EN

VAF

Installation Manual



AIRZONE

A	Azul	Blue	Bleu
-	Negro	Black	Noir
B	Verde	Green	Vert
+	Rojo	Red	Rouge
⏚	Malla	Shield	Tresse de blindage

A Y	Azul	Blue	Bleu
-	Negro / Malla	Black / Shield	Noir / Tresse de blindage
B W	Verde	Green	Vert
+12V	Rojo	Red	Rouge

N	Neutro	Neutral	Neutre
L	Fase	Phase	Phase
⏚	Tierra	Ground	Terre

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Precautions y environmental policy

PRECAUTIONS

For your security and to protect the devices, follow these instructions:

- Do not manipulate the system with wet or damp hands.
- Make all connections or disconnections with the HVAC system unpowered.
- Take care not to cause a short-circuit in any of the system connections.

ENVIRONMENTAL POLICY



- Never dispose of this equipment with household waste. Electrical and electronic products contain substances that can be harmful to the environment if not properly handled. The crossed-out waste bin symbol indicates separate collection of electrical devices, which must be separated from other urban waste. For correct environmental management, at the end of its useful life the equipment should be taken to the collection centers provided for this purpose.
- The parts that make it up can be recycled. Therefore, please respect the regulations in force regarding environmental protection.
- If you replace the equipment, the original equipment must be returned to your dealer or deposited at a specialized collection center.
- Violations are subject to the penalties and measures stipulated in environmental protection law.

General requirements

- The system must be installed by a qualified technician.
- This product must not be modified or disassembled under any circumstances.
- Do not handle the system with wet or damp hands.
- In the case of any malfunction of this appliance, do not repair it yourself. Contact the sales distributor or service dealer for repair or disposal of the product.

- Check that the HVAC installation has been installed according to the manufacturer's requirements, complies with local regulations in force and is working correctly before you install the Airzone system.
- Place and connect the elements in your installation in accordance with current regulations covering electrical installations.

- All connections must be made with the power supply completely turned off.
- Take care not to short-circuit any of the system's connections.
- Please refer carefully to the wiring diagram and these instructions when wiring.
- Connect all wiring securely. Loose wiring may cause overheating at the connection points and is a possible fire hazard.
- Do not locate the Airzone communication bus close to power lines, fluorescent lights, actuators, etc. as this may cause interference in communications.



- The connection to the external power supply must include a main switch or other method of disconnection that includes a constant separation for all polarities, in accordance with appropriate local and national regulations. The system will automatically restart if the power supply is turned off. **Use separate circuits for the unit that is to be controlled and the power supply to the system.**
- Ensure the wire polarity matches across devices. Reversing the polarity may seriously damage the product.
- To connect to the system, use Airzone cable: four-wire cable (2x0.22 mm^2 (AWG 23 – 2 wired) twisted shielded for data communications and 2x0.5 mm^2 (AWG 20 – 2 wired) for power supply). **The connection between the control modules must be made in bus**.
- For elements externally powered at 110/230 VAC, it is only necessary to connect the poles “A” and “B” of the bus for communications. It is not recommended to connect the “+” and “-” power supply poles.

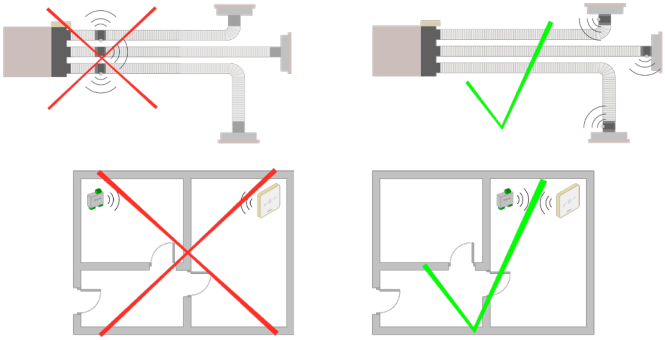
- A Blueface Zero thermostat must be used to enable all the Airzone system functionalities.
- Recommendations for the placing of the thermostats:



- To install the flexible duct, follow the local recommendations for its ubication and isolation of the ducts to the damper. Perform a cut along the isolated area to maintain the actuator of the damper outside it. Once finished, check the tightness of the joints between the damper and the duct.



- On zones with wireless thermostats, place the dampers and zone modules as close as possible to the wireless thermostat of the zone.

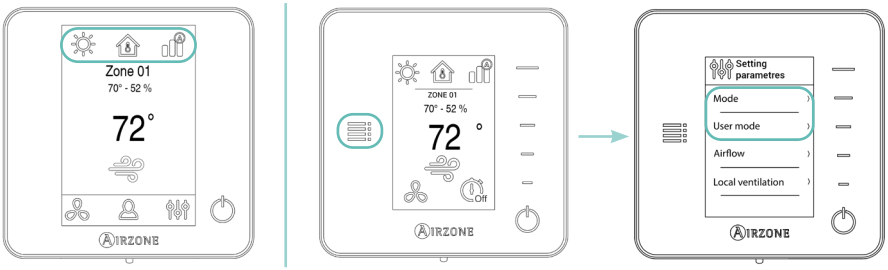


- Once the Airzone system is configured, verify that the static pressure of the duct system complies with the air distribution network conditions where is installed (check the manufacturer's manual of the unit if you need to modify this parameter).

Introduction

Airzone systems enable the management of main and zone thermostats. Main thermostats enable operation or user mode and fan speed of the unit.

- **Blueface Zero main:** “Operation mode”, “User mode” and “Speed” icons are shown in white color.
- **Blueface Zero zone:** “Operation mode”, “User mode” and “Speed” icons are shown in gray color.
- **Think main:** Accessing the settings menu, “Operation mode” and “User mode” are available.
- **Think zone:** Accessing the settings menu, “Operation mode” and “User mode” are unavailable.



System installation

Before performing the Airzone system installation, check:

- The equipment to control works correctly without the Airzone system installed.
- In direct expansion unit systems, the indoor unit wired thermostat has been installed.

Important: For installations with radiant surfaces only, it is recommended the installation of buffer tanks.

In order to install properly your Airzone system, follow these steps:

1. Locate all the elements and perform the electrical connection (see section *System elements*).

   ◊ **Zone and control modules connection with the Airzone VAF main control board.** Connect the modules of the system to any of the 3 Airzone connection bus terminals. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). They must be connected by bus. For added safety, secure the wires using the cable ties of the main control board.

   Important: The maximum number of modules connected without their own power supply to the main control board is: 6 zone modules connected to Blueface Zero thermostats or 10 zone modules connected to Lite thermostats. To add more zone modules, it is necessary to install an additional power supply (Airzone 12V power supply), enough for 6 or 10 modules as stated before.

   ◊ **Connecting the thermostats.** Connect each thermostat to the terminal corresponding to its zone module. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). In case of wireless thermostat, check it has the battery on.

   ◊ **Configuration and connection of the relay radiant heat control module.** If you have this module, configure the SW2 microswitch depending on the zones to control. Once configured, perform the connection with the radiant elements to control per each relay output of the module.

   Important: The Airzone system is not compatible with electric duct heaters, it may result in system malfunction and/or fire.

   ◊ **Connection to the ducted unit.** It is recommended to keep the wired thermostat of the unit. For the connection of DIN rail gateways to the main control board, use shielded twisted pair 2 wired cable: 2x0.22 mm^2 (AWG 23 – 2 wired).

   ◊ **Connection of the zone modules with the elements/units to control.** Follow the assembly instructions of each module.

- **Webserver connection.** Connect your Webserver Airzone Cloud to the automation bus of the main control board.

  Important: All Airzone systems must be connected to internet to receive technical support. It is only necessary to connect one Webserver Airzone Cloud per installation (control of up to 32 systems).

- **Auxiliary heat and other peripherals.** If your system includes auxiliary heat, connect the "Auxiliary heat" relays of the VAF main control board to the elements to control.

  Important: The Airzone system is not compatible with electric duct heaters, it may result in system malfunction and/or fire.

- **Powering the system.** Use the power input to power at 110/230 VAC the main control board as well as any other control element that require it. To do that, use a 3x1.5 mm^2 cable (AWG 15 – 3 wired). For added safety, secure the wires using the cable ties of the main control board.

2. Check the correct assembly and connection of the system (see section *Checking the installation*).

3. Configure the system (see sections *Initial setup* and *Advanced settings*).

   - Configure the secondary modules to associate them to a main thermostat.

   - Configure all system thermostats.

4. Check the correct operation of the system (see section *Checking the initial setup*).

Access all our technical documents, self-diagnosis section, FAQs, certificates, system assembly and configuration videos and our declaration of conformity at Airzone control.

Importante: Don't forget to download, complete and print the "Commissioning" document available on Airzone control to place it together with your installation.

System elements

MAIN CONTROL BOARD WITH COMMUNICATION (AZVAFCBXXXX)

For further information, see the technical datasheet.

Description

Main control board with communication

Configurable electronic board with a communication gateway that manages the system through wired and wireless devices. Externally powered at 110/230 VAC. Wall mounted.

Functionalities:

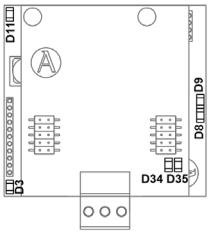
- Control and management of the thermostats status (up to 10 zones).
- Control of the proportionality and the minimum air supply of the dampers.
- Control of optional auxiliary heat (up to two stages).
- Management of the control gateway.
- Communication with units of integral control of the installation.
- Communications with other external control systems through integration bus.

Communication gateways (AZX6QADAPTxxx / AZX6QADAPT3xxx) and controller gateways (AZX6GTCxxx)

Gateway for the management of AC units compatible with Airzone control systems. Powered by the indoor unit. Assembly and connection on the AC unit bus of the Airzone devices. Product developed and tested in collaboration with the manufacturer.

Functionalities:

- Two-way communication of the basic control parameters depending on the demand of the Airzone control system.
- Adjustment of the set point temperature based on the selected temperatures in the Airzone thermostats and the Eco-Adapt algorithm.
- Reading of the operating temperature of the system.
- Reading of warnings and errors of the controlled unit.
- Secondary (communication gateways) or master control (controller gateways) of the unit.

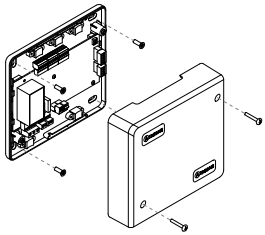


Assembly

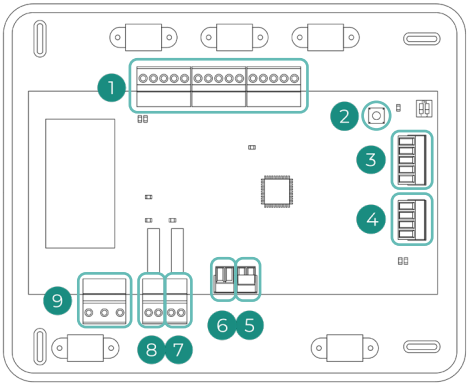
The main control board is supplied in a box to be screwed to the wall. It should be placed and mounted in accordance with the current electrotechnical regulations.

For the mounting of the main control board, perform the following steps:

1. Mount the main control board close to the unit to be controlled.
2. Unscrew the cover securing the back part to the wall.
3. Make all the connections and screw the cover again.



Connection



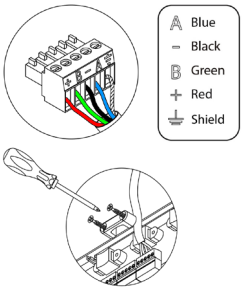
Nº	Description
1	Airzone connection bus
2	SW1 (wireless conenction)
3	Automation bus
4	AC unit bus
5	Alarm input
6	Protection temperature probe
7	Auxiliary heat 2nd stage output
8	Auxiliary heat 1st stage output
9	Power supply

Airzone connection bus

The Airzone connection bus allows you to connect all the internal elements independent of the main control board and can control up to 10 zones. The elements that can be connected to this bus are:

- Wired/Wireless intelligent round damper (AZVAFDAMPERxx [C/R])
- Wired/Wireless only radiant zone module (AZVAFZMRAD [C/R])
- Wired/Wireless zone module with communication (AZVAFZMOxxx [C/R])
- Relay radiant heat control module (AZVAF5OUTPUTS)

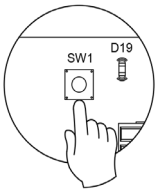
To connect the bus, there are three 5-pin terminals. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). The connection must be made by bus. Fix the wires with the screws on the terminal, following the color code. For added safety, secure the wires using the cable ties of the main control board.



Note: *For elements externally powered at 110/230 VAC, it is only necessary to connect poles "A" and "B" of the bus for communications..*

SW1

The system main control board has wireless communication for connecting wireless Airzone elements. These devices are associated by activating the association channel on the main control board. To do this, make a short press on SW1; when LED D19 stays red it means that the radio channel is active. For 15 minutes, the system will keep the wireless association channel active in the different zone modules.



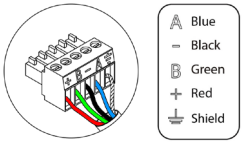
System reset: If you want to return to factory values, press and hold on SW1 until LED D19 stops blinking. Wait 60 seconds until the system restarts before connecting again.

Automation bus

The automation bus allows several systems to be interconnected in order to manage all of them, using the control peripherals offered by Airzone or their integration into a higher-level control network. The elements that can be connected to this bus are:

- Webserver Airzone Cloud Wi-Fi Dual 2.4-5G (AZX6WSC5GER)
- Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet (AZX6WSPHUB)

To connect the automation bus, there is one 5-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). The connection must be made by bus. Fix the wires with the screws on the terminal, following the color code.

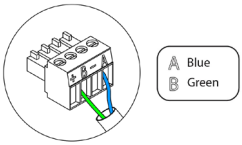


AC unit bus

The AC unit bus allows you to connect different control gateways to the installed AC unit. The elements that can be connected to this bus are:

- Communication gateways (AZX6QADAPTxxx / AZX6QADAPT3xxx)
- Controller gateways (AZX6GTCxxx)
- 0-10 V Fancoil control gateway (AZVAFGTF10)
- 5 relays Fancoil control gateway (AZVAFGTF5R)

For connection of DIN rail gateways to the main control board, there is one 4-pin terminal. Use shielded twisted pair 2 wired cable: 2x0.22 mm^2 (AWG 23 – 2 wired). The connection of these elements is point to point. Fix the wires with the screws on the terminal, following the color code.



Alarm input

This input sets the Stop mode on the AC unit, closing all system dampers when an alarm warning is received and blocking the operation mode. This input is configured as normally closed. For proper system operation, this contact is shipped with a bridge from the factory.

Protection temperature probe

Allows the return temperature of an AC unit to be measured by means of an external probe. The use of this probe is recommended when working with electromechanical or NON Inverter units, where the return temperature of the AC unit must be controlled.

Auxiliary heat outputs

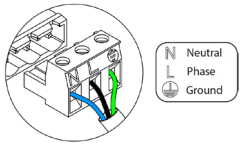
If the system includes auxiliary heat, connect the “Auxiliary heat” relays of the main control board to the elements to control.

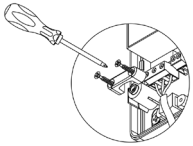
The technical characteristics of these relays are I_{max}: 1 A at 48 V dry contact. To control higher power elements, the use of contactors of the power to be controlled is recommended.

Power supply

This connector supplies power to the system main control board and, consequently, to the elements connected to it. Externally powered at 110/230 VAC.

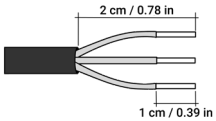
It is connected through a 3-pin terminal. Use 3x1.5 mm^2 (AWG 15 – 3 wired) cable. Fix the wires with the screws on the terminal, following the color code. For added safety, secure the wires using the cable ties of the main control board.

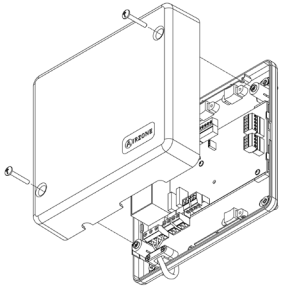


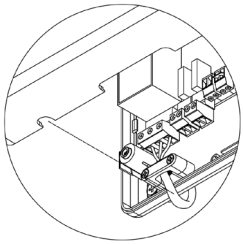


Important: The connection to the external power supply must include a main switch or other method of disconnection that includes a constant separation for all polarities, in accordance with appropriate local and national regulations. The system will automatically restart if the power supply is turned off. **Use separate circuits for the unit that is to be controlled and the power supply to the system.**

Recuerde: Once all the connections have been made, make sure the cover of the main control board is correctly replaced.







WIRED/WIRELESS INTELLIGENT ROUND DAMPER

Wired intelligent round damper (AZVAFDAMPERxxC)
For further information, see the technical datasheet.

Wireless intelligent round damper (AZVAFDAMPERxxR)
For further information, see the technical datasheet.

Description

Damper with actuator

Damper with actuator of 6, 8, 10, 12 or 14 inch diameter. Powered with 12 VDC by the zone module.

Wired/Wireless damper zone module

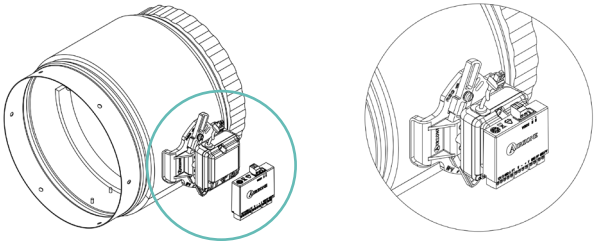
Local control module for controlling the operation of the damper. Wired/wireless communication with zone thermostat. Powered through system Airzone connection bus.

Functionalities:

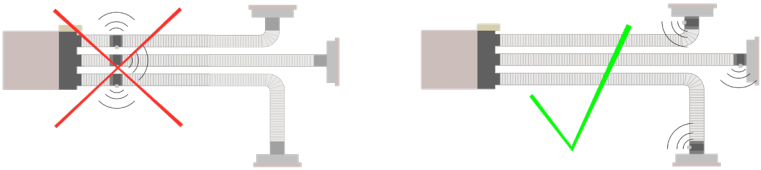
- Detection of open window input.
- Detection of occupancy input.
- Remote temperature probe input.

Assembly

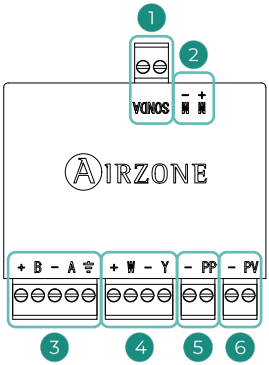
The zone module is installed on the damper motor to be controlled.



On zones with wireless modules, place the dampers as close as possible to the wireless thermostat of the zone.



Connection



Nº	Description
1	Remote temperature probe connector
2	Motorized damper connector
3	Airzone connection bus
4	Thermostat connection (only wired module)
5	Occupancy contact input
6	Window contact input

Note: *Use a shielded twisted pair to connect the window contact.*

Remote temperature probe connector

Allows you to connect a probe (AZX6SONDPROTECT) for remote or distributed temperature reading, depending on how the module is configured:

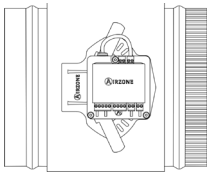
- **Remote probe.** Allows you to read the room temperature even if you are not where the thermostat is located. Connect the probe and configure the module as main (thermostat connected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

- **Distributed probe.** Allows you to control a secondary zone with room temperature reading independent from the main zone. Connect the probe and configure the module as secondary (thermostat disconnected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

Note: *If a temperature probe is installed in one zone, it is not possible to read or control the humidity of that zone.*

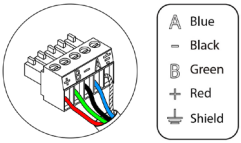
Motorized damper connector

Connect the motorized damper to the M+ M- terminal of the corresponding zone module.

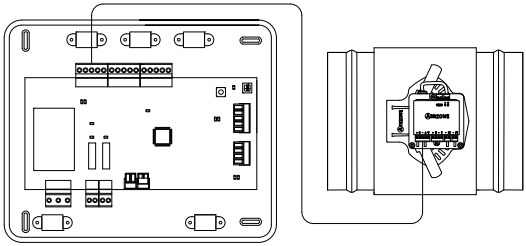


Airzone connection bus

The intelligent motorized damper is a device that is connected to the Airzone connection bus of the main control board through the zone module.

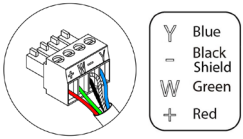


To connect the bus, there is a 5-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.

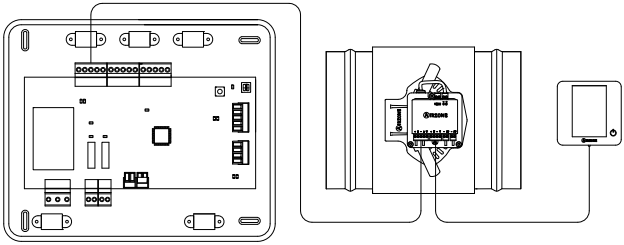


Thermostat connection (only wired module)

To connect the wired thermostat, there is a 4-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



Remember: The maximum allowable distance between the module and the thermostat is 10 m (33 ft).



Inputs

The module has inputs to control the zone based on the occupancy or if there are open windows.

- **Control by occupancy.** When the occupancy sensor connected to the module indicates that the zone is unoccupied, the system waits for 5 minutes to confirm it is actually empty. After this period of time, the zone is set to “Timer mode” and it turns off after 90 minutes.

- **Control by open window.** When the open window sensor connected to the module indicates that a window is open for more than 60 seconds, the control element (actuator or relay) associated with that module closes.

__Note:__ The activation and configuration of these inputs are available in the zone settings menu of the thermostat (see section Advanced settings).

Airflow regulation

The intelligent motorized dampers include a control system that allows to manually set the maximum and minimum opening of each damper.

Airflow adjustment (REG)

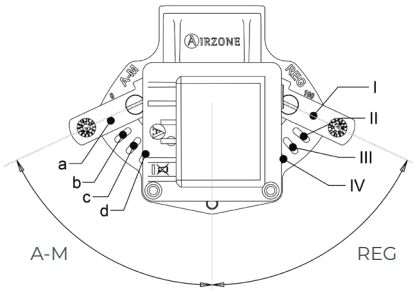
The damper offers a maximum opening adjustment which balances the airflow of each zone based on the real needs of the installation. By default, the damper is set at the “I” position. To adjust it, follow the steps:

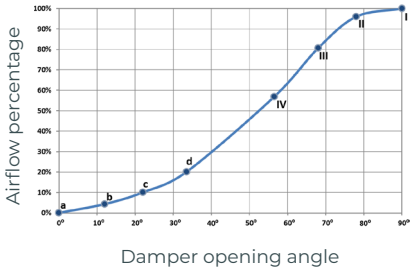
1. Turn on and generate demand in all zones to open all the dampers.
2. Turn off the zone to be adjusted.
3. Adjust the maximum opening you want with the “REG” lever (I/II/III/IV).
4. Turn on the zone and check the airflow is correct.

Minimum air setting (A-M)

The damper allows the adjustment of a minimum opening to avoid overpressure in the installation. By default, the damper is set at the “a” position. To adjust it, follow the steps:

1. Turn on and generate demand in all zones to open all the dampers.
2. Turn off the zone to be adjusted.
3. Adjust the minimum opening you want with the “A-M” lever (a/b/c/d).
4. Turn on the zone and check the minimum airflow is correct.





WIRED/WIRELESS ONLY RADIANT ZONE MODULE

Wired only radiant zone module (AZVAFZMRADC)
For further information, see the technical datasheet.

Wireless only radiant zone module (AZVAFZMRADR)
For further information, see the technical datasheet.

Description

Local control module for controlling radiant elements. Wired/wireless communication with zone thermostat. Powered through system Airzone connection bus.

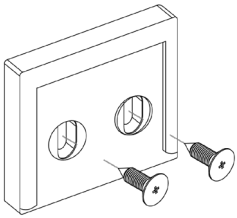
Functionalities:

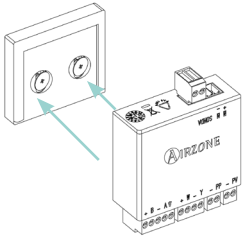
- Detection of open window input.
- Detection of occupancy input.
- Remote temperature probe input.

Assembly

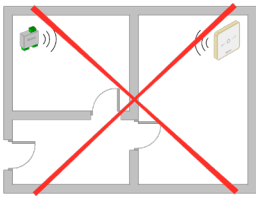
The zone module is installed on wall. Screw the bracket directly to the wall and use the sliding rails to secure it.

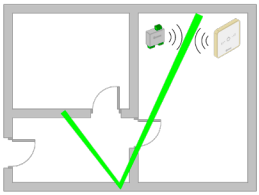
Note: *It is required to have one module per radiant element of the system.*



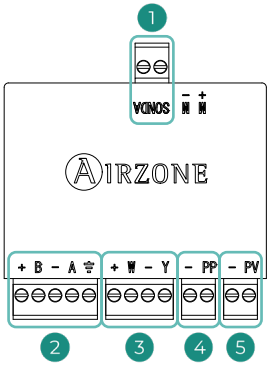


On zones with wireless modules, place them as close as possible to the wireless thermostat of the zone.





Connection



N°	Description
1	Remote temperature probe connector
2	Airzone connection bus
3	Thermostat connection (only wired module)
4	Occupancy contact input
5	Window contact input

Note: *Use a shielded twisted pair to connect the window contact.*

Remote temperature probe connector

Allows you to connect a probe (AZX6SONDPROTECT) for remote or distributed temperature reading, depending on how the module is configured:

- **Remote probe.** Allows you to read the room temperature even if you are not where the thermostat is located. Connect the probe and configure the module as main (thermostat connected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

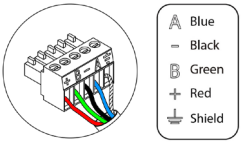
- **Distributed probe.** Allows you to control a secondary zone with room temperature reading independent from the main zone. Connect the probe and configure the module as secondary (thermostat disconnected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

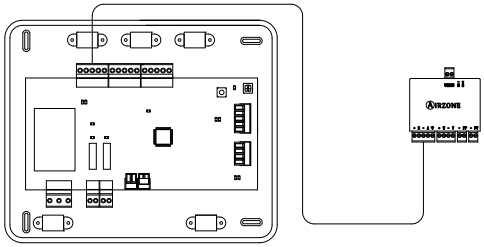
Note: *If a temperature probe is installed in one zone, it is not possible to read or control the humidity of that zone.*

Airzone connection bus

The only radiant zone module is a device that is connected to the Airzone connection bus of the main control board.

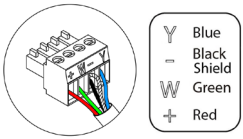
To connect the bus, there is a 5-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



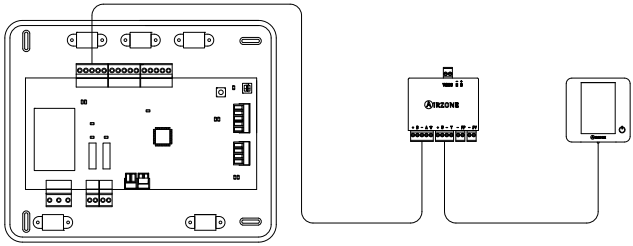


Thermostat connection (only wired module)

To connect the wired thermostat, there is a 4-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



Remember: The maximum allowable distance between the module and the thermostat is 10 m (33 ft).



Inputs

The module has inputs to control the zone based on the occupancy or if there are open windows.

- **Control by occupancy.** When the occupancy sensor connected to the module indicates that the zone is unoccupied, the system waits for 5 minutes to confirm it is actually empty. After this period of time, the zone is set to “Timer mode” and it turns off after 90 minutes.

- **Control by open window.** When the open window sensor connected to the module indicates that a window is open for more than 60 seconds, the control element (actuator or relay) associated with that module closes.

Note: *The activation and configuration of these inputs are available in the zone settings menu of the thermostat (see section Advanced settings).*

WIRED/WIRELESS ZONE MODULE WITH COMMUNICATION

Wired zone module with communication (AZVAFZMOxxxC)
For further information, see the technical datasheet.

Wireless zone module with communication (AZVAFZMOxxxR)
For further information, see the technical datasheet.

Description

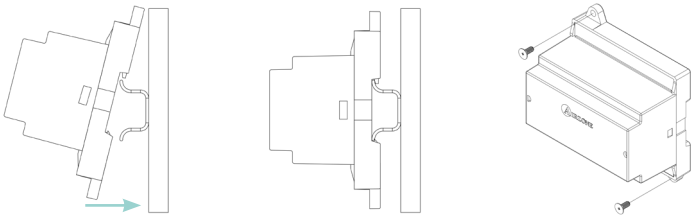
Module for controlling individual direct expansion units through communication gateway. Wired/wireless communications with zone thermostat. Powered through system Airzone connection bus. Mounted on DIN rail or on wall.

Functionalities:

- Detection of open window input.
- Detection of occupancy input.
- Remote temperature probe input.

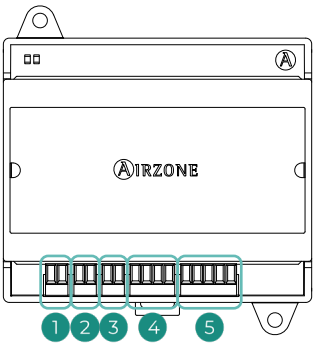
Assembly

The module is mounted on DIN rail or on wall. It must be placed and mounted in accordance with the current electrotechnical regulations.



Note: *To remove the module on DIN rail, pull the tab down to release it.*

Connection



Nº	Description
1	Remote temperature probe connector
2	Window contact input
3	Occupancy contact input
4	Thermostat connection (only wired module)
5	Airzone connection bus

Note: *Use a shielded twisted pair to connect the window contact.*

Remote temperature probe connector

Allows you to connect a probe (AZX6SONDPROTECT) for remote or distributed temperature reading, depending on how the module is configured:

- **Remote probe.** Allows you to read the room temperature even if you are not where the thermostat is located. Connect the probe and configure the module as main (thermostat connected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

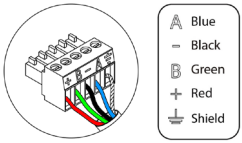
- **Distributed probe.** Allows you to control a secondary zone with room temperature reading independent from the main zone. Connect the probe and configure the module as secondary (thermostat disconnected). The state and set point temperature are set via thermostat while the probe reads the room temperature.

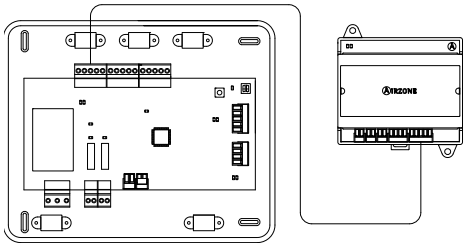
Note: *If a temperature probe is installed in one zone, it is not possible to read or control the humidity of that zone.*

Airzone connection bus

The zone module is a device that is connected to the Airzone connection bus of the main control board.

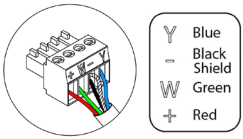
To connect the bus, there is a 5-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



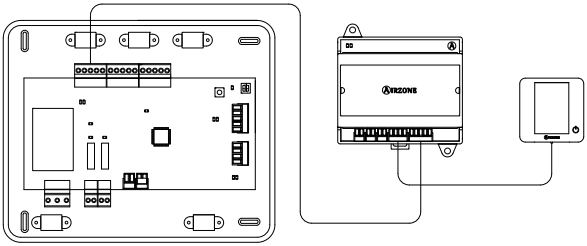


Thermostat connection (only wired module)

To connect the wired thermostat, there is a 4-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



Remember: The maximum allowable distance between the module and the thermostat is 10 m (33 ft).



Inputs

The module has inputs to control the zone based on the occupancy or if there are open windows.

- **Control by occupancy.** When the occupancy sensor connected to the module indicates that the zone is unoccupied, the system waits for 5 minutes to confirm it is actually empty. After this period of time, the zone is set to “Timer mode” and it turns off after 90 minutes.

- **Control by open window.** When the open window sensor connected to the module indicates that a window is open for more than 60 seconds, the control element (actuator or relay) associated with that module closes.

__Note:__ The activation and configuration of these inputs are available in the zone settings menu of the thermostat (see section Advanced settings).

RELAY RADIANT HEAT CONTROL MODULE (AZVAF5OUTPUTS)

For further information, see the technical datasheet.

Description

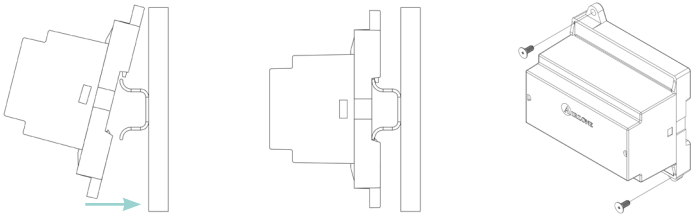
Control module of radiant heat for heating stages. Communications via Airzone connection bus of main control board. Powered by main control board. Mounted on DIN rail.

Functionalities:

- Control up to 5 heating elements by means of dry contact relays.
- Demand relay of pump.
- Demand relay of boiler.
- Identified by means of a microswitch.

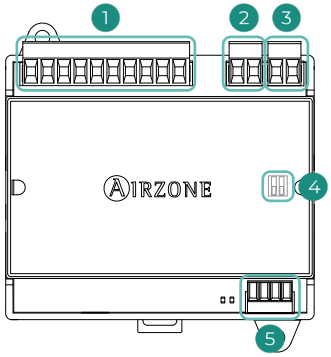
Assembly

The module is mounted on DIN rail or on wall. It must be placed and mounted in accordance with the current electrotechnical regulations.



Note: *To remove the module on DIN rail, pull the tab down to release it.*

Connection



N°	Description
1	Zone control relays
2	Pump relay
3	Boiler relay
4	SW2
5	Airzone connection bus

Zone control relays

The characteristics of the control relays are I_{max}: 1 A at 24/48 V dry contact. To control higher power elements, the use of contactors of the power to be controlled is recommended.

__Note:__ Connect only the phase to the relay radiant heat control module, the neutral is connected directly to the element to be controlled.

SW2

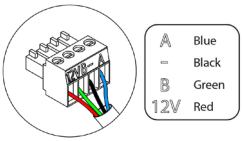
The SW2 microswitch configuration (zone ID) is as follows:

SW2	
	
Zones 1-5	Zones 6-10

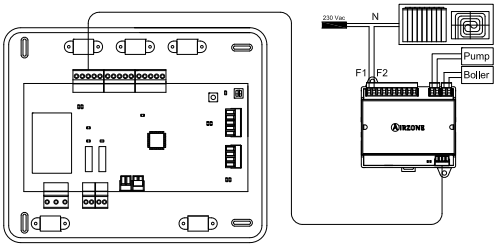
Example: the relay to control a radiant element of a module with address 6 is the R1 of the relay radiant heat control module with the address set for the zones 6-10.

Airzone connection bus

The relay radiant heat control module is a device that is connected to the Airzone connection bus of the main control board.



To connect the bus, there is a 4-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm² + 2x0.5 mm² (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



WIRED THERMOSTATS

Blueface Zero principal thermostat (AZVAFBLUEZEROC [B/N])
For further information, see the technical datasheet.

Wired Lite thermostat (AZVAFLITEC [B/N])
For further information, see the technical datasheet.

Description

Blueface Zero principal thermostat

Color graphic interface with capacitive screen and finished in steel and glass, for controlling zones in Airzone systems. Wired communication. Powered by zone module. Available in white or black.

Functionalities:

- 3 languages available (Spanish, English and French).
- Control of temperature, operating mode (main thermostat) and user mode (main thermostat).
- Automatic or manual fan speed adjustment (depends on installation).
- Room temperature and relative humidity measurement of the zone.
- Configuration stages control (air, radiant or combined).
- Timer function.
- Remote access to other zones of the system.
- Weather forecast (requires Webserver Airzone Cloud).

Lite thermostat

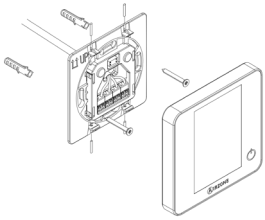
Thermostat with capacitive buttons and finished in steel and glass, for controlling the temperature of the zones in Airzone systems. Wired communication. Powered by zone module. Available in white or black.

Functionalities:

- On/Off of the zone.
- Set point temperature control (accuracy: ± 1 °C / 2 °F, up to a limit of ± 3 °C / 6 °F).
- Room temperature and relative humidity measurement (displayed on main thermostat).

Assembly

Airzone wired thermostats are surface mounted on a support. Remember that the maximum recommended distance for this device is 40 m (131 ft). For wall mounting, follow these steps:

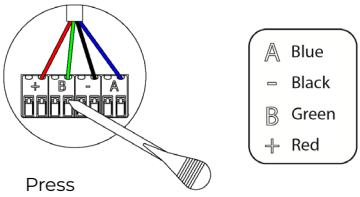


- Separate the back part of the thermostat and make all the connections.
- Fix the back of the thermostat to the wall.
- Place the display on the support once it is fixed.
- Place the anti-vandalism rods to better hold the thermostat in place (optional).

Connection

Airzone thermostats are elements that are connected to the zone modules. Fix the cables with the screws on the terminal, following the color code.

Important: Use the tool provided to press on the fastening tabs.



WIRELESS THERMOSTATS

Wireless Think thermostat (AZVAFTHINKR [B/N])
For further information, see the technical datasheet.

Wireless Lite thermostat (AZVAFLITER [B/N])
For further information, see the technical datasheet.

Description

Think thermostat

Graphic interface with low-energy e-ink screen, capacitive buttons and finished in steel and glass, for controlling zones in Airzone systems. Wireless communications. Powered by button battery CR2450. Available in white or black.

Functionalities:

- 3 languages available (Spanish, English and French).
- Control of temperature, operating mode (main thermostat) and user mode (main thermostat).
- Automatic or manual fan speed adjustment (depends on installation).
- Room temperature and relative humidity measurement of the zone.
- Configuration stages control (air, radiant or combined).
- Timer function.
- Weather forecast (requires Webserver Airzone Cloud).

Lite thermostat

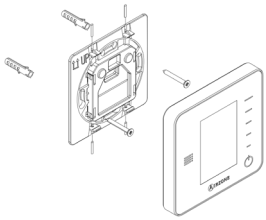
Thermostat with capacitive buttons and finished in steel and glass, for controlling the temperature of the zones in Airzone systems. Wireless communications. Powered by button battery CR2450. Available in white or black.

Functionalities:

- On/Off of the zone.
- Set point temperature control (accuracy: ± 1 °C / 2 °F, up to a limit of ± 3 °C / 6 °F).
- Room temperature and relative humidity measurement (displayed on main thermostat).

Assembly

Airzone wireless thermostats are surface mounted on a support. Remember that the maximum recommended distance for this device is 10 m (33 ft). For wall mounting, follow these steps:



- Separate the back part of the thermostat and insert the CR2450 button battery.
- Fix the back of the thermostat to the wall.
- Place the display on the support once it is fixed.
- Place the anti-vandalism rods to better hold the thermostat in place (optional).

Changing batteries

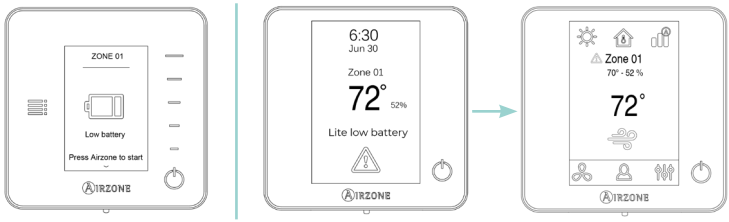
Think thermostats

It displays this icon on the screensaver when a thermostat is running out of battery.

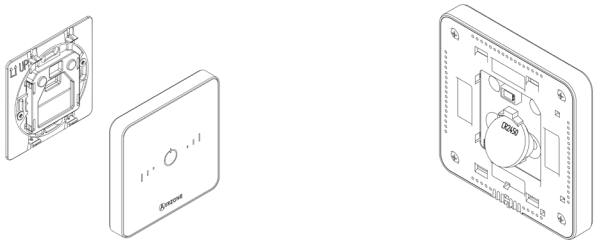
Lite thermostats

The warning message “Low battery Lite” will be displayed on the Blueface Zero screensaver. Press the warning icon on the main screen in order to know the zone of the Lite thermostat running out of battery.

Note: *For Lite thermostats, the low battery warning will disappear after about 5 minutes from the battery replacement.*



To replace the battery, separate the thermostat from its support and replace the battery (CR2450).



Important: We recommend using of top-brand batteries. Using low-quality batteries may reduce the duration of use. Remember to deposit the old battery into an appropriate recycling point.

0-10 V FANCOIL CONTROL GATEWAY (AZVAFGTF10)

For further information, see the technical datasheet.

Description

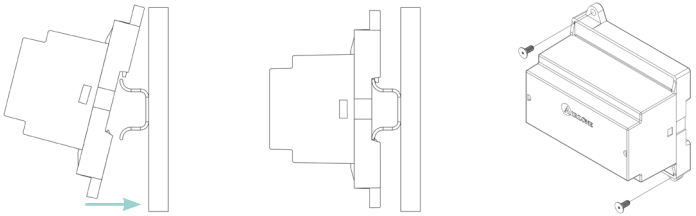
Control gateway of air-to-water zoning units. Fan control through 0-10 V output and opening-closing electrovalves. Compatible with 2 and 4-pipe installations. Externally powered at 110/230 VAC. Mounted on DIN rail or on wall.

Functionalities:

- 2 electrovalve control relay outputs for demand.
- 0-10 V output for fan control.
- Automatic speed control based on the zones on demand.

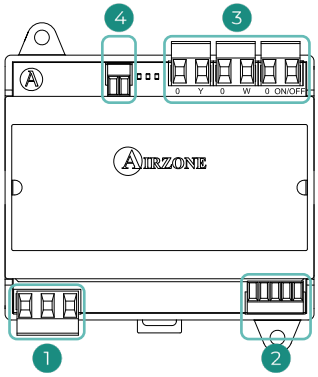
Assembly

The gateway is mounted on DIN rail or on wall. This module is externally powered at 110/230 VAC. It must be placed and mounted in accordance with the current electrotechnical regulations.



Note: *To remove the module on DIN rail, pull the tab down to release it.*

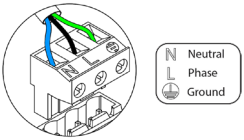
Connection



N°	Description	
1	Power supply	
2	AC unit bus	
3	0 Y	Cooling air demand
	0 W	Heating air demand
	ON/OFF	Fan demand
4	Fan speed control	

Power supply

It is connected through a 3-pin terminal. Use 3x1.5 mm² (AWG 15 – 3 wired) cable. Fix the wires with the screws on the terminal, following the color code.

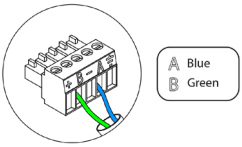


Important: The connection to the external power supply must include a main switch or other method of disconnection that includes a constant separation for all polarities, in accordance with appropriate local and national regulations. The system will automatically restart if the power supply is turned off.

AC unit bus

The 0-10 V Fancoil control gateway is a device that is connected to the AC unit bus of the main control board.

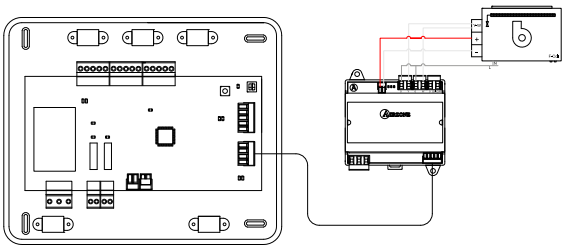
To connect the bus, there is one 5-pin terminal. Use shielded twisted pair 2 wired cable: 2x0.22 mm² (AWG 23 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



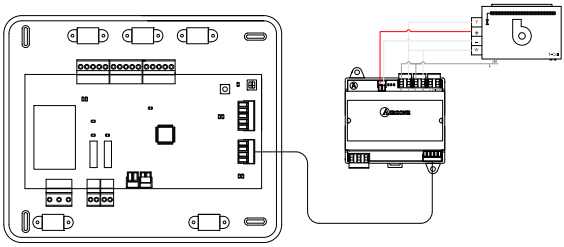
Control/Demand relays

The characteristics of the control relays are I_{max}: 10 A a 110/230 VAC dry contact. To control higher power elements, the use of contactors of the power to be controlled is recommended.

2-pipe installation



4-pipe installation



5-RELAY FANCOIL CONTROL GATEWAY (AZVAFGTF5R)

For further information, see the technical datasheet.

Description

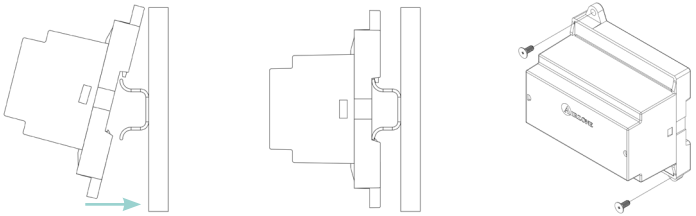
Control gateway of air-to-water zoning units. Control up to three fan-speeds and opening-closing electrovalves. Compatible with 2 and 4-pipe installations. Externally powered at 110/230 VAC. Mounted on DIN rail or on wall.

Functionalities:

- 2 electrovalve control relay outputs for demand.
- 3 control relay outputs for fan-speed selection.
- Automatic speed control based on the zones on demand.

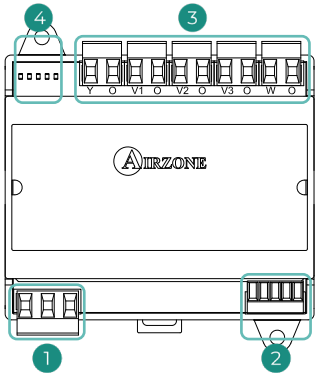
Assembly

The gateway is mounted on DIN rail or on wall. This module is externally powered at 110/230 VAC. It must be placed and mounted in accordance with the current electrotechnical regulations.



Note: *To remove the module on DIN rail, pull the tab down to release it.*

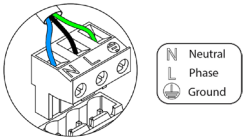
Connection



Nº	Description	
1	Power supply	
2	AC unit bus	
3	Y 0	Cooling air demand
	V1 0	Speed 1
	V2 0	Speed 2
	V3 0	Speed 3
	W 0	Heating air demand
4	Status LED	

Power supply

It is connected through a 3-pin terminal. Use 3x1.5 mm² (AWG 15 – 3 wired) cable. Fix the wires with the screws on the terminal, following the color code.

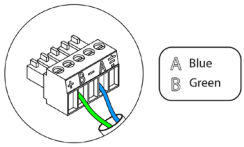


Important: The connection to the external power supply must include a main switch or other method of disconnection that includes a constant separation for all polarities, in accordance with appropriate local and national regulations. The system will automatically restart if the power supply is turned off.

AC unit bus

The 5-relay Fancoil control gateway is a device that is connected to the AC unit bus of the main control board.

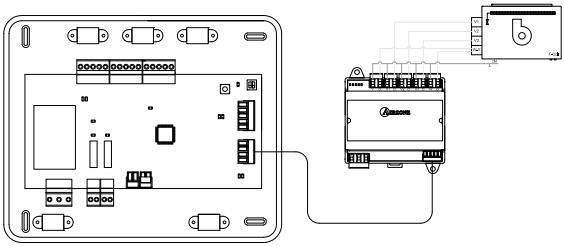
To connect the bus, there is one 5-pin terminal. Use shielded twisted pair 2 wired cable: 2x0.22 mm² (AWG 23 – 2 wired). Fix the wires with the screws on the terminal, following the color code.



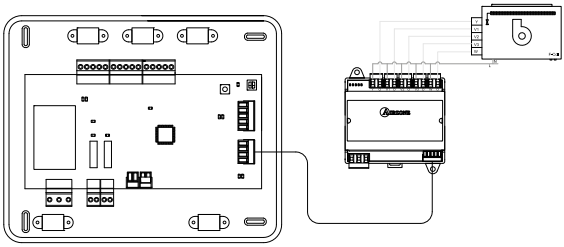
Control/Demand relays

The characteristics of the control relays are I_{max}: 10 A a 110/230 VAC dry contact. To control higher power elements, the use of contactors of the power to be controlled is recommended.

2-pipe installation



4-pipe installation



WEBSERVER AIRZONE CLOUD

Webserver Airzone Cloud Wi-Fi Dual 2.4-5G (AZX6WSC5GER)
For further information, see the technical datasheet.

Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet (AZX6WSPHUB)
For further information, see the technical datasheet.

Description

Webserver Airzone Cloud Wi-Fi Dual 2.4-5G

Webserver for controlling Airzone systems through Airzone Cloud platform. Accessible through browser or App (available for IOS and Android). Wi-Fi connection. Powered through domotic bus of main control borad.

Functionalities:

- Control of up to 32 systems.
- Configuration and control of zone parameters (room and set point temp., operating mode, etc.) and system parameters via Airzone Cloud.
- Associated with router through the App via Bluetooth.
- Temperature and operating mode time schedules.
- Multi-user and multisession.
- External control through Airzone Cloud platform.
- Integration via local API/mDNS (activated by default on the device).
- Remote updates of the Webserver firmware and the systems connected to it.
- Remote error detection and resolution.

Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet

Webserver for controlling Airzone systems through Airzone Cloud platform. Accessible through browser or App (available for IOS and Android). Dual Wi-Fi 2.4/5Ghz or Ethernet connection. Powered through domotic bus of main control board. Mounted on DIN rail.

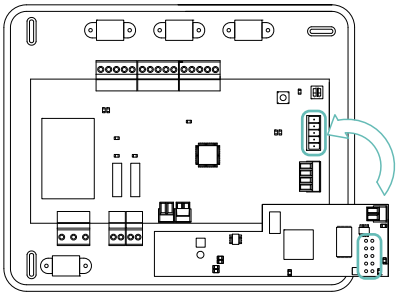
Functionalities:

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

Assembly

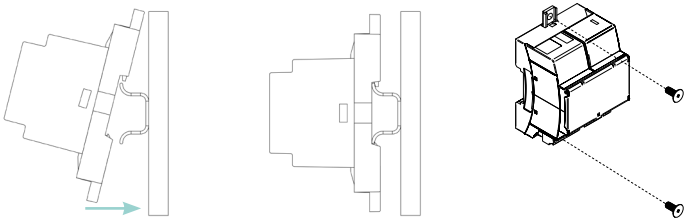
Webserver Airzone Cloud Wi-Fi Dual 2.4-5G

This device is integrated into the main control board automation bus. There is one 5-pin terminal. Disconnect it and fit the connector.



Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet

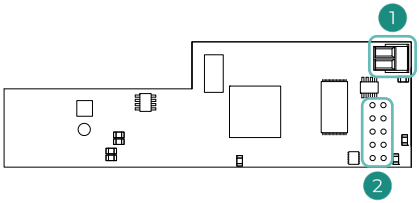
This device is mounted on DIN rail or on wall. It must be placed and mounted in accordance with the current electrotechnical regulations.



Note: *To remove the module on DIN rail, pull the tab down to release it.*

Connection

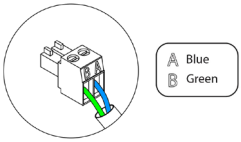
Webserver Airzone Cloud Wi-Fi Dual 2.4-5G

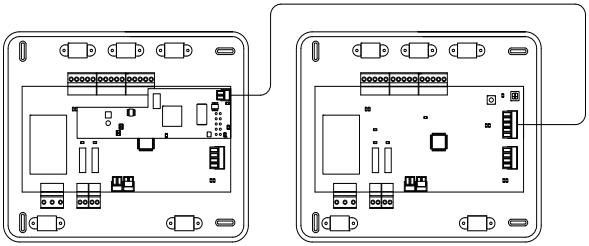


N°	Description
1	Automation bus output
2	Automation bus input

Automation bus output

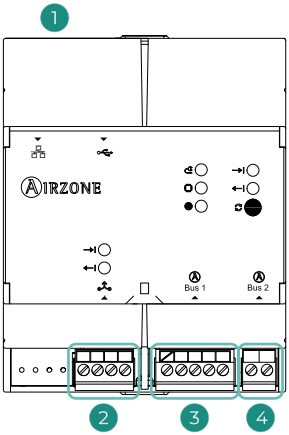
For connection with other system main control boards, there is one 2-pin terminal. Use shielded twisted pair 2 wired cable: 2x0.22 mm² (AWG 23 – 2 wired). Fix the wires with the screws on the terminal, following the color code.





Note: *Remember that, for this module to work properly, all the main control boards in the installation must be addressed (see section Advanced settings)*

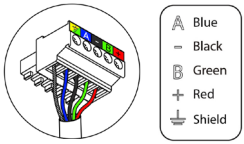
Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet

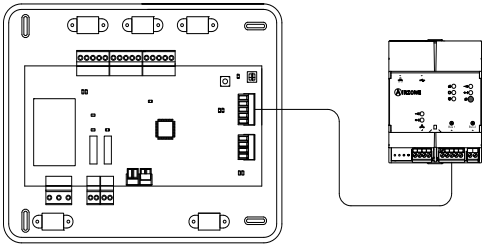


Nº	Description
1	Ethernet
2	Integration port
3	Automation bus (DM1)
4	Automation bus (DM2)

Automation bus (DM1)

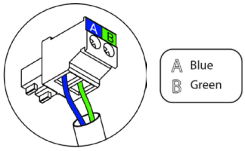
For connection with main control board, there is one 5-pin terminal. Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Fix the wires with the screws on the terminal, following the color code.

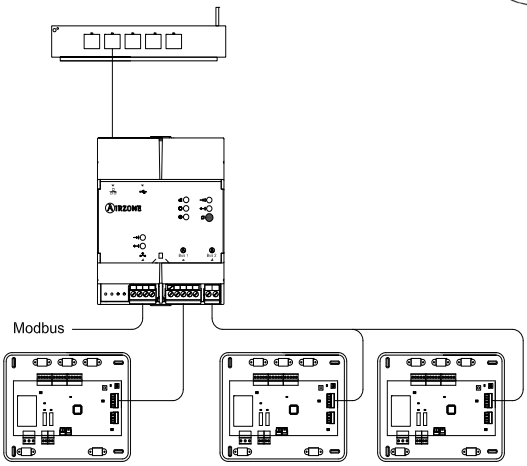




Automation bus (DM2)

For connection with other system main control boards, there is one 2-pin terminal. Use shielded twisted pair 2 wired cable: 2x0.22 mm^2 (AWG 23 – 2 wired). Fix the wires with the screws on the terminal, following the color code.





Configuration

Webserver Airzone Cloud Wi-Fi Dual 2.4-5G

To configure the device, follow the steps described in the Installation Manual.

Webserver HUB Airzone Cloud Dual 2.4-5G/Ethernet

To configure the device, follow the steps described in the Digital Support.

TEMPERATURE PROBE IN SHEATH (AZX6SONDPROTEC)

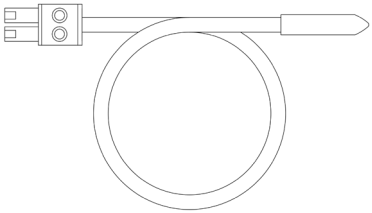
For further information, see the technical datasheet.

Description

Temperature probe in metal sheath.

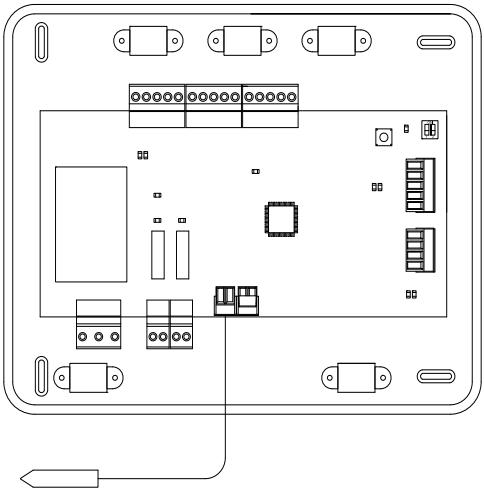
Functionalities:

- Protection probe for return water to boiler.
- Configurable as remote or distributed probe.



Connection

The probe is installed in the temperature probe connector (AI1) of the main control board.



12V POWER SUPPLY (AZX6POWER)

For further information, see the technical datasheet.

Description

External power supply for Airzone system. Mounted on DIN rail. 110/230 VAC power supply.

Functionalities:

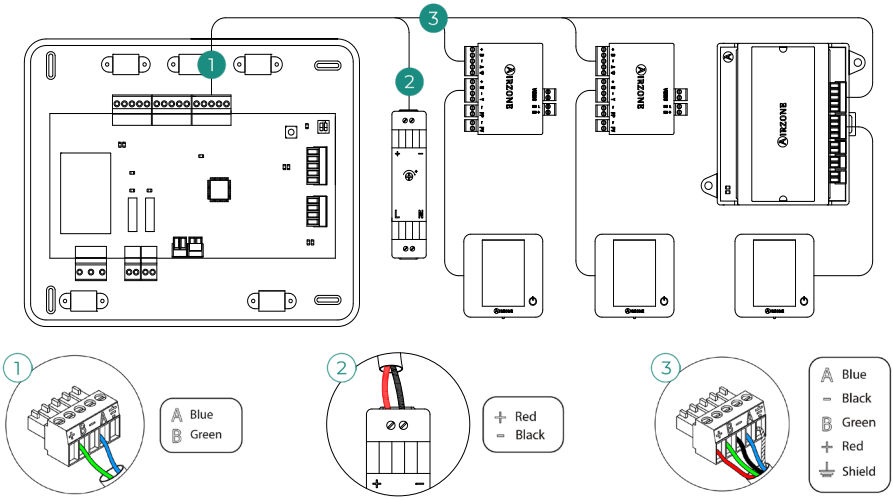
- Up to 6 Blueface Zero per power supply.
- Power supply for more than 6 control modules with Blueface Zero or 10 modules without Blueface Zero. These values can be altered depending on the separation distance among them.

Connection

The 12V power supply is a device that is connected to the Airzone connection bus of the main control board.

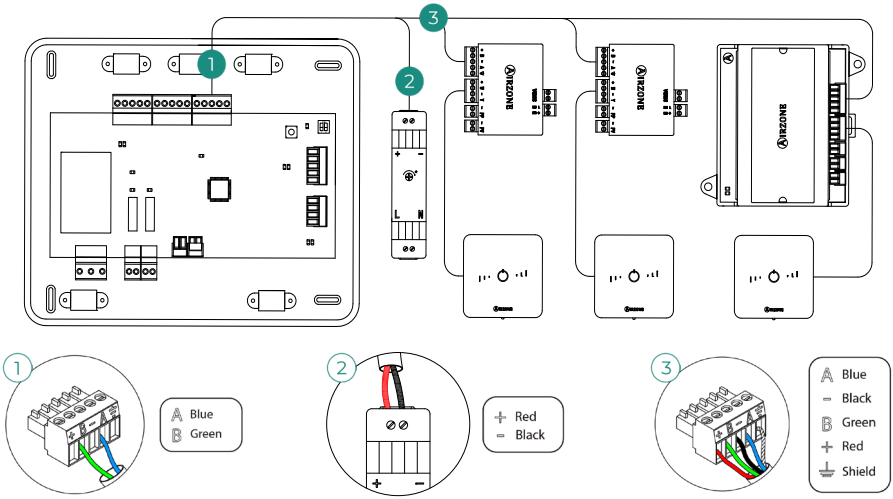
Use shielded twisted pair 4 wired cable: 2x0.22 mm^2 + 2x0.5 mm^2 (AWG 23 – 2 wired + AWG 20 – 2 wired). Connect the blue and green wires to the Airzone connection bus and the red and black wires to the power supply to power the modules. The connection of the modules will be carried out as indicated in the corresponding sections. Fix the wires with the screws on the terminal, following the color code.

Connection of up to 6 modules with Blueface Zero



Note: *Do not connect the "-" pole to the "+" terminal. It may damage the device.*

Connection of up to 10 modules without Blueface Zero

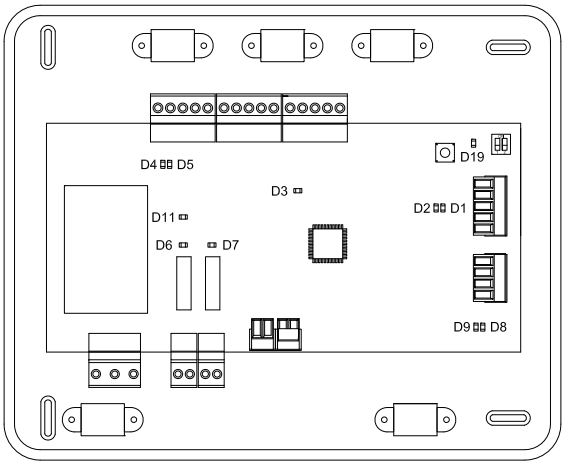


Note: *Do not connect the "-" pole to the "+" terminal. It may damage the device.*

Checking the installation

Check the following items:

1. Status of the main control board LED.
2. LED status of the control elements connected. Consult the Self-diagnostics section on each element's technical datasheet.
3. Power supply to wired and wireless thermostats.



LED	Meaning	LED status	Color
D1	Data reception from automation bus	Blinking	Green
D2	Data transmission to automation bus	Blinking	Red
D3	Main control board activity	Blinking	Green
D4	Data transmission to Airzone connection bus	Blinking	Red
D5	Data reception from Airzone connection bus	Blinking	Green
D6	1st stage auxiliary heat activated	Switches	Green
D7	2nd stage auxiliary heat activated	Switches	Green
D8	Data transmission to AC unit bus	Blinking	Red
D9	Data reception from AC unit bus	Blinking	Green
D11	Main control board power	Steady	Red
D19	Association channel: active	On: Steady	Red

Initial setup

Once the installation has been installed and all the elements are correctly connected, power the system for it setup. Follow the steps described in the following sections to configure all thermostats.

Important: Before performing the initial setup of the system, configure firstly the secondary zones.

Note: *It is recommended to configure firstly thermostats which will operate as Main.*

SECONDARY ZONES SETTINGS

Important: Only zones with wired zone modules can be configured as secondary zones.

To set secondary zones, follow these instructions:

- Connect a Blueface Zero or Think thermostat to the secondary zone module.
- Perform the steps listed in the section below (according to your thermostat). Do not proceed to the next step until you have completed the inital setup of the secondary zone.
- Disconnect the thermostat from the secondary zone module. After a few seconds, this module will be available on the menu of associated outputs.
- Once all modules are configured, configure the main module, then any remaining modules and link the secondary zones to the main zones.

Note: *It is recommended the use of a Blueface Zero thermostat for configuring secondary zones.*

BLUEFACE ZERO AND THINK THERMOSTATS

Important: Once the setup has been started, it must conclude. You will be able to modify the desired parameters later.

Language 1

These available languages are: English, French and Spanish..

Setting wireless device 2

In case of wireless Think thermostats, start the radio channel search.

- Open the radio channel. To do that press on SW1, the LED D19 will remain solid red. Once open, you have 15 minutes to make the association. If that period of time expires, start the process over again. You can also open the channel association radio through the Blueface Zero thermostats (see section *System parameters*).
  Important: Do not to open more than one radio channel at the same time, it may alter the process.

- Start the radio channel search. To do so, touch the AIRZONE logo displayed on the thermostat.
- The thermostat will display the different wireless zone modules found, with the signal level of each one of them. Select the wanted module and press “Check”, the selected module will begin to “beep” to be identified. Verify the range is correct (30% minimum) and confirm.

Important: Before selecting the zone module which will be associated with the thermostat, check that this module is the desired one. If this module is not the correct one, use the control bar to select another module and check again.

Important: The thermostat will display first the wireless zone modules which are closer to it. Remember to configure this thermostat near the wireless zone module to associate for greater comfort.

Temperature units 3

Only if it has not been previously configured by any thermostat.

Select the units you want to use: Celsius (°C) or Fahrenheit (°F).

Zone ID 4

Select the zone ID for this thermostat. All the zones have a corresponding control output (output for motorized elements or relay radiant heat control module). For example, the zone 1 will control the control relay output O1 of the relay radiant heat control module.

Linked zones 5

Only if there are previously configured secondary zones.

If necessary, the system allows you to associate more than one control output to a zone. It is possible to control multiple outputs from the same thermostat.

Important: You must select the zone/s that you want to configure as secondary outputs before confirming.

Thermostat settings 6

Select the operation of the thermostat:

- Main: Controls all the parameters of the installation.
- Zone: Controls the parameters of the zone.

Control stages 7

Only for installations with relay radiant heat control module.

Select stages to be controlled:

- Heating: Air, Radiant or Air+Radiant.
- Cooling: Air.

Select the type of unit installed for each stage:

- Air: Direct expansion or water Fancoil unit.
- Radiant: Electric, water or air supply unit.

Main ID 8

Only if the thermostat has been configured as "Zone" previously.

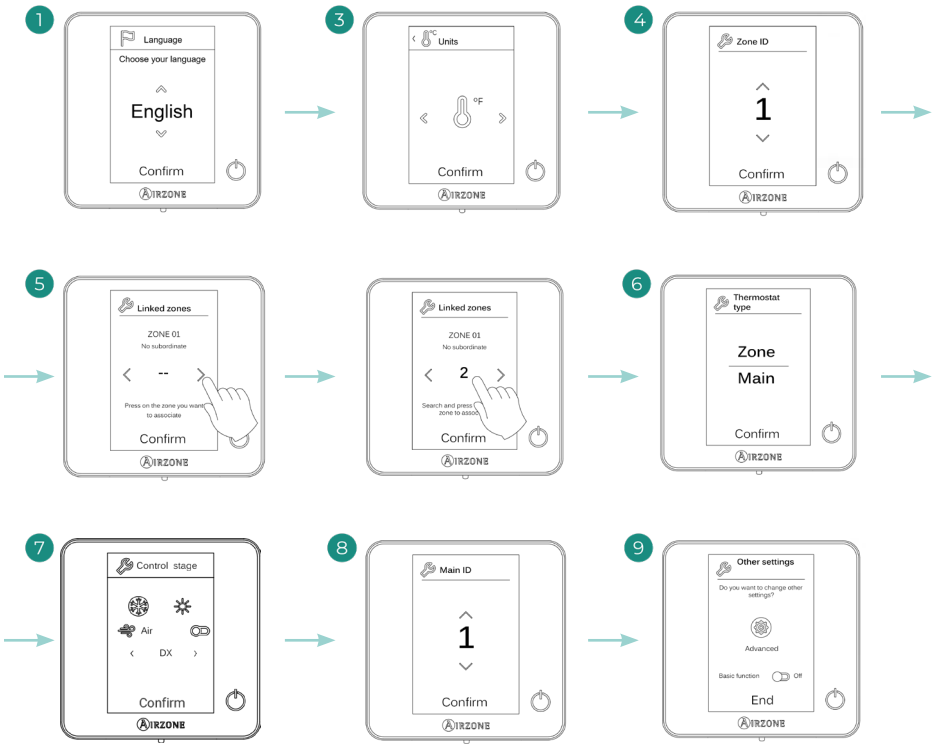
Select the ID of the thermostat configured as "Main" in step 6. The main thermostat will set the operation mode of the zone thermostat.

Note: *If a main thermostat has not been previously set, it will only show "Address 0". It is recommended to configure the main thermostat before the zone thermostats.*

Other settings 9

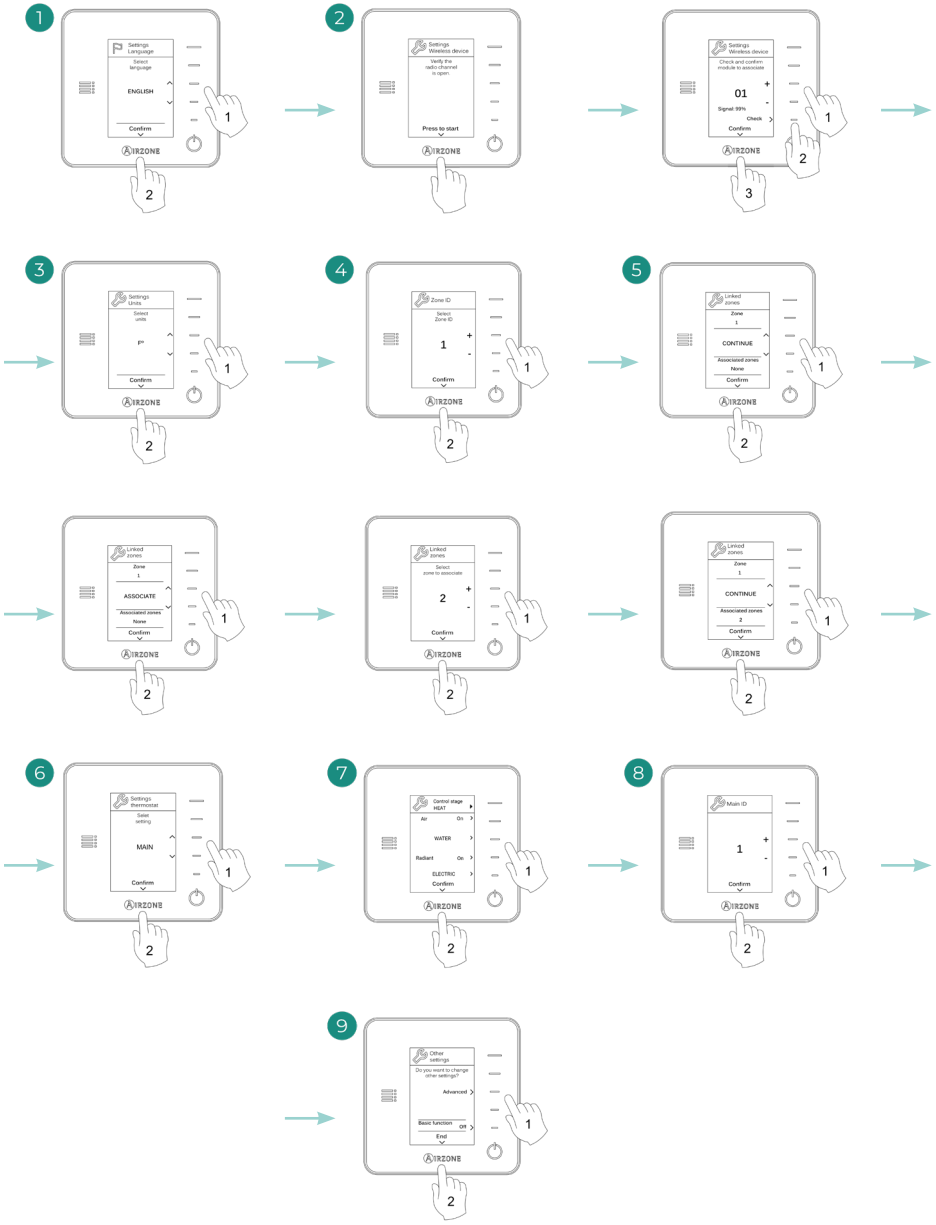
Press "End" to complete the initial setup or press "Advanced" to configure additional settings. Activate the basic function if required (more details in *Advanced Settings - Zone parameters - Use mode* section).

Blueface Zero



Think

Important: Use AIRZONE to confirm and ☰ to return in case you are in submenus.



LITE THERMOSTATS

To configure a Lite thermostat, follow these steps:

Wired Lite thermostat

- Connect the thermostat.
- Press the LED ⏻ to confirm the association.
- The zone ID associated to the thermostat is the lowest available ID number.
- If the association is successful, the LED ⏻ will flash green 5 times.

Wireless Lite thermostat

- Press SW1 on the main control board to open the association wireless channel, wait a few seconds so the zone module which will be associated to the thermostat opens its wireless association channel (the wireless opening LED must be solid red).
- Insert the battery to supply the thermostat.
- Press the LED ⏻ to begin the wireless search. The LED ⏻ will blink in green.
  Important: The thermostat will display first the wireless zone modules which are closer to it. Remember to configure this thermostat near the wireless zone module to associate for greater comfort.

- The module which will be associated to the Lite thermostat will begin to make a “beep” for its identification. The LED ı'''ı will show the signal level of this module:

  - ◊ ı'''ı Low signal range level (it is not recommended to perform the association).
  - ◊ ı'''ı Medium signal range level.
  - ◊ ı'''ı Good signal range level.
  - ◊ ı'''ı Excellent signal range level.

- Press the LED ⏻ confirm the association, otherwise use ı'''ı to select another module.
- The zone ID associated to the thermostat is the lowest available ID number.
- If the association is successful, the LED ⏻ will flash green 5 times. If it flashes red twice, it means the thermostat is out of range.

Main ID of the Lite thermostat

In case there are more than one master thermostat on the installation, it is required to set the “Main ID” parameter of the Lite thermostat for its proper operation (see section *Advanced settings - Blueface Zero thermostat - Zone parameters*). If no master is configured for the Lite thermostat, the error “Lite without main ID” will be displayed on the Blueface Zero thermostat, while all Lite LED ı'''ı will show a steady white light.

Configure other functionalities of the LITE thermostat from the advanced configuration menu of a Blueface Zero thermostat (see section *Advanced settings - Zone parameters*) or Webserver Cloud.

Important: For changing the zone ID, access the parameter “Zone ID”, inside the advanced settings menu from a Blueface Zero thermostat (see section *Advanced settings - Zone parameters*).

Lite thermostat reset

To reset to factory values on any Lite thermostat, remove the Lite thermostat from its base, turn on DIP switch 8 and place it again on its base. Press on ⏻, the LED will flash blink twice when the reset process is completed.

To reassociate it, turn off DIP switch 8, place the thermostat on its base and follow the steps displayed in the *Initial setup - Lite thermostats* section.

CHECKING THE INITIAL SETUP

Check the following aspects:

1. **AC unit-system communication:** Set the Airzone system to an operation mode other than Stop and turn on the zone to generate demand. Verify that the mode imposed on the main thermostat appears on the indoor unit thermostat and that the set point temperature changes on the same.
2. **Opening/Closing of the dampers, ON/OFF of individual AC units and control outputs:** Turn on and generate demand in all the zones. Then, turn each zone off and on to check that the damper operates properly.
3. Check that the **static pressure** in the ducted AC unit is in accordance with the conditions of the airflow distribution network in which it is installed (see the manufacturer's service manual for the AC unit if you need to modify this parameter).

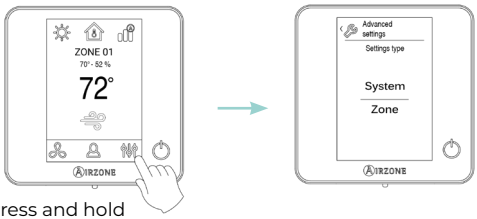
Important: After the setup or in case of power outage, the system takes a few minutes to measure precisely the temperature and the relative humidity.

User and zone settings

For further information, see the User's Manual.

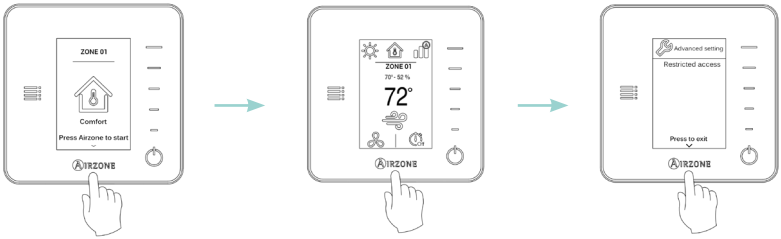
Advanced settings

AIRZONE BLUEFACE ZERO THERMOSTAT



Press and hold

AIRZONE THINK THERMOSTAT



Press once

Press and hold

Press and hold

AIRZONE CLOUD

Advanced system configuration can be performed from the Airzone Cloud application (see Airtools section of the Digital Support).

The following parameters can be configured:

- System parameters
- Zone parameters

SYSTEM PARAMETERS

- **System ID[1].** *(Not available on systems with Webserver configured as BACnet)* This allows you to define the number of the system in your installation.

- **Temperature range[2].** This allows you to select the maximum temperature for heating mode (18 - 30 °C / 64 - 86 °F) and minimum temperature for cooling mode (18 - 26 °C / 64 - 78 °F), in steps of 1 °C / 2 °F. By default, the maximum heating temperature is set to 30 °C / 86 °F and the minimum cooling temperature to 18 °C / 64 °F. It is also possible to disable the temperature range for heating or cooling modes independently if needed.

- **Global ventilation[2].** This allows you to activate/deactivate the fan mode in all zones when the system is not on demand in any zone. By default is deactivated. When activated, the following settings have to be configured:

  - **Every (min).** Length of the interval (in minutes) between periods of ventilation. Configurable from 5 to 40 minutes, in 5 minutes increments (by default, 15 minutes).
  - **Run for (min).** Time duration that ventilation is activated (in minutes). Configurable from 5 to 20 minutes, in 5 minutes increments (by default, 10 minutes).

  Note: *When global ventilation is activated, a warning message will appear on the screensaver.*

- **Anti-freezing[2].** This feature prevents the room temperature from lowering below 12 °C / 53 °F, even if the zone is Off. By default is deactivated.

- **Type of opening[2].** *(Only available in installations with intelligent damper)* This allows you to enable/disable the modulation of the system dampers. Modulation scales the opening or closing of the damper in 4 steps according to the temperature demand of the zone, adjusting the zone airflow rate. The available configurations are: all/nothing or modulating (by default).

  Note: *Changing this parameter affects all motorized dampers in the installation.*

- **Minimum air[2].** *(Only available in installations with intelligent damper and with the parameter "Type of opening" as "Modulating")* This allows you to enable/disable the entry of a minimum airflow in zones where the set point temperature has been reached. When the zone is Off, the damper shuts completely.

  Note: *Changing this parameter affects all motorized dampers in the installation.*

[1] *Parameter not available in Airzone Think thermostat.*
[2] *Parameters not available in Airzone Blueface Zero and Think thermostats.*

- **Auxiliary heat[2].** This allows you to enable/disable the auxiliary heat. By default is deactivated. When enabled, the following settings have to be configured:

  - **Configuration menu**

    - **Available stages.** Stages of auxiliary heat that the system has (1 o 2).
    - **First supply heat.** The first system that supplies heat: Heat pump or Aux. heat.
    - **Fan configuration.** Selectable between Electric (fan On) or Furnace (fan Off) option. If you select "Electric" option, define:

      - **Fan delay (s).** Delay time (in seconds) to turn off the fan when there is no demand from the auxiliary heater. Values: 0, 45, 60 and 120 seconds.

  - **First stage menu**

    - **First stage differential.** Temperature that the system has to surpass to activate the first stage of auxiliary heat. Values: 1 to 5 °C / 2 to 10 °F, in increments of 0.5 °C / 1 °F (by default, 1 °C / 2 °F).
    - **First stage hysteresis.** Hysteresis for the operation of the first stage. Values: 0.5 to 1 °C / 1 to 2 °F, in increments of 0.5 °C / 1 °F (by default, 0.5 °C / 1 °F).
    - **Min. time exhausted.** Minimum time (in minutes) that the heat pump must be active before the first stage of auxiliary heat can be activated. Values: 0, 45, 60 and 120 minutes (by default, 45 minutes).

  - **Second stage menu**

    - **Second stage differential.** Temperature that the system has to surpass to activate the second stage of auxiliary heat. Values: 1 to 5 °C / 2 to 10 °F, in increments of 0.5 °C / 1 °F (by default, 1 °C / 2 °F).
    - **Second stage hysteresis.** Hysteresis for the operation of the second stage. Values: 0.5 to 1 °C / 1 to 2 °F, in increments of 0.5 °C / 1 °F (in increments of, 0.5 °C / 1 °F).
    - **Min. time exhausted.** Minimum time (in minutes) that the first stage must be active before the second stage of auxiliary heat can be activated. Values: 0, 45, 60 and 120 minutes (by default, 45 minutes).

- **Autochange[2].** This option allows the user to configure the three values that define the auto-changeover operation that sets the mode of the indoor unit.

  - **Set point Differential.** Minimum differential between heating and cooling set points. Values: 0 to 3.5 °C / 0 to 7 °F, in increments of 0.5 °C / 1 °F (by default, 1 °C / 2 °F).
  - **Mode switching protection (min).** Minimum run time (in minutes) before allowing a mode change. Values: 15, 30, 60 and 90 minutes (by default, 30 minutes).
  - **Heat OVR temp.** If a zone has a higher heating demand than this temperature, the system reverts heating operation even if the cooling global demand exceeds the global heat demand. Values: Off and 1.5 to 4 °C / 3 to 8 °F, in increments of 0.5 °C / 1 °F (by default, Off).

[2] *Parameters not available in Airzone Blueface Zero and Think thermostats.*

- **Away mode settings[2].** This allows you to configure the parameters of unoccupied and vacation user mode.

  - **Hysteresis.** If the set point temperature is surpassed by the differential defined, the zone will cease demand. Range: 1 to 3.5 °C / 2 to 7 °F, in increments of 0.5 °C / 1 °F (by default, 3 °C / 6 °F).
  - **Override time (min).** Time (in minutes) that the zone will resume the selected away mode when the user touches the thermostat screen during an away period. Values: 10 to 120 minutes, in increments of 10 minutes (by default, 60 minutes).

- **Heating stage[2].** This allows you to configure the following parameters of the Air+Radiant control stage (see *Zone parameters - Control stages* for further information):

  - **Temperature gap.** Temperature gap after which the second stage must be activated.
  - **First stage.** First stage to operate: Air or Radiant.

- **BACnet[1].** *(Only available in installations with Webserver configured as BACnet)* This parameter shows the device ID, ethernet port, IP address, subnet mask and gateway IP and allows you to modify them. Click on the desired value, modify the parameters and click on the option to confirm. The default values are:

  - Device ID: 1000
  - Port: 47808
  - IP address: DHCP

- **Supply temperature[2].** *(Only available in installations with Airzone probe AZX6SONDPROTECT)* This option allows the system demand to be ignored if the supply temperature exceeds a certain limit. The selectable heating cut out temperatures are 38-46-54-62-70 °C / 100-114-129-143-158 °F. By default, the system will stop heating if the supply temperature reaches 54 °C / 129 °F.

  Note: *The system will not generate heat until past 4 minutes (minimum) from the shut of demand.*

- **Air supply setting[1].** *(Only available in Blueface Zero thermostats if radiant control stage has been enabled as "Air supply" in at least one zone, see Zone parameters - Control stages)* This allows you to choose the type of auxiliary unit that provides air supply support, as well as the delay applied to the fan:

  - **Electric.** Electrical unit that generates heat assisted by the indoor AC unit's fan. This allows you to configure the "Fan delay Off" (in seconds) parameter to set the fan off delay time to ensure proper heat dissipation. This is set to 0 seconds by default. The fan start delay time is fixed (90 seconds) and cannot be adjusted.
  - **Water.** Water unit that generates heat assisted by the indoor AC unit's fan. This allows you to configure the "Fan delay On/Off" (in seconds) parameter to set the fan start and stop delay time, to ensure that the working temperature is reached before starting to ventilate and to ensure correct heat dissipation when the demand for air supply support ceases.

[1] *Parameter not available in Airzone Think thermostat.*
[2] *Parameters not available in Airzone Blueface Zero and Think thermostats.*

- **Internet connection[1].** *(Only available in Blueface Zero thermostats)* This option enables/disables the internet connection of the system.
- **Room temperature[2].** This option allows the room temperature and relative humidity to be shown/hidden. By default, this information is shown.
- **Radio channel[1].** This allows you to enable/disable the system's wireless association channel.
- **Reset system[1].** *(Only available for master thermostat)* This allows you to reset the system by returning it to factory settings. To reconfigure the thermostats, go to the *Initial setup* section. Wait 60 seconds until the system restarts before connecting again.

[1] *Parameter not available in Airzone Think thermostat.*
[2] *Parameters not available in Airzone Blueface Zero and Think thermostats.*

ZONE PARAMETERS

- **Zone ID**[1]**.** *(Only available in zones controlled by Lite thermostats, from remote zones)* Shows and allows to modify the zone number assigned among the availables.

  Important: It is necessary to set the "Main ID" parameter of the main thermostat to link the zone thermostats.

- **Linked zones.** It allows you to monitor and control secondary zones linked to the main thermostat.

- **Thermostat settings.** This allows you to set up a thermostat as Master or Zone.

- **Main ID.** *(Only available if the thermostat is configured as "Zone")* Sets the main zone which imposes its mode to this zone, in such a way that the zone will only be able to control locally the set point temperature and the fan speed.

- **Use mode**[3]**.** This allows you to configure the thermostat in basic or advanced mode. By default, it is set to advanced. The parameters that can be controlled in basic mode are:

  - On/Off
  - Set point temperature
  - Operation mode (only if this is the master thermostat)

  If a Lite thermostat is configured in basic mode, no type of control will be permitted, acting only as a zone temperature probe. You can control this zone from Blueface Zero or Airzone Cloud.

  If you need to reset the thermostat to advanced mode, access the advanced settings menu and activate "Advanced" use mode.

- **Offset.** This allows you to correct the room temperature measured in the different zones or in all of them, due to deviations produced by sources of heat/cold nearby, with a correction factor between - 2.5 °C and 2.5 °C / - 5 °F and 5 °F, in increments of 0.5 °C / 1 °F. By default, it is set to 0 °C / 0 °F.

- **Control stages.** This allows you to configure the heating and cooling stages in the selected zone or all zones in the system. The options to configure are:

  - **Air.** Enables the air heating/cooling in the zone selected and to configure whether is a direct expansion or water unit.
  - **Radiant.** Enables radiant heating in the zone selected and to configure whether a water, an electrical or an auxiliary unit (air supply function).

[1] *Parameter not available in Airzone Think thermostat.*
[3] *Parameter not available in Airzone Blueface Zero thermostat.*

- **Occupancy contact[3].** It determines the state of the module of a zone based on the occupancy. It only has effect on the zone module if it is associated to a thermostat (it does not operate in secondary zone modules). If after 5 minutes no occupancy is detected in a zone where this contact is enabled, the "Timer 90" feature is activated, displaying an "Occupancy" notification on the thermostat. By default is deactivated. In order to activate this feature, configure it as "Normally open or closed".

- **Window contact[3].** It determines the state of a zone module based on the opening of a window. It only has effect on the control element of the zone module. When a window opening is detected in a zone where this contact is activated, after 60 seconds the zone turns off, displaying an "Open window" notification on the thermostat. By default is deactivated. In order to activate this feature, configure it as "Normally open or closed".

- **User mode set point[1].** Configure the set point temperature of each user mode for each zone:

  - **Comfort.** Heat: 15 to 30 °C / 59 to 86 °F (by default, 20 °C / 68 °F). Cool: 18 to 30 °C / 64 to 86 °F (by default, 24 °C / 75 °F).
  - **Eco.** Heat: 15 to 30 °C / 59 to 86 °F (by default, 19 °C / 66 °F). Cool: 18 to 30 °C / 64 to 86 °F (by default, 25 °C / 77 °F).
  - **Unoccupied.** Heat: 15 to 22 °C / 59 to 72 °F (by default, 17 °C / 63 °F). Cool: 24 to 30 °C / 75 to 86 °F (by default, 27 °C / 81 °F).
  - **Vacation.** Heat: 10 to 16 °C / 50 to 61 °F (by default, 10 °C / 50 °F). Cool: 29 to 35,5 °C / 84 to 96 °F (by default, 35 °C / 95 °F).

- **Weight.** This option is used to set the weight of each zone for purposes of determining system operation. The weight of the zone will be used for calculating the mode Auto or for calculating heat demands when using auxiliary heat. It is an indicator of the size / importance of the zone. Possible values range from 1-100. By default, the weighting is set to "Auto" Auto and each zone's weight is automatically generated based on the number of zones. For example, if there are four zones, each zone's weight is automatically set to 25. If this option is disabled, the weight of the zone can be set manually.

- **Reset thermostat.** *(Not available in remote zones)* This allows you to reset the thermostat by returning to the initial settings menu.

[1] *Parameter not available in Airzone Think thermostat.*
[3] *Parameter not available in Airzone Blueface Zero thermostat.*

Incidences

WARNINGS

In the case of Airzone Blueface Zero and Think thermostats, a warning will be displayed on the screensaver.

Anti-freezing[1]. This is displayed if the function is enabled.

Unoccupied override. Displayed in case of interacting with the zone when the user mode is set to "Unoccupied". If the set point temperature is changed, it is maintained for the pre-established period of time (by default, 60 minutes) and returns to the set point temperature of the unoccupied mode.

Vacaciones en stand by. Displayed in case of interacting with the zone when the user mode is set to "Vacation". If the set point temperature is changed, it is maintained for the pre-established period of time (by default, 60 minutes) and turns off the zones again.

Occupancy. This warning indicates that no occupancy has been detected in the zone for the last 5 minutes. Therefore, the timer function is activated and the zone will switch off after 90 minutes.

Window. Indicates that the air conditioning has been suspended in the zone due to an open window. Only available in systems that have enabled the control of windows.

Global ventilation[1]. Indicates that the global ventilation is activated.

Heat supply activated. It indicates the heat supply function of the cool mode is enabled.

Battery[2]. Low battery warning.

Low battery Lite[1]. Low battery warning. Informs about the involved zone when the icon is pressed.

Note: *The low battery warning will disappear after about 5 minutes from the battery replacement.*

Lite without main ID[1]. Lite thermostat without main ID configured.

[1] *Only in Airzone Blueface Zero thermostat.*
[2] *Only in Airzone Think wireless thermostat.*

ERRORS

In the case of Airzone Blueface Zero and Think thermostats, an error message will be displayed on the screensaver, on the main screen and on “User settings - Information” menu.

In the case of any of the following errors, please contact your installer:

Communication errors

1. Thermostat - Module
2. Module - Main control board
9. Gateway - Airzone system
10. BACnet gateway - Main control board
11. Gateway - Indoor unit
12. Webserver - Main control board
13. Control module of radiant elements - Main control board
17. Lutron gateway - Main control board

AC unit error. Anomaly in the AC unit. Check the type of error in the AC unit thermostat and follow the instructions provided by the manufacturer.

Other errors

3. Motorized element not connected to the actuator output
4. Unusual behavior of the motorized element
5. Open circuit in temperature probe
6. Short circuit in temperature probe

Lite errors

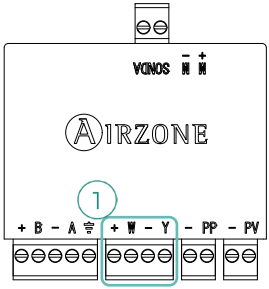
If the status LED blinks rapidly in purple, it means communication between the Lite thermostat and the zone module has been lost.

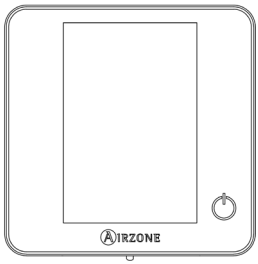
If the status LED blinks rapidly in red, it means communication between the zone module and the main control board has been lost.

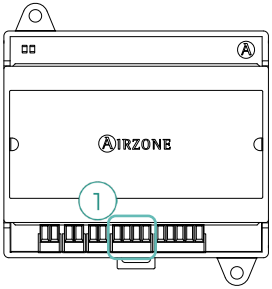
Error 1. Thermostat (Blueface Zero) - Module

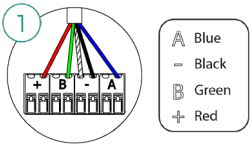
This incidence does not allow the zone to be controlled. To solve this incidence, refer to the steps below:

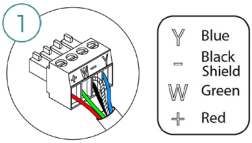
1. **Connections:** Check the polarity of the connectors of the module and the thermostat.
2. **Wiring:** Check that the voltage between the poles (W/-) and (Y/-) is about 0.65 VDC.
3. **Wiring:** Verify that the connection bus module-thermostat is not next to low-voltage wiring.
4. **Module:** Check the correct operation of the module, for this connect another thermostat and verify that the error disappears.
5. **Restart the zone and reassociate it to the system:** Press on the word *Reset* to restart the device. If the error persists, press and hold the icon and reset the thermostat. Carry out the initial configuration of the system.
6. **Restart the system:** If you restart the system, this error may appear on the thermostats due to the restart. This message should disappear in approximately 30 seconds once the restart has been completed.

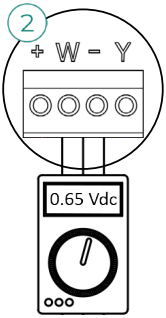










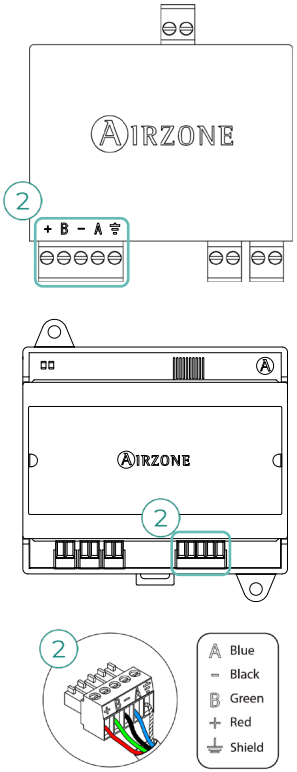


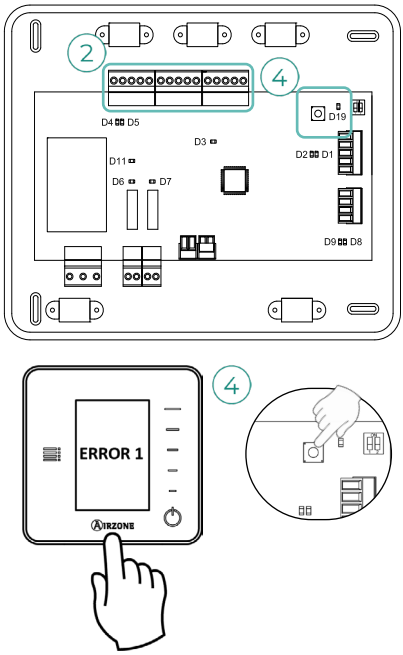


Error 1. Thermostat (Think) - Module

This incidence does not allow the zone to be controlled. To solve this incidence, refer to the steps below:

1. **Thermostat status:** Check the thermostat's signal range from the module by checking the "Information" parameter (see the section System advanced settings - System parameters) or by bringing the thermostat closer to the module, if it re-establishes communication, it will be necessary to relocate the thermostat because it was not in signal range.
2. **Module status:** Check that the power supply is correct.
3. **Module status:** Check the correct operation of the wireless communication LED.
   - AZVAFDAMPERxxR / AZVAFZMRADR: D2 and D3.
   - AZVAFZMOxxxR: D18 and D19.
4. **Restart the zone and reassociate it to the system:** To do this, press and hold on AIRZONE and perform the initial system configuration process. Remember that, in order to associate wireless devices, you should first open the wireless association channel, either through the SW1 button on the main control board or from any thermostat in the "Radio channel" parameter of the System advanced settings - Zone parameters menu.
5. **Restart the system:** If you restart the system, this error may appear on the thermostats due to the restart. This message should disappear in approximately 30 seconds once the restart has been completed.

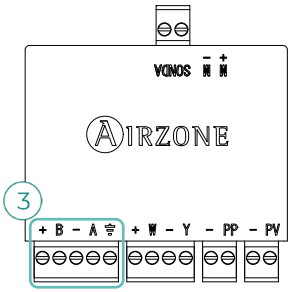


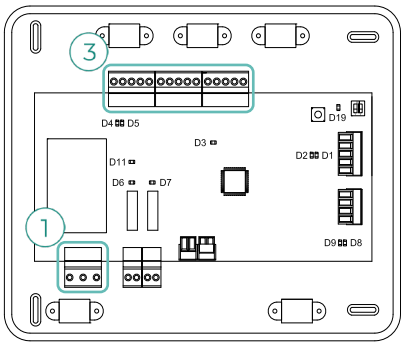


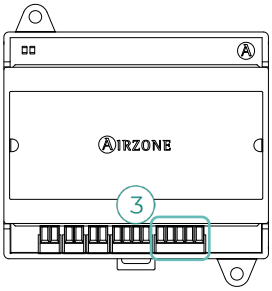
Error 2. Module - Main control board

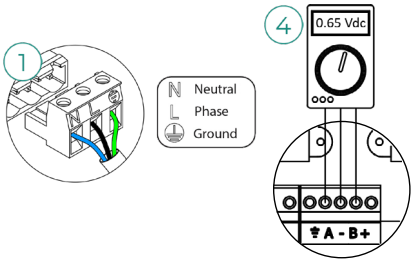
This incidence does not allow the zone to be controlled. Check this error is not common to all thermostats, if so, verify the proper operation of the main control board. To solve this incidence, refer to the steps below:

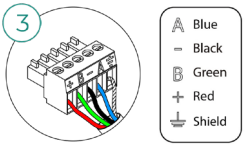
1. **Main control board status:** Check that the power supply is correct.
2. **Main control board status:** Check the correct operation of the Airzone connection bus LED (D4 and D5).
3. **Connections:** Verify the polarity of the main control board and thermostat connectors.
4. **Wiring:** Check that the voltage between the poles (A/-) and (B/-) is about 0.65 VDC.
5. **Restart the zone and reassociate it to the system:**
   - Blueface Zero thermostats: Press on the word *Reset* to restart the device. If the error persists, press and hold the icon and reset the thermostat. Carry out the initial configuration of the system.
   - Think thermostats: Press and hold on AIRZONE and perform the initial system configuration process.

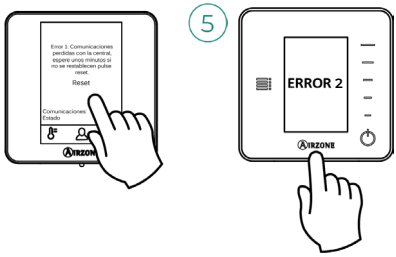








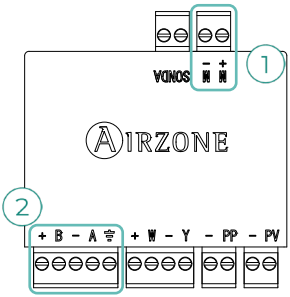


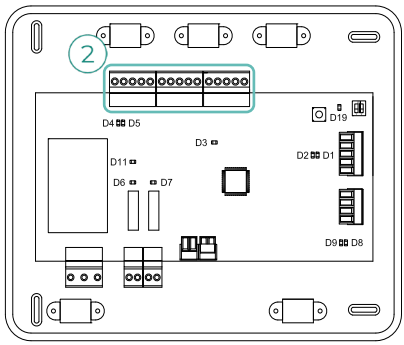


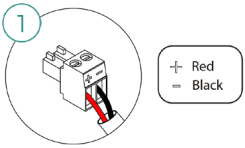
Error 3. Motorized element not connected to the actuator output

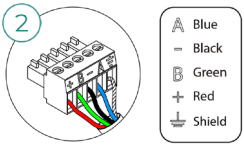
The system does not detect any motorized element connected to the zone module actuator output. To solve this incidence, refer to the steps below:

1. **Connections:** Check the status of the connection terminal in the actuator output of the zone module.
2. **Connections:** Disconnect and connect the terminal of the Airzone connection bus.



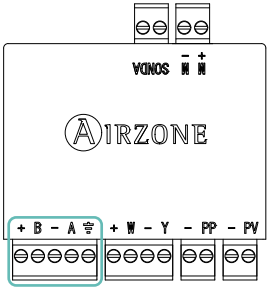


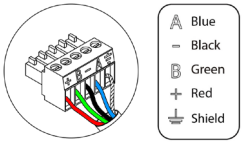




Error 4. Unusual behavior of the motorized element

The system detects that the motorized element has an abnormality and blocks the opening-closing movement. Disconnect and connect the Airzone connection bus terminal and check if the error disappears, otherwise, proceed to the replacement of the device or sent it for repair.





Error 5. Open circuit in temperature probe

The zone loses the room temperature measurement, leaving the zone unable to generate demand. In the event of such an incident, the device must be replaced or sent for repair.

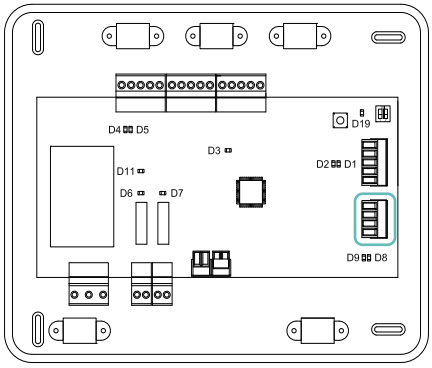
Error 6. Short circuit in temperature probe

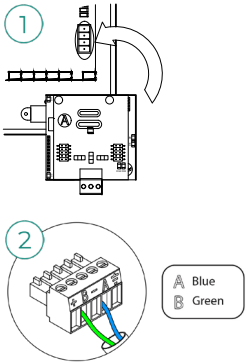
The zone loses the room temperature measurement, leaving the zone unable to generate demand. In the event of such an incident, the device must be replaced or sent for repair.

Error 9. Gateway - Airzone system

The system loses communication with the gateway and therefore with the AC unit. The system will open all its zones and disable control from the system's thermostats, thus allowing the AC unit to operate from the manufacturer's thermostat. To solve this incidence, refer to the steps below:

1. **Connections:** Check that the gateway is properly connected to the main control board's IU port.
2. **Wiring:** If the gateway is a DIN rail format, check that the polarity of the connectors of the gateway and the main control board's AC unit bus is correct.
3. **Gateway status:** Check that the status of the connected gateway's LED is correct. To do so, make use of the self-diagnose section or your gateway's technical datasheet.

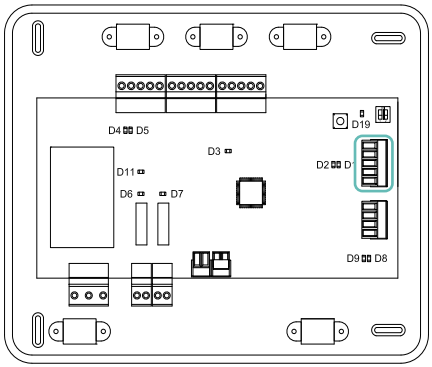


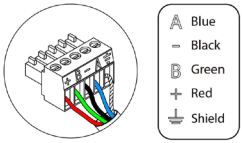


Error 10. BACnet gateway - Main control board

Webserver configured as BACnet

The system loses communication with the Webserver. Check that the Webserver is properly connected to the main control board's automation bus.

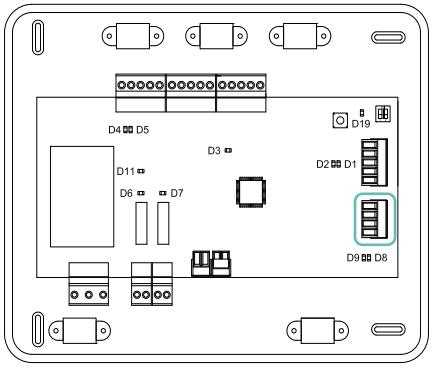


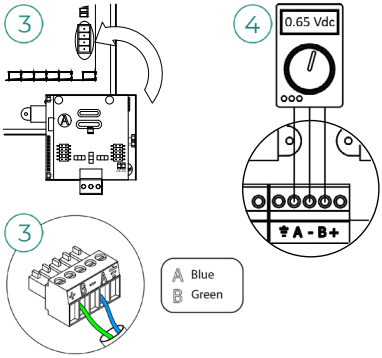


Error 11. Gateway - Indoor unit

The gateway loses communication with the AC unit. The system will open all its zones and disable control from the system's thermostats, thus allowing the AC unit to operate from the manufacturer's thermostat. To solve this incidence, refer to the steps below:

1. **Connections:** Check that the AC unit is powered. To do this, check that the AC unit's thermostat is on.
2. **Indoor unit:** Check whether the AC unit operates properly independently of the system. To do so, disconnect the AC unit from the Airzone system and activate the unit from the AC unit's thermostat.
3. **Connections:** Check that the polarity of the connections to the gateway and indoor unit is correct. Consult your gateway's technical datasheet.
4. **Wiring:** In DIN-rail gateways, check that the voltage between the poles (A/-) and (B/-) is about 0.65 VDC.
5. **Gateway status:** Check that the status of the connected gateway's LED is correct. To do so, make use of the self-diagnose section or your gateway's technical datasheet.

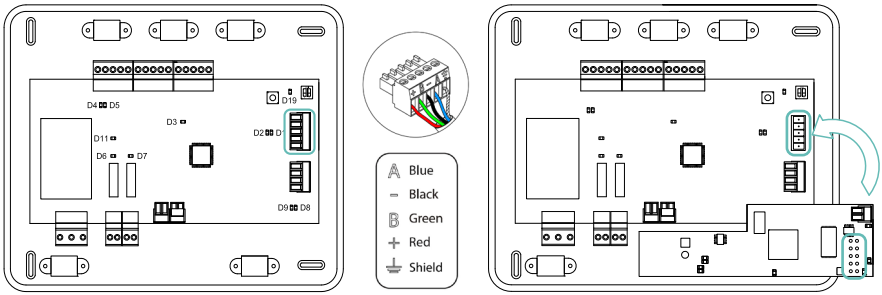




Error 12. Webserver - Main control board

The system loses communication with the Webserver. To solve this incidence, refer to the steps below:

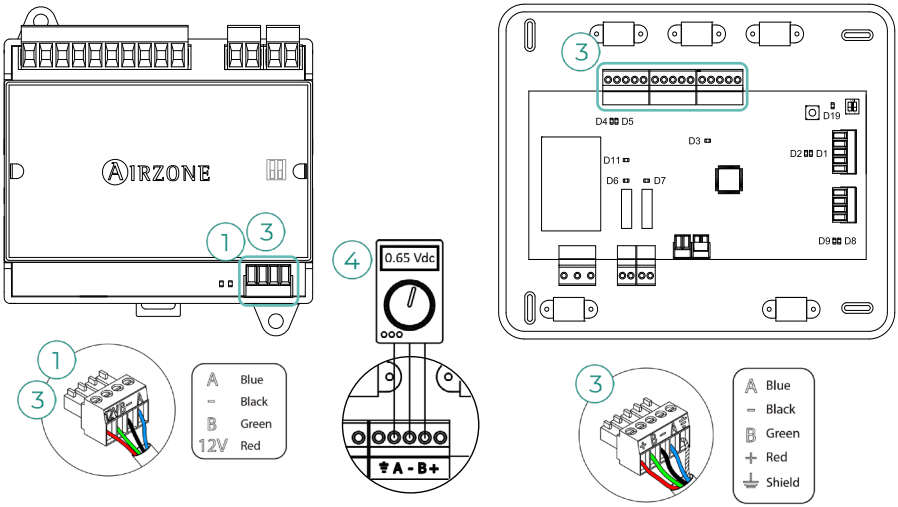
1. **Connections:** Check that the Webserver is properly connected to the main control board's automation bus.
2. **Connections:** Check that the polarity of the connectors of the Webserver and the main control board's automation bus is correct.
3. **Webserver status:** Check that the status of the Webserver's LED is correct. To do so, make use of your Webserver's self-diagnose section or technical datasheet.



Error 13. Control module of radiant elements - Main control board

This incidence does not allow the system to control the device. To solve this incidence, refer to the steps below:

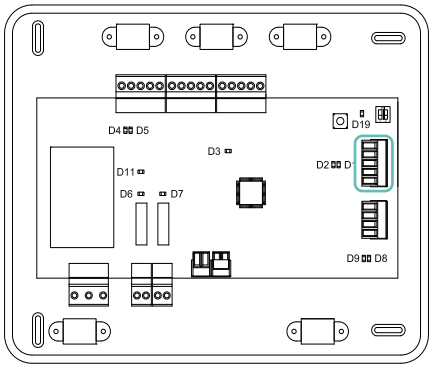
1. **Module status:** Check that the power supply is correct.
2. **Module and main control board status:** Correct operation of the Airzone connection bus LED (D3 y D4).
3. **Connections:** Check that the polarity of the connections of the module and the main control board is correct.
4. **Wiring:** Check that the voltage between the poles (A/-) and (B/-) is about 0.65 VDC.

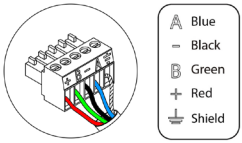


Error 17. Lutron gateway - Main control board

Webserver configured as Lutron

The system loses communication with the Webserver. Check that the Webserver is properly connected to the main control board's automation bus.





Navigation trees

AIRZONE BLUEFACE ZERO THERMOSTAT

Screensaver

Time and date
Current zone
Room temperature

Relative humidity
Operation mode
Weather information

Press any place on the screen

Main screen

Operation mode[1]

- Cool
- Heat
- Dry
- Auto
- Emergency heat[2]

User mode[1]

- Confort
- Eco
- Night time
- Unoccupied
- Vacation
- Stop

Airflow control[1]

- Silence
- Standard
- Power

System speed[1]

- High
- Medium
- Low
- Automatic

Current zone

Remote zone control:

- System zone
- All zones

Local ventilation

- Activated
- Desactivated

Set point temperature

- Plus
- Minus

Room temperature

Relative humidity

User settings

- Language
- Brightness
- Information

Zone settings

- Timer
- Heating stages[4]
- Lite settings[5]

Zone demand[3]

On / Off

Press and hold ⚙ to access the Advanced settings menu

Advanced settings

Zone

- Zone ID[5]
- Linked zones
- Thermostat settings
- Offset
- Control stages
- Use mode set point
- Weight
- Reset thermostat

System

- System ID
- Internet connection
- BACnet
- Radio channel
- Reset system

[1] Only for main thermostat
[2] Mode only available when "Auxiliary heat" parameter is enabled
[3] Only if the zone is on demand
[4] Only available for some type of installations and system configurations
[5] Only available in zones controlled by wireless Lite thermostat through "Remote zones"

AIRZONE THINK THERMOSTAT

Use AIRZONE to confirm and ☰ to return in case you are in submenus.

Screensaver

Max./Min. temperature
Zone status

Weather information
Airzone

Press AIRZONE

Main screen

Informative icons

Operation mode

- Cool
- Heat
- Dry
- Auto
- Emergency heat[2]

Current zone

Room temperature

Relative humidity

User mode

- Confort
- Eco
- Night time
- Unoccupied
- Vacation
- Stop

Set point temperature

Zone demand[1]

Timer

Airflow control

- Silence
- Standard
- Power

Fan speed

- High
- Medium
- Low
- Automatic

Local ventilation

- Activated
- Desactivated

Capacitive icons

Configuration menu

- Operation mode[3]
- Heat supply
- User mode[3]
- Airflow control / Fan speed[4]
- Local ventilation
- Timer
- Information
- Main zone[5]

Control bar

- Increase / Decrease temperature

On / Off

Airzone

Press and hold twice on AIRZONE to access the Advanced settings menu

Zone

- Linked zones
- Thermostat settings
- Main ID
- Use mode
- Offset
- Control stages
- Window contact
- Occupancy contact
- Weight
- Reset thermostat

[1] Only if the zone is on demand
[2] Mode only available when "Auxiliary heat" parameter is enabled
[3] Only for main thermostat
[4] Only available for some type of installations and system configurations
[5] Only available in case that main thermostat of the group fails

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