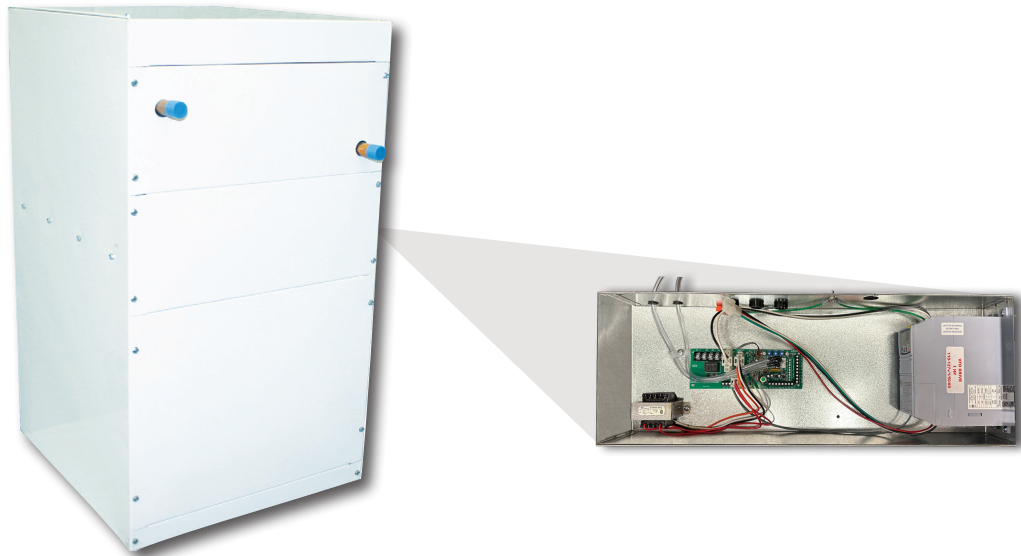




Manual-WEG-LVZ-1750 External Circuit Box c/w WEG Variable Speed Drive Installation



For the Installation of:

Part Name	Description	Part Number
LV-Z Electrical Box w/ 110v WEG Controller	Upgrade for LV-E-1750 Air Handlers (110v power)	WEG Zoning-Ready Controller, PSB Circuit Board, Transformer in Powder Coated Box 4012010003

Part Name	Description	Part Number
LV-Z Electrical Box w/ 220v WEG Controller	Upgrade for LV-E-1750 Air Handlers (220v power)	WEG Zoning-Ready Controller, PSB Circuit Board, Transformer in Powder Coated Box 4012010002

Manufactured By



LV-Z-1750 Circuit Box Installation

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

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

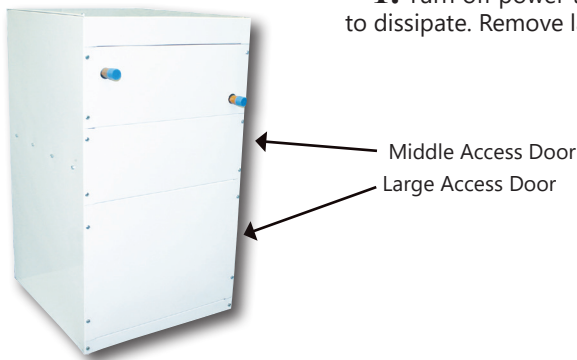


Fig. 1 - LV-E-1750 Air Handler

2. Unplug motor plug from control board and remove plastic grommet by squeezing the sides with needle nose pliers. (Fig. 2)

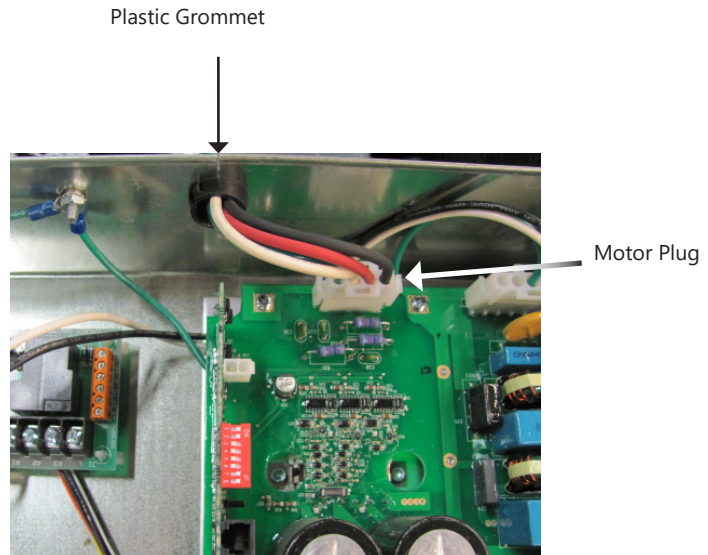


Fig. 2 - LV-1750 Circuit Box

3. Disconnect motor ground wire from circuit box. (Fig. 3a) Using existing machine bolt, connect motor ground wire to provided ground wire extension. (Figs. 3b-3c)

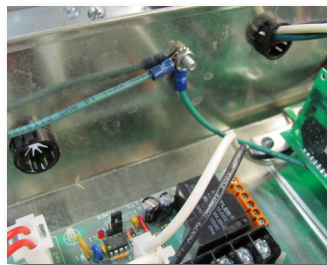


Fig. 3a

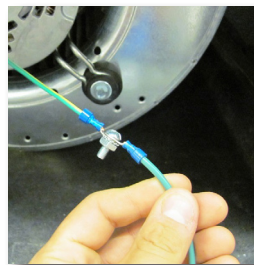


Fig. 3b

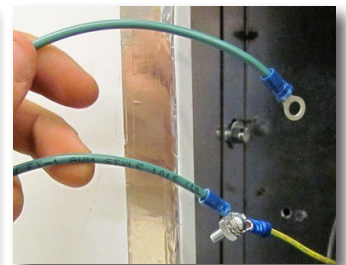


Fig. 3c

4. Insert ground wire extension into 4-prong motor plug. (Figs. 4a, 4b)

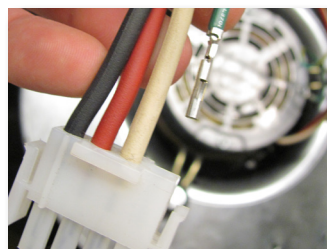


Fig. 4a - Ground Wire Extension

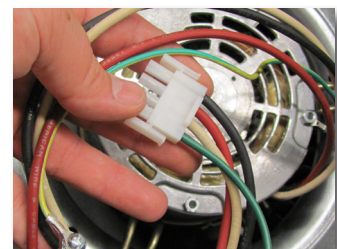


Fig. 4b - Motor Plug

LV-Z-1750 Circuit Box Installation

5. Remove all thermostat and power wiring from the air handler. Undo screw on circuit box and remove box from air handler. (Fig. 5a)

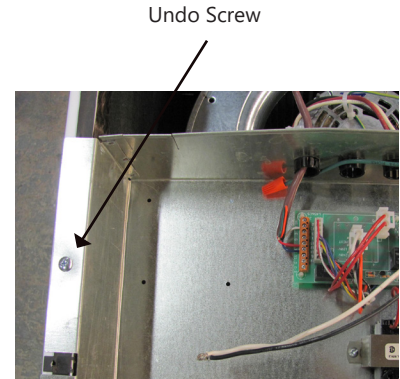


Fig. 5a - Undo Screw

6. Drill hole in the center plate of the air handler. (Figs. 6a, 6b)

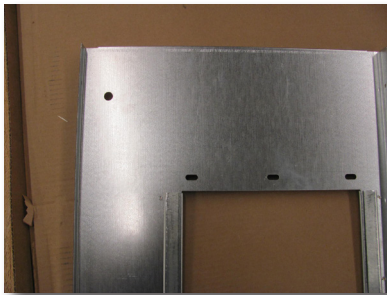


Fig. 6a

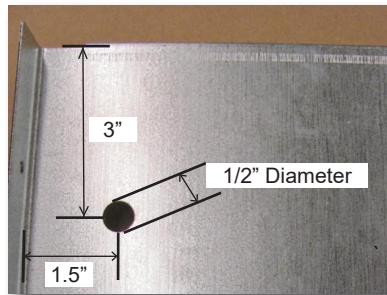


Fig. 6b

7. Install provided bulkhead fitting into the drilled hole. (Figs. 7a, 7b)

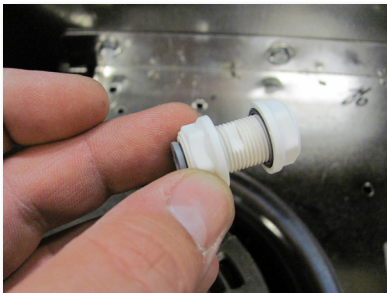


Fig. 7a



Fig. 7b

8. Replace middle access door of air handler. (Fig. 8)

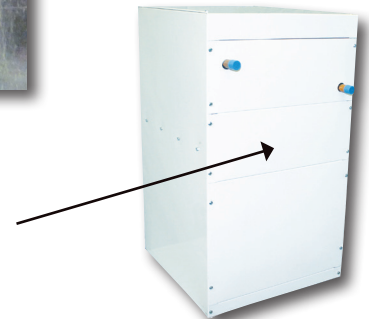


Fig. 8

9. Plug one side of the provided pressure tube into the center plate bulkhead (Fig. 9a) and the other end into the positive (+) bulkhead on the circuit box. (Fig. 9b)



Fig. 9a

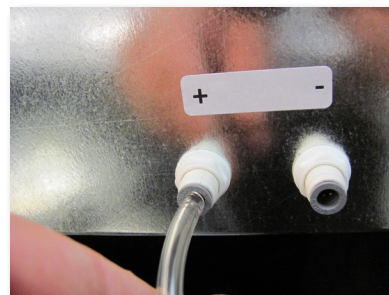


Fig. 9b

LV-Z-1750 Circuit Box Installation

10. Plug in the 4-prong motor plug (male) into the female plug connector coming out of the WEG VFD. Ensure the cut star plug is opened and wrapped around the motor leads then snapped into the motor leads hole in the side of the circuit box. (Figs. 10a-10c)

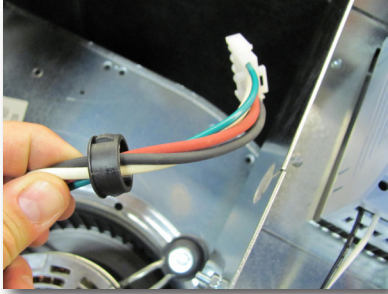


Fig. 10a

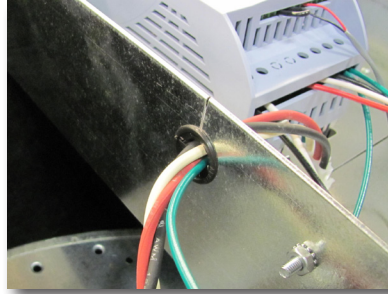


Fig. 10b

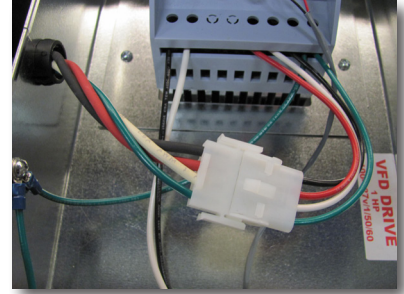


Fig. 10c

11. Secure the circuit box back to the air handler by the "u" flange on one side of the casing, and screwing down the other side. (Fig. 11)

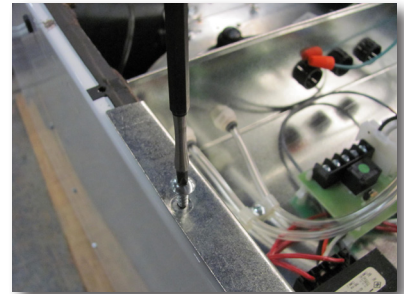


Fig. 11

12. Re-wire thermostat connections, line in and ground wires to the air handler. (Figs. 12a, 12b)

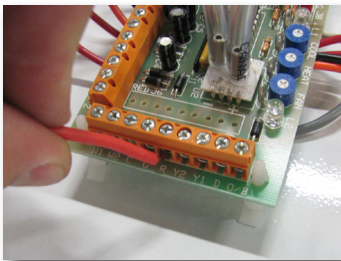


Fig. 12a

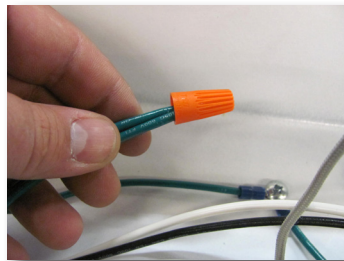


Fig. 12b

13. Connect the second pressure tube to the negative (-) bulk head on the circuit box and run the other end external to the air handler, through the provided star plug. Clamp this end with the provided hose clamp so that it senses ambient pressure. (Fig. 13)



Fig. 13

14. Double check that all wires and pressure tubes are connected. (Fig. 14)

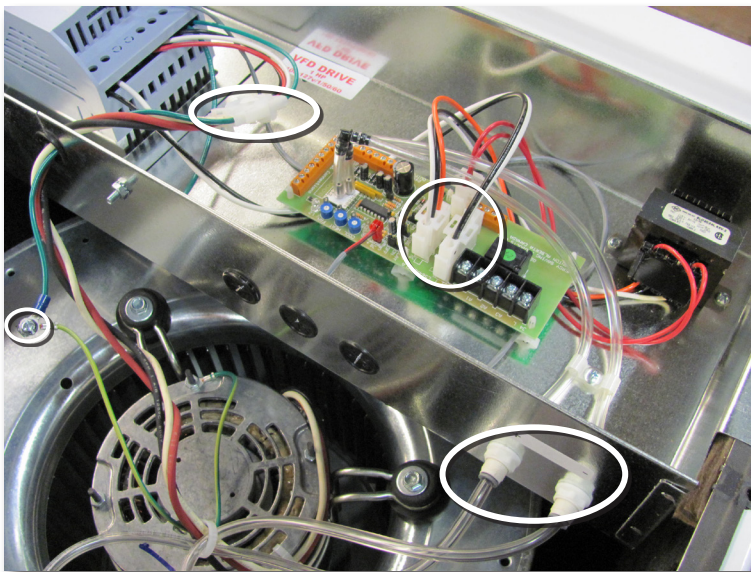


Fig. 14

15. Replace large access door on air handler. (Fig. 15)



Fig. 15

LV-Z-1750 Air Handler - PSB Circuit Board/CFW300 WEG Wiring Diagram

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

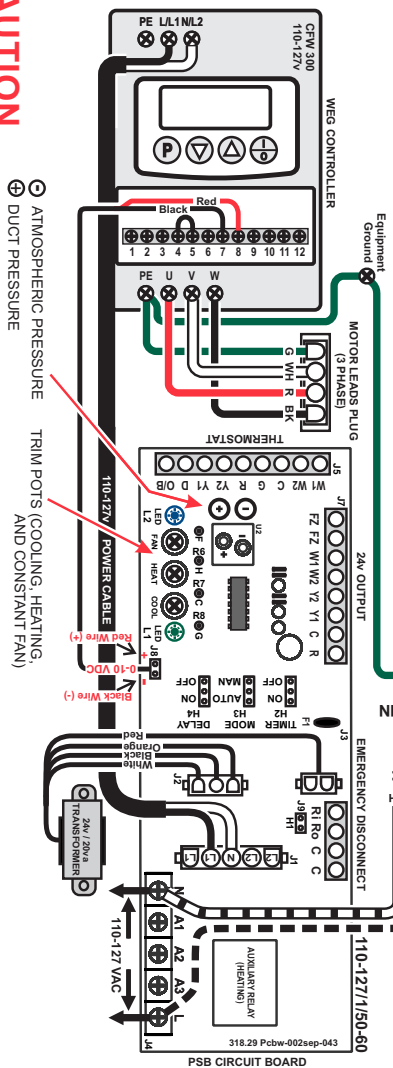


NOTE: CFW10 HAS SLIGHTLY DIFFERENT APPEARANCE - TERMINALS AND WIRING ARE THE SAME

CFW300 HE-Z / LV-Z / VFD

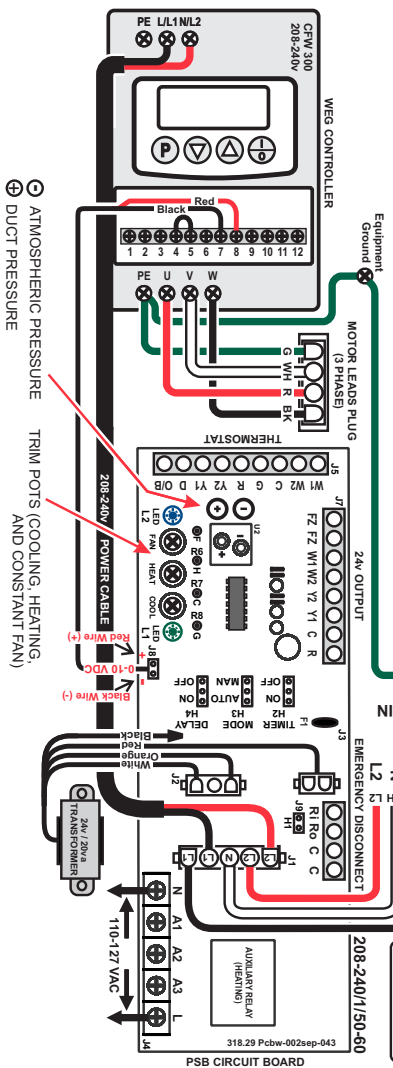
- THERMOSTAT CONNECTIONS**
- R - 24 VAC OUTPUT
- W1 - FIRST STAGE HEAT
- W2 - SECOND STAGE HEAT
- Y1 - FIRST STAGE COOLING
- Y2 - SECOND STAGE COOLING
- (OR SINGLE STAGE)
- G - 24 VAC COMMON
- C - THERMOSTAT FAN SWITCH
- D - PRIORITY (RUNS AT W SPEED)
- O/B - HEATPUMP REVERSING
- EMERGENCY DISCONNECT**
- C - 24 VAC COMMON
- C - 24 VAC COMMON
- R0 - 24 VAC OUTPUT
- R1 - 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
- W1 - HEATING (W1) 24 VAC OUTPUT
- W2 - HEATING (W2) 24 VAC OUTPUT
- Y2 - CONDENSING UNIT 24 VAC OUTPUT
- Y1 - CONDENSING UNIT 24 VAC OUTPUT
- R - 24 VAC OUTPUT
- JUMPER PIN SETTINGS**
- H1 EMERGENCY DISCONNECT: REMOVE PIN IF WIRED TO EMERGENCY DISCONNECT
- H2 TIMER: AUXILIARY RELAY TIMER (SEE NOTES)
- H3 MODE:
 - AUTO - FAN SPEED MODULATES DEPENDING UPON STATIC PRESSURE
 - MANUAL - FAN SPEED OPERATES AT TRIM POTS SET AIR FLOW
 - H4 DELAY: Y20 AND W30 SECOND FAN DELAY. Y AND W 30 SECOND POST PURGE.
- LED LIGHT INDICATORS**
- LED 1 - GREEN LIGHT, PUMP TIMER OPERATION MODE INDICATOR
- LED 2 - BLUE LIGHT, PRESSURE SENSOR

POWER INPUT: 110-127/1150-60



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

POWER INPUT: 208-240/1150-60



PUMP TIMER STATUS	FAN OPERATION MODE
ON: (ACTIVE)	G
ON: (INACTIVE)	W
OFF:	Y
	D
2 SECONDS	2 SECONDS
	2 SECONDS

- NOTES:**
- USE THERMOSTAT FAN SWITCH TO DISABLE/ENABLE CONTINUOUS FAN.
 - 'C' TERMINAL ON THERMOSTAT (COMMON) IS NOT NEEDED FOR SOME THERMOSTATS CONSULT THERMOSTAT INSTRUCTIONS FOR DETAILS.
 - 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.
 - AUXILIARY HEATING RELAY TIMER ACTIVATES CIRCUIT FOR 5 MINUTES EVERY 24 HOURS STARTING WHEN POWER IS APPLIED TO THE UNIT.
 - LED 1: INDICATOR LIGHT FOR FAN SPEED OPERATION AND AUXILIARY RELAY OPERATION. SEE BELOW FOR LIGHT OPERATION SEQUENCE.
 - SEE INSTALLATION MANUAL FOR MORE DETAILED WIRING DIAGRAMS.
 - FREEZE STAT WILL BE BYPASSED.**
 - FAILURE TO SET PROPER AIR FLOW AND/OR OPERATION OF THE SYSTEM MAY RESULT IN DAMAGE TO EQUIPMENT.
 - FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLATION COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.
 - ENSURE THAT THE FILTER IS KEPT CLEAN AT ALL TIMES.
 - MOTOR HAS PERMANENT LUBE BEARINGS AND DOES NOT REQUIRE OILING.
 - WARRANTY VOID IF FAN COIL UNIT IS USED DURING CONSTRUCTION.
- LED 1: (GREEN LIGHT)**
PUMP TIMER/OPERATION MODE INDICATOR LIGHT SEQUENCE

LED 2: PRESSURE SENSING INDICATOR (BLUE LIGHT)

H3 JUMPER PIN: AUTO OR MANUAL MODE
AUTO MODE: LED 2 WILL SPORADICALLY FLICKER (ON/OFF) TO SHOW THAT IT IS PROPERLY SENSING PRESSURE IN THE SYSTEM.
* NO LIGHT INDICATES TRIM POT IS ABOVE NORMAL OPERATING RANGE (COUNTER CLOCKWISE DECREASE).
* SOLID LIGHT INDICATES TRIM POT IS BELOW NORMAL OPERATING RANGE (CLOCKWISE, INCREASE).
MANUAL MODE: LED 2 WILL BE OFF. ADJUST EACH OF THE AIR FLOWS TO DESIRED CFM/LPS OUTPUT.

ADJUSTING TRIM POTS: ON POWER START UP, ALLOW 45 SECONDS FOR SYSTEM TO PRESSURIZE BEFORE MAKING ANY CHANGES.
DO NOT ADJUST MORE THAN A 1/2 TURN AT A TIME, ALLOW 30 SECONDS BETWEEN ADJUSTMENTS FOR THE PSB TO REACH SET POINT.

FAN ADJUSTMENT TRIM POTS

INCREASE AIR FLOW (CLOCKWISE)
 DECREASE AIR FLOW (COUNTER CLOCKWISE)

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

*Note: LV-Z air handlers come factory set in manual mode.

HE-Z/LV-Z-110V/220V
102020

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