

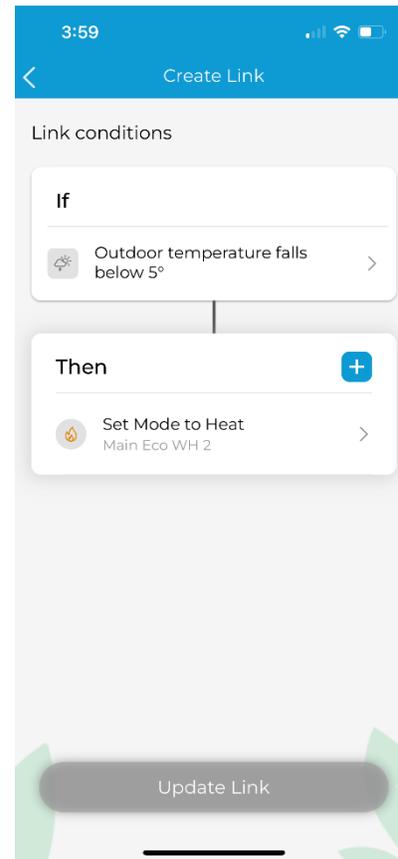
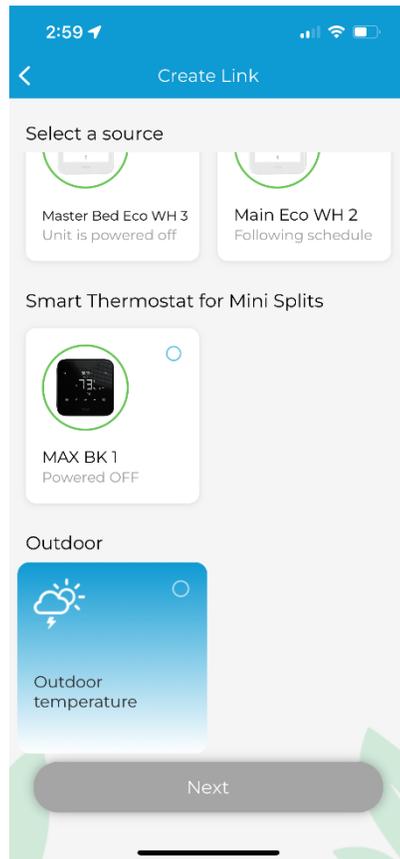
# Miscellaneous Control Applications

## Ductless systems and Crossover/Residential systems can talk without wires (end)

As you work your way through the decision-making process takes a few screens, but in the end a "Link conditions" screen shows you the rule. Think of it as "If this, then that". The rule can be toggled ON and OFF.



**Cielo Eco Thermostat  
(24-Volt)**



**Cielo Breez Max  
(DLS)**



# Miscellaneous Control Applications

## KSAIC0501230 24-Volt Interface - One Thermostat Multiple Interfaces

Use a relay bank or individual relays to parallel each mode/stage.  
Only low voltage wiring from indoor units to thermostat shown.



501 Interface

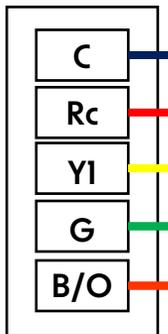


### Heat Pump Wiring Diagram

501 24-Volt Connections

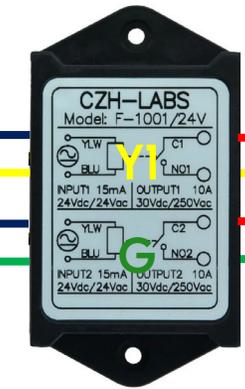


Thermostat

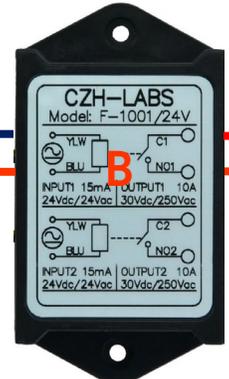


1 Stage Heat Pump & 1 Stage Cool

501 24-Volt Connections



2 - Dual SPST-NO



Field Supplied - min. 3 normally open relays with 24-volt coils.  
Number of relays depends on number of stages and application.

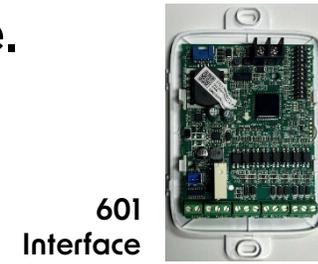


# Miscellaneous Control Applications

## KSAIC0601230 24-Volt Interface - One Thermostat Multiple Interfaces

Use a relay bank or individual relays to parallel each mode/stage.  
Only low voltage wiring from indoor units to thermostat shown.

Example of using one thermostat controlling two 301 24-Volt Interfaces. One relay controls Y & W, the other controls G.



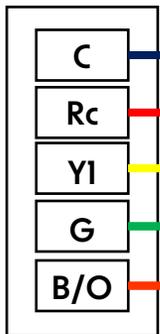
### Heat Pump Wiring Diagram

#### 601 24-Volt Connections

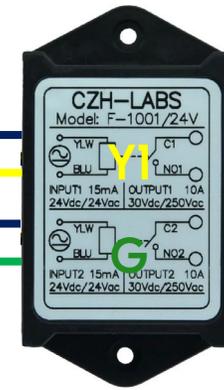


C R B G Y2

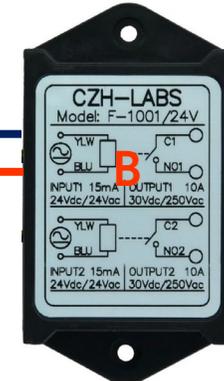
#### Thermostat



1 Stage Heat Pump & 1 Stage Cool



2 - Dual SPST-NO



#### 601 24-Volt Connections



R B G Y2

Field Supplied - min. 3 normally open relays with 24-volt coils.  
Number of relays depends on number of stages and application.



# Miscellaneous Control Applications

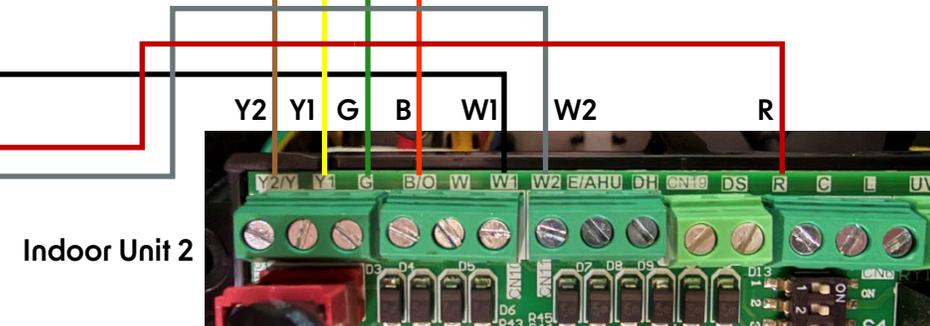
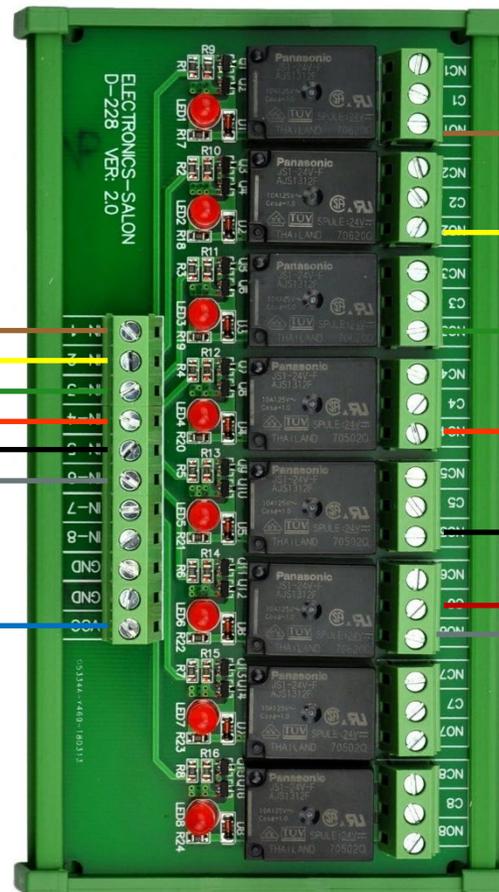
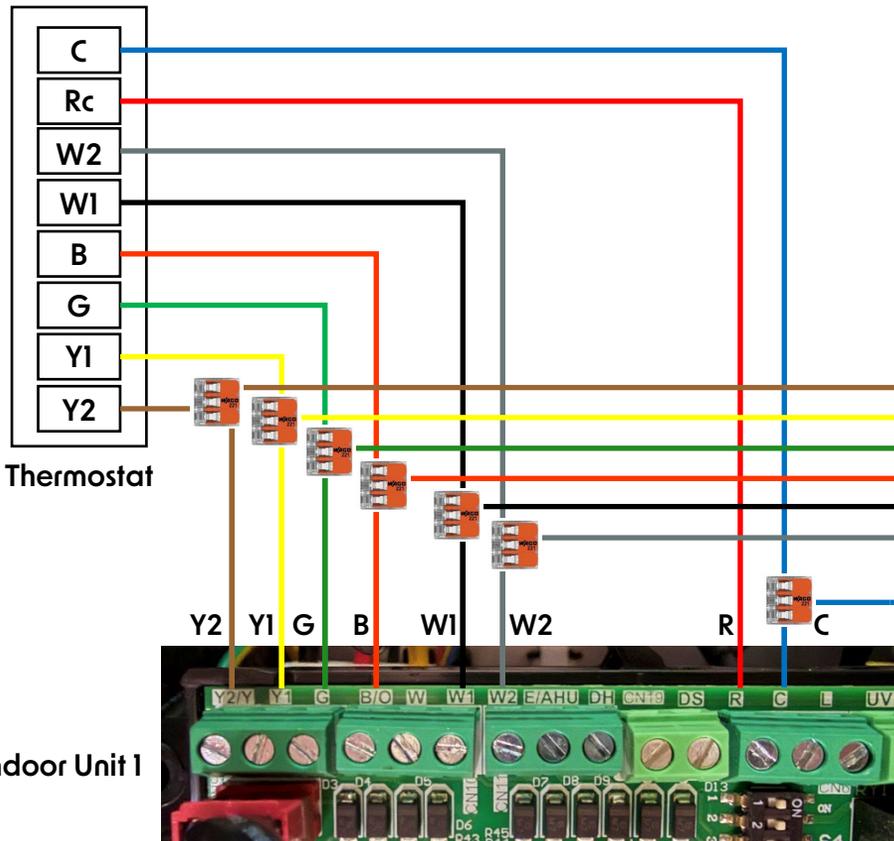
## 45MBAA - One Thermostat Multiple Air Handlers

Use a relay bank or individual relays to parallel each mode/stage.  
Only low voltage wiring from indoor units to thermostat shown.

### Heat Pump Wiring Diagram

4 Stage Heat & 2 Stage Cool  
2 Stage Heat Pump  
2 Stage Electric Heat

Field Supplied - 5 to 8 normally open relays with 24-volt coils.  
Number of relays depends on number of stages and application.



# Miscellaneous Control Applications

## 45MBAA Hydronic Coil Option 1 – 24-Volt Control

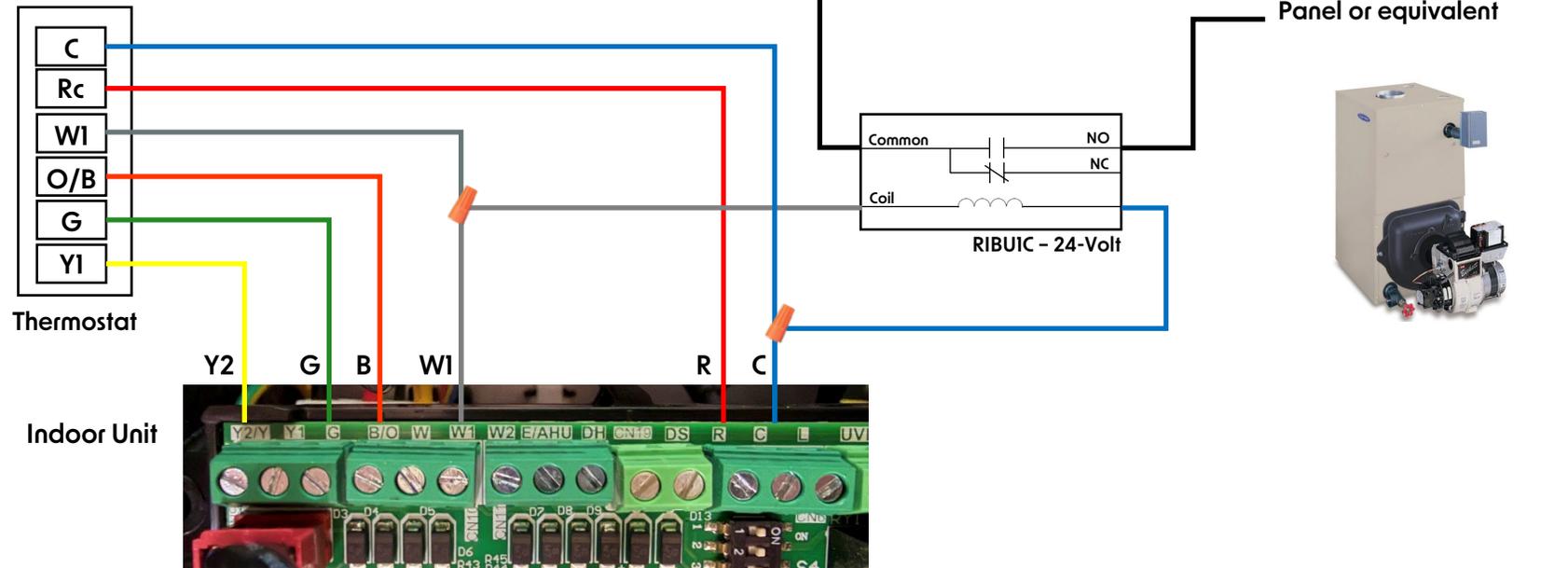
Wire and setup same as if an electric heat packed is installed. This will operate the fan for the hydronic coil.

The SW4 DIP switches must be set to deliver the required CFM for the hydronic coil being installed.  
Use SW4 DIP switch charts previously shown.

### Control Setup Notes:

Depending on the water coil's operating temperature and BTU output, it may be advisable to not allow simultaneously operation of the H/P and water coil.  
We recommend to set changeover around 5°F above balance point.

2 Stage Heat & 1 Stage Cool  
1 Stage Heat Pump  
1 Stage Hydronic Coil



### NOTES:

- Not all wiring is shown.
- RIB Relay or equivalent field supplied.

24-Volt Connections



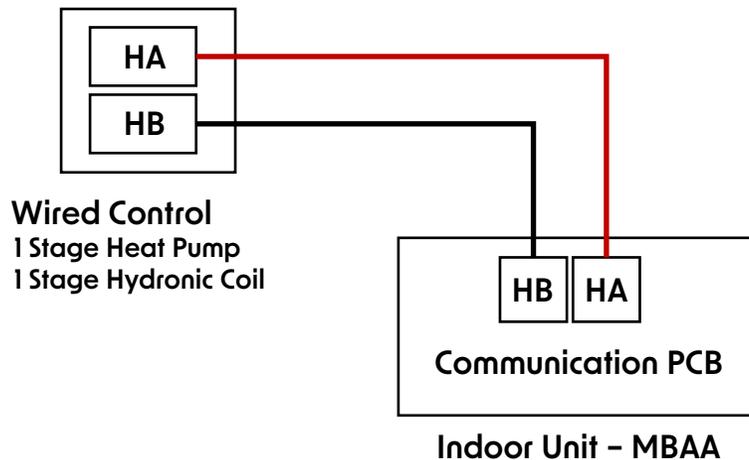
# Miscellaneous Control Applications

## 45MBAA Hydronic Coil Option 2 – Wired Control

A wire harness is required to use this control type and there are two ways to get it.

- Order by part number, please check availability.
- Buy and rob the wire harness from an electric heater kit made for MBAA.

Any setting a Wired Control used for electric heat kits will now be used to control the water coil relay.



KSACN01401AAA  
(purchased separately)



### Thermostat Notes:

- Program the 1401 settings same as you would program for electric heat kit.

# Miscellaneous Control Applications

## 45MBAA Hydronic Coil Option 2 – Wired Control (cont.)

This cannot be done without the harness shown.

Use RIB or equivalent isolation relay to bring on circulator pump & boiler

Cut off ends and use colors as shown wiring to coil of isolation relay.



Communication PCB

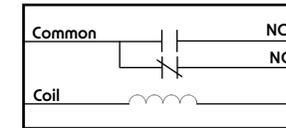


Black Common  
Red 1<sup>st</sup> Stage

CN12  
(3 Pin white socket)

Not all wiring is shown

To Hydronic Relay, Zone Panel or equivalent



RIBUIC – 24-Volt (1 set contacts)  
RIB2401D – 24-Volt (2 sets contacts)

Order Part #17401203022872

OR

Buy a small electric heater kit and rob the relay harness for use with this application.

EHKMC05KN

# Miscellaneous Control Applications

## 45MBAA Hydronic Coil Option 2 – Wired Control (end)

### Control Setup Notes:

Depending on the water coil's operating temperature and BTU output, it may be advisable to not allow simultaneously operation of the H/P and water coil.

We recommend to set changeover around 5°F above balance point.

In addition, the SW4 DIP switches must be set to deliver the required CFM for the hydronic coil being installed. Use SW4 DIP switch charts previously shown.

S3	S3 (°F)
0	OFF
1	-22
2	-18
3	-15
4	-11
5	-8
6	-4
7	3
8	10
9	18
A	25
B	32
C	36
D	39
E	43
F	46

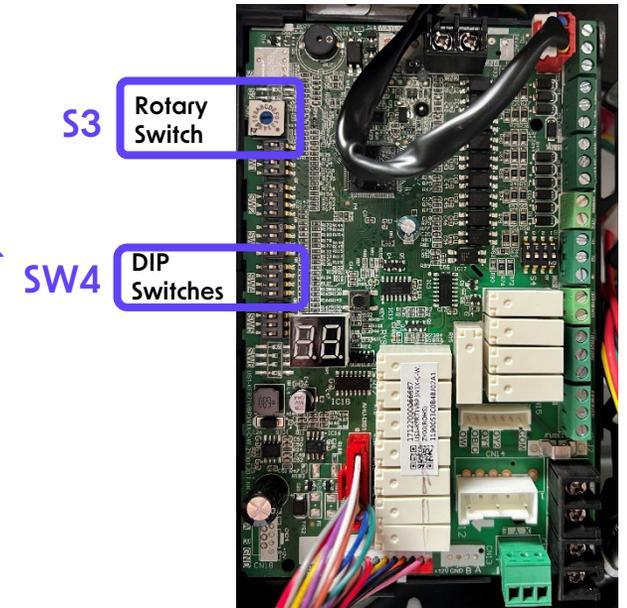
← OFF (default) = Simultaneous Operation

S3 Rotary Switch (in air handler)

Balance Point – Where it switches from H/P to Hot Water Coil

Example: Set dial point 1 = -22°F, Dial point 6 = -4°F.  
....Dial point F = 46°F

We recommend to set changeover around 5°F above calculated balance point.



Communication PCB

# Miscellaneous Control Applications

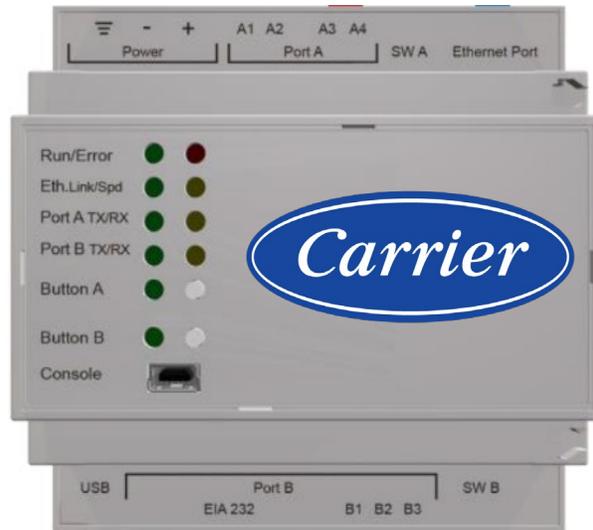
## Intesis BACnet MS/TP Gateway

1 to 1 and 4 to 1 options



CAR-DMS-BAC-001

1:1



CAR-DMS-770-004

1:4

### Indoor Unit Control Points using BACnet MS/TP

- On/Off
- Mode – Auto, Heat, Cool, Fan, Dry
- Error Codes - 25 Specific Codes
- Setpoint
- Fan Speed
- Room Temp
- Air Direction / Louver control
- Configurable Occupied and Unoccupied setting
- Lock / Unlock Wired Controller - Lock / Unlock IR receiver

Must have XYE bus on indoor unit

Field Supplied power supply required

Mountable on DIN rail

Use with or without the Indoor Unit's wireless control

See Parts Manager Bulletin - PMB25-017-REV A on HVACPartners for allowed Wired Control combinations with Intesis device.

45MAHA, 615AHA DSMAHA  
45MHHAC  
45MHHAQ  
45MPHA, 615PHA, D5MPHA  
45MBCAQ  
45MCCAQ

45MBAAQ  
45MBDAQ  
45MBDAQ  
45MBFAQ  
45MCFAQ

# Miscellaneous Control Applications

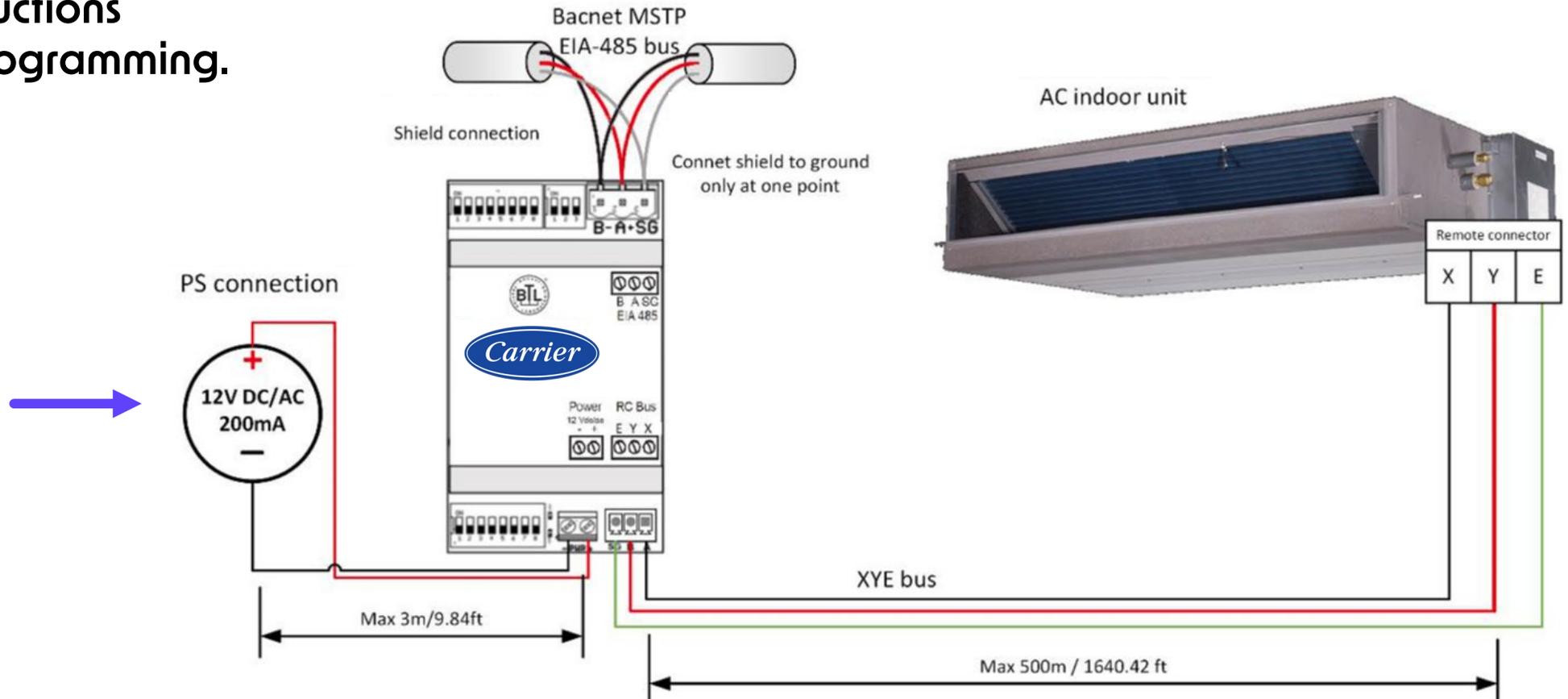
## Intesis BACnet MS/TP Gateway (cont.)



### General Connection Overview 1 : 1

- Gateways come with final setup instructions for front end programming.

- Field supplied 12V AC/DC Power Supply



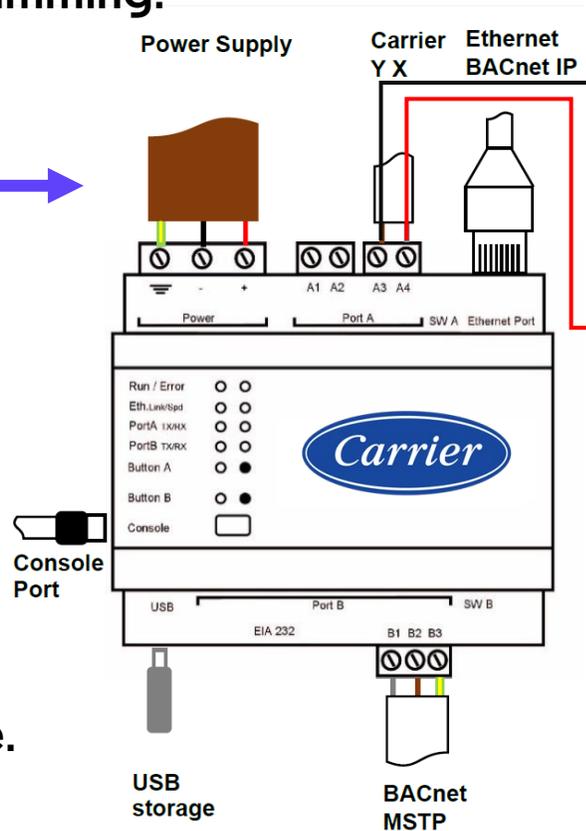
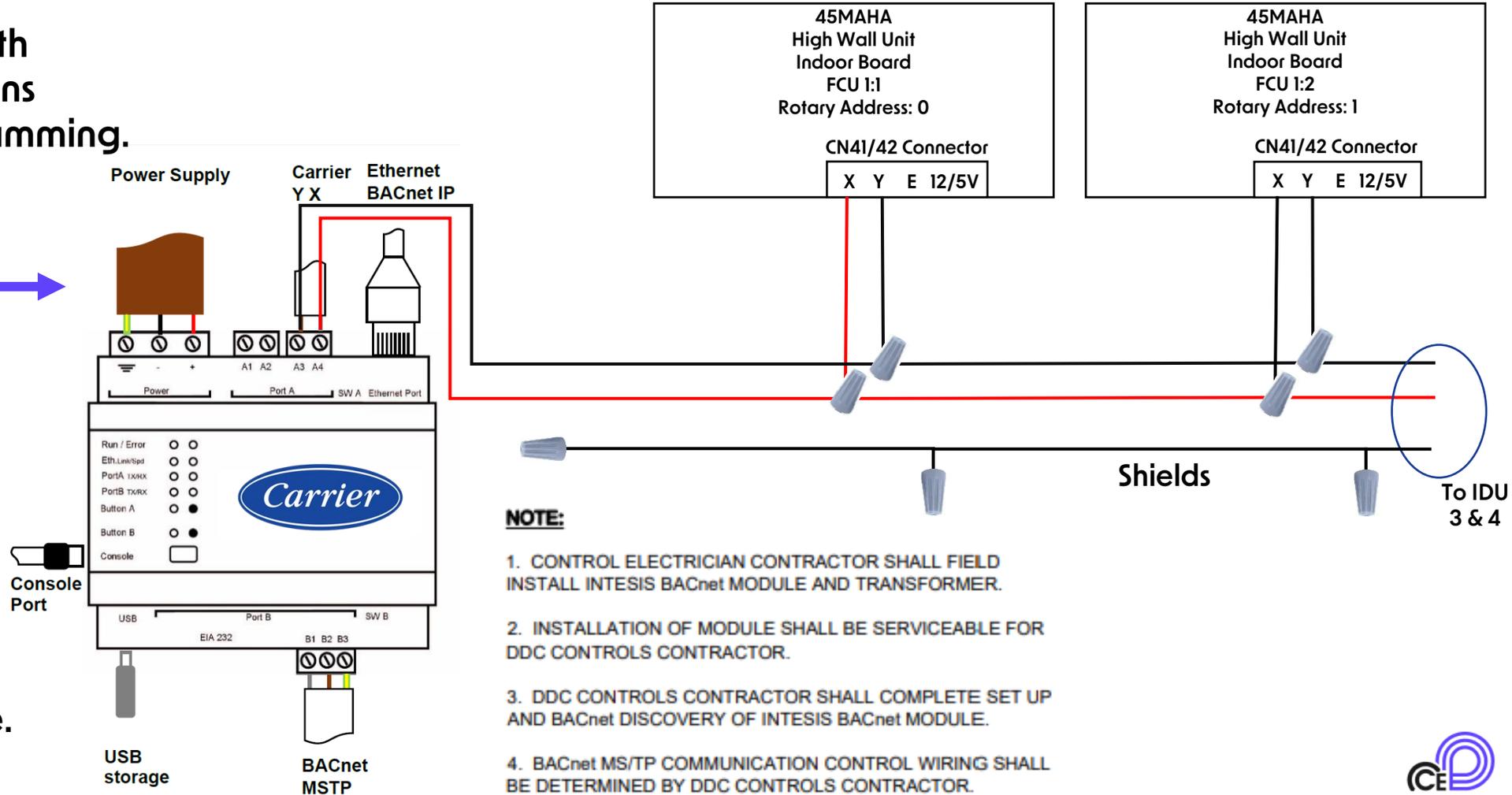
# Miscellaneous Control Applications

## Intesis BACnet MS/TP Gateway (cont.)



### General Connection Overview 4 : 1

- Gateways come with final setup instructions for front end programming.
- Field supplied 24V AC/DC Power Supply.
- When using 4:1 an Address must be set on each IDU using the rotary switch. Each must be a different value.



# Miscellaneous Control Applications

## Intesis BACnet MS/TP Gateway (cont.)

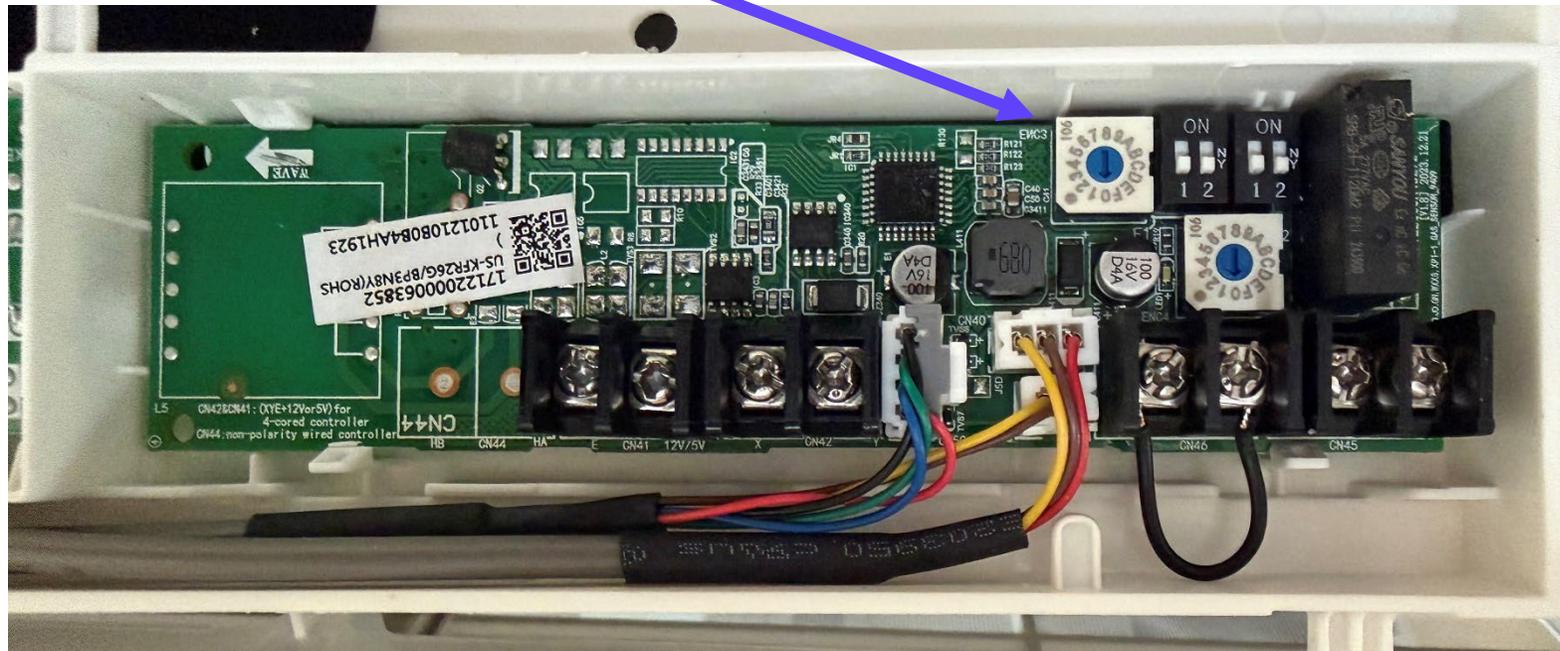


### 4 : 1 Address Setting:

- Use the Net Address rotary switch to set address for each fan coil. Recycle power after setting, if set while power was ON.

Net Address Setting for Multifunction Board  
Set ENC3 - use 0, 1, 2 or 3 for 4:1 Gateways

Example shown:  
45MAHA



# Miscellaneous Control Applications

## Intesis BACnet MS/TP Gateway (end)

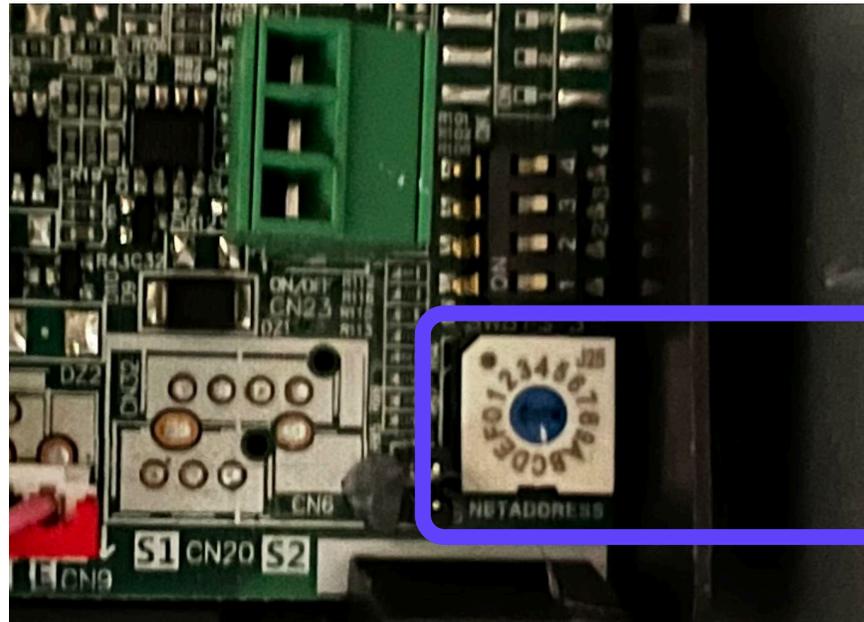
### 4 : 1 Address Setting:

- Use the Net Address rotary switch to set address for each fan coil. Recycle power after setting, if set while power was ON.



For Air Handlers  
Set S1 - use 0, 1, 2 or 3 for 4:1 Gateways

Example shown:  
45MBAA



Rotary  
Switch

S1