Operation manual

English

Français

Español

DKN Cloud Wi-Fi Adaptor

AZAI6WSCDKA
AZAI6WSCDKB
AZAI6WSPDKC

TABLE OF CONTENTS

UNIT CONTROL

From the Home screen tap on the Menu icon and select the Daikin unit to control.

Depending on the installation, the reference temperature will be measured from:

- The Indoor Unit
- The Thermostat
- Both

Setting the unit on/off

Tap on the On and Off buttons individually or by groups from the Home screen or tap the unit to access the control screen for turning on and off the zone.

Setting the set-point temperature

Adjust the set-point temperature by sliding your finger around the ring on the screen or by tapping the + and - buttons.

Setting the operating mode

The available modes, depending on the installation type, are:

Auto. Allows automatic switching between cooling and heating (Not applicable for VRV Heat pump and Multi-split systems).

Cooling. The air conditioning unit will start a cooling cycle.

Heating. The air conditioning unit will start a heating cycle.

Fan. The system works exclusively in fan mode.

Dry. The air conditioning unit will start a dehumidification cooling cycle decreasing the humidity.

Getting information from unit

Open the drop-down menu, tap on Home icon and select the Daikin unit to control.

Tap on unit information which shows the device MAC address, firmware version running and Wi-Fi signal and Modbus address.

Tap the "Ok" button to return to the previous screen.

Setting the fan-speed

Tap the fan icon to select from the available speeds.

Setting the louver

Tap the louver icon to select from the available positions.

Emergency Heat

Emergency heat forces the activation of auxiliary heat to support the heat pump even if the conditions for auxiliary heat activation are not met.
This function is only available in installations with auxiliary heat activated and set as external auxiliary heat.

1. From the drop-down menu, click on Home.

2. Click on the AC unit to access its control screen.

3. Activate or deactivated Emergency Heat.

SCHEDULES

From the Home screen tap on the Menu icon and go to Schedules.

Activating/deactivating a schedule

Tap the day of the week to see the schedule associated to that day.
Select a unit to see all the schedules associated to it.
Select a schedule and activate/deactivate it by tapping the switch within the schedule.

Creating a new schedule

From the Home screen tap on the Menu icon and go to Schedules.
Each system group can set up to 24 schedules.
Follow the steps below to set the schedule:

1. Tap the + icon in the group where the schedule is going to be created.
2. Create a name for the schedule
3. Set the starting time of the schedule.
4. Select the parameters of the schedule:
   - On and off.
   - Operation mode.
   - Set-point temperature.
   - Fan-speed.
5. Select the days of the week when the schedules will take place.
6. Assign the schedule to the units.
7. Tap the confirmation icon to save the schedule or < to go back.

Important: *The schedules do not have an automatic end time, hence it is necessary to create a schedule event to turn ON/OFF the unit.*

Editing a schedule

From the Home screen tap on the Menu icon and go to Schedules.
Follow the steps described below:

1. Tap the schedule to be edited.
2. Change the selected parameters.
3. Assign the schedule to the units.
4. Tap the confirmation icon to save the schedule or < to go back.

To delete the schedule, tap Delete Schedule.
Important*: The schedules do not have an automatic end time, hence it is necessary to create a schedule event to turn ON/OFF the unit.*

Seeing a schedule

Tap the day of the week to see the schedule associated to that day.
Select a unit to see all the schedules associated to it.
Schedules can also be seen at the Unit control menu.

Deleting a schedule

Follow the steps described below:

1. Tap the schedule to be deleted.
2. Tap Delete.
3. If you do not want to delete the schedule, tap the icon < to go back.

UNITS MANAGEMENT

Adding a unit

From the Home screen tap on the Menu icon and tap Configure Unit.
To add a new Daikin unit, tap Search units and follow the steps below.
***Important**: The Bluetooth connection must be enabled on your smartphone to add the unit.*
***Important**: Depending on your device, a notification may show up requesting access to the geolocation, confirm and continue.*

1. Select the unit from the list of available units to add.
   ***Note**: If your unit does not appear, confirm if the bluetooth function is enabled on your iOS or Android device and the DKN Cloud Wi-Fi Adaptor LED operation light is green and blinking.*
2. Tap the selected unit again to access.
3. Tap Connect to Network to choose the network to connect, select the network and enter its password.
   Note: If the Wi-Fi connected status is displayed red, please verify that the password is correct.
4. Tap Associate.
5. Set the name, group and unit icon. If there is no group, create a new one and set the name, temperature units and time zone of the group.

If the unit has already been added and it needs to be released in order to be added by other user, tap Release and enter the pin code located in the DKN Cloud Wi-Fi Adaptor.

Releasing unit

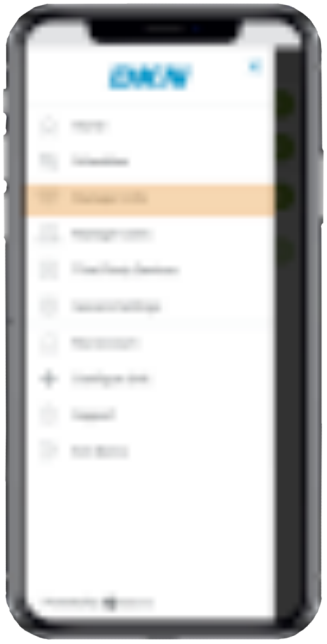
From the Home screen tap on the Menu icon and tap Configure Unit.
To find a Daikin unit, tap Search units.
***Important**: The Bluetooth connection must be enabled on your smartphone to add the unit.*
Tap Release and enter the pin code located in the DKN Cloud Wi-Fi Adaptor if required.

Changing unit network

From the Home screen tap on the Menu icon and tap Configure Unit.
To add a new Daikin unit, tap Search units and follow the steps below.
***Important**: The Bluetooth connection must be enabled on your smartphone to add the unit.*
1. Select the unit from the list of available units to add.
***Note**: If your unit does not appear, confirm the Bluetooth function of your iOS or Android is activated and the DKN Cloud Wi-Fi Adaptor LED operation light is green and blinking*
2. Tap the selected unit again to access.
3. Tap Change Network to change the network to connect, select the network and enter its password.
***Note**: If the Wi-Fi connection status is displayed red, please verify that the password is correct.*

Editing unit data

From the Home screen tap on the Menu icon and tap Manage Units.
Select the unit to be edited.
Edit the parameters: Name and Unit icon.
Tap Delete to remove the unit.
If there is no unit, tap Configure Unit and enter the following parameters:



Removing the unit from the app

From the Home screen tap on the Menu icon and tap Manage Units.
Tap the unit to be removed or restored.
Tap Delete to remove the unit.

Editing group data

From the Home screen tap on the Menu icon and tap Manage Units.
Tap the group to edit and set the following parameters:
Group parameters: Name and Time zone.
Units: Select the units which belong to the group.
Tap the confirmation icon to save changes.
Tap Delete to remove the group and unlink the units associated.

Removing a group

From the Home screen tap on the Menu icon and tap Manage Units.
Tap the group to be removed.
Tap Delete to remove the group and unlink the units associated with the app.

Configuring the Communication Protocol

The communication protocol settings menu is only available on DKN Plus devices and can only be configured in the initial association process.

1) Press Communication Protocol to access the settings menu.

2) Select Modbus or BACnet as the communication protocol the device will use.

3) You can adjust the following settings parameters for each communication protocol.

Modbus

- Modbus address: Configurable value between 1 and 256.
- Speed bps: Value selectable from among the available options.

BACnet

- MAC Address: Configurable value between 0 and 127.
- Instance Number: Configurable value between 0 to 4, 194, 302.
- Speed bps: Value selectable from among the available options.
- Max master nodes: Configurable value between 1 and 127.
- Max frames: Configurable value between 1 and 127.

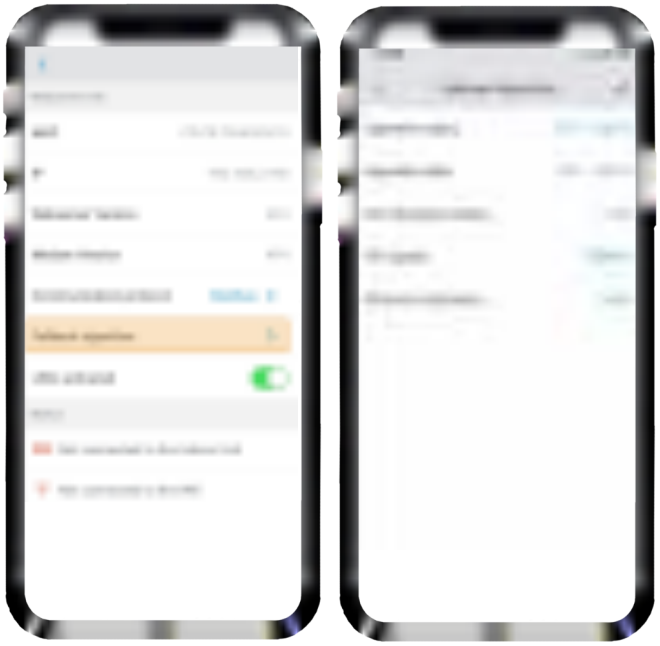
Configuring the Fallback Algorithm

The DKN+ Fallback logic enables the control of indoor unit by a thermostat using G, Y and W contacts. The DKN+ Fallback logic is available as a default until the adaptor is connected to the cloud. Once the adaptor is connected to the cloud the Fallback logic is disabled automatically.

Thermostat Command	Indoor unit Mode	Indoor unit On/Off	Indoor unit Setpoint
G	Fan	On	N/A
Y	Cool	On	Calculated by the fallback logic. Larger Alpha = Large Setpoint corrections, smaller Alpha = smaller alpha corrections.
W	Heat	On	Calculated by the fallback logic. Larger Beta = Large Setpoint corrections, smaller Beta = smaller setpoint corrections.
G,Y,W open	Last Mode	Off	N/A

The Fallback logic works by dynamically adjusting indoor unit's internal setpoint with reference to the room temperature based operation signal from the thermostat. When the adaptor is first connected to the indoor unit, the minimum cooling setpoint or maximum heating setpoint is used as initial setpoint. As the adaptor continues to receive the signal from thermostat, the new setpoint is calculated to maintain thermo-on status. The **Alpha** (cooling) and **Beta** (heating) numbers affect the calculation of new setpoint. Higher alpha or beta values cause the setpoint correction to increase or decrease by a larger amount. The alpha and beta value are fixed during commissioning by the installer.

Alpha	Beta
3°F - 1.66°C	3°F - 1.66°C
5°F - 22.78°C	5°F - 22.78°C
7°F - 3.89°C	7°F - 3.89°C



Residual Operation: Most Thermostats have a residual operation period that keeps fan (G) energized for a few seconds to few minutes to dissipate heat/cool from the unit. During this time, the unit is commanded to a high setpoint (cooling) or a low setpoint (heating) for a period of time and the fan remains operational. Once residual fan operation is stopped the unit turns Off. The residual operation time is 70 seconds by default and adjustable by the DKN App for the DKN+ adaptor. The setting should be at least 10 seconds higher than value set at the thermostat.

Fan Speed: During the fallback logic, the indoor unit will use its last fan speed set at the indoor unit. At the time of install make sure to set the desired fan speed in cooling and heating from the DKN+ or using the VRV Remote controller.

Requirements for Fallback logic.

1) The thermostat is hardwired to the DKN+ adaptor.
2) The DKN+ adaptor is not connected to the cloud.
3) The DKN+ adaptor is the P1P2 Main Remote Controller.
4) A return air temperature (R1T) sensor must be available at the indoor unit or remote temperature sensor
5) Set the field setting to enable fan operation in thermo-Off condition to the user set value at the indoor unit.
6) Set the field setting to allow indoor unit to operation with deadband of 0.9°F or 0.5°C.

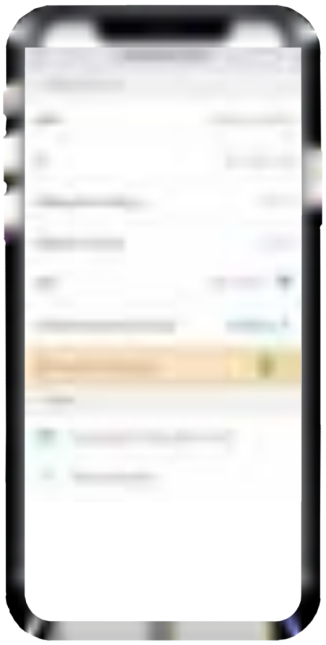
LED Settings

Select whether you want to keep the status LEDs on your DKN device working or prefer that they always remain off.

1) Press Communication Protocol to access the settings menu.

Note: The power LED will always remain on.

You can change this setting later in the Edit Unit section.



USERS MANAGEMENT

Editing my account

From the Home screen tap on the Menu icon ☰, tap My Account.

This menu allows the editing of the first and last name and e-mail of the user.

This screen enables/disables the notifications.

Tap Delete Account to delete the account. This action will prevent the user's email account from accessing the unit.

Deleting my account

From the Home screen tap on the Menu icon ☰, tap My Account.

Tap Delete Account to delete the account. This action will prevent the user's email account from accessing the unit.

Inviting a user

From the Home screen tap on the Menu icon, tap Manage Users.
Tap the + icon and set the following parameters:

Email.
User type. Advanced or Basic.
Select the units to control. Advanced users can control all the units. Basic users are only able to control allowed units.

Tap the confirmation icon.
Tap Advanced and Basic features to know the differences between advanced and basic users.

Editing user permission

From the Home screen tap on the Menu icon, tap Manage Users.

Tap the user to edit and change the parameters:

User type. Advanced or Basic.
Select the units to control. Advanced users can control all the units. Basic users are only able to control allowed units.

Tap the confirmation icon.
Tap Advanced and Basic Features know the differences between advanced and basic users.

Removing a user

From the Home screen tap on the Menu icon, tap Manage Users.
Select the user to remove.
Tap Delete to remove the access to a unit.

THIRD PARTY DEVICES (3PTI)

This option is only available on DKN Plus devices.

Linking the account of third party device

From the Home screen tap on the Menu icon , tap Third Party Devices.
To link your DKN Plus with another manufacturer, you will need to have a previously registered account.

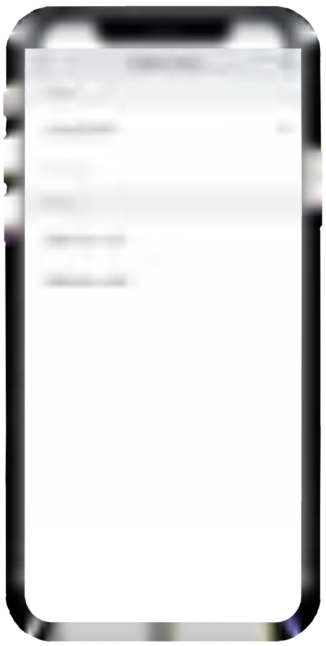
1) Press Link Account to associate your other manufacturer's account with your DKN Plus.

2) Select the manufacturer whose account you wish to associate from among the compatible manufacturers.

3) You will be redirected to the manufacturer's website to authorize the link through your user credentials.

4) Once the account has been successfully linked, a list of the thermostats linked to that user account is displayed. Select the one you wish to associate with a zone.

5) Select from the list of available zones which you wish to associate your thermostat with.

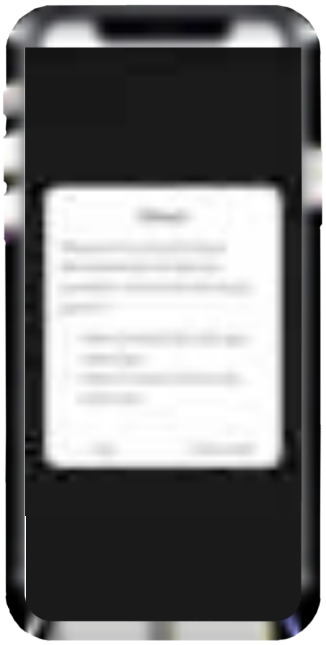


6) Finally, you must choose from the following options how the indoor unit will behave if the thermostat loses its Internet connection:

1. The indoor unit will follow the commands of the DKN Plus device.

2. The indoor unit will follow the commands of the associated smart thermostat.

Important: If you choose to have the indoor unit follow the commands of the associated smart thermostat, it is possible that when the thermostat loses the Internet connection, communications with your DKN Plus device will also be lost, preventing you from interacting with the thermostat from the application.



Unlink your DKN Plus third-party account

From the Home screen tap on the Menu icon , tap Third Party Devices.

1) Select the manufacturer whose account you wish to unlink from your installation.

2) Press the lower button Unlink account to unlink the manufacturer's account from your installation.

Changing the zone

From the Home screen tap on the Menu icon, tap Third Party Devices.

1) Select the device whose zone you wish to change.

2) Press Zone to access the list of available zones.

3) You will be redirected to the manufacturer's website to authorize the link through your user credentials.

Important: It is only possible to select a zone from those with a DKN Plus device and with no other thermostat previously associated.

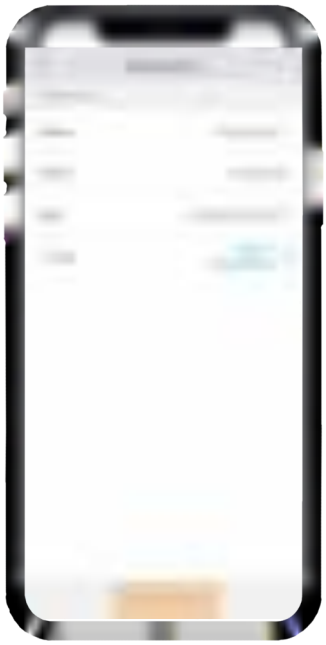
Unlinking a third party device from your DKN Plus

From the Home screen tap on the Menu icon, tap Third Party Devices.

1) Select the device you wish to unlink from your installation.

2) Press the lower button Unlink device and confirm to unlink the thermostat.

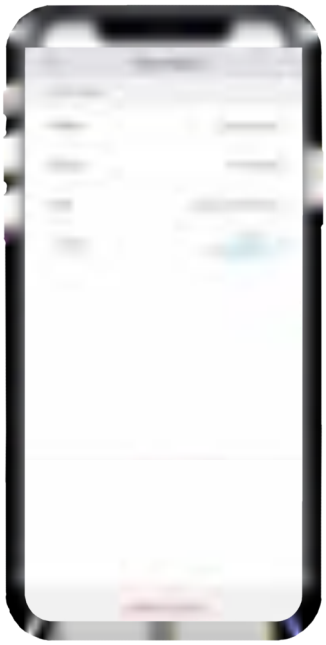
Important: When a device is unlinked it does not disappear from the list of available devices, it is unlinked from any zone to which it was associated.



Information 3PTI

From the Home screen tap on the Menu icon, tap Third Party Devices.

1) Below is a list of third party devices linked to your DKN Plus together with the zone to which each is associated. Select the device you wish to consult to access complete information.

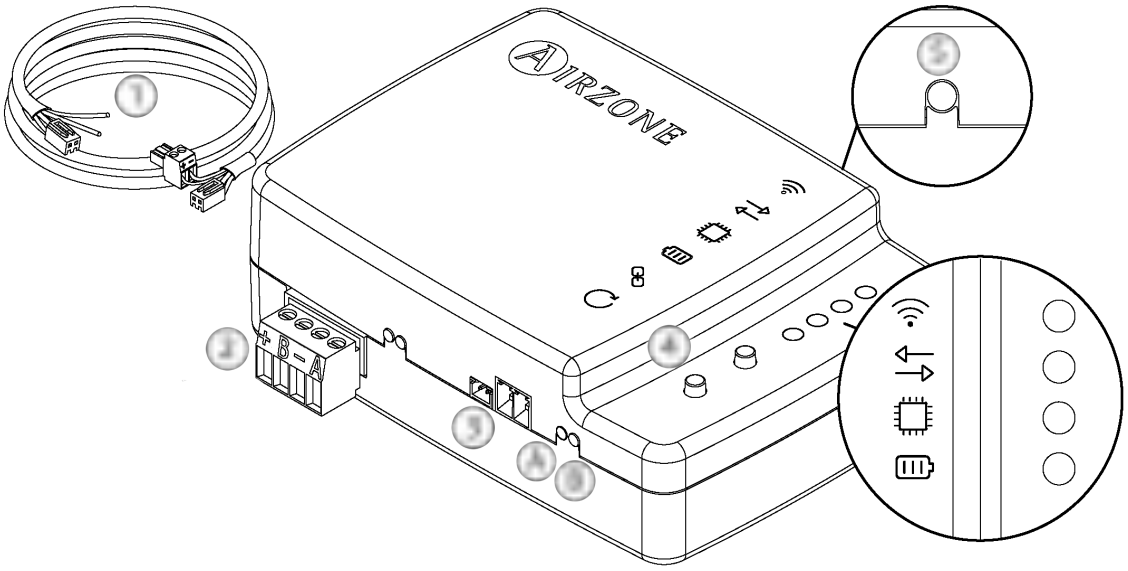


SETTINGS

Changing language

From the Home screen tap on the Menu icon.
Tap on General Settings.
Select the language to set in the app.

INSTALLATION - DKN CLOUD WI-FI ADAPTOR FOR VRV/SKYAIR (AZAI6WSCDKA)



Package content

	Meaning
	Wiring cable for power supply and P1P2 communication
	Modbus port
	Indoor unit port for wiring cable
	Wi-Fi connection reset
	Account association reset

Modbus Manual

LED Operation

The DKN Cloud Wi-Fi Adaptor have integrated LEDs that detects the operation of the device.

Depending on the LED operation, it indicates:

1. **Off**. Wi-Fi not configured.
2. **Blinking green**. Connecting to Wi-Fi network.
3. **Steady green**. Connected to Wi-Fi network.
4. **Steady blue**. Connected to the server.

Blinks red to indicate the cloud communication.

Blinks green to indicate microprocessor performance.

Stays red to indicate that the device is on.

Blinks red to indicate the data transmission to the indoor unit.

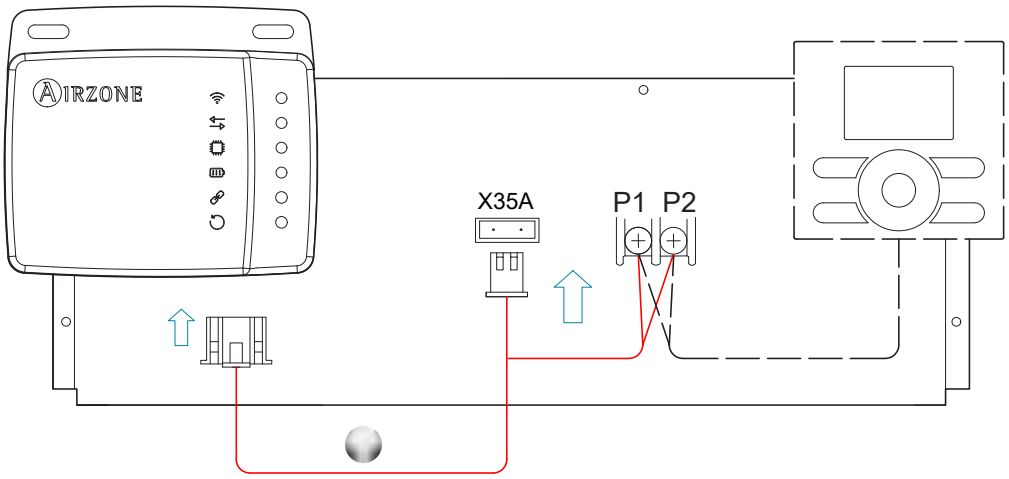
Blinks green to indicate the data reception from the indoor unit.

Connection (AZAI6WSCDKA)

The DKN Cloud Wi-Fi Adaptor for VRV/SkyAir units has 4 connecting wires: 2 for communication with the indoor unit (red and black) and 2 for the power supply. Follow these steps to connect them:

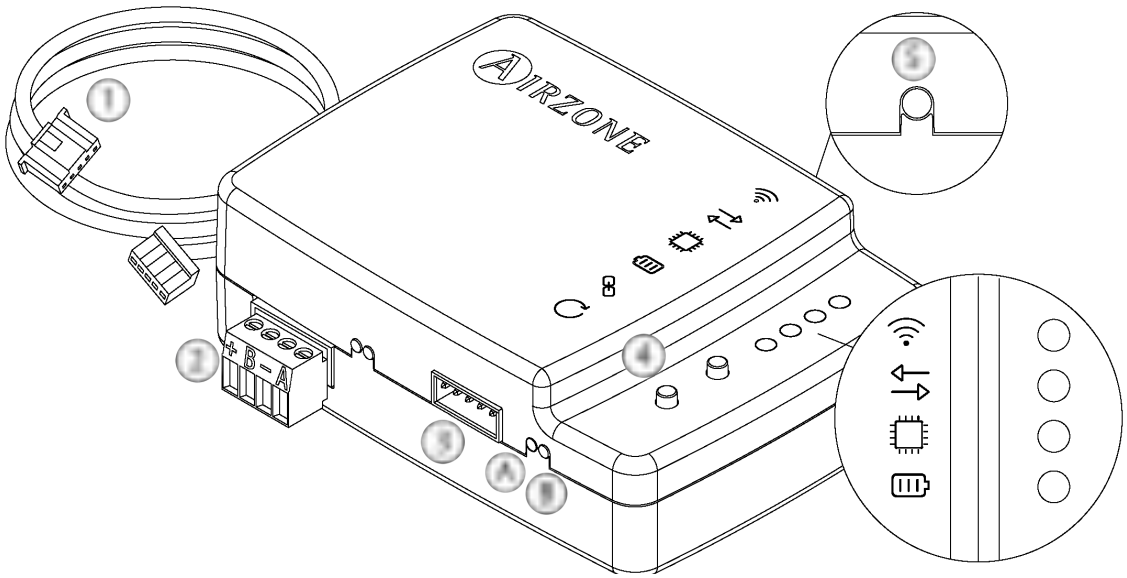
1. Disconnect the indoor unit power.
2. Connect the DKN to the terminals of the indoor unit using the supplied cable, **X35A/X18A/X9A** (depending on the indoor unit) and **P1 P2**.
3. Power the indoor unit. Check the LEDs (see LED Operation section).

The LED of the DKN Cloud Wi-Fi Adaptor for VRV/SkyAir stays blinking in green when the connection is correct.



***Note**: To facilitate the access to the DKN Cloud Wi-Fi Adaptor for VRV/SkyAir units, place it in an accessible location.*
***Note:** For FXTQ_PA(B) and FTX_PA(B) indoor units, use the **X9A** terminal on the A2P PCB for power supply.*
***Note:** When room temperature is to be sent to the indoor unit from the DKN Cloud Adaptor from Modbus the adaptor must be set as the main controller.*

INSTALLATION - DKN RESIDENTIAL CLOUD WI-FI ADAPTOR FOR DUCTLESS (AZAI6WSCDKB)



Package content

	Meaning
1	Wiring cable for power supply and S21 connection
2	Modbus port
3	Indoor unit port for wiring cable
4	Wi-Fi connection reset
5	Account association reset

Modbus Manual

LED Operation

The DKN Cloud Wi-Fi Adaptor have integrated LEDs that detects the operation of the device.

Depending on the LED operation, it indicates:

1. **Off**. Wi-Fi not configured.
2. **Blinking green**. Connecting to Wi-Fi network.
3. **Steady green**. Connected to Wi-Fi network.
4. **Steady blue**. Connected to the server.

Blinks red to indicate the cloud communication.

Blinks green to indicate microprocessor performance.

Stays red to indicate that the device is on.

Blinks red to indicate the data transmission to the indoor unit.

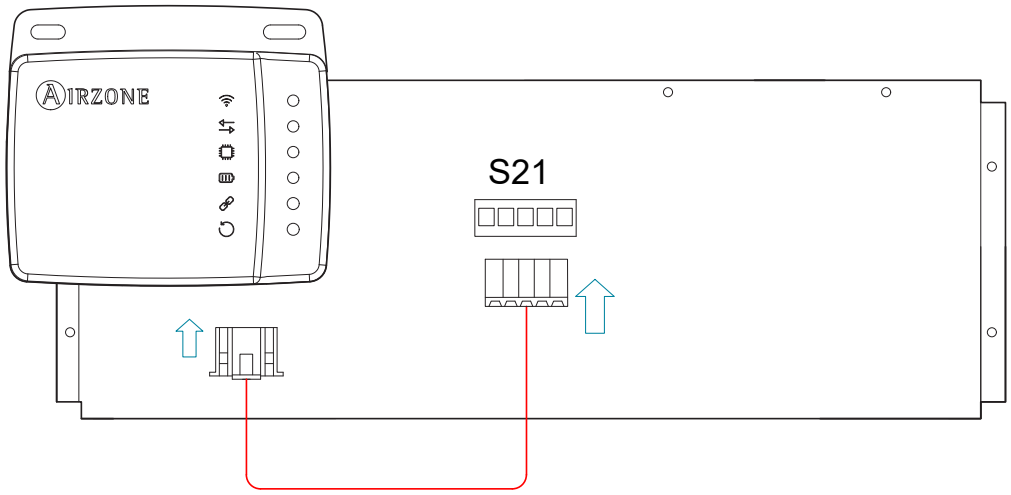
Blinks green to indicate the data reception from the indoor unit.

Connection (AZAI6WSCDKB)

The DKN Residential Cloud Wi-Fi Adaptor for Ductless units has one wiring cable. Follow these steps to connect it:

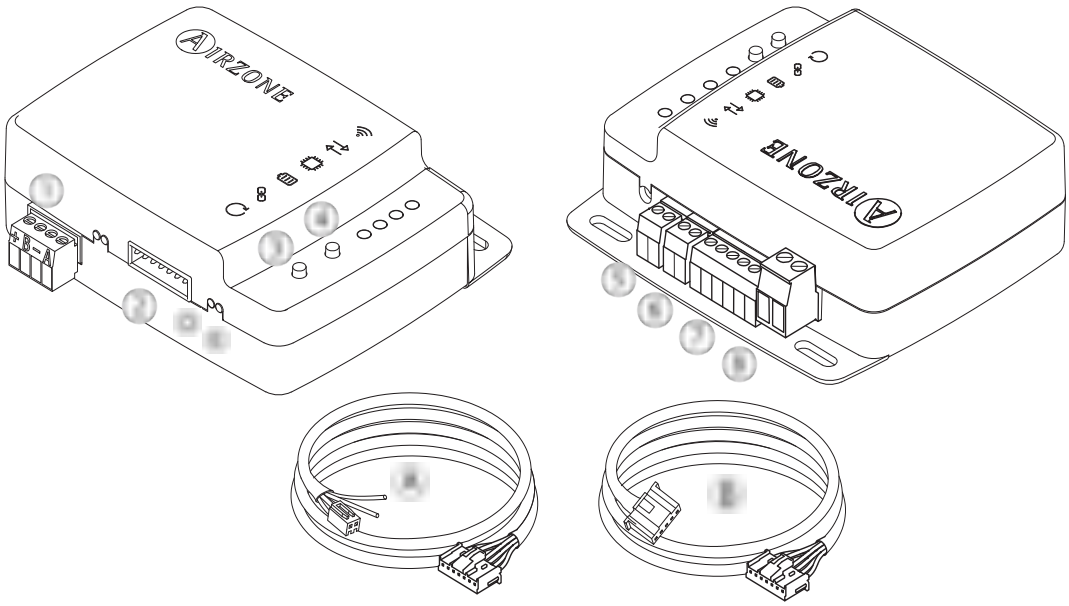
1. Disconnect the indoor unit power.
2. Connect the supplied cable to **S21** connector on the indoor unit or an accessory adapter (ordered separately).
3. Power the indoor unit. Check the LEDs (see LED Operation section).

The LED of the DKN Residential Cloud Wi-Fi Adaptor for Ductless stays blinking in green when the connection is correct.



***Note**: To facilitate the access to the DKN Residential Cloud Wi-Fi Adaptor for Ductless units, place it in an accessible location.*

INSTALLATION - DKN PLUS ADAPTOR FOR VRV/SKYAIR/DUCTLESS (AZAI6WSPDKC)



Package content

Meaning			
A	Wiring cable for P1P2 communication	F	Association process reset
B	Wiring cable for S21 communication	G	Digital input
C	Modbus port	H	On-Off output
D	Indoor unit port	I	Smart thermostat connection
E	Device reboot	J	External power input

Modbus Manual

LED Operation

The DKN Cloud Wi-Fi Adaptor have integrated LEDs that detects the operation of the device.

Depending on the LED operation, it indicates:

1. **Off**. Wi-Fi not configured.
2. **Blinking green**. Connecting to Wi-Fi network.
3. **Steady green**. Connected to Wi-Fi network.
4. **Steady blue**. Connected to the server.

Blinks red to indicate the cloud communication.

Blinks green to indicate microprocessor performance.

Stays red to indicate that the device is on.

Blinks red to indicate the data transmission to the indoor unit.

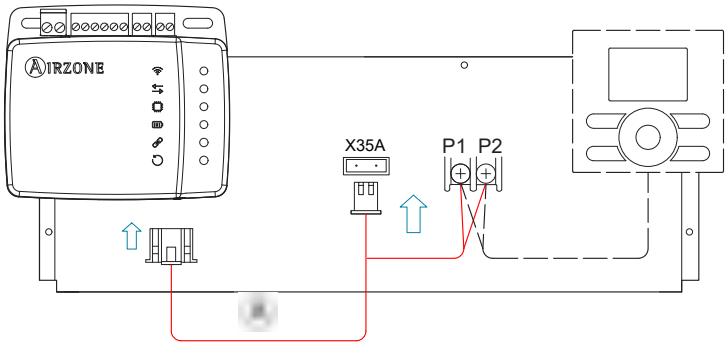
Blinks green to indicate the data reception from the indoor unit.

P1P2 Connection (AZAI6WSPDKC)

The DKN Plus Adaptor for VRV/SkyAir units has 4 connecting wires: 2 for communication with the indoor unit (red and black) and 2 for the power supply. Follow these steps to connect them:

1. Disconnect the indoor unit power.
2. Connect the DKN to the terminals of the indoor unit using the **A** supplied cable, **X35A/X18A/X9A** (depending on the indoor unit) and **P1 P2**.
3. Power the indoor unit. Check the LEDs (see LED Operation section).

The LED of the DKN Cloud Wi-Fi Adaptor for VRV/SkyAir stays blinking in green when the connection is correct.



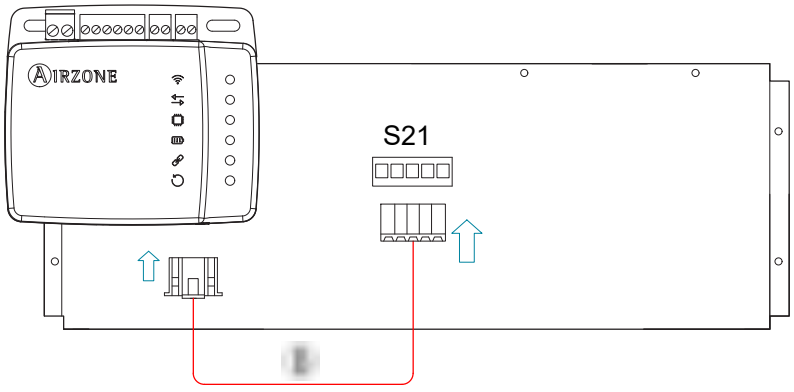
***Note**: To facilitate the access to the DKN Cloud Wi-Fi Adaptor for VRV/SkyAir units, place it in an accessible location.*
***Note:** For FXTQ_PA(B) and FTX_PA(B) indoor units, use the **X9A** terminal on the A2P PCB for power supply.*

S21 Connection (AZAI6WSPDKC)

The DKN Plus Adaptor for Ductless units has one wiring cable. Follow these steps to connect it:

1. Disconnect the indoor unit power.
2. Connect the **B** supplied cable to **S21** connector on the indoor unit or an accessory adapter (ordered separately).
3. Power the indoor unit. Check the LEDs (see LED Operation section).

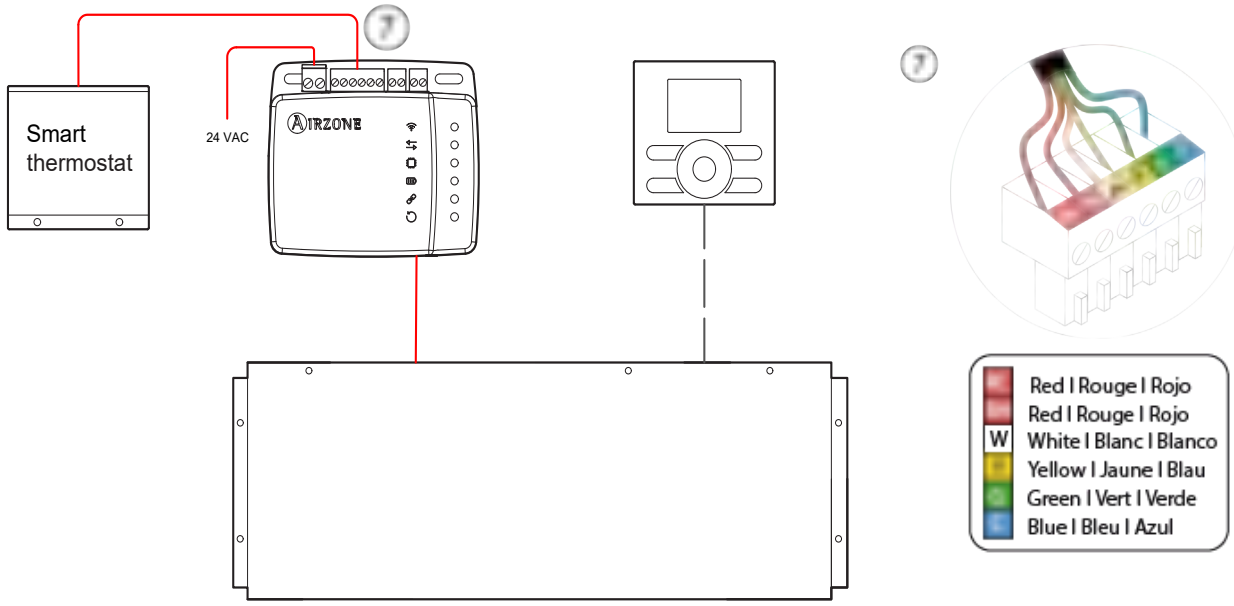
The LED of the DKN Residential Cloud Wi-Fi Adaptor for Ductless stays blinking in green when the connection is correct.



***Note**: To facilitate the access to the DKN Residential Cloud Wi-Fi Adaptor for Ductless units, place it in an accessible location.*

Smart thermostat connection

The DKN Plus adaptor can also be paired to a third party device. For the connection follow the wiring diagram shown below:



To finish the installation it is necessary to link the account of your third party thermostat following the instruccions of the Third Party Device epigraph.

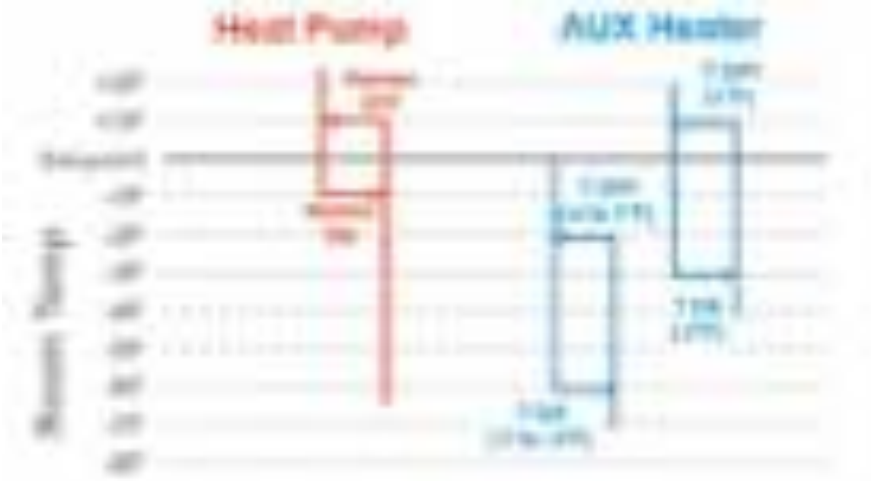
***Note**: When room temperature is to be sent to the indoor unit from the DKN Plus Adaptor from the third party device via API, Modbus or BACnet the adaptor must be set as the main controller.*

DKN PLUS SETTINGS

Auxiliary Heat

The auxiliary heat function is intended to provide control over the heat supply stages. This function is disabled by default.

The auxiliary heat source turns on and off independently according to the Delta on and Delta off temperature differentials with respect to the set-point temperature. It can be set to turn off below the set-point, or to remain on with the heat pump up to 1°F above the set-point.



1. In the drop-down menu, click on the option Configure Unit.

2. Select the AC unit you want to configure and then click on Auxiliary Heat to set the parameters.

- **Delta On:** Offset to be applied to the set-point temperature. When the room temperature is lower than this value, the auxiliary heat is activated depending on the settings. Range: -7.2 °F (-4.0 °C) / -3.6 °F (-2.0 °C).

- **Delta Off:** Offset to be applied to the set-point temperature. When the room temperature is higher than this value, the auxiliary heat is deactivated. Range: -0.9 °F (-0.5 °C) / 0.9 °F (0.5 °C).

- **Delay:** Delay time before deactivating the Daikin indoor unit fan after stopping the external auxiliary heat. Range: 0-30 min.

- **Fan:** Select the type of auxiliary heat according to your installation.
  - *Duct heat (only for P1P2 connection)*: Heat source located inside the duct that requires activation of the Daikin indoor unit's fan to provide airflow.
  - *External heat source:* External heat source which incorporates its own ventilation source, so it does not require the Daikin indoor unit to be turned on for auxiliary heat to operate.

- **Locking** (Only for S21 connection): Sets a lockout outdoor temperature for activation of the Auxiliary Heat function. If the outdoor temperature is higher than the set lockout temperature, the Auxiliary Heat function will not be activated even if the activation conditions are met. This parameter is only available for Daikin units with outdoor temperature reading. Range: -0 °F (-17.8 °C) / 65 °F (18.3 °C).

Digital Input

The device has a digital input that can be used as a window contact or similar to turn the AC unit off / on if the input changes value. This function is disabled by default.

1. In the drop-down menu, click on the option Configure Unit.

2. Select the AC unit you want to configure and then click on Digital Input to set the parameters.

The Digital Input can be configured in three states:

- **Disabled**: the digital input logic does nothing.

- **State enable**: the status imposed on the Daikin unit is persistent. In other words, if the input is enabled, the Daikin unit will be forced to shut down while in that status.

- **Edge enable**: the status imposed on the AC unit is temporary. The command is only sent to switch the Daikin unit on/off (depending on the output status) at the moment when the imposed open or close condition is met for the first time.

This allows you to set whether the input is normally open (default) or normally closed.

Note: The Digital Input only turns on the Daikin unit if you have previously switched it off.

Also, it is possible to indicate the time in seconds that the input must remain activated before proceeding to switch off the AC unit (Range: 1-30 min). Similarly, there will be a time that the input must remain disabled to turn the AC unit back on (Range: Disabled - 30 min).

REGULATIONS

Interference statement
This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). 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.

Wireless notice
This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CAN ICES-3 (B) / NMB-3 (B)
This Class B digital apparatus complies with Canadian ICES-003.

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.

Declaration of conformity
To access the declaration of conformity, please follow the link below:
http://doc.airzone.es/Certificates/Product/SDoC_AZAI6WSCDKA_FCC_A4_EN.pdf

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.