✓
Remote diagnostic and support from Daikin	X	✓	✓
Periodical analysis and optimisation advice from Daikin	Х	X	✓
Can be combined with maintenance programmes: - Technical inspection - Preventive Maintenance Plan - Comprehensive Maintenance Plan	X	×	√

Packages subject to local availability
Daikin Cloud Service replaces VRV Cloud and i-Net services.

Flexible solution

Manage your premises according to your needs by using a local control or remotely via Daikin Cloud Service, or a combination of both.

Control*, no matter where you are

Daikin Cloud Service gives you full control of one or more premises wherever you are, using your PC, tablet or smartphone.

Predictive logic for VRV to prevent breakdowns

The operational data is continuously analysed by Daikin algorithms to predict potential failures and avoid unexpected costs.

Compatible with:

- > Intelligent Tablet Controller (DCC601A51)
- > Intelligent Touch Manager (DCM601A51) + IoT gateway
- > LC8 + loT gateway



1. Monitor and control your system



4. Detailed energy consumption follow up



2. Compare energy use with target



5. Follow up of alarm and fault prediction



3. Compare energy use from multiple sites

^{*} Remote Control function via Daikin Cloud Service only available for sites with an Intelligent Tablet controller

Wireless room temperature sensor

K.RSS

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)



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	1	0
Operation range		°C	0~	50
	Type		R	F
Communication	Frequency	MHz	86	8.3

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

Wired room temperature sensor

KRCS01-1B KRCS01-4B



> Accurate temperature measurement, thanks to flexible placement of the sensor

Specifications

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

ADAPTER PCBs

Simple solutions for unique requirements Concept and benefits

Low cost option to satisfy simple control requirements		Connectable to:		
> Deployed on	single or multiple uni	its	Split	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) (KRP2A* via P1 P2) Remotely start and stop up to 128 indoor units (64 groups) (KRP4A* via F1 F2) Alarm indication/ fire shut down Remote temperature setpoint adjustment Cannot be used in combination with a central controller 		•
	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 		•
	DC5302A52 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	•	
English	DTA113B51 Basic solution for control of Sky Air and VRV	Rotation / backup operation function for Sky Air and VRV (up to 4 units can be connected to one adaptor)		•

Accessories

EKRORO	0	External ON/OFF or forced off Example: door or window contact
EKRORO 3	15	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

Anti-Corrosion Treatment



Heavy corrosion Protection coating option is available to provide special treatment for the most severe coastal applications.

For further details, please contact your Daikin Sales representative.

Supporting tools, software and apps

New web based Xpress selection software

Making selection easy, anythime, anywhere

- > Web & cloudbased, access to your projects from anywhere, anyplace...
- Platform (Windows, Mac, ...) and hardware (laptop, desktop, tablet) independent
- > Re-engineered GUI for maximum easy of use
- > No need to do local installation
- No tool updates required (always latest version available)
- > Possibility to copy / share projects



Other selection software

VRV Pro

Enables VRV air conditioning systems to be engineered in a precise and economical way, taking into account the complex piping rules. Moreover, it ensures optimum operating cycles and maximum energy efficiency.

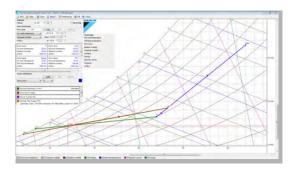
- > Accurate heat load calculation
- > Precize selection based on peak loads
- > Energy consumption indication



Ventilation Xpress

Selection tool for ventilation devices (VAM, VKM). The selection is based on given supply/extract airflows (including fresh up and given ESP of supply/extract ducting:

- > Determines size of electrical heaters
- > Visualisation of psychrometric chart
- > Visualisation of selected configuration
- > Required field settings mentioned in the report



Web-based ASTRA selection NEW for air handling units

A powerful tool to select the right Air Handling Units for your needs.

- > 3D interface
- > quick selection procedures
- > new print-out possibilities and report shapes



WAGO selection tool **NEW**

The WAGO Selection Tool is specifically designed to select the optimal WAGO I/O system for your needs.

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



Plugins and third-party software tools

Building Information Modelling (BIM) support

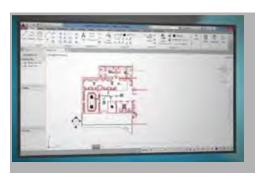
- > BIM improves efficiency of design and build phase
- Daikin is among the first to supply a full library of BIM objects for its VRV products



www.daikin.eu/ bim

VRV CAD 2D

- Displays VRV pipe design on a Autocad 2D floorplan
- > Improves project management
- Accurately calculates the pipe dimensions and refnets
- > Determines the outdoor unit size
- > Validates VRV pipe rules
- Accounts for the extra refrigerant charge, including a max room concentration check



Energy simulation and design aid tools

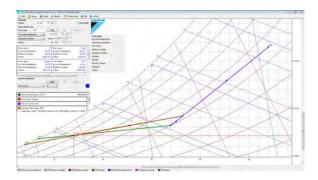
Seasonal simulator*

- The Seasonal Simulator is an innovative software tool that calculates and compares potential seasonal efficiency ratings.
- > This user-friendly tool compares various Daikin systems, annual power consumption, CO₂ emissions, and much more, to present an accurate ROI calculation in a matter of minutes.



Psychrometrics diagram **NEW**

- > The Psychrometrics Diagram Viewer demonstrates the changing properties of moist air.
- > With this tool, users can choose two points with specific conditions, plot them on the diagram and select actions to change the conditions, i.e. heat, cool and mix air.



Service tools

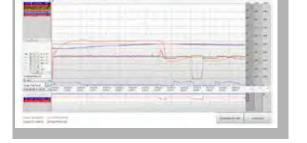
Error code app

Quickly know the meaning of fault codes, for each product family and the potential cause



D-Checker

D-checker is a software application used to record and monitor operation data of Daikin applied, split, Multi-split, Sky-air units, Daikin Altherma LT, ground source heat pump, Hybrid, ZEAS, Conveni-pack & R410A Booster unit



VRV Service-Checker

- Connected via F1/F2 bus to check multiple systems at the same time
- > Connection of external pressure sensors possible

^{*}Temperature profile is available

Online support

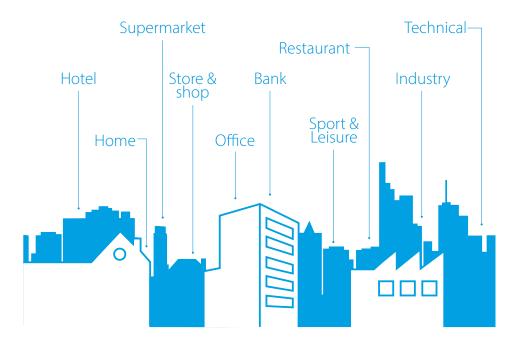
NEW Business portal

- > Experience our new extranet that thinks with you at my.daikinmea.com
- Find information in seconds via a powerful search
- > Customise the options so you see only info relevant for you
- > Access via mobile device or desktop



Internet

Find our solution for different applications:



- > Get more commercial details on our flagship products via our dedicated minisites
- > See our references

https://www.daikinmea.com/ en_US/about/case-studies.html















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