



Small Duct High Velocity Heating, Cooling and Home Comfort Systems

## Module HE-B-52-WEG

### HE-B-52 Electrical Box c/w WEG Variable Speed Drive Installation



For the Installation of:

Part Name	Description	Part Number
HE-B-52 Electrical Box w/ 110v WEG Controller	Upgrade for <b>HE-52</b> Air Handlers ( <b>110v</b> power)	WEG <b>Non-Zoning</b> Controller, HEB Circuit Board, Transformer in <b>Galvanized</b> Box 40120100052

Manufactured By  
**Energy  
Saving  
PRODUCTS LTD**

## HE to HE-B-52 Air Handler Control Box Upgrade Installation

**IMPORTANT** - Before you begin, ensure input voltage of WEG Controller matches line input voltage to air handler.

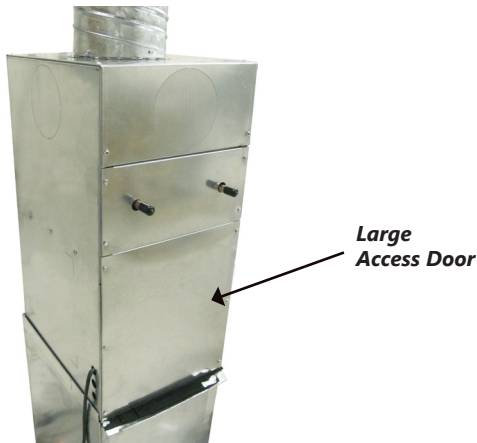


Fig. 1 - 52 Series Air Handler

1. Turn off power to the air handler, and allow 5 minutes for power stored in capacitors to dissipate. Remove large access door from air handler. (Fig. 1)

2. Unplug all thermostat and power wired connections from air handler, in order to remove motor/blower module. (Figs. 2a, 2b)

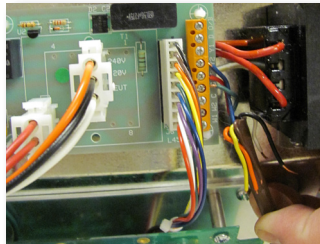


Fig. 2a

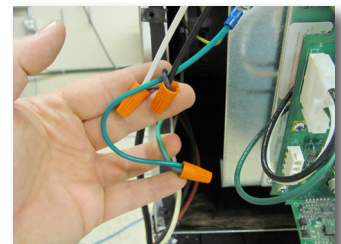


Fig. 2b

3. Unbolt the two blower housing bolts from the air handlers center plate, using a 7/16" wrench. (Fig. 3)

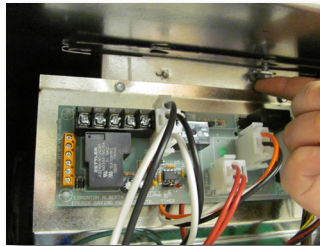


Fig. 3

4. Remove motor/blower module from air handler by sliding it out. (Figs. 4a, 4b)

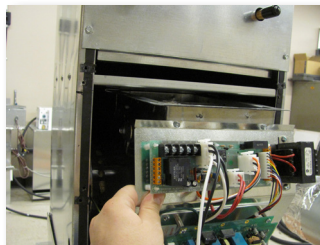


Fig. 4a

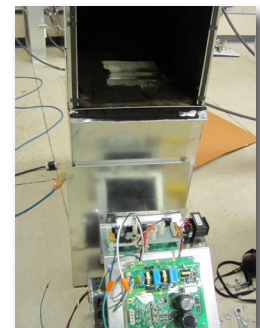


Fig. 4b

5. Unplug motor plug from control board. Remove motor ground wire (green/yellow) from the bolt connecting it to the controls plate. (Figs. 5a, 5b)



Fig. 5a

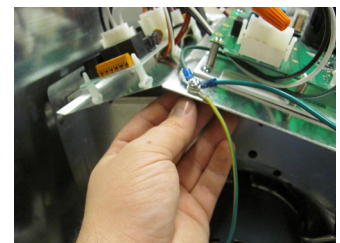
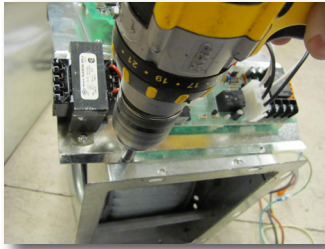


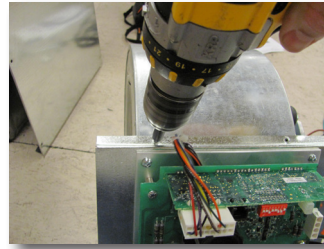
Fig. 5b

## HE to HE-B-52 Air Handler Control Box Upgrade Installation

6. Unscrew the four 1/4" screws connecting the control plate to the blower. (Figs. 6a, 6b)

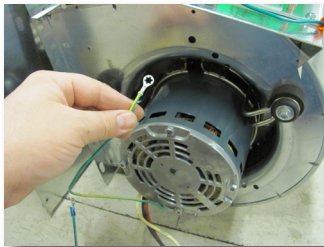


*Fig. 6a*

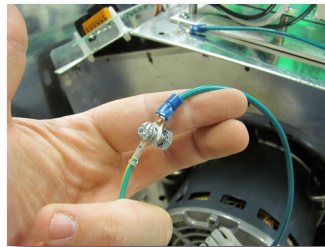


*Fig. 6b*

7. Using the provided nut and bolt, connect motor ground wire to the provided ground wire extension. (Figs. 7a, 7b)

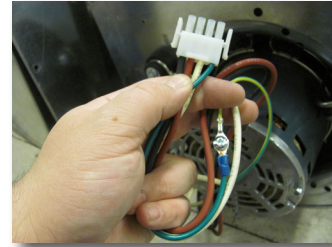


*Fig. 7a*



*Fig. 7b*

8. Insert ground wire extension into 4-prong motor plug. (Fig. 8)

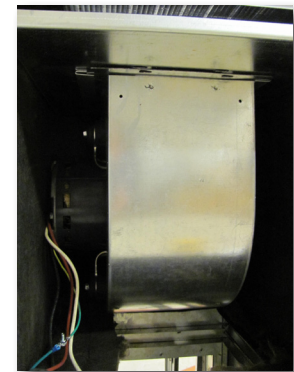


*Fig. 8*

9. After all controls have been removed off of the blower housing, slide the blower/motor module back into the air handler casing. (Figs. 9a, 9b)

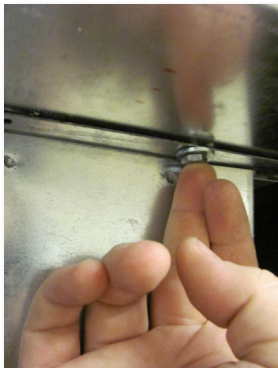


*Fig. 9a*



*Fig. 9b*

10. Replace the two blower bolts securing the blower housing to the center plate using a 7/16" wrench. (Figs. 10)



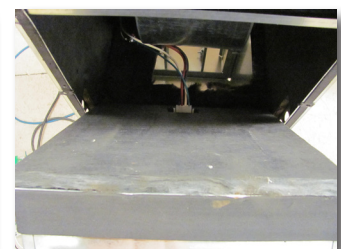
*Fig. 10*



*Fig. 11a*



*Fig. 11b*



*Fig. 11c*

11. Before mounting the new 52 controls upgrade box, ensure you connect the male motor plug to the female plug on the bottom side of the new controls box. (Figs. 11a, 11b, 11c)

## HE to HE-B-52 Air Handler Control Box Upgrade Installation

12. Now that the motor plug is connected, the control box can be mounted in place of the large access door. (Figs. 12a, 12b)

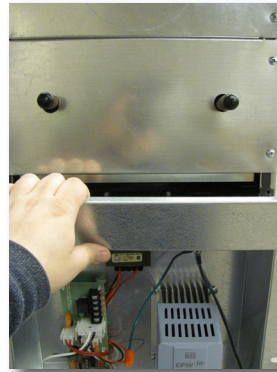


Fig. 12a

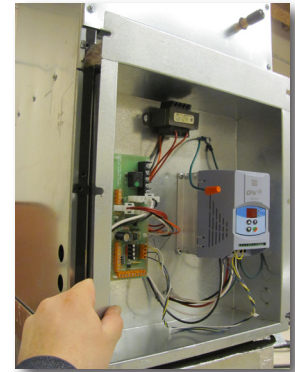


Fig. 12b

13. Reconnect power & thermostat connections to the new circuit board. Hook up ground wire with the provided wire nut. Refer to wiring diagram on last page. (Figs. 13a-13c)

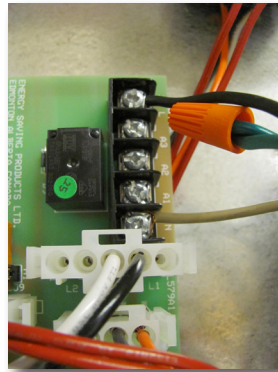


Fig. 13a

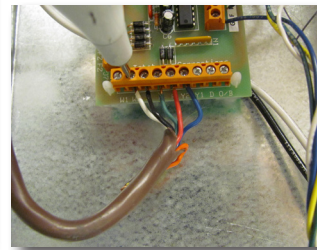


Fig. 13b

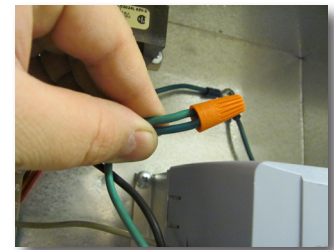


Fig. 13c

14. Double check that all wiring is done correctly according to wiring diagram. Turn power back on and refer to wiring diagram or to page 30 of the HE-B Install Manual for instructions on how to set fan speed/airflows. (Fig. 14)

15. After all fan speed/airflows have been set, the provided coverplate can be screwed on with provided screws to cover the controls section of box. (Figs. 15a, 15b)

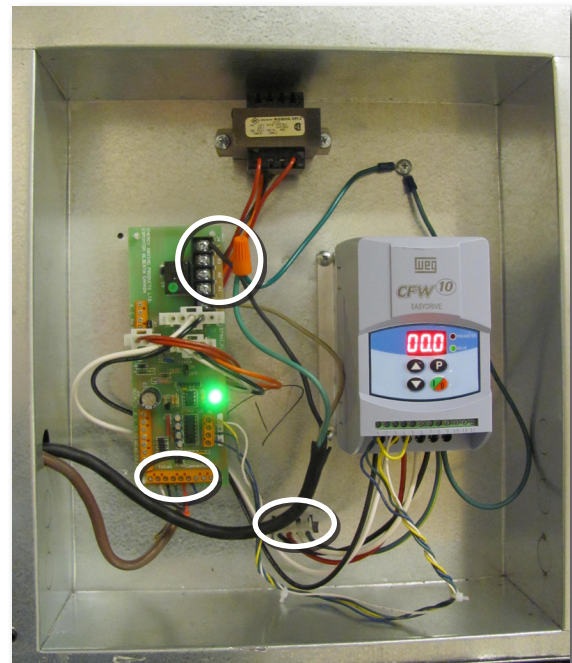


Fig. 14



Fig. 15a



Fig. 15b

16. With the cover plate secured, stick the provided wiring diagram sticker to the cover plate for future reference.

## HEB Circuit Board/CFW300 WEG Wiring Diagram

PLEASE NOTE: CFW10 has slightly different appearance, terminals and wiring are the same.



### CFW300 HE-B / LV-B / VFD

NOTE: CFW10 HAS SLIGHTLY DIFFERENT APPEARANCE - TERMINALS AND WIRING ARE THE SAME

### POWER INPUT: 110-127/1/50-60

#### THERMOSTAT CONNECTIONS

- R - 24 VAC OUTPUT
- W1 - FIRST STAGE HEAT (OR SINGLE STAGE)
- W2 - SECOND STAGE HEAT (OR SINGLE STAGE)
- Y1 - FIRST STAGE COOLING (OR SINGLE STAGE)
- Y2 - SECOND STAGE COOLING (OR SINGLE STAGE)
- C - 24 VAC COMMON
- G - THERMOSTAT FAN SWITCH
- D - DEHUMIDIFICATION SPEED
- O/B - HEATPUMP REVERSING

#### EMERGENCY DISCONNECT

- C - 24 VAC COMMON
- C - 24 VAC COMMON
- Ro - 24 VAC OUTPUT
- Ri - 24 VAC INPUT

#### AUXILIARY HEATING RELAY

- N - NEUTRAL
- L - LINE VOLTAGE
- A1 - AUXILIARY NORMALLY OPEN
- A2 - AUXILIARY NORMALLY CLOSED
- A3 - AUXILIARY COMMON

#### 24 VAC OUTPUT CONNECTIONS

- FZ - FREEZE STAT (FOR Y2)
- FZ - FREEZE STAT (FOR Y2)
- W1 - HEATING (W1) 24 VAC OUTPUT
- W2 - HEATING (W2) 24 VAC OUTPUT
- Y2 - CONDENSING UNIT 24 VAC OUTPUT
- Y1 - CONDENSING UNIT 24 VAC OUTPUT
- C - 24 VAC COMMON
- R - 24 VAC OUTPUT

#### JUMPER PIN SETTINGS

- H1 EMERGENCY DISCONNECT: REMOVE PIN IF WIRED TO EMERGENCY DISCONNECT.
- H3 TIMER: AUXILIARY RELAY TIMER (SEE NOTES).

#### LED LIGHT INDICATORS

LED - GREEN LIGHT, PUMP TIMER

#### PUMP TIMER STATUS

- ON: (ACTIVE)
- ON: (INACTIVE)
- OFF:

2 SECONDS

#### FAN SPEED ADJUSTMENT (COOLING, HEATING OR RECIRCULATION FAN)

- POWER FAN COIL UNIT.
- **ENSURE ALL OUTLETS ARE OPEN.**
- ENERGIZE THE THERMOSTAT SETTING TO BE ADJUSTED. (COOLING, HEATING OR RECIRCULATION FAN).
- ON THE WEG - "CFW300" PRESS THE PARAMETER BUTTON (P) UNTIL THE PARAMETER LIGHT (RED) IS ILLUMINATED.
- USING THE ARROW BUTTONS SCROLL DOWN TO PARAMETER "000".
- PRESS THE PARAMETER BUTTON (P) AGAIN TO ENTER THE PARAMETER "000".
- CHANGE P 000 TO A VALUE OF "005". THIS UNLOCKS THE DRIVE AND ALLOWS YOU TO CHANGE OTHER PARAMETERS.
- ONCE PARAMETER "000" IS SET TO A VALUE OF "005" THE DRIVE IS UNLOCKED THE FAN SPEEDS CAN BE ADJUSTED VIA PARAMETERS 128, 129, 130 AND 131.

► 00.0 HZ IS THE MINIMUM SPEED - 66.0 HZ IS THE MAXIMUM SPEED.

#### Useful Parameters

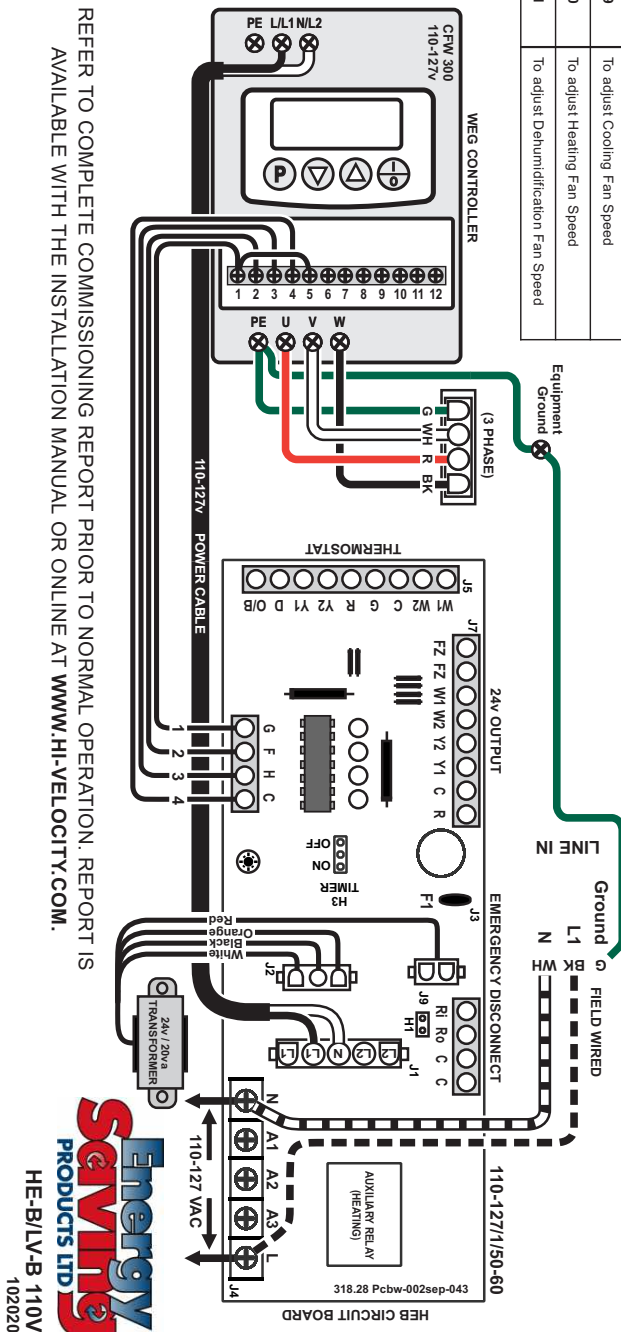
P 000	To unlock drive change value to "005"
P 002	To display Hz output
P 030 (CFW10= P 008)	Drive HeatSink Temperature
P 128	To adjust Constant Fan Speed
P 129	To adjust Cooling Fan Speed
P 130	To adjust Heating Fan Speed
P 131	To adjust Dehumidification Fan Speed

**CAUTION**  
FOR SINGLE STAGE COOLING OPERATION USE Y2 OTHERWISE THE FREEZE STAT WILL BE BYPASSED

#### NOTES:

- 1) USE THERMOSTAT FAN SWITCH TO DISABLE/ENABLE CONTINUOUS FAN.
- 2) 'C' TERMINAL ON THERMOSTAT (COMMON) IS NOT NEEDED FOR SOME THERMOSTATS CONSULT THERMOSTAT INSTRUCTIONS FOR DETAILS.
- 3) W1 AND W2 ACTIVATES AUXILIARY RELAY (A3) ON CALL AND CAN BE USED WITH A1 AND/OR A2 AS DRY CONTACTS. ARMED 24VAC FROM THE 'R' TERMINAL, OR ARMED 110V FROM THE 'L' TERMINAL.
- 4) AUXILIARY HEATING RELAY TIMER ACTIVATES CIRCUIT FOR 5 MINUTES EVERY 24 HOURS STARTING WHEN POWER IS APPLIED TO THE UNIT.
- 5) SEE INSTALLATION MANUAL FOR MORE DETAILED WIRING DIAGRAMS.
- 6) **FOR SINGLE STAGE COOLING OPERATION USE Y2, OTHERWISE THE FREEZE STAT WILL BE BYPASSED.**
- 7) FAILURE TO SET PROPER AIR FLOW AND/OR OPERATION OF THE SYSTEM MAY RESULT IN DAMAGE TO EQUIPMENT.
- 8) FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLATION COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.
- 9) ENSURE THAT THE FILTER IS KEPT CLEAN AT ALL TIMES.
- 10) MOTOR HAS PERMANENT LUBE BEARINGS AND DOES NOT REQUIRE OILING.
- 11) WARRANTY VOID IF FAN COIL UNIT IS USED DURING CONSTRUCTION.

REFER TO COMPLETE COMMISSIONING REPORT PRIOR TO NORMAL OPERATION. REPORT IS AVAILABLE WITH THE INSTALLATION MANUAL OR ONLINE AT WWW.HI-VELOCITY.COM.



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