

WIRING INDICATIONS



SAFETY AND WARNING NOTES

Before operation, ensure you have read and understood all the information and instructions in this leaflet.

ATTENTION: Disconnect the system from the supply network before undertaking any installation, maintenance, modification or removal.

As a minimum, the following conditions must be met before operation:

- All wires must be properly secured in terminal blocks.
- Unit and power supply cables must be properly fused.
- All output lines must be correctly rated and connected with the correct polarity.
- No modification should be made while the unit is in operation.
- Do not introduce any object into the unit.
- Keep away from fire and water.

COMPONENTS

The Zoning System is composed by three electronic components and a number of mechanical components like dampers and bypass, depending on the installation.

The electronic elements are:

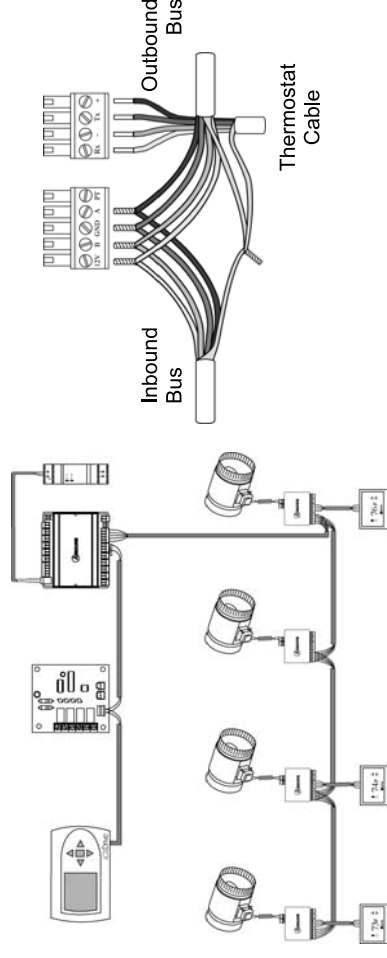
- 1)** Airzone Controller
- 2)** Zone Control Controller or Zone Module
- 3)** Touch Thermostat

Optionally, the system may be fitted with remote temperature sensors.

ZONING SYSTEM OPERATION

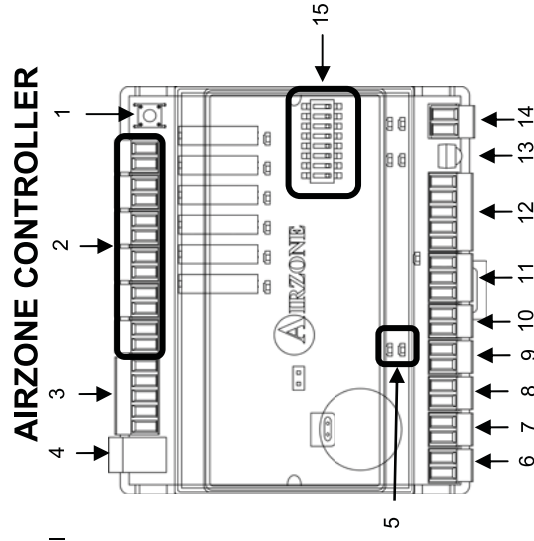
Some important characteristics of the iQ Zoning System are:

- 1) It operates with 12 VDC.
- 2) It runs a single 4 conductor, stranded and shielded cable to all system elements.
- 3) The dampers are power open/power close.
- 4) The way the Airzone Controller communicates with the Zone Modules, is based in a communication protocol.
- 5) It communicates with the iQ Controller with only two data wires.



Connection Diagram

Connections detail



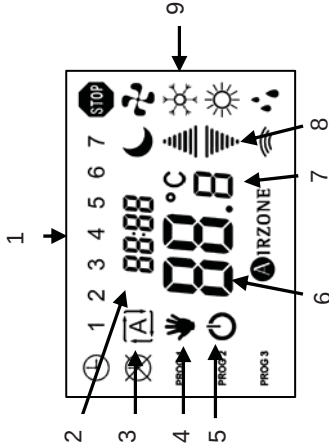
N°	Description	N°	Description
1	Set configuration push button	9	Fire Alarm Contact
2	Not used	10	Integration Gateways connector
3	Bypass Connector	11	iQ Link
4	12VDC Input	12	Bus Connector
5	J2 Jumper	13	Not used
6	Supply Temperature Probe input	14	Not used
7	Not used	15	Switch for system's configuration
8	Not used		

ZONE MODULE



THERMOSTAT DESCRIPTION

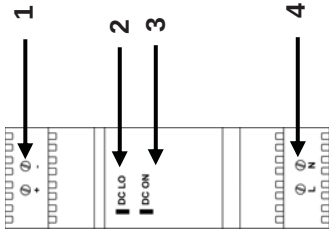
The Touch Thermostat, is the access panel for the installer to configure the Zone Module, and also, for the user to change the temperature setting for the zone and configure time scheduled set points.



N°	Description
1	Days of the week
2	Hour display
3	Automatic Mode
4	Manual Mode
5	ON/OFF icon
6	Temperature display
7	Temperature units
8	Selection arrows
9	AC Mode indication

POWER SUPPLY

The non autonomous power supply has been designed to provide the necessary current and voltage to the Airzone zoning system.



N°	Description
1	Power supply 12 Vdc
2	Error indication LED (red)
3	Operation LED (green)
4	Power supply 110 Vac

ASSEMBLY INSTRUCTIONS

AIRZONE CONTROLLER

This unit must be assembled on a rail according to the DIN 50022 – 35X75 standard.

Place the upper part on the rail. Using a screwdriver pull slightly towards underneath the lip in order to fit the module. To disassemble, pull slightly towards underneath the lip until it becomes released from the DIN rail. Pull slightly upwards.

ZONE MODULE

This item should be assembled on the guides on the motorised damper motor frame, if annexed to the motor system. It is also fitted with bases for surface mounting if it is not annexed to a motor system.

Disconnect all the connectors, fit the local-module box on the rail in the motor case and slide until fully inserted.

The Zone Module is normally installed mounted to the Damper Motor, as shown in the figure on the right.

THERMOSTAT

The thermostat Tacto consists of three parts: fixing support, cover and touch screen. Follow these steps for correct installation and fixing:

- 1) Fix the fixing support to the wall with two screws. Pass the communication-bus wires through the circular hole provided.
- 2) Separate the cover from the touch screen, using the slot provided in the bottom of the cover (use a coin to do this rather than any sharp objects).
- 3) Mount the cover onto the two top hinges and snap the tabs of the fixing panel into the cover.
- 4) Connect the communications-bus wires to the sockets on the cover (see electrical diagram). Insert them under the metal tabs and screw firmly in place.
- 5) Mount the top of the touch screen onto the hinges on the cover. Pull gently down and back until the two parts are joined.

POWER SUPPLY

Ventilation holes must be kept clear recommended min. clearance is 25 mm on all sides. To mount, tilt the top of the unit backwards and clip the top edge of the lock onto the metal rail. Tilt the bottom of the unit backwards and click into place.

Ensure that cables used are suitable for the load, see technical data below. Ensure that cables are correctly stripped and fitted. Ensure correct polarity at output terminals.

The internal fuse protects the unit and is not user-replaceable. In the event of an internal failure, the unit must be returned to the manufacturer.

CONFIGURATION

The Zone Module has a number of parameters that have to be configured. As indicated before, the Zone Module requires the use of a Touch Thermostat to proceed to its configuration.

This is a list of the parameters, its description and ranges of selection.

Parameter	Description	Value
$\overline{2\overline{C}0\overline{n}}$	Configuration of Zone Module	$\overline{1\overline{A}5}$: Master $5\overline{Jb}$: Subordinate
$2\overline{C}\overline{id}$	Zone Module ID (the address of the Zone Module)	If Master : 1 to 8 If Subordinate : 9 to 32
$\overline{PE}\overline{-C}$	Zone weight Percentage	10% to 100%
$\overline{tC}\overline{id}$	Thermostat Controller ID	Range defined by the number of Master Zone Modules
$2\overline{C}P\overline{C}$	Zone Module Probe Configuration	$\overline{0FF}$: default value $\overline{nPt}$: measurement by a remote temperature sensor
$2\overline{C}5\overline{i}$	Zone Module Sleep Input (motion detector)	$\overline{0FF}$: default value $\overline{nD}$: activates when closing the circuit $\overline{nL}$: activates when opening the circuit
$2\overline{C}\overline{r}\overline{i}$	Zone Module Remote Input (door or window contact)	$\overline{0FF}$: default value $\overline{nD}$: activates when closing the circuit $\overline{nL}$: activates when opening the circuit
$5b\overline{dt}$	Stand By Display Temperature	$\overline{Pt}$: ambient temperature $5\overline{t}$: set point temperature
$\overline{0F}5\overline{t}$	Offset (adjust the zone temperature reading)	-5°F to 5°F
$2\overline{tF}\overline{u}$	Zone Module Firmware Version	
$2\overline{tF}\overline{u}$	Zone Thermostat Firmware Version	
$5\overline{tF}\overline{u}$	System Controller Firmware Version (Airzone Controller)	

CONNECTION

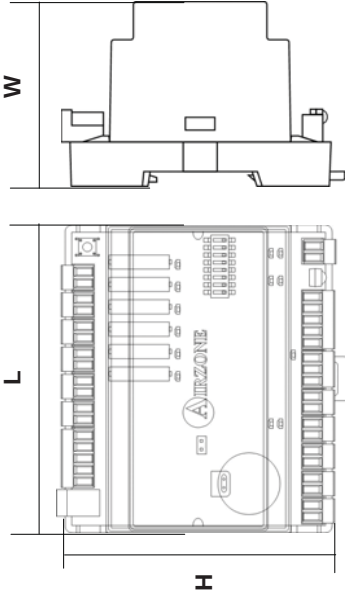
Here are the steps we suggest you for a clean, fast and easy installation.

- 1) Have a lay out drawing of the house, and locate where each thermostat and each damper will be installed and define the address each module will be assigned, and how the communications wire will be layered out. Keep that document in your records for future maintenance.
- 2) Install all dampers according with your design and where the customer wants to have controlled airflow. Be sure that the dampers are in good condition (not deformed). Install the dampers according with the local building recommendations. Be sure that this two conditions are followed:
 - a) Mount the damper in such way that the motor is accessible
 - b) Be sure that the damper will be accessible for service.
- 3) If a bypass is required for this installation, install it now.
- 4) Lay out the communication cable and attach the cables to the connectors as indicated in the Training Manual.
- 5) Install the Airzone Controller and the 12VDC power supply in their DIN rail, near the air handler unit.
- 6) Power on the Airzone Controller, and verify that the power LED is ON
- 7) Disconnect the DC power from the Airzone controller.
- 8) Connect all the modules to the bus, thermostat and damper motor cables, but do not connect the thermostats.
- 9) Power on the Airzone Controller.
- 10) Verify that there are 3 VDC between the contacts + and – of the thermostat bases.
- 11) Install the thermostats in their bases
- 12) Proceed to the initial configuration for all master modules connected to the thermostats.
- 13) Using the installation thermostat, proceed to the initial configuration of all subordinate modules.
- 14) Configure any additional module parameter if required (remote temperature sensor, door contact, motion contact, etc)
- 15) Save the configuration in the Airzone Controller. (please, follow the procedure explained in the Training Manual).
- 16) Cycle the power in the Airzone Controller.
- 17) All dampers should be open.
- 18) Install the J2 jumper in the Airzone controller
- 19) Install the IQdrive
- 20) Proceed to install the IQ thermostat as indicated in its manual
- 21) Connect the IQ bus in the Air handler unit to the Airzone Controller (please, see both Training Manuals)
- 22) Verify that the IQ thermostat shows under the current mode, “Zone Control”.

Error	Description	Corrective action	Error	Description	Corrective action
Error 1	Local communication error	Check the connections and wiring between the zone control and the thermostat	Error 4	Damper blocked	Check that the zone control's connection to the motorized system has not shorted out. Check that the motorized system is not blocked.
Error 2	Bus communications error	Check the zone control's connection to the bus.	Error 5	No zone control sensor	Check that the circuit of the sensor connected to the zone control (if any) is not open. Check the configuration of the “ $2\overline{tP}\overline{C}$ ” parameter.
Error 3	Damper not connected	Check the zone control's connection to the motorized system. Check that the motorized system is not free.	Error 6	Zone-control sensor short-circuit	Check that the circuit of the sensor connected to the zone control (if any) has not shorted out. Check the configuration of the “ $2\overline{tP}\overline{C}$ ” parameter.

DIMENSIONS

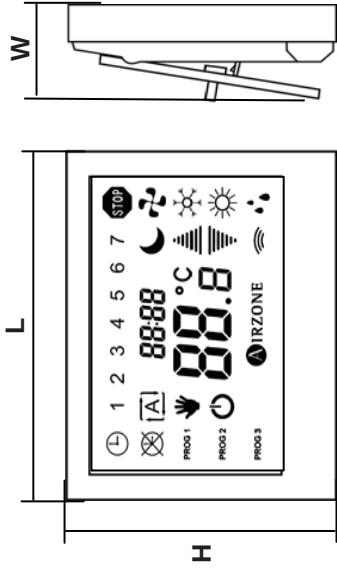
- AIRZONE CONTROLLER



- ZONE MODULE



- THERMOSTAT



AIRZONE CONTROLLER	
SUPPLY	Power Supply Voltage
	Current Supply
	Communication Wires
	Supply Wires
PORT OF THE LOCAL COMMUNICATION BUS	Bus Voltage Supply
	Input Type
	Maximum Resistance
	Free Voltage
ALARM BRIDGE	Maximum Resistance
	Input Type
	Maximum Resistance
	NTC Airzone
REMOTE ON/OFF	Dimensions (W x L x H) (mm)
	73 x 157,5 x 90
ZONE MODULE	
LOCAL BUS COMMUNICATIONS PORT	Power Supply Voltage
	Max. Power Current
	Power Current on StandBy
	Communication wires
THERMOSTAT COMMUNICATIONS PORT	Power supply
	Current
	NTC Airzone
	± 12 Vdc
ANALOGUE INPUTS	Voltage at rest
	0 Vdc
MOTOR POWER SUPPLY	Maximum Current Input
	280 mA
	Dimensions (W x L x H) (mm)
	17 X 59 X 44,5
THERMOSTAT	
POWER SUPPLY AND CONSUMPTION	Power supply voltage
	Stand By power consumption
	108 mW
	-20°C .. 70°C
OPERATING TEMPERATURES	In storage
	In operation
	-5°C .. 35°C
	Reading precision
	0.1°C
	Display precision
	0,5°C
	Communications
	2 wires (W e Y)
	Power supply
	2 wires (+ y -)
	15 m
CONECTION	Distance from the zone controller
	Cable Cut
	0.22 mm
	Lineal Resistor
	8 Ω/km
PHYSICAL FEATURES	Dimensions W ₁ x W ₂ x L x H (mm)
	20,9 x 27,4 x 104,85 x 91,2
POWER SUPPLY	
INPUT	Rated input voltage
	100 Vac ~ 230 Vac
	AC Voltage Range
	90 Vac ~ 264 Vac
	DC Voltage Range
	120 – 375 Vdc
	Frequency
	47 – 63 Hz
	Rated Input Current (max)
	Imax = 300 mA
	Ripple
	< 50 Vp-p
OUTPUT	Output short circuit
	Hiccup Mode
	Hold-up Time (230 Vac)
	> 30 ms
OPERATING TEMPERATURES	Temperature (Storage)
	-25 to +85°C
	Temperature (Operation)
	-25 to +71°C
PHYSICAL FEATURES	Humidity
	20% ~ 95% RH
	Dimensions H x W x D (mm)
	91 x 18 x 56,2

[illegible]

