

Quick Start Guide

ACiQ Next Gen Ducted Heat Pump System

ACiQ-24-AHB/ACiQ-24-HPB
ACiQ-36-AHB/ACiQ-36-HPB
ACiQ-48-AHB/ACiQ-48-HPB
ACiQ-60-AHB/ACiQ-60-HPB

ACiQ-24-EHPB/ACiQ-24-AHB
ACiQ-36-EHPB/ACiQ-36-AHB
ACiQ-48-EHPB/ACiQ-48-AHB
ACiQ-60-EHPB/ACiQ-60-AHB

ACiQ-18-AC/ACiQ-18-AHB
ACiQ-24-AC/ACiQ-24-AHB
ACiQ-30-AC/ACiQ-36-AHB
ACiQ-36-AC/ACiQ-36-AHB
ACiQ-48-AC/ACiQ-48-AHB



Thank you for purchasing a Next Gen Heat Pump system from ACiQ. This system gives you the benefits of a variable speed, inverter driven heat pump condenser, combined with a smart air handler with a variable speed blower.

This Quick Start Guide covers how to connect the thermostat to your system and ensure proper communication. It is not meant to replace the entire installation manual. Please reference install manual for in depth instructions.

Option 1 - Connecting the 24 Volt ACiQ Thermostat

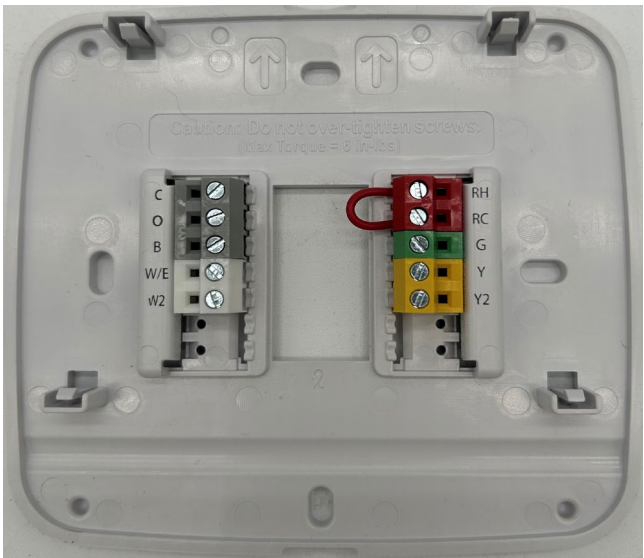
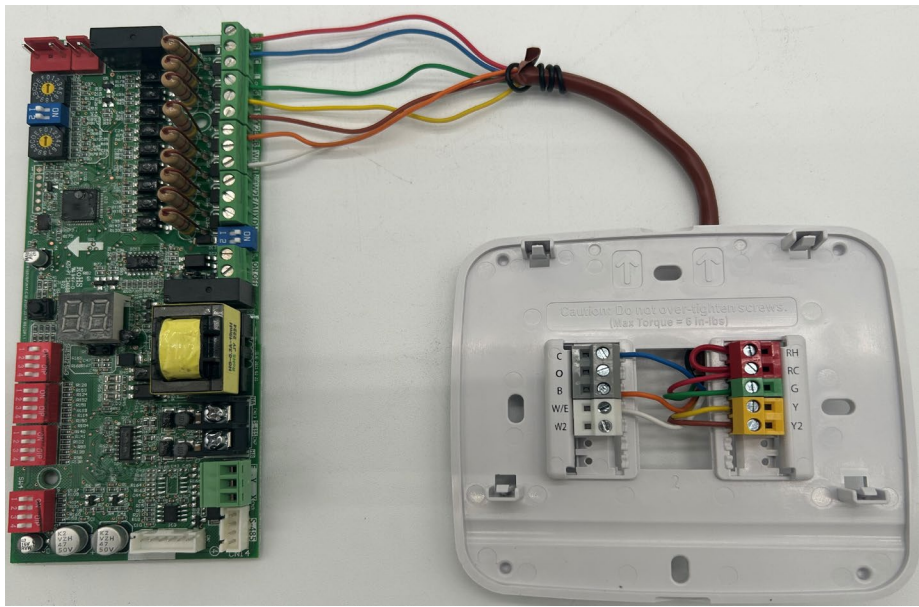
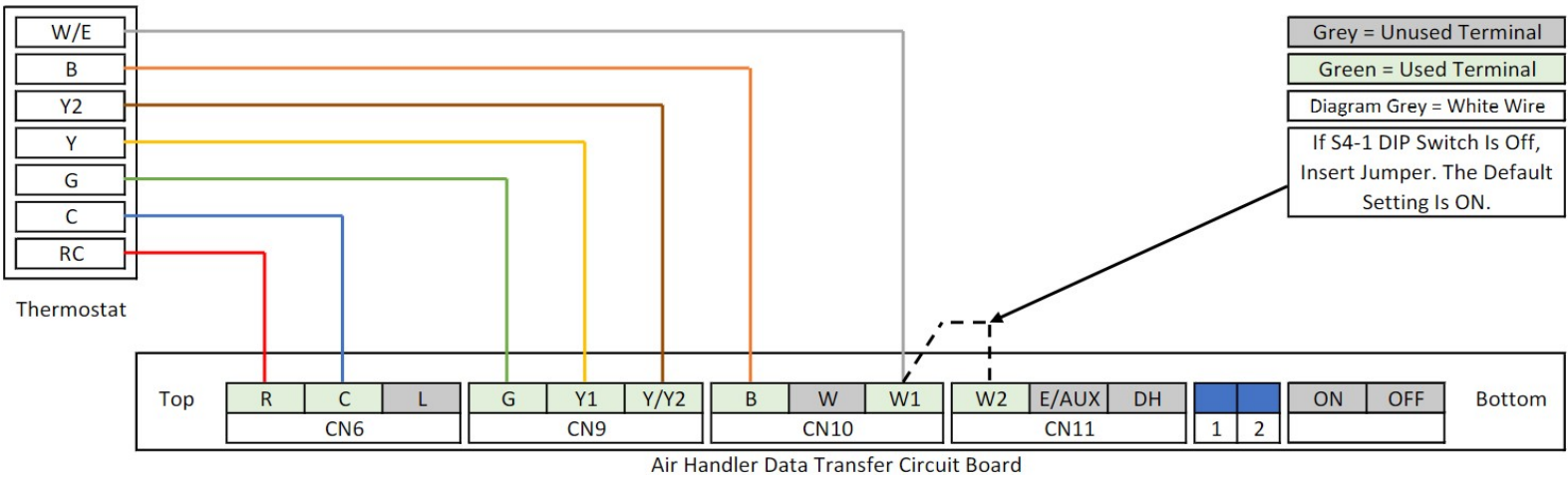
(Model T755)

Recommended Option

This option shows how to wire the 24 volt ACiQ thermostat to the air handler. Please note for this method to work DIP switch **SW1-1** needs to be **turned ON**. This method uses S1 & S2 to communicate between the air handler and the condenser (no 24 volt wire is run outside) only 18/2 shielded wire is run outside. (See next page for more details).

Thermostat Wiring Diagram

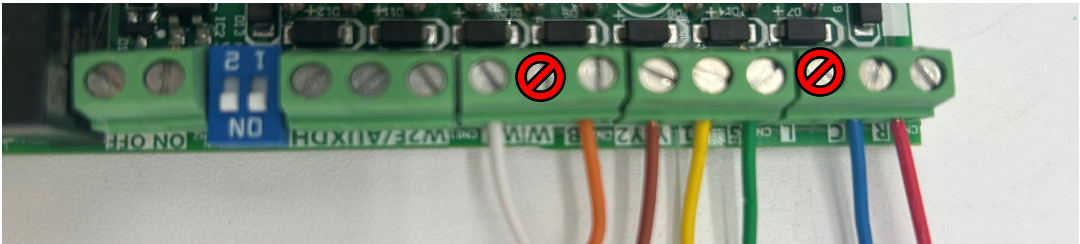
3H and 2C - With Auxiliary Heat



ABOVE - Zoomed In View Of Baseplate

ABOVE

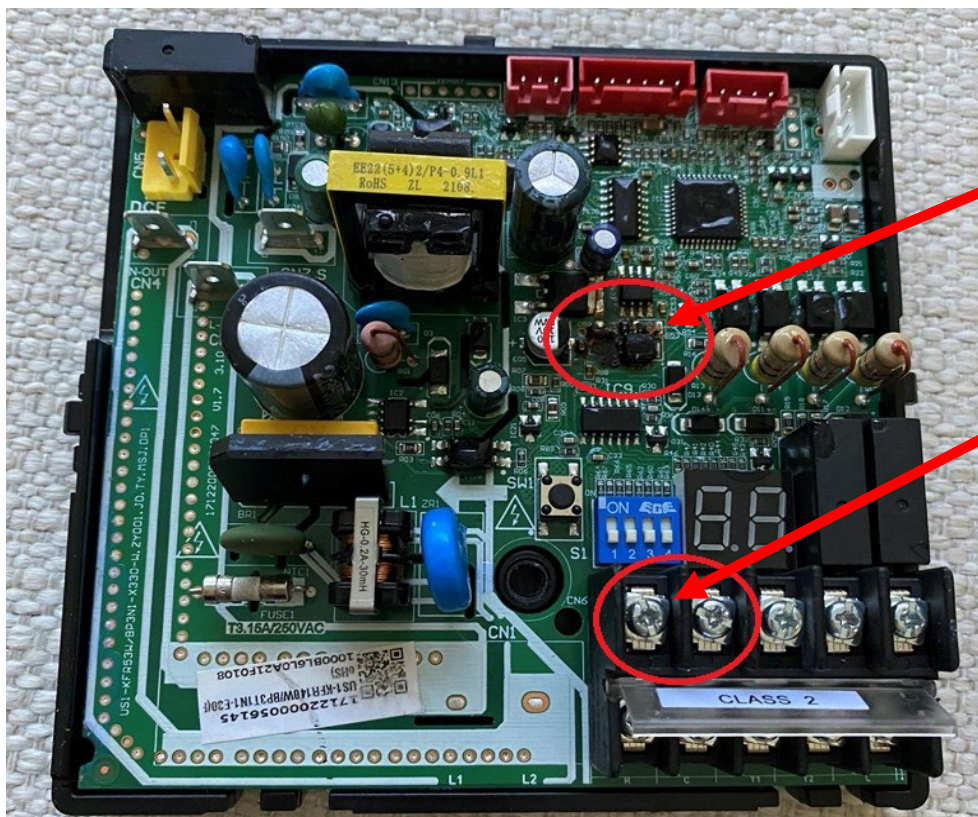
Data Transfer Board (Left) & Thermostat Base Plate (Right)



Up close view of 24 volt terminal strip on air handler. Please note which connections are used. Specifically please note that L & W are skipped.

IMPORTANT INSTALL INFORMATION

24 Volts AC must NEVER be connected to S1 & S2. Doing so will cause irreversible damage to the outdoor communication board.



Board will burn out here if 24 volts is connected to S1 & S2.

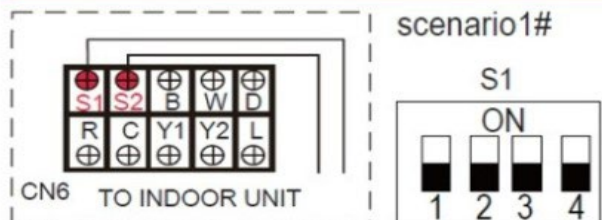
S1 & S2 MUST be connected here. Do NOT connect 24 volts here. (Top Row)

Please verify outdoor unit is receiving 208/240 volts to L1 & L2 as well. L1 & L2 are on a separate terminal block.

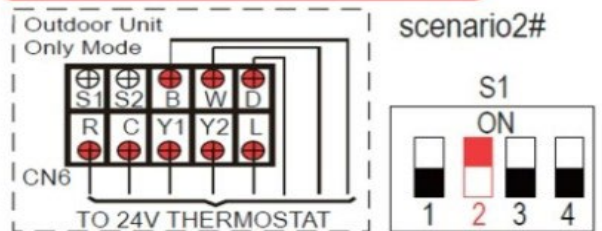
S1 & S2 terminals are on top. R & C terminals are on the bottom.

Caution: Power needs to be OFF BEFORE DIP SWITCH adjustments

Non-polarity RS485 communication

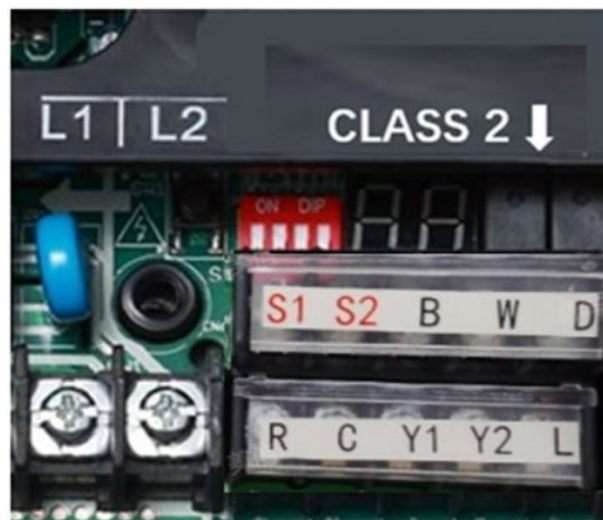


24V communication



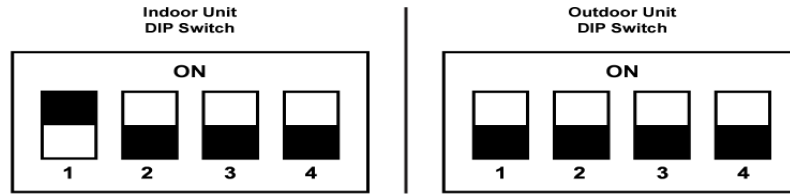
24V must never be connected to S1 – S2. All wiring must be in compliance with the above scenarios. Incorrect wiring will cause irreversible damage to control.

To address this issue moving forward the new cover will look as shown below. If you have the old version use the picture below for a reference.

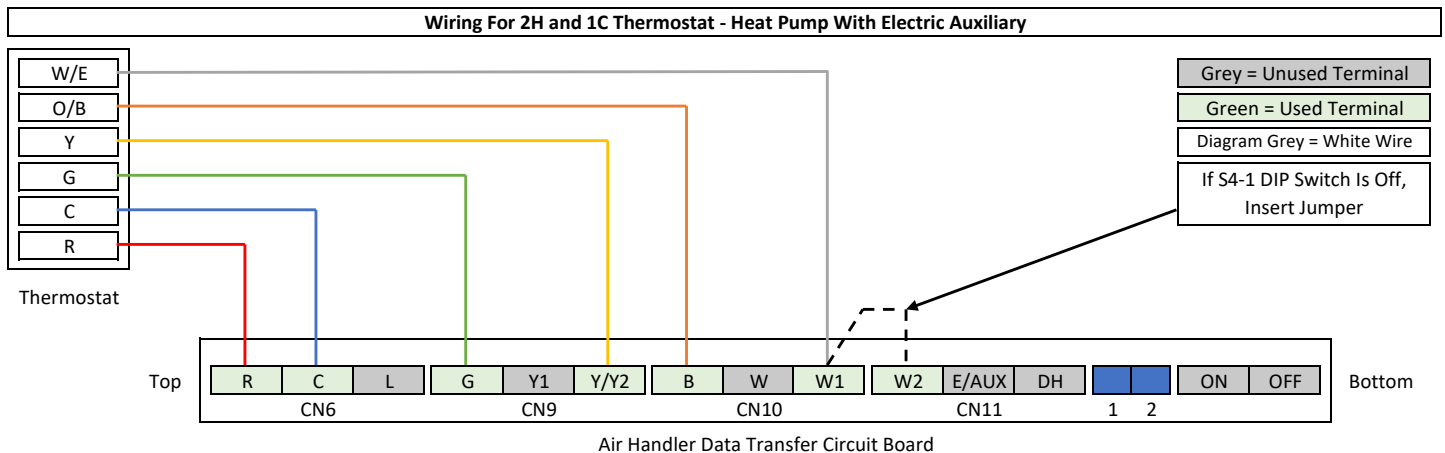
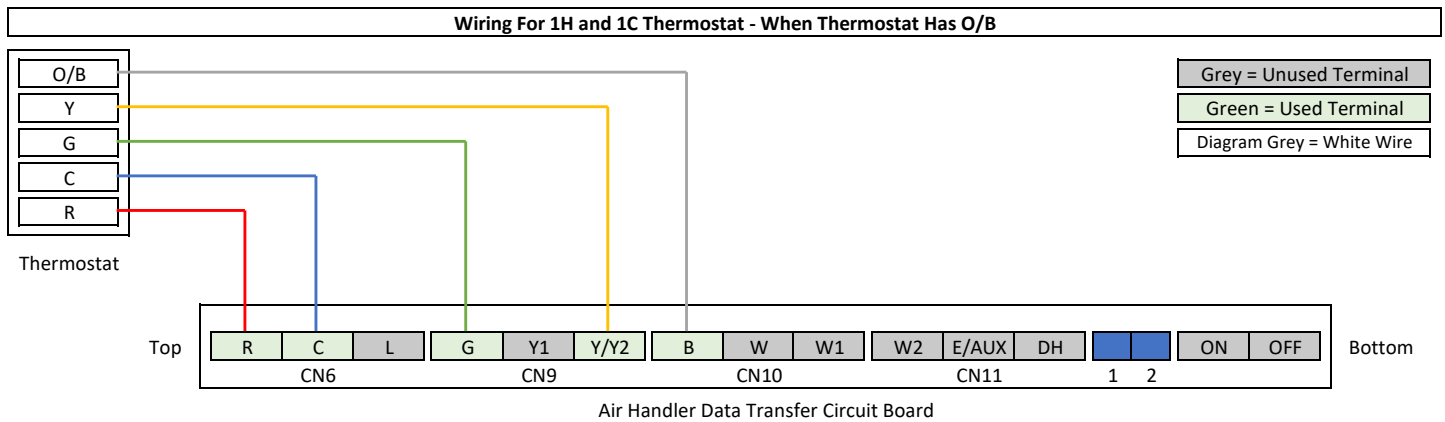
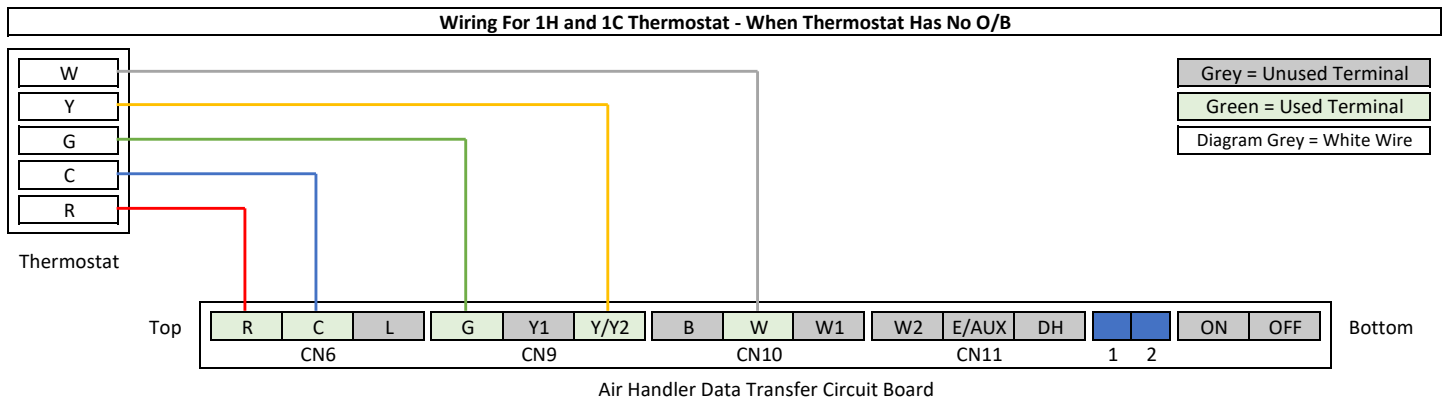


Option 2 - Connecting a 3rd Party 24 Volt Thermostat With Communication Wire Connected

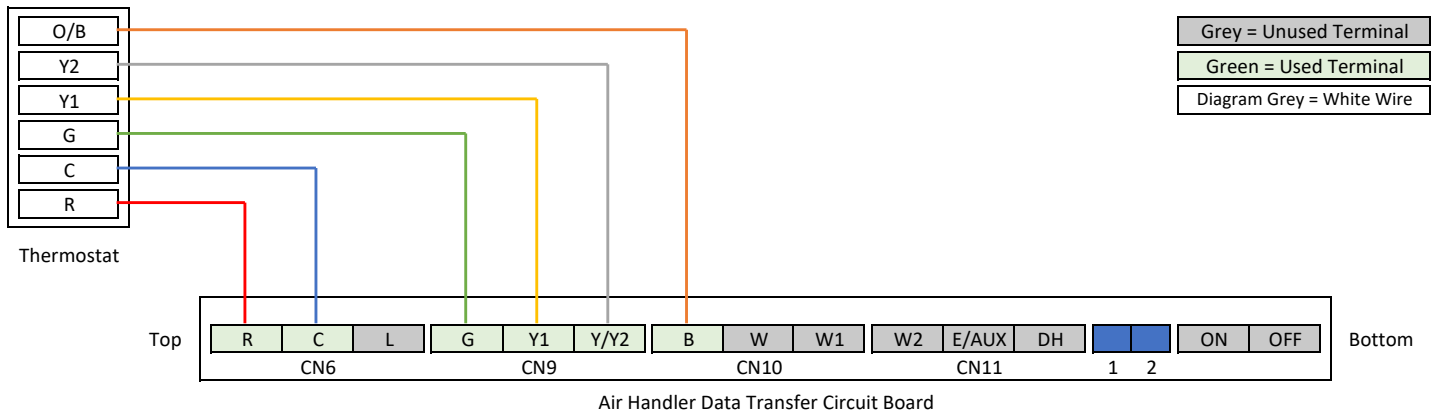
Any 24 volt thermostat can be selected. Select the appropriate profile from the options listed below to wire thermostat to air handler. S1 & S2 must be connected at the indoor unit and the outdoor unit. Set the system dip switches as shown below.



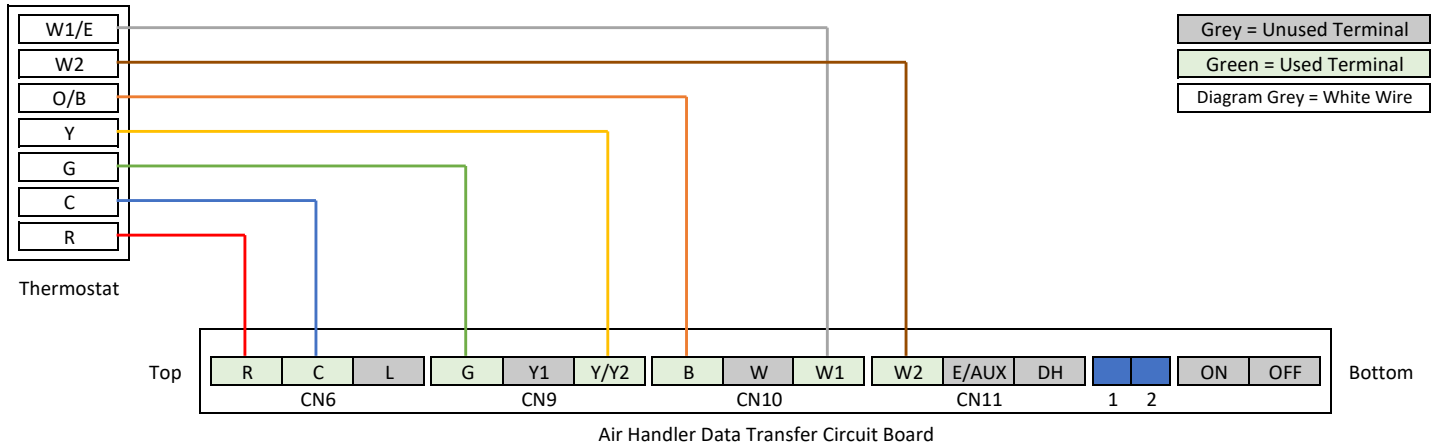
SW1 SW1 Thermostat Connection (Select One)



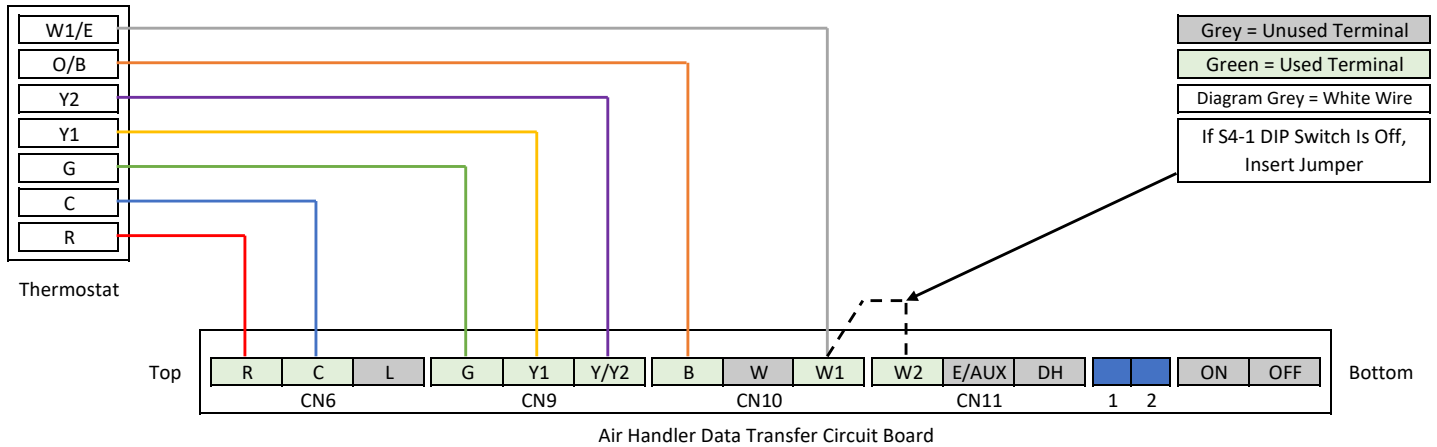
Wiring For 2H and 2C - No Auxiliary Heat



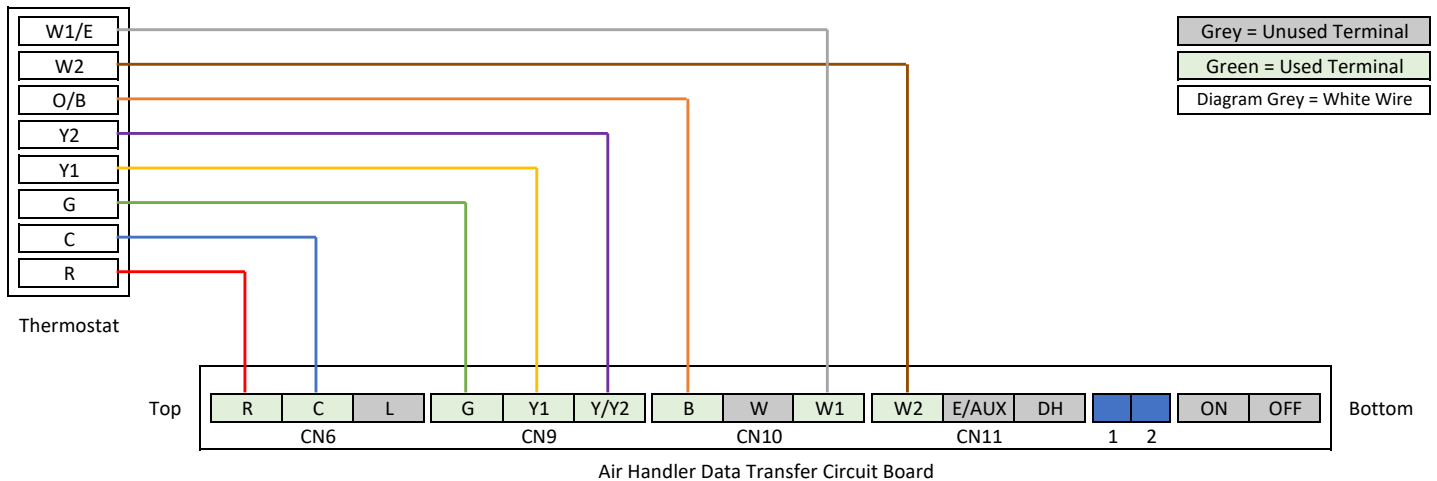
Wiring For 3H and 1C - Two Stage Auxiliary Heat



Wiring For 3H and 2C - With Auxiliary Heat

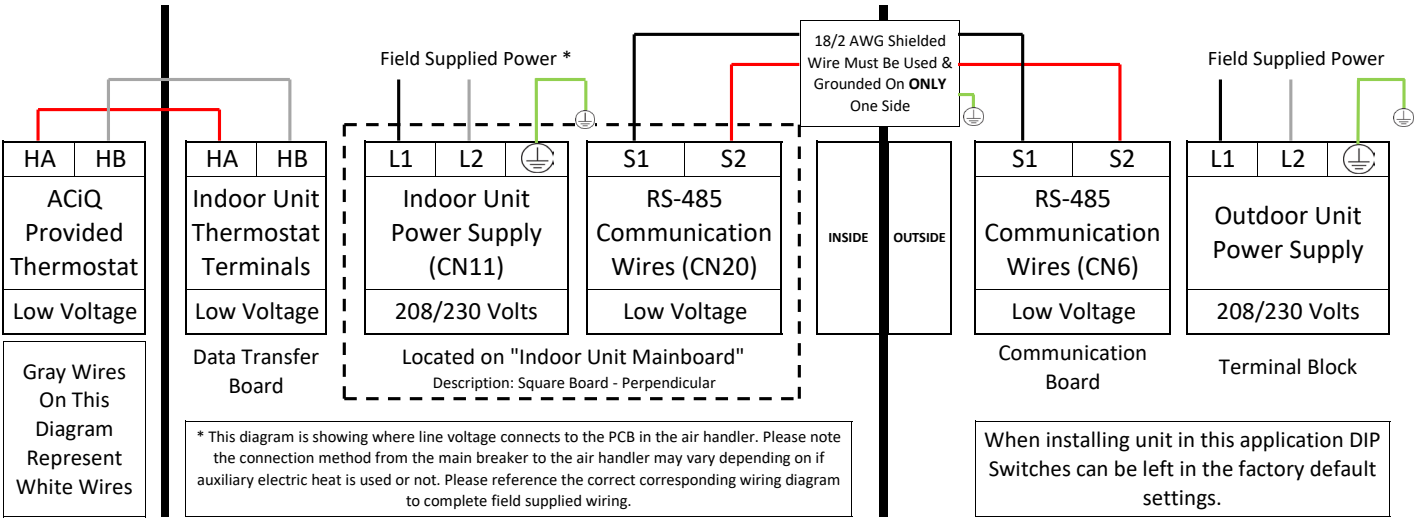


Wiring For 4H and 2C - Recommended Method



Option 3 - Wiring Diagram When Using Provided Communicating Thermostat

Please note that using the provided communicating thermostat will provide maximum efficiency. But when using this thermostat the unit will prioritize efficiency over comfort. The system will maintain a comfortable temperature but may run longer than some people desire. For conventional control over the unit see option #1.



! IMPORTANT NOTES !

Communication wire connected to S1 & S2 **MUST** be 18/2 AWG shielded cable. Failure to use specified wire can result in communication errors.

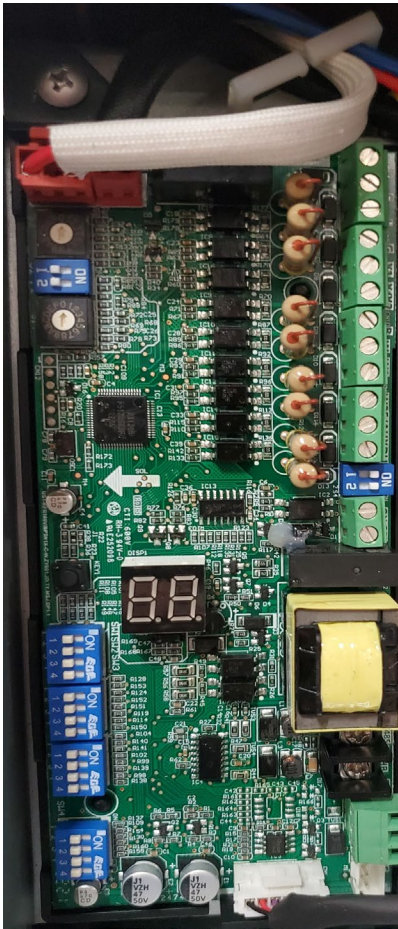
The drain wire must be grounded at one end **ONLY** and the shield foil and conductor **MUST** be trimmed back and insulated at the other end. **DO NOT** ground the shield at both ends. Failure to follow this procedure can result in communication errors.

Communication wire must be run a minimum of 18" away from any line voltage wires. Failure to follow this procedure can result in communication errors.

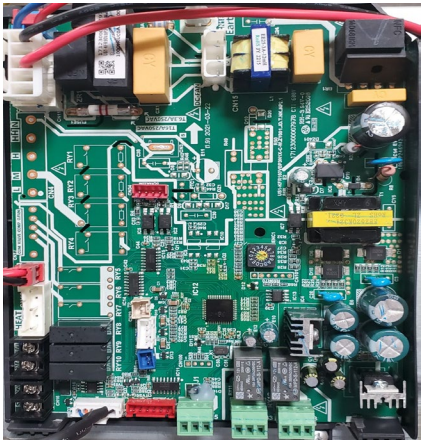
Photo Examples

Indoor Air Handler Circuit Boards

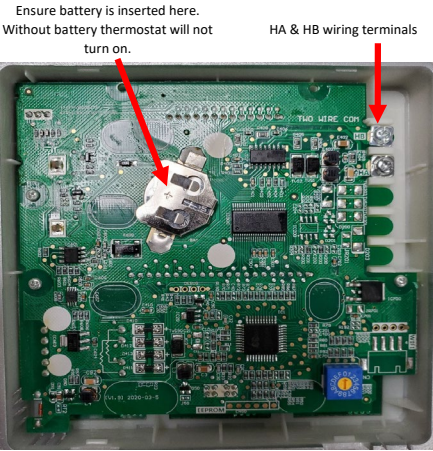
Data Transfer Board (Front Facing)



Main Board (Side Facing)



ACiQ Provided Thermostat

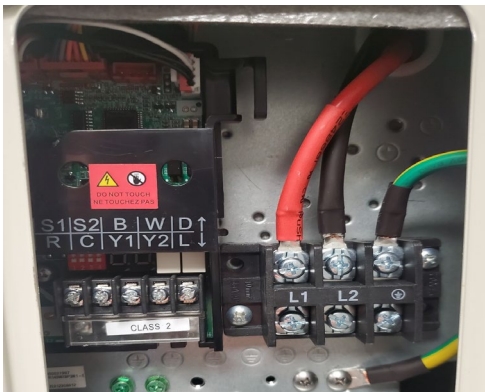


18/2 Shielded Cable Example



Outdoor Unit Circuit Board

Communication Board (Left) Terminal Block (Right)



Air Handler DIP Switch Guide

2023 V1.2

Function Settings		
Thermostat Wiring Method		
SW1-1	OFF	RS-485 Communication. Used For ACiQ Communicating Thermostat.
	ON	Used For 24 Volt Thermostats.
Cold Air Prevention - Defrost		
SW1-2	OFF	Cold Air Prevention Activated - Fan Stops
	ON	No Cold Air Prevention - Fan Continues To Operate
System Type		
SW1-3	OFF	Heat Pump
	ON	Cooling Only
Indoor & Outdoor Unit Wiring Method		
SW1-4	OFF	S1 & S2 (DC Communication / Only Applies To ACiQ Condenser)
	ON	24 Volt Wires (No True Communication / Applies To All Condensers)

Default AHU DIP Switch Settings Shown Below



Heat Settings		
Auxiliary Heat Activation Differential		
SW2-1	OFF	4 °F Gap Between T1 & Ts Sensors
	ON	2 °F Gap Between T1 & Ts Sensors
Auxiliary Heat Activation Delay		
SW2-2	OFF	None
	ON	Yes
Auxiliary Heat Activation Delay Time		
SW2-3	OFF	15 Minute Delay (For Electric Heat)
	ON	30 Minute Delay (For Electric Heat)
Heat Source Lock Outs		
SW2-4	OFF	In This Position Electric Heat Lockout Can Be Set Via ENC2
	ON	In This Position Compressor Lockout Can Be Set Via ENC2
S3	ENC2 Dial Referenced In SW2-4. 16 Digits To Select From (0-9, A-F). Lock Out Range = -4 °F to 46 °F. 0 = No Lock Out, 1 = -4 °F Lock Out, F = 46 °F Lock Out. Each Digit Increases Temperature By 3.6 °F. Chart Provides Temperature Rounded To Nearest Whole Number.	

Delay between 1st stage & 2nd stage electric heat is time based, not temperature based.

T1 Sensor = Return Air Temp (Room Temp), Ts = Set point

SW2-3 only works if SW2-2 is turned ON.

This sets maximum temperature, anything over this setting locks out.
This sets minimum temperature, anything under this setting locks out.

1 = -4 °F	5 = 10 °F	9 = 25 °F	D = 39 °F
2 = 0 °F	6 = 14 °F	A = 28 °F	E = 43 °F
3 = 3 °F	7 = 18 °F	B = 32 °F	F = 46 °F
4 = 7 °F	8 = 21 °F	C = 37 °F	

Heat Settings Cont.		
Ramping Up Algorithm Delay		
SW3-1	OFF	1.5 Hours (Efficiency)
	ON	0.5 Hours (Comfort)
Y/Y2 Temperature Differential Adjustment		
SW3-2	OFF	3.6 °F (Efficiency)
	ON	1.8 °F (Comfort)
W2 Temperature Differential Activation		
SW3-3	OFF	6 °F (Efficiency)
	ON	4 °F (Comfort)

This sets the maximum continuous runtime allowed before the system automatically stages up capacity. Only applies if 24 volt thermostat is being used.

If using 24 volt thermostat this sets compressor speed instead.
ON = slower, OFF = Faster.

This DIP switch only works if using the provided communicating ACiQ thermostat. Otherwise delay is time based.

Electric Heat Nominal CFM Adjustment		
SW4	Available settings are 000/001/010/011. Each digit corresponds with an individual switch position.	

OFF = 0, ON = 1.

For example [SW4-1 OFF, SW4-2 ON, SW4 -3 OFF] = 010

Heat Settings Cont.		
Aux Heat Control		
S4-1	OFF	W1 & W2 Controlled Separately
	ON	W1 & W2 Not Controlled Separately
Dehumidify Control		
S4-2	OFF	DH Terminal Available To Be Used
	ON	DH Terminal Deactivated

General Notes

If selected 24 volt thermostat has an E/AUX option and it is used to activate heat, all delays will be bypassed.

When auxiliary heat is energized the fan will run in Turbo Mode.

IMPORTANT: In order for changes to take effect power must be OFF BEFORE DIP switch changes.

Default setting is OFF except S4.

Please note if using the provided ACiQ thermostat DIP Switch Settings will not need to be adjusted. DIP Switch settings should only be adjusted by a professional HVAC service technician. Please note in this quick start guide the specific DIP Switches that need adjusted will be shown to ensure accurate operation for the chosen set up. For Option 1 nothing needs to be done. For Option 2 please refer to the DIP Switch diagram that shows the correct position of the DIP Switches.