

Connecting ANY 24V Heat Pump Thermostat to the AHU24/AHU36/AHU48

Technical Bulletin No. 20201110

Introduction

The following procedures are for connecting a standard 24v Heat Pump Thermostat to the Comfort Star AHU24/36/48 air handling unit.

Necessary Relay Included

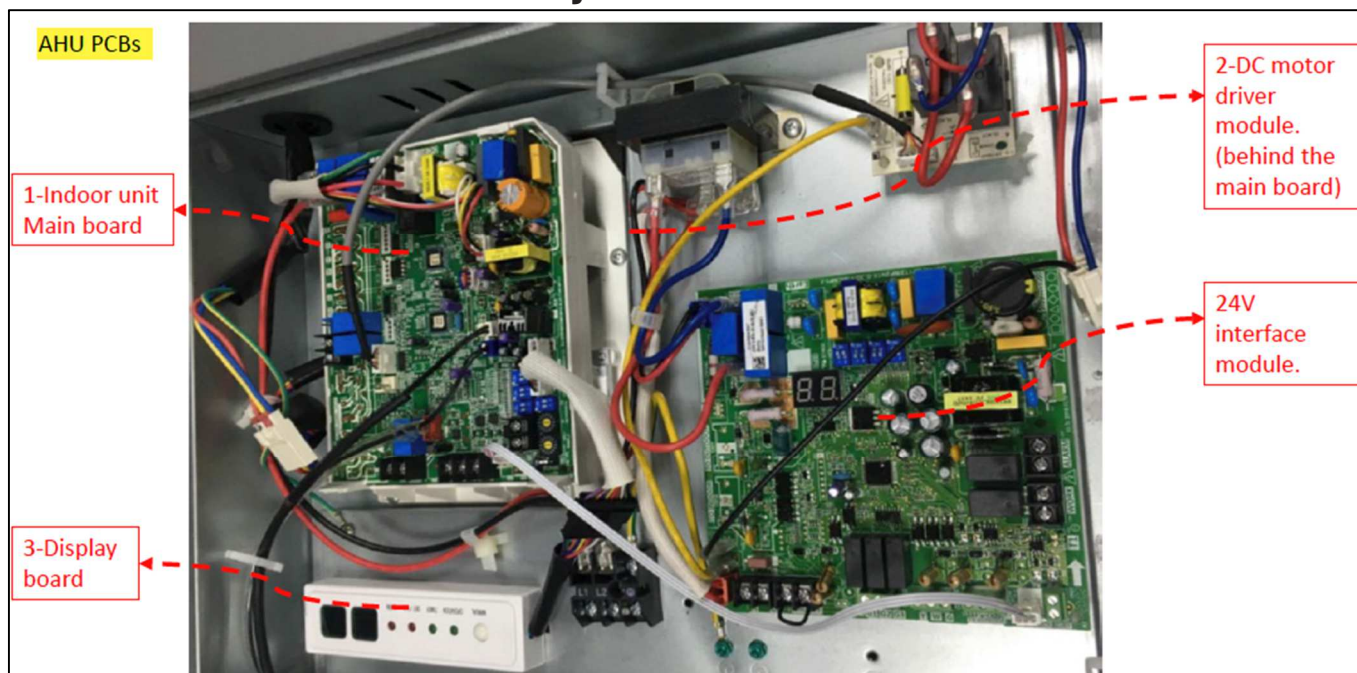
Single Pole Double Throw (SPDT) Relay

- Relay Type: **SmartElectric SE90-380**

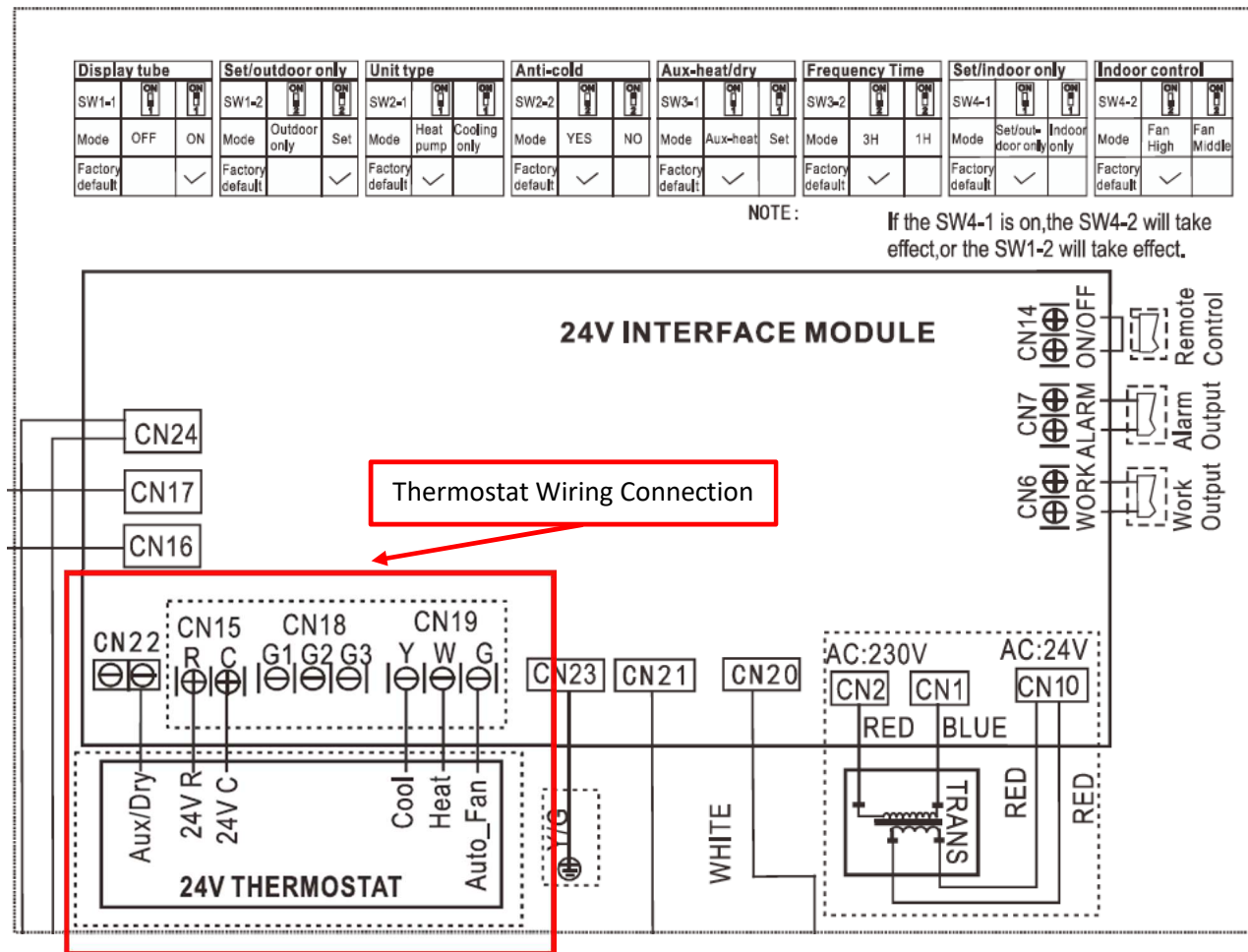
Details:

ANY standard 24V heat pump thermostat may be used with at Comfort Star AHU Series Air Handler. However, in order to initiate the heat mode a single pole double throw (SPDT SE90-380 included) relay MUST BE added to the electrical compartment of the air handler (See wiring Diagrams below).

I- Electronic Control Box Layout



Control Wiring Schematic



Connector

Connector	Purpose
Y	Cooling
W	Heating
G	Fan - Auto speed
AUX/DRY	Aux-Heat/Dry

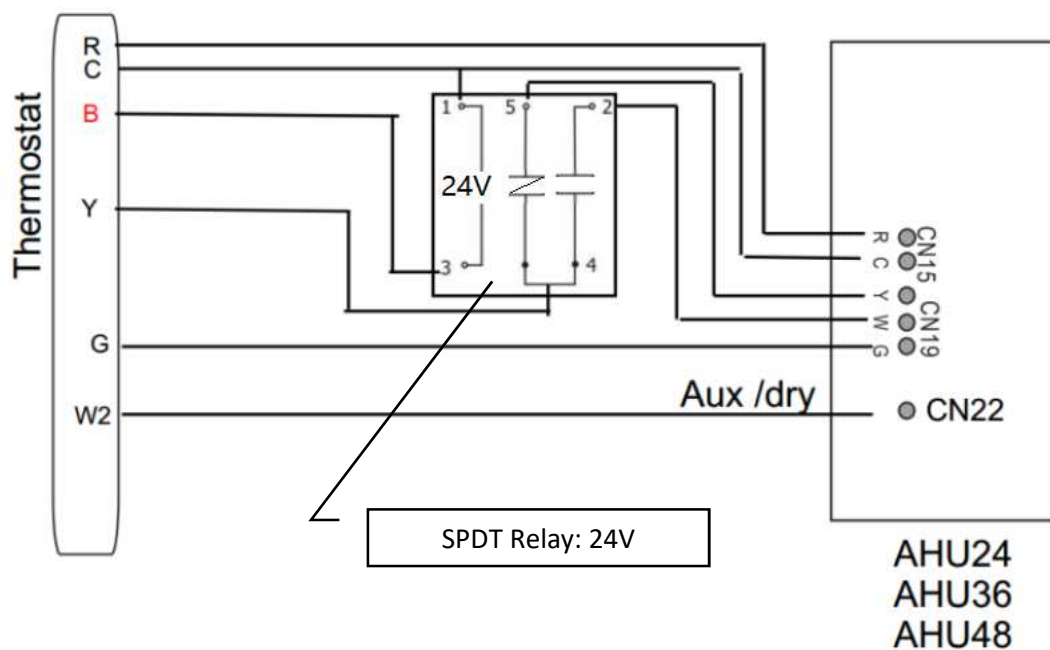
NOTE: **W** connection is energized* via a SPDT relay when using a 24V thermostat - See wiring schematics below.

*wire connection to W will vary depending on how the reversing valve is energized.

- TYPE B: Reversing valve energized in **Heating** Mode.
- TYPE O: Reversing valve energized in **Cooling** Mode.

II- Wiring diagram.

1, Thermostat Type B

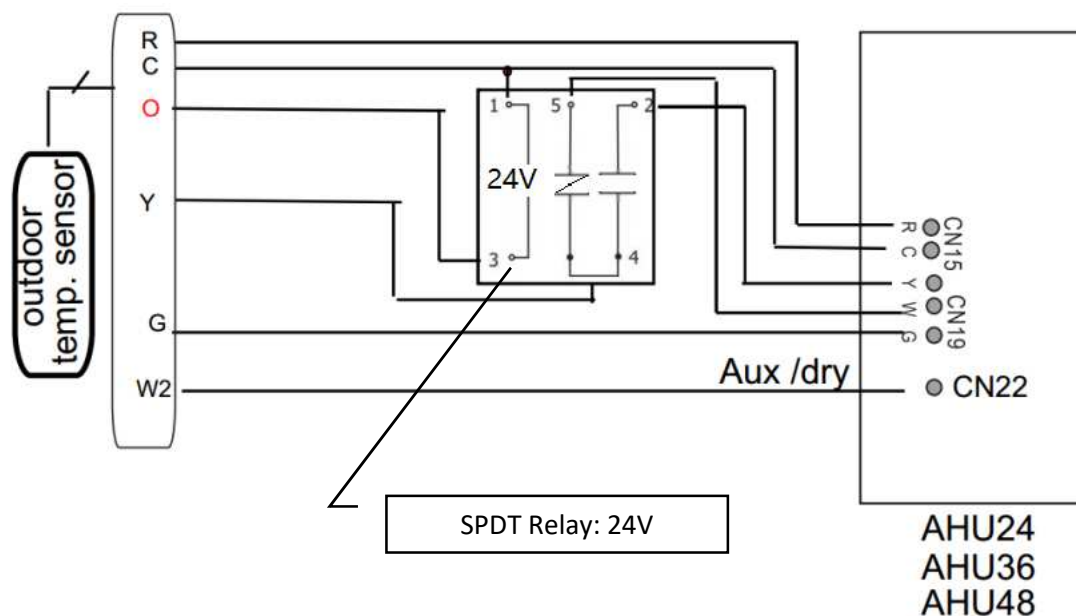


III- Thermostat list

1, Typical **B** thermostat. The terminal Function is below.

Terminal	Function
R	24v AC
C	
B	Energized reversing valve in Heating Mode.
Y	Compressor
G	Fan
W2	Heater

2, Thermostat Type **O**



2, Type **O** thermostat. The terminal Function is below.

Terminal	Function
R	24v AC
C	
O	Energized reversing valve in Cooling Mode.
Y	Compressor
G	Fan
W2	Heater