

Project Name: _____

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Introduction

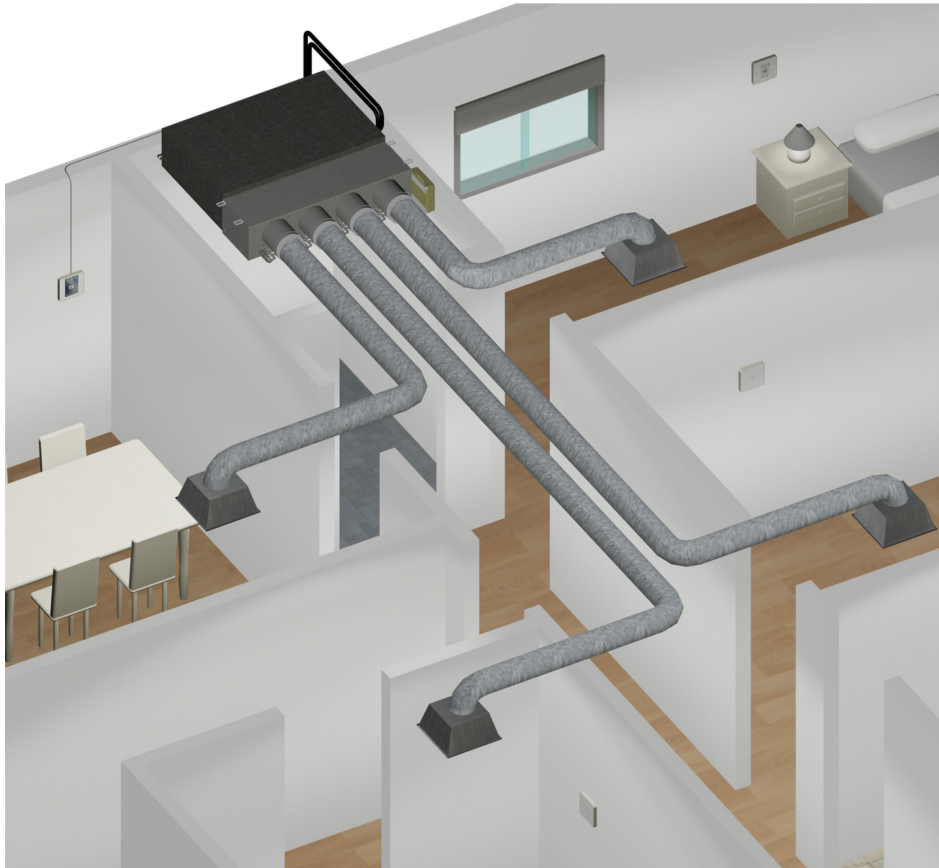
Daikin VRV

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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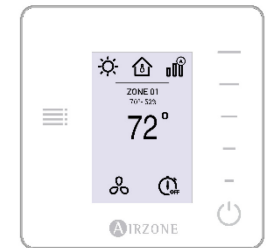
Wired Thermostat

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, selects the operation mode for the system, and can be used to assign names to zones. 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.



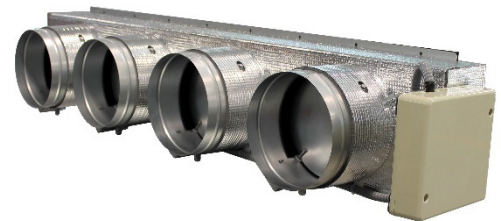
Wireless Lite Thermostat

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

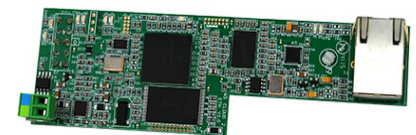
The Zoning Box in the Daikin Zoning Kit mounts easily on Daikin's Indoor Unit fan coils FXMQ, FBQ or FXSQ series. It consists of the enclosure, individually motorized dampers, and a control box. It is available in different sizes and damper configurations and by utilizing ducts for air supply it can 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.



DZK BACnet Interface (optional)

The DZK BACnet Interface is a BACnet/IP Plug&Play device for DZK, and it allows to control and monitor the following variables:

- Indoor Unit status.
- Fan status and Fan Speed.
- Auxiliary Heat stages status.
- Global Ventilation status.
- Operation Mode.
- On/Off for each zone.
- Set point setting for Cooling and Heating for each zone.
- Room Temperature in each zone.
- Local Fan activated/deactivated for each zone.
- Auto (Follow schedule) activate/deactivate.



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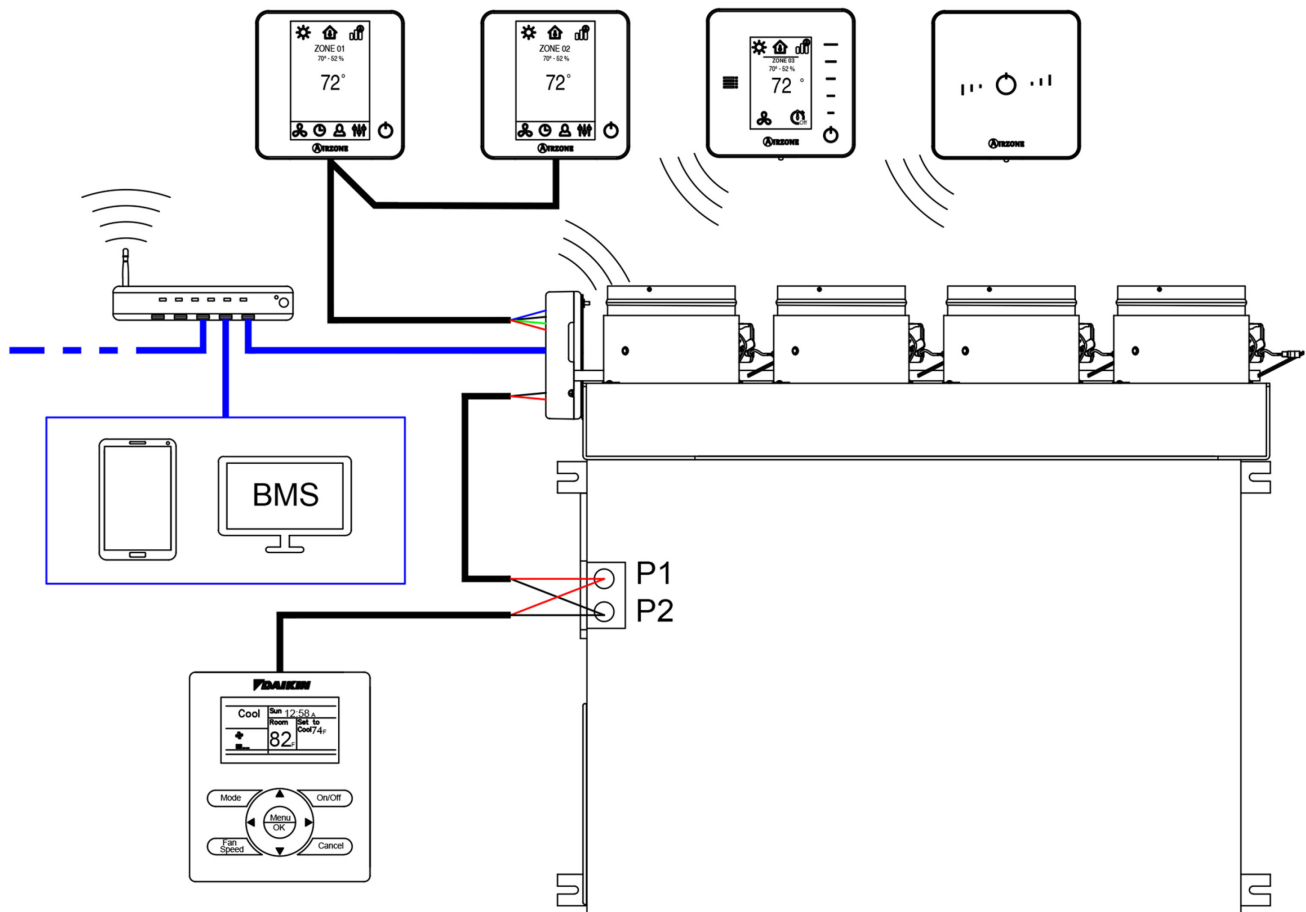
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- Unoccupied Mode Status.
- Vacation Mode activate/deactivate.
- Opening Damper Status for each zone.
- Indoor Unit and DZK errors.

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

Typical Connection of the units in the Daikin Zoning Kit – 4 Zones for Each Indoor Unit Fan Coil



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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:

Indoor Unit Fan Coil	DZK Zoning Box	Qty of Dampers	Nominal Capacity Per Damper – All Dampers Open (Btu/h)		Nominal Capacity Per Damper – One Damper Open (Btu/h)	
			Cooling	Heating	Cooling	Heating
FXMQ15PBVJU	DZK030E4-3	4	3,300	3,800	5,100	5,800
	DZK030E5-3	5	2,600	3,000	4,500	5,100
FBQ18PVJU FXMQ18PBVJU	DZK030E4-3	4	3,900	4,400	5,600	6,200
	DZK030E5-3	5	3,100	3,500	5,300	5,900
FBQ24PVJU FXMQ24PBVJU	DZK030E4-3	4	5,200	5,900	7,400	8,300
	DZK030E5-3	5	4,200	4,700	7,000	7,900
FBQ30PVJU	DZK030E4-3	4	6,600	7,400	9,000	10,200
	DZK030E5-3	5	5,200	5,900	8,500	9,700
FXMQ30PBVJU	DZK048E4-3	4	6,600	7,400	9,000	10,200
	DZK048E6-3	6	4,400	4,900	7,100	8,100
FBQ36PVJU FXMQ36PBVJU	DZK048E4-3	4	7,900	8,800	9,700	10,800
	DZK048E6-3	6	5,200	5,800	9,200	10,200
FBQ42PVJU	DZK048E4-3	4	9,200	10,300	11,300	12,600
	DZK048E6-3	6	6,100	6,800	10,700	12,000
FXMQ48PBVJU	DZK048E4-3	4	10,500	11,800	12,900	14,500
	DZK048E6-3	6	7,000	7,800	12,300	13,800
FXMQ54PBVJU	DZK048E4-3	4	11,900	13,100	14,300	15,900
	DZK048E6-3	6	7,900	8,700	14,100	15,600

Table 1

For units FXSQ:



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Indoor Unit Fan Coil	DZK Zoning Box	Qty of Dampers	Nominal Capacity Per Damper – All Dampers Open (Btu/h)		Nominal Capacity Per Damper – One Damper Open (Btu/h)	
			Cooling	Heating	Cooling	Heating
FXSQ15TAVJU	DZKS015E3-3	3	3,300	4,000	3,600	4,300
	DZKS015E4-3	4	3,300	3,700	3,600	4,100
FXSQ18TAVJU	DZKS030E4-3	4	4,000	4,600	4,400	5,100
	DZKS030E5-3	5	3,200	4,300	3,500	4,800
FXSQ24TAVJU	DZKS030E4-3	4	5,300	6,200	5,900	7,000
	DZKS030E5-3	5	4,200	5,900	4,700	6,700
FXSQ30TAVJU	DZKS030E4-3	4	6,600	7,900	7,500	8,900
	DZKS030E5-3	5	5,300	7,500	6,000	8,400
FXSQ36TAVJU	DZKS048E4-3	4	7,900	9,500	8,800	10,600
	DZKS048E6-3	6	5,300	9,000	5,800	10,100
FXSQ48TAVJU	DZKS048E4-3	4	10,600	12,700	11,900	14,300
	DZKS048E6-3	6	7,000	12,000	7,900	13,500

Table 2

Step 3 - Using table 3, select thermostats required for the DZK system

PRODUCT		STRUCTURE			TECHNICAL DATA					
		No. Of Zones Compatibility	No. Of dampers	Qty of Units	Height (")	Width (")	Depth (")	Weight (lb)	V max	I max
Zoning Box with Controls	DZK030E4-3	2 to 4	4 x Ø8"	One Per Indoor Unit	10.43	43.58	10.43	18.04	120/230 Vac	250 mA
	DZK030E5-3	2 to 5	5 x Ø6"		10.43	43.58	10.43	20.24		
	DZK048E4-3	2 to 4	4 x Ø8"		10.43	53.46	10.43	20.24		
	DZK048E6-3	2 to 6	6 x Ø6"		10.43	53.46	10.43	23.32		
	DZKS015E3-3	2 to 3	3 x Ø8"	One Per Indoor Unit	10.43	34.18	10.43	18.04	120/230 Vac	250 mA
	DZKS015E4-3	2 to 4	4 x Ø6"		10.43	34.18	10.43	18.04		
	DZKS030E4-3	2 to 4	4 x Ø8"		10.43	43.62	10.43	18.04		
	DZKS030E5-3	2 to 5	5 x Ø6"		10.43	43.62	10.43	20.24		
	DZKS048E4-3	2 to 4	4 x Ø8"		10.43	57.43	10.43	20.24		
	DZKS048E6-3	2 to 6	6 x Ø6"		10.43	57.43	10.43	23.32		
Thermostats	DZK-MTS-3-W	--	--	At least one Per Indoor Uni	3.62	3.62	0.62	0.44	12 Vac	--
	DZK-ZTS-3-W	--	--	One Per Indoor Unit				0.40	Battery CR2450	--
	DZK-LTS-3-W	--	--	Minus Wired Thermostat						--

Table 3





Selection Guide

DZK-Zoning Kit rev.2.00

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Step 4 – DZK BACnet Interface (optional)

In case of BMS BACnet installation select one DZK BACnet Interface 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 (DZK030E5-3), two Wired Thermostat (DZK-MTS-3-W), two Wireless Thermostats (DZK-ZTS-3-W), one Wireless Lite Thermostat (DZK-LTS-3-W) and one DZK BACnet Interface (DZK-BACNET-3).

