



EN

SELECTION GUIDE

DZK-4

DZK
DAIKIN ZONING KIT

Project name:	
Location:	Approval:
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INTRODUCTION

DAIKIN VRV

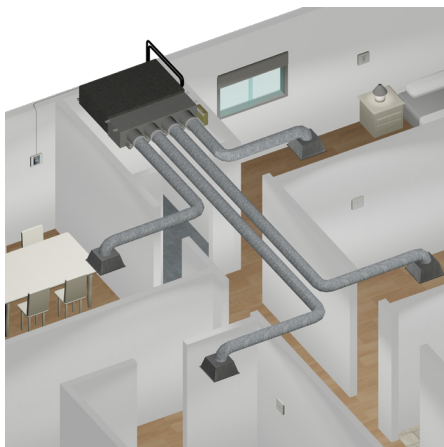
VRV is a modular, commercially applied air-conditioning and heating system that distributes refrigerant, rather than water, from the outdoor unit to multiple indoor units providing efficiency, individual user control and reliability in one package. Absolute comfort and efficiency is achieved with Daikin's industry leading variable speed Inverter compressors. This means that only the amount of energy required is used to provide the necessary cooling or heating to each individual indoor unit.

The VRV system is available with several options. One of the options is a Zoning Kit DZK that can be mounted on an Indoor Unit fan coil to allow conditioned air to be distributed from the unit to several individual zones.

DZK

The optional Daikin Zoning Kit (DZK and DZKS) increases the flexibility of the Daikin VRV system by adding a Zoning Box to an indoor unit fan coil (FXMQ, FBQ or FXSQ series) allowing several separate ducts to supply air to different individually controlled zones in the building. A zone can be a room, part of room, or several rooms. This flexible and scalable Zoning Kit integrates with the indoor unit fan coil and the controls of the VRV system.

A complete Zoning Kit consists of Zoning Box with Controls, Wired Thermostat, Wireless Thermostat and Wireless Lite Thermostat.



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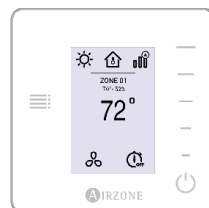
Wired Thermostat

The Wired Thermostat is a color graphic interface with capacitive screen and finished in steel and glass. It is the wired thermostat in the Daikin zoning system and it is powered from the Control Board at the Motorized Damper Plenum. It also displays temperatures and operating values and selects the operation mode for the system. Configurable as Main or Zone thermostat.



Wireless Thermostat

The Wireless Thermostat is a graphical interface with low-energy e-ink screen and capacitive buttons and finished in steel and glass. It can control the temperature for a zone while displaying the air temperature and system time. Additional functions include adjusting set point temperature, automatic configuration and local ventilation activation. It is powered by battery button CR2450 that typically last at least 2 years.



Wireless Lite Thermostat

The Wireless Lite Thermostat is a thermostat with capacitive buttons for controlling the temperature of the zones in DZK systems and finished in steel and glass. It is powered by battery button CR2450 that typically last at least 2 years.



Zoning Box with Control Board

The Zoning Box in the Daikin Zoning Kit mounts easily on Daikin's Indoor Unit fan coils FXMQ, FBQ or FXSQ series. It consists of the enclosure, individually motorized dampers, and a control box. It is available in different sizes and damper configurations and by utilizing ducts for air supply it can be used to control the air temperature in up to 6 zones. The wired thermostat and the optional wireless thermostats provide temperature inputs and user interface for programming and adjustment of the control functions for each zone.



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Webserver HUB / BACnet gateway DZK-4 (optional)

Webserver for controlling DZK systems through Cloud platform. Accessible through browser or App (available for IOS and Android). Dual WiFi 2.4/5Ghz or Ethernet connection. Powered through domotic bus. Mounted on DIN rail or on wall.

Functionalities:

- Control of up to 32 systems. (One BACnet webserver per system).
- Configuration and control of zone parameters (Room and set-point temp., operating mode, etc.) and system parameters via Cloud.
- Associated with router through the app via Bluetooth.
- Multi-user and multisession.
- Port for BMS integration via BACnet MS/TP protocol enabled from Airzone Cloud App.
- Allows configuration as Lutron gateway and BACnet IP through Airzone Cloud App.
- Integration via local API enabled from Airzone Cloud.
- Remote updates of the Webserver firmware and the systems connected to it.
- Remote error detection and error resolution.



Note: For a complete list of available objects, refer to the BACnet Interface installation manual.

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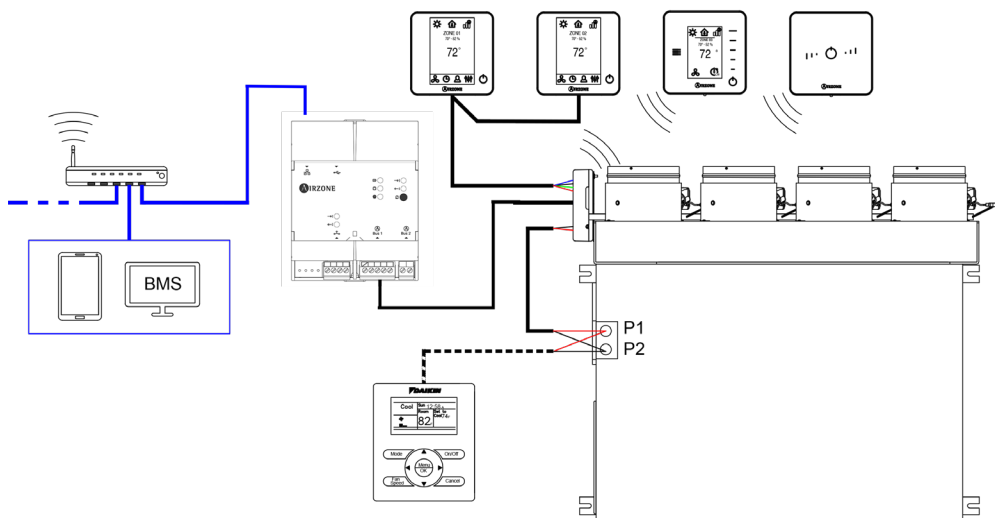
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TYPICAL CONNECTION OF THE UNITS IN THE DAIKIN ZONING KIT - 4 ZONES FOR EACH INDOOR UNIT FAN COIL



Note: Daikin BRC controller is only required for indoor unit commissioning process, but not for the normal operation of the DZK system.

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SELECTION

STEP 1 - DETERMINE THE HEAT LOAD AND THE COOLING LOAD

Determine the heat load and the cooling load for the zone(s) (Part of Room, Room, and Several Rooms) to be climate controlled by the Indoor Unit fan coil in the VRV system.

STEP 2 - SELECT INDOOR UNIT FAN COIL AND ZONING BOX COMBINATION

Using table 1, select VRV Indoor Unit fan coil and Zoning Box combination based on heat/cooling loads for the zone(s).

Note that the table shows nominal cooling and heating capacity for one damper with all dampers open. If all dampers except one are closed, the air flow, and capacity, from the open damper will increase by up to 75% compared to the values in the table.

For units FBQ and FXMQ:

Type	Model	Zoning Box	Damper Qty	Average thermal capacity per outlet (Btu/h)	
				Cooling	Heating
FBQ	18PVJU	DZK030E4-4	4	4,500	5,000
		DZK030E5-4	5	3,600	4,000
	24PVJU	DZK030E4-4	4	6,000	6,750
		DZK030E5-4	5	4,800	5,400
	30PVJU	DZK030E4-4	4	7,500	8,500
		DZK030E5-4	5	6,000	6,800
	36PVJU	DZK048E4-4	4	9,000	10,000
		DZK048E6-4	6	6,000	6,667
	42PVJU	DZK048E4-4	4	10,125	11,750
		DZK048E6-4	6	6,750	7,833

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FXMQ	15PBVJU	DZK030E4-4	4	3,550	4,250
		DZK030E5-4	5	2,840	3,400
	18PBVJU	DZK030E4-4	4	4,500	5,000
		DZK030E5-4	5	3,600	4,000
	24PBVJU	DZK030E4-4	4	6,000	6,750
		DZK030E5-4	5	4,800	5,400
	30PBVJU	DZK048E4-4	4	7,500	8,500
		DZK048E6-4	6	5,000	5,667
	36PBVJU	DZK048E4-4	4	9,000	10,000
		DZK048E6-4	6	6,000	6,667
	48PBVJU	DZK048E4-4	4	12,000	13,500
		DZK048E6-4	6	8,000	9,000
	54PBVJU	DZK048E4-4	4	13,500	15,000
		DZK048E6-4	6	9,000	10,000

Table 1

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For units FXSQ and FDMQ:

Type	Model	Zoning Box	Damper Qty	Average thermal capacity per outlet (Btu/h)	
				Cooling	Heating
FXSQ	15TAVJU	DZKS015E3-4	3	5,000	5,667
		DZKS015E4-4	4	3,750	4,250
	18TAVJU	DZKS030E4-4	4	4,500	5,000
		DZKS030E5-4	5	3,600	4,000
	24TAVJU	DZKS030E4-4	4	6,000	6,750
		DZKS030E5-4	5	4,800	5,400
	30TAVJU	DZKS030E4-4	4	7,500	8,500
		DZKS030E5-4	5	6,000	6,800
	36TAVJU	DZKS048E4-4	4	9,000	10,000
		DZKS048E6-4	6	6,000	6,667
FDMQ	09RVJU	DZKS015E3-4	3	3,000	3,633
		DZKS015E4-4	4	2,250	2,725
	12RVJU	DZKS015E3-4	3	3,600	4,533
		DZKS015E4-4	4	2,700	3,400
	15RVJU	DZKS030E4-4	4	3,600	4,500
		DZKS030E5-4	5	2,880	3,600
	18RVJU	DZKS030E4-4	4	4,400	5,400
		DZKS030E5-4	5	3,520	4,320
	24RVJU	DZKS030E4-4	4	5,450	6,000
		DZKS030E5-4	5	4,360	4,800

Table 2

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STEP 3 - USING TABLE 3, SELECT THERMOSTATS REQUIRED FOR THE DZK SYSTEM

		STRUCTURE			TECHNICAL DATA					
Product		No. Of zones	No. Of dampers	Qty of units	Height (")	Width (")	Depth (")	Weight (lb)	V max	I max
Zoning Box with controls	DZK030E4-4	2 to 4	4 x Ø8"	One Per Indoor Unit	10.43	43.58	10.43	18.04	120/230 Vac	250 mA
	DZK030E5-4	2 to 5	5 x Ø6"		10.43	43.58	10.43	20.24		
	DZK048E4-4	2 to 4	4 x Ø8"		10.43	53.46	10.43	20.24		
	DZK048E6-4	2 to 6	6 x Ø6"		10.43	53.46	10.43	23.32		
	DZKS015E3-4	2 to 3	3 x Ø8"	One Per Indoor Unit	10.43	34.18	10.43	18.04	120/230 Vac	250 mA
	DZKS015E4-4	2 to 4	4 x Ø6"		10.43	34.18	10.43	18.04		
	DZKS030E4-4	2 to 4	4 x Ø8"		10.43	43.62	10.43	18.04		
	DZKS030E5-4	2 to 5	5 x Ø6"		10.43	43.62	10.43	20.24		
	DZKS048E4-4	2 to 4	4 x Ø8"		10.43	57.43	10.43	20.24		
	DZKS048E6-4	2 to 6	6 x Ø6"		10.43	57.43	10.43	23.32		
Thermostats	DZK-MTS-4	-	-	At least one per Indoor Unit						
	DZK-ZTS-4	-	-	One per zone minus wired thermostat						
	DZK-LTS-4	-	-							

Table 3

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STEP 4 - DZK-HUB-4 WEBSERVER HUB / BACNET GATEWAY (OPTIONAL)

In case of BMS BACnet installation select one DZK Webserver HUB / BACnet gateway for each DZK zoning box.

Example: A DZK system for a Daikin FXMQ18 PBVJU Indoor Unit Fan Coil supplying air to 5 zones and with requirements to connect to a BMS using BACnet/IP would require one Zoning Box (DZK030E5-4), two Wired Thermostat (DZK-MTS-4-W), two Wireless Thermostats (DZK-ZTS-4-W), one Wireless Lite Thermostat (DZK-LTS-4-W) and one Webserver HUB / BACnet gateway DZK-4 (DZK-BACNET-HUB4).



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