

High Efficiency Heat Pump System  
Standard and Extreme Series with R-454B



ACIQ-24-PAH/ACIQ-24-HPD  
ACIQ-24-PAH/ACIQ-24-EHPD

ACIQ-36-PAH/ACIQ-36-HPD  
ACIQ-36-PAH/ACIQ-36-EHPD

ACIQ-48-PAH/ACIQ-48-HPD  
ACIQ-48-PAH/ACIQ-48-EHPD

ACIQ-60-PAH/ACIQ-60-HPD  
ACIQ-60-PAH/ACIQ-60-EHPD

Thank you for purchasing a High Efficiency 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 the basic on 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 or use the QR code.



Wiring Diagrams and Connections

These systems are designed to either reuse existing thermostat wiring between the thermostat, AHU, and ODU or with new wiring. Installation is dependent on the number of wires available. The wiring diagrams below and on the following pages show the proper wiring and DIP switch settings (for indoor and outdoor units) depending upon your application and the type of thermostat used (standard wired controller or 24V thermostat).

INSTALLATION SITUATION	THERMOSTAT CONTROLLER	CONNECTION BETWEEN T-STAT AND AHU	CONNECTION BETWEEN AHU & ODU	AHU DIP SWITCH		ODU DIP SWITCH
				SW1-1	SW1-4	S1-2
2-WIRE/2-WIRE INSTALLATION (SEE PAGE 4)	ACIQ COMMUNICATING THERMOSTATS (KJR-120N, KJR-120X, TLO4-1)	2-wire (HA/HB)	2-wire (S1/S2)	OFF (Default)	OFF (Default)	OFF (Default)
7-WIRE/2-WIRE INSTALLATION (RECOMMENDED) (SEE PAGE 5)	24V STANDARD THERMOSTAT	7-wire (24v) (R/C/B/Y1/Y2/G/W)	2-wire (S1/S2)	ON	OFF (Default)	OFF (Default)
7-WIRE/7-WIRE INSTALLATION (SEE PAGE 6)		7-wire (24v) (R/C/B/Y1/Y2/G/W)	7-wire (24v) (R/C/B/Y1/Y2/G/W)	ON	ON	ON



**WARNING!** In ALL wiring scenarios, be sure to turn off the circuit breakers and pull the disconnect before wiring. Incorrect wiring can cause an electrical short and destroy the main circuits boards!



**IMPORTANT!** 24v must NEVER be connected to S1 & S2. Doing so will cause irreversible damage to the outdoor communication board.



IMPORTANT NOTES



By default, the ACIQ KJR series communicating thermostats run the indoor fan continuously and read the temperature of the air in the ductwork, not the temperature of the room, which makes them different than most thermostats. You can change this to room mode by using the "Follow Me" function.

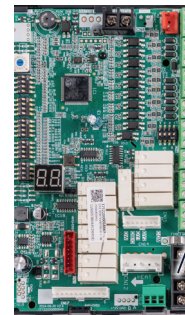


According to AHRI there is at most a 0.9 SEER2 increase in energy efficiency using the communicating system. Most customers are extremely happy with a sophisticated learning thermostat such as the standard ACIQ Communicating Thermostat.

2-WIRE to 2-WIRE INSTALLATION: USING OPTIONAL COMMUNICATING THERMOSTAT

This is the simplest installation method, reusing 2 wires from the existing thermostat wiring between the AHU, thermostat, and ODU. Communicating thermostats, such as the ACIQ KJR series or the ACIQ TLO4-1 provide maximum efficiency, causing the unit to prioritize efficiency over comfort. For more conventional control over the unit, see the manual.

**STEP 1** CONNECT 2-WIRE CABLE TO THE HA/HB TERMINALS ON THE AHU



INDOOR AHU CONTROL BOARD

**STEP 2** CONNECT 2-WIRE CABLE TO THE HA/HB TERMINALS ON THE THERMOSTAT



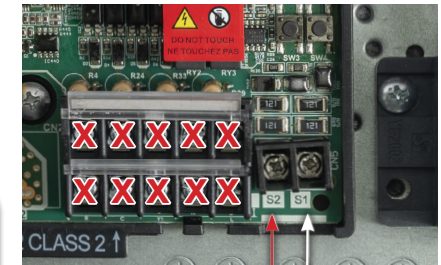
NOTE: ACIQ TLO4-1 Communicating Thermostat shown.

**STEP 3** CONNECT 2-WIRE CABLE TO THE S1/S2 TERMINALS ON THE AHU



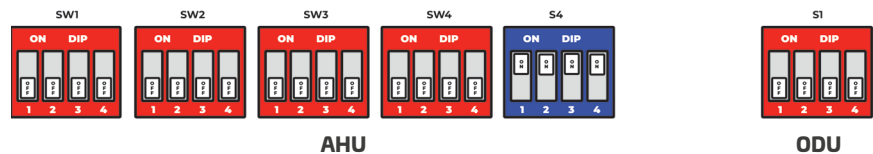
INDOOR AHU CONTROL BOARD

**STEP 4** CONNECT 2-WIRE CABLE TO THE S1/S2 TERMINALS ON THE ODU



OUTDOOR ODU MAIN BOARD

**STEP 5** SET THE DIP SWITCHES



AHU

ODU

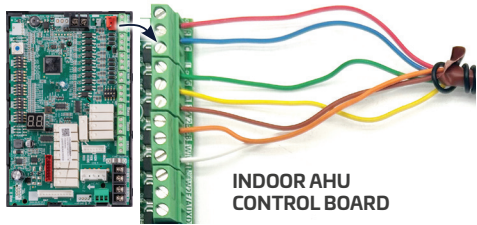
ALL DIP Switch are set to OFF, except S4. For DIP Switch functions, see p7.

**IMPORTANT!** Power must be OFF, BEFORE DIP switch changes. The default DIP setting is all OFF except S4.

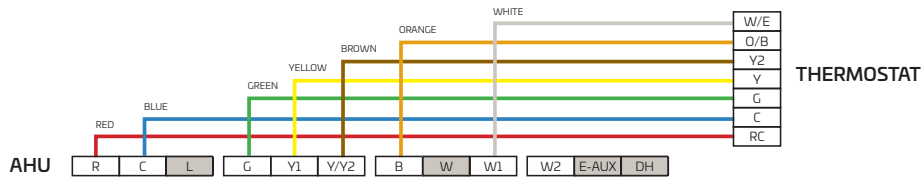
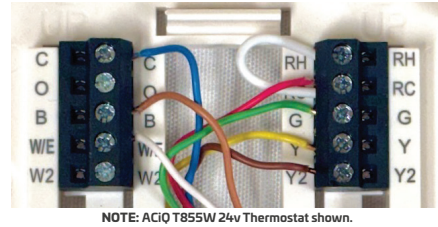
## 7-WIRE to 2-WIRE INSTALLATION: USING OPTIONAL 24v THERMOSTAT

This option wires a 24 volt thermostat (including ACIQ T855W, Nest, Ecobee, etc.) to the air handler, using existing or new 24v cable with 7-wires, and prioritizes comfort over efficiency, and uses S1 & S2 to communicate between the air handler and the condenser, using the existing 24 volt wire or 18/2 shielded wire run outside. For additional thermostat wiring options, consult the manual.

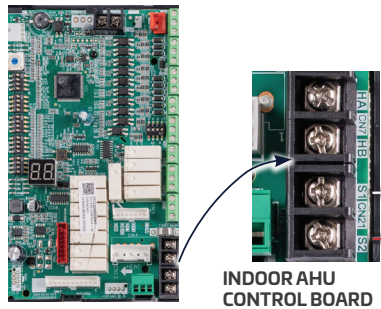
### STEP 1 CONNECT 24v 7-CONDUCTOR-WIRE 24v TERMINALS ON THE AHU



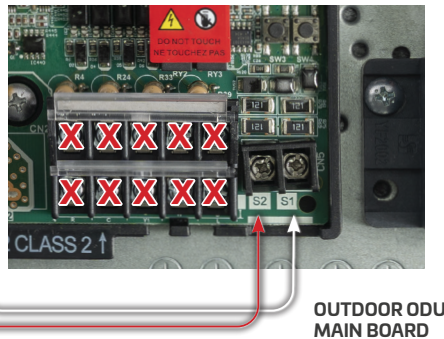
### STEP 2 CONNECT 24v 7-CONDUCTOR-WIRE 24v TERMINALS ON THE THERMOSTAT



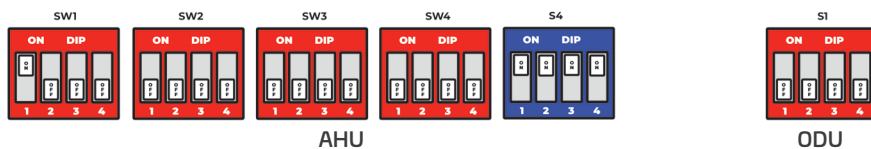
### STEP 3 CONNECT 2-WIRE CABLE TO THE S1/S2 TERMINALS ON THE AHU



### STEP 4 CONNECT 2-WIRE CABLE TO THE S1/S2 TERMINALS ON THE ODU



### STEP 5 SET THE DIP SWITCHES

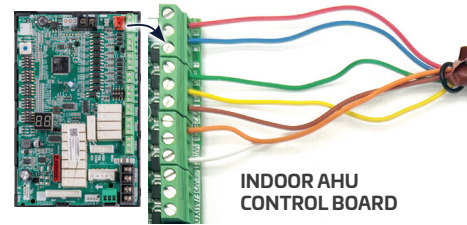


For 7-Wire to 2-Wire installations, **SW1-1** DIP Switch is set to **ON**. Remaining DIP switches remain **OFF**, except **S4**. For DIP Switch functions, see p7. **IMPORTANT!** Power must be **OFF**, BEFORE DIP switch changes. *The default DIP setting is all OFF except S4.*

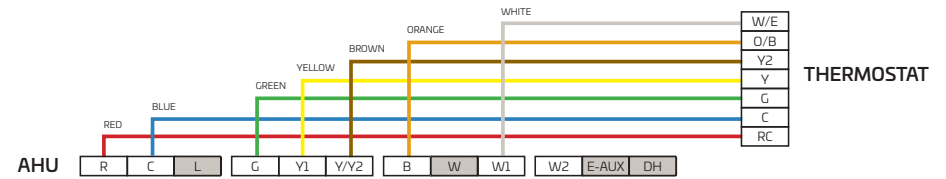
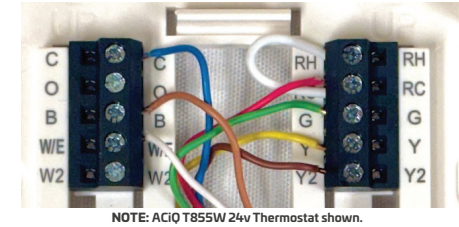
## 7-WIRE to 7-WIRE INSTALLATION: USING OPTIONAL 24v THERMOSTAT

This option shows how to wire a 24 volt thermostat to the air handler, using existing or new 24v cable with 7-wires. This method prioritizes comfort over efficiency. Please note for this method to work, DIP switches SW1-1 and SW1-4 needs to be turned ON. This method also uses 24v cable to communicate between the air handler and the condenser, using the existing 24v cable with 7-wires run outside. For additional thermostat wiring options, consult the manual.

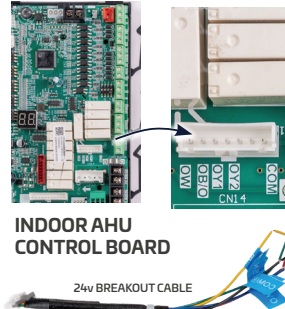
### STEP 1 CONNECT 24v 7-CONDUCTOR-WIRE 24v TERMINALS ON THE AHU



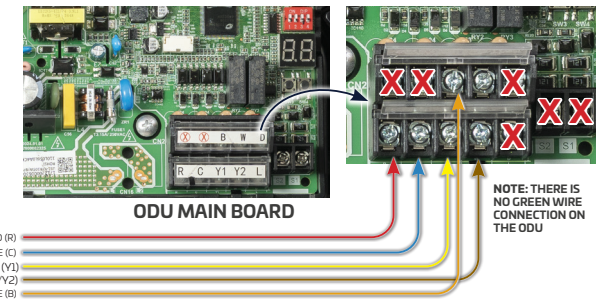
### STEP 2 CONNECT 24v 7-CONDUCTOR-WIRE 24v TERMINALS ON THE THERMOSTAT



### STEP 3 CONNECT 7-WIRE CONDUCTORS TO 24v BREAKOUT CABLE ON THE AHU

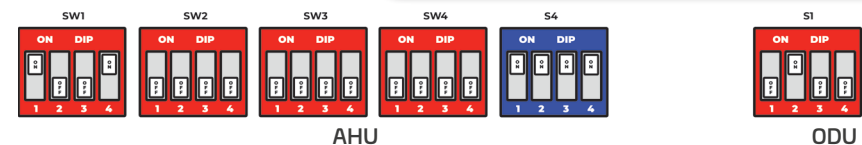


### STEP 4 CONNECT 7-CONDUCTORS TO 24v TERMINALS ON THE ODU



**IMPORTANT:** Connecting 24v to any terminal other than the designated terminals can cause permanent damage to the board NOT covered under warranty!

### STEP 5 SET THE DIP SWITCHES



For 7-Wire to 7-Wire installations, **SW1-1** and **SW1-4** DIP Switches on the **AHU** are set to **ON**. Remaining AHU DIP switches remain **OFF**, except **S4**. **S1-2** on the **ODU** is **ON**. For DIP Switch functions, see p7. **IMPORTANT!** Power must be **OFF**, BEFORE DIP switch changes. *The default DIP setting is all OFF except S4.*