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# CRESTRON HOME | OS 3

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## CoolAutomation Partnership

Using BACNET IP as an intermediate communication

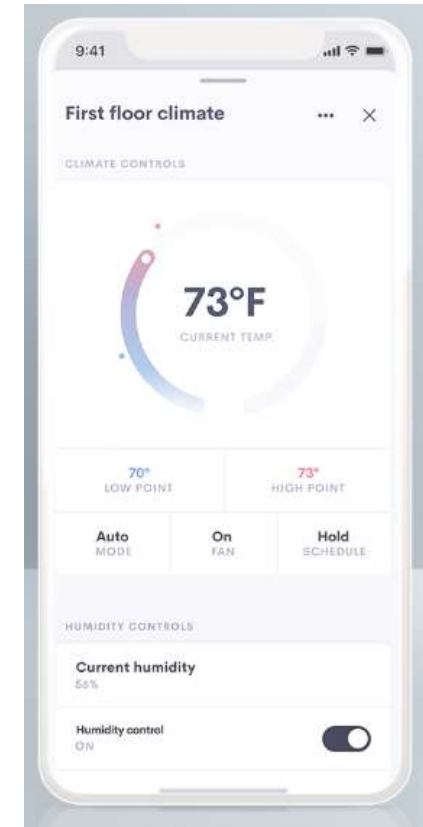
CoolMasterNet



CoolPlugs + CoolLinkHub



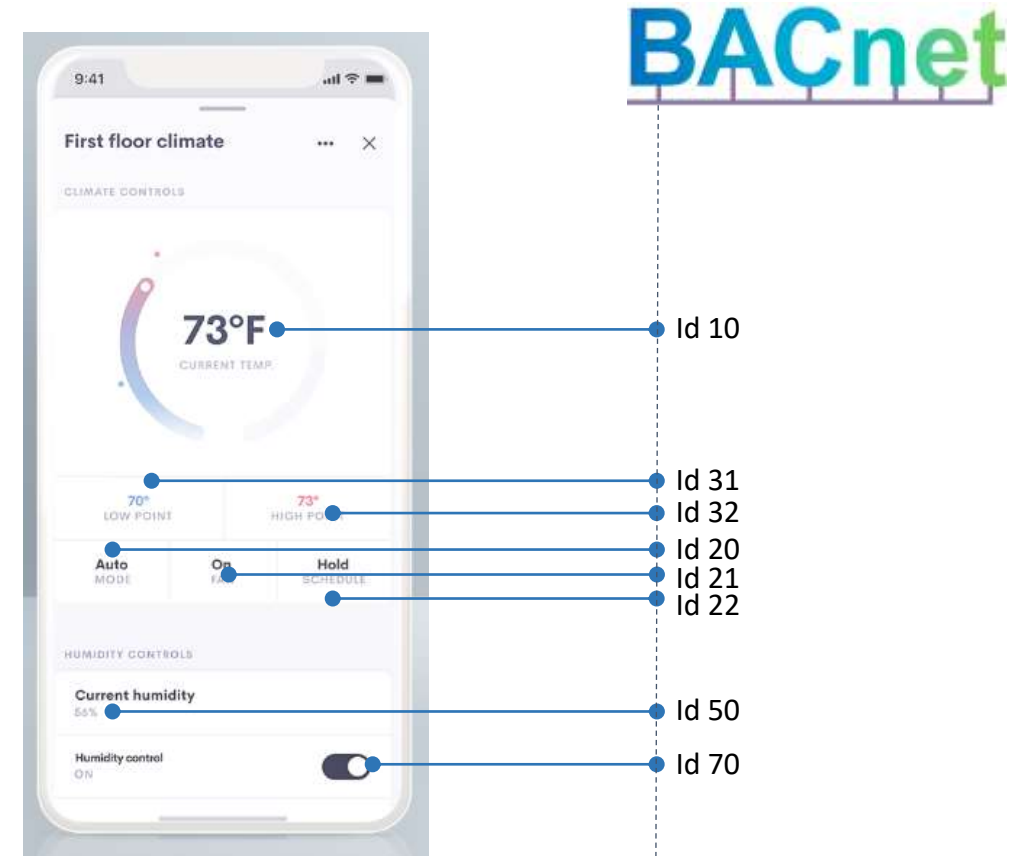
CoolLinkBridge



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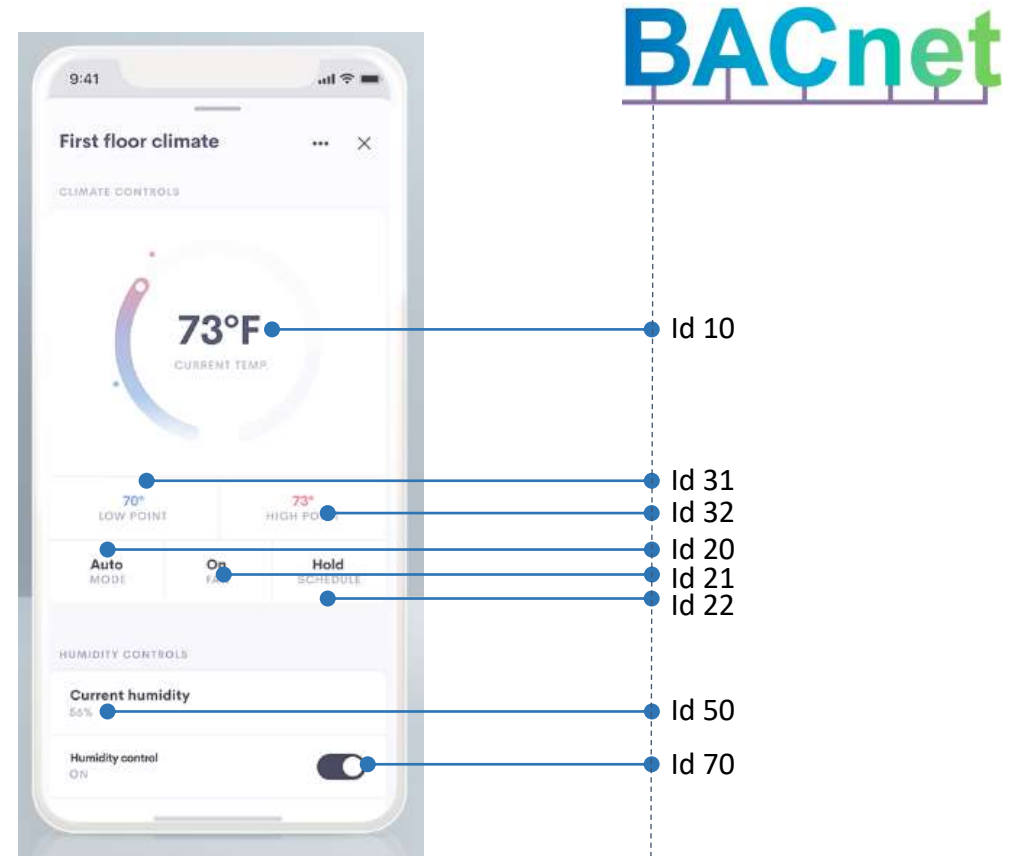
Integration concept is based on matching BACNET objects

Each Element on the UI maps to a specific BACnet Object ID and Value



## Integration principle

Each indoor unit on the HVAC side is mapped to a different “BACNET Thermostat” in the Crestron software.



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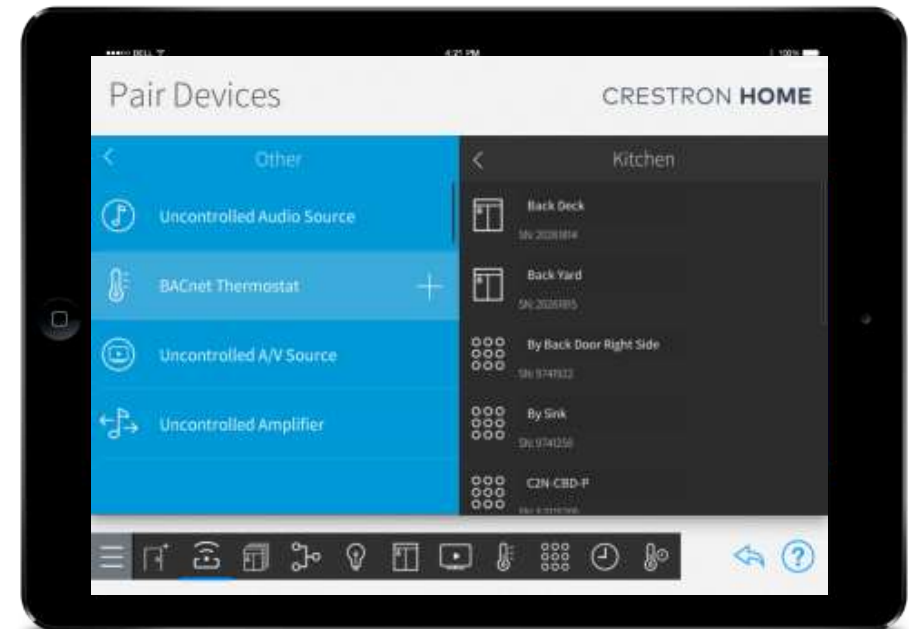
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## Before you start

Get Crestron Home Setup app from the App Store

Upgrade from OS 2 to OS 3



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## Helpful tools

- How to Update to OS 3  
Online videos to step you through that
- How to use BACNET and integrate with CoolAutomation  
Download from the [CP4-R product page](#)
- [Yabe](#) – free software tool for detecting BACNET objects and mapping correctly into Crestron Home software

### Appendix K: Integrate CoolMasterNet by Cool Automation

Native BACnet thermostats will now be built right into Crestron Home OS 3 to provide complete HVAC control of advanced VRF air conditioning systems.

**NOTE:** Dual mode cannot be used if the heat and cool objects have the same Object ID.

#### Add the BACnet Thermostat to the system:

1. Tap the **Pair Device** button on the **Setup** screen, or the **Pair Devices** button on the setup menu, to display the **Pair Devices** screen.
2. Select the room where the device is installed from the **Select a room** menu.
3. Select **Other** from the **Device Types** menu.
4. Select **BACnet Thermostat** from the **Other** menu.
5. Tap the plus button (+) and then assign a name to the to add the BACnet Thermostat to the system.

#### Configure the BACnet Thermostat

To configure the BACnet Thermostat with the Crestron Home system:

##### NOTE:

- The CoolMasterNet must be properly installed and wired in order to function properly. Refer to the CoolMasterNet documentation for details.

2. Configure the following settings:
  - Device: Enter the BACnet ID to establish communications with the CoolMasterNet.

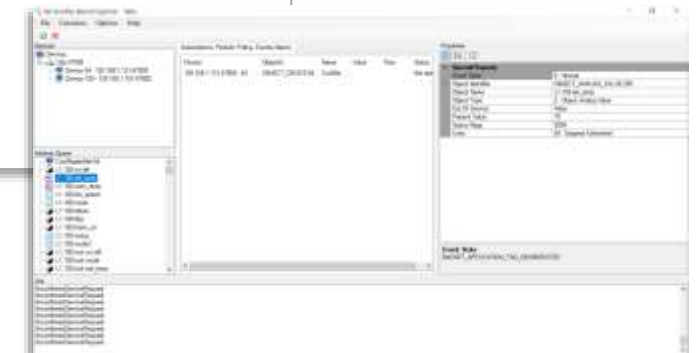


points: Enter the BACnet ID for the temperature Setpoints.

sterNet does not support Dual mode.



Product Manual - Honeywell



## Important to remember

- CoolAutomation products need to be equipped with BACNET license
- After connecting CA product to HVAC, “Virtual address setup” procedure should be initialized.  
Check [here](#) how to do it from CMNET, as an example.

## 2.2 BACnet IP Configuration

BACnet IP module is activated with below command:

```
>bacnet IP enable  
OK, Boot Required!
```

BACnet IP server is started by device only after it establishes an Ethernet link and gets proper IP address (dynamic via DHCP or static). Ethernet and IP management is done with **ifconfig** command that is out of the spec of this document.

To query BACnet IP status use **bacnet** command without parameters:

```
>bacnet  
Dev instance : 64 (0x000040)  
BACnet IP : enabled  
UDP port : 47808 (0xBAC0)  
BACnet MSTP : L3  
TS address : 64 (0x40)  
OK
```

The default UDP port number used by BACnet IP Server is 47808 (0xBAC0). This is “well-known” Ethernet port assigned for the BACnet IP protocol. If required port number can be changed (new port number in example below will be 503):

[www.coolautomation.com](http://www.coolautomation.com)

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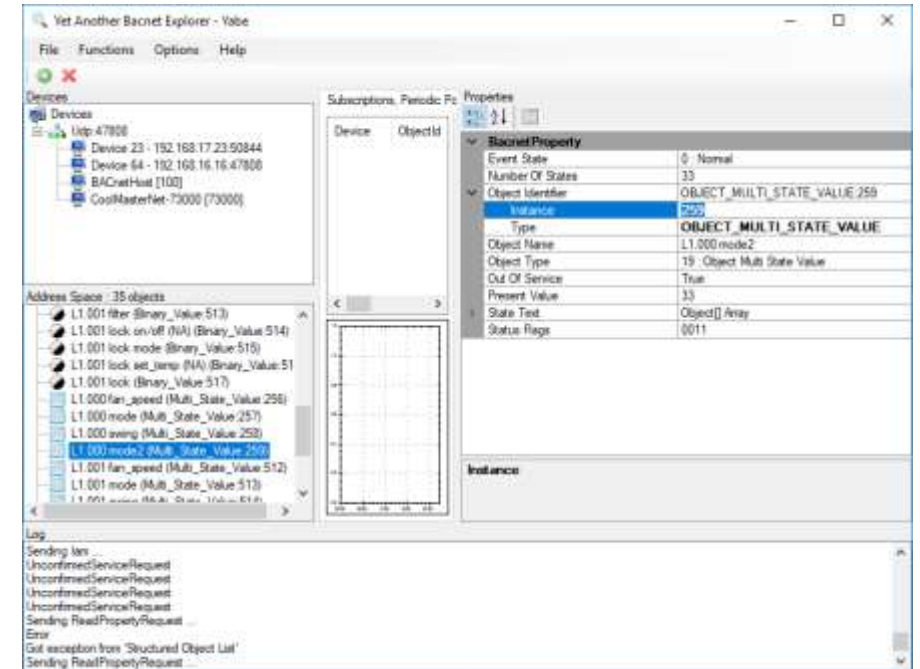
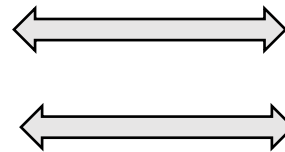
```
>bacnet port 503  
OK, Boot Required!
```

Next: VA's have to be configured to use BACnet IP Server. See: [VA's Configuration](#).

# Getting Started

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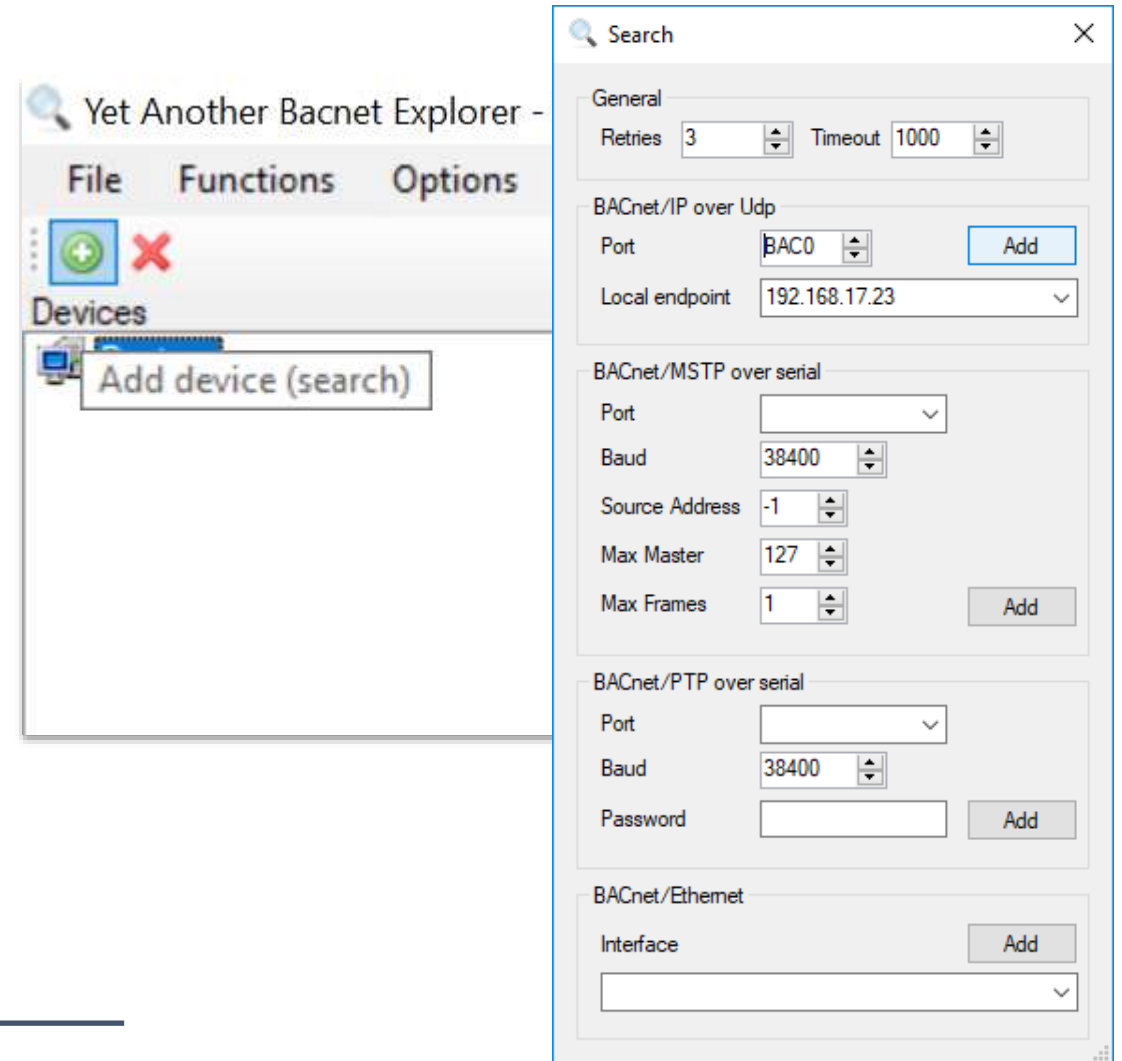
Open Crestron Home Setup & Yabe in parallel



# Integration Process

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- Open Yabe and add CoolMasterNet (or any other CA product)
  - Press the green plus
  - Then choose, “BACnet/IP over Udp”
  - Click Add
- Get to the BACnet objects

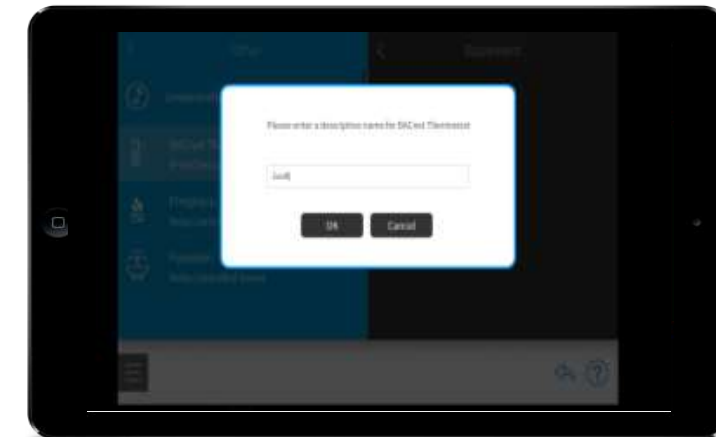




# Integration Process

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- Open Crestron Home Software and add the BACnet thermostat to Crestron Home
  - Go to the Gear menu to start configuring
  - Find Object Id
  - Type a name for the BACNET thermostat (air conditioning zone)



# Integration Process

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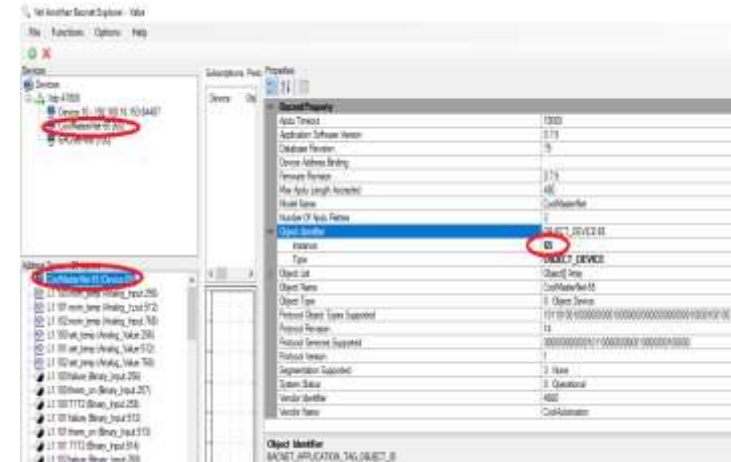
## Identify CoolMasterNet and map it to BACNET thermostat

### In Yabe software

- locate and click on CoolMasterNet from the Device list on the top right.
- Locate and click on CoolMasterNet from the Address Space list on the bottom right
- Locate and click on Object Identifier in the BACnet Property list
- ID was discovered as 65,
- Default CoolAutomation Device ID (instance number) is 64.

### In Crestron Home software

- Device menu, input the Instance number discovered through your BACnet device explorer as the Object id
- Set the desired priority level



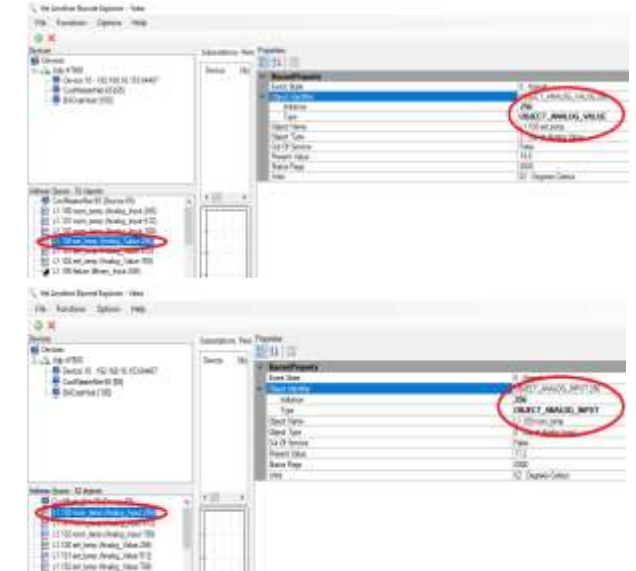
# Integration Process

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## Configure Set Point and Room Temperature

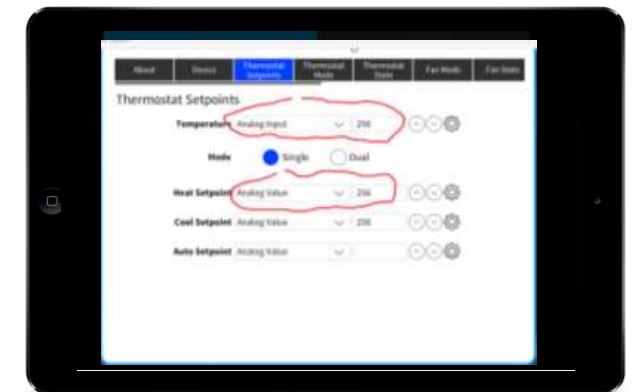
### In Yabe software

- Identify Setpoint Configuration Values
- Locate and click on CoolMasterNet from the Device list on the top right.
- Locate and click on CoolMasterNet from the Address Space list on the bottom right
- From CoolMasterNet's sub-list, locate and click on XYZ set\_temp/ room\_temp, where XYZ represents the indoor unit being configured
- Object Identifier in the BACnet Property list
- Notate the Type and Instance values



### In Crestron Home software

- Click on the Thermostat Setpoints menu
- Set the Mode to Single
- Input the Instance Number and Type discovered through your BACnet device explorer for XYZ room\_temp in the Temperature field
- Input the Instance Number and Type discovered through your BACnet device explorer for XYZ set\_temp in the Heat Setpoint field



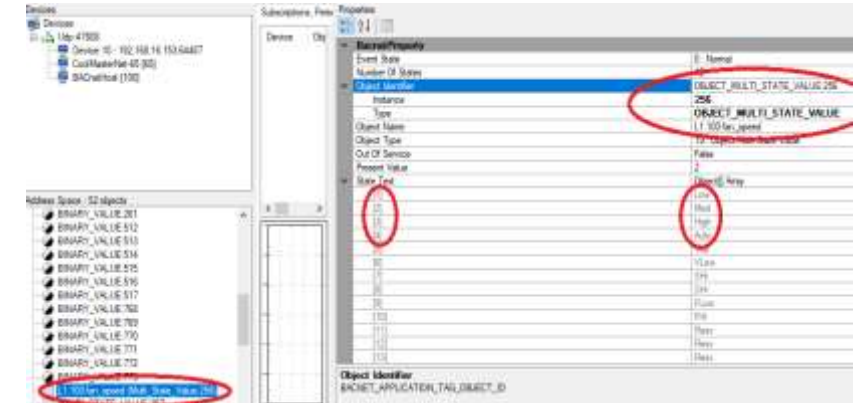
# Integration Process

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## Configure Fan speed

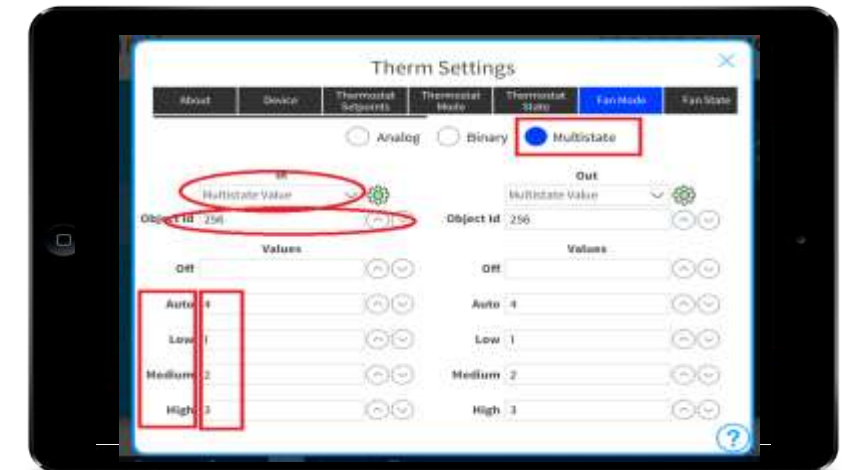
### In Yabe software

- Locate and click on CoolMasterNet from the Device list on the top right.
- CoolMasterNet's sub-list, locate and click on XYZ fan\_speed, where XYZ represents the indoor unit being configured
- Locate and click on Object Identifier and State Text in the BACnet Property list
- Notate the Object Identifier, Type, and Instance values
- Notate the State Text and Object Array values



### In Crestron Home software

- Click on the Fan Mode menu
- Set the Fan Mode to Multistate
- Input the Instance and Type discovered through your BACnet device explorer for the Dropdown Menu and Object Id field under both the in and out columns
- Input the associated State Text and Object Array values discovered through your BACnet device explorer into the corresponding fields under both the in and out columns



# Integration Process

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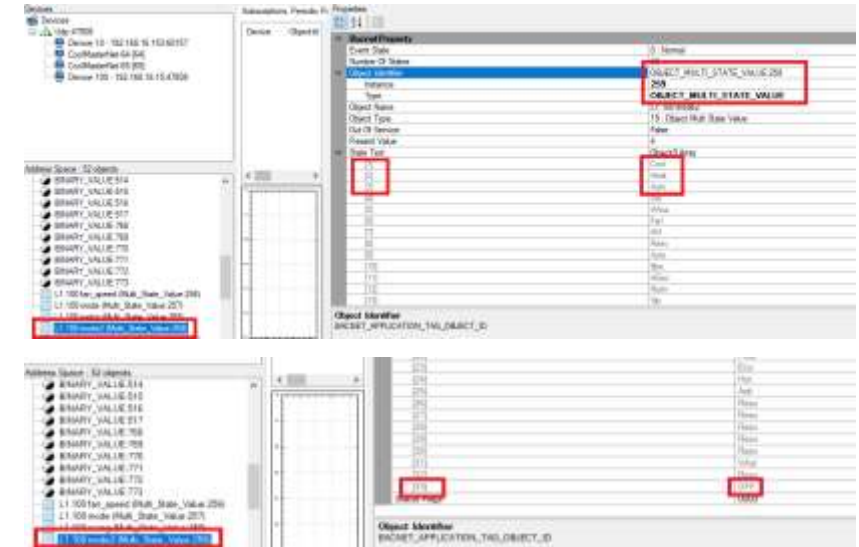
## Configure Thermostat (Unit) Mode

### In Yabe Software

- From CoolMasterNet's sub-list, locate and click on XYZ mode 2, where XYZ represents the indoor unit being configured
- Locate and click on Object Identifier and State Text in the BACnet Property list
- Notate the Object Identifier, Type, and Instance values
- Notate the State Text and Object Array values
- Notate the OFF Mode value, which may require scrolling, as it is often indexed within the State Text as 33

### In Crestron Home software

- Click on the Thermostat mode menu
- Set the Thermostat Mode to Multistate
- Input the Instance and Type discovered through your BACnet device explorer for the Dropdown Menu and Object Id field under both the in and out columns
- Input the associated State Text and Object Array values discovered through your BACnet device explorer to their corresponding fields for both In and Out



# Integration Completed

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- You have successfully integrated a single HVAC zone to a BACNET thermostat in Crestron software
- Follow the same procedure to add more HVAC Zones in the project.

