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1. WARNINGS, ENVIRONMENTAL POLICY, AND CERTIFICATIONS

1.1. Warnings

For personal safety and equipment protection, follow these instructions:

- Do not operate the system if it is wet, or handle it with wet hands.
- Connect the power supply cable before connecting the AC power.
- Perform any connection or disconnection with the power supply **OFF**.
- Verify that there is no short-circuited connection in the connectors between different cables or ground.
- Verify there are no abnormalities in the wiring.

1.2. Environmental Policy

Never dispose of this equipment with household waste. Electrical and electronic products contain substances that can be harmful to the environment if they are not given proper treatment. The symbol of the crossed container indicates separate collection of electronic equipment, unlike the rest of urban garbage. For proper environmental management, the equipment to be disposed must be taken to the proper collection center at the end of its lifespan.

The components of this equipment can be recycled. Follow the existing regulations on environmental protection in your area.

The unit must be delivered to your dealer if it is being replaced. If it is to be discarded, it must be sent to a specialized collection center.
1.3. FCC Regulatory Notices

Modification statement

Corporación Empresarial Altra S.L. has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

Interference statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Class B digital device notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
1.4. INTERTEK / UL Regulatory Notices

- All wiring shall be in accordance with the National Electric Code (NEC)/Canadian Electrical Code (CEC).
2. SYSTEM DESCRIPTION

Daikin Zoning Kit, DZK is an optional kit that increases the flexibility of the FXMQ and FBQ Indoor Unit fan coils. It allows multiple separate ducts to be connected to fan coil and supply air to different individually controlled zones in a building.

2.1. Product Range DZK Zoning Box

![Diagram of DZK030E5 and DZK030E4]
DZK Zoning Box

A. Damper limitation adjustment

B. Motorized Damper
2.2. DZK Control

2.2.1. DZK Control Board
This device manages all wired and wireless devices in the system, performing the following functions:

- Controls and manages the status of each thermostat or controller.
- Outputs for the motorized dampers.
- Control of the auxiliary heat (up to two stages).
- Manages communication with the DAIKIN Interface Board.
- Controls the On/Off status, mode, fan speed, and set point temperature of the DAIKIN Indoor units.

2.2.2. Daikin - Interface Board
This unit integrates the Daikin Indoor unit with the DZK control board. The Daikin interface board includes an Energy Efficiency Control Algorithm that is controlled with the Wired Thermostat, including the following functions:

- Automatically changes the Indoor Unit operation mode (Stop, Ventilation, Cooling, Heating, or Dry) from the in the DZK system’s Wired Thermostat.
- Temperature setting for the AC unit based on the overall demand of the DZK zone thermostats.
- Defrost function: In heating Mode, when User Set Point Temperatures are satisfied, instead of setting the Daikin unit to OFF, a 60F set point Temperature is set. This function is set by means of DIP-switch configuration.
2.2.3. Wired Thermostat

Graphic color touch pad display for control of zone temperature master thermostat. Wall mounted.

- Graphic interface with 3 languages (Spanish, English, and French).
- Zone On/Off.
- Set point temperature setting (steps of 1 ºF).
- When configured as master, operation mode selection for the system (Stop, Cool, Heat, Auto, Emergency heat, Dry).
- Sleep Function. (*Only in DZK version 1*)
- Eco-Adapt.
- Time schedule programming and, when configured as master, operation mode scheduling.
- Remote zone control.
- Used to set system parameters.

2.2.4. Wireless Thermostat

This is a battery powered, wall-mounted, and back-lighted monochrome LCD touchpad digital thermostat to control the zone temperature.

- Zone On/Off.
- Set point temperature setting at steps of 1 ºF.
- Sleep Function. (*Only in DZK version 1*)
- Remote zone access.
- Local ventilation.
- Time schedule control.
- Powered by two 1,5V batteries (type AAA; included).

2.2.5. DZK BACnet Interface board (*optional*)

The DZK BACnet Interface board allows a Building Management System to control all variables of the DZK systems. The DZK BACnet Interface board uses a standard open protocol based on ASHRAE Standard 135, and its objects are:

- Compatible with BACnet (ANSI /ASHRAE-135)
- Compatible with BACnet/IP (ISO16484-5)

The DZK BACnet Interface board is a Plug&Play device for DZK, and it allows controlling and monitoring 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 (scheduling) Activated/deactivated.
• Unoccupied Mode Status.
• Vacation Mode Activated/deactivated.
• Opening Damper Status for each zone.
• Indoor Unit and DZK errors.

2.2.6. Heat Pump Changeover Master
(Only in DZK version 1)
Mode synchronization module for VRV Heat Pump installations with multiple indoor units. Power Connection to be wired from the Zoning Box control Board. To be mounted on damper number #1 in the Zoning Box.

• Synchronization module for Heat Pump installations with multiple indoor units with DZK Zoning box.
• Heat Pump Changeover Master controls up to 16 DZK systems in the same VRV system.
3. DESCRIPTION, INSTALLATION AND CONNECTION OF THE COMPONENTS

3.1. General recommendations

Closely follow the instructions on this manual to avoid installation and maintenance issues.

- The system should only be installed by qualified personnel.
- Never use solid wire to install the system. This is a communication device and requires the use of communication cables.
- While connecting the devices, be sure the system is not powered.
- Follow the local installation regulations for low and high voltage installation. The recommended specifications for the cable to install this system are:
  - 4 wires
  - Stranded
  - AWG 20
  - Plenum
  - Shielded

When connecting to other systems fed with high voltage, only use the A and B contacts of the communication bus. It is not recommended to connect the + and – contacts, nor the ground.

- Follow the color codes and polarity indications in the system components.
- Do not run the bus cable near high power cables or near electrical motors to avoid electromagnetic interference in the system communications.
- Use the following recommendations to locate the thermostat:
• To open the thermostat in preparation for its installation, it is recommended to use a coin. Using a screwdriver of other Sharp tool can damage the frame and the electronic components of the thermostat.

If upon receiving the unit it is determined that one of the outlets will not be used, take the following actions:

1) Install the unit and wiring ready to start with the Wired Thermostat Configuration. The unit should have all dampers open.
2) Configure the Wired Thermostat. Once the thermostat is assigned a zone, all other dampers will close with the exception of that assigned to the Master thermostat.
3) At this time, disconnect the motor cable from the outlet that will not be used.
4) Permanently seal the outlet using the supplied plug and follow the local installation recommendations.

3.2. DZK Zoning box

3.2.1. Assembly

The Zoning Box allows providing a fast and simple zoning to Daikin indoor units FBQ_P and FMXQ_P.

<table>
<thead>
<tr>
<th>Models</th>
<th>Damper Size</th>
<th>Number of Dampers</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBQ 18 - 24 - 30 PVJU</td>
<td>6&quot;</td>
<td>5</td>
</tr>
<tr>
<td>FXML 15 - 18 - 24 PBVJU</td>
<td>8&quot;</td>
<td>4</td>
</tr>
<tr>
<td>FBQ 36 - 42 PVJU</td>
<td>6&quot;</td>
<td>6</td>
</tr>
<tr>
<td>FXML 30 - 36 - 48 - 54 PBVJU</td>
<td>8&quot;</td>
<td>4</td>
</tr>
</tbody>
</table>

Follow the steps listed below to make an easy and reliable DZK installation:

1. The adaptor is shipped with the dampers fully open. One of them includes a plug to be used in case one of the dampers is not used. If the damper is not used, the contractor needs to be sure that the plug will stay in place. If all dampers are used, take the plug out and store it.
2. Insert sharp pointed object through the frame holes and the frame sealing to facilitate the location of the setting holes used to assemble the zoning box to the indoor unit.

3. Remove the indoor unit collar. Insert a screw (not fully tightened) in the bottom corners of the indoor unit as how in the following figure:

4. Sit the zoning box on the screws as shown below, and then affix the box using the left screws.

5. Attach each zone duct with its assigned damper. Follow the local recommendations to insulate and seal the ductwork with the damper. Make a cutout along the duct to keep the motor outside of the insulation.
6. Use of the insulated stopper. If a damper is not being used in the installation, proceed as follows:

- Make sure the damper is closed before installing the insulated stopper.
  (The damper will close as soon as the first zone is assigned.)

- Check that the power cable is disconnected for the damper motor that will not be used.

- Check that the damper remains airtight with the power ON and the fan running.
3.2.2. Damper setting

The dampers included in the zoning box have a built-in control system that allows you to manually set the maximum and minimum opening of each damper according to the needs of each installation.

**Keep in mind**

This setting must be done after all dampers are assigned to their thermostats.

**Average Flow (REG)**

Due to the unique characteristics of each ID unit supply port with respect to the dampers of the box, the flow distribution is not identical in each damper. The central dampers receive more airflow than the others, being the damper No. 1 the one that receives less flow. This zoning box offers maximum aperture adjustment which balances the flow of each damper to the needs of the installation. By default, the dampers are configured with a maximum opening at **Position I**. To adjust the control of the dampers proceed as follows:

- The damper must be completely closed to mechanically adjust its flow. To make this adjustment create demand in all zones, so that the indoor unit runs at maximum capacity. Then deactivate the zone to be adjusted, and verify that there is no air supplied to that zone.
- With the damper closed, place the lever marked REG in the actuator to the desired open position. There are 4 position - I, II, III, and IV, with position I being completely open and position IV having the slightest opening. Perform the setting of the dampers by changing the lever REG position, beginning with the central one and ending with damper No. 1 (Closest to the zoning box control board). The reduced flow in the central dampers will increase the flow of the dampers at the ends.
Using an anemometer verify that the flow in each grille is within the installation requirements.

**Minimum Air (A-M)**

Similarly, the zoning box allows a minimum air opening for each damper, if needed. By default, the “a” damper is configured in the full-close position. To adjust minimum air for any damper, proceed as follows:

- Check that the dampers are wide open to start its control. To do so, set the system to STOP mode, from the Wired Thermostat.
- Perform the setting of the dampers by changing the lever A-M position beginning with the one in the centre of the box and ending with damper 1. (Closest to the zoning box control board). Reduced flow in the central dampers will increase the flow of the dampers at the ends.
- With the damper open, place the handle A-M in the desired open position. It has 4 positions - a, b, c, d, where “a” is fully closed and is “d” is the fully open.
- Check with an anemometer that the flow in each grille is within the installation requirements.
3.2.3. Connection

<table>
<thead>
<tr>
<th>Ref</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power supply</td>
</tr>
<tr>
<td>2</td>
<td>Heating Stage 1 Output</td>
</tr>
<tr>
<td>3</td>
<td>Heating Stage 2 Output</td>
</tr>
<tr>
<td>4</td>
<td>Protection probe input</td>
</tr>
<tr>
<td>5</td>
<td>Alarm input (NC)</td>
</tr>
<tr>
<td>6</td>
<td>Actuator Control output</td>
</tr>
<tr>
<td>7</td>
<td>Daikin Interface Board</td>
</tr>
<tr>
<td>8</td>
<td>Expansion bus</td>
</tr>
<tr>
<td>9</td>
<td>Wireless Interface</td>
</tr>
<tr>
<td>10</td>
<td>Reset System Button</td>
</tr>
<tr>
<td>11</td>
<td>Connector for optional BACnet interface board</td>
</tr>
</tbody>
</table>

1. - Power supply
Power supply 120/230 VAC line.

The Zoning box control board is protected by a self-resettable fuse. This is an electronic component that does not require any action other than cycling the power to perform the reset.

2. - Heating Stage 1 Output
If the system includes Auxiliary Heat, when required by the heat demand, this output enables the First Stage of Auxiliary Heat. The technical specifications for the 1st Stage Aux. Heat relay are: \( I_{\text{max}} = 1 \text{ A @ 24V} \), dry contacts.

If higher power is required for control, use external contactors of appropriate capabilities.
3. - Heating Stage 2 Output
This output enables Second Stage of Auxiliary Heat, if the system includes two stages Auxiliary Heat.

The technical specifications for the 2nd Stage Aux. Heat relay are:
\[ I_{\text{max.}} = 1 \text{ A @ 24V}, \text{ dry contacts.} \]

If higher power is required for control, use external contactors with appropriate capabilities.

4. - Protection probe Input
This input is used to connect the supply temperature sensor.

5. - Alarm input (NC)
When this input is open it will stop the AC unit, and close all dampers. This input is shipped with a jumper in the connector that should be left in place unless an alarm input is connected.

6. - Actuator control outputs
These outputs are used to drive the damper actuators with 12VDC control for each damper, as shown in the following diagram:
7. - Daikin Interface Board
This Interface provides the communication between Zoning box control board and Daikin Indoor unit, connecting to “P1 P2”.

8. - Expansion Bus
The expansion bus allows the connection of up to 6 Wired Thermostats. There are 3 connectors, each one with 5 contacts available, for connecting the expansion bus. The Wired Thermostat is connected to this bus (Maximum of 2 Wired thermostat per connector). Connect the cables to the connector contacts following the color code indicated below.

Important: It’s necessary one wired thermostat for each DZK system, which can control up 6 zones.

Keep in mind
Once this sequence is started it cannot be interrupted and the Quick Setup process should be allowed to finish.

9. - Wireless Interface
This device provides the communication between the Zoning box control board and the Wireless thermostats.

10. - Reset System Button
If the whole system needs to be reset (normally a replacement board that has been used before, or at the request of the technical support as a last resource to fix a problem), press and hold SW1 until LED 19 stops flashing. A system reset will return all configurations to default values and conditions.
11. – Connector for optional BACnet Interface board
In DZK version 2, the DZK BACnet Interface board allows the communication between the DZK zoning box and BMS BACnet/IP installation.

In DZK version 1, the HP Changeover Master interface allows the communication between the HP Changeover Master interface and the DZK systems in a multiple indoor units installation.

There is one connector with 5 contacts to connect the communication bus. This connector only supports the daisy chain configuration. Connect the cables to the connector contacts following the color code indicated below.

3.3. Daikin Interface Board
3.3.1. Connection & Configuration
Complete the connections adhering to the following steps, in this order:
1) Disconnect the power supply from both the Daikin Indoor unit and the DZK system.
2) Open the protective cover of the Daikin Indoor unit, and locate the P1, P2 connection (to which the Daikin navigation controller is connected).

3) Connect a two-wire cable to P1 P2 on the Indoor unit, in parallel with the Daikin navigation controller.
Connect the other end of this cable to the connector labeled P1 P2 on the interface unit mounted on top of the control board, maintaining the polarity.

4) Close the Daikin Indoor unit’s protective cover.

3.4. DZK BACnet Interface board

3.4.1. Installation

The DZK BACnet Interface board is a Plug&Play interface, disconnect the terminal and snap the connector and the interface support tube as shown in the pictures:

System ID
To configure this parameter, see on page 33.

Note: This BACnet/IP device is connected to BMS by Ethernet cable.
BACnet typical layouts is a follow:

```
3.4.2. DZK BACnet Interface board configuration
When the DZK BACnet Interface board is connected in the DZK main board, a new item appears in the installer configuration menu, as follows:

From the main screen, press the icon and select the option Settings . In this menu select Configuration, a pop up warning message appears to alert you that it is exclusive for installers. Enter the pattern below to access the configuration menu.

Select the option BACNET.

ID Device BACnet
For the proper identification in the LAN of the DZK BACnet Interface board, it is required to modify the ID device, form the wired thermostat in the BACNET menu. By default the ID device is 1000.

Note: Check with the BMS vendor what device ID should be used to avoid conflict within the BACnet network.

Note: Device ID is unique per BACnet device.
Note: Check with BMS vendor what device ID should be configure here to avoid conflict within BACnet network.

IP Configuration
For the proper operation of the DZK BACnet Interface board with the IP network, it is required to configure the following network parameters:
- Port (default 47808)
- IP Address
- Subnet mask
- Gateway IP

To configure them, you must access to IP Configuration menu, from BACNET menu:
3.5. Heat Pump Changeover Master

(Only in DZK version 1. In version 2, this functionality is managed by the Daikin interface board and the VRV system. For more details see “DZK ZONING BOX Sequence of Operation” document)

3.5.1. Installation
Heat Pump Changeover Master is a synchronization module for VRV Heat pump installations with multiple indoor units with DZK Zoning box (for VRV Heat recovery is not necessary).
- The operation mode is set by the DZK master system (System ID: 1) to the rest DZK systems.
- Heat Pump Changeover Master controls up to 16 DZK systems.

The DZK Master system (System ID: 1) must be connected to the Indoor unit with the remote control configured as the system Master. Install the module on the damper #1 of the DZK master system as shown in the following pictures:

![Diagram of installation process]

3.5.2. Wiring
The wiring should not exceed 130 ft. Stranded AWG20 shielded cable should be used. Connect the Heat Pump Changeover Master module with the interface on the DZK Master system. Use a 4 wire shielded cable, stranded, and plenum rated, when required.

Connect the cable from the DZK Master System to the rest of the DZK Zoning systems to be controlled by the Heat Pump Changeover Master module. Connect only the communication wires A & B contacts.
System ID
To configure this parameter, see on page 33.

*SYSTEM ID: 1> Master System

*SYSTEM ID: 2 to 16> Secondary System
3.5.3. Changeover Master Configuration
Once the installation is finished and the Zoning Box configured (System ID):

- Verify that the Zoning Box connected to the Heat Pump Changeover Master module is configured as System ID: 1.
- Configure the other Zoning Box as System ID between 2 to 16.

When the System ID configuration in all DZK systems is finished, wait 5 minutes to complete the update process.

3.6. Wired Thermostat

3.6.1. Installation
The Wired Thermostat is available for wall mount. The wiring should not exceed 130 ft, and stranded AWG20 shielded cable should be used.

To mount the thermostat on the wall, take the following steps:

- Disassemble the thermostat in three parts. To split the frame from the base, use the edge of a coin. Do not use any sharp object.
- Affix the wall plate to the wall using screws and anchors according with the wall material.
- Insert the cable to the middle plate, and reassemble it to the wall plate.
- Reassemble the front frame to the base.

3.6.2. Wiring

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>☞</td>
<td>Shielded / Pantalla / Blindé</td>
</tr>
<tr>
<td>☞ A</td>
<td>White / Blanco / Blanc</td>
</tr>
<tr>
<td>☞ -</td>
<td>Black / Negro / Noir</td>
</tr>
<tr>
<td>☞ B</td>
<td>Green / Verde / Vert</td>
</tr>
<tr>
<td>☞ +</td>
<td>Red / Rojo / Rouge</td>
</tr>
</tbody>
</table>
DZK thermostats are connected to the expansion bus. The wall mounted thermostats are wired to the screws located in the middle frame. Be sure to connect the cables according to the engraving in the middle frame.

3.6.3. Wired Thermostat Configuration

1) **Language**
   You may select one of the three languages available for the interface.
   - Español
   - English (Default)
   - Français

2) **Select Zone**
   It is now required to define the zone number associated with this thermostat. Each zone is associated with a control outlet. Zone 1 controls damper 1, zone 2 controls damper 2, and so on for up to 6 zones in the system.

3) **Zone subordinate (subordinate damper)**
   If needed, the system allows associating more than one damper with a single zone. This allows managing dampers from the thermostat that is being configured. Select No if there is no need to associate an additional damper with a zone.
   Select Link if one or more additional dampers are needed for a zone. Repeat this process to associate the outlets as needed. The screen will indicate the number of subordinate dampers associated with the zone.
Thermostat type

Each DZK system must have one Wired Thermostat configured as Master.

The thermostat’s capabilities are determined by how it is configured:

- **Master thermostat**: Controls the system and zone parameters, operation mode, Time schedule programming, and AC configuration.
- **Zone thermostat**: Controls the local temperature and activation/deactivation of scheduled temperatures, and local ventilation.

Given that only one thermostat can be configured as Master, this parameter will not appear for selection if one thermostat in the system was already configured as Master.

*Thermostat reset*: If there was some error in the initial configuration process and it is required to make changes, follow the steps described on page 29.

### 3.7. Wireless Thermostat

#### 3.7.1. Installation

Wireless thermostats are only available for wall mount. The maximum distance between the Zoning box control board and the wireless thermostat in clear line of sight is 164 ft (50m).

To mount the thermostat on the wall, take the following steps:

- Disassemble the thermostat in three parts as shown in the following figures. To split the frame from the base, use the edge of a coin. Do not use any sharp object.
- Affix the wall plate to the wall using screws and anchors according with the wall material.
- Reassemble the front frame to the base as shown in the following figure:

---

**Important**

Perform the pairing of thermostat in their final location. Distances less than 18 inches between the thermostat and the control board can saturate the receivers and make the pairing impossible.
3.7.2. Wireless Thermostat Configuration
Before installing a Wireless thermostat, install the batteries in the thermostat.

To activate Zone search
From the Home Screen of Wired Thermostat:
- Press \( \text{[Configuration]} \) to access Configuration menu.
- Press Settings.
- Press Configuration.
- Press Enter on the advertisement screen.
- Press Zone search to access.
- Press On to activate.
- Press \( \text{[Zone search]} \) to confirm the value.

When you finish the association, turn it OFF to close the zone search.

Zone ID
- Press \( \text{[Zone ID]} \) to change the value.
- Press \( \text{[Zone ID]} \) to confirm the value.

1) Zone search \( 5\text{CRA}\n\)
In order to pair the thermostats in the system, it is first necessary to open the pairing protocol process. To open this protocol, you must activate the zone search.
After initiating the pairing sequence, it will remain active for 15 minutes to pair all thermostats.
The Wireless Thermostat will display the letters \( 5\text{CRA}\n\). Press and hold the \( \text{AIRZONE} \) icon until the zone selection menu displays \( 2\text{onE} \).

2) Zone selection \( 2\text{onE} \)
In this stage the zone number has to be assigned to the thermostat. Each zone corresponds to a zone damper.
The default menu displays the lowest available zone number. The menu displays the zones that are not assigned to other thermostats.
If the menu displays \( 2\text{onE} 0 \), all zones are associated and there are not any free zones.
3) Subordinate damper $dE_P$

The system allows a zone to be associated with more than one damper, if needed. This allows the control of several outlets from the same thermostat.

- $\mathit{NO}$. (Default) This option indicates that no subordinate damper is required to be associated with the zone.

- $\mathit{ASOC}$. If more than one damper is required, then the thermostat will display the first damper number available for association.

Repeat this process to associate the dampers that are needed. At the top of the specific thermostat, a display indicates the number of dependent dampers associated to the zone.

*Thermostat reset:* If there was some error in the initial configuration process and changes are required, follow the steps described on page 31.
4. ADVANCED CONFIGURATION

4.1. Wired Thermostat

4.1.1. Wired Thermostat Configuration Menu

Besides the quick configuration menu, the system has a number of configuration parameters to complete the installation.

To access the configuration menu of the Wired thermostat, from the main screen, press the icon and select the option Setting. In this menu select Configuration, a pop up warning message appears to alert you that it is exclusive for installers. Please, enter the pattern below to access the configuration menu:

- System ID: (Only set in Heat Pump Changeover master installations)
  This option allows the installer to define the number of this DZK system within the whole installation. By default the value is 1. The system displays the free address values with a maximum value of 16.
  *Note: If you have a BACnet interface board, this parameter is not displayed and the address of the system is 1.

- Zone ID: This option displays the address associated with the zone of the thermostat.

  Wired Thermostat reset: If the value 0 is selected it will reset the thermostat and damper associated, leaving them free for a new configuration. The thermostat returns to the first screen where the association process can begin again.

- Subordinate: It shows secondary control dampers associated with this thermostat. You have the following selection options:

  - Look up: Displays the secondary dampers associated to the thermostat. Use to display the associated zones. If NO is displayed, this thermostat has no associated secondary control dampers.
- **Link:** Allow associate secondary dampers to the thermostat.
  
  Press **Link** to activate this option. Use ▼ ▷ to select the dampers to associate and then press ▸ to confirm. Repeat this process to associate the dampers required. If **NO** is displayed, no available zones are available to associate.

- **Release:** Release a secondary damper associated to the thermostat. Press **Release** to activate this option. Use ▼ ▷ to select the damper to associate and then press ▸ to confirm. If **NO** is displayed, there is no secondary damper associated to release.

- **Thermostat type:** This option shows whether the Wired Thermostat is configured as **Master** or **Zone**.

- **Temperature SP range:** This menu allows you to change the maximum set point temperature for heating mode [86°F - 66°F] and minimum temperature in cooling mode temperature [64°F - 78°F]. If you want to disable any of the modes, select **OFF** and the mode will be disabled for the user. By default the system has the maximum temperature in 86°F for heating and minimum temperature of 64°F for cooling.

- **Air flow:** This menu allows you to enable or disable the modulating system dampers. Proportionality graduated in four steps, the opening or closing of the damper is based on the demand for zone temperature to adjust the flow rate. By default the dampers are set for **On /Off**. To activate the modulation, press **Modulating** and confirm.
  
  The next screen will request to enter the **Damper position**. Enter the position of the Air flow adjustment - Average Flow lever – of each damper to ensure the correct operation of the modulating functionality.

  - Press on the damper to configure.
  - Select the REG Lever.

  Repeat this process for all and each dampers and confirm with the right arrow.
  
  When confirming a new screen with a summary of each damper position will come up. If everything is correct, confirm again.

**Keep in mind**

- Press the parameter to change or be selected.
- Use ▼ ▷ to select the value.
- Press ▸ to confirm.
- Press ◀ to go back or exit to previous menu.
- Press ✕ to return to main menu or Home Screen.

**Airflow**

This parameter applies to all motorized dampers in the system.

**Damper Position**

To know about Air flow adjustment - Average Flow. See on page 17.
Keep in mind
- Press the parameter to change or be selected.
- Use \( \uparrow \) to select the value.
- Press \( \downarrow \) to confirm.
- Press \( \leftarrow \) to go back or exit to previous menu.
- Press \( \times \) to return to main menu or Home Screen.

- **Supply temp**: This option allows the system demand to be ignored if the supply temperature exceeds a certain limit. The system selects as cutting heat temperature 100-114-129-143-158ºF. By default the system will cut the heating when the temperature reaches 129ºF.

- **Zone search**: This option allows you to open wireless channel association for connecting Wireless Thermostat to the Zoning box control board.
  - **On**: The wireless channel is open for 15 minutes.
  - **Off**: The wireless channel is closed.

- **Disable program**: The system allows you to disable the time schedule programming functions and enables Sleep Mode (Only in DZK version 1) in the zone for the user.
  - **On**: The time programs and sleep mode are enabled.
  - **Off**: The time programs and sleep mode are disabled.

- **Information**: This option provides useful information in the system:
  - **Ambient temp**: Displays room temperatures for each of the zones in a system. Select the zone you wish to display using \( \uparrow \) \( \downarrow \).
  - **Devices**: Provides a detailed list of the various devices installed in the system: Wireless thermostats, wired thermostats, Wired Thermostat (Graphic TT), Gateway (board-enabled Daikin interface), and wireless channel.
  - **Firmware**: The information displayed for the system check: Wired Thermostat and Zoning box control board firmware.

- **Q-Adapt**: This option allows the user to select the system velocity map adequate for the installation. The available options are:
  - **Q-Power**: Promotes increased flow in the velocity map.
  - **Q-Standard**: Default configuration.
  - **Q-Silence**: Noise reduction.
  - **Q-Minimum**: The indoor unit fan coil works at minimum speed.
  - **Q-Maximum**: The Indoor unit fan coil works at maximum speed.
• **Offset**: This option allows the user to apply an offset to the room temperature reading. The offset range goes from -5°F to +5°F. The default value is 0°F. This offset will be applied immediately on the room temperature of the zone.

• **Weight**: With this option you can set the weight of the zone. The weight of the zone will be used for calculating the mode (auto-change over) or for calculating heat demands if auxiliary heat. It is an indicator of the size / importance of the zone. Possible values range from 0-100. The default value is 100 / Number zones.

• **Setback**: Unoccupied time schedule programming is determined by two settings:
  - **Disable**: If the default demand temperature is surpass by the differential defined, the area will cease the demand. Range: 2°F to 7°F. By default 4°F.
  - **Override Time**: Is the time that the zone will enter in occupied mode when the user touches the thermostat screen during an unoccupied period. [10-120] minutes, 60 minutes by default.

• **Auxiliary Heat**: The operation of auxiliary heat is influenced by several parameters:

  - **Auxiliary heat (1)**
    - Defines how many stages of auxiliary heat a system has.
    - Possible values are 0, 1, and 2, with a default of 0.
      - **0**: There is no auxiliary heat. The system works only with the heat pump. If set to 0, Emergency Heat mode will not be available.
      - **1**: One-Stage Auxiliary Heat.
      - **2**: Two-Stage Auxiliary Heat.

    - First Supply Heat. If the setting for Auxiliary heat is 1 or 2, then the first system to supply heat must be defined as either:
      - **Heat Pump.**
      - **Aux. Heat.**

*Note (Only in DZK version 2)*: If the auxiliary heat is electrical and the installation is heat pump type, then the first to supply heat must be Heat Pump in the DZK master system.

*Note (Only in DZK version 1)*: If the auxiliary heat is electrical and the installation has a Heat Pump changeover master, then the first to supply heat must be set to be the Heat Pump.

---

Keep in mind

*If the setting is not confirmed with the continue button, the new setting will not be saved.*
- **Auxiliary Heat (2), Fan Configuration**: In the second screen configuration, there are the following parameters:
  - **Heating device**: Defines if the ID unit fan must be active during the auxiliary heat operation.
    - *Electric* (Fan ON)
    - *Furnace* (Fan OFF)
  - **Fan delay (sec)**: Defines the delay time (in seconds) to turn off the fan. Possible values are 0, 45, 60 and 120.

- **Auxiliary Heat (3), First Stage Activation**: the user must define three parameters:
  - **First Stage Differential**: Temperature the system has to surpass to activate the first stage of auxiliary heat. Values [2-10] °F, by default 2°F.
  - **First stage hysteresis**: Defines the hysteresis for the operation of the first stage. Range: 1°F to First Stage differential value still 6°F at maximum. By default 1°F.
  - **Min time exhausted**: Minimum time that the Heat Pump must be active before the first stage of auxiliary heat can be activated. Values [0-120] minutes, by default, 30 minutes.

- **Auxiliary Heat (4), Second stage activation**: the user must define three parameters:
  - **Second stage differential**: Temperature the system has to surpass to activate the second stage of heating. Values [2-10] °F, by default 2°F.
  - **Second stage hysteresis**: Defines the hysteresis for the operation of the second stage. Range: 1°F to Second Stage differential value still 6°F at maximum. By default 1°F.
  - **Minimum time exhausted**: Minimum time that the first stage must be active before the second stage of auxiliary heat can be activated. Values [0-120] minutes, by default, 30 minutes.

- **Autochange**: This option of the configuration menu, the user sets the three values that define the operation of the auto-changeover.
  - **Set point Differential**: Minimum differential between heating and cooling set points.
For example, if set 2°F, the system will force the cooling set point at least two degrees higher than the heat. Values [0-7]°F, by default 2°F.

- **Mode Switching Protection**: Minimum run time before allowing a mode change. Values [15-90] mins, by default 30 mins.

- **Heat OVR Temp**: If a zone has a higher heat demand than this temperature, the system reverts heating operation, even though the cooling global demand exceeds the heat demand. Possible values are: Not applicable, [3 to 8] °F in steps of 1°F. Default value: Not applicable.

- **BACNET**: This parameter displays the ID Device, the uplink port, the IP address, the subnet mask and the Gateway IP and allows you to modify them. Press on the value you want to change, modify it and then press to confirm. The values by default are:
  - Port: 47808
  - IP Address: 192.168.1.100
  - Subnet Mask: 255.255.255.0
  - Gateway IP: 192.168.1.1

*Note: In case of system reset, it will return to default values.*

### 4.1.2. Interface Menu

This menu allows the user to modify several options related to the Wired Thermostat controller interface.

**Brightness**

- Select the screen brightness for both active modes.
- Select the standby mode (**Off** or **Bright**).

**Date & Time**

Select Date:
- Select current day, month and year.

Select time:
- Select current time.
- Select a 12-hour (AM/PM) or 24-hour time format.
- Enable or disable daylight savings.

**Language**

Select among 3 languages:
- **Español**
- **English** (**default**)  
- **Français**
Keep in mind
- Press the parameter to change or be selected.
- Use ▼ ▼ to select the value.
- Press ▼ to confirm.
- Press ▼ to go back or exit to previous menu.

Beeping
Select the beeping sound mode:
- Sound ON (default)
- Sound OFF

4.1.3. User Settings
On this menu the user will be able to configure some parameters:

Units
Select temperatures to be displayed:
- °C (Celsius)
- °F (Fahrenheit)

Vacation
The Vacation mode feature helps you conserve energy while you are away for extended periods of time. Select type of Vacation mode:
- System. Active (On) or deactivate (Off) vacation mode to all zones in the system.
- Zone. Active (On) or deactivate (Off) vacation mode to the current zone. Display the set temperatures:
  - Heat. Select 52-57-62°F. (In DZK version 1 select 52-54-56°F)
  - Cool. Select 83-88-93°F. (In DZK version 1 select 89-91-93°F.)

Global Ventilation
Global Ventilation allows to activate the ventilation in all zones system during the system inactivity periods.
Select Status.
- NO: Disables Global ventilation.
- YES: Enables Global ventilation.
  - Every (mins). Length of the interval between periods of ventilation. (In minutes)
  - Run for (mins). Duration of ventilation. (In minutes)

Local Ventilation
Local ventilation allows activate the ventilation in the Wired Thermostat zone during the system inactivity periods.
Select Status:
- On: Enables Local ventilation.
- Off: Disables Local ventilation.

Important: In Heat Pump installations, it is recommended not to activate the global and local ventilation in a DZK zoning box connected to the master indoor unit. It may impose the Stop mode to the rest of the DZK zoning box.
4.2. Wireless Thermostat

4.2.1. Access to the Configuration Menu
To access the advanced setup menu, the Wireless Thermostat must be off by pressing the ON/OFF icon.

- On the Home Screen, press the AIRZONE icon until the test screen is displayed.
- Upon releasing the AIRZONE icon, the zone temperature will be displayed.
- At this time, press and hold again the AIRZONE icon until the first parameter is displayed.

From this menu, press 0 to return to the stand-by screen.

Keep in mind
- Press AIRZONE to access to the menu. The value is blinking when it is enable to edit.
- Press 0 to go back.
- Press ▲▼ to select the value.
- Press AIRZONE to edit a value or confirm.

4.2.2. Configuration Menu
Besides the quick configuration menu, the system has a number of configuration parameters required to complete the installation. The following configurations are available:

- Zone ID: This option displays the address associated with the zone of the thermostat.

Wireless Thermostat reset: If the value 0 is selected, the thermostat and its associated damper(s) will reset, freeing them for a new configuration. The thermostat then returns to the first screen to allow you to start the association process again.
• **dEP Subordinate dampers**: Show the dampers associated to the thermostat.

**Look up**: Displays the secondary dampers associated to the thermostat.
- Press AIRZONE to see all the subordinate dampers associated to current thermostat. The values begin blinking.
- Use the arrows ▲▼ to change values.

If it displays n0, indicates that the thermostat has no damper associated to it.

**Link**: Allow associate secondary dampers to the thermostat. The value then blinks.
- Use the arrows ▲▼ to select R5a.
- Press AIRZONE to access link menu which then displays. Displays R5aC and the damper numbers available for association.
- Use the arrows ▲▼ to select the value.
- Press AIRZONE to confirm the value which displays n0.

Repeat this process to associate the dampers you need.
Press AIRZONE with value n0 to end the association and the screen returns to the Look-up menu.

**Release**: Release a secondary damper associated to the thermostat. The value then blinks.
- Use the arrows ▲▼ to select the value.
- Press AIRZONE to access the release menu which then displays rL5. Use the arrows ▲▼ to select YES to release or NO to cancel the release.
- Press AIRZONE to confirm the value and return to the Look-up menu.
• **INFO System information:** This option provides useful information about the system.

- **宜 Room temperature:** This option displays room temperature for each zone.
  - Press  **AIRZONE**  access.
  - Use the arrows  ▲▼  to navigate the room temperatures for each remote zone  rETO 1.

- **LEUJL Radio Level:** This option shows the receiving signal power in percentages “85”.
  If  --  appears in the screen, there is no radio reception.

- **boteca Battery level:** Displays battery level of the thermostat in percentages.

- **DEU5 Device’s System:** Provides a detailed list of the devices installed in the system: Wireless thermostats, Wired thermostats, Daikin interface, and wireless channel.
  To access, touch  **AIRZONE**  and use the arrows  ▲▼  to navigate through the different devices.
  - **EE r:** Number of Wireless thermostats connected to the Zoning box control board.
  - **EE C:** Number of wired thermostats connected to the Zoning box control board. (N/A)
  - **EEBF:** Wired Thermostat connected to the Zoning box control board.
  - **CHAη:** Wireless communication channel. Between 0 to 2.
  - **GUY:** When  **Mc**  is displayed, the Daikin Interface Board is enabled on the zoning box control board.

- **FIR Firmware:** The information displayed for the system check such as the current thermostat and Zoning box control board firmware:
  - **CSFU:** Zoning box control board firmware version.
  - **2TFFU:** Wireless Thermostat firmware version.

---

**Keep in mind:**
- Press  **AIRZONE**  to access to menu. The value blinks when editing is available.
- Press  **O**  to go back.
- Press  ▲▼  to select the value.
- Press  **AIRZONE**  to edit a value or confirm.
Keep in mind
- Press IRZONE to access to menu. The value blinks when editing is available.
- Press to go back.
- Press to select the value.
- Press IRZONE to edit a value or confirm.

- **Offset**: This option allows the user to apply an offset to the room temperature reading. The offset range goes from -5°F to +5 °F. The default value is 0. This offset will be applied immediately on the room temperature of the zone.

- **Weight**: With this option the installer can set the weight of the zone. The weight of the zone is used to calculate the mode (auto change) or to calculate the heat demands when the auxiliary heat is active. It is an indicator of the size/importance of the zone. Possible values range from 0-100. The default value is 100 zones.

---

### 4.2.3. User Settings

This section describes how to configure user settings.

#### Units

Select temperatures to be displayed.

- C. Celsius
- F. Fahrenheit

#### Vacation status

The Vacation mode feature helps you conserve energy while you are away for extended periods of time. It also ensures your home is comfortable when you return.

Select status:

- **On**. Enable
- **OFF**. Disable

#### Vacation set point temperatures

Select the set temperatures:

- **Heat**. Select 52-57-62°F. *(In DZK version 1 select 52-54-56°F)*
- **Cool**. Select 83-88-93°F. *(In DZK version 1 select 83-89-93°F)*

#### Time schedule programming disable

The system allows disabling functionality for zone-scheduled temperature settings. To access the advanced setup menu the Wireless Thermostat zone must be off by pressing the ON/OFF icon.
On the Home screen, press and hold the highlighted area in the following figure to access.

To confirm the change, touch the icon to select the new setting and once again to go back to the standby screen.

**Time schedule programming enable**
To enable this option, press and hold the highlighted area in the following figure to access the ON screen.

To confirm the change, touch the icon to select the new setting and once again to return to the stand-by screen.
5. COMMISSIONING STEPS

5.1. Turn on power to all systems

Wired Thermostat. Verify that the device boots up (square clock icon will display temporarily). After a few seconds the configuration screen is displayed.

Configuration screen of the Wired Thermostat

Main Control Board. Verify that the LEDs status is correct.

Correct LEDs status

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Normal status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Receive data from BMS (BACnet) connector</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D2</td>
<td>Transmit data to BMS (BACnet) connector</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D3</td>
<td>Control Board Internal Bus Activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D4</td>
<td>Transmit data in the expansion bus</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D5</td>
<td>Receive data in the expansion bus</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D11</td>
<td>Power supply</td>
<td>Fixed</td>
<td>Red</td>
</tr>
</tbody>
</table>
Daikin interface Board. Verify that the LEDs status is correct.

Correct LEDs status

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Normal status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Daikin Interface board power supply</td>
<td>Fixed</td>
<td>Red</td>
</tr>
<tr>
<td>D2</td>
<td>Daikin Interface board internal bus activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D3</td>
<td>Data transmission to the DZK system</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D4</td>
<td>Data reception from the DZK system</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D5</td>
<td>Data transmission to DAIKIN thermostat</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D6</td>
<td>Data reception from DAIKIN thermostat</td>
<td>Blinking</td>
<td>Green</td>
</tr>
</tbody>
</table>

Wireless Thermostat. Verify the word **Scan** is displayed on the screen.

Wireless Thermostat during scanning
5.2. Communications with the Indoor unit – Modes / Temperature

- Check that the Navigation Controller receives the operating mode change from the zoning system. To verify that, change the operating mode on the Wired thermostat and verify that the new mode appears in the Navigation Controller.

![DZK Wired Thermostat and Daikin navigation controller]

- Check that the Daikin thermostat receives the temperature changes from the zoning system. To do this, deactivate all thermostats but the Wired thermostat. Change the wired thermostat set point, and verify that the set point in the Daikin thermostat follows the specified set point changes.

![DZK Wired Thermostat and Daikin navigation controller]
5.3. Zone assignment

- Activate every thermostat, one at a time, and set it for demand by pressing Select mode > Remote zone (see the section Remote Zone Control from the User’s Manual). Verify that the zone where the thermostat is located is receiving air. Change the set point to eliminate the demand, and verify that the airflow stops.

5.4. Q-Adapt level selection

- Check the change of the fan speed depending on the number of demand zones in the Q-Standard.

- Remember that the Q-Adapt function is available in the Main wired thermostat to adapt the velocity map according to the installation requirements.

<table>
<thead>
<tr>
<th>Nº Zones</th>
<th>Zones calling demand</th>
<th>Q-Minimum</th>
<th>Q-Silence</th>
<th>Q-Standard</th>
<th>Q-Power</th>
<th>Q-Maximum</th>
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<tbody>
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<td>High</td>
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<td>1</td>
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<td>High</td>
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<td>4</td>
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<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Fan speed depending on the number of demand zones
### 3 speeds indoor unit

<table>
<thead>
<tr>
<th>Nº Zones</th>
<th>Zones calling demand</th>
<th>Q-Minimum</th>
<th>Q-Silence</th>
<th>Q-Standard</th>
<th>Q-Power</th>
<th>Q-Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>6</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Fan speed depending on the number of demand zones

- Check with an anemometer that the air supply to each zone is the desired amount. Verify the airflow with all zones open, and also individually with each zone open.

- Before adjusting mechanically the maximum opening (REG), ensure that the zone damper is closed. To do this turn off the zone to be adjusted while keeping any other zone calling demand (See User’s Manual).
5.5. Other configuration parameters

- If the installation has Auxiliary Heat, verify that it is correctly installed and configured. Verify that the Operation Mode menu displays Emergency Heat as an option.

![Operation Mode menu](image)

- If you use Auxiliary Heat check the relays operation in the zoning box control board to ensure it is working properly (first H1, then H2). To verify, set the system calling demand for heat and keep in mind that there is an activation delay.

- Turn the system off and verify that H1 and H2 are disabled.

![Auxiliary Heat connectors and indicators](image)

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Aux. Heat Status</th>
<th>Normal status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D6</td>
<td>1st Stage Aux. Heat</td>
<td>On</td>
<td>On</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off</td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td>D7</td>
<td>2nd Stage Aux. Heat</td>
<td>On</td>
<td>On</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off</td>
<td>Off</td>
<td></td>
</tr>
</tbody>
</table>

Relays operation of the zoning box control
6. EXCEPTION CODES
In the event of Zoning system alerts, the system displays an error code on the home screen of the thermostat where the error is detected. If there is an alert originated by the Daikin Unit, the Wired thermostat displays an error text and an exclamation mark on the help icon until the problem has been solved.

Review the message with the Daikin Unit documentation and solve the issue according to Daikin recommendations.

List of DZK zoning box system alerts
Your Wired Thermostat can generate the following alert messages:

- **UnOC - Unoccupied.** The Setback time program is active. If you touch on the Home screen, it will deactivate the setback program and return to occupancy set point during the override time.

- **ECO - Eco limit.** The user has tried to exceed the Eco-Adapt temperature limit. If required, disable the Eco-Adapt to set the desired temperature.

- **OvEr - Override.** The override time is active. When the override time has finished, the system returns to its previous status.

- **uRcR - Vacation.** The vacation mode is active.

- **Err 1 - DZK 1.** Communication error between Wired/Wireless Thermostat and the Control Board. This error blocks the thermostat.

  **Corrective actions:**
  - Verify the status of the Zoning box control board.
  - Verify the connections and the wiring between the Zoning box control board and the Wired Thermostat.
  - Verify the radio communications between the Wireless Thermostat and the Zoning box control board.

- **Err 5 - Error 5.** Remote temperature sensor assigned to the thermostat is open.

- **Err 6 - Error 6.** Remote temperature sensor assigned to the thermostat is short circuited.
Err9 - Error 9. Air-conditioning communication error with the system. The system opens every motorized outlet and control from the air-conditioning controller is enabled.

Corrective actions:
- Verify the Daikin Interface board status.
- Verify the wiring connection between the Daikin Interface Unit and the Daikin Indoor unit.

Error 10 (Only in the Wired thermostat). DZK BACnet Interface board communication error with the system. Check the connection from the DZK BACnet Interface board to the main control board.

Error 11 (Only in the Wired thermostat). Communication error between the AC indoor unit and the system.

7. AUTO DIAGNOSTICS
7.1. Zoning box control board
The Zoning box Control Board has integrated LED’s that provide information of abnormal conditions.

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Normal Status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Receive data from BMS (BACnet) connector</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D2</td>
<td>Transmit data to BMS (BACnet) connector</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D3</td>
<td>Control Board Internal Bus Activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D4</td>
<td>Transmit data to Wired Thermostat</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D5</td>
<td>Receive data from Wired Thermostat</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D6</td>
<td>1st Stage Aux. Heat Activated</td>
<td>Fixed</td>
<td>Green</td>
</tr>
<tr>
<td>D7</td>
<td>2nd Stage Aux. Heat Activated</td>
<td>Fixed</td>
<td>Green</td>
</tr>
<tr>
<td>D10</td>
<td>Packet radio reception</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D11</td>
<td>Power supply</td>
<td>Fixed</td>
<td>Red</td>
</tr>
<tr>
<td>D18</td>
<td>Wireless Thermostat associated</td>
<td>Fixed</td>
<td>Green</td>
</tr>
<tr>
<td>D19</td>
<td>Radio link active</td>
<td>Fixed</td>
<td>Red</td>
</tr>
</tbody>
</table>
7.2. Daikin Interface Board

Daikin’s interface board has integrated LED’s that provide information about abnormal conditions.

### LED Indication Table

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Normal Status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Interface power supply</td>
<td>Fixed</td>
<td>Red</td>
</tr>
<tr>
<td>D2</td>
<td>Daikin Board Internal Bus Activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D3</td>
<td>Data transmission to Zoning box control board</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D4</td>
<td>Data reception from Zoning box control board</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D5</td>
<td>Data transmission to Daikin navigation controller</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>D6</td>
<td>Data reception from Daikin navigation controller</td>
<td>Blinking</td>
<td>Green</td>
</tr>
</tbody>
</table>

1) **Power Supply LED (D1) is not ON**
   - Verify the AC Unit Power Supply.
   - Verify the correct connection between the Daikin Indoor unit and the Daikin interface board.

2) **Microcontroller Activity LED (D2) does not blink**
   - Contact Technical Support.

3) **Zoning box control board Communication LED’s (D3/D4) does not blink**
   - Check the connection between the Daikin Interface board and the Zoning box control board.

4) **Indoor AC Unit Communication LED’s (D5/D6) do not blink**
   - Check the correct connection between the Daikin Indoor unit and the Daikin interface board.
7.3. BACnet Interface board

The BACnet Interface board have integrated LEDs that detect unusual operations.

<table>
<thead>
<tr>
<th>Ref</th>
<th>LED indication</th>
<th>Normal status</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>U3</td>
<td>Ethernet data reception</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>U4</td>
<td>Ethernet data transmission</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>U5</td>
<td>Automation bus data transmission</td>
<td>Blinking</td>
<td>Red</td>
</tr>
<tr>
<td>U6</td>
<td>Automation bus data reception</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>U66</td>
<td>Micro controller activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
<tr>
<td>D</td>
<td>Ethernet connected</td>
<td>Fixed</td>
<td>Yellow</td>
</tr>
<tr>
<td>E</td>
<td>Ethernet activity</td>
<td>Blinking</td>
<td>Green</td>
</tr>
</tbody>
</table>

1) All LEDs flashing

- It indicates the IP selected for the DZK BACnet Interface board is already being used by other device. Access settings (See on page 33) and change the parameter IP Address.
8. NAVIGATION GUIDE

8.1. Wired Thermostat navigation guide

**Note:** Sleep mode only in DZK version 1.
8.2. Wireless Thermostat navigation guide

**Note:** Sleep mode only in DZK version 1.
Turn Off the room.
Long press on Airzone icon to EEPROM value.
Long press again on Airzone icon till display Zone.

Zone - Zone ID
dEP - Subordinate dampers
InfO - System information
OFSt - Offset
PErC - Weight

INFO

RAt - Ambient temperature
LRAt - Radio level
bAt - Battery level
dEdS - Device’s System
Firm - Firmware
9. TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Item</th>
<th>Symptom</th>
<th>Verification/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wired Thermostat does not light up</td>
<td>Verify the cable connection between the Wired thermostat and the Control Board. See on page 21. Never use solid wire for this connection. Verify that the elastic contacts in the base of the thermostat are securely fastened to the circuit board. To ensure this contact, slightly bend forward the contacts. See on page 28. Verify that the voltages between the + and – contacts in the thermostat base are 12VDC. Se on page 29. The zone controlled from the wired thermostat cannot be remotely accessed. After 45 minutes, its damper(s) will open and remain open until the problem is fixed. From any other zone thermostat, accessing the remote zones by selecting RLL will allow you to change the Operation Mode until the Wired Thermostat returns to normal operation. See the User manual. If the thermostat is replaced, only perform the initial configuration. All other parameters and settings will be recovered automatically from the Control Board. See on page 29.</td>
</tr>
<tr>
<td>2</td>
<td>Wireless thermostat does not work</td>
<td>Verify polarity and power level of the batteries. See on page 31. The zone controlled from the wireless thermostat cannot be remotely accessed. After 45 minutes, its damper(s) will open and remain open until the problem is fixed. If the thermostat is replaced, only perform the initial configuration. All other parameters and settings will be recovered automatically from the Control Board. See on page 31. Reset the thermostat, link it up, and thereafter perform an initial configuration.</td>
</tr>
<tr>
<td>3</td>
<td>After a power failure, Err 1 appears in the WTs</td>
<td>The Wireless thermostats can take up to 5 minutes to update the screen. Touch the screen to force an immediate update.</td>
</tr>
<tr>
<td>4</td>
<td>The AC unit does not start even if everything is OK. After setting the mode to COOL, the Wired Thermostat shows STOP</td>
<td>Verify that there is a jumper between the contacts of the Alarm connector. See on page 20. Verify that the Indoor Unit is powered on. Verify that the Daikin Communication LEDs D5 and D6 located in the Daikin Interface board mounted over the Control Board are blinking. See on page 53.</td>
</tr>
<tr>
<td>5</td>
<td>When accessing remote zones, one of them is not listed</td>
<td>Verify that the thermostat of the zone missing is working correctly. To this end, activate/deactivate the zone and check that the damper opens/closes correctly.</td>
</tr>
<tr>
<td>Item</td>
<td>Symptom</td>
<td>Verification/Action</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>6</td>
<td>The Wireless Thermostat displays all zones but its own</td>
<td>When trying to remote access other zones, the Wireless Thermostat will not display its own zone.</td>
</tr>
<tr>
<td>7</td>
<td>LED D3 in the Control Board is not blinking</td>
<td>Verify that the Control Board is powered. See on page 19. If the power LED (D11) is on, the Control Board is faulty. See on page 52.</td>
</tr>
<tr>
<td>8</td>
<td>LED D5 in the Control Board is not blinking</td>
<td>The board is not receiving information from the Wired Thermostat. Verify the wiring between the Wired Thermostat and the Control Board. See on page 21. Never use solid wires for this connection.</td>
</tr>
<tr>
<td></td>
<td>On activating the zone, no air is supplied to its grille(s) if the fan coil is on</td>
<td>Verify that the damper assigned to the thermostat is not blocked by the insulation stopper. See on page 16. Verify that the motor is electrically connected properly. There is a connection at about 4 inches from the actuator. See on page 20. Verify in the actuator connection indicated above, that when demand is created from the thermostat, there are 12VDC between the contacts indicated above. This voltage will be present for about 5 seconds. See on page 20. Verify that the zone assigned to the thermostat is the correct one. If it is not the correct damper, proceed to reset the incorrectly assigned thermostats (See on pages 33 and 40.) and reassign to the correct zones. (See on pages 29 and 31.)</td>
</tr>
<tr>
<td>10</td>
<td>One Wireless Thermostat shows “SCAN” permanently</td>
<td>Ensure that the Zone Search is active, from the Wired thermostat. See on page 35. Verify that there are available zones. The number of available zones depends on the DZK model, despite that the thermostat can show up to 6. Verify if there is any zone that has a dependent zone. In the Remote Zone menu in the Wired Thermostat, verify which zones are installed. See the section Remote Zone Control from the User's Manual. Bring the thermostat closer to the DZK Zoning Box, and associate it with a zone. Once completed, take it back to its final location. If the thermostat shows Err 1 or the signal power is too low, the distance to the control board is too great or there is too much radio interference. There are two possible solutions to this situation: Verify by moving the thermostat within the zone to see if it gets a good connection (remember to touch the screen to update it immediately), or install a wired Wired thermostat into a configured zone.</td>
</tr>
<tr>
<td>Item</td>
<td>Symptom</td>
<td>Verification/Action</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>11</td>
<td>If one or more zones do not control the temperature</td>
<td>Verify that the Operation Mode is not STOP. See Troubleshooting – Point 4. Verify room and set point temperatures in the non-working zone thermostat to see if it is creating demand. Verify that the damper actuator is connected properly at about 4 inches from the actuator. See on page 20. Verify communications between the Daikin Interface Board and the Indoor Unit (LEDs D5 and D6 in the Daikin Interface Board). See on page 52. Verify that no ERROR number is shown on the screen. See on page 51. If D5 and D6 do not display normal behavior (constant blinking), verify the wiring between the Daikin interface Board and the Indoor Unit. See on page 22.</td>
</tr>
<tr>
<td>12</td>
<td>Battery symbol is shown</td>
<td>When the battery icon is shown on the screen, there are about 15 days left to change the thermostat batteries.</td>
</tr>
<tr>
<td>13</td>
<td>DZK 1 on the Wired Thermostat</td>
<td>If the Zoning box control board has just been powered on, DZK 1 will display on the screen until the system completes its boot process (about 30 seconds). Verify that LEDs D4 and D5 are blinking, which indicates there is communication between the Control Board and the Wired Thermostat. See on page 52. Verify the connections and the wiring between the Zoning box control Board and the Wired thermostat. See on page 28.</td>
</tr>
<tr>
<td>14</td>
<td>DZK 1 on the Wireless Thermostat (Err 1)</td>
<td>If the zoning box control board has just been powered on, DZK 1 will show on the screen until the system completes its boot process (about 30 seconds). Keep in mind that the wireless thermostat screen can take up to 5 minutes to update. However by touching its screen, it will update immediately. Verify the radio communications LEDs (D10) between the Wireless Thermostat and the Main Control Board. See on page 52.</td>
</tr>
<tr>
<td>15</td>
<td>Error 5 on the Wired &amp; Wireless Thermostat (Err 5)</td>
<td>Remote temperature sensor assigned to the thermostat is open.</td>
</tr>
<tr>
<td>16</td>
<td>Error 6 on the Wired &amp; Wireless thermostat (Err 6)</td>
<td>Remote temperature sensor assigned to the thermostat is short circuited.</td>
</tr>
<tr>
<td>Item</td>
<td>Symptom</td>
<td>Verification/Action</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>17</td>
<td>Error 9 on the Wired &amp; Wireless thermostat (\text{Err 9})</td>
<td>Verify that the Indoor Unit is powered on. Verify the Daikin Interface board LEDs status. See on page 52. Verify the wiring connection between the Daikin Interface Unit and the Daikin Indoor Unit. See on page 22.</td>
</tr>
<tr>
<td>18</td>
<td>Error 10 on the Wired thermostat</td>
<td>Verify the DZK BACnet Interface board LEDs status. See on page 54.</td>
</tr>
<tr>
<td>19</td>
<td>Error 11 on the Wired thermostat</td>
<td>Verify the wiring between Daikin indoor unit and Daikin Interface board. See on page 22.</td>
</tr>
<tr>
<td>20</td>
<td>The damper-modulating functionality does not work as expected (Airflow &gt; Modulating setting)</td>
<td>Verify that the damper REG level is located as configured in the Modulation configuration parameter. See on pages 17 and 34.</td>
</tr>
<tr>
<td>21</td>
<td>The Heat Pump Changeover Master don’t work properly (\text{Only in DZK version 1})</td>
<td>Verify that the Heat pump changeover Master is connected to the Zoning box master system. From the wired thermostat, check System ID. See on page 33. Verify the cable connection between the Heat pump changeover Master and the Zoning box master system (System ID: 1). See on page 24. Verify that the DZK Zoning box secondary have System ID: 2 to 16. From the wired thermostat, check System ID. See on page 33. Verify the cable connection between the Zoning box master DZK system (System ID: 1) and the secondary DZK Zoning box (System ID: 2 to 16). See on page 24.</td>
</tr>
<tr>
<td>22</td>
<td>In Heat mode, when trying to change to Cool mode, the thermostat returns to Heat mode (\text{Only in DZK version 1})</td>
<td>The operational mode in the installation is controlled by the Heat Pump Changeover Master. The operation mode can only be changed from the Wired thermostat of the Master DZK. The operational mode in the installation is controlled by the Daikin master controller. The operation mode can only be changed from the DZK Wired thermostat connected to Daikin master controller. (\text{Only in DZK version 2})</td>
</tr>
<tr>
<td>23</td>
<td>In Heat Pump installations, the DZK zoning box connected to a slave indoor unit, changes to Stop mode (\text{Only in DZK version 2})</td>
<td>This is caused by the incompatibility between the subordinate unit mode and the master unit. Check the master unit is not working on ventilation mode. See on page 39.</td>
</tr>
<tr>
<td>Item</td>
<td>Symptom</td>
<td>Verification/Action</td>
</tr>
<tr>
<td>------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>24</td>
<td>The global ventilation does not work as expected. There is no ventilation after all zones are satisfied (Only in DZK version 1)</td>
<td>Verify if the installation is controlled by the Heat Pump Changeover Master. If that is the case, until all zones of all interconnected DZKs are satisfied, the global ventilation will not be activated.</td>
</tr>
<tr>
<td>25</td>
<td>The local ventilation does not work as expected. There is no ventilation after all zones are satisfied (Only in DZK version 1)</td>
<td>Verify if the installation is controlled by the Heat Pump Changeover Master. If that is the case, until all zones of all interconnected DZKs are satisfied, the local ventilation will not be activated.</td>
</tr>
<tr>
<td>26</td>
<td>Defrost mode on the Indoor Unit don’t work properly</td>
<td>If the Daikin indoor unit has start/stop cycles in periods shorter than 30 minutes, set the dip switch #2 in the Dakin interface board to ON.</td>
</tr>
<tr>
<td>27</td>
<td>In the DZK BACnet Interface board, all LEDs are flashing</td>
<td>It indicates the IP selected for the DZK BACnet Interface board is already being used by other device. Access settings (See on page 33) and change the parameter IP Address.</td>
</tr>
<tr>
<td>28</td>
<td>The DZK system does not detect the BACnet Interface board</td>
<td>Verify that the LED U66 is blinking and LEDs U5 and U6 are alternately flashing. (See on page 54) If the above does not verify, check the correct connection of the gateway on the DZK control board, verifying the 4-pin connector.</td>
</tr>
<tr>
<td>29</td>
<td>The Interface for use in BACnet cannot be connected</td>
<td>Verify that LEDs U3 y U4 (see on page 54) are blinking, and those in the Ethernet connector are active. If the above is not true, check that the Ethernet cable is properly connected.</td>
</tr>
</tbody>
</table>
11. WIRING DIAGRAM - BACNET/IP INTERFACE

- Power supply 120/240 VAC
- AUX Heat - Dry contact (max 1 A@24)
- Aux Heat Stage 1
- Aux Heat Stage 2
- F1 F2 in-out VRV communication bus
- P1, P2 to indoor unit PCB
- P1, P2 to DZK-BACNET-2
- Wired Thermostat DZK-ZTS-2-W
- Wired Thermostat DZK-MTS-2-W
- 4 wired AWG 20 stranded shielded
- 2 wired AWG 18 stranded no shielded
- Ethernet CAT 4 cable
- Network switch