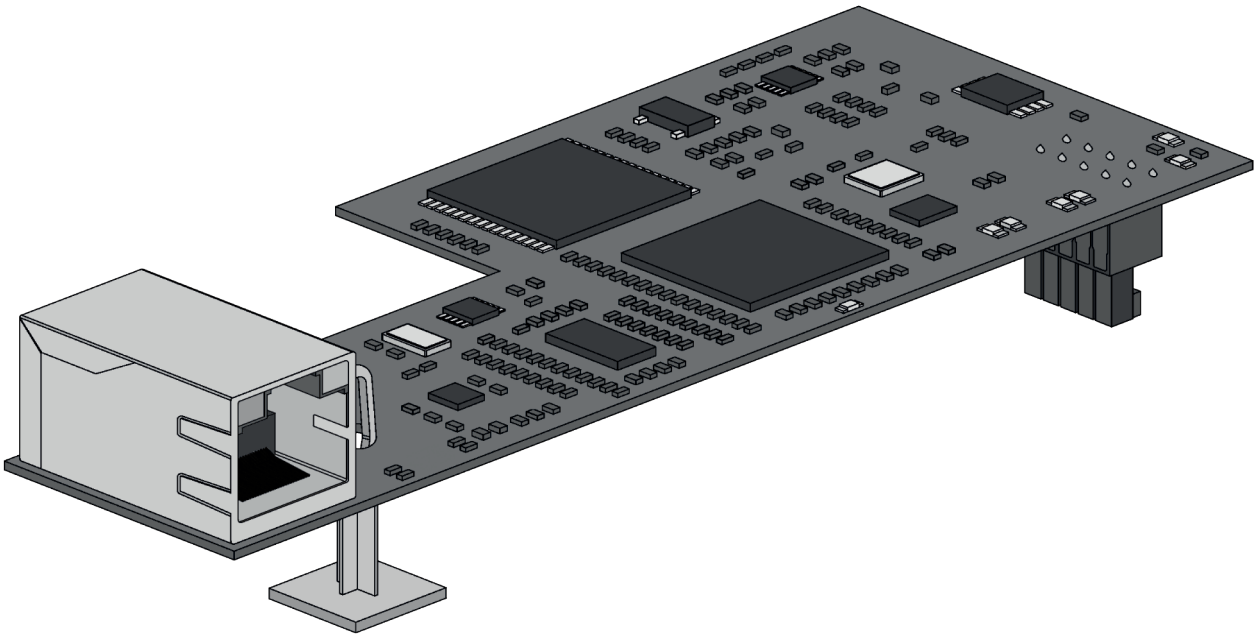
Installation Manual

ASHRAE BACnet™



AIRZONE

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OVERVIEW

OUTLINE AND FEATURES

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

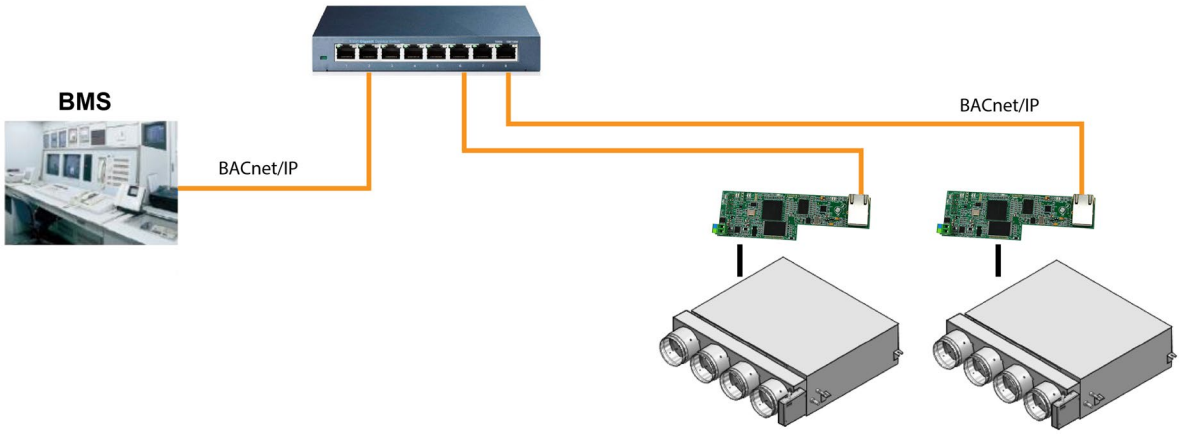
- BACnet (ANSI /ASHRAE-135)
- BACnet/IP (ISO16484-5)

The Airzone BACnet Interface is a Plug&Play device for Airzone systems, and it allows controlling and monitoring the following variables:

- Occupancy contact and window contact status of each zone.
- Radiant stage status of each zone and air and radiant demand of the system.
- On/Off control for each zone.
- Room temperature and humidity of each zone.
- Set point setting for Cooling and Heating for each zone.
- Operation Mode Control status.
- Fan status and Fan Speed.

SYSTEM OUTLINE

BACnet typical layouts is as follows:

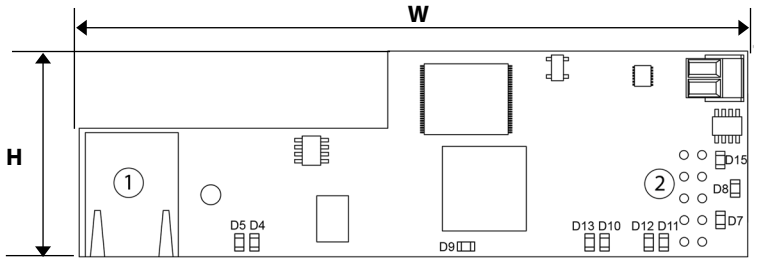


IMPORTANT: It is required to install one Airzone BACnet Interface for each Airzone System. System ID should be 1 in every system (Default configuration).

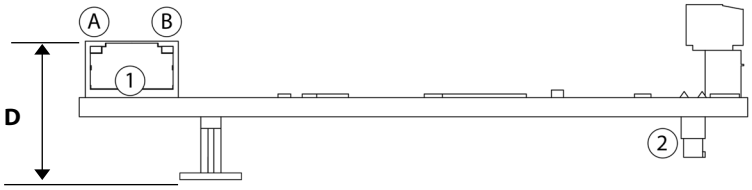
SPECIFICATIONS AND DEVICE ELEMENTS

Power supply and consumption	
Type of power supply	Vac
V máx.	12 V supplied from the Control Board
I máx.	200 mA
Maximum consumption	1.8 W
Operative temperatures	
Storage	-20 to 70 °C
Operation	0 to 50°C
Operating humidity range	5 to 90% (non-condensing)

Ethernet	
Type of cable	UTP cat 6
Standard	T568B
IP address by default	DHCP
Mehanical aspects	
Dimensions (WxHxD)	130x40x39.5 mm



Meaning	
1	Ethernet
2	Automation bus



Meaning				
D5	A	Ethernet connected	Blinking	Green
D4	B	Ethernet activity	Blinking	Yellow
D7		Data transmission from automation	Blinking	Red
D8		Data reception from automation bus	Blinking	Green
D9		Microswitch performance	Blinking	Green
D10		Connected to the Internet	Blinking	Green
D11		Network data transmission	Blinking	Red
D12		Network data reception	Blinking	Green
D13		Configured as IP address through DHCP	On	Red
		Configured as Fixed IP address	Off	
D15		Power supply	Solid	Red

FUNCTIONAL SPECIFICATIONS

INTRODUCTION

When the AirzoneBACnet Interface is used in a BACnet/IP network, it operates as a BACnet interpreter using the services defined by the BACnet to return the status of the Airzone system. It also sends configuration commands to them, in response to requests from a BACnet building management system (BMS) (i.e., BACnet client) which support the BACnet (ISO16484-5, ANSI/ASHRAE135) protocol.

AVAILABLE SERVICES

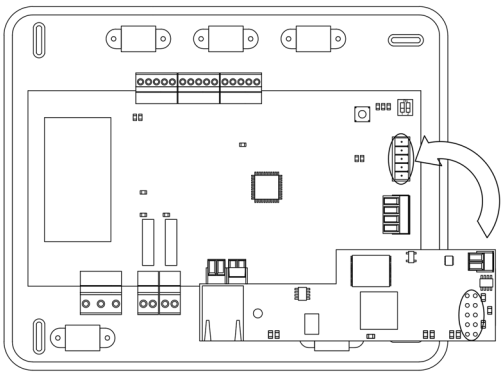
- Read Property.
- Multiple Read Property.
- Write Property.
- Multiple Write Property.
- COV (Change of Value).
- Dynamic Device Binding (who-is, i-am, who-has, i-have).
- DCC (Device Communication Control).
- UTC Time synchronization.

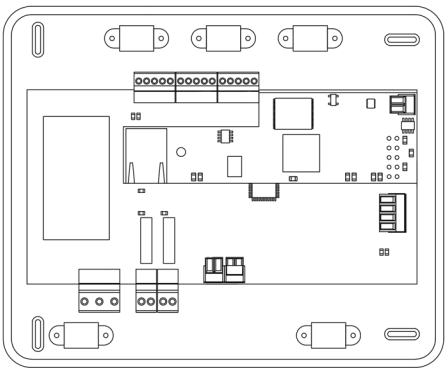
Note: *The values of the parameters are updated every second.*

INSTALLATION AND CONFIGURATION

INSTALLATION ON THE CONTROL BOARD

The Airzone BACnet Interface connects to the Airzone Main Control Board using the automation bus.





The Ethernet cable should be connected to the Airzone BACnet Interface gently. Once the control board has the interface connected, it will auto-detect the presence of the BACnet Interface and automatically set the parameters to enable the BACnet operation.

Important: Not compatible with:

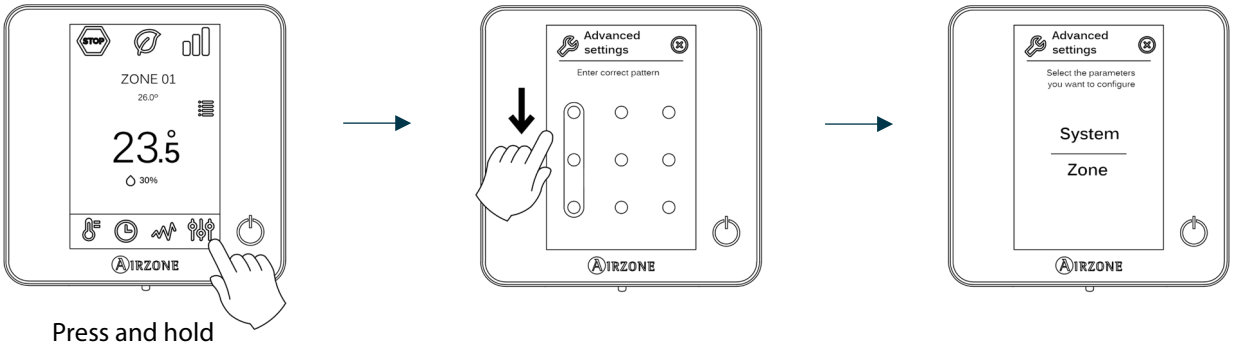
- RadianT system
- Cloud ethernet Airzone production control board AZX6CCPWSCC
- In installations with Airzone production control board AZX6CCP only one BACnet Gateway per installation connected to the production control board

BACNET INTERFACE CONFIGURATION

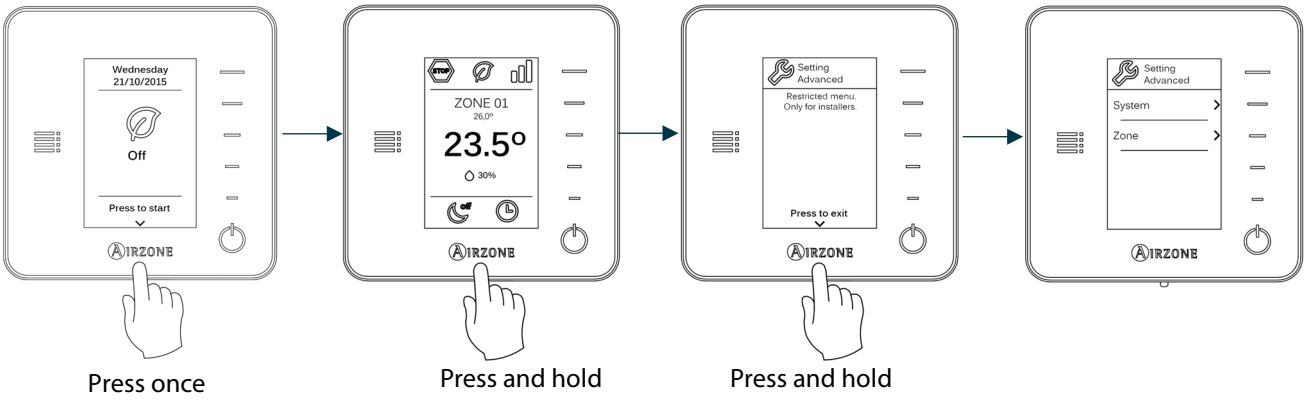
The Airzone BACnet Interface is a plug and play device, which, when connected to the Main Control Board and to a BACnet network, it configures itself and configures the main board to work with the BACnet network.

When the Airzone BACnet Interface is connected to the Main Control Board, a new item appears in the system advanced settings menu. To access the advanced configuration menu of the thermostat and Blueface Think follow the following steps:

Blueface

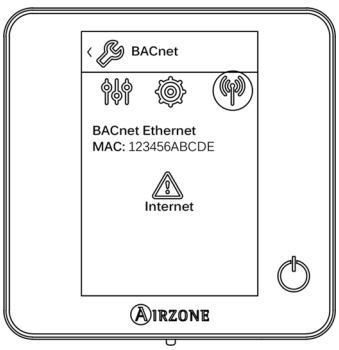


Think



From this menu you should press System and then BACnet parameter.

Status Menu

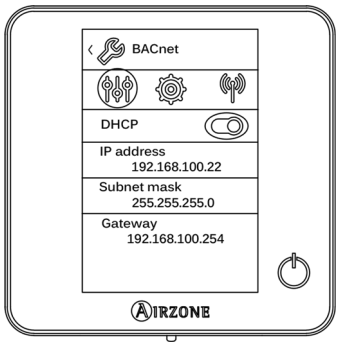


The status menu , gives information about the MAC of the device, as well as the connection status:

The internet connection is correct.

There is no internet connection, check the connection between the BACnet interface and the router and the status of the router.

Settings Menu

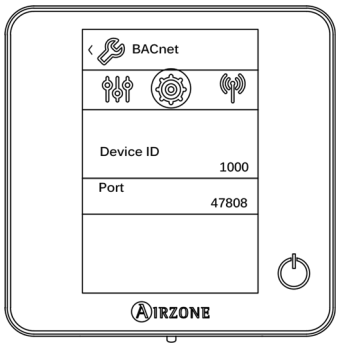


The BACnet integration interface is configured by default in automatic mode or DHCP connection. Connect it to the router to make it operative. The warning icon of the Blueface thermostat screen will disappear verifying that the connection is correct.

For the identification at the BACnet/IP network and the correct functioning of the Airzone BACnet Interface, it may be necessary the modification of the following configuration parameters:

- IP Address (configured by default as DHCP)
- Subnet Mask
- Gateway

Configuration



In the configuration menu it is possible to modify the device ID (1000 by default) and to check the connection Port (47808 by default). It may be necessary the modification of the device ID for the identification at the BACnet/IP network and the correct functioning of the Airzone BACnet Interface

These properties only can be modified locally through the master controller.

OBJECTS

SUPPORTED OBJECT TYPE

Supported Airzone System monitoring/control items are mapped to the standard object types defined by the BACnet.

Object Type		Supported	Airzone management point
Accumulator	23		
Analog-Input	0	√	Measured room temperature and humidity of the zones
Analog-Output	1		
Analog-Value	2	√	Zone Set point temperature
Averaging	18		
Binary-Input	3	√	Alarms (window and occupancy contact)
Binary-Output	4	√	Radiant stage and air and radiant demand
Binary-Value	5	√	On and off of the zone
Calendar	6		
Command	7		
Device	8	√	
Event-Enrollment	9		
File	10		
Group	11		

Life-Safety-Point	21		
Life-Safety-Zone	22		
Loop	12		
Multistate-Input	13		
Multistate-Output	14	√	Operating mode (setting) and user mode (setting)
Multistate-Value	19	√	Fancoil Speed (setting)
Notification-Class	15		
Program	16		
Schedule	17		
Trend-Log	20		

OBJECTS LIST

Below is the full list of objects available in the Airzone BACnet Interface. The availability of the communication objects depends on the Airzone system configuration, and on the number of zones in the system.

The availability of the communication object in the Airzone system is indicated in the parameter "out of service" of each communication object indicating whether it is available or not in the system.

The communication object will only have correct/valid values when the "out of service" is FALSE.

***Note:** R: Read and W: Write*

Flexa 3.0 / Innobus Pro6 / Easyzone Systems

Binary-input				
0	Z1 Window alert	R	0 → Deactivated	1 → Activated
1	Z2 Window alert	R	0 → Deactivated	1 → Activated
2	Z3 Window alert	R	0 → Deactivated	1 → Activated
3	Z4 Window alert	R	0 → Deactivated	1 → Activated
4	Z5 Window alert	R	0 → Deactivated	1 → Activated
5	Z6 Window alert	R	0 → Deactivated	1 → Activated
6	Z7 Window alert	R	0 → Deactivated	1 → Activated
7	Z8 Window alert	R	0 → Deactivated	1 → Activated
Binary-output				
0	Z1 Radiant On/OFF	R	0 → Off	1 → On
1	Z2 Radiant On/OFF	R	0 → Off	1 → On
2	Z3 Radiant On/OFF	R	0 → Off	1 → On
3	Z4 Radiant On/OFF	R	0 → Off	1 → On
4	Z5 Radiant On/OFF	R	0 → Off	1 → On
5	Z6 Radiant On/OFF	R	0 → Off	1 → On
6	Z7 Radiant On/OFF	R	0 → Off	1 → On
7	Z8 Radiant On/OFF	R	0 → Off	1 → On
8	Cooling air demand	R	0 → Deactivated	1 → Activated
9	Heating air demand	R	0 → Deactivated	1 → Activated
10	Heating radiant demand	R	0 → Deactivated	1 → Activated

Binary-value				
0	Z1 On/Off	R/W	0 → Off	1 → On
1	Z2 On/Off	R/W	0 → Off	1 → On
2	Z3 On/Off	R/W	0 → Off	1 → On
3	Z4 On/Off	R/W	0 → Off	1 → On
4	Z5 On/Off	R/W	0 → Off	1 → On
5	Z6 On/Off	R/W	0 → Off	1 → On
6	Z7 On/Off	R/W	0 → Off	1 → On
7	Z8 On/Off	R/W	0 → Off	1 → On
Analog-input				
0	Z1 Ambient temperature	R	10 -35 °C	
1	Z1 Humidity	R	0 -100	
2	Z2 Ambient temperature	R	10 -35 °C	
3	Z2 Humidity	R	0 -100	
4	Z3 Ambient temperature	R	10 -35 °C	
5	Z3 Humidity	R	0 -100	
6	Z4 Ambient temperature	R	10 -35 °C	
7	Z4 Humidity	R	0 -100	
8	Z5 Ambient temperature	R	10 -35 °C	
9	Z5 Humidity	R	0 -100	
10	Z6 Ambient temperature	R	10 -35 °C	
11	Z6 Humidity	R	0 -100	
12	Z7 Ambient temperature	R	10 -35 °C	
13	Z7 Humidity	R	0 -100	
14	Z8 Ambient temperature	R	10 -35 °C	
15	Z8 Humidity	R	0 -100	
Analog-value				
0	Z1 Set point	R/W	15-30 °C*	
1	Z2 Set point	R/W	15-30 °C*	
2	Z3 Set point	R/W	15-30 °C*	
3	Z4 Set point	R/W	15-30 °C*	
4	Z5 Set point	R/W	15-30 °C*	
5	Z6 Set point	R/W	15-30 °C*	
6	Z7 Set point	R/W	15-30 °C*	
7	Z8 Set point	R/W	15-30 °C*	

*Allowed values may be limited based on the selected Eco-Adapt of the Airzone system:

Cooling: 18-30 °C. Heating: 15-30 °C.


Cooling: 18-30 °C. Heating: 15-30 °C.

Cooling: 24-30 °C. Heating: 15-22 °C.

Cooling: 25-30 °C. Heating: 15-21,5 °C.

Cooling: 26-30 °C. Heating: 15-21 °C.

Multi-state-output				
0	ZS Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
Multi- state-value				
0	ZS Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3

Acuazone / Innobus Pro32 Systems

Binary-input				
0	Z1 Window alert	R	0 → Deactivated	1 → Activated
1	Z1 Presence alert	R	0 → Deactivated	1 → Activated
2	Z2 Window alert	R	0 → Deactivated	1 → Activated
3	Z2 Presence alert	R	0 → Deactivated	1 → Activated
4	Z3 Window alert	R	0 → Deactivated	1 → Activated
5	Z3 Presence alert	R	0 → Deactivated	1 → Activated
6	Z4 Window alert	R	0 → Deactivated	1 → Activated
7	Z4 Presence alert	R	0 → Deactivated	1 → Activated
8	Z5 Window alert	R	0 → Deactivated	1 → Activated
9	Z5 Presence alert	R	0 → Deactivated	1 → Activated
10	Z6 Window alert	R	0 → Deactivated	1 → Activated
11	Z6 Presence alert	R	0 → Deactivated	1 → Activated
12	Z7 Window alert	R	0 → Deactivated	1 → Activated
13	Z7 Presence alert	R	0 → Deactivated	1 → Activated
14	Z8 Window alert	R	0 → Deactivated	1 → Activated
15	Z8 Presence alert	R	0 → Deactivated	1 → Activated
16	Z9 Window alert	R	0 → Deactivated	1 → Activated
17	Z9 Presence alert	R	0 → Deactivated	1 → Activated
18	Z10 Window alert	R	0 → Deactivated	1 → Activated
19	Z10 Presence alert	R	0 → Deactivated	1 → Activated
20	Z11 Window alert	R	0 → Deactivated	1 → Activated
21	Z11 Presence alert	R	0 → Deactivated	1 → Activated
22	Z12 Window alert	R	0 → Deactivated	1 → Activated
23	Z12 Presence alert	R	0 → Deactivated	1 → Activated
24	Z13 Window alert	R	0 → Deactivated	1 → Activated
25	Z13 Presence alert	R	0 → Deactivated	1 → Activated
26	Z14 Window alert	R	0 → Deactivated	1 → Activated
27	Z14 Presence alert	R	0 → Deactivated	1 → Activated
28	Z15 Window alert	R	0 → Deactivated	1 → Activated
29	Z15 Presence alert	R	0 → Deactivated	1 → Activated
30	Z16 Window alert	R	0 → Deactivated	1 → Activated
31	Z16 Presence alert	R	0 → Deactivated	1 → Activated
32	Z17 Window alert	R	0 → Deactivated	1 → Activated
33	Z17 Presence alert	R	0 → Deactivated	1 → Activated
34	Z18 Window alert	R	0 → Deactivated	1 → Activated
35	Z18 Presence alert	R	0 → Deactivated	1 → Activated
36	Z19 Window alert	R	0 → Deactivated	1 → Activated
37	Z19 Presence alert	R	0 → Deactivated	1 → Activated
38	Z20 Window alert	R	0 → Deactivated	1 → Activated

39	Z20 Presence alert	R	0 → Deactivated	1 → Activated
40	Z21 Window alert	R	0 → Deactivated	1 → Activated
41	Z21 Presence alert	R	0 → Deactivated	1 → Activated
42	Z22 Window alert	R	0 → Deactivated	1 → Activated
43	Z22 Presence alert	R	0 → Deactivated	1 → Activated
44	Z23 Window alert	R	0 → Deactivated	1 → Activated
45	Z23 Presence alert	R	0 → Deactivated	1 → Activated
46	Z24 Window alert	R	0 → Deactivated	1 → Activated
47	Z24 Presence alert	R	0 → Deactivated	1 → Activated
48	Z25 Window alert	R	0 → Deactivated	1 → Activated
49	Z25 Presence alert	R	0 → Deactivated	1 → Activated
50	Z26 Window alert	R	0 → Deactivated	1 → Activated
51	Z26 Presence alert	R	0 → Deactivated	1 → Activated
52	Z27 Window alert	R	0 → Deactivated	1 → Activated
53	Z27 Presence alert	R	0 → Deactivated	1 → Activated
54	Z28 Window alert	R	0 → Deactivated	1 → Activated
55	Z28 Presence alert	R	0 → Deactivated	1 → Activated
56	Z29 Window alert	R	0 → Deactivated	1 → Activated
57	Z29 Presence alert	R	0 → Deactivated	1 → Activated
58	Z30 Window alert	R	0 → Deactivated	1 → Activated
59	Z30 Presence alert	R	0 → Deactivated	1 → Activated
60	Z31 Window alert	R	0 → Deactivated	1 → Activated
61	Z31 Presence alert	R	0 → Deactivated	1 → Activated
62	Z32 Window alert	R	0 → Deactivated	1 → Activated
63	Z32 Presence alert	R	0 → Deactivated	1 → Activated
Binary-output				
0	Z1 Radiant On/Off	R	0 → Off	1 → On
1	Z2 Radiant On/Off	R	0 → Off	1 → On
2	Z3 Radiant On/Off	R	0 → Off	1 → On
3	Z4 Radiant On/Off	R	0 → Off	1 → On
4	Z5 Radiant On/Off	R	0 → Off	1 → On
5	Z6 Radiant On/Off	R	0 → Off	1 → On
6	Z7 Radiant On/Off	R	0 → Off	1 → On
7	Z8 Radiant On/Off	R	0 → Off	1 → On
8	Z9 Radiant On/Off	R	0 → Off	1 → On
9	Z10 Radiant On/Off	R	0 → Off	1 → On
10	Z11 Radiant On/Off	R	0 → Off	1 → On
11	Z12 Radiant On/Off	R	0 → Off	1 → On
12	Z13 Radiant On/Off	R	0 → Off	1 → On
13	Z14 Radiant On/Off	R	0 → Off	1 → On
14	Z15 Radiant On/Off	R	0 → Off	1 → On
15	Z16 Radiant On/Off	R	0 → Off	1 → On
16	Z17 Radiant On/Off	R	0 → Off	1 → On
17	Z18 Radiant On/Off	R	0 → Off	1 → On
18	Z19 Radiant On/Off	R	0 → Off	1 → On
19	Z20 Radiant On/Off	R	0 → Off	1 → On
20	Z21 Radiant On/Off	R	0 → Off	1 → On
21	Z22 Radiant On/Off	R	0 → Off	1 → On
22	Z23 Radiant On/Off	R	0 → Off	1 → On

23	Z24 Radiant On/Off	R	0 → Off	1 → On
24	Z25 Radiant On/Off	R	0 → Off	1 → On
25	Z26 Radiant On/Off	R	0 → Off	1 → On
26	Z27 Radiant On/Off	R	0 → Off	1 → On
27	Z28 Radiant On/Off	R	0 → Off	1 → On
28	Z29 Radiant On/Off	R	0 → Off	1 → On
29	Z30 Radiant On/Off	R	0 → Off	1 → On
30	Z31 Radiant On/Off	R	0 → Off	1 → On
31	Z32 Radiant On/Off	R	0 → Off	1 → On
32	Cooling air demand	R	0 → Deactivated	1 → Activated
33	Heating air demand	R	0 → Deactivated	1 → Activated
34	Cooling radiant demand	R	0 → Deactivated	1 → Activated
35	Heating radiant demand	R	0 → Deactivated	1 → Activated
Binary-value				
0	Z1 On/Off	R/W	0 → Off	1 → On
1	Z2 On/Off	R/W	0 → Off	1 → On
2	Z3 On/Off	R/W	0 → Off	1 → On
3	Z4 On/Off	R/W	0 → Off	1 → On
4	Z5 On/Off	R/W	0 → Off	1 → On
5	Z6 On/Off	R/W	0 → Off	1 → On
6	Z7 On/Off	R/W	0 → Off	1 → On
7	Z8 On/Off	R/W	0 → Off	1 → On
8	Z9 On/Off	R/W	0 → Off	1 → On
9	Z10 On/Off	R/W	0 → Off	1 → On
10	Z11 On/Off	R/W	0 → Off	1 → On
11	Z12 On/Off	R/W	0 → Off	1 → On
12	Z13 On/Off	R/W	0 → Off	1 → On
13	Z14 On/Off	R/W	0 → Off	1 → On
14	Z15 On/Off	R/W	0 → Off	1 → On
15	Z16 On/Off	R/W	0 → Off	1 → On
16	Z17 On/Off	R/W	0 → Off	1 → On
17	Z18 On/Off	R/W	0 → Off	1 → On
18	Z19 On/Off	R/W	0 → Off	1 → On
19	Z20 On/Off	R/W	0 → Off	1 → On
20	Z21 On/Off	R/W	0 → Off	1 → On
21	Z22 On/Off	R/W	0 → Off	1 → On
22	Z23 On/Off	R/W	0 → Off	1 → On
23	Z24 On/Off	R/W	0 → Off	1 → On
24	Z25 On/Off	R/W	0 → Off	1 → On
25	Z26 On/Off	R/W	0 → Off	1 → On
26	Z27 On/Off	R/W	0 → Off	1 → On
27	Z28 On/Off	R/W	0 → Off	1 → On
28	Z29 On/Off	R/W	0 → Off	1 → On
29	Z30 On/Off	R/W	0 → Off	1 → On
30	Z31 On/Off	R/W	0 → Off	1 → On
31	Z32 On/Off	R/W	0 → Off	1 → On

Analog-input			
0	Z1 Ambient temperature	R	10 -35 °C
1	Z1 Humidity	R	0 -100
2	Z2 Ambient temperature	R	10 -35 °C
3	Z2 Humidity	R	0 -100
4	Z3 Ambient temperature	R	10 -35 °C
5	Z3 Humidity	R	0 -100
6	Z4 Ambient temperature	R	10 -35 °C
7	Z4 Humidity	R	0 -100
8	Z5 Ambient temperature	R	10 -35 °C
9	Z5 Humidity	R	0 -100
10	Z6 Ambient temperature	R	10 -35 °C
11	Z6 Humidity	R	0 -100
12	Z7 Ambient temperature	R	10 -35 °C
13	Z7 Humidity	R	0 -100
14	Z8 Ambient temperature	R	10 -35 °C
15	Z8 Humidity	R	0 -100
16	Z9 Ambient temperature	R	10 -35 °C
17	Z9 Humidity	R	0 -100
18	Z10 Ambient temperature	R	10 -35 °C
19	Z10 Humidity	R	0 -100
20	Z11 Ambient temperature	R	10 -35 °C
21	Z11 Humidity	R	0 -100
22	Z12 Ambient temperature	R	10 -35 °C
23	Z12 Humidity	R	0 -100
24	Z13 Ambient temperature	R	10 -35 °C
25	Z13 Humidity	R	0 -100
26	Z14 Ambient temperature	R	10 -35 °C
27	Z14 Humidity	R	0 -100
28	Z15 Ambient temperature	R	10 -35 °C
29	Z15 Humidity	R	0 -100
30	Z16 Ambient temperature	R	10 -35 °C
31	Z16 Humidity	R	0 -100
32	Z17 Ambient temperature	R	10 -35 °C
33	Z17 Humidity	R	0 -100
34	Z18 Ambient temperature	R	10 -35 °C
35	Z18 Humidity	R	0 -100
36	Z19 Ambient temperature	R	10 -35 °C
37	Z19 Humidity	R	0 -100
38	Z20 Ambient temperature	R	10 -35 °C
39	Z20 Humidity	R	0 -100
40	Z21 Ambient temperature	R	10 -35 °C
41	Z21 Humidity	R	0 -100
42	Z22 Ambient temperature	R	10 -35 °C
43	Z22 Humidity	R	0 -100
44	Z23 Ambient temperature	R	10 -35 °C
45	Z23 Humidity	R	0 -100
46	Z24 Ambient temperature	R	10 -35 °C
47	Z24 Humidity	R	0 -100

48	Z25 Ambient temperature	R	10 -35 °C
49	Z25 Humidity	R	0 -100
50	Z26 Ambient temperature	R	10 -35 °C
51	Z26 Humidity	R	0 -100
52	Z27 Ambient temperature	R	10 -35 °C
53	Z27 Humidity	R	0 -100
54	Z28 Ambient temperature	R	10 -35 °C
55	Z28 Humidity	R	0 -100
56	Z29 Ambient temperature	R	10 -35 °C
57	Z29 Humidity	R	0 -100
58	Z30 Ambient temperature	R	10 -35 °C
59	Z30 Humidity	R	0 -100
60	Z31 Ambient temperature	R	10 -35 °C
61	Z31 Humidity	R	0 -100
62	Z32 Ambient temperature	R	10 -35 °C
63	Z32 Humidity	R	0 -100
Analog-value			
0	Z1 Set point	R/W	15-30 °C
1	Z2 Set point	R/W	15-30 °C
2	Z3 Set point	R/W	15-30 °C
3	Z4 Set point	R/W	15-30 °C
4	Z5 Set point	R/W	15-30 °C
5	Z6 Set point	R/W	15-30 °C
6	Z7 Set point	R/W	15-30 °C
7	Z8 Set point	R/W	15-30 °C
8	Z9 Set point	R/W	15-30 °C
9	Z10 Set point	R/W	15-30 °C
10	Z11 Set point	R/W	15-30 °C
11	Z12 Set point	R/W	15-30 °C
12	Z13 Set point	R/W	15-30 °C
13	Z14 Set point	R/W	15-30 °C
14	Z15 Set point	R/W	15-30 °C
15	Z16 Set point	R/W	15-30 °C
16	Z17 Set point	R/W	15-30 °C
17	Z18 Set point	R/W	15-30 °C
18	Z19 Set point	R/W	15-30 °C
19	Z20 Set point	R/W	15-30 °C
20	Z21 Set point	R/W	15-30 °C
21	Z22 Set point	R/W	15-30 °C
22	Z23 Set point	R/W	15-30 °C
23	Z24 Set point	R/W	15-30 °C
24	Z25 Set point	R/W	15-30 °C
25	Z26 Set point	R/W	15-30 °C
26	Z27 Set point	R/W	15-30 °C
27	Z28 Set point	R/W	15-30 °C
28	Z29 Set point	R/W	15-30 °C
29	Z30 Set point	R/W	15-30 °C
30	Z31 Set point	R/W	15-30 °C
31	Z32 Set point	R/W	15-30 °C

*Allowed values may be limited based on the selected Eco-Adapt of the Airzone system:

Cooling: 18-30 °C. Heating: 15-30 °C.


Cooling: 18-30 °C. Heating: 15-30 °C.

Cooling: 24-30 °C. Heating: 15-22 °C.

Cooling: 25-30 °C. Heating: 15-21,5 °C.

Cooling: 26-30 °C. Heating: 15-21 °C.

Multi-state-output				
0	ZS Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
1	Z1 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
2	Z2 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
3	Z3 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
4	Z4 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
5	Z5 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
6	Z6 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
7	Z7 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
8	Z8 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
9	Z9 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
10	Z10 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
11	Z11 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
12	Z12 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
13	Z13 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation

14	Z14 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
15	Z15 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
16	Z16 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
17	Z17 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
18	Z18 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
19	Z19 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
20	Z20 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
21	Z21 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
22	Z22 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
23	Z23 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
24	Z24 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
25	Z25 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
26	Z26 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
27	Z27 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
28	Z28 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
29	Z29 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
30	Z30 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
31	Z31 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation
32	Z32 Operation mode	R/W	0 → Stop 2 → Cooling 3 → Heating	4 → Dry 6 → Ventilation

Multi-state-value				
0	ZS Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
1	Z1 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
2	Z2 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
3	Z3 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
4	Z4 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
5	Z5 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
6	Z6 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
7	Z7 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
8	Z8 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
9	Z9 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
10	Z10 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
11	Z11 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
12	Z12 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
13	Z13 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
14	Z14 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
15	Z15 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
16	Z16 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
17	Z17 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
18	Z18 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
19	Z19 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
20	Z20 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
21	Z21 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
22	Z22 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
23	Z23 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
24	Z24 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
25	Z25 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
26	Z26 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
27	Z27 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3

28	Z28 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
29	Z29 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
30	Z30 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
31	Z31 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3
32	Z32 Fancoil speed	R/W	0 → Automatic 1 → Speed 1	2 → Speed 2 3 → Speed 3

DETAILED DESCRIPTION OF THE OBJECTS

COMMON TO ALL OBJECTS

For each Airzone system:

1. When the indoor unit is communicating normally, a communication can be established between the Airzone BACnet Interface and the indoor unit. The BACnet building management system will then have access to the Airzone unit's objects.
2. If the communication between the Airzone BACnet Interface and the system is not correct, or if a request for information related to a communication object that is not present in the Airzone system the object's property "Out of service" is activated.

Z# ALARM INPUT

This object represents the state of alarm input available to the Airzone main board (normally closed contact), indicating whether this input is active or inactive. When this input is active, the system remains in STOP. This is a Read only object.

Z# RADIANT STAGE

This object displays if the radiant stage is activated or deactivated in each zone. This is a Read only object.

AIR/RADIANT DEMAND

This object displays if there is cooling or heating demand in air or radiant stage. This is a Read only object.

Important: the following combinations will not generate air:

- Airzone-xxx Gateway Communication (AZX6QADAPTxxx) on Flexa 3.0, Innobus Pro6, Acuazone and Innobus Pro32 main control boards.
- Airzone-Electromechanical Unit Control Gateway (AZX6ELECTROMEC) on Flexa 3.0, Innobus Pro6, Acuazone and Innobus Pro32 main control boards.
- Wired/wireless individual unit infrared zone module (AZDI6MCIFR [C/R]) on Acuazone and Innobus Pro32 systems configured as zoning system or mixed.
- Wired/wireless individual unit zone module xxx (AZDI6MCxxx [C/R]) on Acuazone and Innobus Pro32 systems configured as zoning system or mixed.

Important: the following combinations will not generate radiant demand:

- Wired/wireless zoning module for electrical heating element (AZDI6MZSRE [C/R] on Acuazone and Innobus Pro32.

Z# ON/OFF

The Airzone BACnet Interface will report the status of each zone. Using the BACnet platform, any zone may be configured as on/off. These are Read/Write objects.

Z# ROOM TEMPERATURE

The BACnet platform can obtain the actual room temperature for any zone. These are read only objects.

Z# HUMIDITY

The BACnet platform can obtain the actual humidity for each zone. These are read only objects.

Z# SET POINT

Each thermostat can be configured for a determined set point, and those values are reported to the BACnet platform, and can be changed from it. These are Read/Write objects.

Allowed values may be limited based on the selected Eco-Adapt of the Airzone system:

Cooling: 18-30 °C. Heating: 15-30 °C.


Cooling: 18-30 °C. Heating: 15-30 °C.

Cooling: 24-30 °C. Heating: 15-22 °C.

Cooling: 25-30 °C. Heating: 15-21,5 °C.

Cooling: 26-30 °C. Heating: 15-21 °C.

Z# OPERATION MODE

The Airzone BACnet Interface will report the operation mode of the system or the operation mode of each zone (depending on the connected system), represented by a number. These are Read/Write objects. These modes are:

0 → Stop

2 → Cooling

3 → Heating

4 → Dry

6 → Ventilation

In VRV Heat Pump installations, all the indoor units must work in supported/compatible operation modes, the operation mode of the Airzone connected to a slave indoor unit could be restricted or limited by the operation mode selected in the Airzone connected to the master indoor unit.

If in the same VRV Heat Pump installation, an Airzone unit is connected to a slave indoor unit and another indoor unit is configured as the master (with or without Airzone connected to):

- When the master IU is operating in Fan mode, the Airzone system will send the current mode (cool, heat or dry) to the BACnet interface, if a cooling or heating demand exits.
- If no cooling or heating demand exits, the Airzone system will report STOP to the BACnet Interface.

Z# FANCOIL SPEED

This parameter refers to the Fancoil Unit fan speed. The Airzone BACnet Interface will report the system speed of each zone (depending on the connected system), represented by a number. These are Read/Write objects:

0 → Automatic

1 → Speed 1

2 → Speed 2

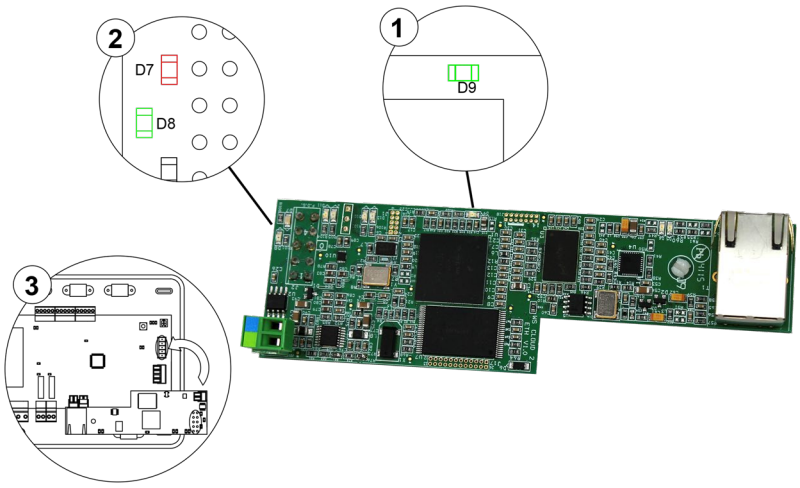
3 → Speed 3

TROUBLESHOOTING

THE AIRZONE SYSTEM DOES NOT DETECT THE AIRZONE BACNET INTERFACE

Verify the following items:

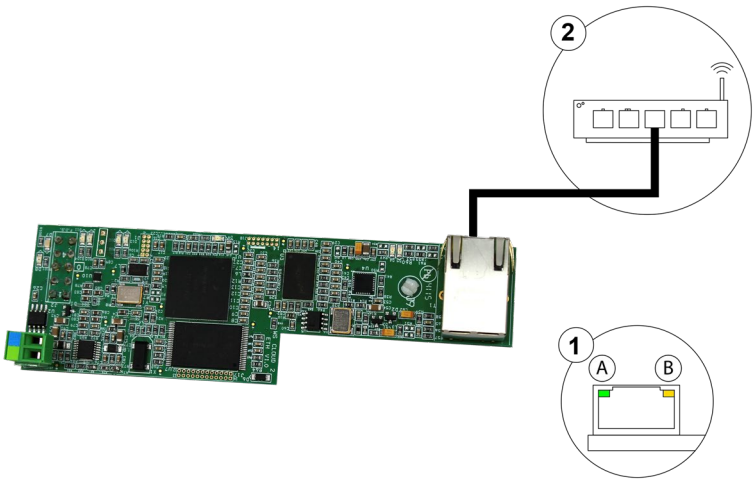
1. The D9 LED (Microswitch performance) is blinking.
2. The D7 and D8 LEDs are alternately blinking.
3. The correct connection between the Airzone BACnet Interface in the Airzone main control board.



THE AIRZONE BACNET INTERFACE CANNOT BE CONNECTED (I)

Verify the following items:

1. LEDs “A” and “B” are blinking, and those in the Ethernet connector are active.
2. Check that the Ethernet cable is properly connected.



THE AIRZONE BACNET INTERFACE CANNOT BE CONNECTED (II)

Check the following possible causes:

1. Using the Ethernet (LAN)

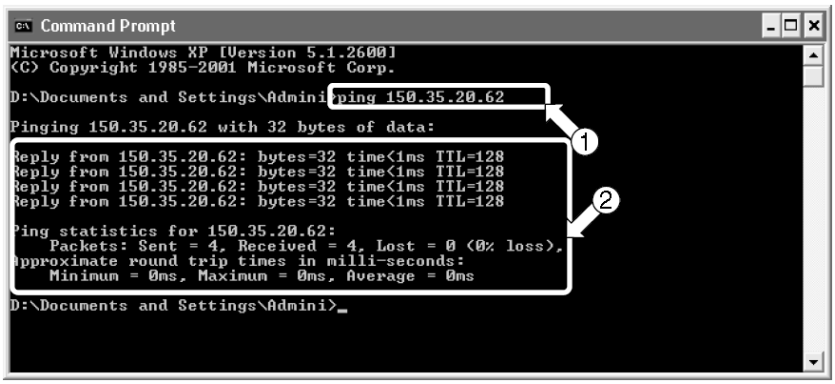
- Check the state of the LEDs of the Airzone BACnet Interface. If all of them are blinking at the same time, it means the IP selected for the Airzone BACnet Interface is already being used by another device. Access settings (*see section IP configuration*) and change the parameter IP address.
- Verify that the IP address set for the PC is correct.
- Verify the Ethernet cable connection:
  - Verify if connecting via the hub: straight cable.
  - Verify communication with the Interface for use in BACnet® by testing the operation from the PC directly: Use a crossover cable.
- Verify that the PC's LAN communication port is active.
- If using the hub, verify that the hub is powered on.
- Do a PING to the Airzone BACnet Interface from the PC to verify the Ethernet Link (See below).

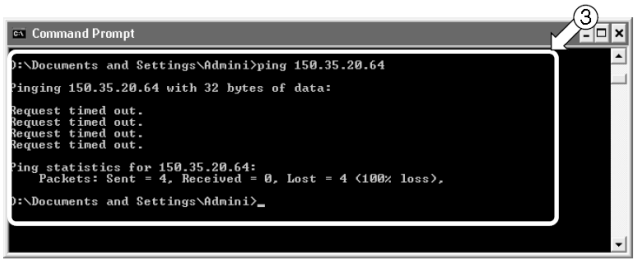
[Cómo ejecutar un PING a la pasarela BACnet].

1. From the PC's desktop, select "Start", "Program", "Accessories", and "Command Prompt". The dialog box shown below opens.
2. Use the PC's key board; enter the BACnet gateway IP address in [1]. Ex. When Interface for use in BACnet®'s IP address is "150.35.20.62", enter "ping 150.35.20.62" and press the Return key.

2. If you can see information as shown in [2], the LAN connection is established. Start the test operation program and try connection again.

If you see information as shown in [3], the LAN connection is not established for some reason. Check the PC's settings, etc. again.





HOW TO SET THE PC'S IP ADDRESS

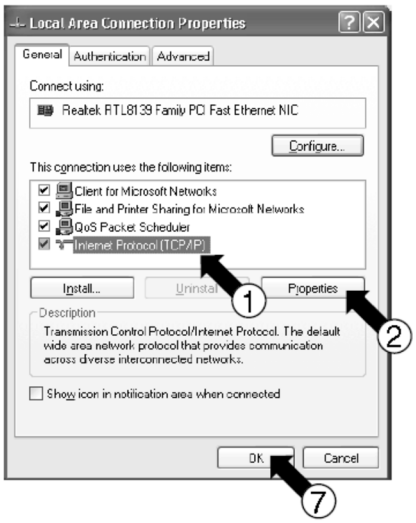
1. Take a note of the test operation PC's current IP address. (Be sure to take a note of the current IP address because this address needs to be restored after the test operation)

1.1. Start the test operation PC. (The screens shown below are Windows XP's examples, and the actual screens differ depending on the OS used).

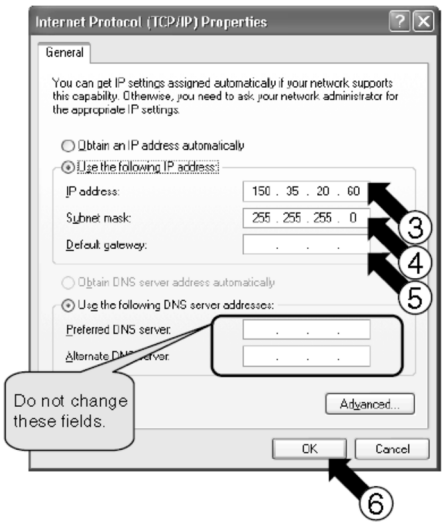
1.2. On Windows XP, double-click the Network Connections icon on the Control Panel. Click the Local Area Connection and right-click to choose "Properties". The dialog box 1 below opens.

1.3. For newer OS, click start and enter "ncpa.cpl" on the search bar to see the network connections window. Right click over "local area connection" and select "properties".

1.4. Select "Internet Protocol (TCP / IP)" [1] and click the Properties button [2]. The dialog box 2 opens. This dialog box shows the test operation PC's current IP address [3], subnet mask [4], and default gateway address [5]. Take a note of this information in Table 1.



Dialog box 1. Local Area Connection Properties



Dialog box 2. Internet Protocol (TCP / IP) Properties

[3] IP Address		Ej. 150.35.20.60
[4] Subnet mask		Ej. 255.255.255.0
[5] Default gateway address		Ej. 15.35.20.254

[Table 1: Test Operation PC's Current Address]

2. Change the test operation PC's IP address. **Use one of the following IP address depending on the current status of the Interface for use in BACnet®.** If the Interface for use in BACnet®'s IP address **has not been changed from the factory setting, use the following:**

   - Port: 47808
   - IP Address: DHCP
   - Subnet Mask: 255.255.255.0
   - Gateway IP: 192.168.0.1

   If the Interface for use in BACnet®'s IP address **has been changed from the factory setting at the site, use the following:**

   - IP address shown in the table in "[6]-2. IP address temporarily used for the test service operation" on P.12.

   2.1. Enter the information above in "IP address" [3], "subnet mask" [4], and "default gateway" [5] in the dialog box 2 of Step 1-3, and press the OK button [6]. The dialog box 1 reappears. Click the OK or Cancel button [7].

   2.2. Reboot the PC as required by the PC. (Reboot may not be necessary depending on the Windows version. Reboot the PC only when requested).

3. Return the IP address to the original address after the test operation. (Be sure to return the test operation PC's IP address to the original address).

   3.1. Return the test operation PC's IP address to the original address recorded in Step 1-3, as instructed in Steps 2-1 and 2-2.

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