



## Infinity®

### Dealer Certification Training Day 2



Instructor: Bob Friedman  
Moderator: Larry Faciane

## Evolution®



### AGENDA

Variable Speed Comparison  
5-Stage  
Greenspeed/**Extreme**

Break

24/26 SEER

Break

FE4A Fan Coil/ECM

Infinity/**Evolution** Zoning

Quiz



# Variable speed



**24VNA9 189BNV**

**25VNA8 288BNV**



**5-Stage**

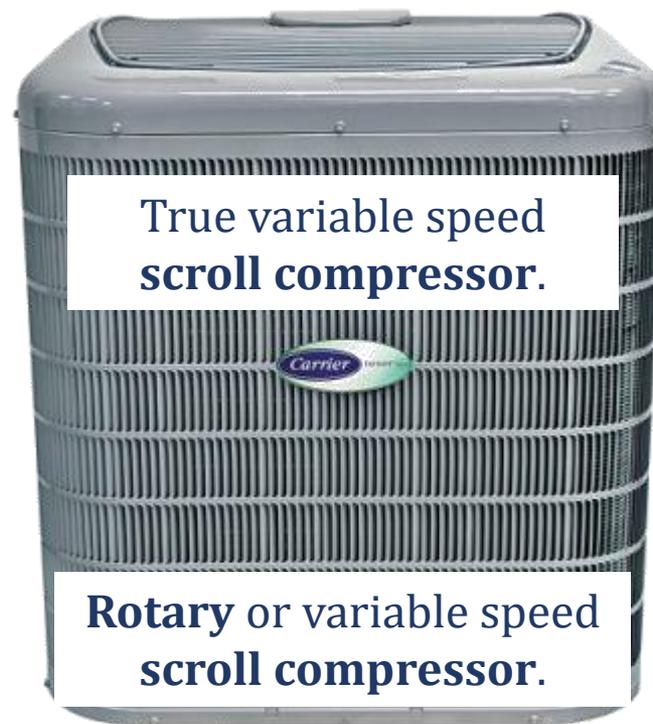
Variable speed (5-stage)  
rotary compressor.



**24VNA0 180CNV**

**25VNA0 280ANV**

**GREENSPEED EXTREME**



**24VNA6 186CNV**

**25VNA4 284ANV**

**24-26 SEER**



# Variable speed



## GREENSPEED EXTREME



**5-Stage**

Smaller footprint  
Lighter weight  
Less refrigerant  
100' max line set



**24-26 SEER**

# Variable speed



## Low Ambient Cooling

### GREENSPEED **EXTREME**



5-Stage

40°F / 55°F



0°F / 55°F

0°F / 55°F

24-26 SEER

# Variable speed



## Minimum Cooling Capacity

**GREENSPEED EXTREME**



**5-Stage**

25%



40%

25%

**24-26 SEER**



# Variable speed



## GREENSPEED EXTREME



5-Stage

Non-communicating  
for Emergency Only!\*



Non-communicating  
for Emergency Only!\*

Non-communicating  
for Emergency Only!\*

24-26 SEER

**\*Two-stage operation only!**



# 454B Phase In Carrier



Puron Family	Puron Model	Status	Puron Advance Family	Puron Advance Model	Status
25VNA4	25VNA424A003	OPEN	27VNA3		
	25VNA436A003	OPEN		27VNA336A003	CLOSED
	25VNA448A003	OPEN		27VNA348A003	CLOSED
	25VNA460A003	OPEN		27VNA360A003	CLOSED
New	New	N/A	27VNA1	27VNA154A003	OPEN
25TPA7	25TPA724A003	CLOSED	27TPA8	27TPA824A003	OPEN
	25TPA736A003	CLOSED		27TPA836A003	OPEN
	25TPA748A003	CLOSED		27TPA848A003	OPEN
	25TPA760A003	CLOSED		27TPA860A003	OPEN
25TPA7---C	25TPA724AC03	CLOSED	27TPA8---C	27TPA824AC03	OPEN
	25TPA736AC03	CLOSED		27TPA836AC03	OPEN
	25TPA748AC03	CLOSED		27TPA848AC03	OPEN
	25TPA760AC03	CLOSED		27TPA860AC03	OPEN
25TPB7	25TPB724A003	CLOSED	27TPA8	27TPA824A003	OPEN
	25TPB736A003	CLOSED		27TPA836A003	OPEN
	25TPB748A003	CLOSED		27TPA848A003	OPEN
	25TPB760A003	CLOSED		27TPA860A003	OPEN
25TPB7---C	25TPB724AC03	CLOSED	27TPA8---C	27TPA824AC03	OPEN
	25TPB736AC03	CLOSED		27TPA836AC03	OPEN
	25TPB748AC03	CLOSED		27TPA848AC03	OPEN
	25TPB760AC03	CLOSED		27TPA860AC03	OPEN
GH7TAN4	GH7TAN42400A	CLOSED	GH8TAN5	GH8TAN52400A	OPEN
	GH7TAN43600A	CLOSED		GH8TAN53600A	OPEN
	GH7TAN44800A	CLOSED		GH8TAN54800A	OPEN
	GH7TAN46000A	CLOSED		GH8TAN56000A	OPEN
24TPA7	2 Stage AC Models	OPEN	26TPA8	2 Stage AC Models	First orders available in November
24TPA7---C		OPEN	26TPA8---C		
GA7TAN4		OPEN	GA8TAN5		

# 454B Phase In Bryant



Puron Family	Puron Model	Status	Puron Advance Family	Puron Advance Model	Status
284ANV	284ANV024000	OPEN	293VAN		
	284ANV036000	OPEN		293VAN03600A	CLOSED
	284ANV048000	OPEN		293VAN04800A	CLOSED
	284ANV060000	OPEN		293VAN06000A	CLOSED
New	New	N/A	291VAN	291VAN05400A	OPEN
227TAN	227TAN02400A	CLOSED	248TAN	248TAN02400A	OPEN
	227TAN03600A	CLOSED		248TAN03600A	OPEN
	227TAN04800A	CLOSED		248TAN04800A	OPEN
	227TAN06000A	CLOSED		248TAN06000A	OPEN
227TAN---C	227TAN024C0A	CLOSED	248TAN---C	248TAN024C0A	OPEN
	227TAN036C0A	CLOSED		248TAN036C0A	OPEN
	227TAN048C0A	CLOSED		248TAN048C0A	OPEN
	227TAN060C0A	CLOSED		248TAN060C0A	OPEN
227TBN	227TBN02400A	OPEN	248TAN	248TAN02400A	OPEN
	227TBN03600A	OPEN		248TAN03600A	OPEN
	227TBN04800A	OPEN		248TAN04800A	OPEN
	227TBN06000A	OPEN		248TAN06000A	OPEN
227TBN---C	227TBN024C0A	CLOSED	248TAN---C	248TAN024C0A	OPEN
	227TBN036C0A	CLOSED		248TAN036C0A	OPEN
	227TBN048C0A	CLOSED		248TAN048C0A	OPEN
	227TBN060C0A	CLOSED		248TAN060C0A	OPEN
GH7TAN4	GH7TAN42400A	CLOSED	GH8TAN5	GH8TAN52400A	OPEN
	GH7TAN43600A	CLOSED		GH8TAN53600A	OPEN
	GH7TAN44800A	CLOSED		GH8TAN54800A	OPEN
	GH7TAN46000A	CLOSED		GH8TAN56000A	OPEN
127TAN	2 Stage AC Models	OPEN	148TAN	2 Stage AC Models	First orders available in November
127TAN---C		OPEN	148TAN---C		
GA7TAN4		OPEN	GA8TAN5		



# 5-Stage Variable Speed



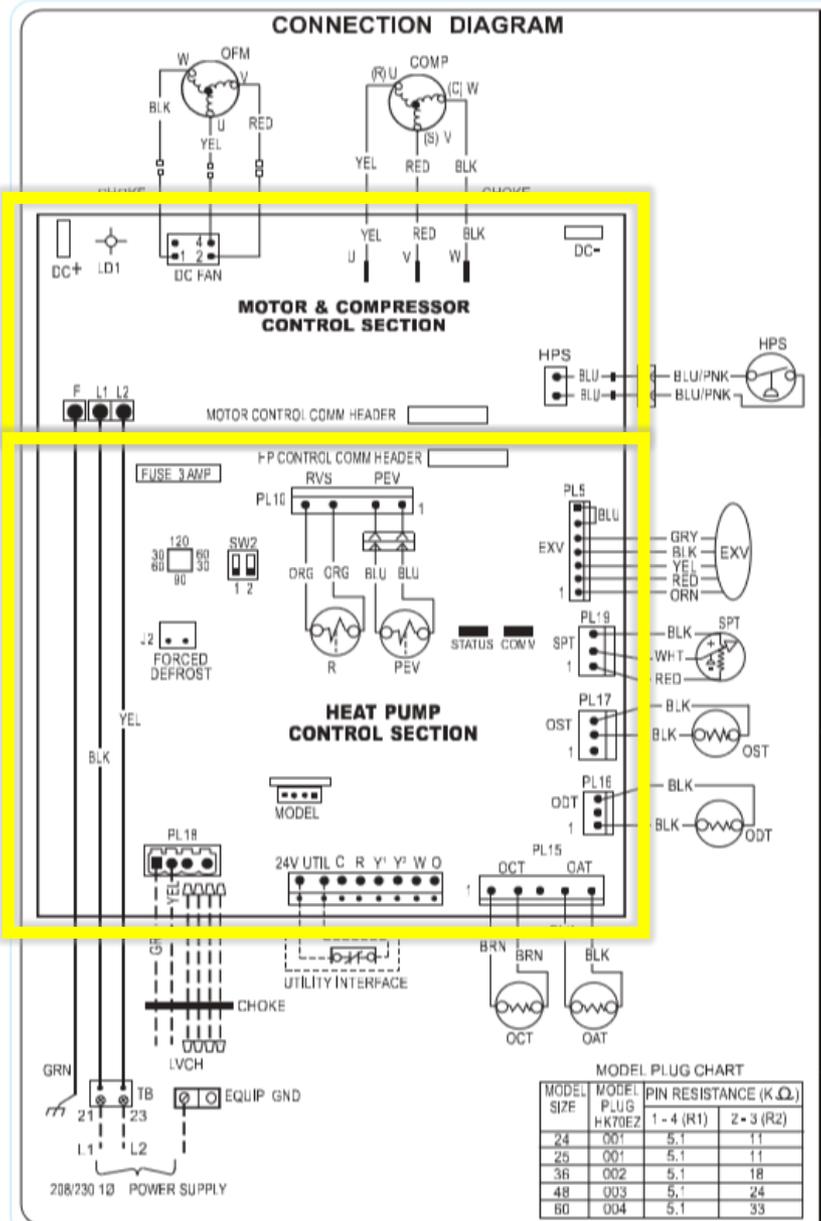
# 5-Stage Variable Speed



**Never remove the protective cover!**



# 5-Stage Variable Speed

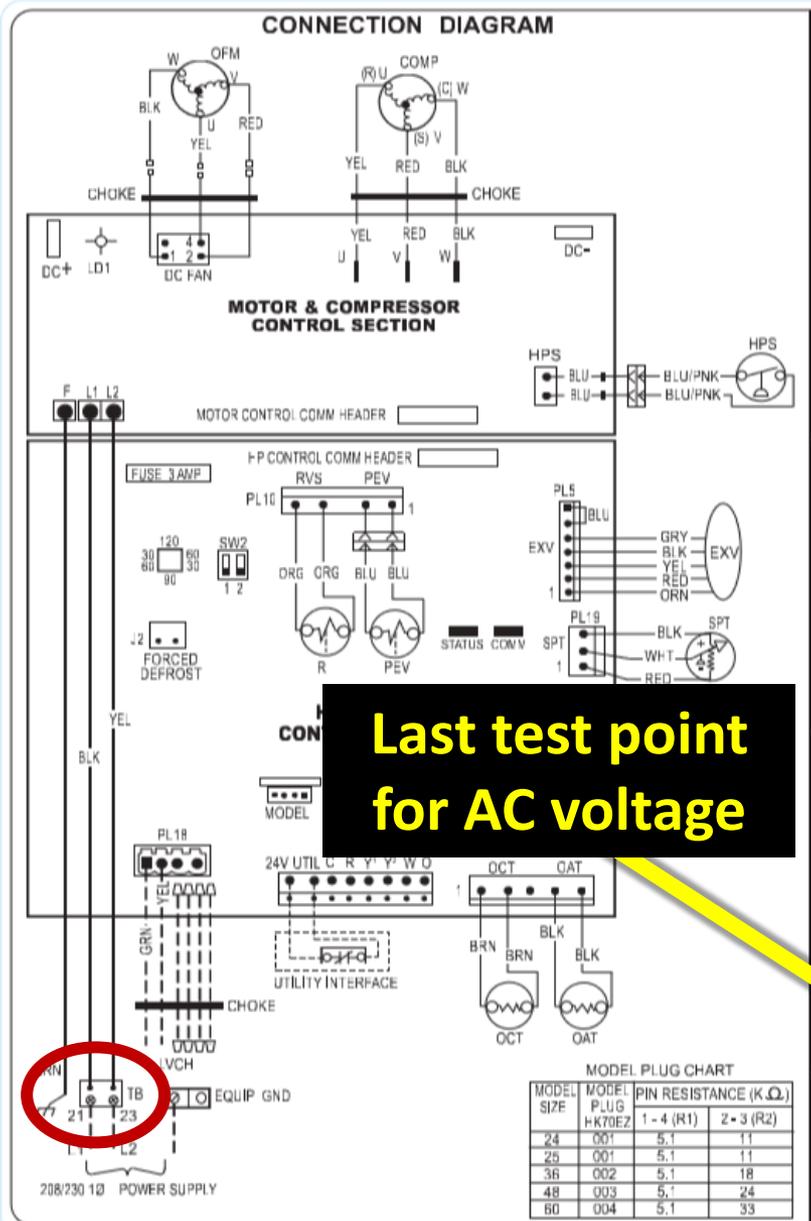


**MOC**  
Motor Operational Control

**AOC**  
Application Operational Control



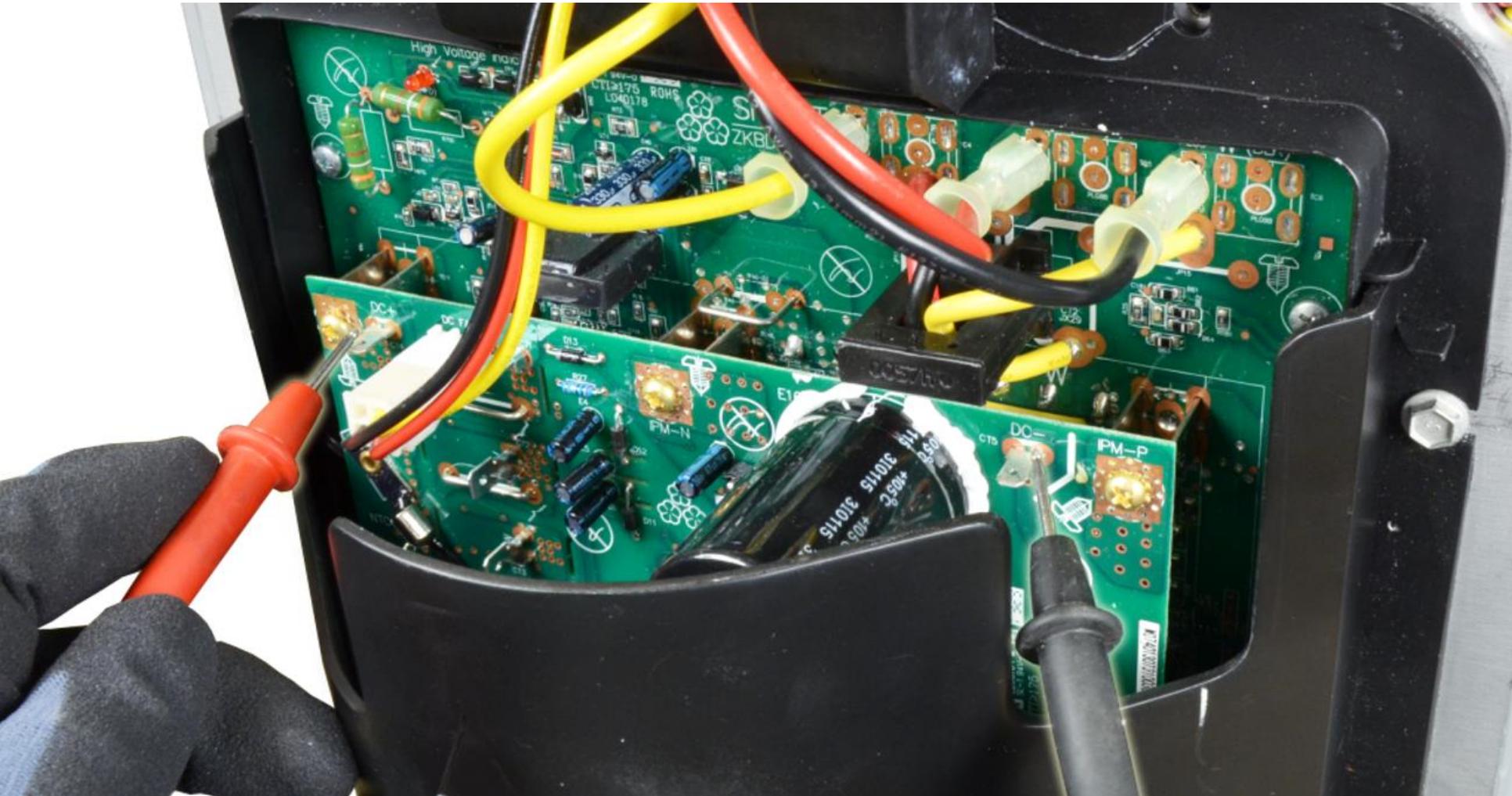
# 5-Stage Variable Speed



**Last test point for AC voltage**



# 5-Stage Variable Speed



**Approximately 1.4 x AC voltage**

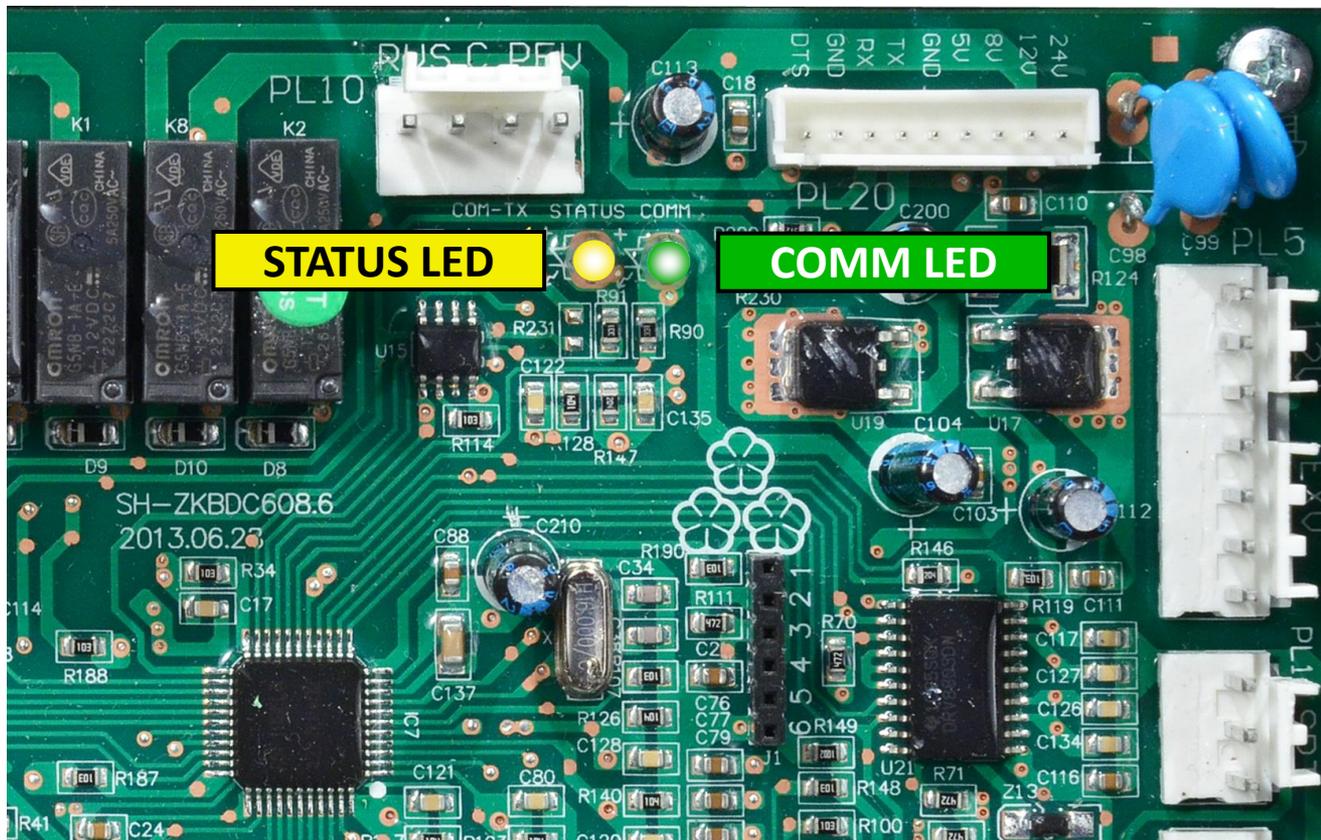
$$240 \times 1.4 = 336 \text{ Vdc}$$



# 5-Stage Variable Speed



## AOC (Application Operational Control)



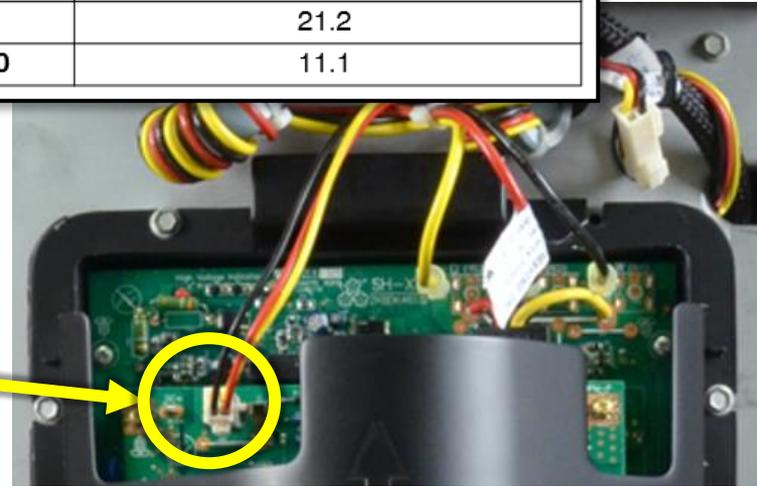
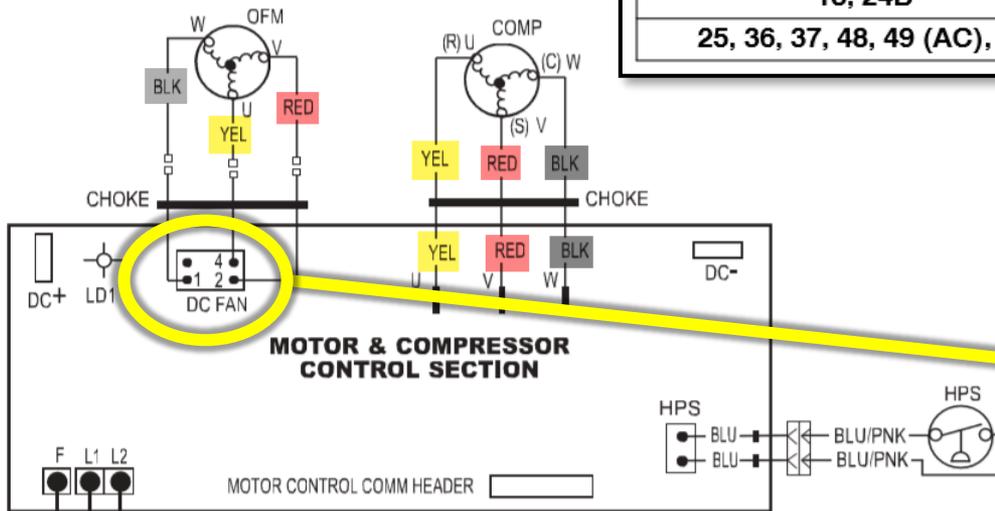
# 5-Stage Variable Speed



## Condensing Fan Motor

1. Turn off power and wait 5 minutes.
2. Disconnect fan plug from inverter.
3. Check resistance on all pairs, compare to chart.
4. Check resistance to ground.

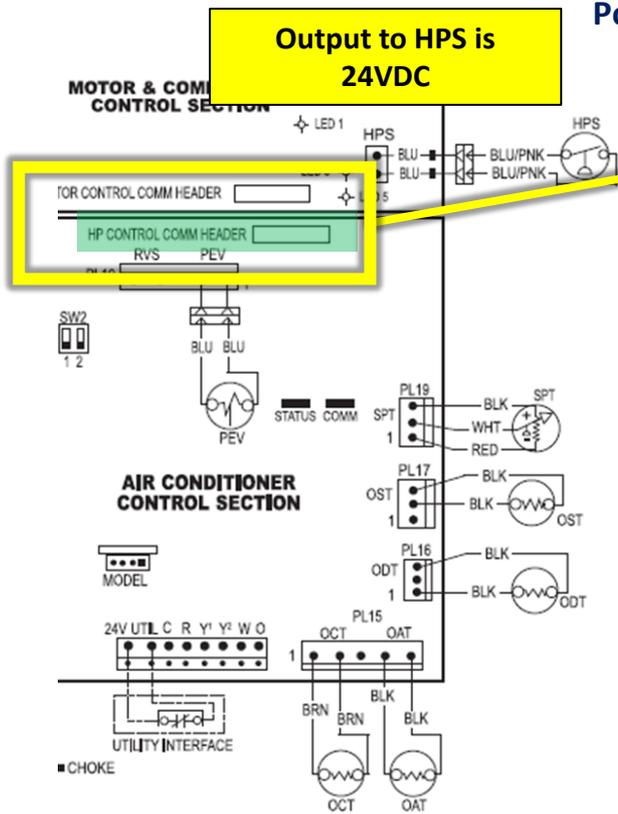
Fan Motor Resistance	
Unit Size	Resistance (Ohms)
13, 24B	21.2
25, 36, 37, 48, 49 (AC), 60	11.1



# 5-Stage Variable Speed



## AOC (control board)



Power is supplied by the MOC to AOC via PL20.



Do not disconnect PL20 to test voltage.

AOC DC Voltage Measurements								
ODT			OST			OCT		
Pin #	Pin #	Voltage	Pin #	Pin #	Voltage	Pin #	Pin #	Voltage
1	3	12Vdc	2	3	5Vdc	1	2	5Vdc
1	GND	0	2	GND	5Vdc	1	GND	0
3	GND	12Vdc	3	GND	0	2	GND	5Vdc
OAT			PEV			RVS		
Pin #	Pin #	Voltage	Pin #	Pin #	Voltage	Pin #	Pin #	Voltage
4	5	5Vdc	1	2	24Vdc	3	4	24Vdc
4	GND	0	1	GND	24Vdc	3	GND	0
5	GND	5Vdc	2	GND	0	4	GND	24Vdc
EXV			SPT					
Pin #	Pin #	Voltage	Pin #	Pin #	Voltage			
1	GND	12Vdc	1	2	5Vdc			
2	GND	12Vdc	1	3	5Vdc			
3	GND	12Vdc	2	3	0			
4	GND	12Vdc	1	GND	5Vdc			
5	GND	12Vdc	2	GND	0			
6	GND	12Vdc	3	GND	0			
7	GND	12Vdc						

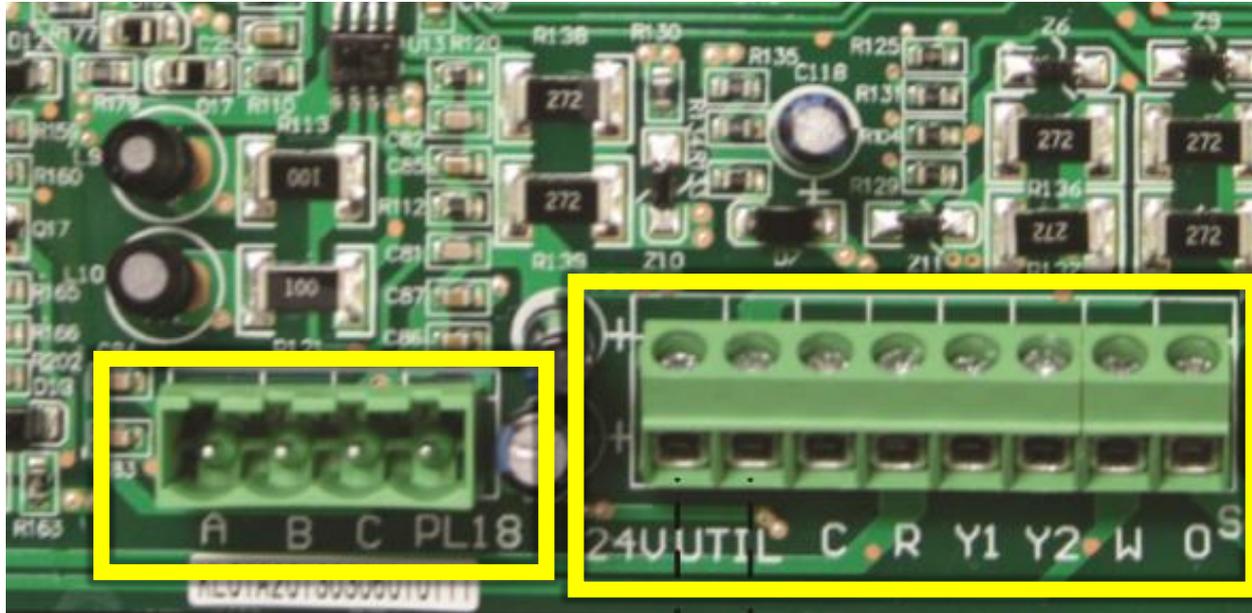
**Note:** All voltages were measured when the unit was powered up and may or may not be running. The voltages are measured at the connectors of the AOC board with no sensors or PEV/RVS/EXV connected to the board.

# 5-Stage Variable Speed



## AOC (control board)

### Wiring Connections



Communicating

Conventional

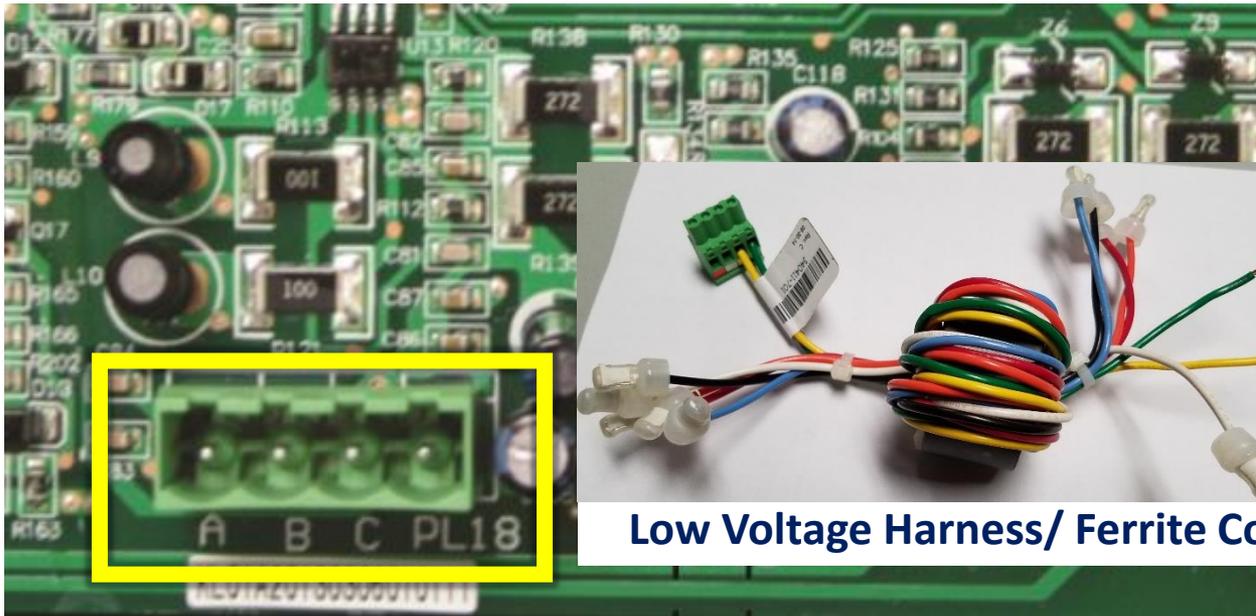
✓ Infinity/Evolution

# 5-Stage Variable Speed



## AOC (control board)

### Wiring Connections



Low Voltage Harness/ Ferrite Core

Communicating

✓ All Variable Speed Units

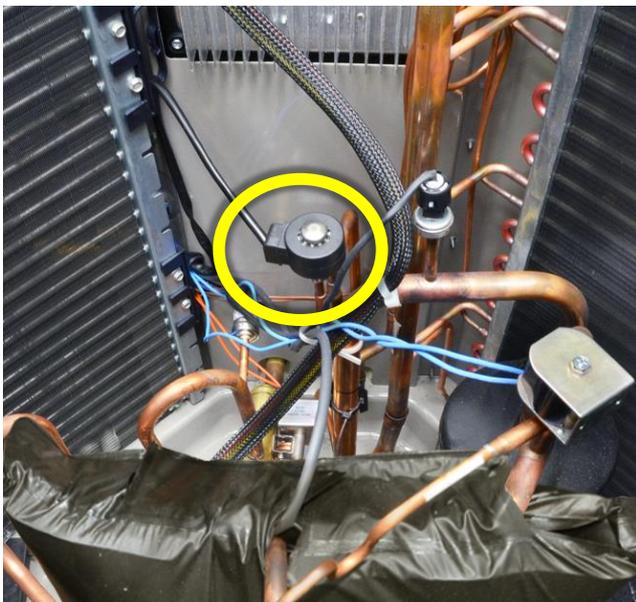
## Electronic Expansion Valve (EXV)

EXV is used for refrigerant metering in the heating mode.

EXV position based on mode and conditions. (100% open in cooling or defrost)

UI: Service/Installation > Charging menu allows for manual EXV operation.

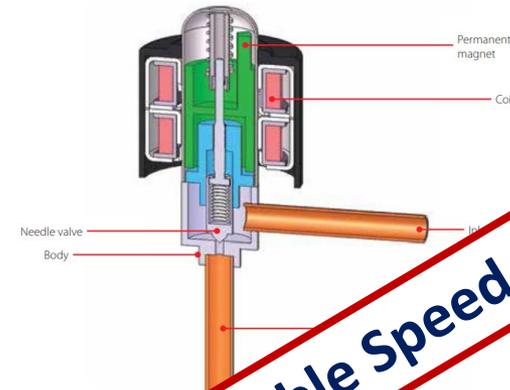
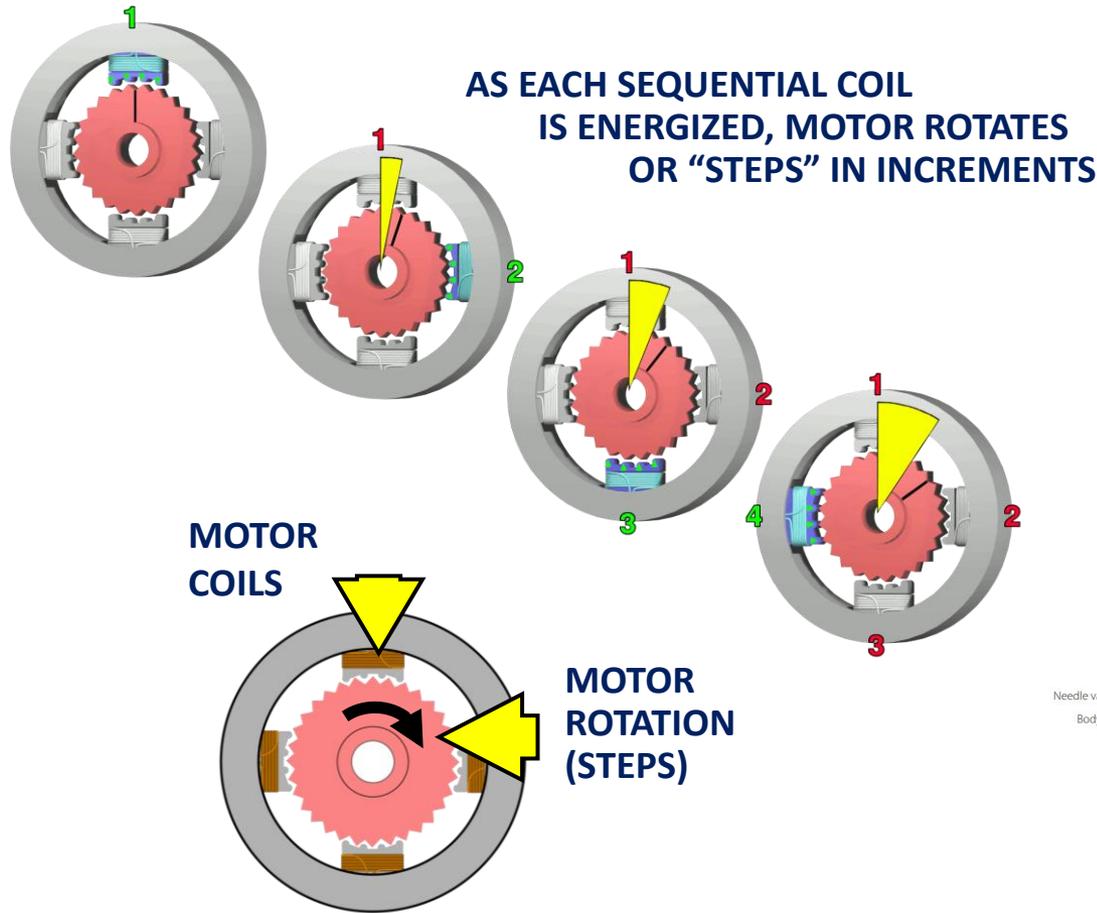
Pump down, evacuation, and EXV troubleshooting.



# 5-Stage Variable Speed



## Electronic Expansion Valve (EXV)



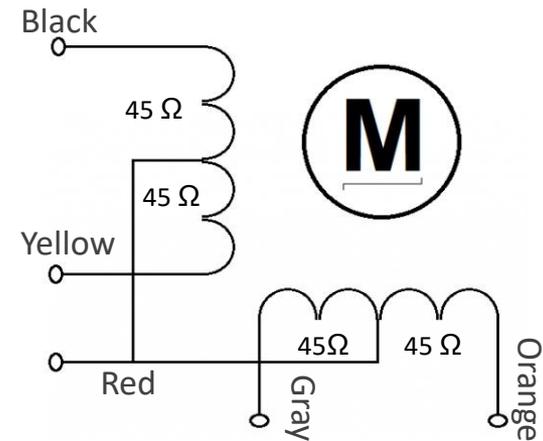
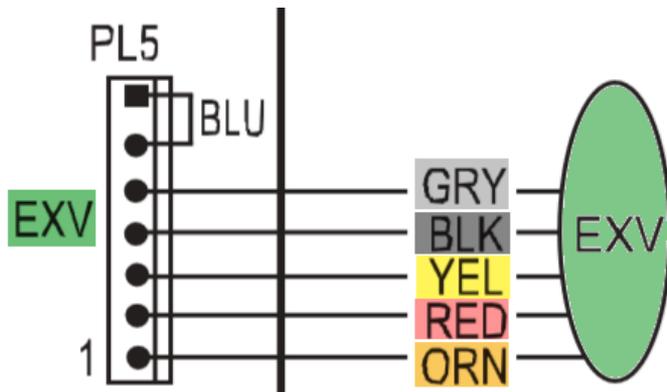
✓ All Variable Speed Units

# 5-Stage Variable Speed



## Electronic Expansion Valve (EXV)

EXV		
Pin #	Pin #	Voltage
1	GND	12Vdc
2	GND	12Vdc
3	GND	12Vdc
4	GND	12Vdc
5	GND	12Vdc
6	GND	12Vdc
7	GND	12Vdc



# 5-Stage Variable Speed



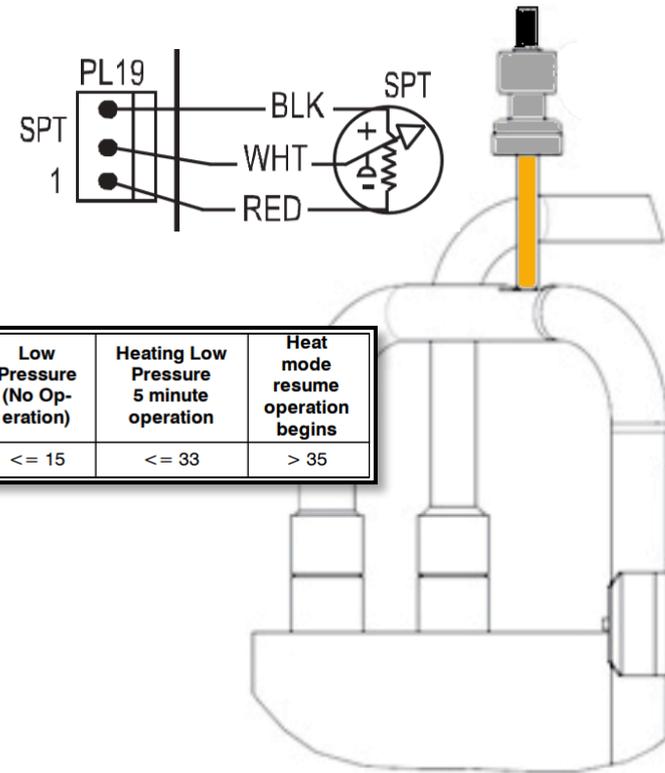
## Suction Pressure Transducer (SPT)

Operates on 5 Vdc.

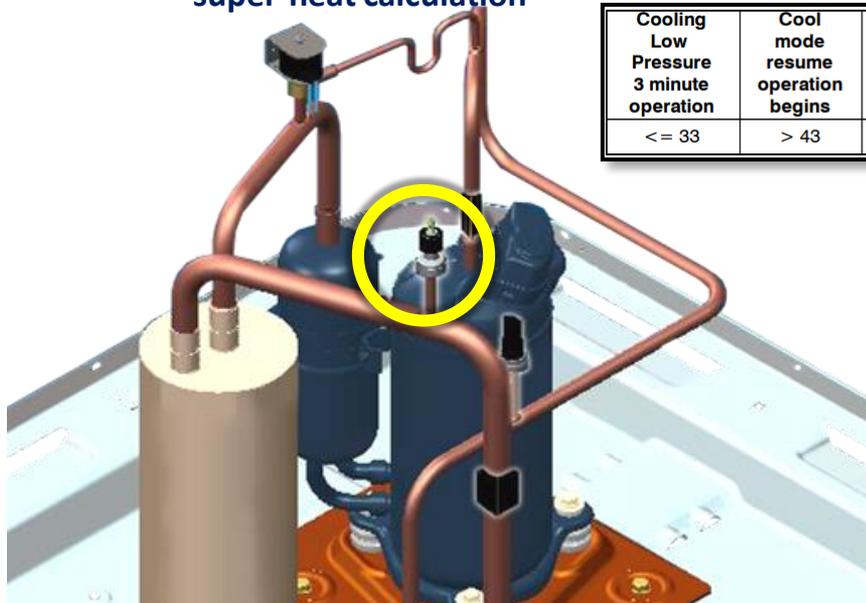
0 to 200 psig range.

Functions: low pressure cut-out  
loss of charge  
compressor protection  
EXV control  
super-heat calculation

SPT		
Pin #	Pin #	Voltage
1	2	5Vdc
1	3	5Vdc
2	3	0
1	GND	5Vdc
2	GND	0
3	GND	0



Cooling Low Pressure 3 minute operation	Cool mode resume operation begins	Low Pressure (No Operation)	Heating Low Pressure 5 minute operation	Heat mode resume operation begins
$\leq 33$	$> 43$	$\leq 15$	$\leq 33$	$> 35$



# 5-Stage Variable Speed



## Suction Pressure Transducer (SPT)

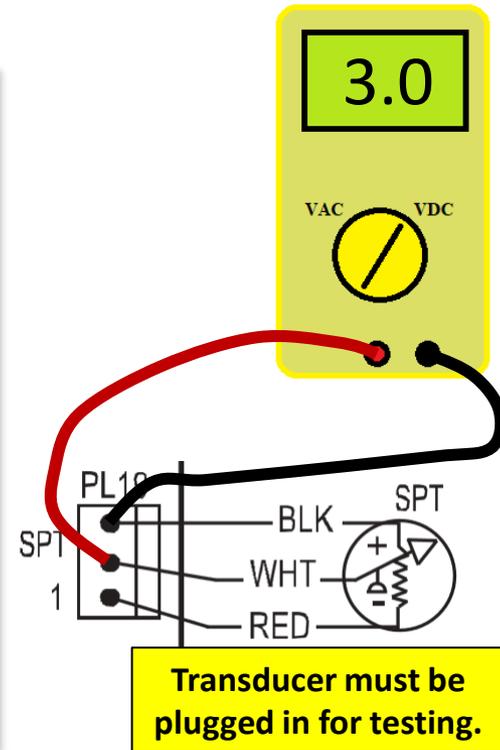
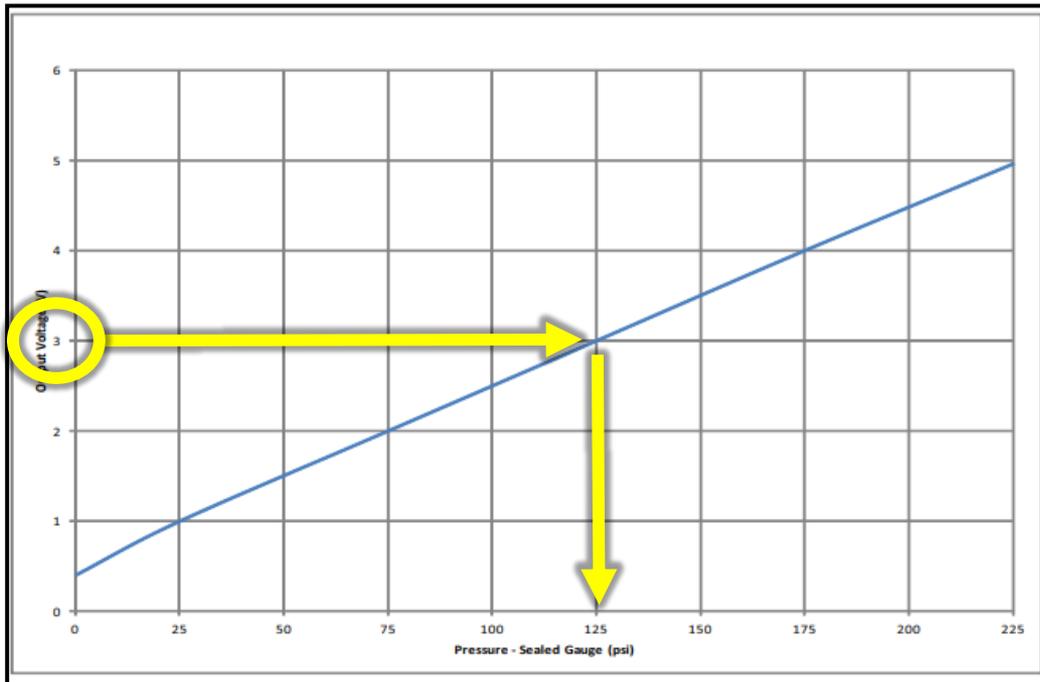
### Calculating suction pressure from transducer voltage.

Measure SPT output voltage, (white to black).

Subtract 0.5 from the reading and multiply by 50.

Example: if the measured voltage is 3.0 VDC:

$$3 - .5 = 2.5 \times 50 = 125 \text{ psig}$$



✓ Greenspeed/Extreme



# 5-Stage Variable Speed

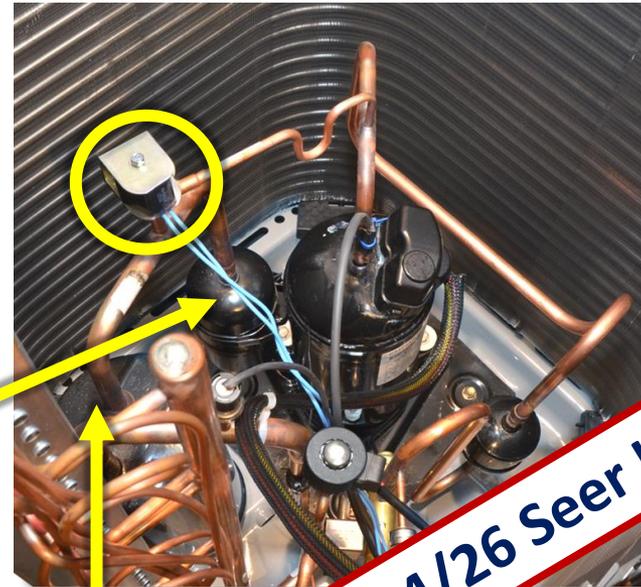
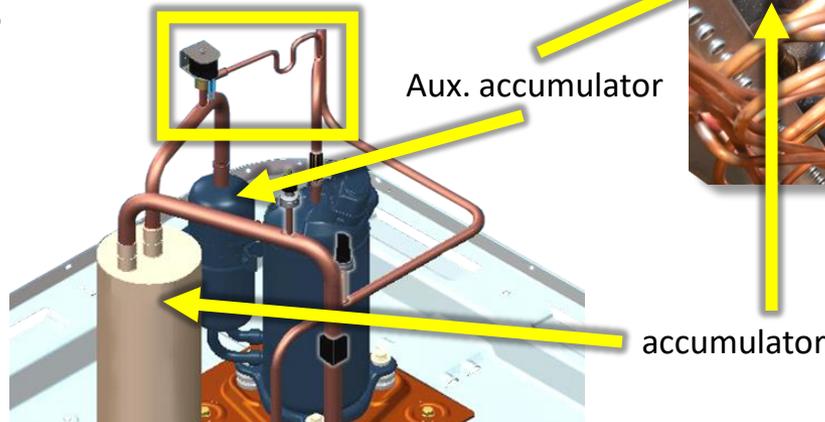


## Pressure Equalization Valve (PEV)

The PEV is located on the suction line between accumulators.

It is piped into the suction line and discharge of the compressor.

The function is to prevent the compressor from starting with a high-pressure differential.

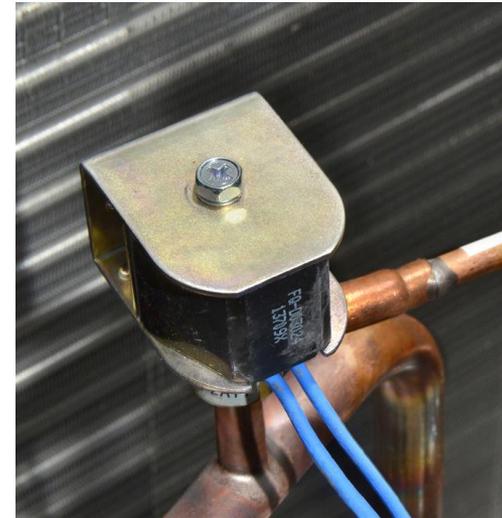
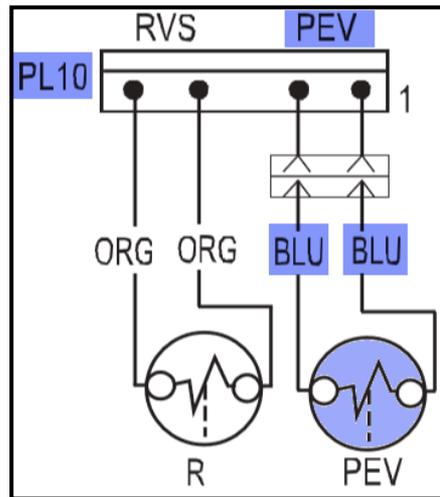


## Pressure Equalization Valve

At the end of every compressor operation (after the 3.5 minute Time Guard period), the equalizer valve opens for 150 seconds plus an additional 15 seconds of protection before allowing the compressor to start ramping up.

**NOTE: A hissing sound may be heard during the equalization process. This is normal.**

PEV		
Pin #	Pin #	Voltage
1	2	24Vdc
1	GND	24Vdc
2	GND	0



# 5-Stage Variable Speed

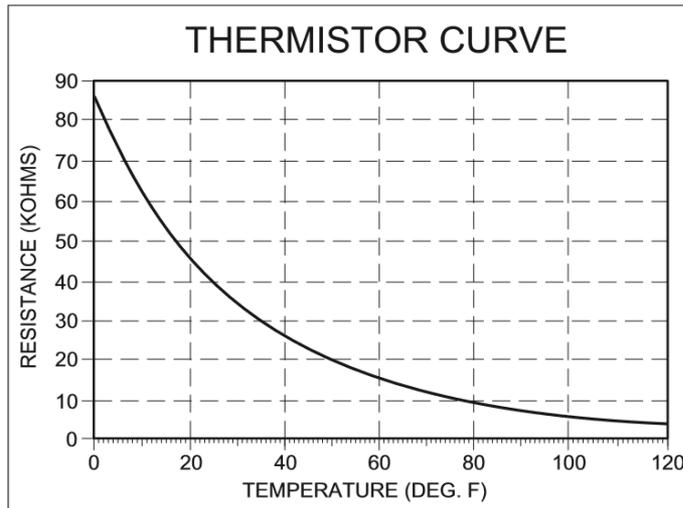
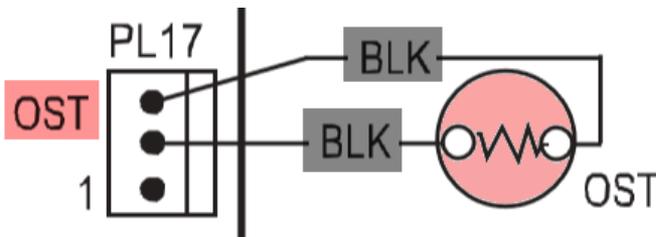


## Suction Thermistor (OST)

**Greenspeed/Extreme**

OST		
Pin #	Pin #	Voltage
2	3	5Vdc
2	GND	5Vdc
3	GND	0

10Kohm (°F)	
TEMPERATURE	RESISTANCE
(77.0)	10.0 (Kohms)
(32.0)	32.6 (Kohms)
(-18.4)	85.5 (Kohms)



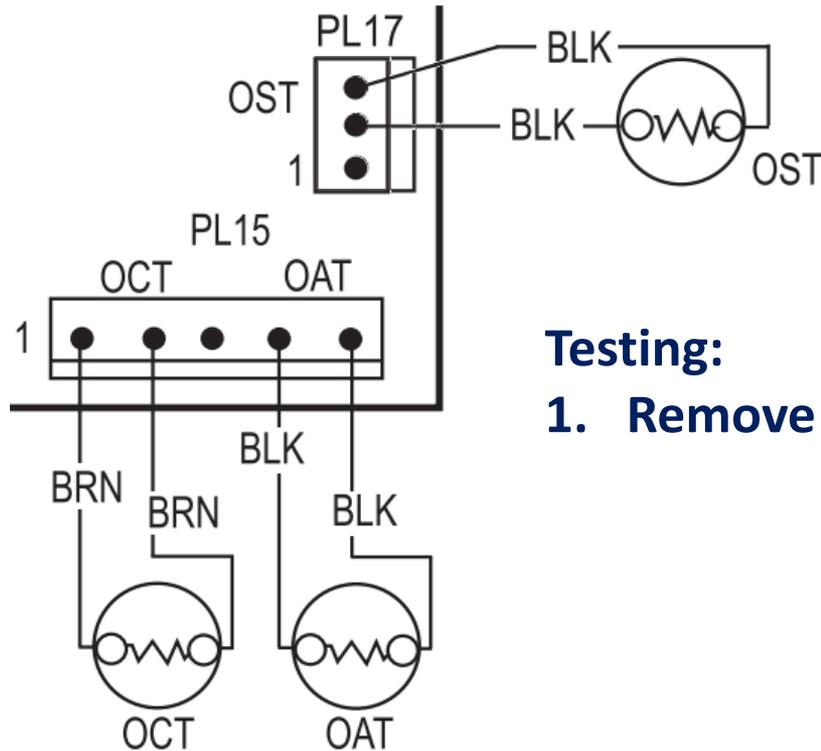
# 5-Stage Variable Speed



## Thermistors (OST)(OAT)(OCT)

All 10 K ohm thermistors

All utilize 5 Vdc



### Testing:

1. Remove from board.

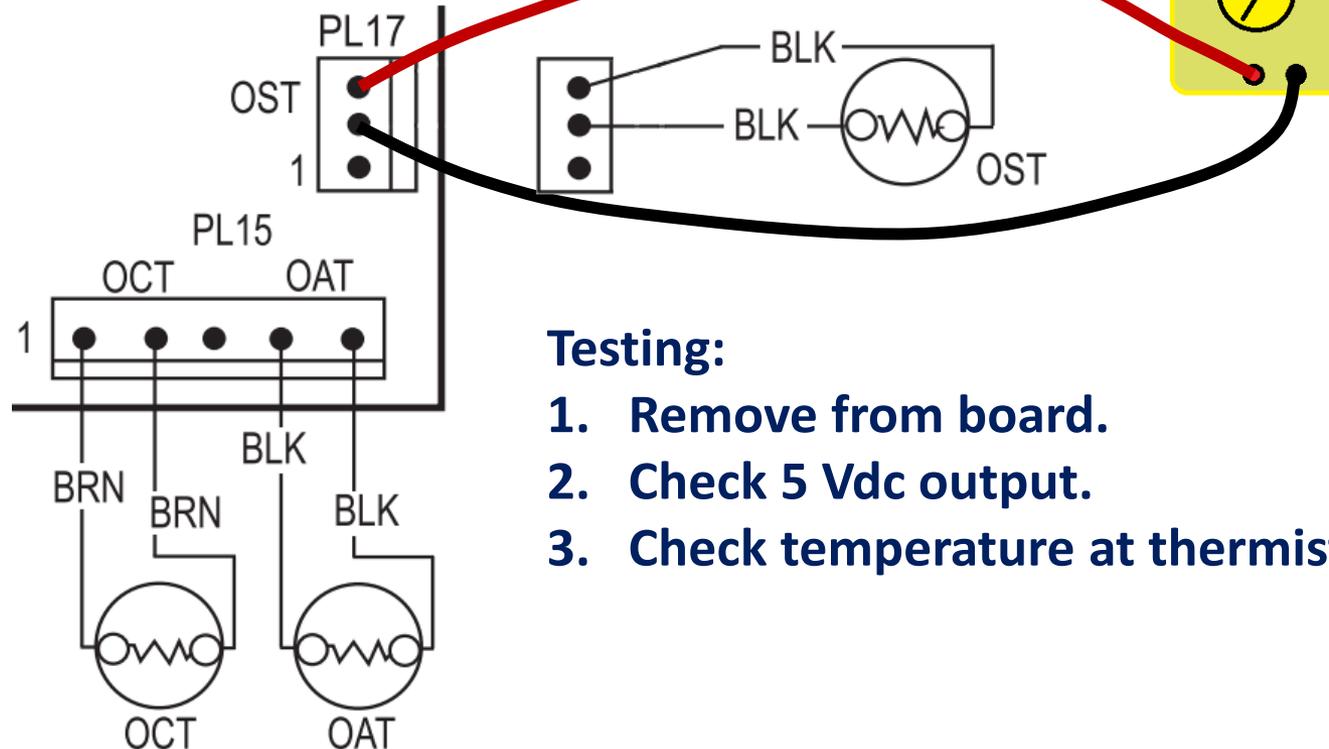
# 5-Stage Variable Speed



## Thermistors (OST)(OAT)(OCT)

All 10 K ohm thermistors

All utilize 5 Vdc



### Testing:

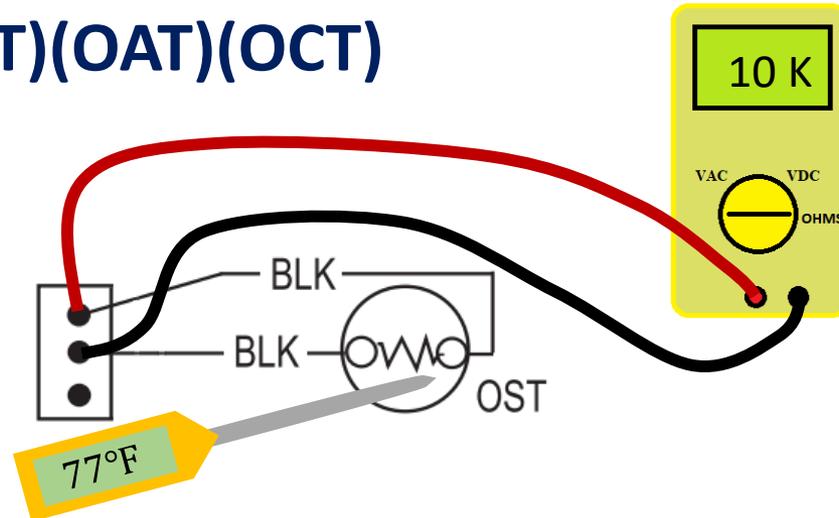
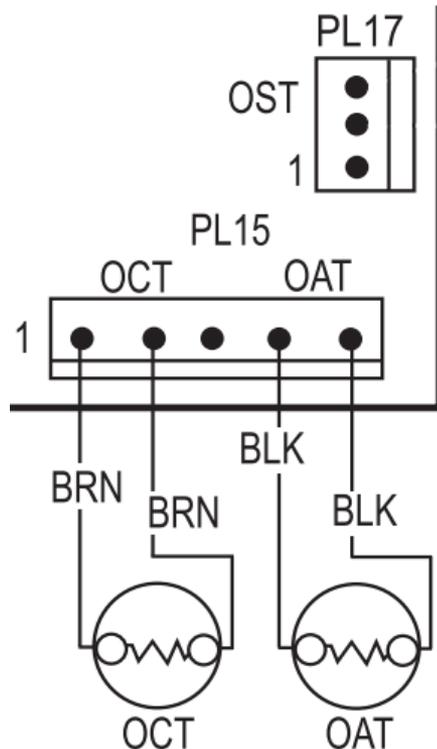
1. Remove from board.
2. Check 5 Vdc output.
3. Check temperature at thermistor.

# 5-Stage Variable Speed



## Thermistors (OST)(OAT)(OCT)

All 10 K ohm thermistors  
All utilize 5 Vdc



### Testing:

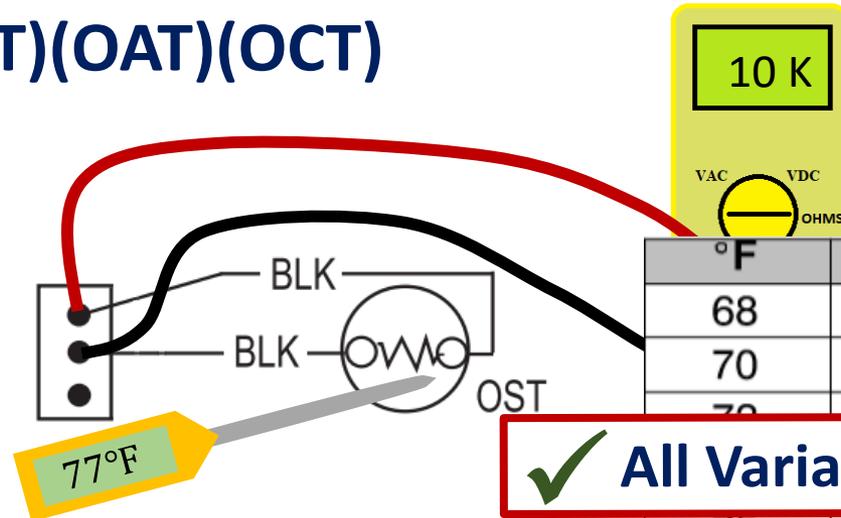
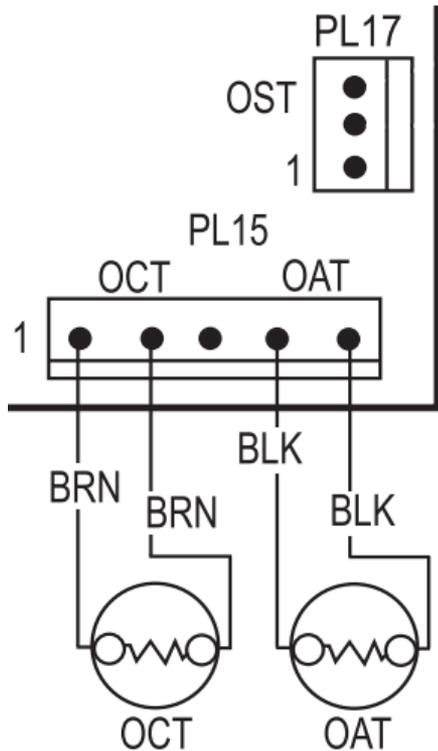
1. Remove from board.
2. Check 5 Vdc output.
3. Check temperature at thermistor.
4. Check resistance of thermistor.
5. Compare readings to 10 K ohm thermistor chart.

# 5-Stage Variable Speed



## Thermistors (OST)(OAT)(OCT)

All 10 K ohm thermistors  
All utilize 5 Vdc



**✓ All Variable Speed Units**

°F	K Ohm
68	12.6431
70	12.0561
72	11.5
75	10.4736
77	10
79	9.55074
81	9.12445

### Testing:

1. Remove from board.
2. Check 5 Vdc output.
3. Check temperature at thermistor.
4. Check resistance of thermistor.
5. Compare readings to 10 K ohm thermistor chart.

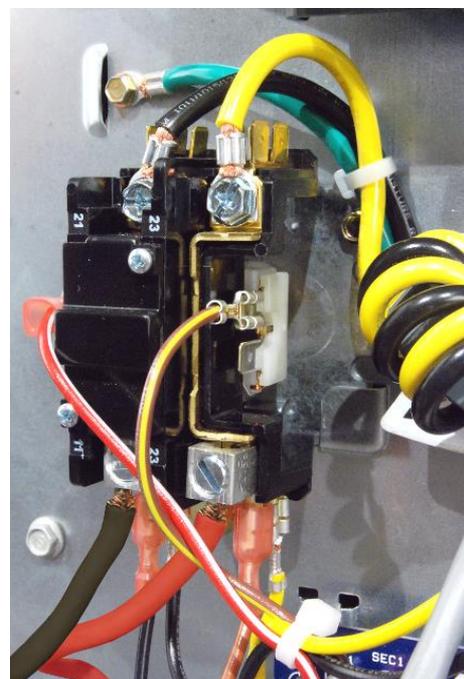
# Greenspeed / Extreme



# Greenspeed / Extreme



**Never remove the protective cover!**



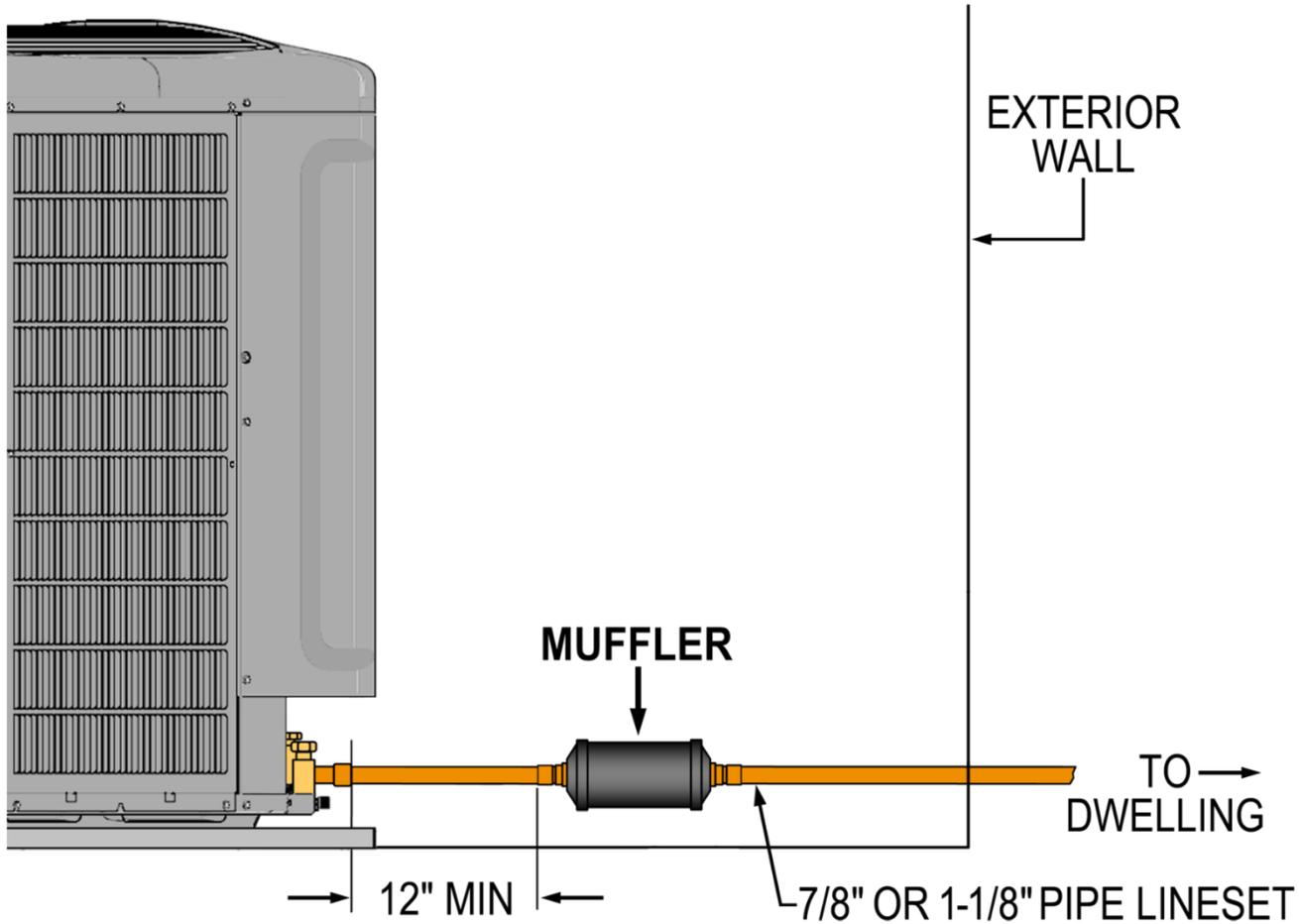
## Vapor Line Muffler

**Part Number: LM10KK003**

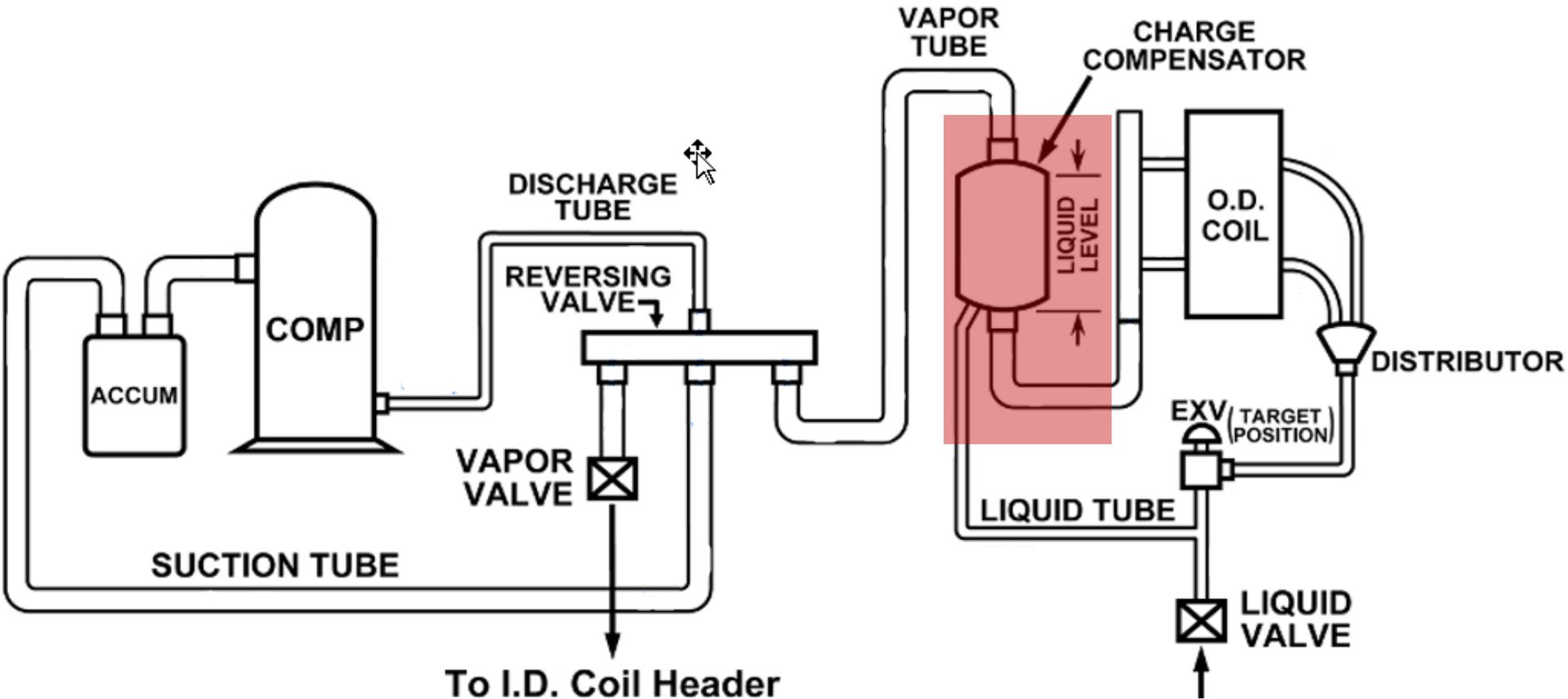
**Standard part with all Greenspeed/Extreme Units. Can be ordered and installed on any unit to help with transient noise.**



## Vapor Line Muffler

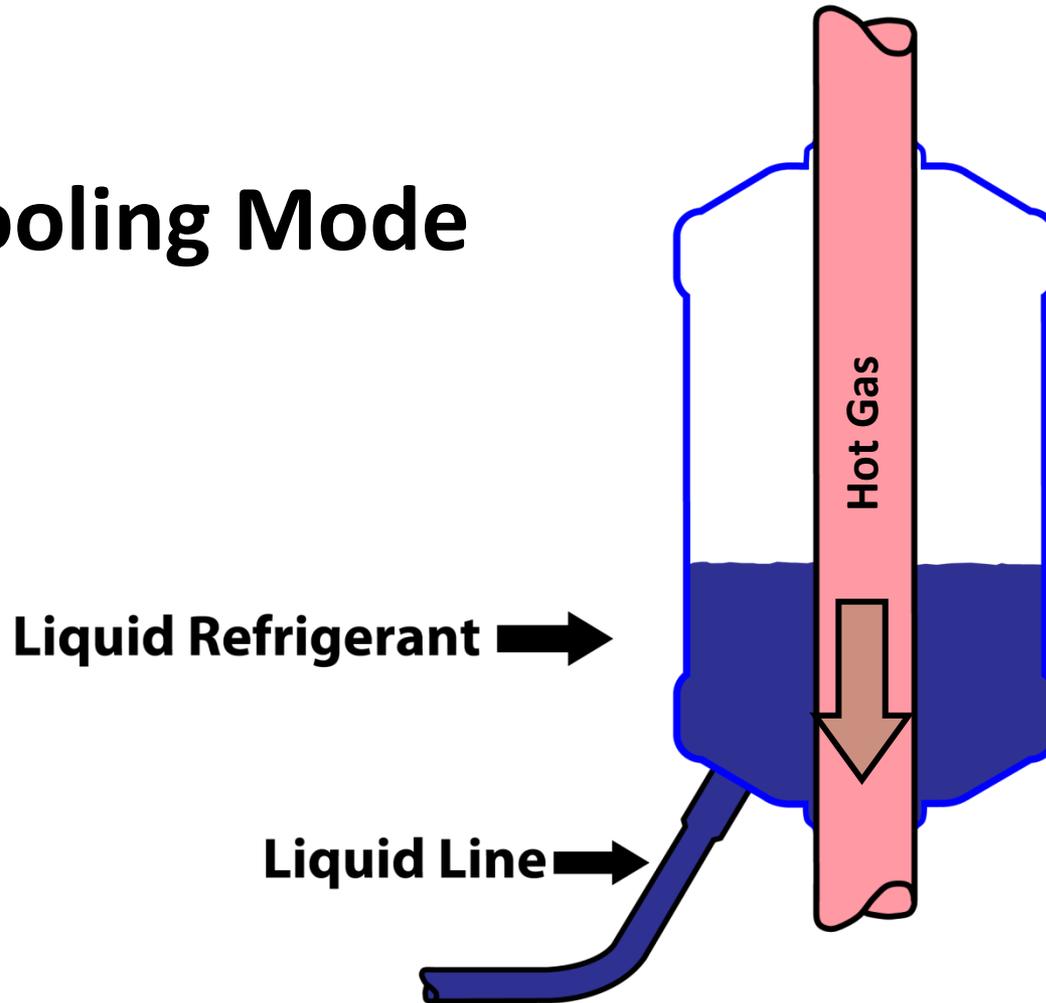


## Charge Compensator



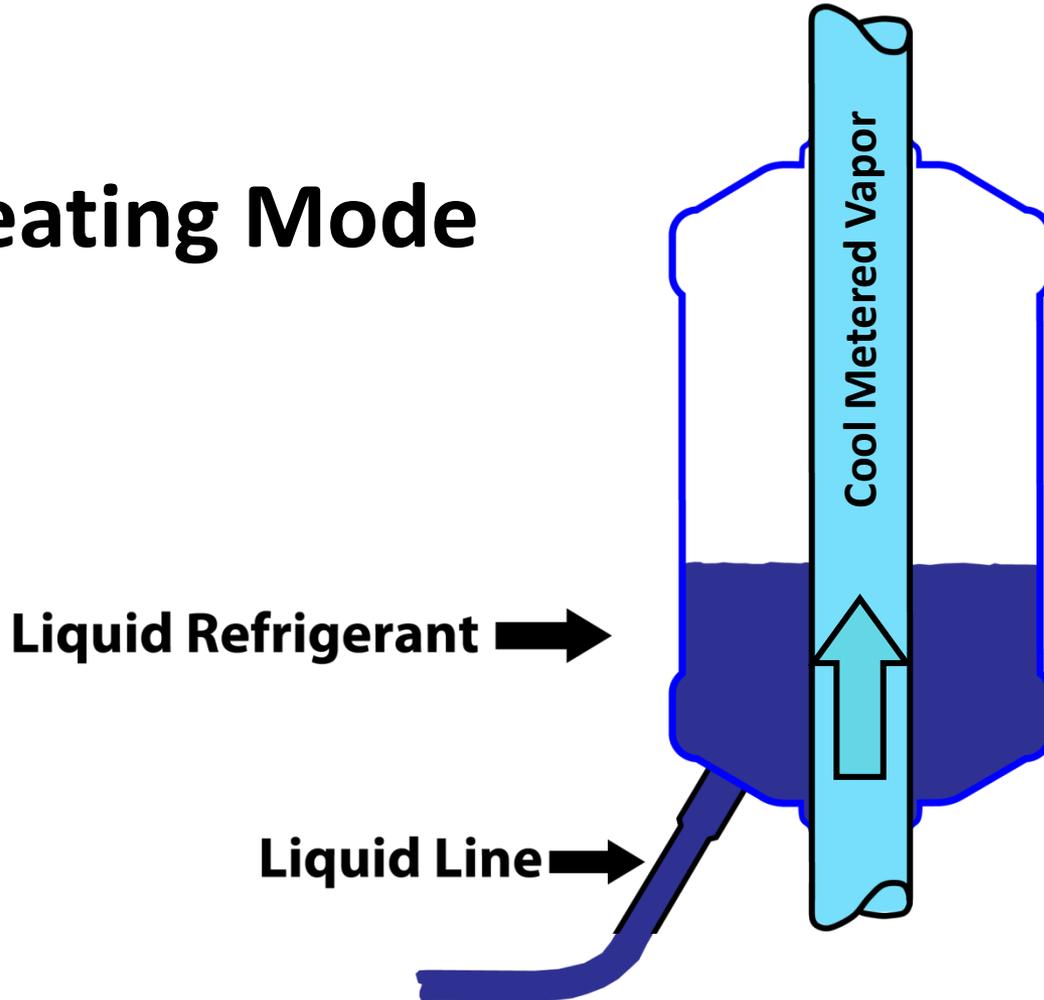
## Charge Compensator

### Cooling Mode

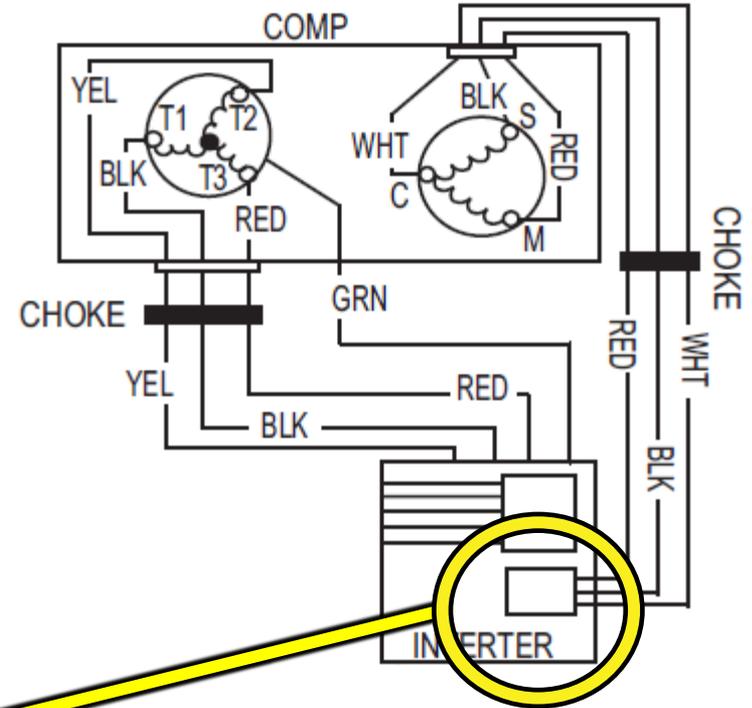
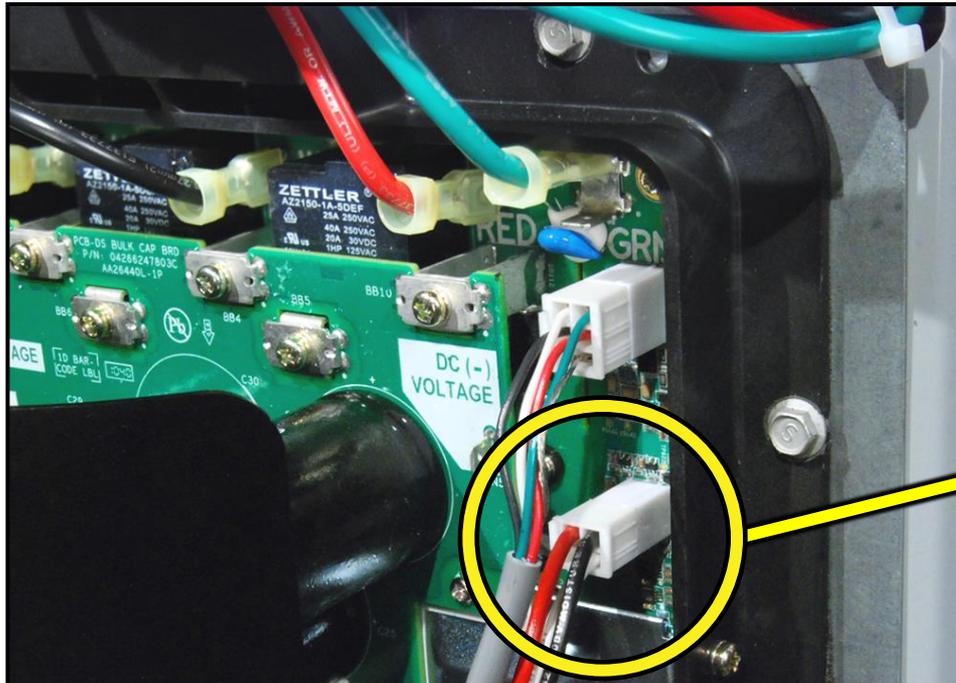


## Charge Compensator

### Heating Mode

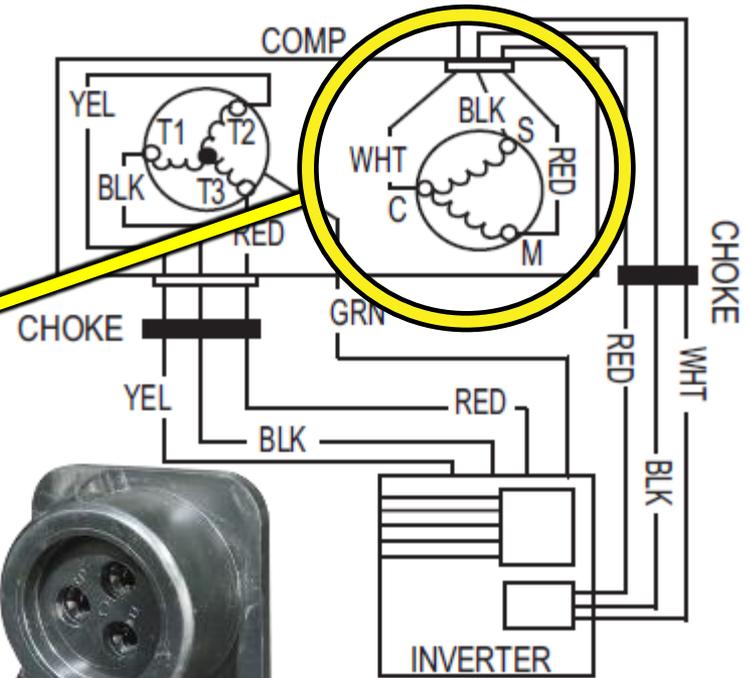


## 3-Pin Scroll and Motor Thermistor Plug



Compressor Scroll Temp Out of Range Event	59	15
Compressor No Start	62	15
Compressor Sump Heater Active	68	N/A
Inverter Internal Fault	69	15
Compressor Motor Temp Out of Range Event	71	5
Suction Over Temp Event	72	15

## 3-Pin Scroll and Motor Thermistor Plug



Compressor Scroll Temp Out of Range Event	59	15
Compressor No Start	62	15
Compressor Sump Heater Active	68	N/A
Inverter Internal Fault	69	15
Compressor Motor Temp Out of Range Event	71	5
Suction Over Temp Event	72	15

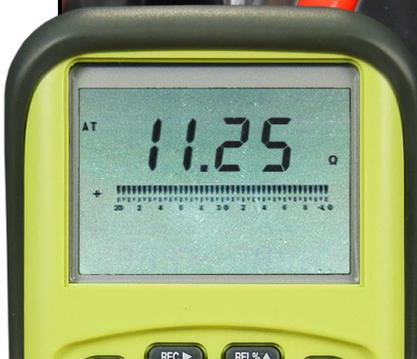
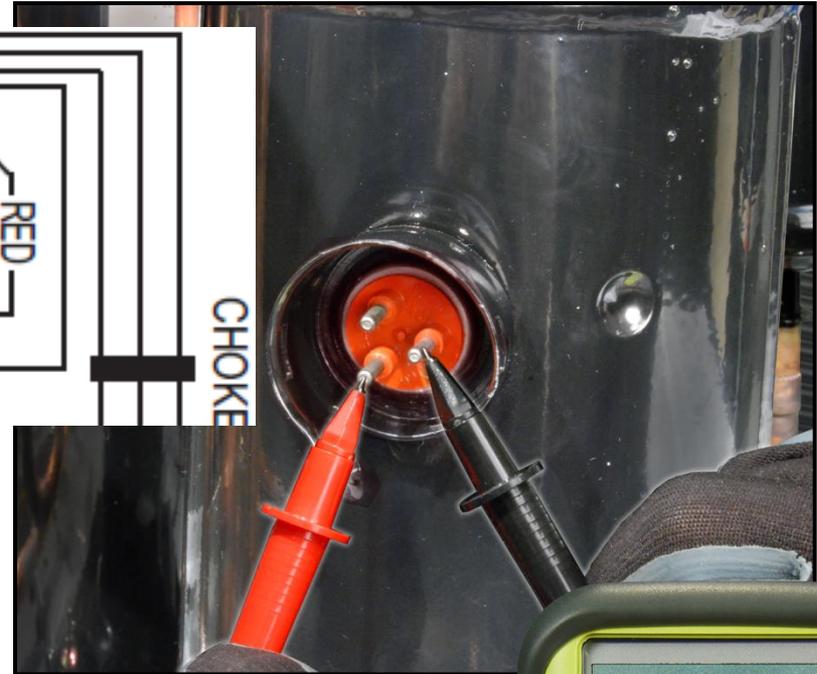
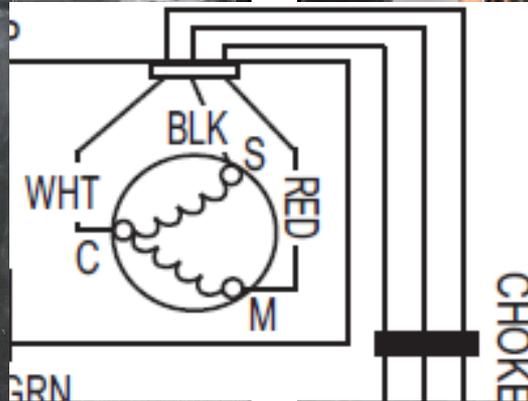
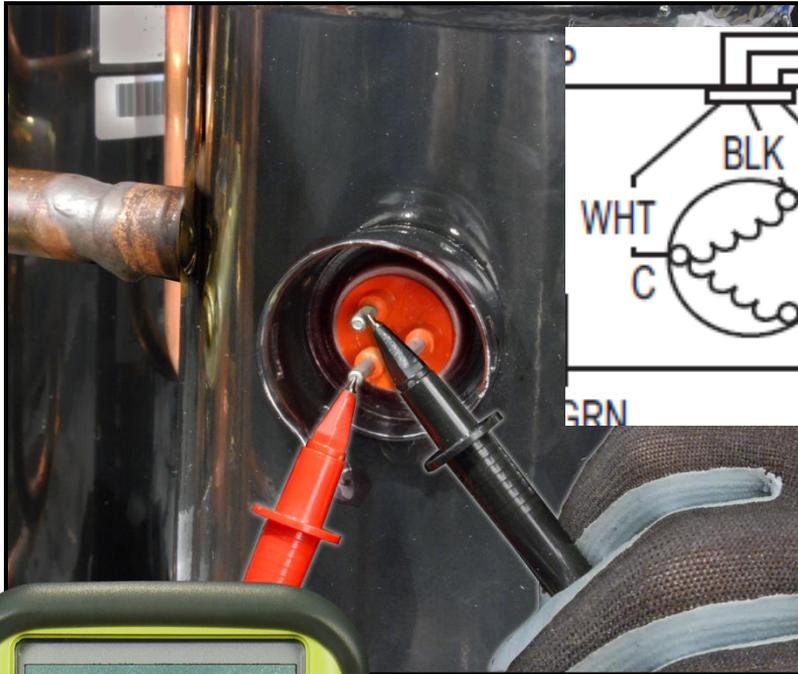
# Greenspeed / Extreme



Measuring Scroll  
Thermistor Resistance

**NTC**

Measuring Motor  
Thermistor Resistance



10 K

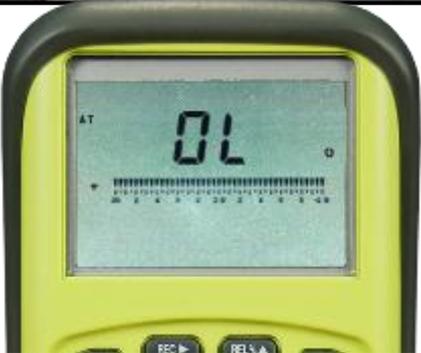
@

5 K

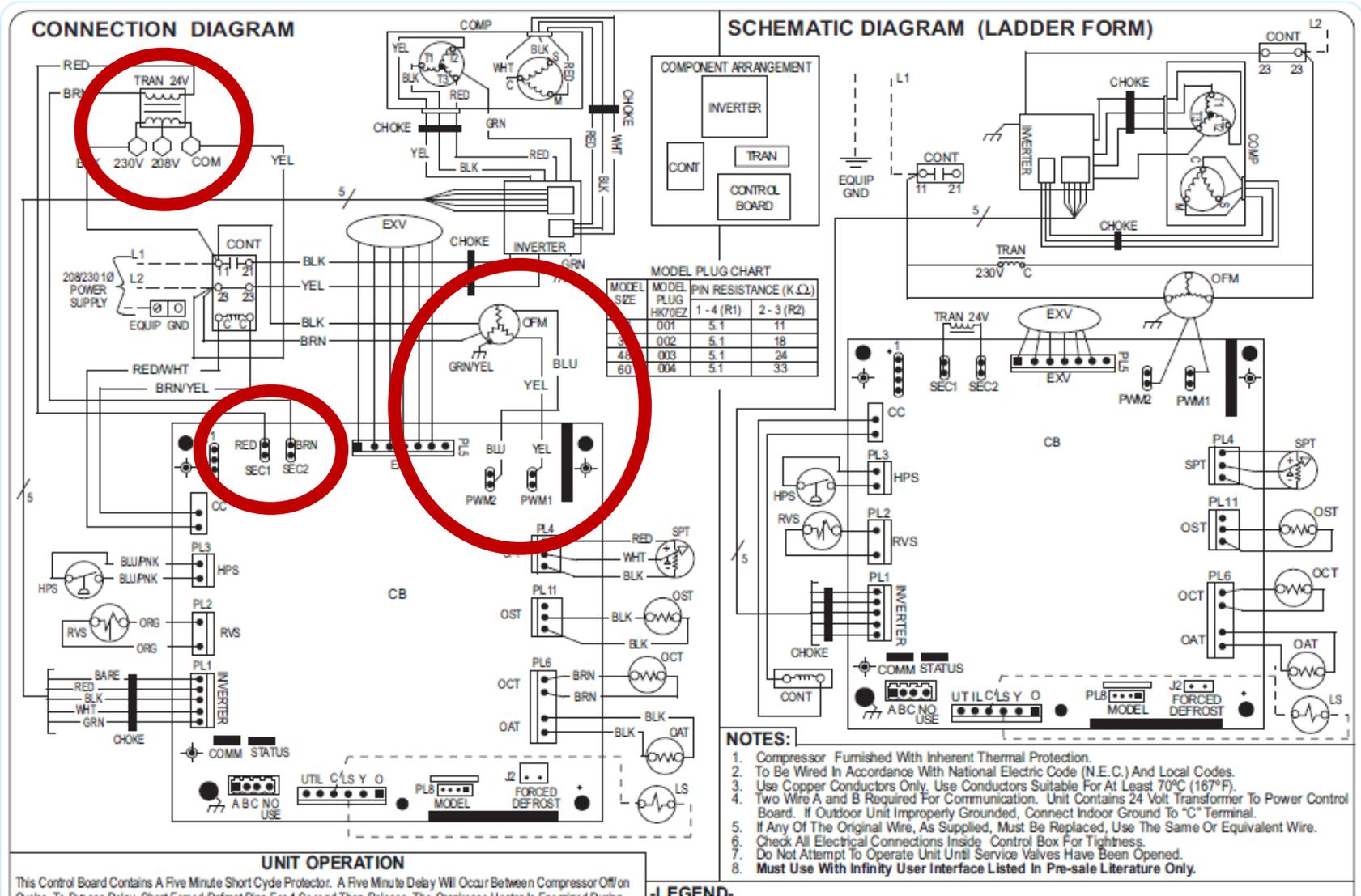
77°F



## Checking Circuit for Grounded Condition



# Greenspeed / Extreme





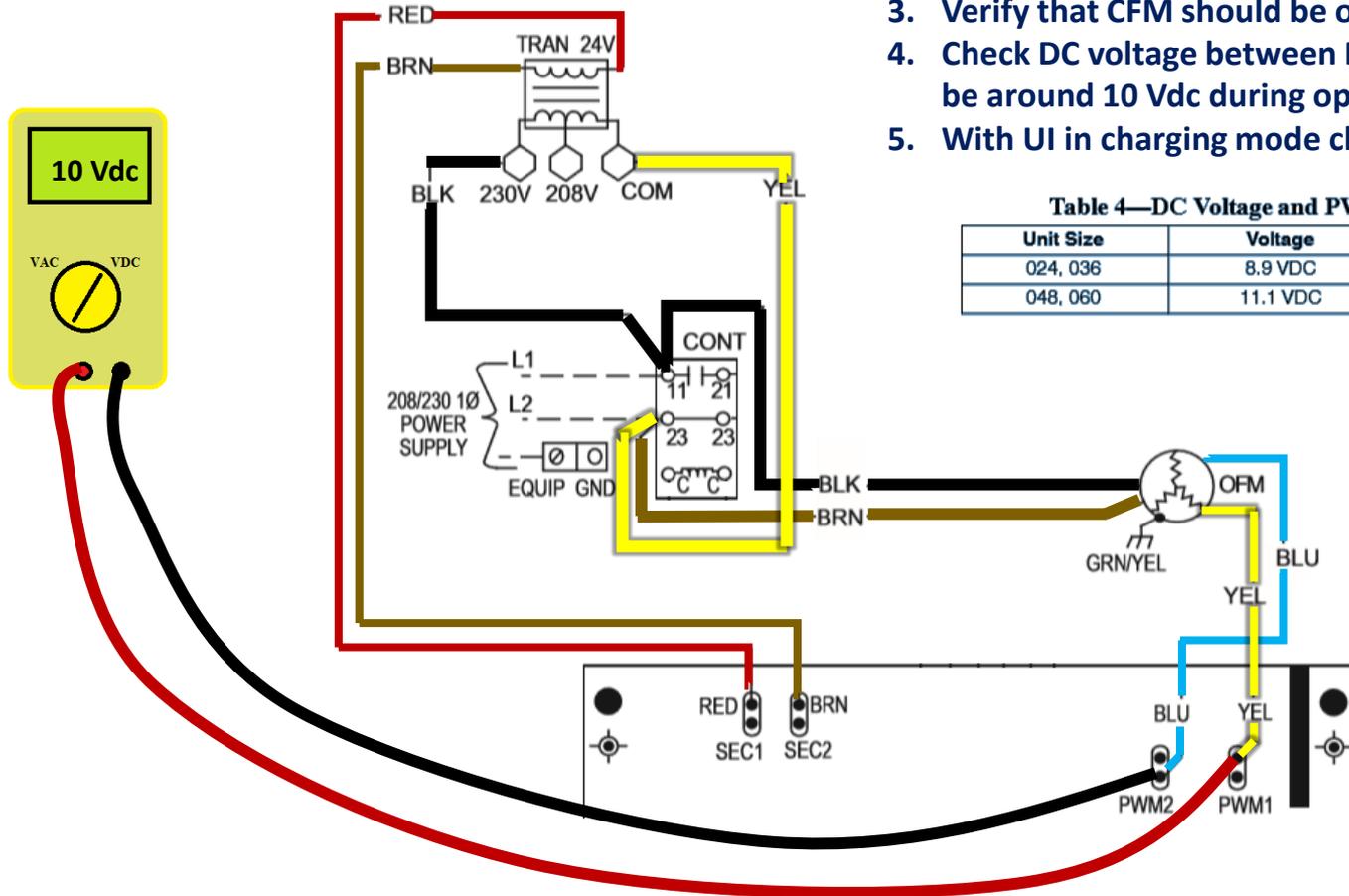
# Greenspeed / Extreme



1. Verify high voltage to transformer.
2. Verify 24 Vac to board. (SEC1 / SEC2)
3. Verify that CFM should be on.
4. Check DC voltage between PWM1 and PWM2. (should be around 10 Vdc during operation)
5. With UI in charging mode check chart for values.

Table 4—DC Voltage and PWM Measurement

Unit Size	Voltage	PWM
024, 036	8.9 VDC	52
048, 060	11.1 VDC	84

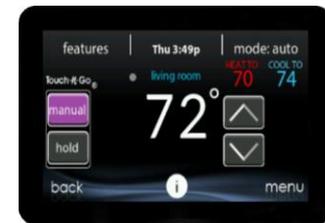


**If voltage is abnormal, then remove wires and recheck before replacing board.**

24/26 SEER



**SYSTXCCITC01-B**  
Infinity® System Control  
4.56 current version



**SYSTXBBITC01-C**  
Infinity® System Control



# 24/26 SEER



**25VNA4  
INFINITY®  
VARIABLE SPEED HEAT PUMP  
WITH GREENSPEED™ INTELLIGENCE  
2 TO 5 NOMINAL TONS**



Turn to the experts

## PRODUCT DATA



### Industry leading Features / Benefits

#### Energy Efficiency

- Up to 24 SEER, 15 EER, 13 HSPF
- Microtube Technology™ refrigeration system
- Indoor air quality accessories available

#### Sound

- Sound level as low as 51 dBA in low speed .

#### Comfort

- Variable speed compressor with capacity range from 25-100%
- Air cooled inverter variable speed drive
  - System requires Infinity Control with Greenspeed capability
  - Energy Tracking capability with the Infinity Control Wall Control w/latest software version

**Always check most recent literature for accurate data.**

- Non-ozone depleting Puron® refrigerant
- Front-seating service valves
- Greenspeed Intelligence actively monitors critical system parameters





## Variable Speed Compressors

All the compressors operate using VDC provided by the inverter. These compressors can only be operated by the specific inverter supplied with the unit.

25VNA4: PRODUCT DATA

### Physical Data

UNIT SIZE SERIES	24-30	36-30	48-30	60-30
COMPRESSOR TYPE	Variable Speed rotary			Variable Speed Scroll
REFRIGERANT	Puron® (R-410A)			
Control	TXV (Puron® Hard Shutoff)			
Charge lb (kg)	8.9 (4.05)	14.1 (6.4)	14.15 (6.42)	16.25 (7.37)
Outdoor Htg Exp. Device	EXV	EXV	EXV	EXV
COND FAN	Forward Swept Propeller Type, Direct Drive			



## SPECIAL WARRANTY

### RESIDENTIAL APPLICATIONS

This warranty is to the original purchasing owner and subsequent owners only to the extent and as stated in the Warranty Conditions and below. The limited warranty period in years, depending on the part and the claimant, is as shown in the table below.

Unit Replacement limited warranty – Available to original purchaser in owner-occupied single family residential applications only, and is not available to subsequent homeowners. If the compressor fails due to defect during the applicable Unit Replacement limited warranty time period, a one-time replacement with a comparable Carrier unit will be provided. This unit replacement warranty is in addition to the standard parts warranty. Proof of purchase and installation date will be required. The unit replacement limited warranty replacements are subject to review and verification by a Carrier representative. The remaining balance of the original unit's standard warranty will be transferred to the replacement unit. This limited warranty is subject to all provisions, conditions, limitations and exclusions listed below and on the reverse of this document.

Product	Item	Limited Warranty (Years)	
		Original Owner	Subsequent Owners
Air Conditioner or Heat Pump Condensing Unit Models 25VNA4 and 24VNA6	Parts	10* (or 5)	5
	Compressor	10* (or 5)	5
	Unit Replacement**	10* (or 5)	N/A

\* If properly registered within 90 days of original installation, otherwise 5 years (except in California and Quebec and other jurisdictions that prohibit warranty benefits conditioned on registration). See Warranty Conditions below.

\*\* See warranty condition #9 below.

### OTHER APPLICATIONS

The warranty period is five (5) years on the compressor, and one (1) year on all other parts. The warranty is to the original owner only and is not available for subsequent owners.

**Coverage Details**  
 Original Homeowner Only  
 Covered Failures: Compressor  
 Labor Allowance: \$300  
**One Time Replacement**  
 New Unit will get remainder of original warranty

Unit replacement warranty on compressor failures only.

**There is a qualification process which needs to be followed to get approval for the replacement. Contact technical support 800-264-2512 opt 3 then 1.**



# 24/26 SEER



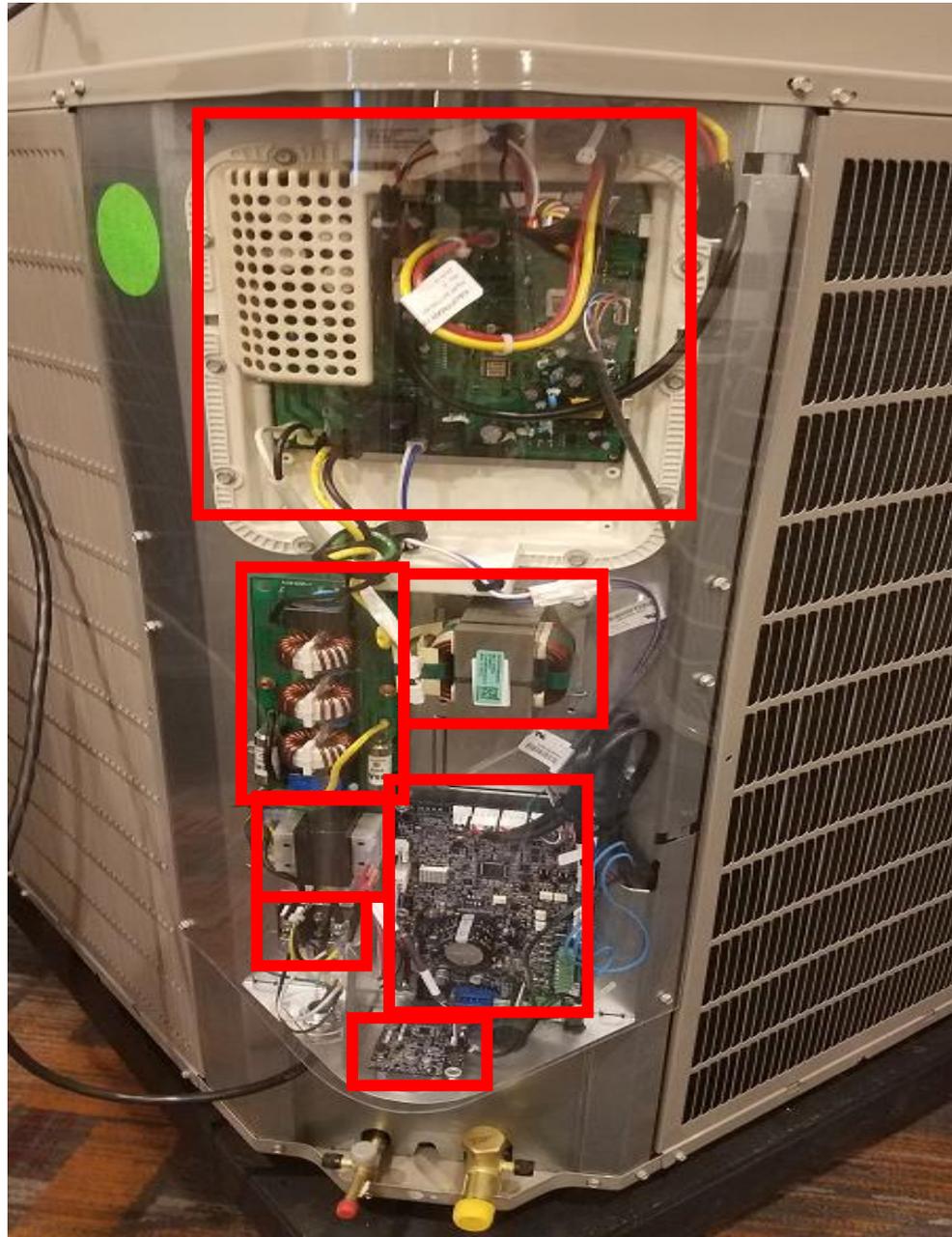
Old Design



New Design



# 24/26 SEER



EMI Filter Board

Transformer

Terminal Block

Blue Tooth Module

**VFD**  
Variable Frequency  
Drive

Line Reactor

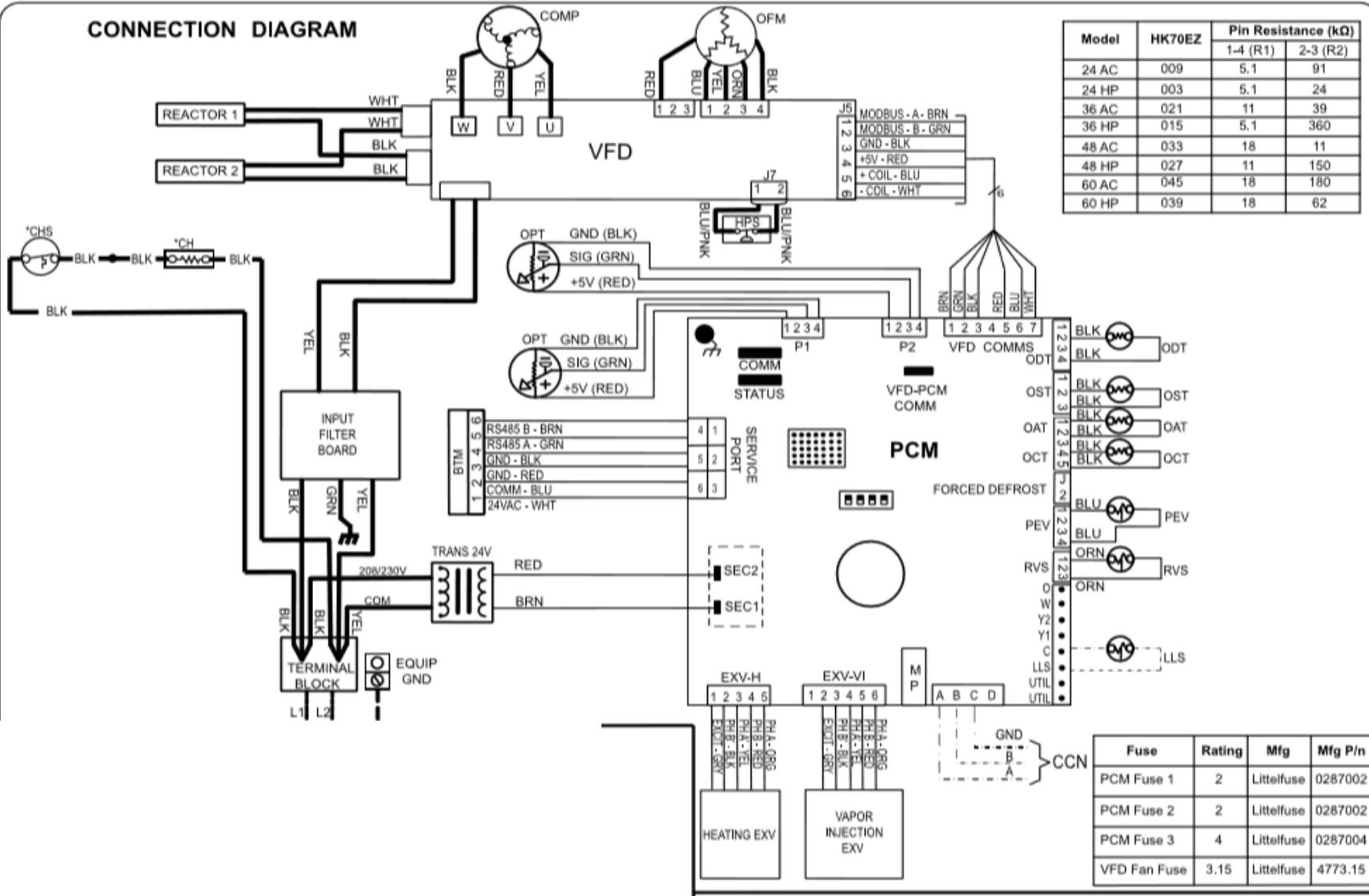
**PCM**  
Power Control  
Module



# 24/26 SEER



## CONNECTION DIAGRAM



Model	HK70EZ	Pin Resistance (kΩ)	
		1-4 (R1)	2-3 (R2)
24 AC	009	5.1	91
24 HP	003	5.1	24
36 AC	021	11	39
36 HP	015	5.1	360
48 AC	033	18	11
48 HP	027	11	150
60 AC	045	18	180
60 HP	039	18	62

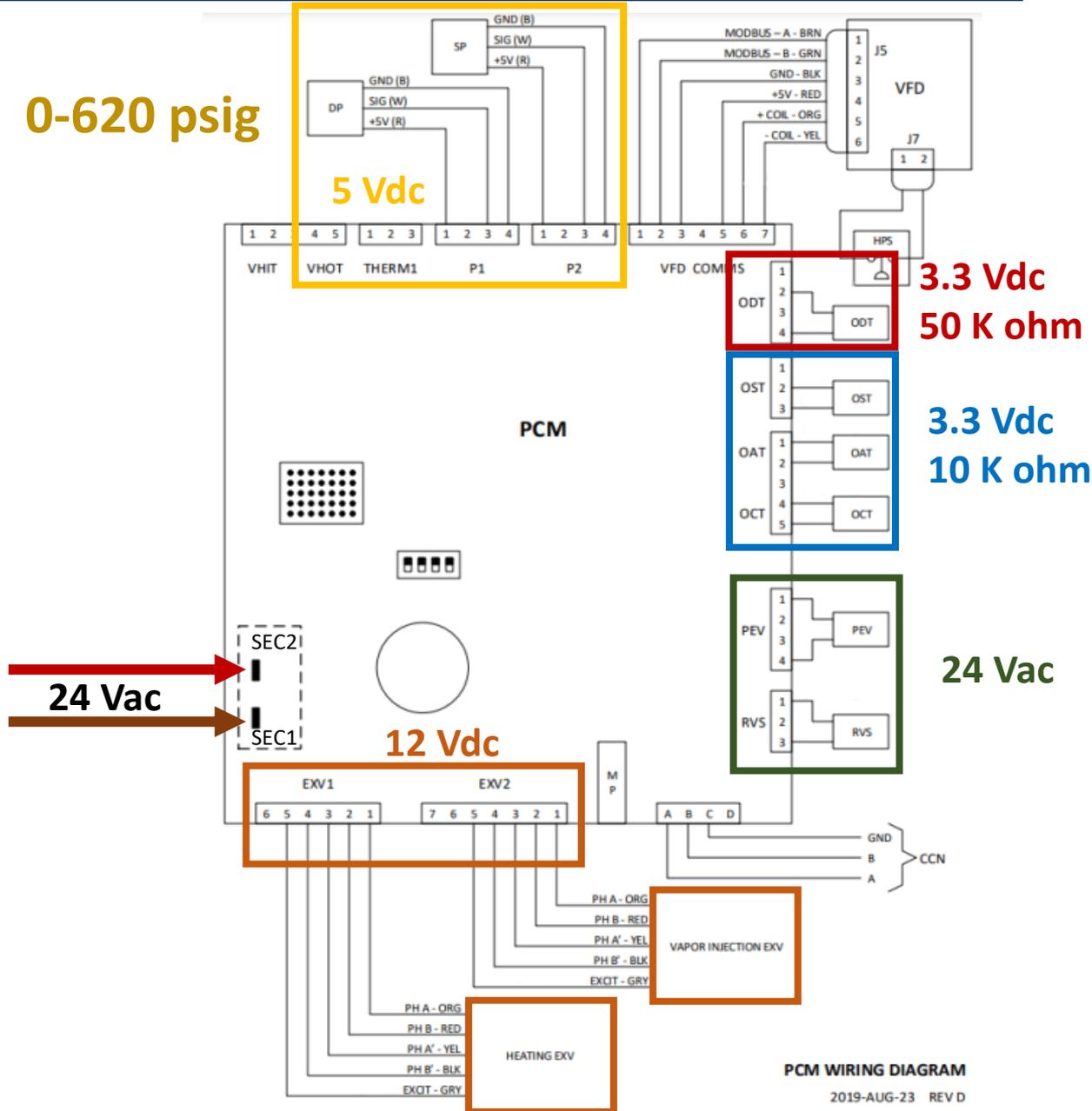
Fuse	Rating	Mfg	Mfg P/n
PCM Fuse 1	2	Littelfuse	0287002
PCM Fuse 2	2	Littelfuse	0287002
PCM Fuse 3	4	Littelfuse	0287004
VFD Fan Fuse	3.15	Littelfuse	4773.15



# 24/26 SEER

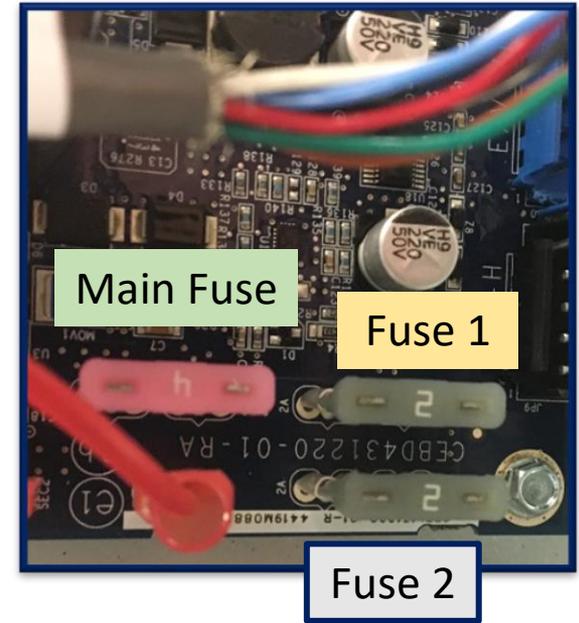
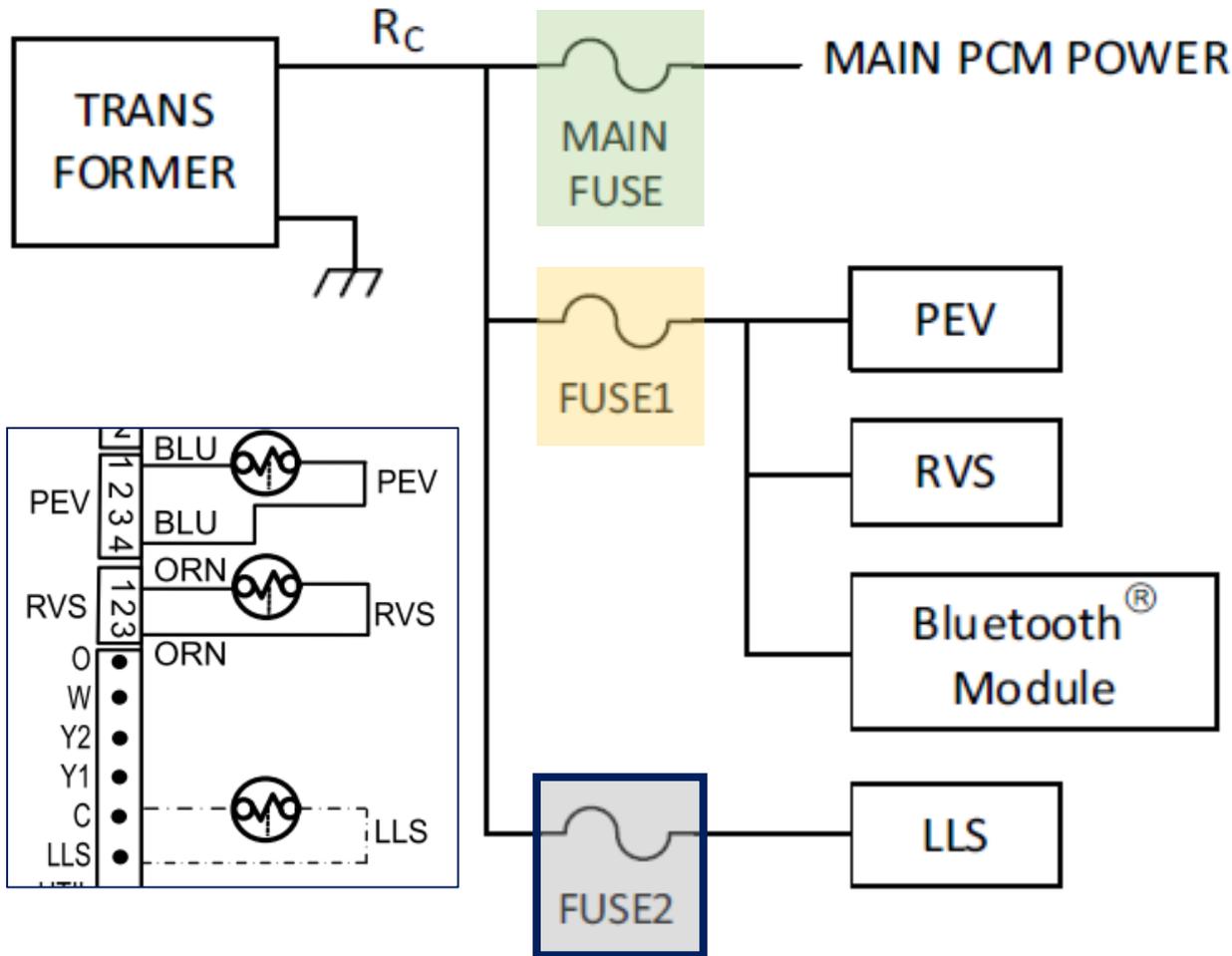


0-620 psig



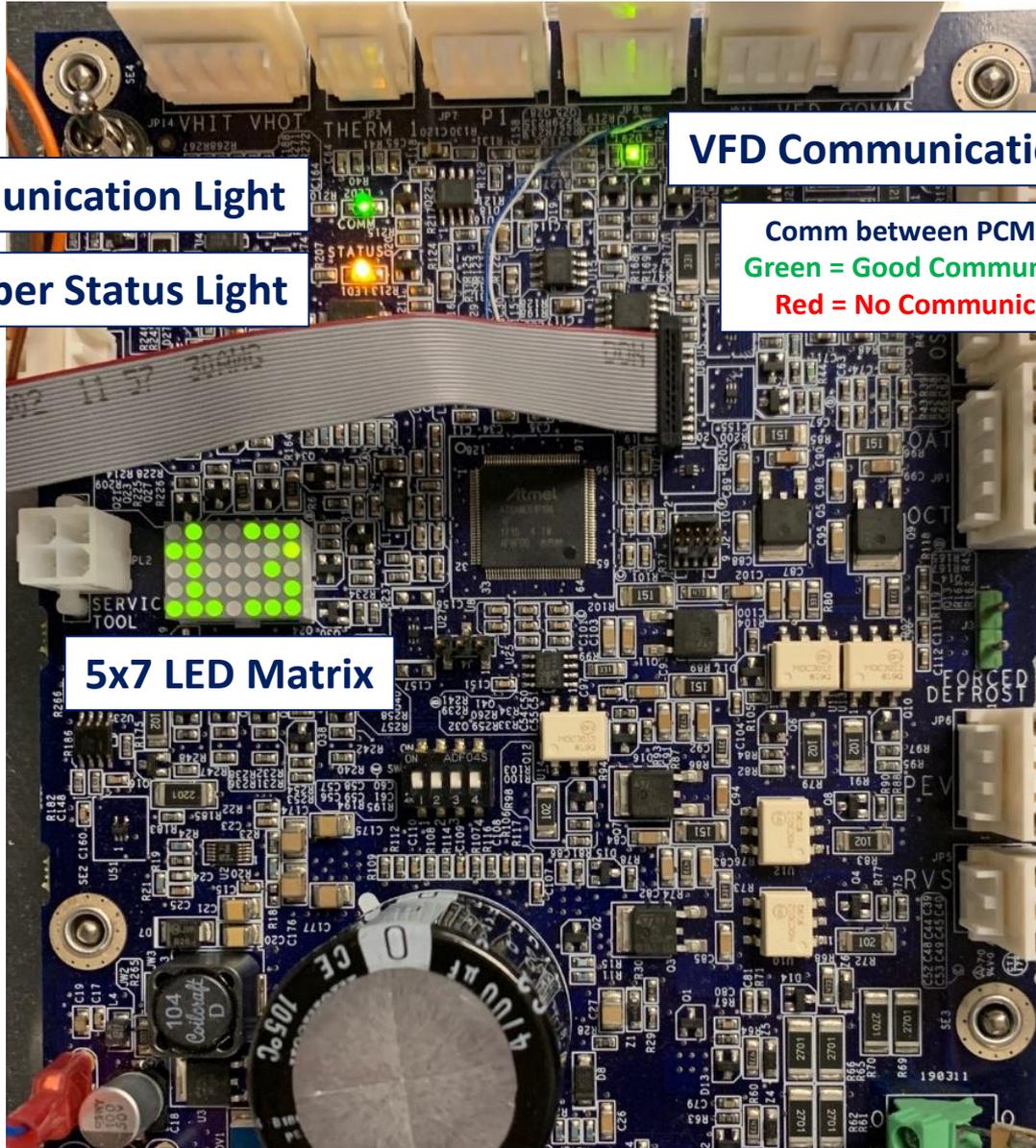
PCM WIRING DIAGRAM  
2019-AUG-23 REV D

# 24/26 SEER



Fuse	Rating	Mfg	Mfg P/n
PCM Fuse 1	2	Littelfuse	0287002
PCM Fuse 2	2	Littelfuse	0287002
PCM Fuse 3	4	Littelfuse	0287004

# 24/26 SEER



Communication Light

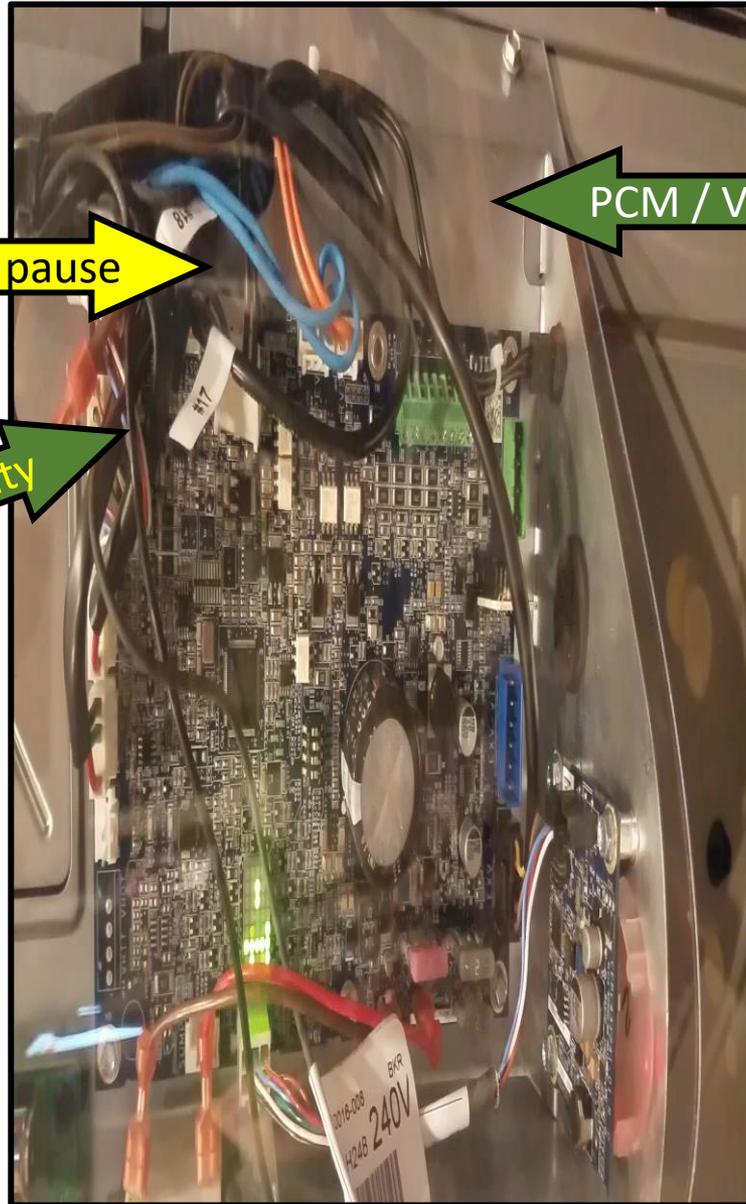
Amber Status Light

VFD Communication

Comm between PCM - VFD  
Green = Good Communication  
Red = No Communication

5x7 LED Matrix

PCM  
Power Control Module



Status LED

5 fast, pause, 1 slow, pause  
code 51

52-01 Matrix is Priority

PCM / VFD Communication

Code 51 OAT  
Code 52-01 OCT Open

## VFD Variable Frequency Drive

**R1: ON = Vdc > 40V**

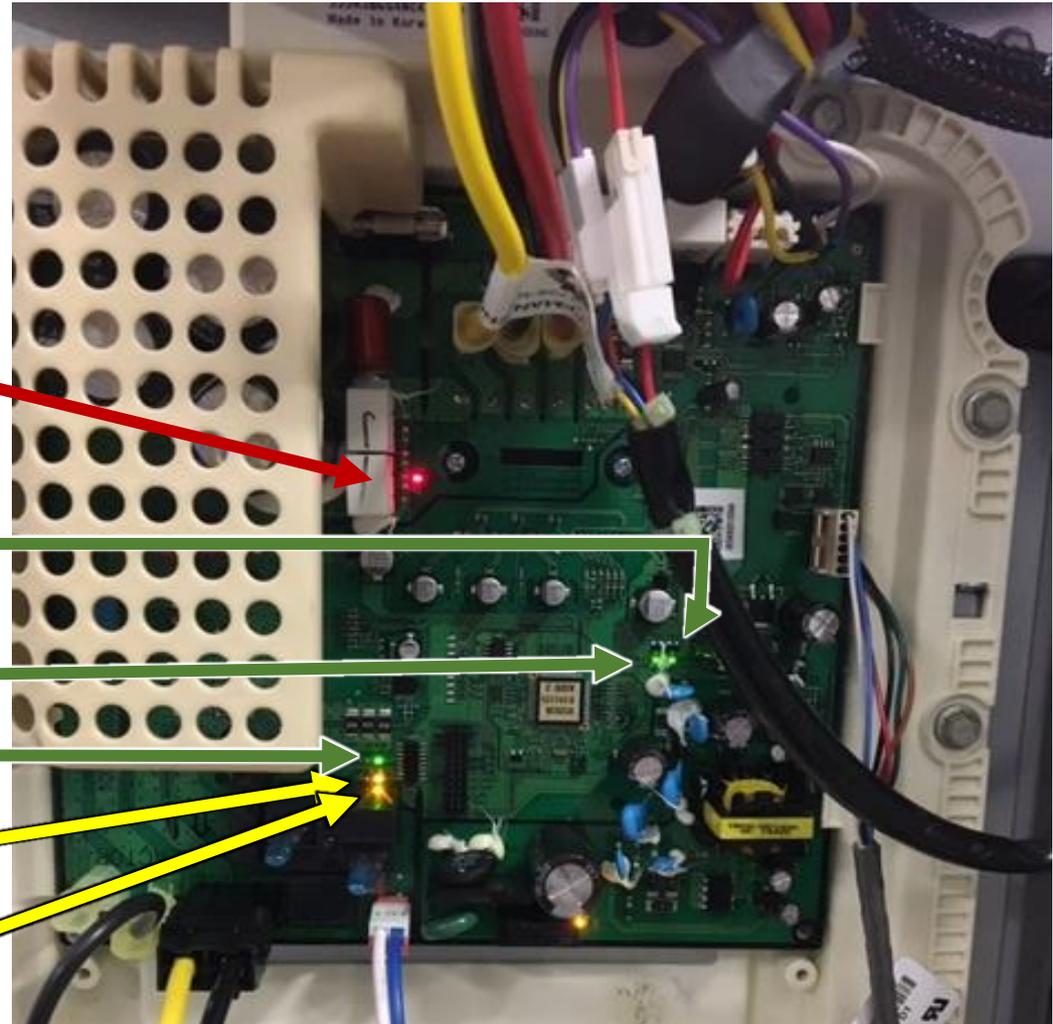
**G1: Blinks when VFD receives a signal from PCM**

**G2: ON = Normal OFF = Fault**

**G3: Microcontrol relay closed**

**A1: ON = Normal 12 Vdc**

**A2: ON = Main relay closed**

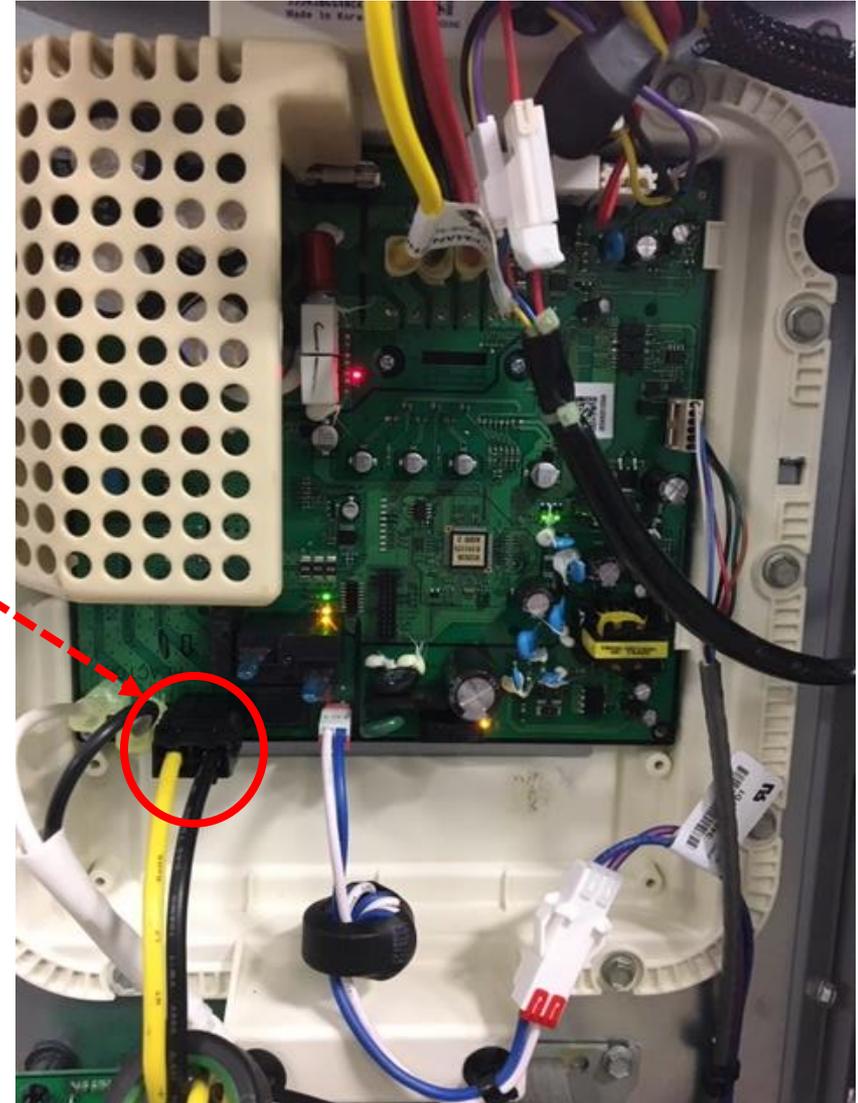
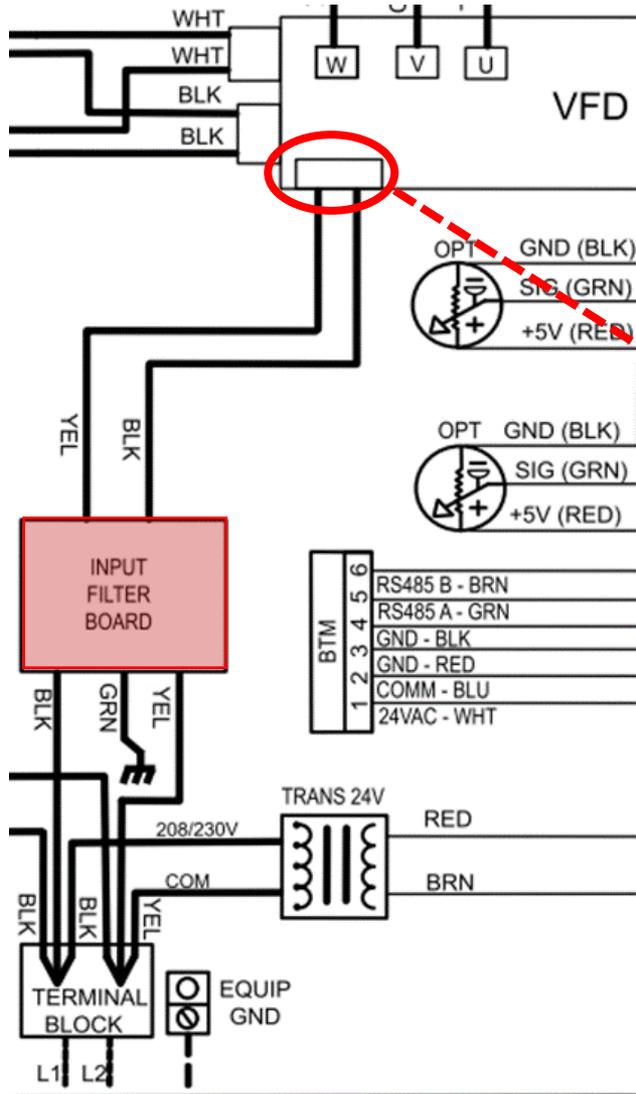


Lights and locations are different on all models, consult service manual for specifics.

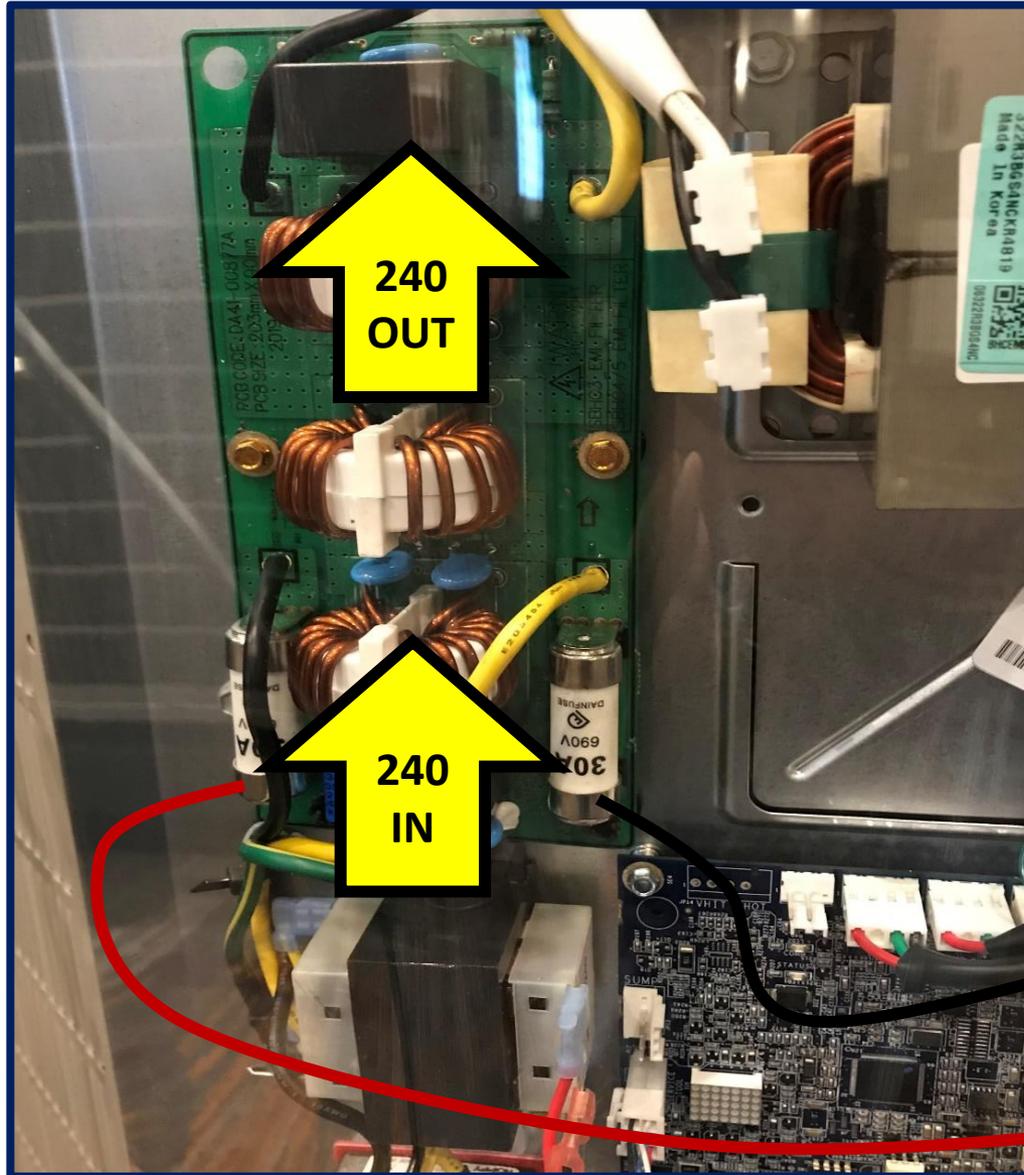
# 24/26 SEER



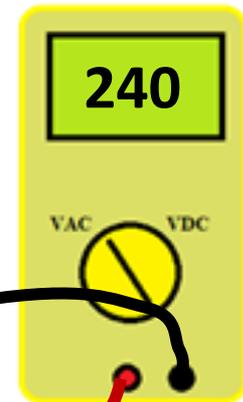
## VFD Power Supply



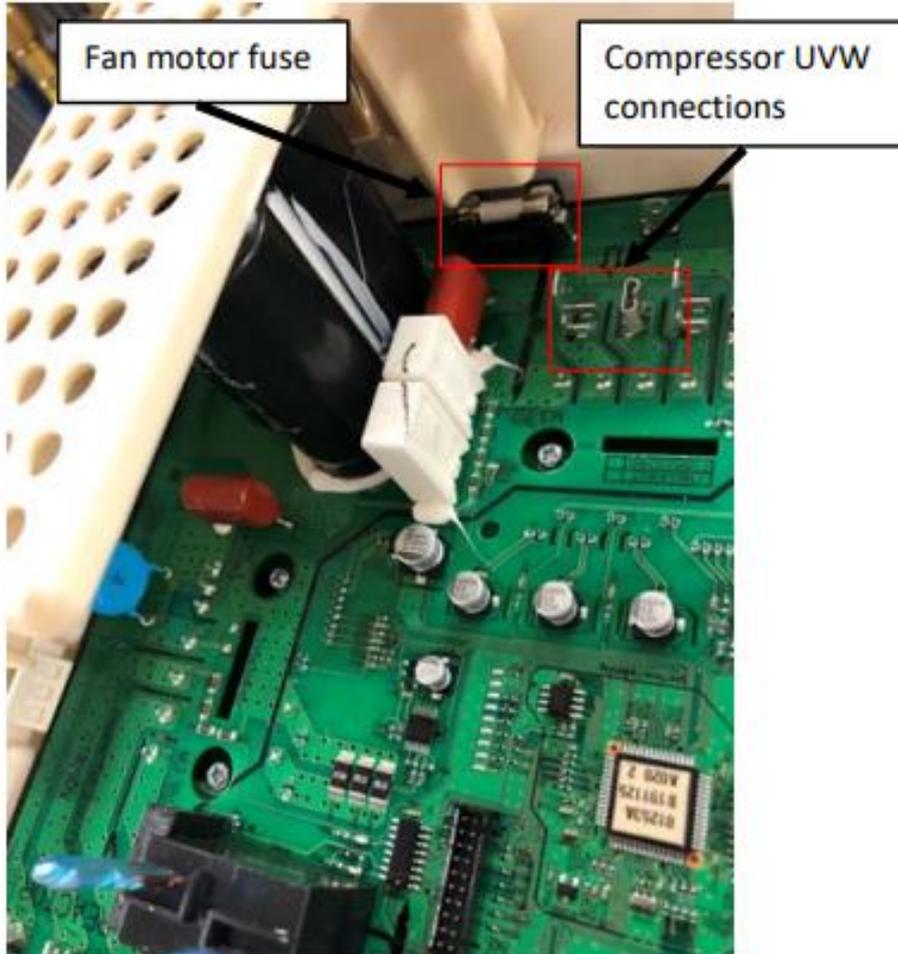
# 24/26 SEER



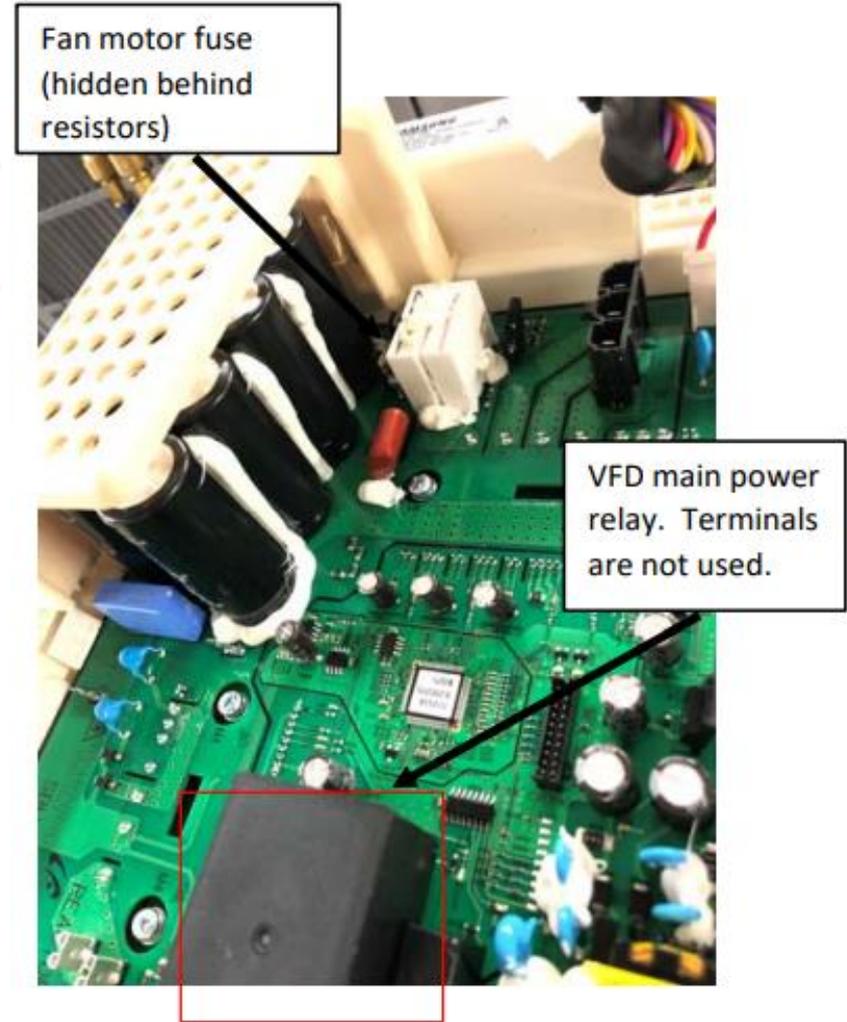
## Filter Board



## Condensing Fan Motor



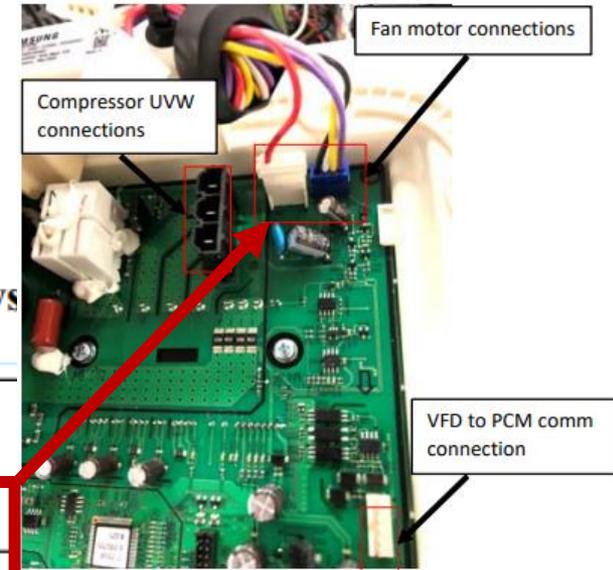
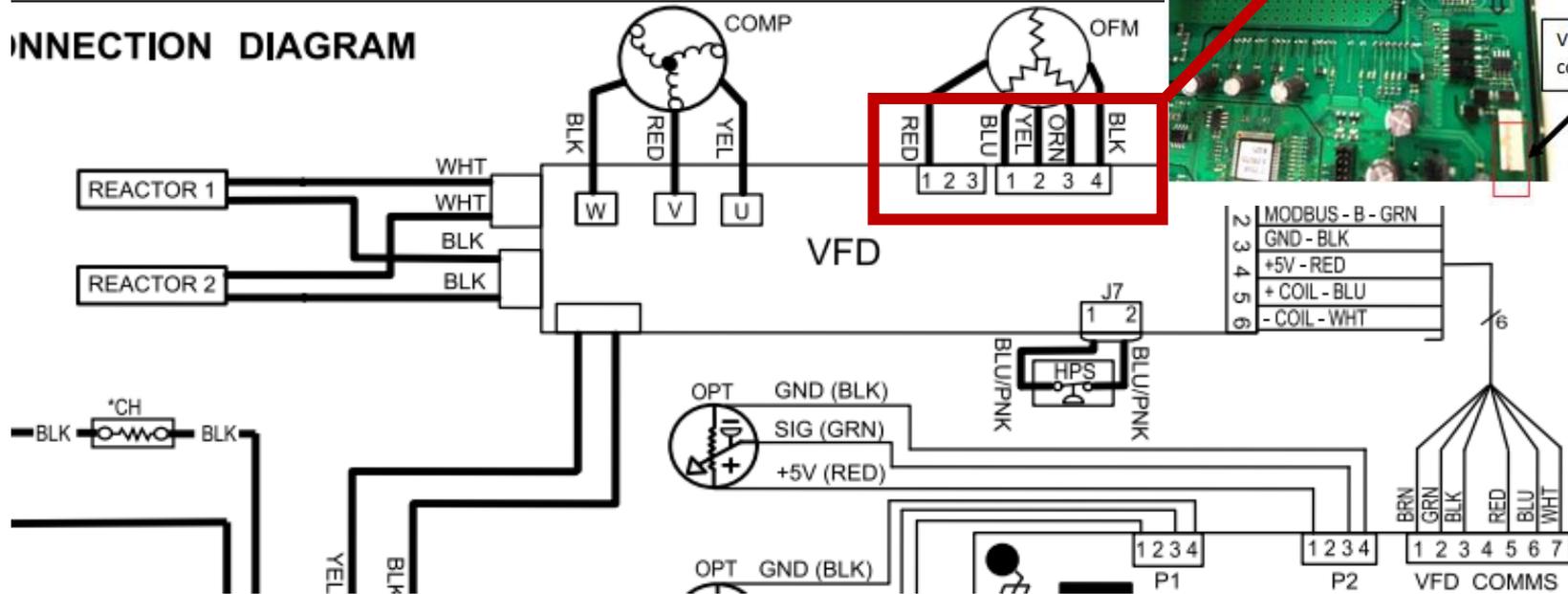
2 and 3 TON



4 and 5 TON

## Condensing Fan Motor

Fig. 2 – Compressor / Fan Sub-System

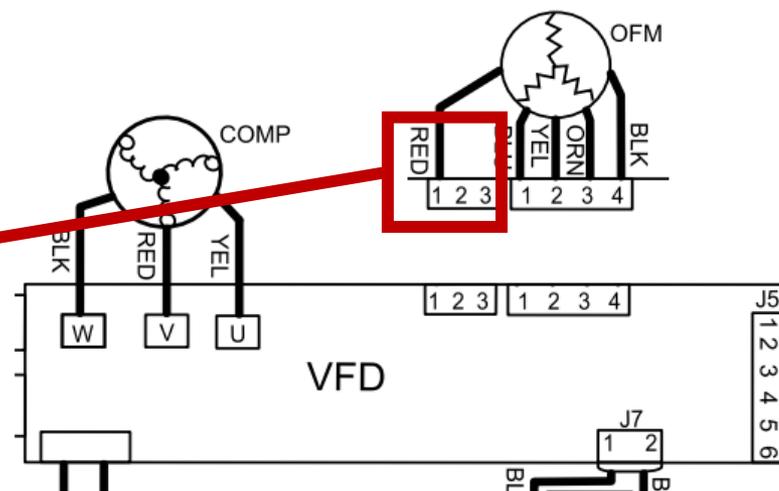


## Testing Condensing Fan Motor

1. Remove fan harness from VFD.
2. Check resistance values as listed in Table 5.

**Table 5 – DC Voltage and PWM Measurement**

Vdc-GND	Vcc-GND	Vsp-GND	FG-GND
Pin (3 pin) & Pin 1 (4 pin)	Pin 2 (4 pin) & Pin 1 (4 pin)	Pin 3(4 pin) & Pin 1 (4 pin)	Pin 4 (4 pin) & Pin 1 (4 pin)
1.36 meg OHM	45.4 meg OHM	115k OHM	Open

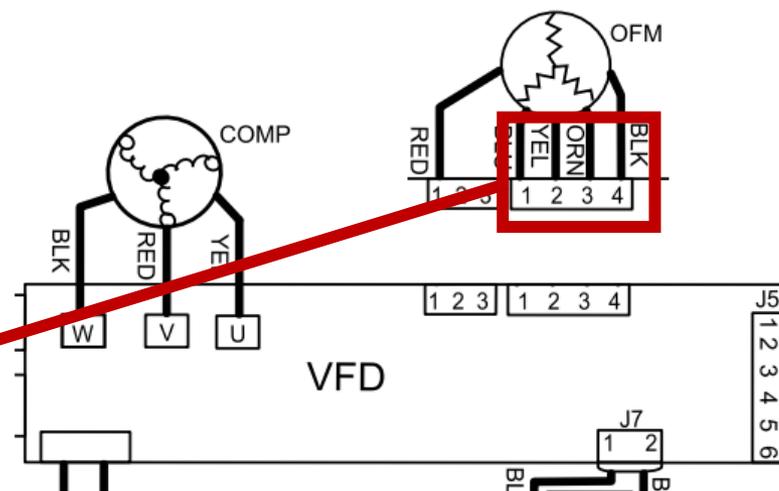


## Testing Condensing Fan Motor

1. Remove fan harness from VFD.
2. Check resistance values as listed in Table 5.

**Table 5 – DC Voltage and PWM Measurement**

Vdc-GND	Vcc-GND	Vsp-GND	FG-GND
Pin 1 (3 pin) & Pin 1 (4 pin)	Pin 2 (4 pin) & Pin 1 (4 pin)	Pin 3(4 pin) & Pin 1 (4 pin)	Pin <b>(4 pin)</b> & Pin 1 (4 pin)
1.36 meg OHM	45.4 meg OHM	115k OHM	Open

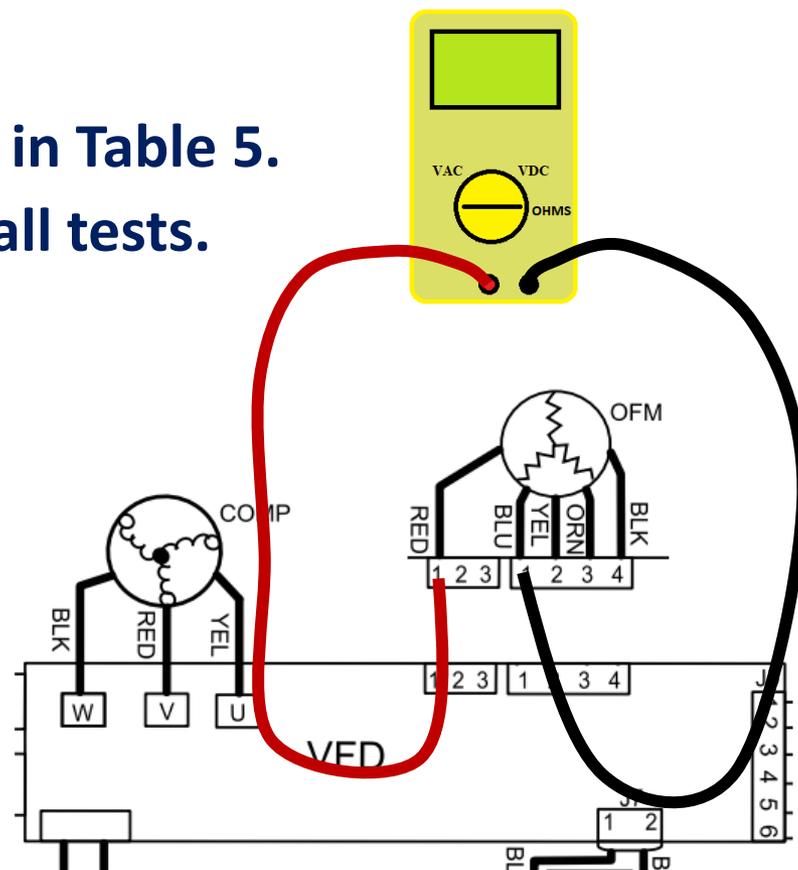


## Testing Condensing Fan Motor

1. Remove fan harness from VFD.
2. Check resistance values as listed in Table 5.
3. Pin 1 (4-pin plug) is common to all tests.

**Table 5 – DC Voltage and PWM Measurement**

Vdc-GND	Vcc-GND	Vsp-GND	FG-GND
Pin 1 (3 pin) & Pin 1 (4 pin)	Pin 2 (4 pin) & Pin 1 (4 pin)	Pin 3(4 pin) & Pin 1 (4 pin)	Pin 4 (4 pin) & Pin 1 (4 pin)
1.36 meg OHM	45.4 meg OHM	115k OHM	Open

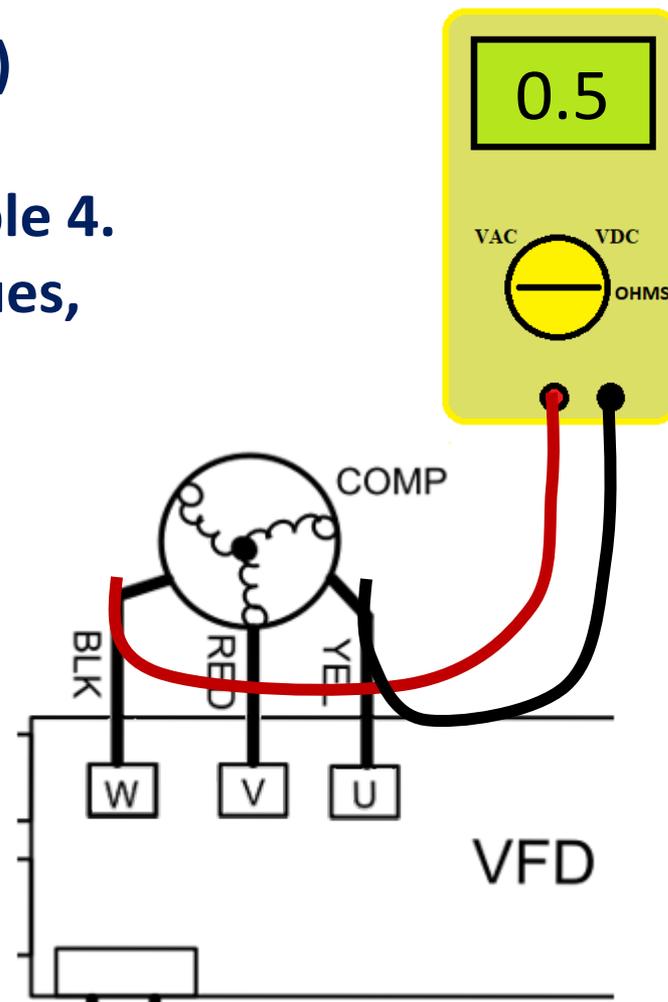


## Testing Compressor

1. Turn power off. (red light on VFD is off)
2. Remove U,V,W wires from VFD
3. Check resistance values as listed in Table 4.
4. If resistance does not match given values, then recheck at compressor terminals.
5. Resistance to Ground

**Table 4 – Variable Speed Compressor Resistances (ohm)**  
(winding resistance at 68°F /20°C)

WINDING	24	36	48	60
Between terminals T1, T2, and T3 (U,V,W)	.74	0.453	0.424	0.424
Between terminal & ground	>1 mega OHM			

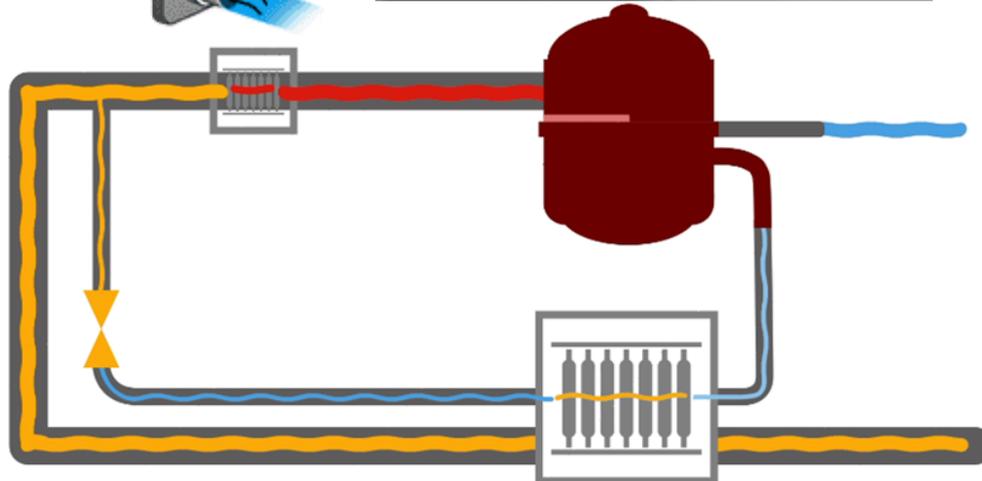
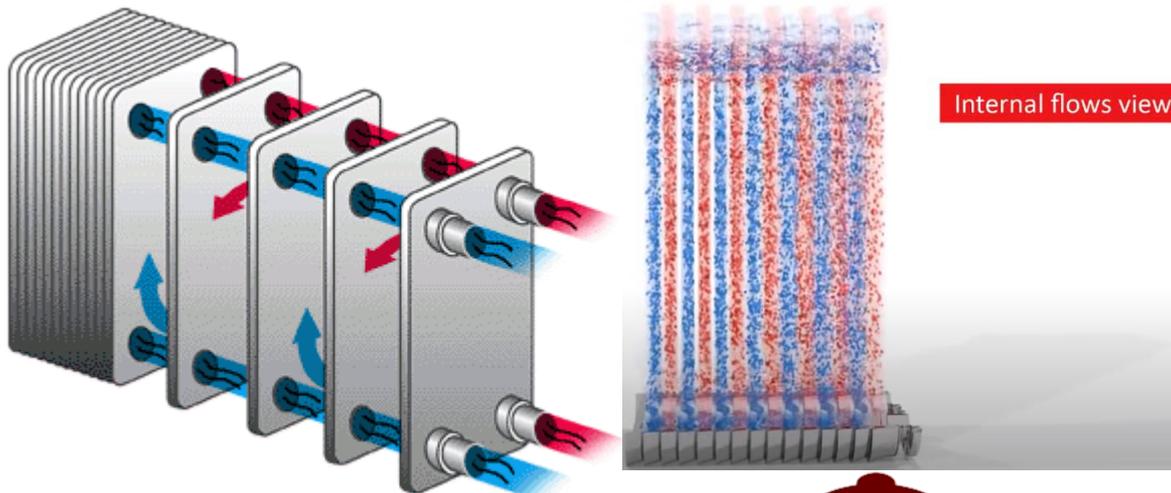


# 24/26 SEER

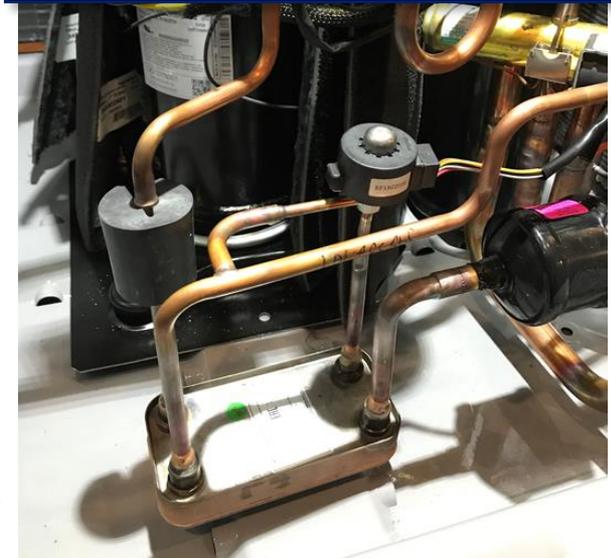
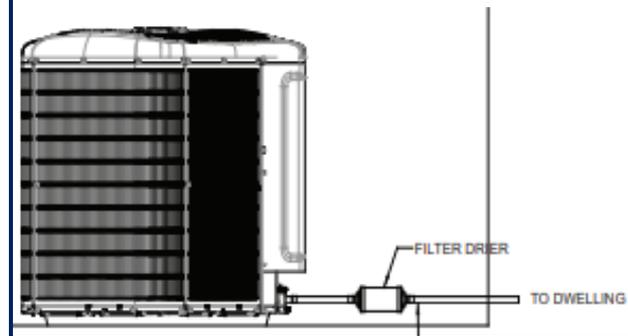


## Vapor Injection Process

- 5-Ton Units Only
- High Ambient Cooling, or
- Low Ambient Heating Only



Dryer location for 5-ton application only!



# 24/26 SEER



Superheated  
back to  
compressor

Subcooled  
from  
condenser  
coil

EXV metered  
refrigerant

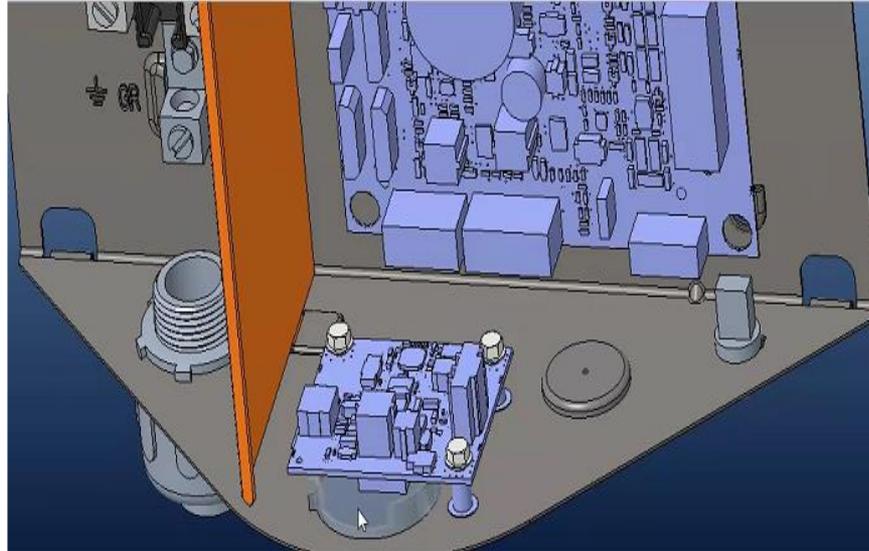
Extra  
subcooled  
to  
evaporator  
coil

heat  
exchange

**5-ton units only both AC and Heat Pump!**



# 24/26 SEER



## Bluetooth Module



# 24/26 SEER



## Bluetooth® Module Activation



Turn to the experts

## Quick Start Guide

*NOTE: A qualified installer or agency is required for proper installation. This guide is for reference only and it is not intended to replace the product Installation Instructions.*

## Bluetooth® Module Activation



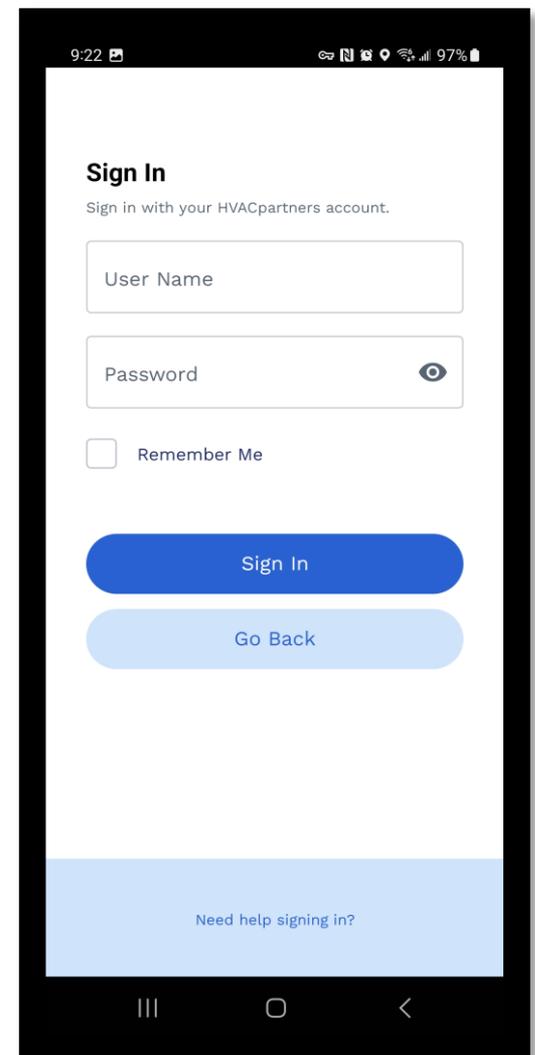
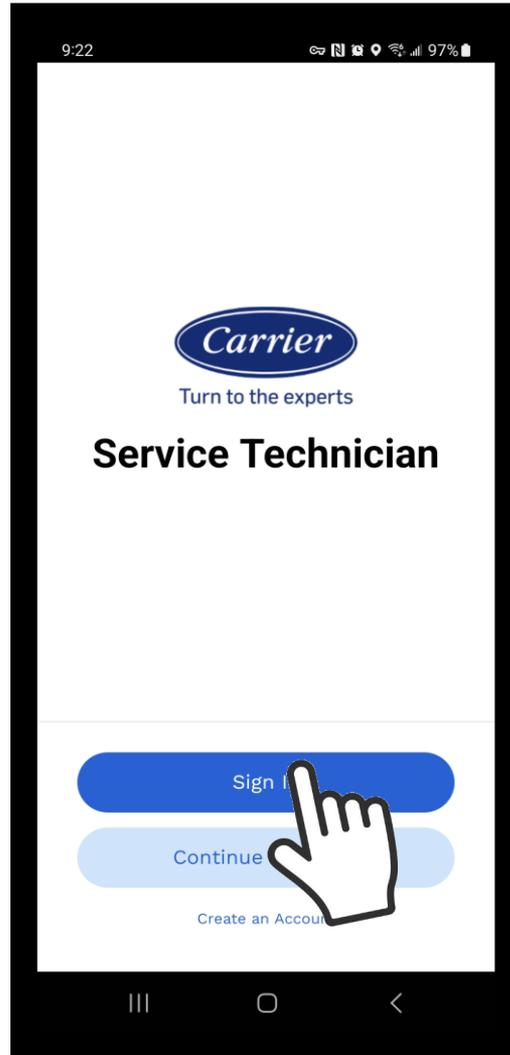
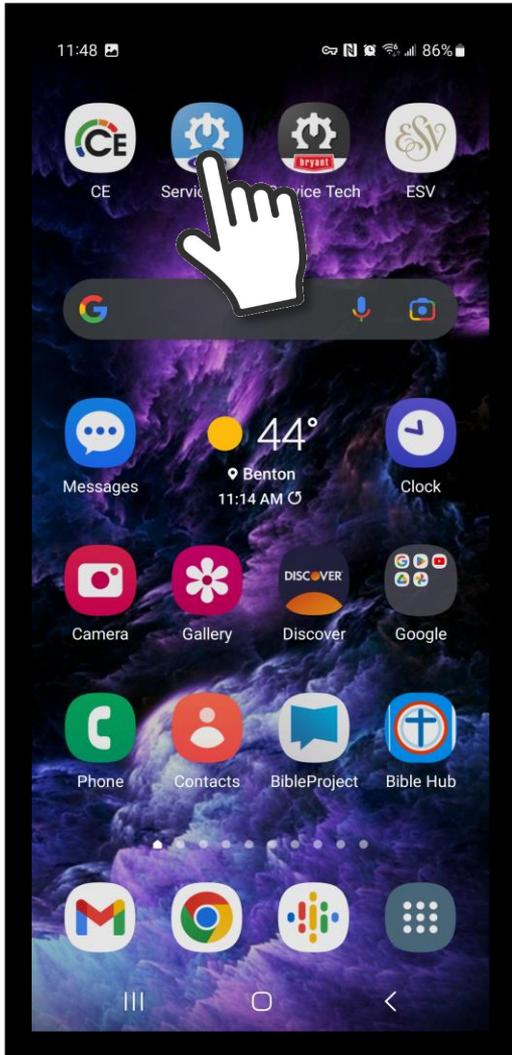
Heating & Cooling Systems

## Quick Start Guide

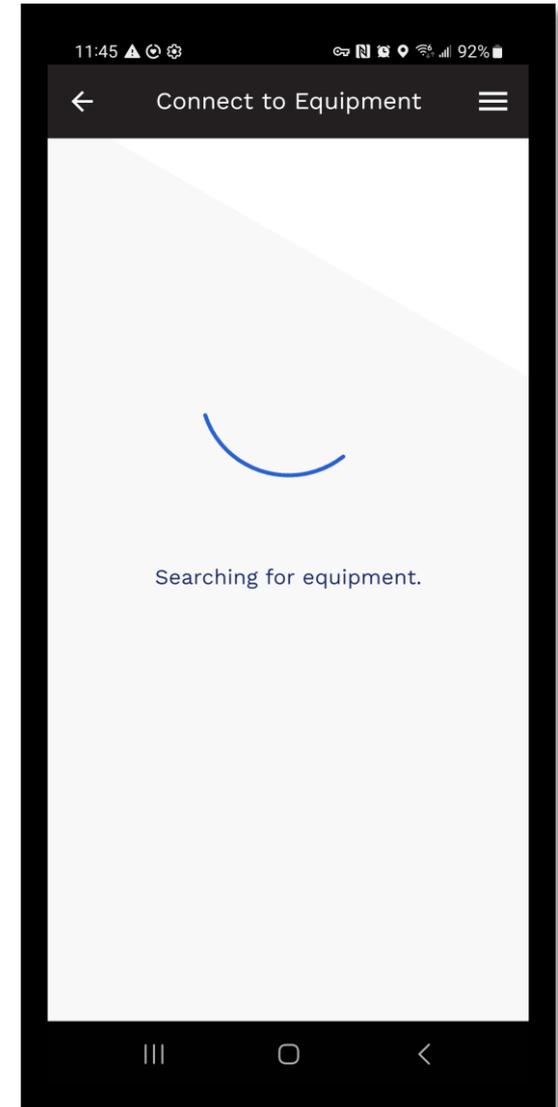
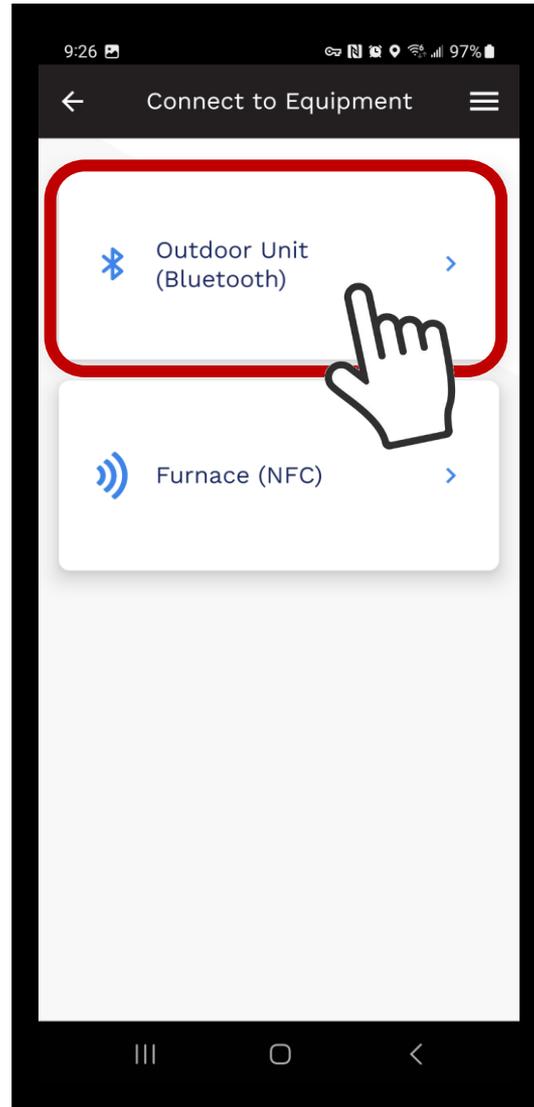
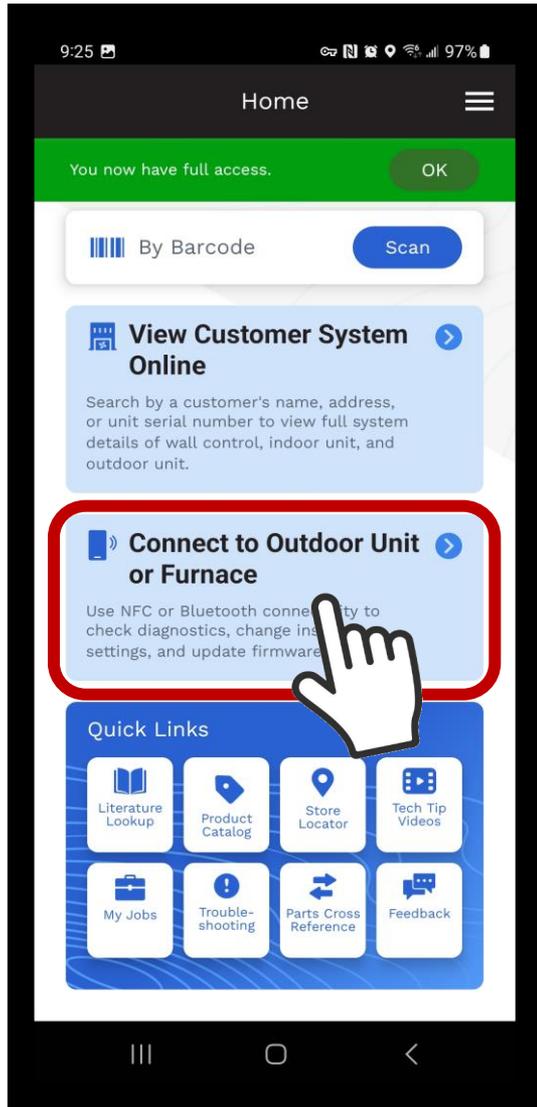
*NOTE: A qualified installer or agency is required for proper installation. This guide is for reference only and it is not intended to replace the product Installation Instructions.*



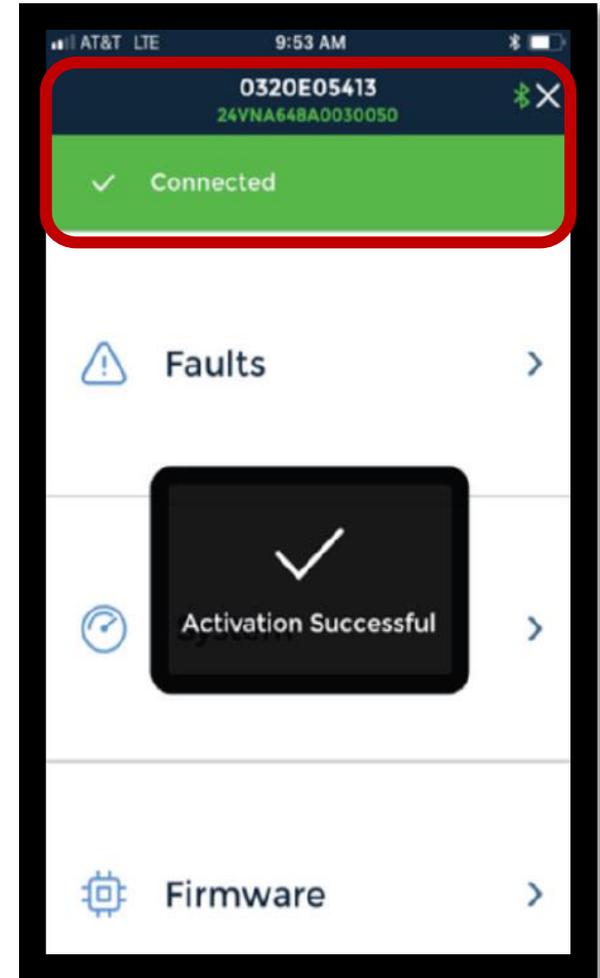
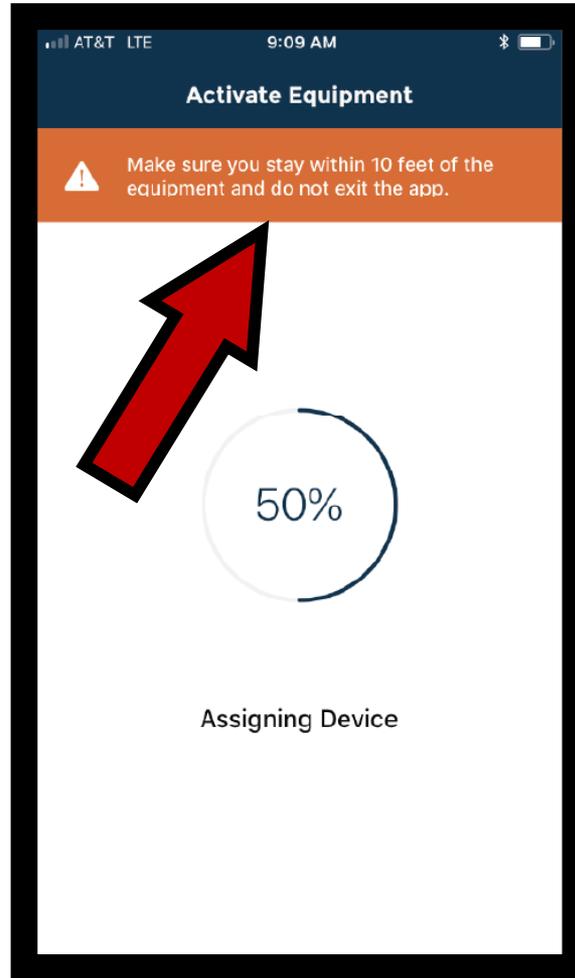
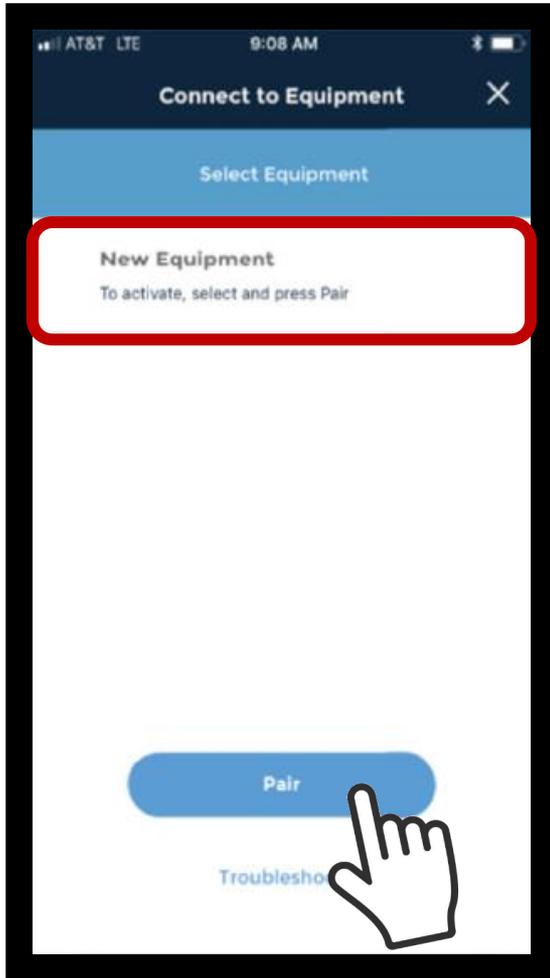
# 24/26 SEER



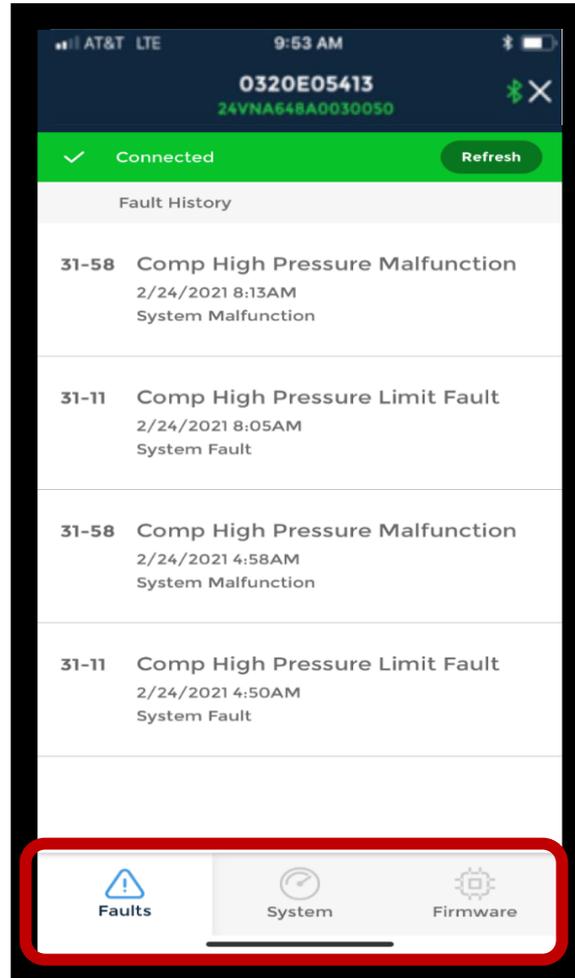
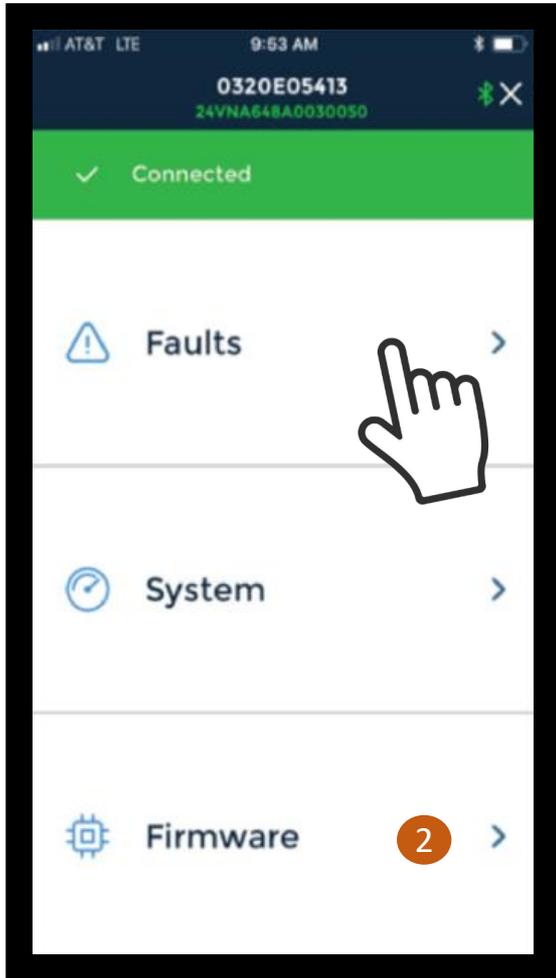
# 24/26 SEER



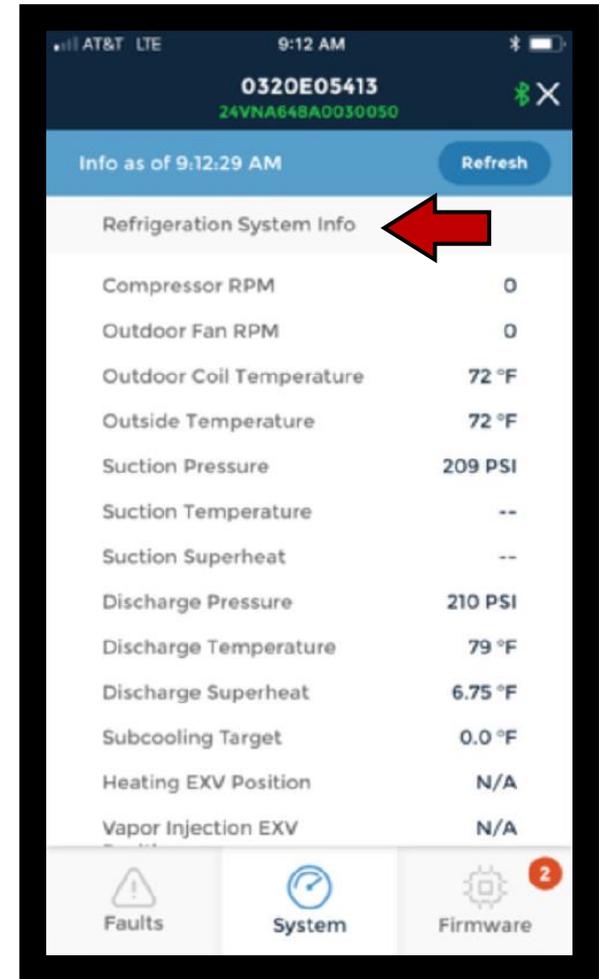
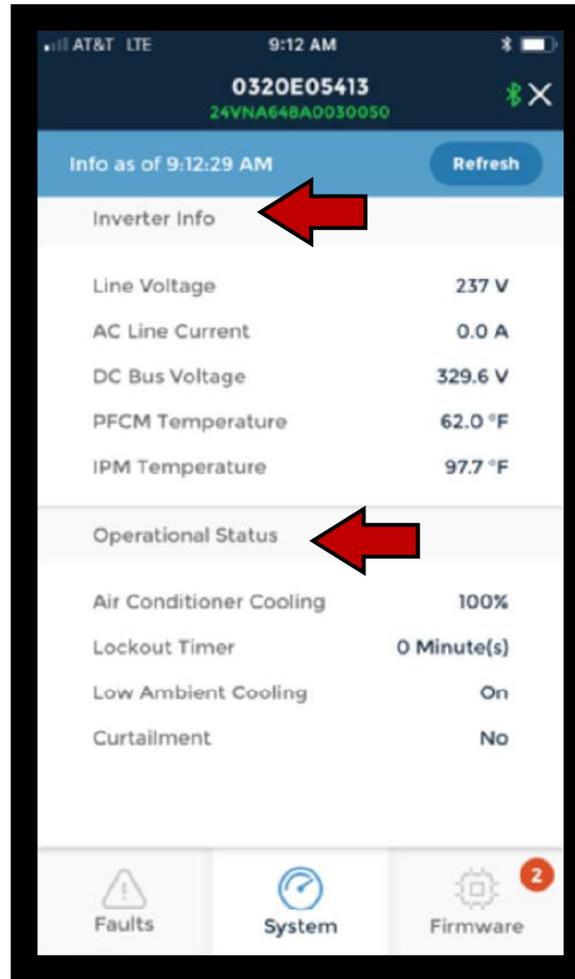
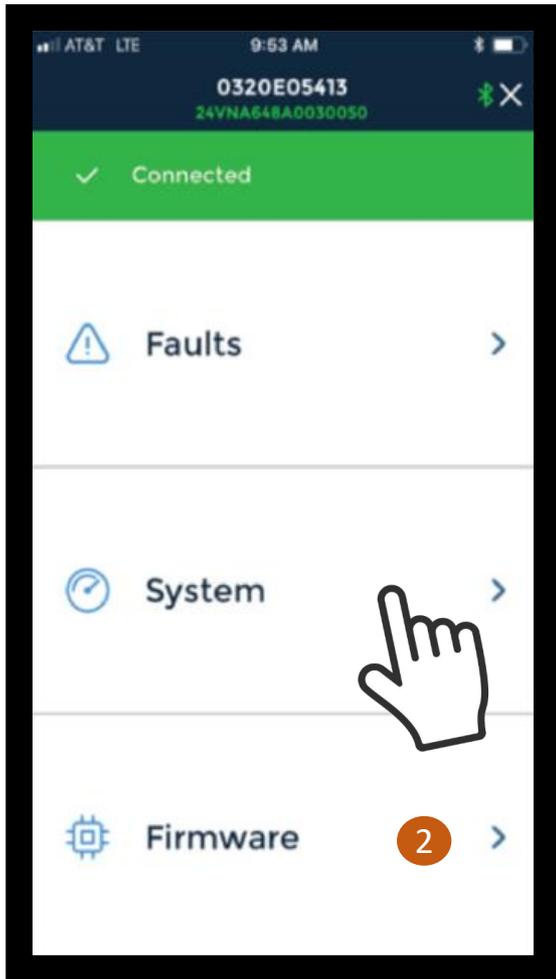
# 24/26 SEER



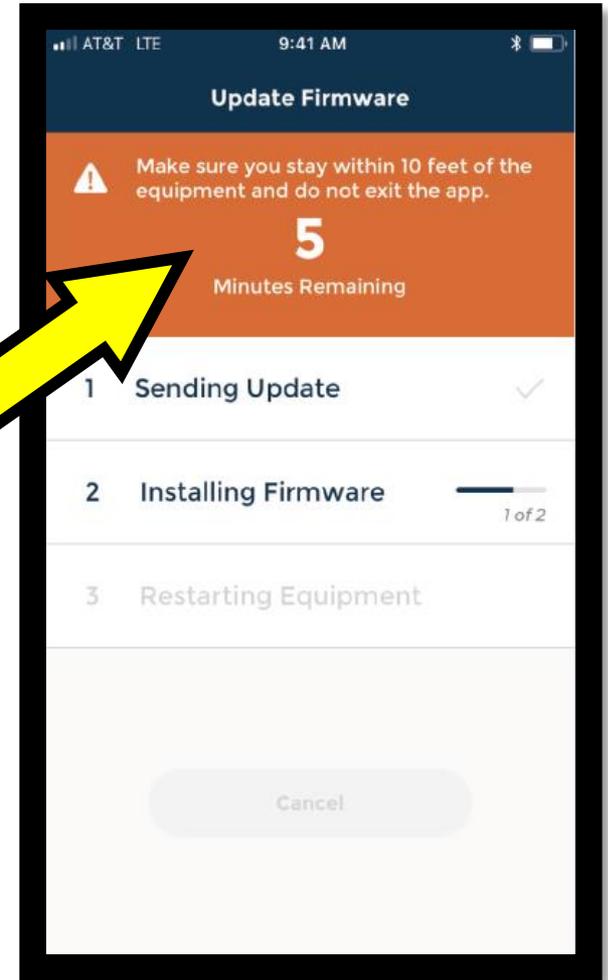
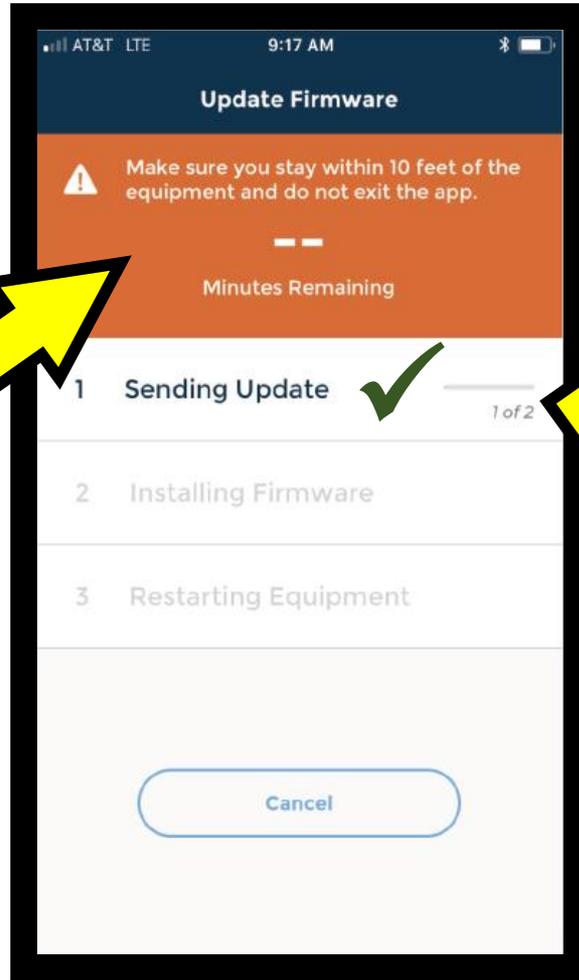
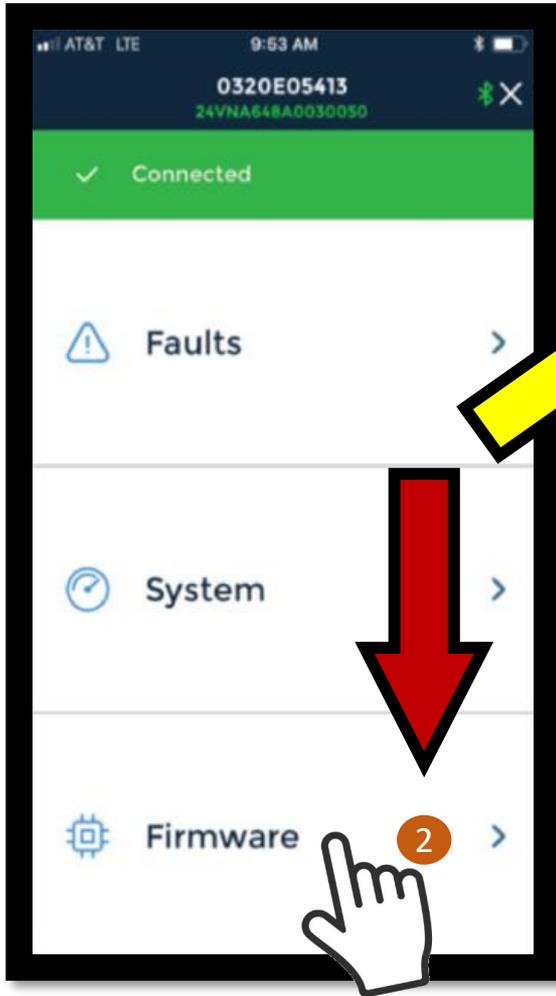
# 24/26 SEER



# 24/26 SEER



# 24/26 SEER



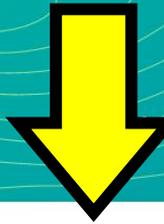
# 24/26 SEER



HVAC PARTNERS

All Brands

Chris Otts



Split Systems

Heat Pumps

25VNA4

## 25VNA4

### Infinity® 24 Heat Pump with Greenspeed® Intelligence

Overview

Product Data Overview

Documents

Similar Products

#### OVERVIEW

The Infinity 24 heat pump with Greenspeed intelligence takes Carrier's most advanced technology to the next level. If it looks like next-gen technology, that's because it is.

Greenspeed intelligence is created by pairing adaptable-speed technology with the Infinity® System Control. The unique, variable-speed compressor of this unit, allows it to literally adapt its output to the needs of the home. With tiny adjustments between 25 and 100% capacity, it gives the home only the amount of cooling or heating necessary.



Overview Product Data Overview Documents Similar Products

## DOCUMENTS

Search



Español

Français



Show Prior Versions of Documents

Bulletin

Marketing

Service

Software

Technical Literature



Checklist

Installation

Owner's Manual

Product Data

Warranty Card

Wiring Diagrams



Residential Split System Air Conditioners and Heat Pumps Dealer Setup Checklist

Checklist 03/02/2018 CLACHP-01



## DOCUMENTS

English Español Français

Show Prior Versions of Documents

- Bulletin
- Marketing
- Service
- Software** ↓
- Technical Literature

### Firmware Installer

REVIT and 3D DRW Files

-  **Infinity® 26 Air Conditioner / Infinity® 24 Heat Pump with Greenspeed® Intelligence Version 10.00 Release Notes**  
Firmware Installer 06/13/2022  
-  **Infinity® 26 Air Conditioner / Infinity® 24 Heat Pump with Greenspeed® Intelligence Version 3.00 Release Notes**  
Firmware Installer 04/30/2020  
-  **Infinity® 26 Air Conditioner / Infinity® 24 Heat Pump with Greenspeed® Intelligence Version 4.00 Release Notes**  
Firmware Installer 08/19/2020  

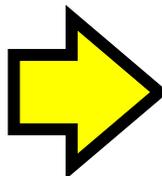
## Infinity<sup>®</sup> 26 Air Conditioner with Greenspeed<sup>®</sup> Intelligence Infinity<sup>®</sup> 24 Heat Pump with Greenspeed<sup>®</sup> Intelligence

### Version 10.00 Release Notes

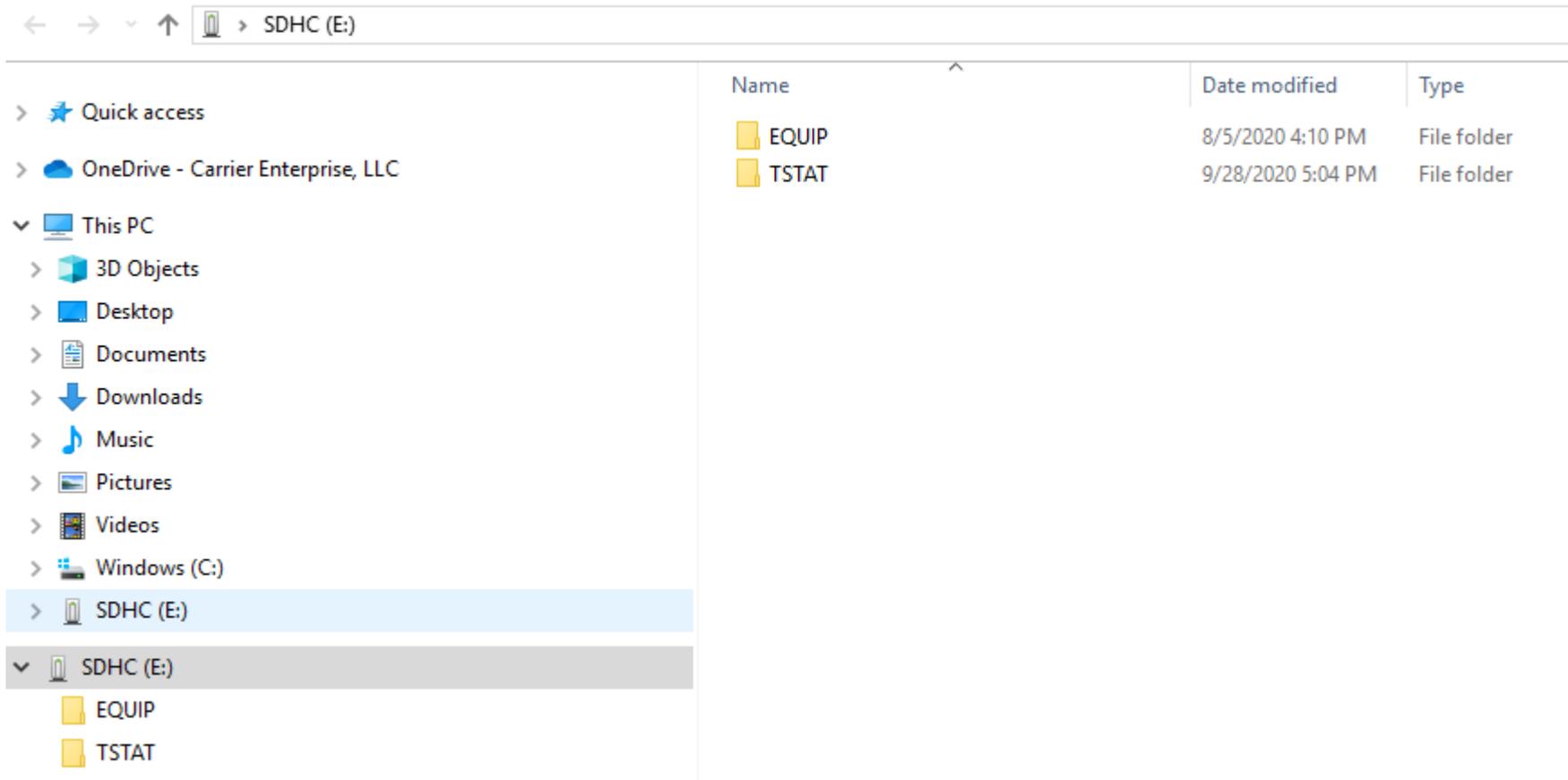
June, 2022

---

Contents	
General .....	2
Copyright Notice .....	3
End User License Agreement.....	3
Legal Notices .....	3
Open Source Notices .....	3
Revision History .....	4
Installation Instructions .....	9
Finding the Current Software Version.....	9
Downloading the Software Update .....	11
Installing the Software Update .....	15



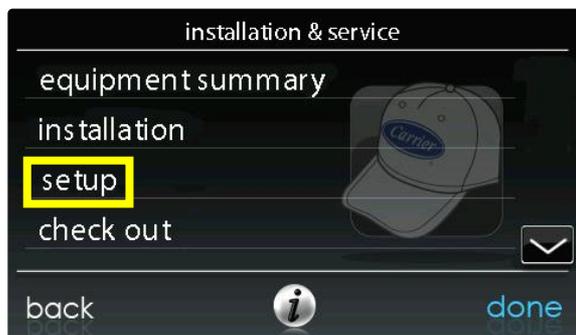
When you have the UI and outdoor unit software loaded on the microSD card, your file structure should look like this screen shot below.



# 24/26 SEER



# FE4A Fan Coil



6. Service Menu.....	29
6.1. Equipment Summary.....	30
6.2. Installation.....	30
6.3. Set up.....	31
6.3.1. Thermostat.....	32
6.3.1.1. Auto Mode Set Up.....	32
6.3.1.2. Heat/Cool Deadband.....	33
6.3.1.3. Offsets.....	33
6.3.1.4. Reset Factory Defaults.....	34
6.3.1.5. Scheduling On/Off.....	35
6.3.1.6. Smart Recovery On/Off.....	35
6.3.2. Fan Coil.....	35
6.3.2.1. Airflow.....	35
6.3.2.2. Altitude.....	36
6.3.2.3. Dehumidification Options.....	37
6.3.2.4. Fan Coil G-Terminal Input.....	37
6.3.2.5. Fan Coil G-Terminal Alert.....	38
6.3.2.6. Fan Coil G Terminal Alert Label.....	39
6.3.3. Furnace.....	39
6.3.3.1. Furnace Airflow.....	39
6.3.3.2. AC/HP Airflow.....	40
6.3.3.3. Furnace Staging.....	41
6.3.3.4. Furnace Airflow Limits (modulating furnace only).....	41
6.3.3.5. Furnace Off Delay.....	42
6.3.3.6. Altitude.....	42



## Fan Coil Airflow

Cooling Airflow

Heating Airflow

Dehumidify Airflow

**Quiet:** (cooling only) lowest available airflow (300 cfm/ton)<sup>1</sup>

**Comfort:** System will vary by humidity and temperature demand.<sup>2</sup>

**EFF325 or EFF1:** (325 cfm/ton)<sup>3</sup>

**EFF350 or EFF2:** (350 cfm/ton)<sup>3</sup>

**Max:** (400 cfm/ton)<sup>3</sup>

1: Duct sweating is likely at minimum airflows in unconditioned space.

2: Default setting. Full dehumidify/comfort capabilities.

3: No airflow reduction for dehumidification.

## Fan Coil Airflow

Cooling Airflow

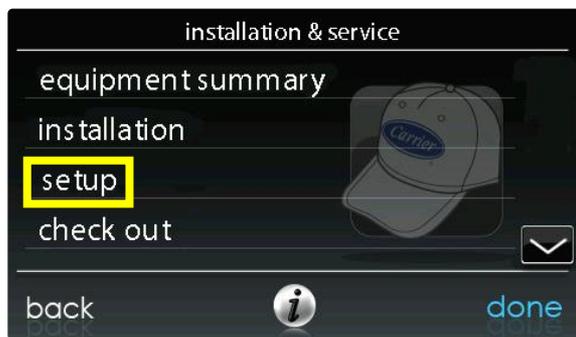
Heating Airflow

Dehumidify Airflow

**Normal:** (Default Setting) System is allowed to operate at minimum airflow to satisfy dehumidification call.

**High:** Minimum airflow for dehumidification is increased. Usually adjusted to reduce duct and register sweating. Minimum cooling airflow is also increased.

# Communicating Furnace



6. Service Menu.....	29
6.1. Equipment Summary.....	30
6.2. Installation.....	30
6.3. Set up.....	31
6.3.1. Thermostat.....	32
6.3.1.1. Auto Mode Set Up.....	32
6.3.1.2. Heat/Cool Deadband.....	33
6.3.1.3. Offsets.....	33
6.3.1.4. Reset Factory Defaults.....	34
6.3.1.5. Scheduling On/Off.....	35
6.3.1.6. Smart Recovery On/Off.....	35
6.3.2. Fan Coil.....	35
6.3.2.1. Airflow.....	35
6.3.2.2. Altitude.....	36
6.3.2.3. Dehumidification Options.....	37
6.3.2.4. Fan Coil G-Terminal Input.....	37
6.3.2.5. Fan Coil G-Terminal Alert.....	38
6.3.2.6. Fan Coil G Terminal Alert Label.....	39
6.3.3. Furnace.....	39
6.3.3.1. Furnace Airflow.....	39
6.3.3.2. AC/HP Airflow.....	40
6.3.3.3. Furnace Staging.....	41
6.3.3.4. Furnace Airflow Limits (modulating furnace only).....	41
6.3.3.5. Furnace Off Delay.....	42
6.3.3.6. Altitude.....	42

## Dehumidification Options

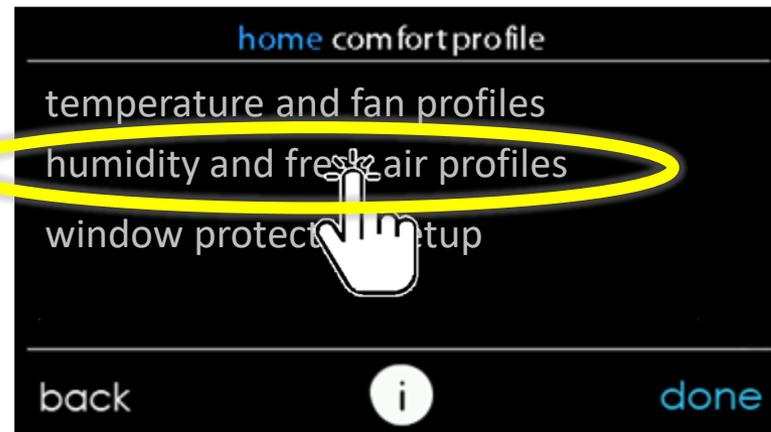
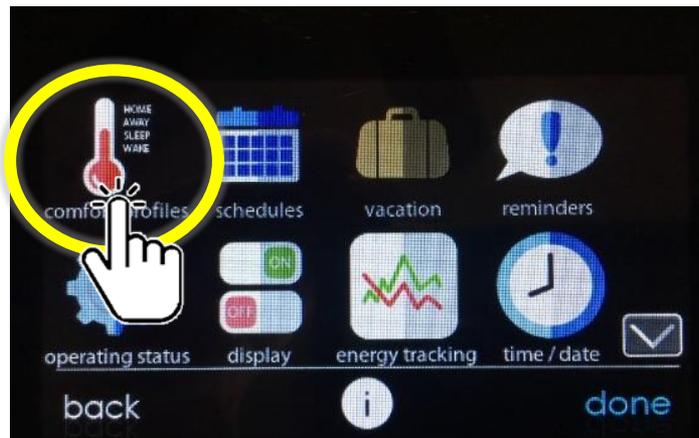
### Dehum Drain Time

Turns off continuous fan if a call for dehumidification exists.  
Adjustable from Off – 60 mins. **Default = 15 minutes.**

**Electric Reheat** Yes or No **Default is No.**

Allows electric heat during cool-to-dehumidify.  
(Call for dehumidification only with no call for cool.)  
Greatly improves humidity control.

# FE4A Fan Coil



**Note: When turned on the system will allow a 3-degree overcool for dehumidification. Will never overcool-to-dehumidify below 70-degrees.**

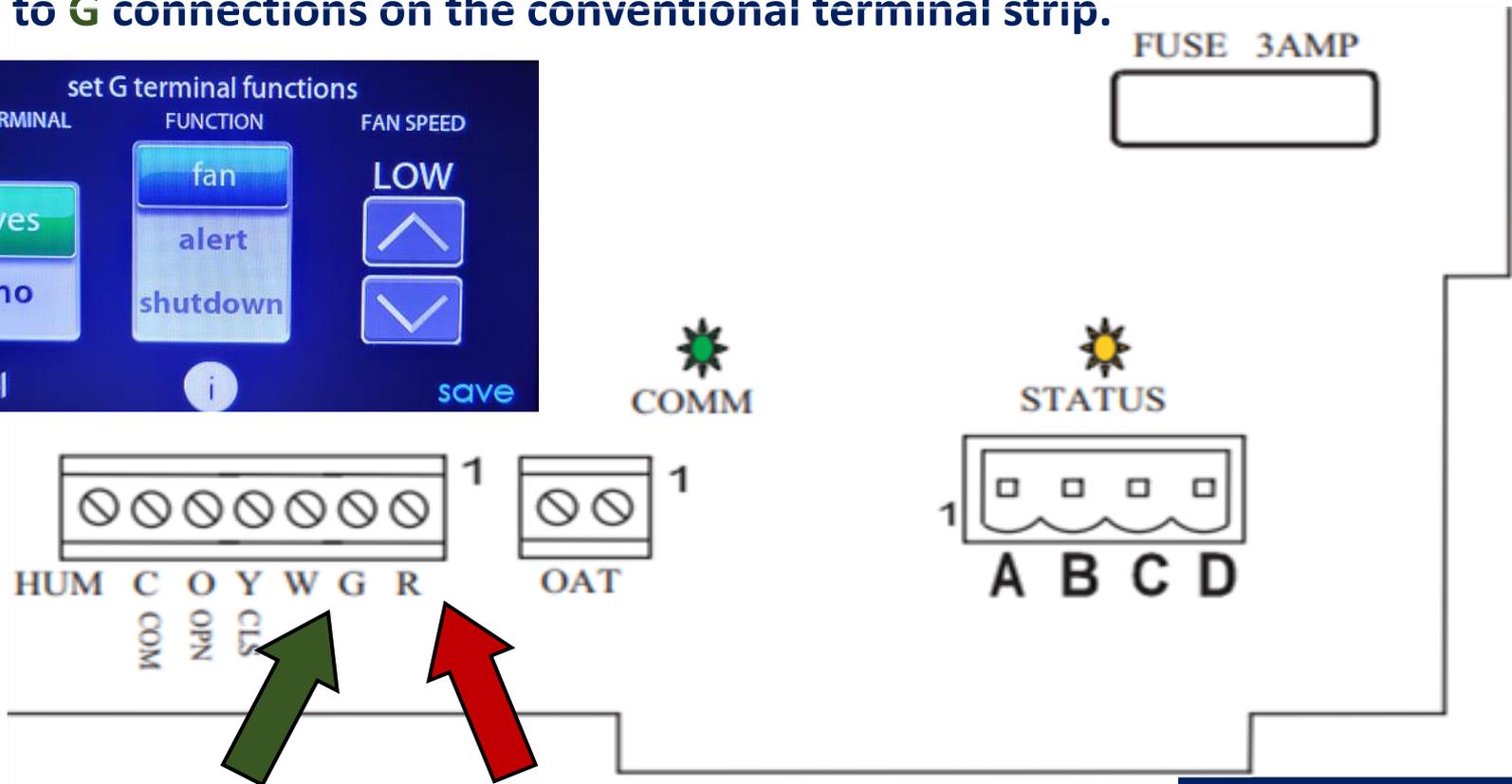
# FE4A Fan Coil



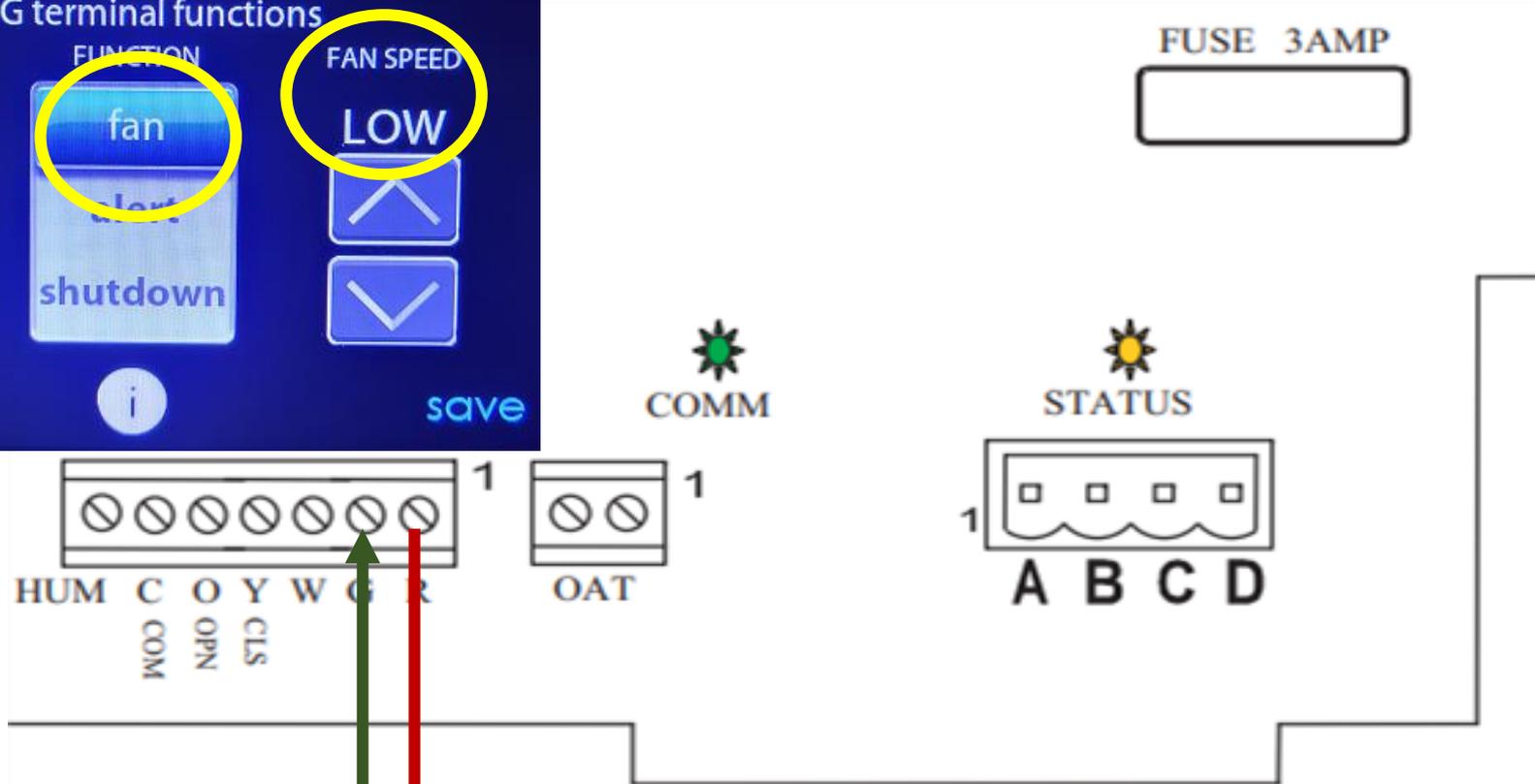
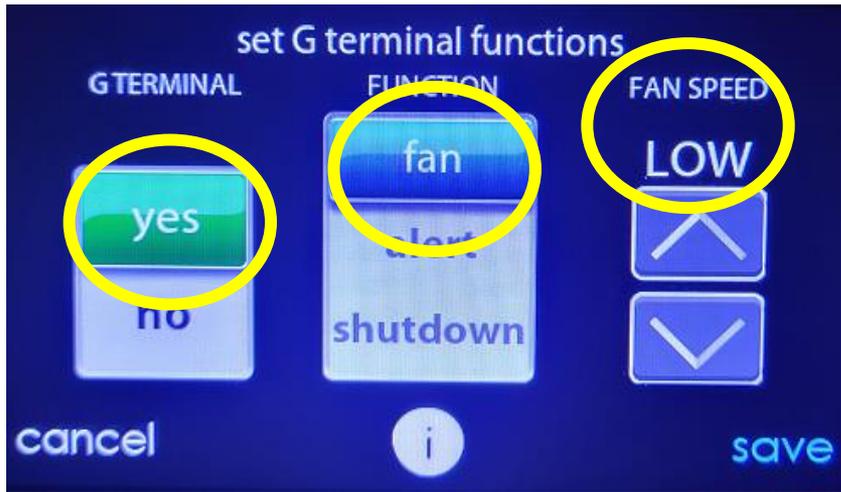
6. Service Menu.....	29
6.1. Equipment Summary.....	30
6.2. Installation.....	30
6.3. Set up.....	31
6.3.1. Thermostat.....	32
6.3.1.1. Auto Mode Set Up.....	32
6.3.1.2. Heat/Cool Deadband.....	33
6.3.1.3. Offsets.....	33
6.3.1.4. Reset Factory Defaults.....	34
6.3.1.5. Scheduling On/Off.....	35
6.3.1.6. Smart Recovery On/Off.....	35
6.3.2. Fan Coil.....	35
6.3.2.1. Airflow.....	35
6.3.2.2. Altitude.....	36
6.3.2.3. Dehumidification Options.....	37
6.3.2.4. Fan Coil G-Terminal Input.....	37
6.3.2.5. Fan Coil G-Terminal Alert.....	38
6.3.2.6. Fan Coil G Terminal Alert Label.....	39
6.3.3. Furnace.....	39
6.3.3.1. Furnace Airflow.....	39
6.3.3.2. AC/HP Airflow.....	40
6.3.3.3. Furnace Staging.....	41
6.3.3.4. Furnace Airflow Limits (modulating furnace only).....	41
6.3.3.5. Furnace Off Delay.....	42
6.3.3.6. Altitude.....	42

## G-Terminal Input

Defaulted **OFF**. When turned **ON** the UI opens three different options for **R** to **G** connections on the conventional terminal strip.



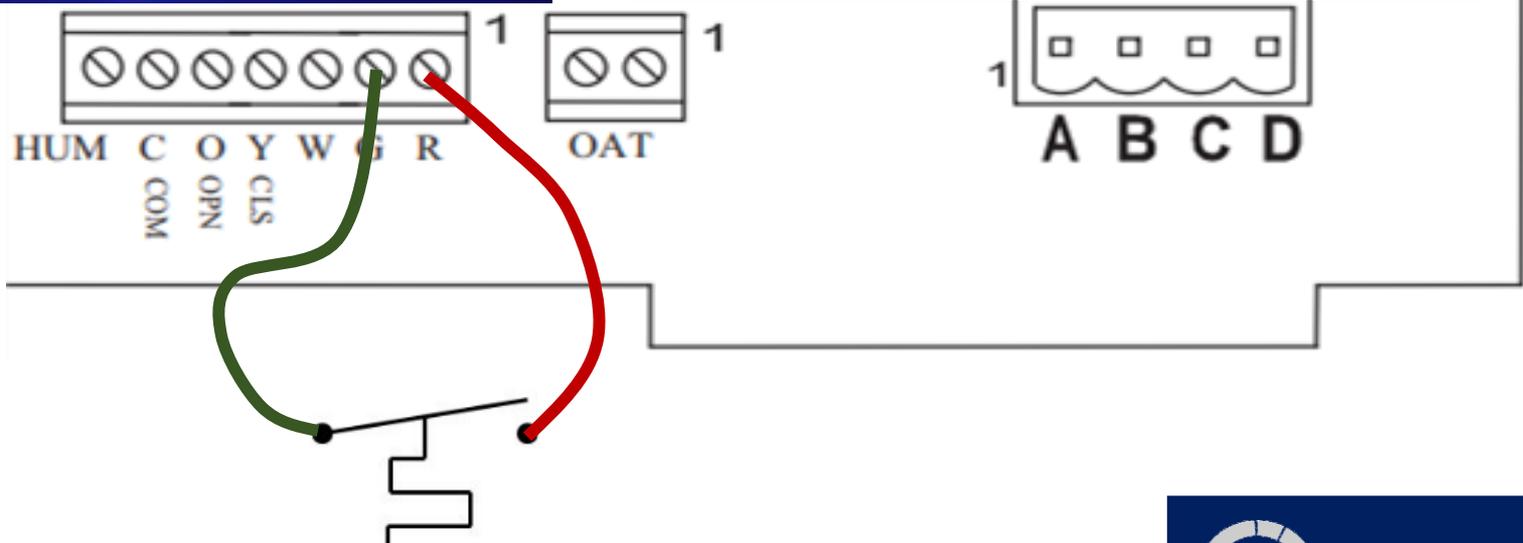
## G-Terminal Input



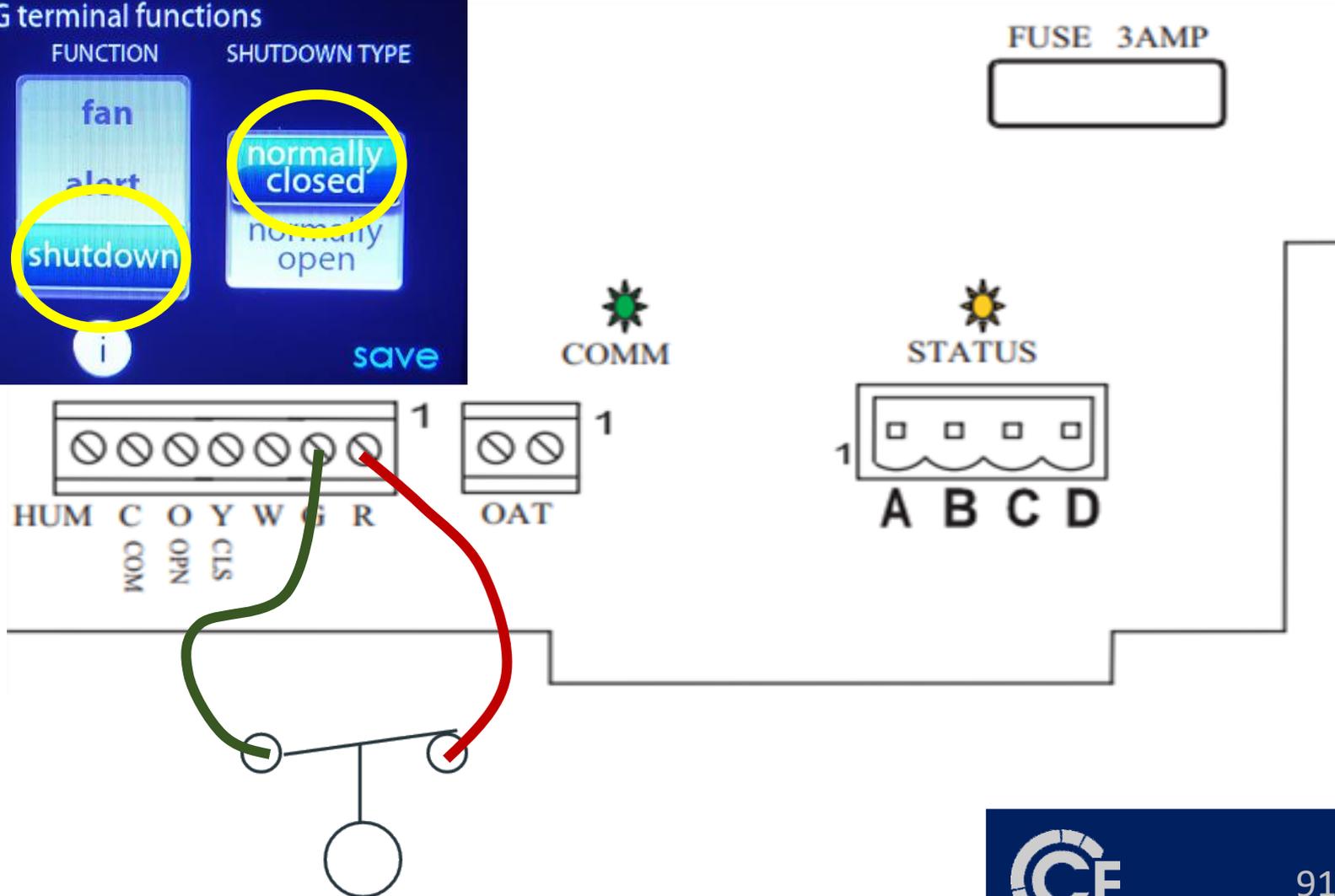
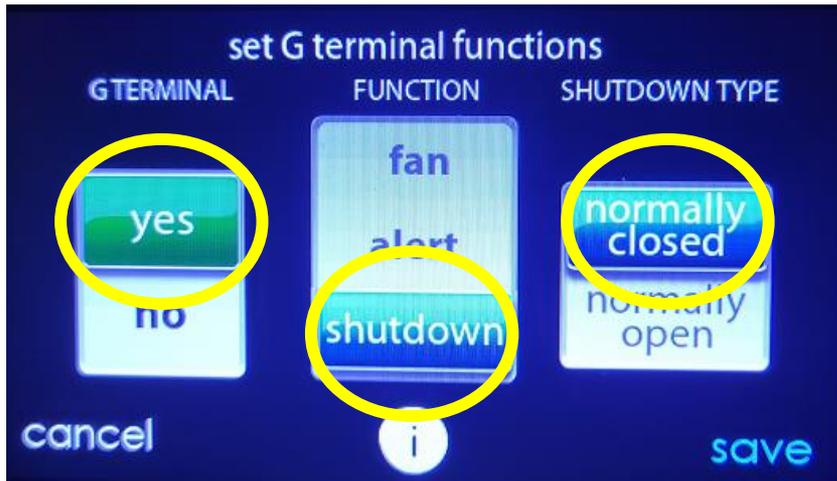
24 Vac to G-terminal will bring the blower on at set speed.



## G-Terminal Input

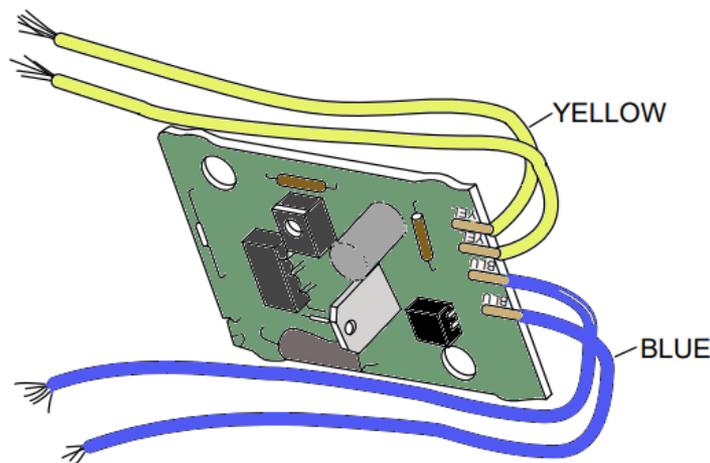


## G-Terminal Input



## Electronic Air Cleaner Connections

When using an electronic air cleaner with FE4A, FE5A fan coil, use airflow sensor part no. KEAAC0101AAA. The airflow sensor turns on electronic air cleaner when fan coil blower is operating.

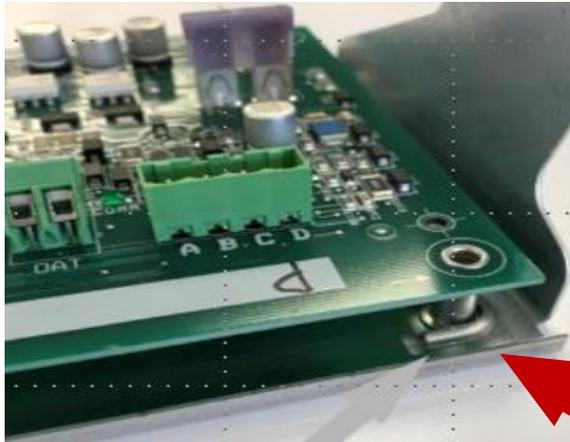


**Electronic Air Flow Sensor Part No. KEAAC0101AAA**

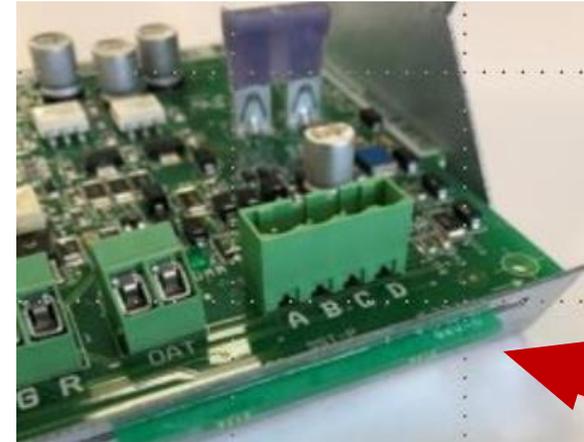
# FE4A Fan Coil



## Control Board



**New Style**



**Old Style**



**New bracket with replacement board.**

# FE4A Fan Coil

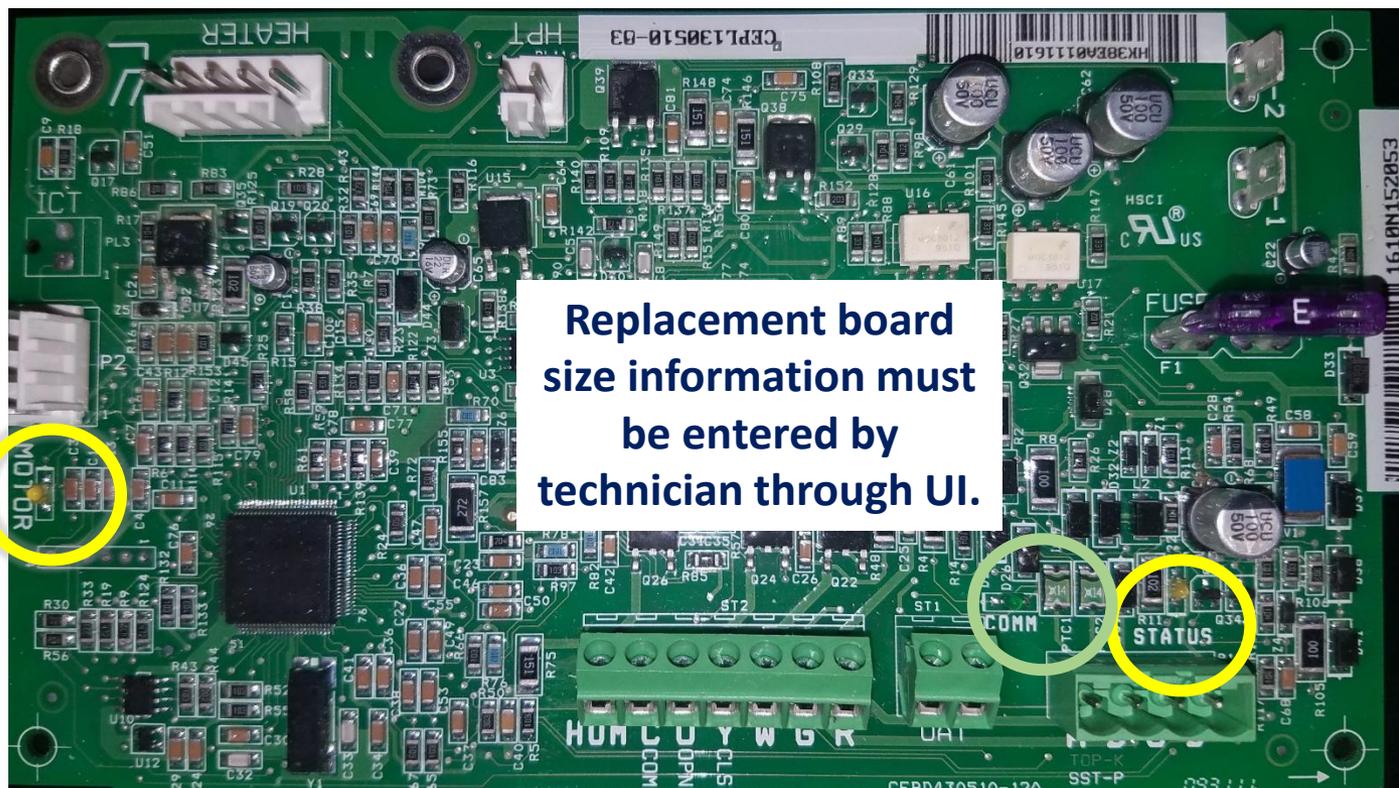


## Control Board

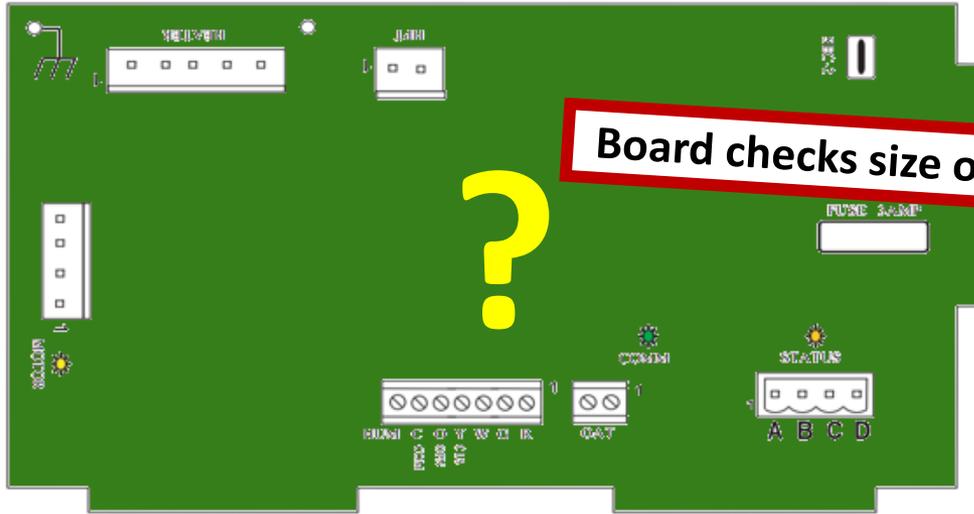
Amber Status Light    Green Comm Light    Amber Motor Light

No Model Plug

Board has size information programmed from the factory.

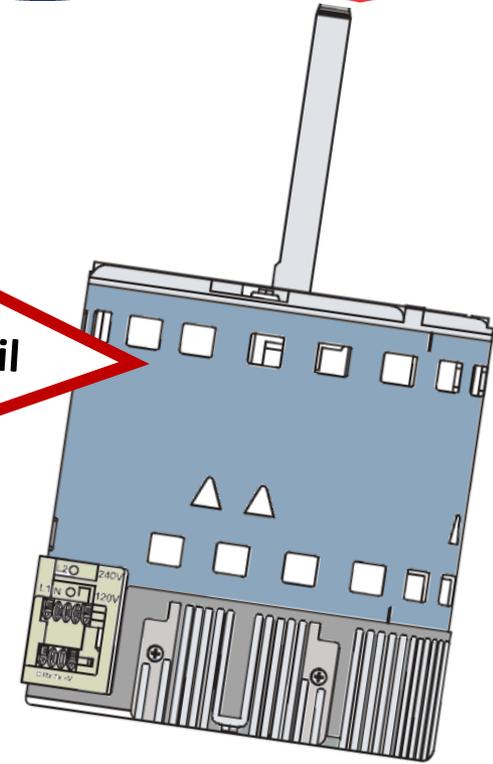


# FE4A Fan Coil



Board checks size of motor and fan coil

IF ≠



Initial power up or reboot:

UI will prompt for correct model from a list of valid sizes.



**STATUS CODE 25: INVALID MOTOR / MODEL SELECTION:**

## FAN COILS, and ACCESSORY ELECTRIC HEATERS

### WIRING DIAGRAMS

#### FAN COIL WITH COOLING ONLY CONTROL

FIG.	MODEL	SIZE	LABEL
Fig. 13	FV4C	002-006	326014-101
Fig. 14	FE4A / FE5A	002-006	333107-101
Fig. 15	FY5B / PF4MNA	18-60	328964-101
Fig. 15	FH4C	001-004	328964-101
Fig. 16	FB4C / FX4D / PF4MNP (RBC)	18-61	336228-101
Fig. 16	PF4MNA/B	19,25,31,37,43,49,61	336228-101
Fig. 17	FB4C / FX4D / PF4MNP (BOM)	18-61	337519-101
Fig. 33	FZ4A	24-61	342415-101

# FE4A Fan Coil

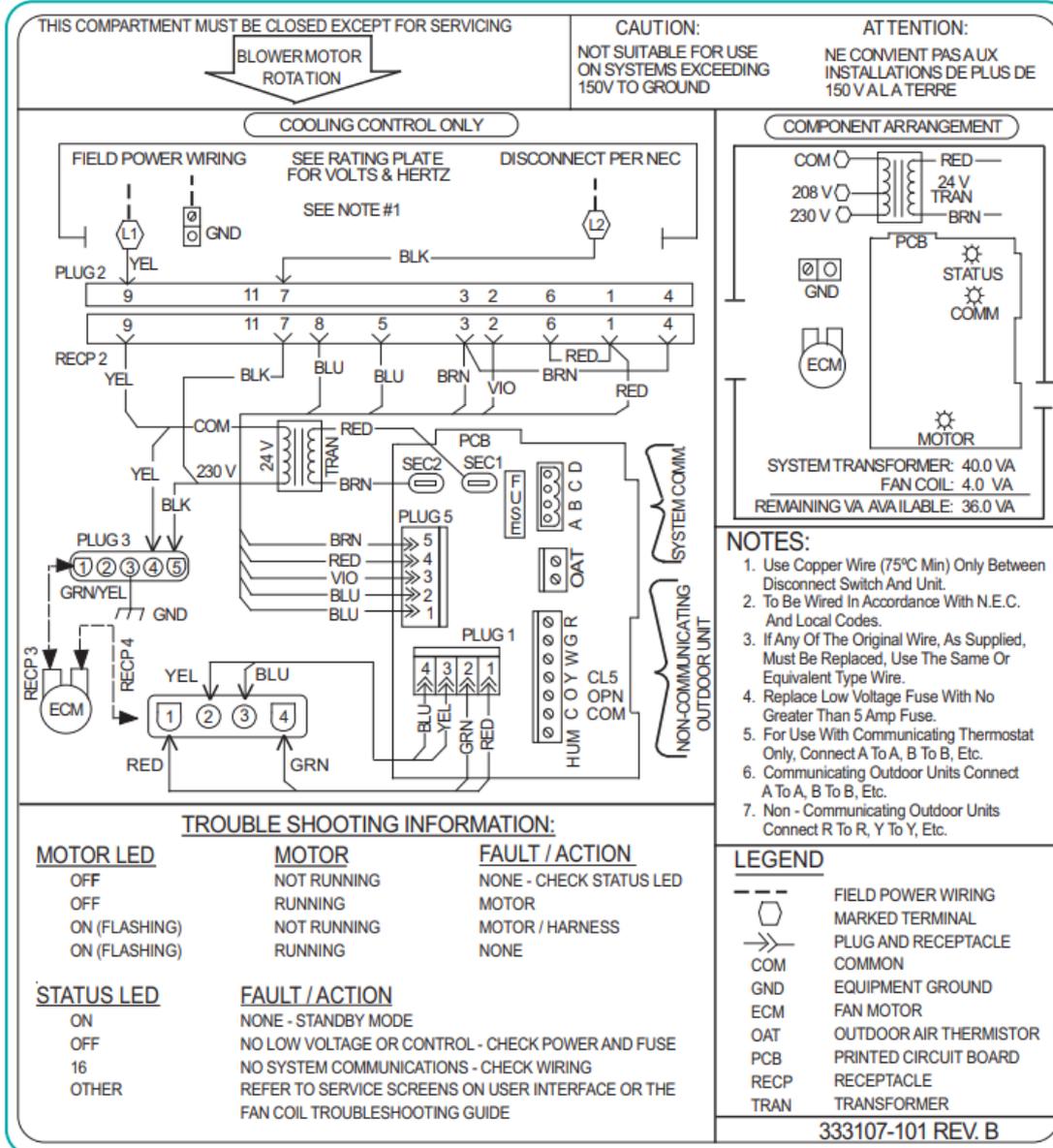


Fig. 14 – FE4A / FE5A with Cooling Only Control

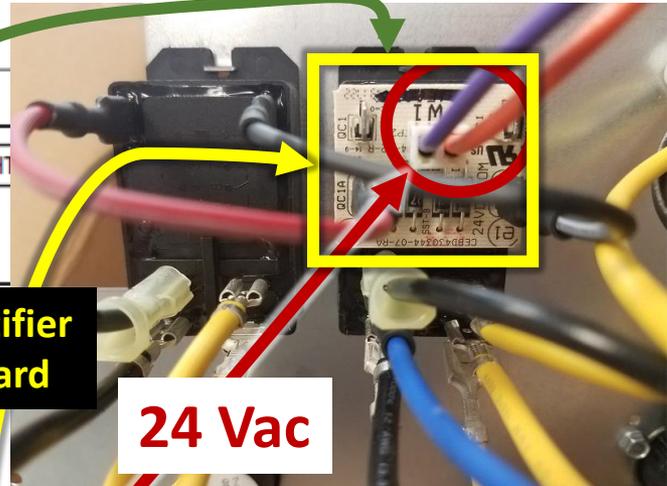
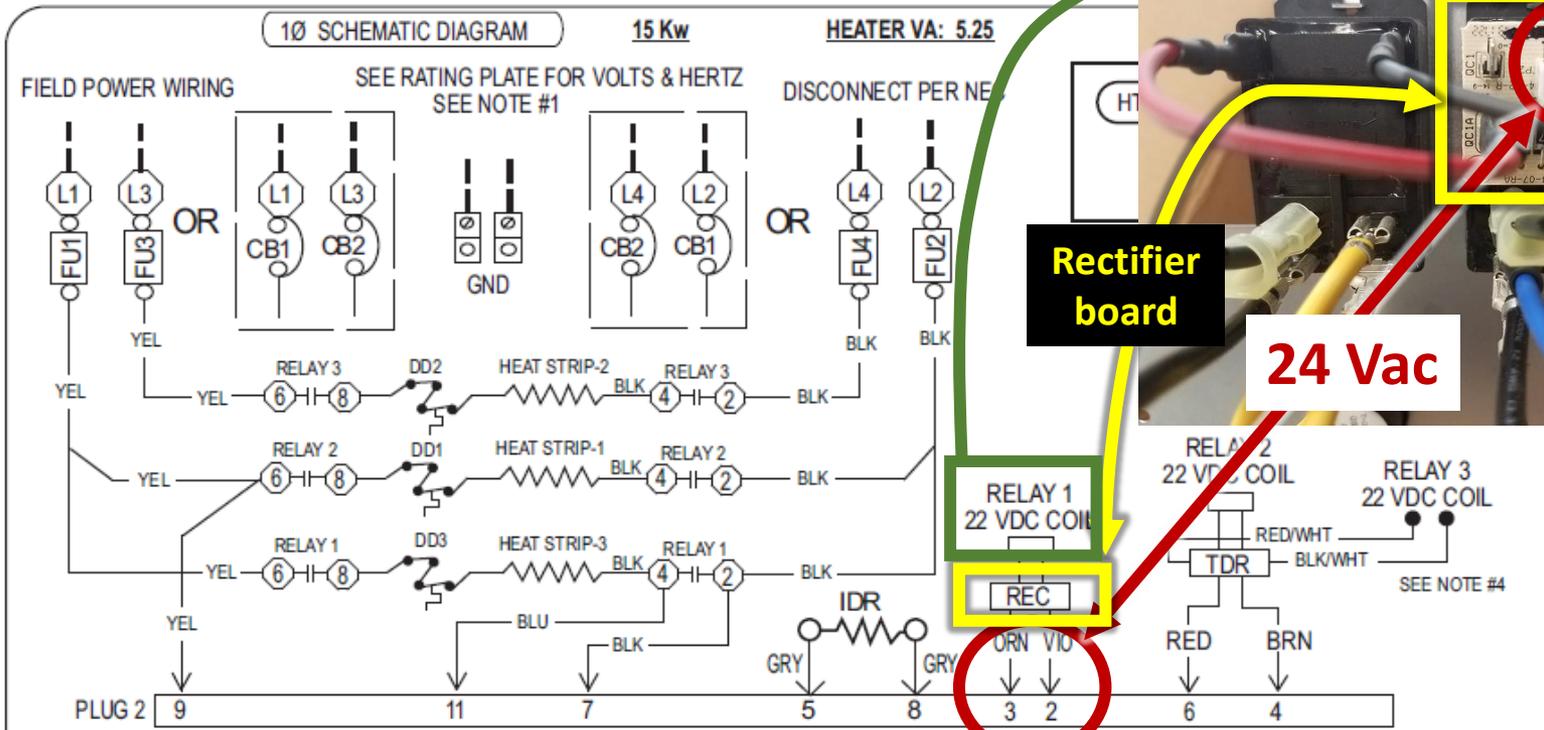


## FAN COILS, and ACCESSORY ELECTRIC HEATERS

### WIRING DIAGRAMS

FIG.	FIELD- INSTALLED HEATER MODEL	FB4C/ PF4MNP	FE4A/ FE5A	FH4C	FV4C	FX4D	FY5B	FZ4A	PF4MA	PF4MB	LABEL
Fig. 1	KFCEH0401N03B	18,24	x	001	x	19,25	18,24	24	18,19,24,25	x	344631-101
Fig. 1	KFCEH0501N05B	18-60	002-006	001-002	002-006	19-61	18-60	24-61	18-61	19-61	344631-101
Fig. 2	KFCEH0801N08B	18-60	002-006	001-003	002-006	19-61	18-60	24-61	18-61	19-61	344599-101
Fig. 2	KFCEH0901N10B	18-60	002-006	001-004	002-006	19-61	18-60	24-61	18-61	19-61	344599-101
Fig. 6	KFCEH1601315B	42-60	002-006	001-004	002-006	43-61	18-60	48-61	18-61	19-61	344635-101
Fig. 7	KFCEH2001318B	42-60	003-006	001-004	002-006	43-61	42-60	48-61	42-61	37-61	344654-101
Fig. 1	KFCEH2401C05B	18-60	002-006	001-002	002-006	19-61	18-60	24-61	18-61	19-61	344631-101
Fig. 2	KFCEH2501C08B	18-60	002-006	001-003	002-006	19-61	18-60	24-61	18-61	19-61	344599-101
Fig. 2	KFCEH2601C10B	18-60	002-006	001-004	002-006	19-61	18-60	24-61	18-61	19-61	344599-101
Fig. 3	KFCEH2901N09B	36-60	002-006	003-004	002-006	37-61	36-60	36-61	36-60	31-61	344634-101
Fig. 4	KFCEH3001F15B	24-60	002-006	001-004	002-006	25-61	24-60	24-61	24-61	19-61	344597-101
Fig. 4	KFCEH3101C15B	24-60	002-006	001-004	002-006	25-61	24-60	24-61	24-61	19-61	344597-101
Fig. 5	KFCEH3201F20B	30-60	002-006	002-004	002-006	31-61	30-60	36-61	30-61	19-61	345611-101
Fig. 5	KFCEH3301C20B	30-60	002-006	002-004	002-006	31-61	30-60	36-61	30-61	19-61	345611-101
Fig. 8 Fig. 9	KFCEH3401F24B	48,60	004-006	003-004	005-006	49-61	48-60	48-61	48-61	49-61	345655-101 345656-101
Fig. 8 Fig. 9	KFCEH3501F30B	48,60	004-006	003-004	005-006	49-61	48-60	48-61	48-61	49-61	345655-101 345656-101

# FE4A Fan Coil



**Rectifier board**

**24 Vac**

**NOTES:**

1. Use Copper Wire (75°C Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.
4. Red Wire / White Stripe To QC1A, BLK Wire / White Stripe To QC2A.
5. Use 60 Amp class K Fuses Only, For Replacement.
6. IDR May Not Be Present In Some Applications.

**LEGEND**

- FIELD POWER WIRING
- MARKED TERMINAL
- ⏏ PLUG AND RECEPTACLE
- CB CIRCUIT BREAKER
- FU LINE FUSE
- GND EQUIPMENT GROUND
- DD DUAL DEVICE LIMIT
- HTR HEATER

- IDR IDENTIFIER RESISTOR
- REC RECITIFIER
- TDR TIME DELAY RECITIFIER



344597-101 REV.B



# FE4A Fan Coil



1Ø SCHEMATIC DIAGRAM

15 Kw

HEATER VA: 5.25

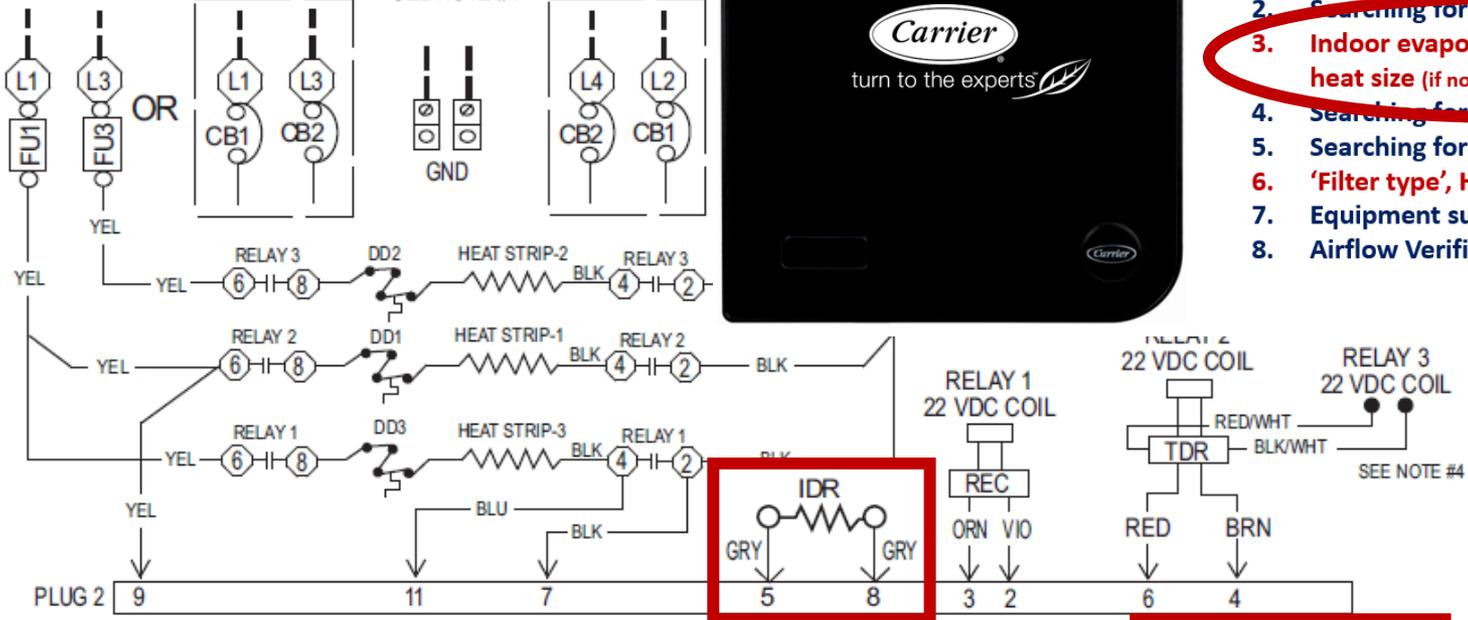
COMPONENT ARRANGEMENT

FIELD POWER WIRING

SEE RATING PLATE FOR VOLTS & HERTZ  
SEE NOTE #1



1. Searching for indoor equipment...
2. Searching for outdoor equipment...
3. Indoor evaporator selection or Electric heat size (if not communicating)
4. Searching for SAM...
5. Searching for zones...
6. 'Filter type', Humidifier, UV light.
7. Equipment summary.
8. Airflow Verification.



**NOTES:**

1. Use Copper Wire (75°C Min) Only Between Disconnect Switch And Unit
2. To Be Wired In Accordance With Local Codes
3. If Any Of The Original Equipment Components Are Replaced, Use Same Or Equivalent
4. Red Wire / White Straps For Grounding
5. Use 60 Amp class K Breakers
6. IDR May Not Be Present On All Models

**LEGEND**

--- FIELD POWER WIRING  
 REC RECTIFIER  
 TDR TIME DELAY RECTIFIER

Heater Size kW	Resistor Ohms Nominal
No heater	Open
9	11k
15	18k
20	24k
24	33k
30	39k
Hydronic Heat	270k

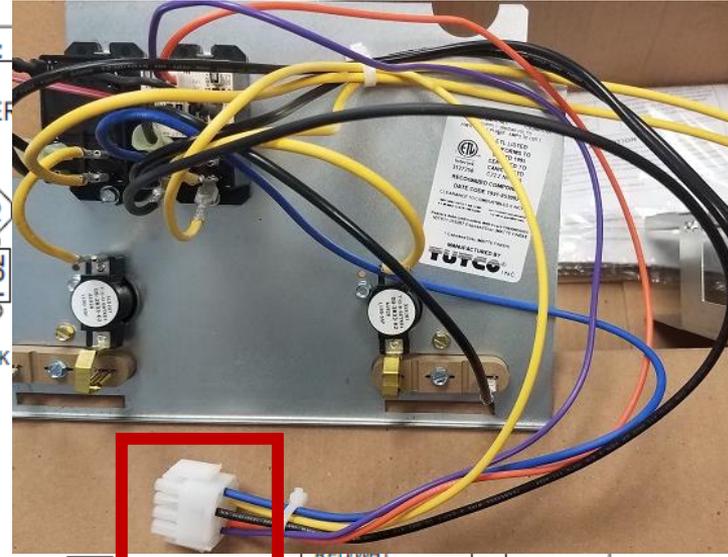
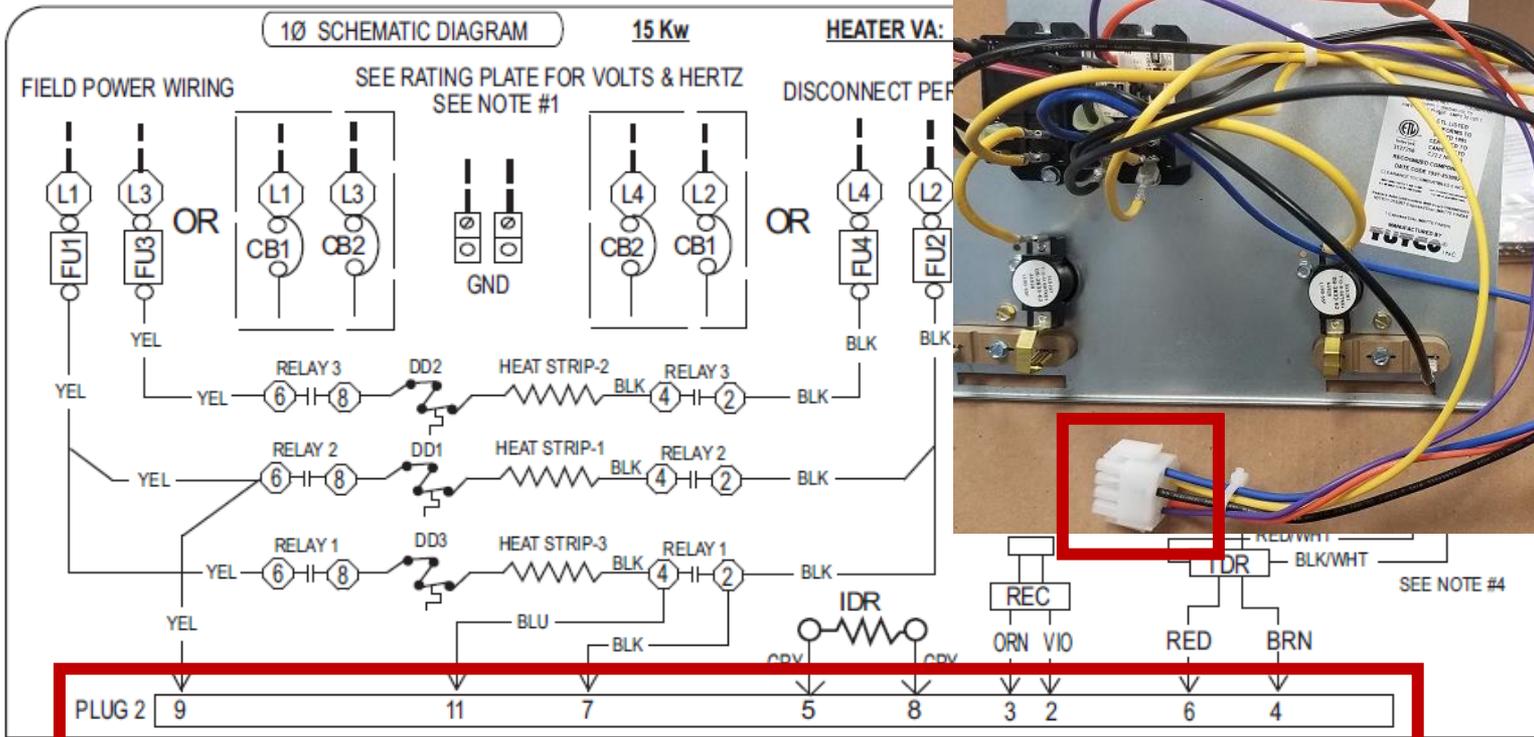
IDR IDENTIFIER RESISTOR  
 REC RECTIFIER  
 TDR TIME DELAY RECTIFIER



344597-101 REV.B



# FE4A Fan Coil



## NOTES:

1. Use Copper Wire (75°C Min) Only Between Disconnect Switch And Unit.
2. To Be Wired In Accordance With Nec And Local Codes.
3. If Any Of The Original Wire, As Supplied, Must Be Replaced, Use The Same Or Equivalent Type Wire.
4. Red Wire / White Stripe To QC1A, BLK Wire / White Stripe To QC2A.
5. Use 60 Amp class K Fuses Only, For Replacement.
6. IDR May Not Be Present In Some Applications.

## LEGEND

- FIELD POWER WIRING
- MARKED TERMINAL
- ⤵ PLUG AND RECEPTACLE
- CB CIRCUIT BREAKER
- FU LINE FUSE
- GND EQUIPMENT GROUND
- DD DUAL DEVICE LIMIT
- HTR HEATER

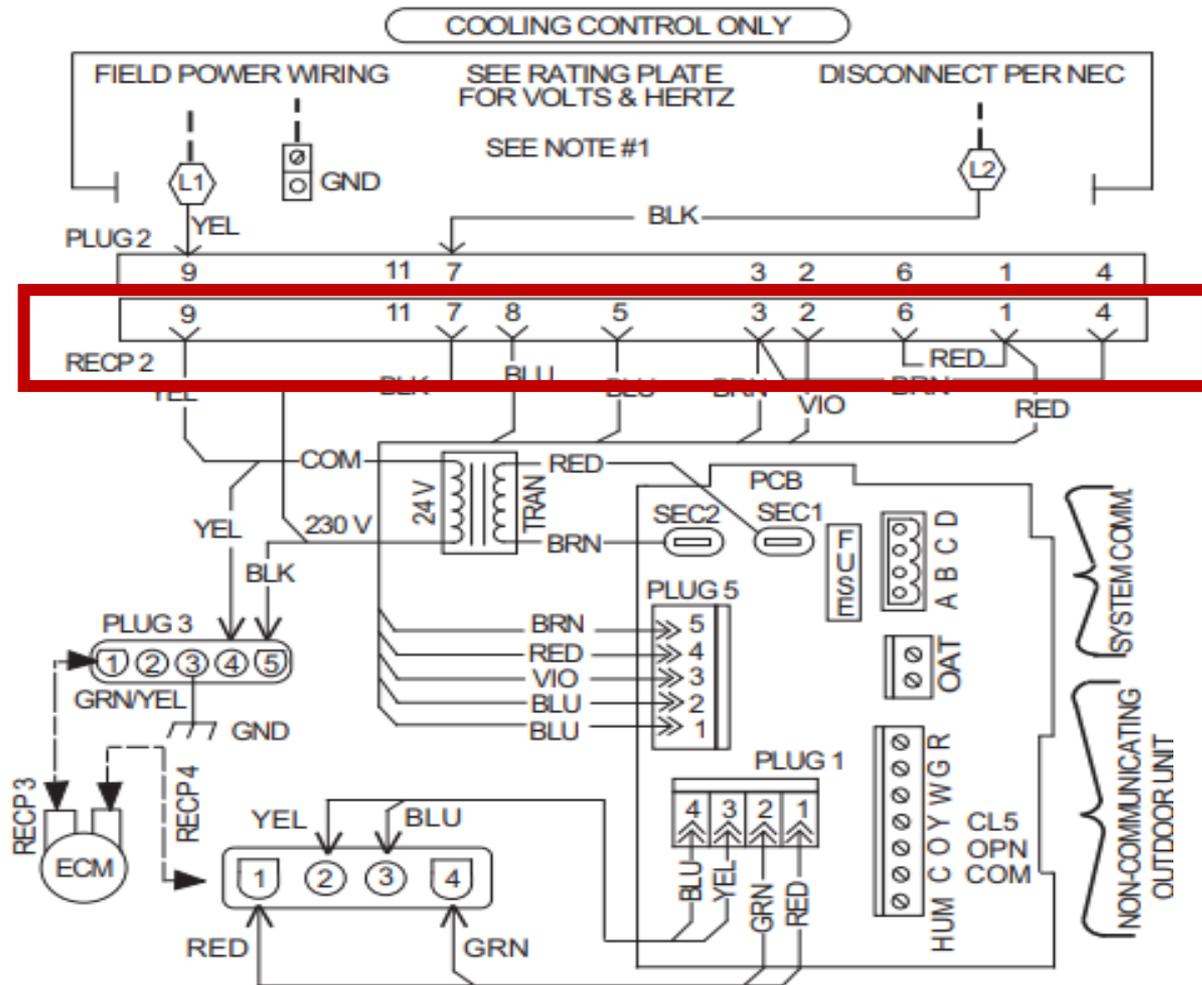
- IDR IDENTIFIER RESISTOR
- REC RECTIFIER
- TDR TIME DELAY RECTIFIER



344597-101 REV.B

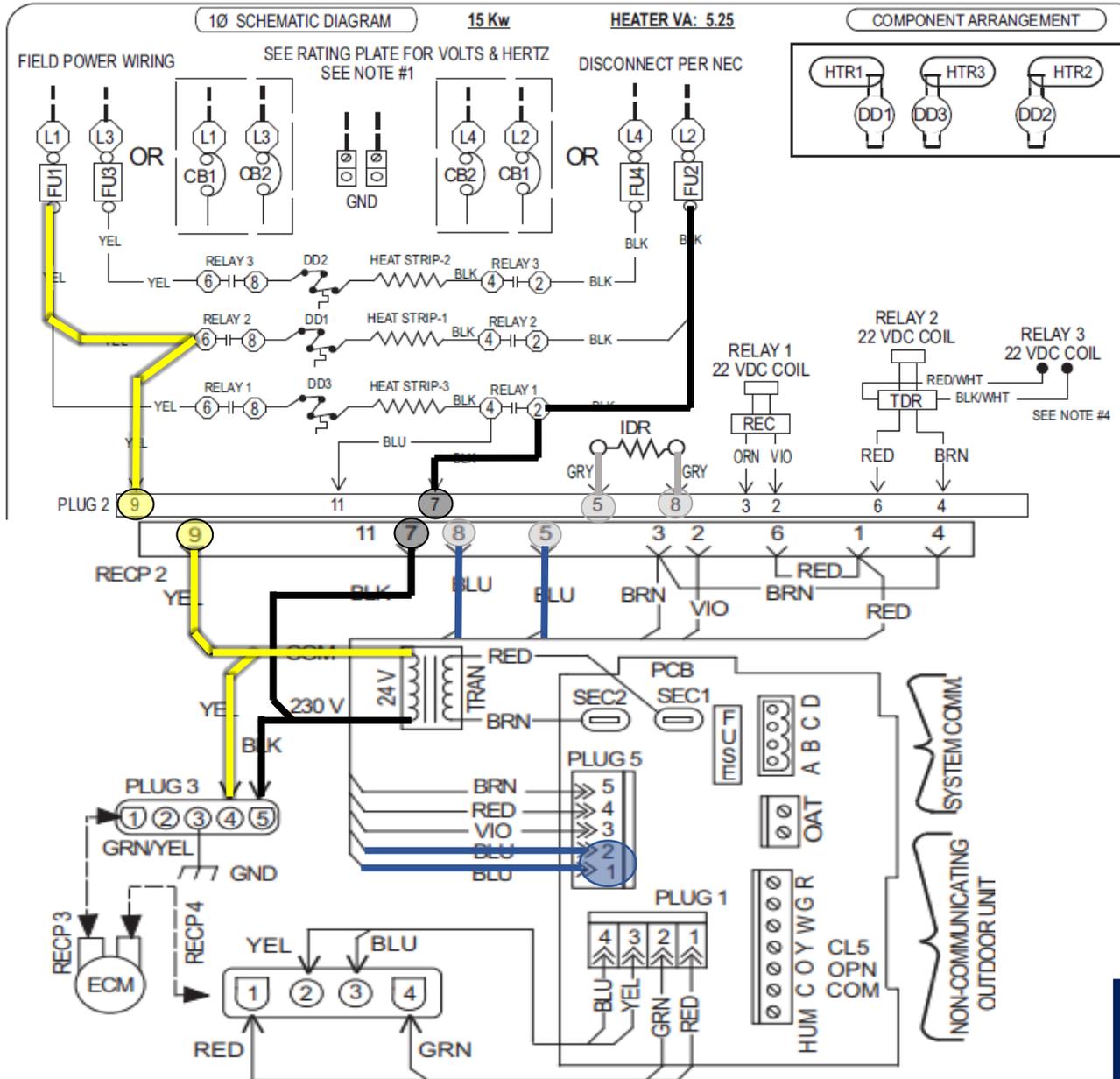


# FE4A Fan Coil

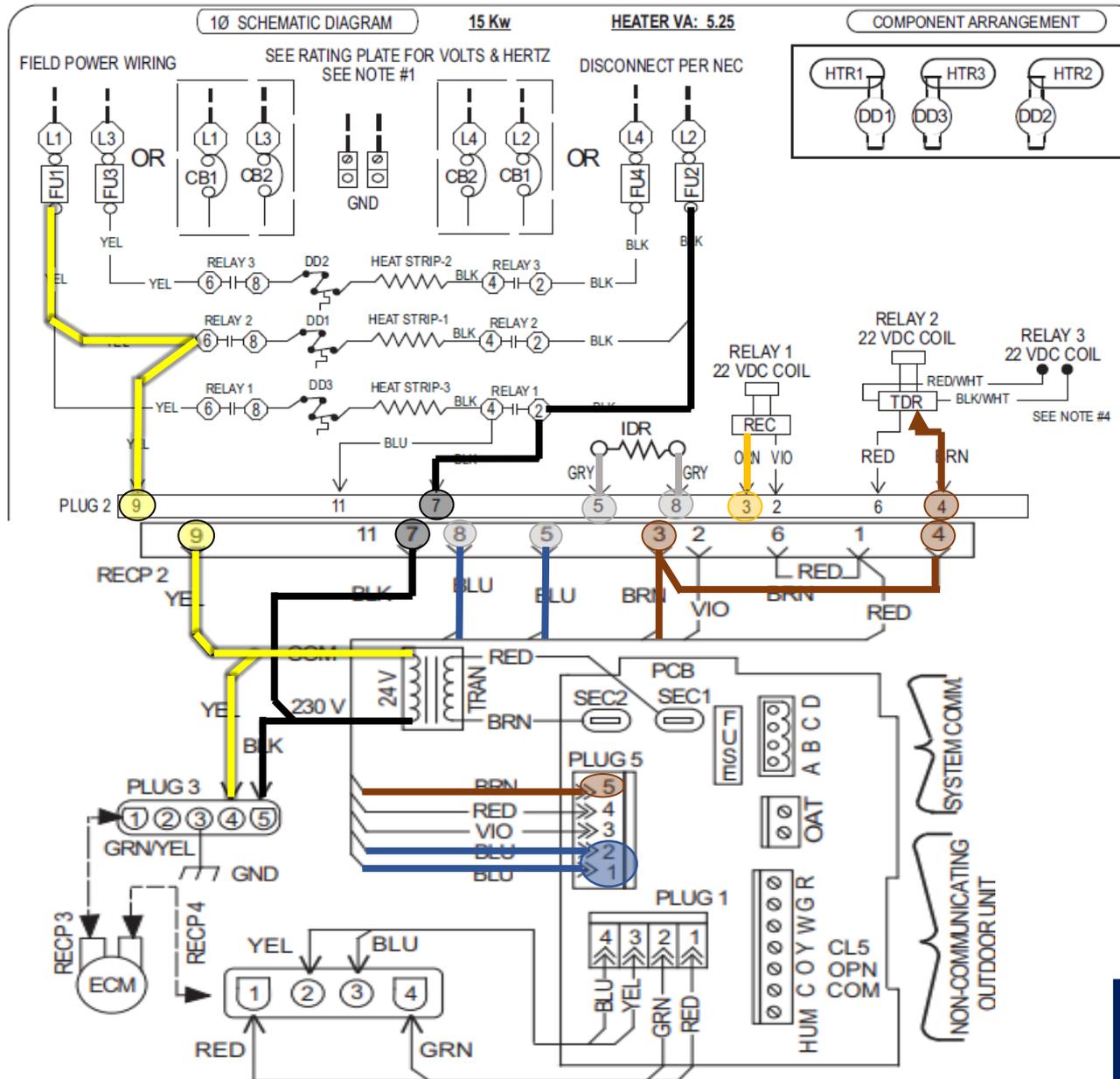




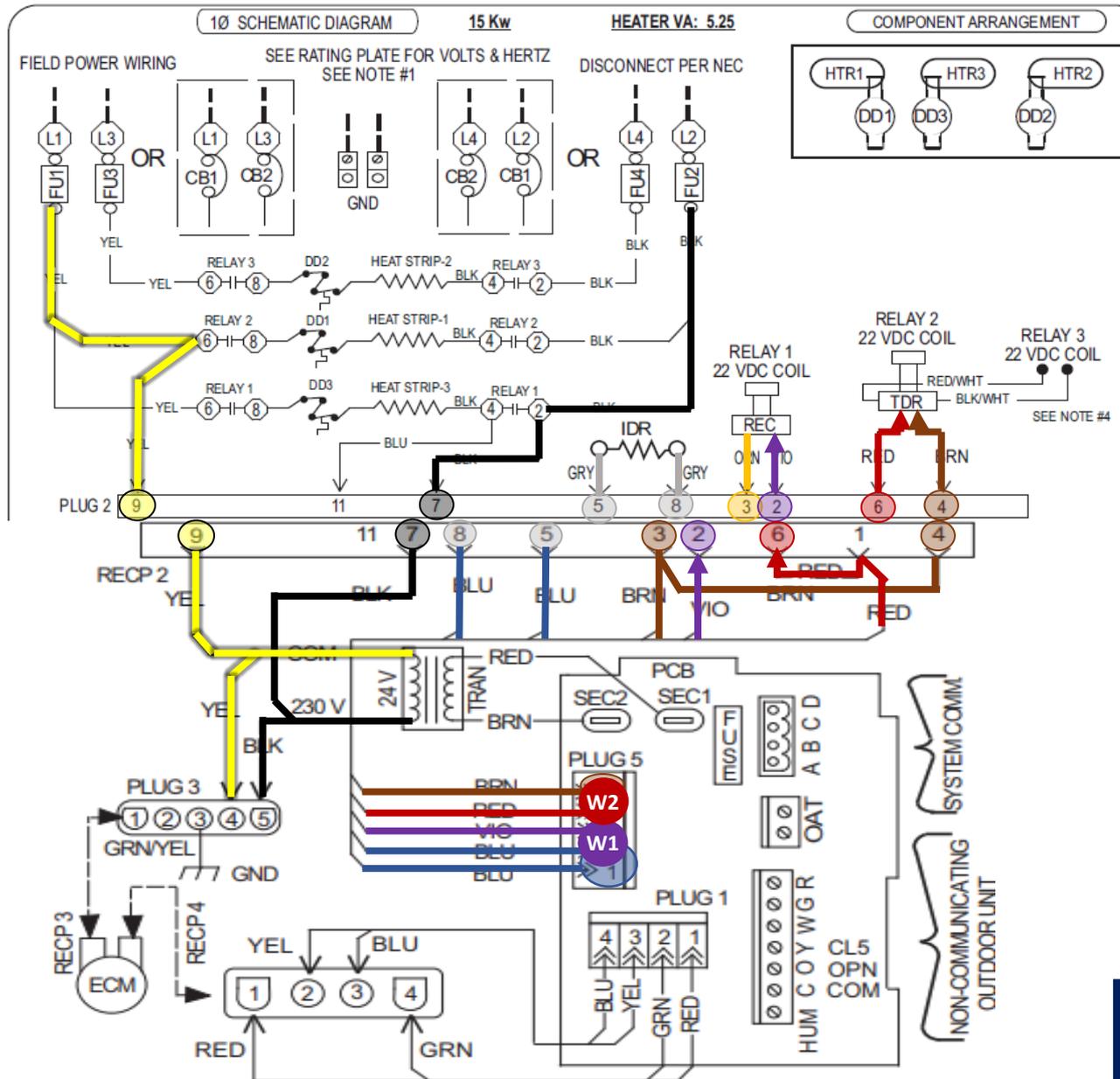
# FE4A Fan Coil



# FE4A Fan Coil



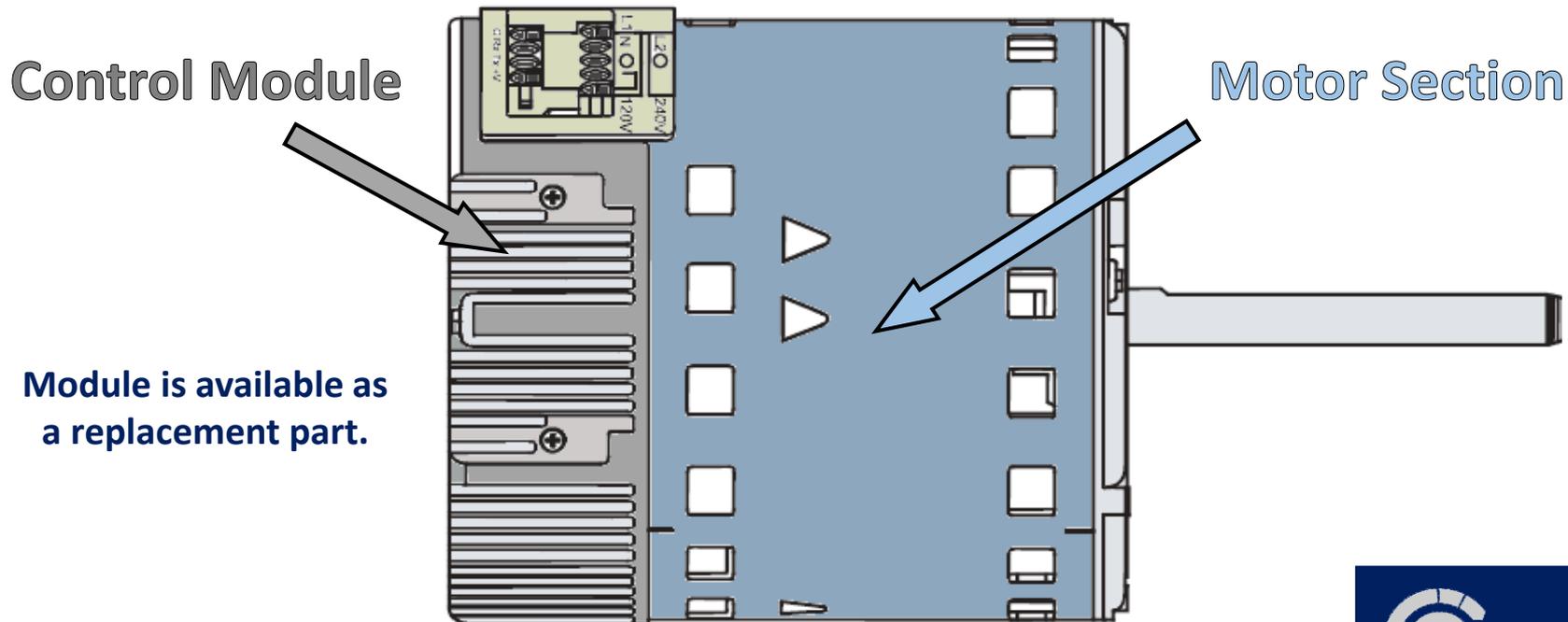
# FE4A Fan Coil



## Communicating ECM Troubleshooting

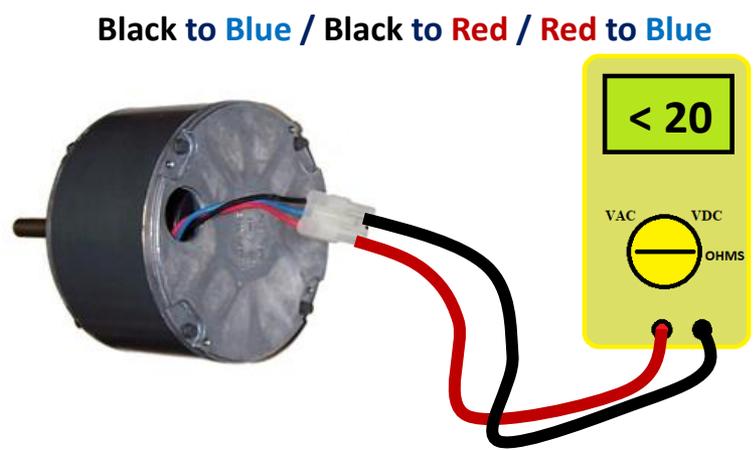
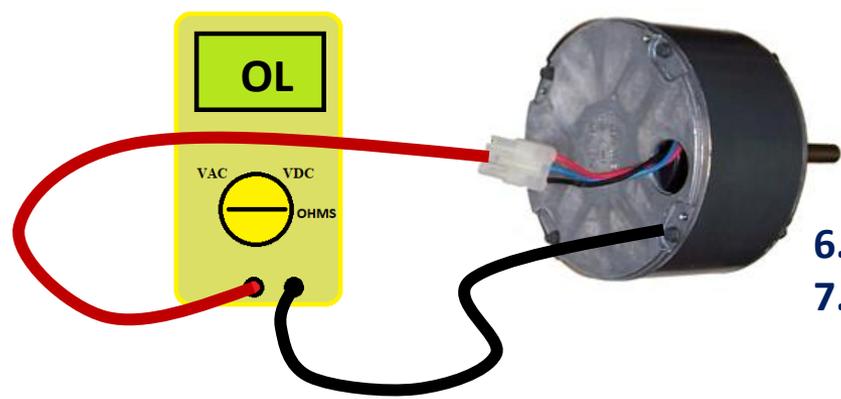
**If the motor will not start don't assume it is defective.**

Follow the troubleshooting steps before replacing the board, control module, or ECM.



## Motor Test: *should always be performed prior to replacing module only.*

1. Separate and unplug the module from motor section.
2. Make sure the shaft will turn freely.
3. Check motor winding resistance on all wire pairs.
4. Each resistance value should be less than 20 ohms.
5. All readings should be within 10% of each other.



6. Check each leg to ground, (metal surface of motor).
7. Resistance should be greater than 100K ohms.

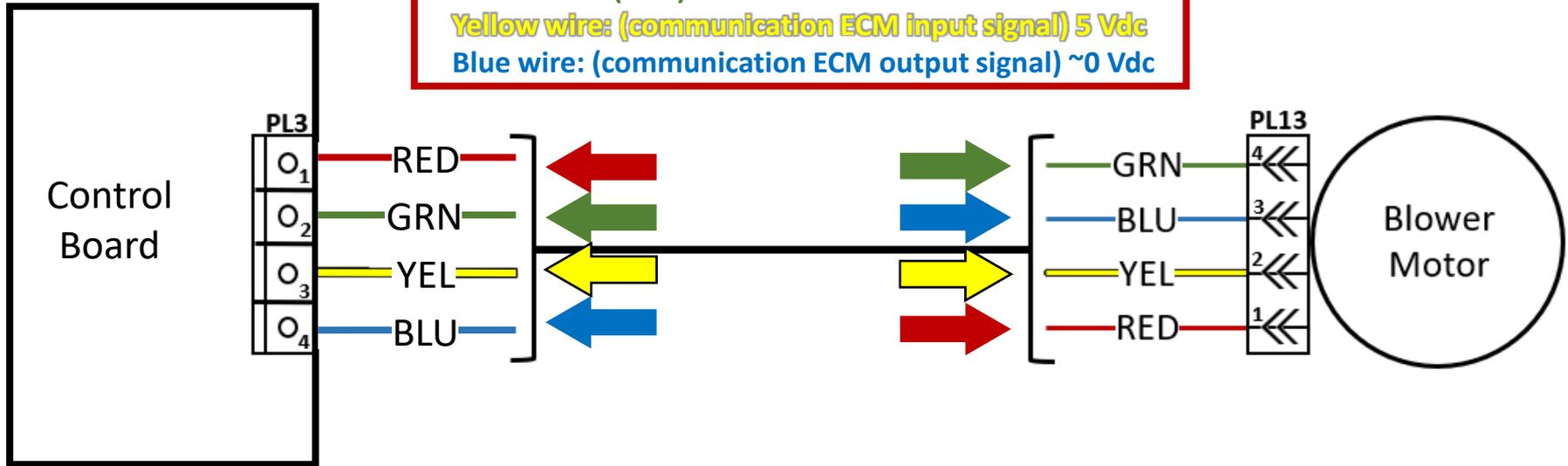
**Note: failed test indicates that motor and module must be replaced.**

# Communicating ECM



## Gas Furnace:

**Red wire: (Power) 12 Vdc**  
**Green wire: (Gnd)**  
**Yellow wire: (communication ECM input signal) 5 Vdc**  
**Blue wire: (communication ECM output signal) ~0 Vdc**



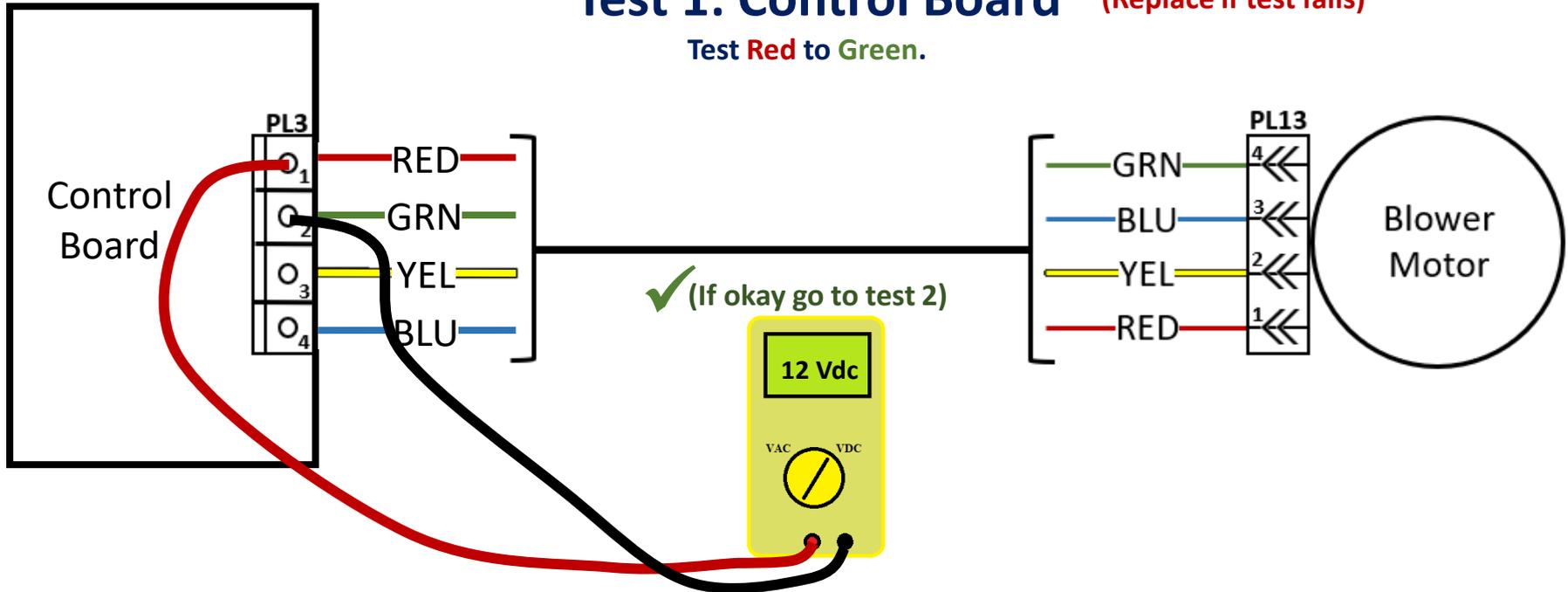
**Warning: pins are easily damaged! Be careful when connecting and disconnecting plugs.**

## Gas Furnace:

### 12 Vdc power supply voltage

#### Test 1: Control Board (Replace if test fails)

Test Red to Green.

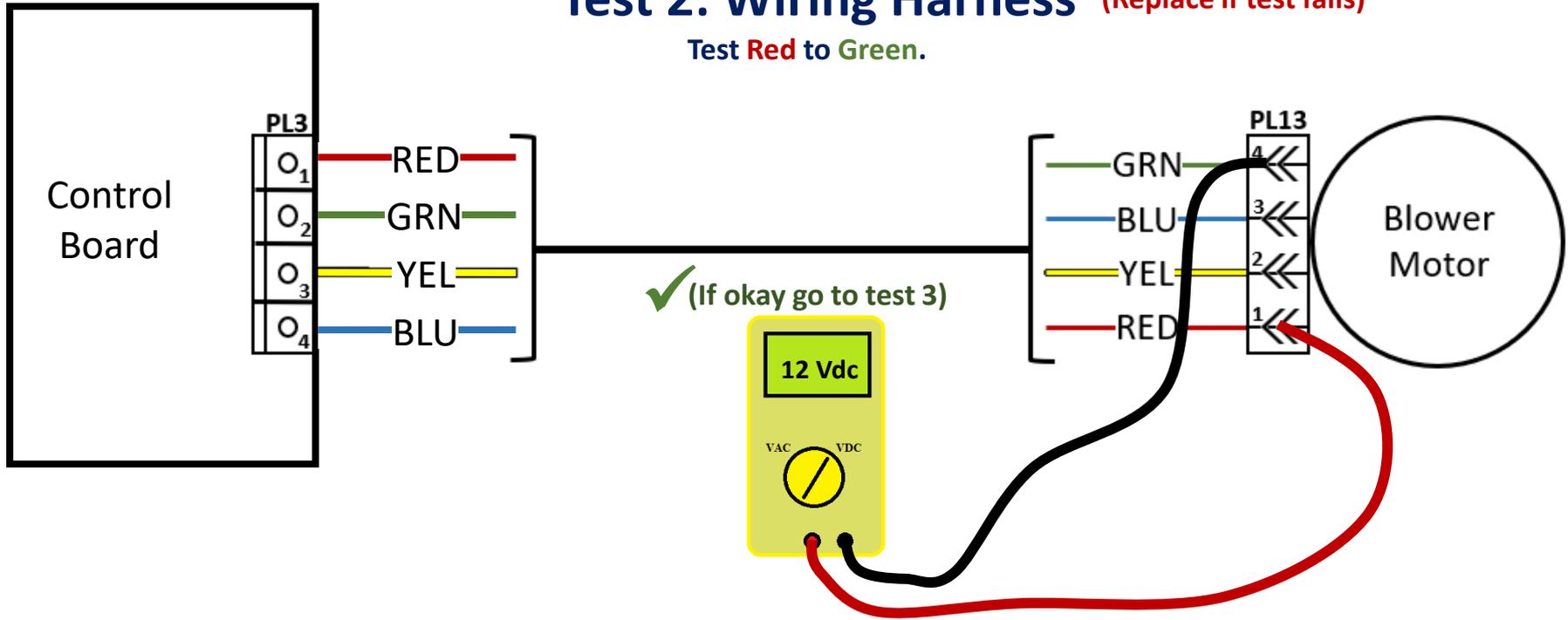


## Gas Furnace:

### 12 Vdc power supply voltage

### Test 2: Wiring Harness (Replace if test fails)

Test Red to Green.

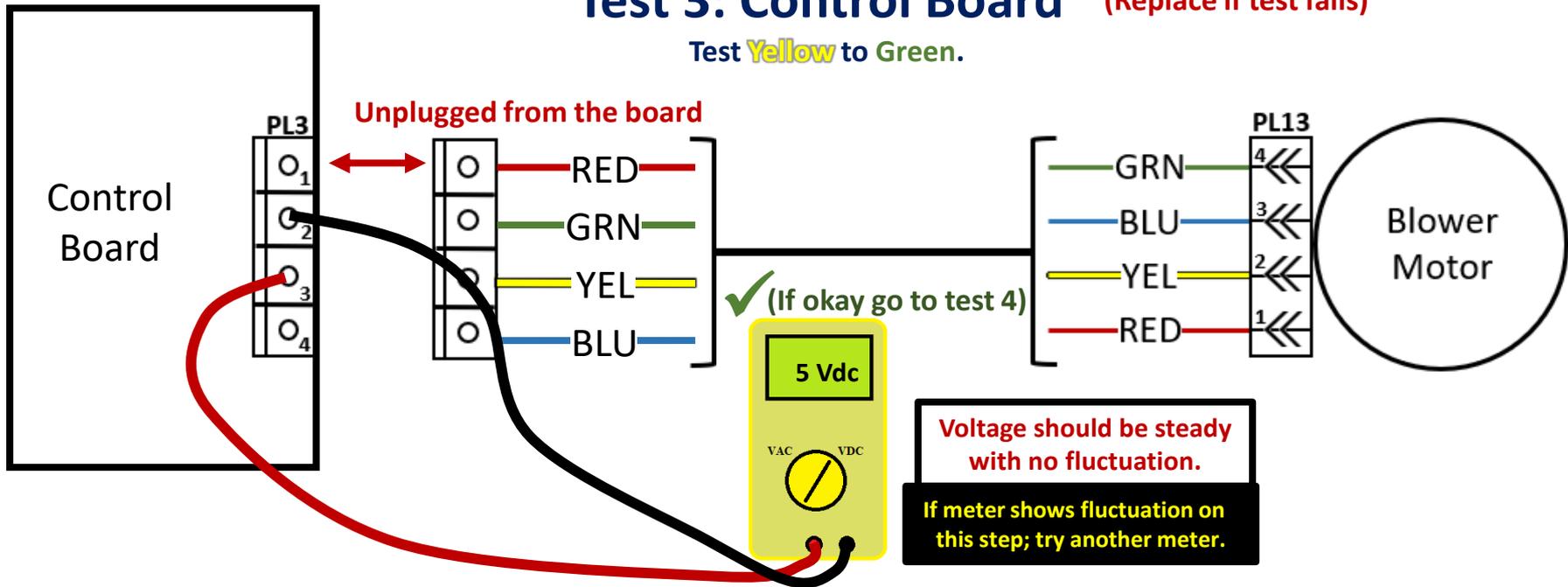


## Gas Furnace:

### 5 Vdc ECM serial input signal

#### Test 3: Control Board (Replace if test fails)

Test **Yellow** to **Green**.

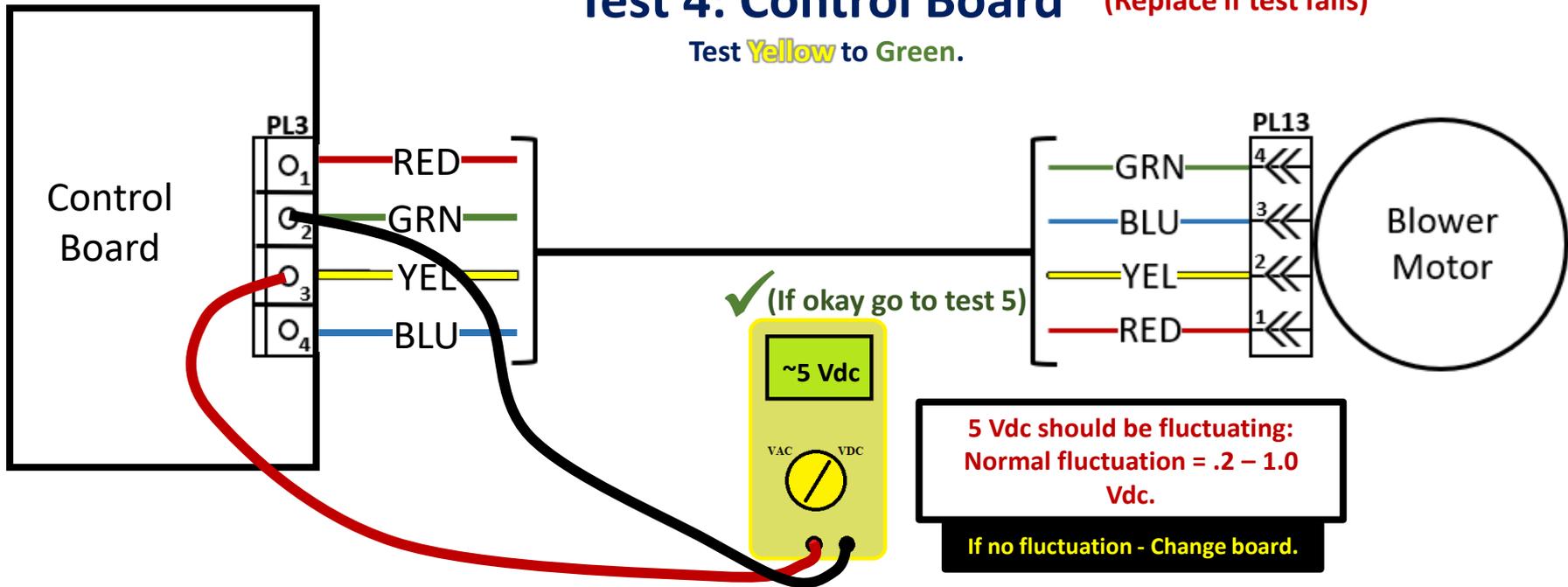


## Gas Furnace:

### 5 Vdc ECM serial input signal

#### Test 4: Control Board (Replace if test fails)

Test **Yellow** to **Green**.

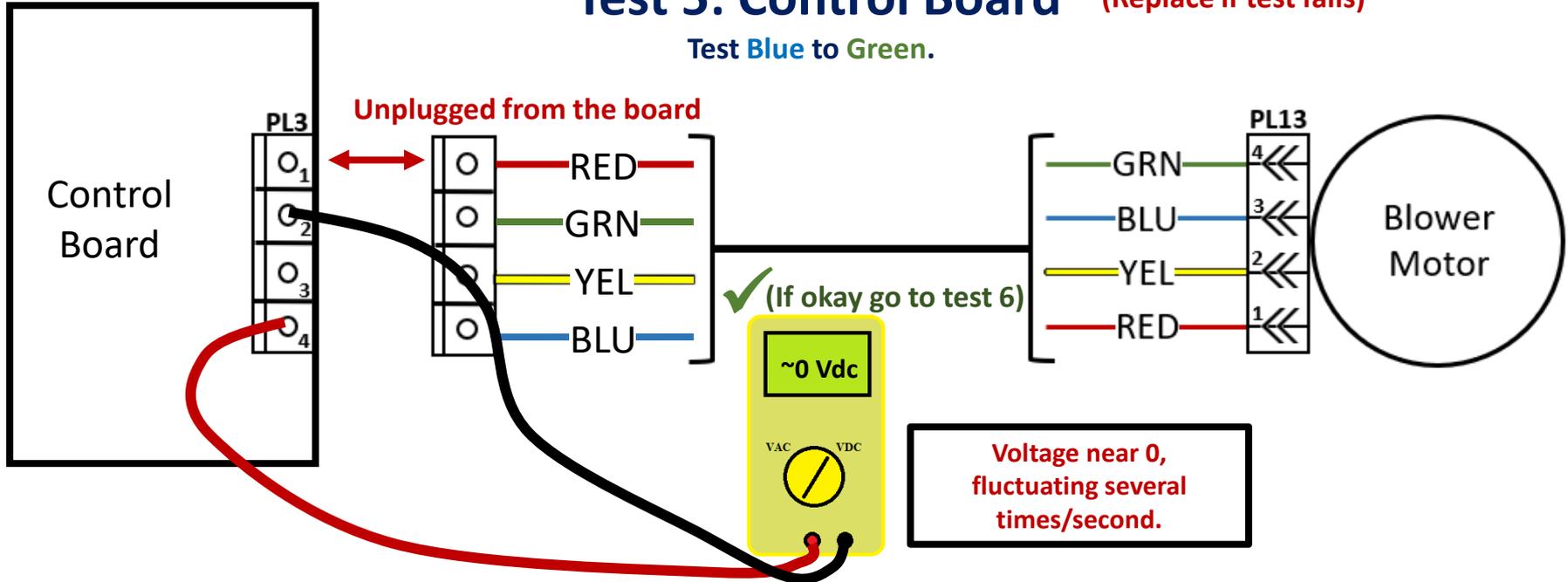


## Gas Furnace:

### Vdc ECM serial output signal

#### Test 5: Control Board (Replace if test fails)

Test Blue to Green.

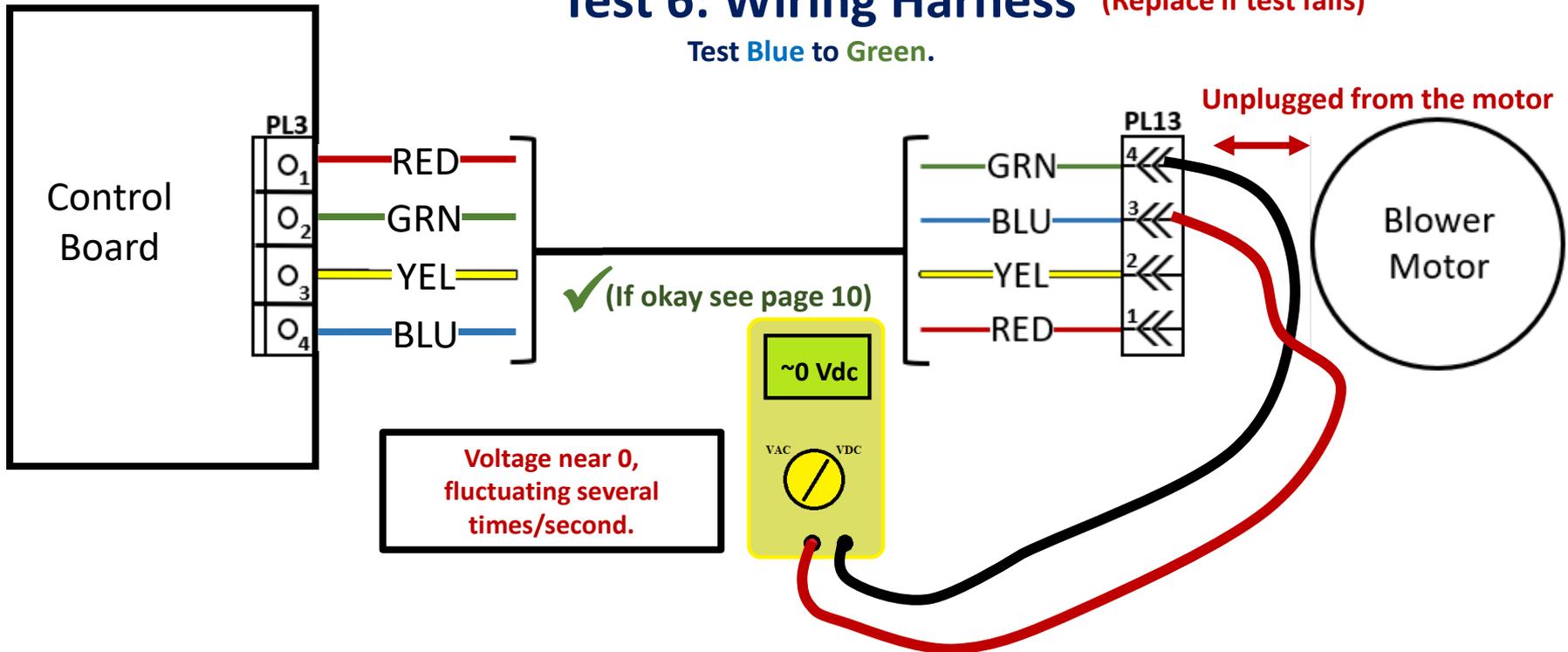


## Gas Furnace:

### Vdc ECM serial output signal

### Test 6: Wiring Harness (Replace if test fails)

Test Blue to Green.



## 12 Vdc power supply voltage

Test 1: Control Board ✓

Test 2: Wiring Harness ✓

## 5 Vdc ECM serial input signal

Test 3: Control Board ✓

Test 4: Control Board ✓

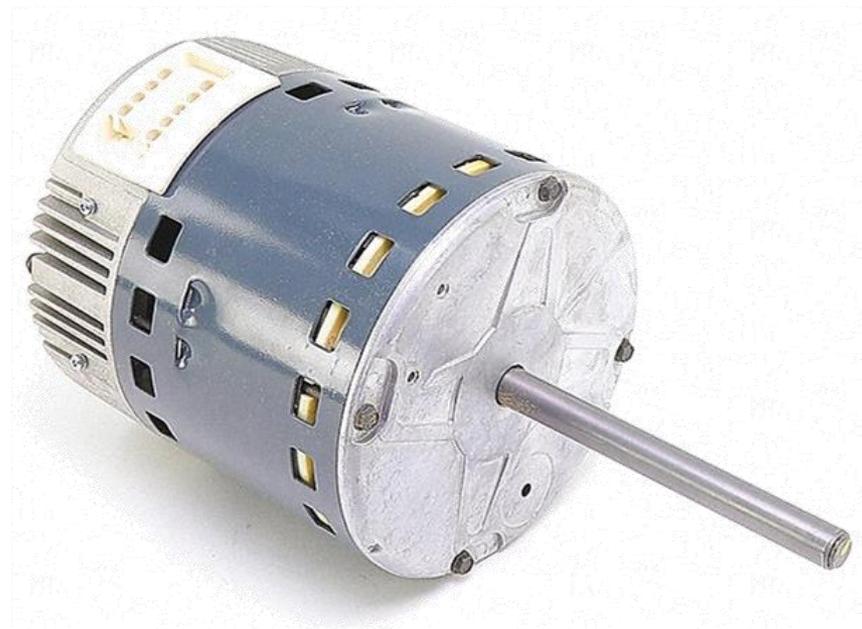
## Vdc ECM serial output signal

Test 5: Control Board ✓

Test 6: Wiring Harness ✓

If the unit passes all six tests and the motor will not run, replace the ECM module.

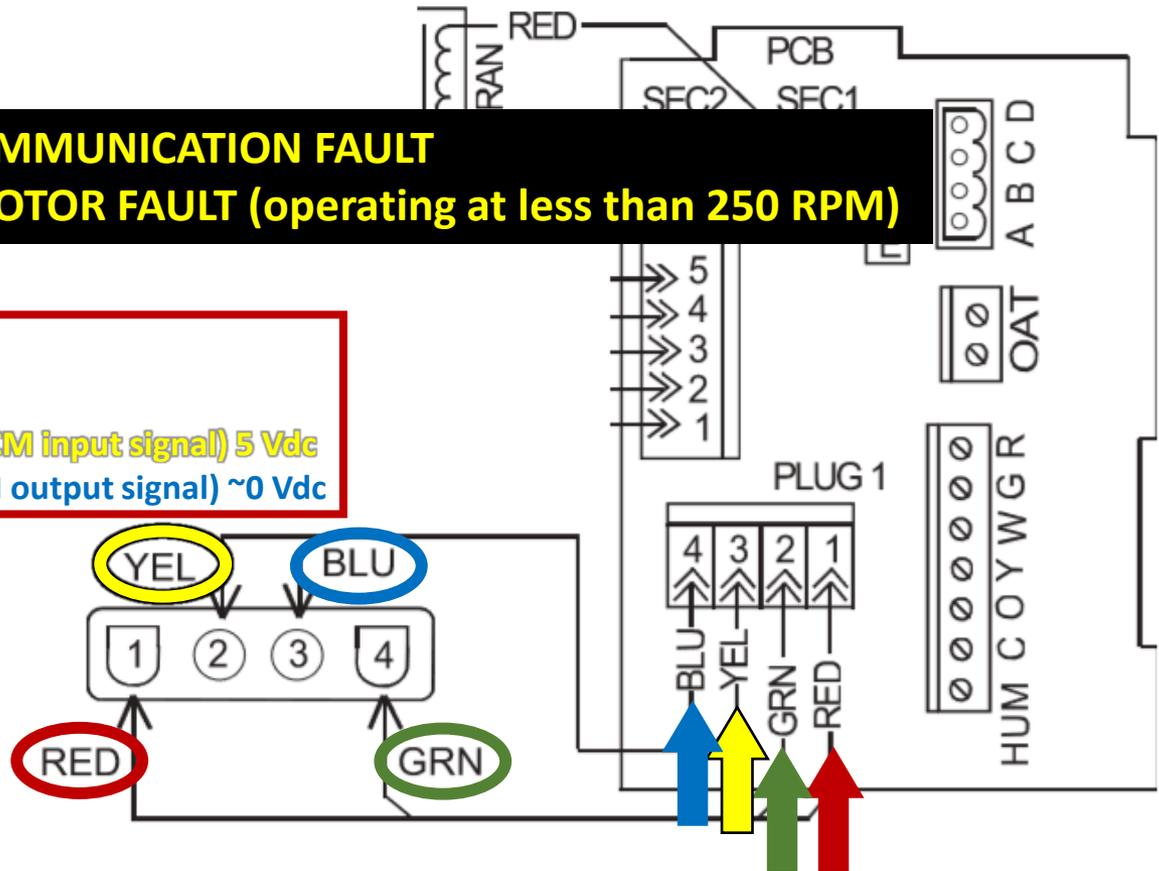
Note: test the motor section before replacing module only.



## FE4A:

**STATUS CODE 44: MOTOR COMMUNICATION FAULT**  
**STATUS CODE 41: BLOWER MOTOR FAULT (operating at less than 250 RPM)**

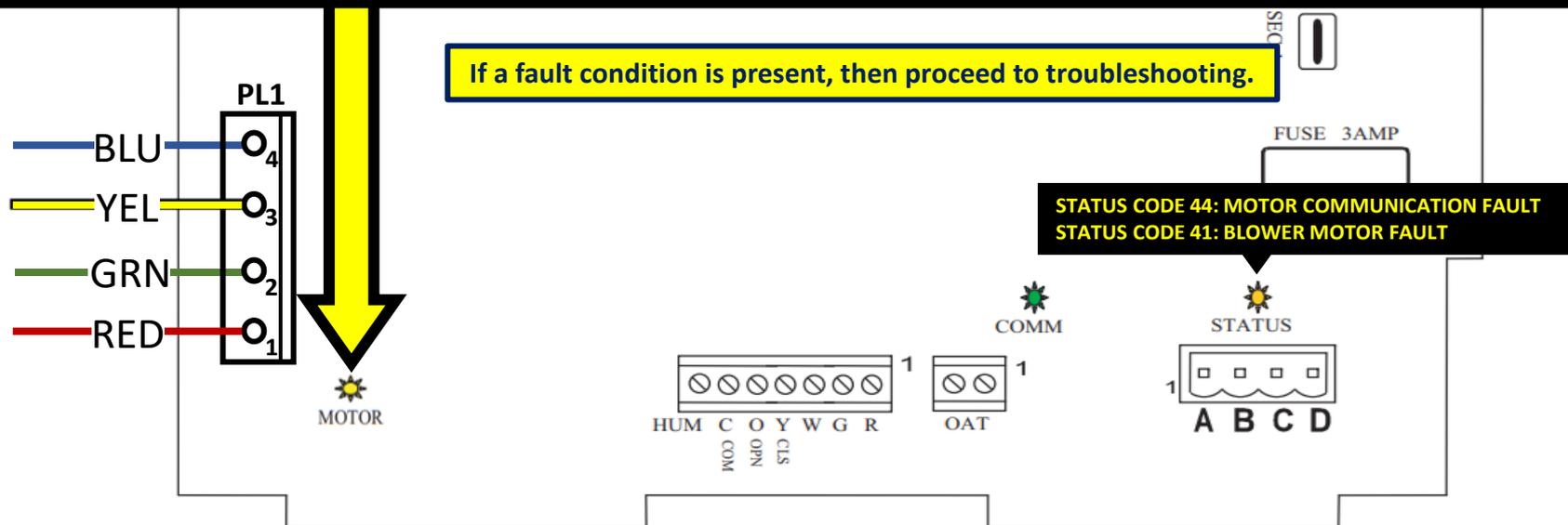
**Red wire: (Power) 12 Vdc**  
**Green wire: (Gnd)**  
**Yellow wire: (communication ECM input signal) 5 Vdc**  
**Blue wire: (communication ECM output signal) ~0 Vdc**



## FE4A:

The **MOTOR LED** is connected to blower motor communications. This **LED** will flash each time instructions are sent from the board to the motor. When the motor is commanded to stop, the **MOTOR LED** will be turned off.

**Normal Operation: LED is off, and motor is off (OR) LED is flashing, and motor is running.**  
**Fault Condition: LED is flashing, and motor is off (OR) LED is off, and motor is running.**

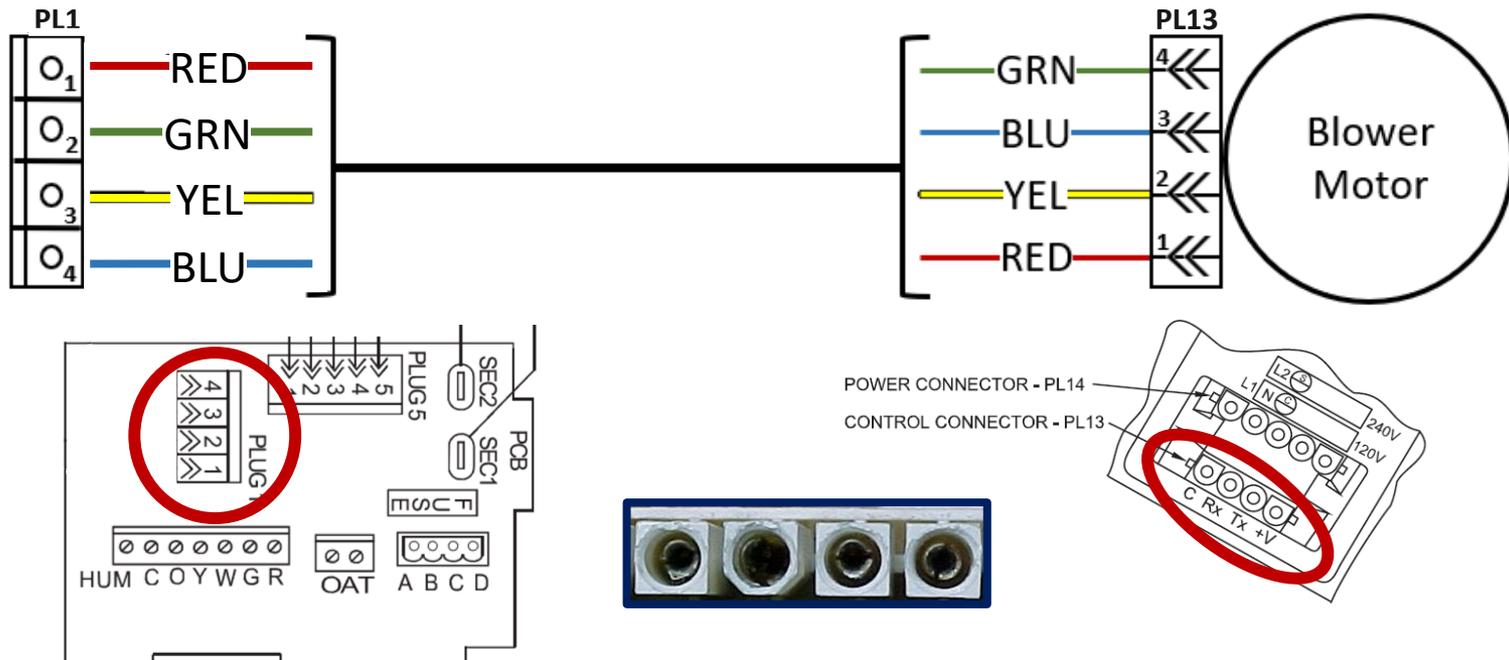


## FE4A: CODE 41

MOTOR LED is flashing, and motor does not run:

Step 1: Examine wires, pins, and plugs on harness, board, and motor.

If everything is okay, then advance to step 2.



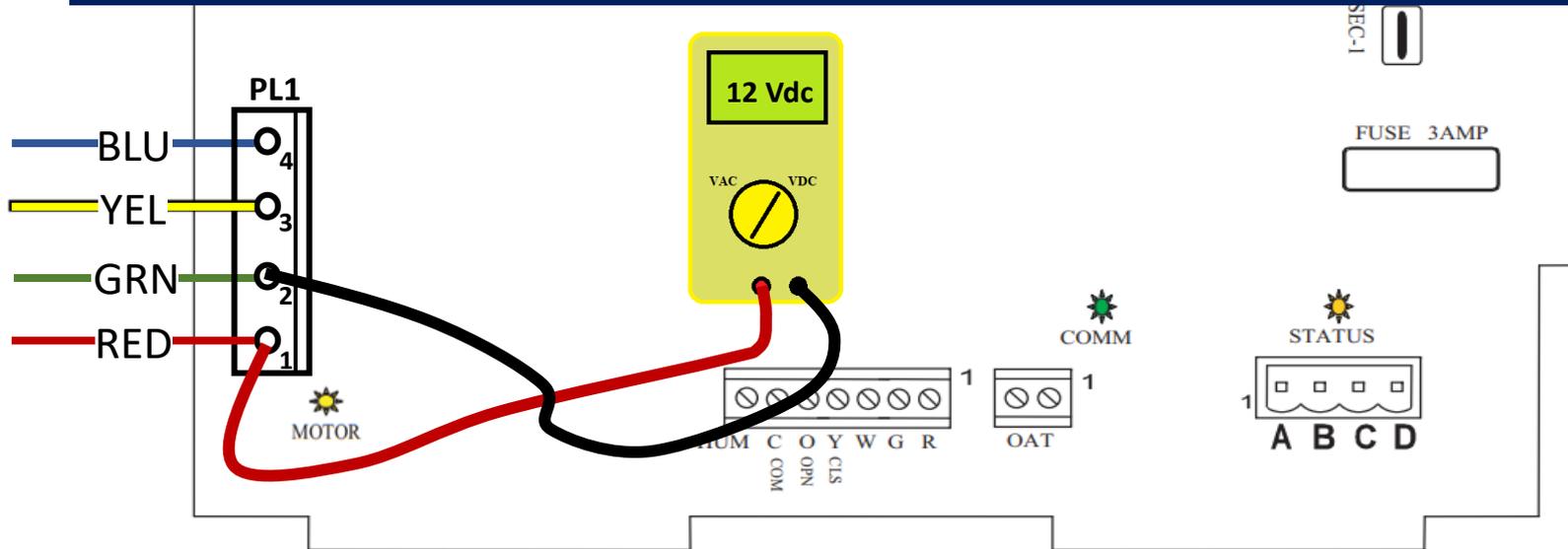
## FE4A: CODE 41

MOTOR LED is flashing, and motor does not run:

Step 2: Check 12 Vdc output from board. (Red to Green)

If voltage is acceptable, then replace control module. Perform motor winding test.

In some cases, the board has passed this test but had to be replaced. Recommend bringing a board in case motor/module does not fix the problem.



For a more precise diagnosis, perform the six tests shown previously.

## 12 Vdc power supply voltage

Test 1: Control Board ✓

Test 2: Wiring Harness ✓

## 5 Vdc ECM serial input signal

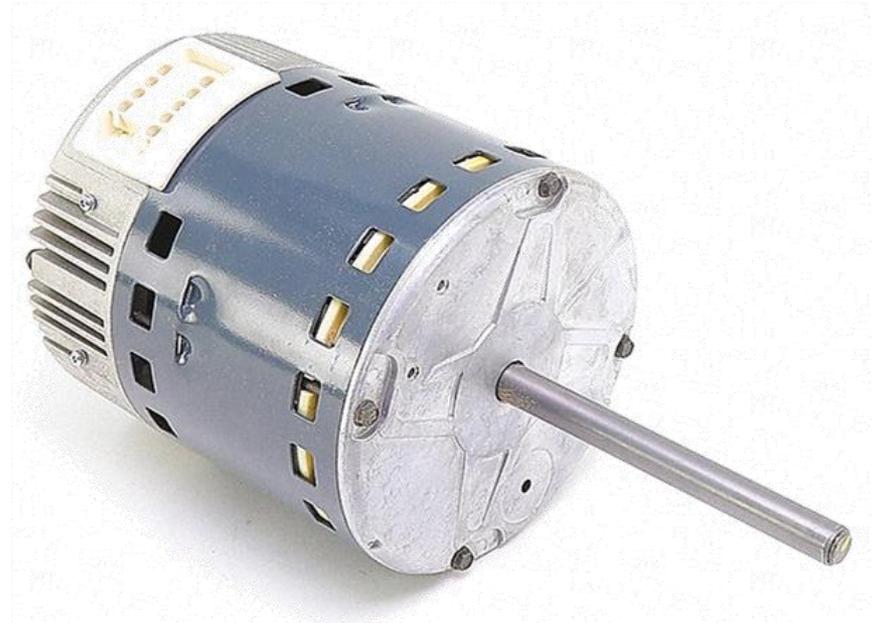
Test 3: Control Board ✓

Test 4: Control Board ✓

## Vdc ECM serial output signal

Test 5: Control Board ✓

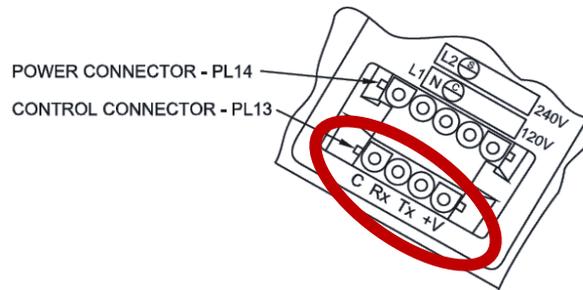
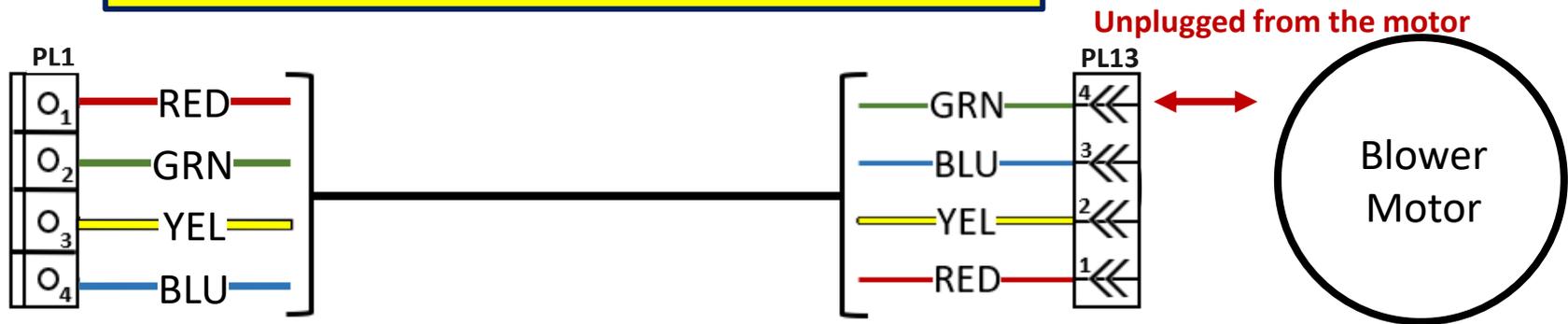
Test 6: Wiring Harness ✓



## FE4A: CODE 41 MOTOR LED is off, and motor is running:

Step 1: Power off, remove PL13 from the motor, Power on.

**If motor continues to run, replace module.**



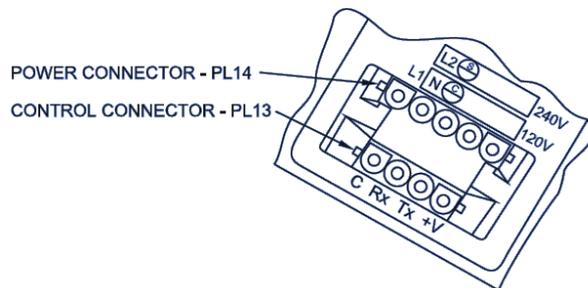
## FE4A: CODE 41

**MOTOR LED is off, and motor is running:**

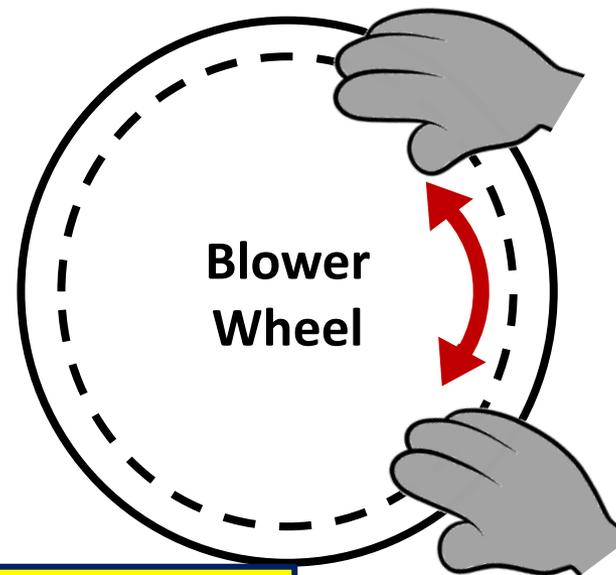
**Usually indicates that the board and harness are okay.**

**Step 1: Power off**

**Step 2: Remove both plugs from the ECM (PL13 and PL14)**

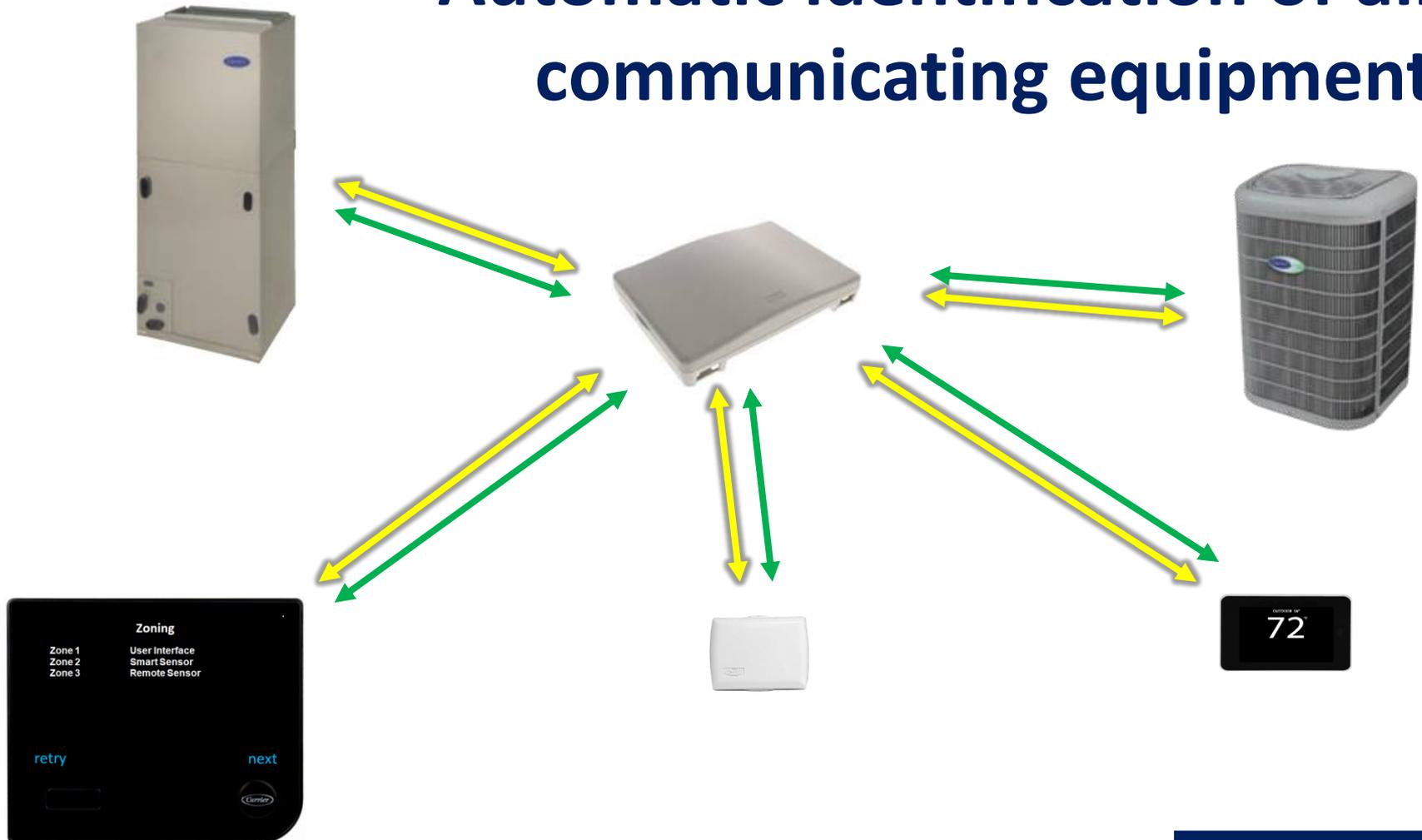


**Step 3: Rotate blower wheel by hand to ensure no obstructions.**

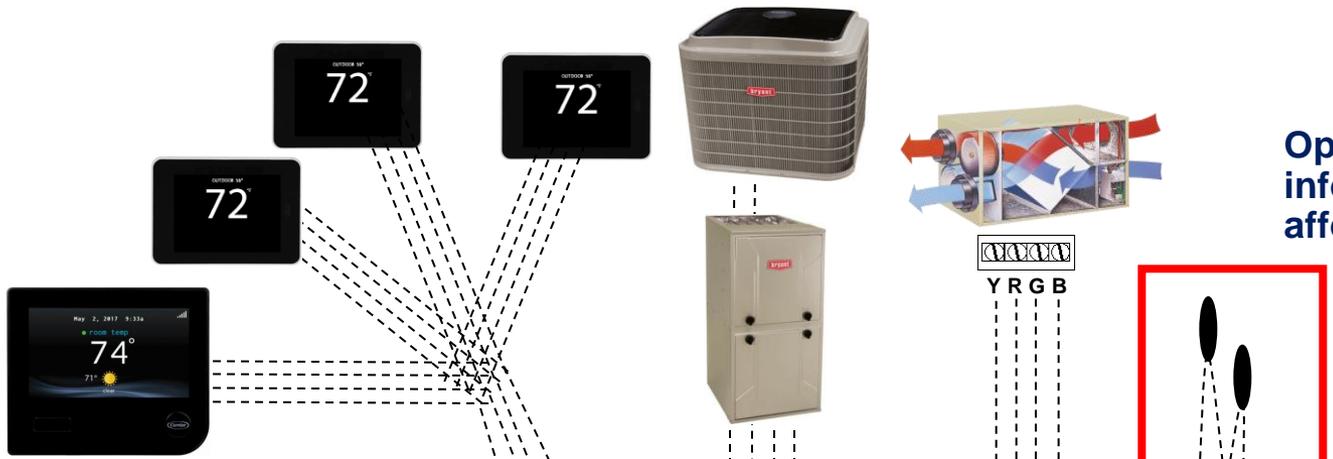


**If motor spins normally, then check motor windings.  
If those checks are normal, then replace the module only.**

## Automatic identification of all communicating equipment



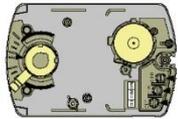
# Infinity / Evolution Zoning



Optional – Sensors are for information only and do not affect operation of the system

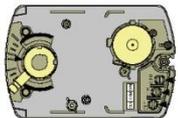
furnace status	
gas heat	off
indoor airflow CFM	0
blower RPM	0
static pressure	0.00 in
inducer RPM	0
leaving air temperature	71
lockout time left	----

Zone-1 Damper



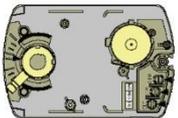
CLS1  
COM1  
OPN1

Zone-2 Damper



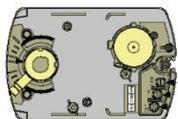
CLS2  
COM2  
OPN2

Zone-3 Damper

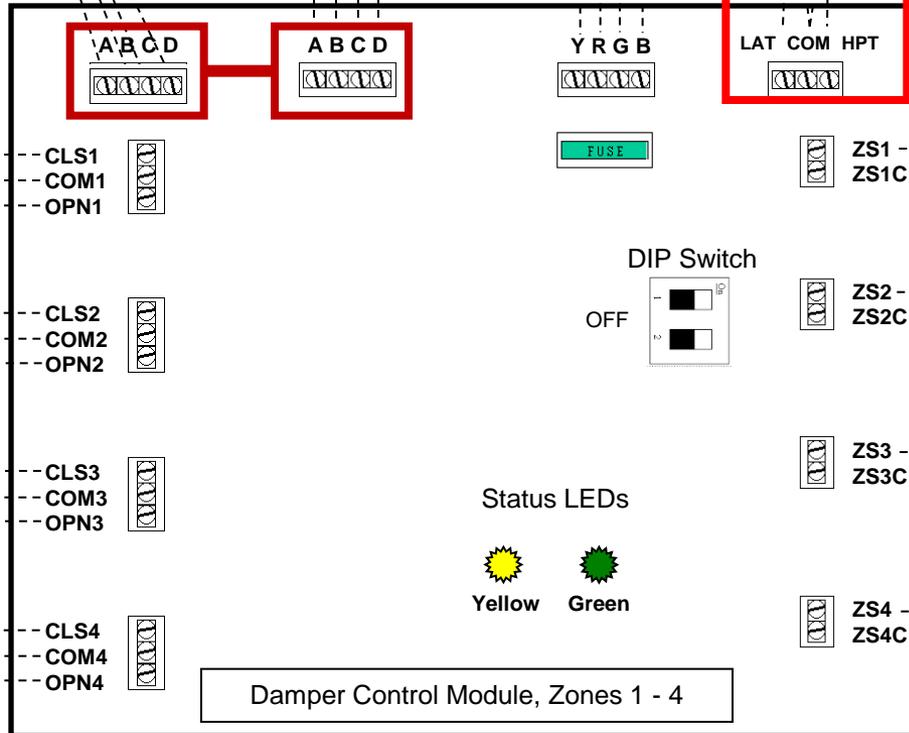


CLS3  
COM3  
OPN3

Zone-4 Damper



CLS4  
COM4  
OPN4



Optional Zone-1 Sensor<sup>2</sup>

Zone-2 Sensor

Zone-3 Sensor

Zone-4 Sensor

ANY  
QUESTIONS?

