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Dallas, Texas, USA

# INSTALLATION INSTRUCTIONS

## Electric Heat Kit for VVCA Upflow/Horizontal-Right Air Handler

VRF SYSTEMS -- V8EH Series Electric Heat Kit  
507567-01  
11/2015

### General

The V8EH series electric heat kits are used with VRF VVCA indoor units. Heat kits may be installed in either upflow or horizontal air discharge applications. The V8EH units are designed for indoor use only.

### Shipping and Packing List

Check the components for shipping damage. If you find any damage, immediately contact the last carrier.

Package 1 of 1 contains the following:

- 1 - Assembled electric heat coil
- 1 - Installation/Operations manual

### Requirements

Installation of electric heat sections must conform with standard in National Fire Protection Association (NFPA) Standard for Installation of Air Conditioning and Ventilation Systems NFPA No. 90A, Standard for the Installation of Residence Type Warm Air Heating and Air Conditioning System NFPA No. 90B, manufacturer's installation instructions and local municipal building codes. Heaters are approved for clearance to combustible materials as listed on heater rating plate. Accessibility and service clearances must take precedence over fire protection clearances. All wiring must conform with local codes and the National Electric Code (NEC). ANSI-C1-1978.

### ⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

Installation and service must be performed by a licensed professional HVAC installer, service agency or the gas supplier.

Failure to follow safety warnings and these instructions exactly could result in property damage, dangerous operation, serious injury, or death.

Any additions, changes, or conversions required in order for the appliance to satisfactorily meet the application needs must be made by a licensed professional HVAC installer (or equivalent) using factory-specified parts.

Do not use this system if any part has been under water. A flood-damaged appliance is extremely dangerous. Immediately call a licensed professional HVAC service technician (or equivalent) to inspect the system and to replace all controls and electrical parts that have been wet, or to replace the system, if deemed necessary.

**Electric Shock Hazard. Can cause injury or death.** Line voltage is present at all components on units with single-pole contactors, even when unit is not in operation! Unit may have multiple power supplies. Disconnect all remote electric power supplies before opening access panel. Unit must be grounded in accordance with national and local codes.

### ⚠ CAUTION

As with any mechanical equipment, personal injury can result from contact with sharp sheet metal edges. Wear protective clothing and be careful when handling this equipment.

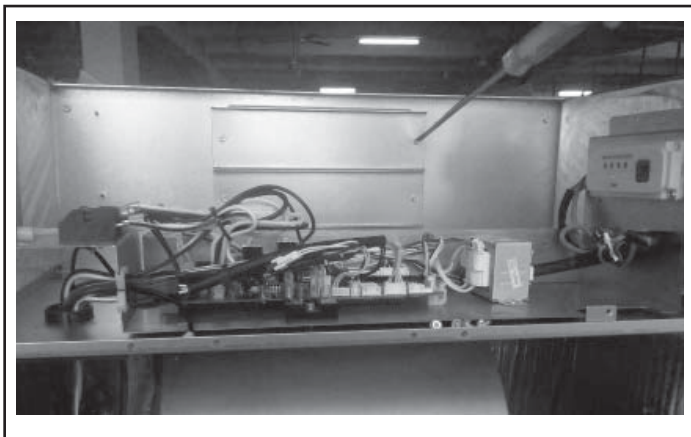
## Installation

1. Disconnect power from the VVCA unit.
2. Remove the blower access panel and top panel (if space allows).



**Figure 1. Remove Blower Access Panel**

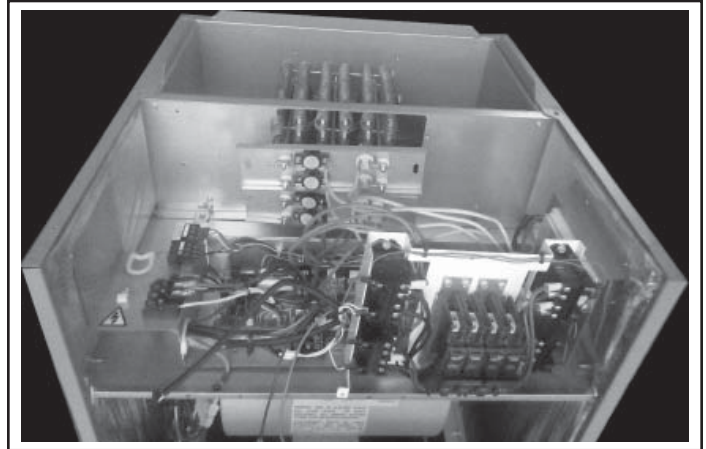
3. Remove the screws that secure the main control board and terminal strip assembly inside of the control panel. Lay the panel flat inside of the control panel to allow for room to install the heat kit. See figure 2.
4. Remove the heat kit access panel. See figure 2.
5. Align the electric heat kit with the air handler unit and slide the heating element into the heat kit



**Figure 2. Remove Heat Kit Access Panel**

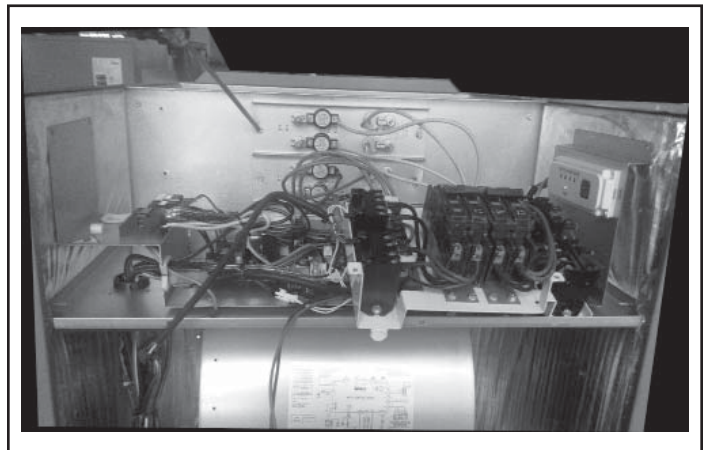
opening.

6. Secure mounting plate with the screws removed in Step 4.



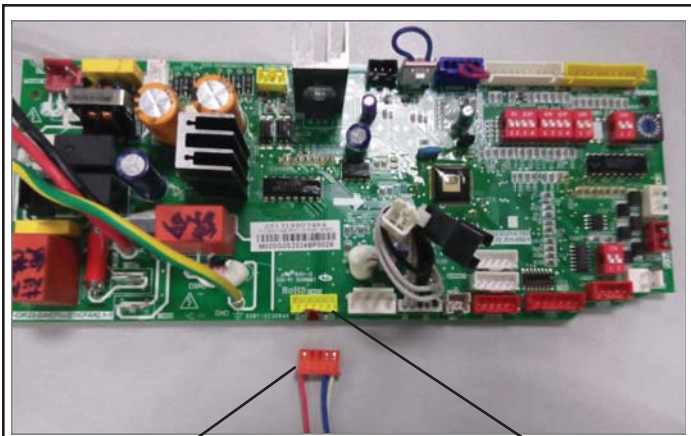
**Figure 3. Slide Heat Kit Into Opening**

7. The heat kit is powered separately from the VVCA unit. Follow NEC/CEC and local codes for the electrical supply. Straighten wires and secure with a wire tie.



**Figure 4. Secure Mounting Plate**

8. Reinstall the main control board and terminal strip assembly with the screws removed in step 3.
9. Connect the heat kit wiring harness to CN 53 on the VVCA main board. See figures 5 and 6.
10. Connect black and red high voltage wires from the heat kit to the terminal strip. See figure 7 and the wiring diagrams figure 10 to 12
11. Secure the circuit breaker panel onto the lip at the front of the control box. See figure 8.
12. Break out appropriate area of the circuit breaker knockout on the blower access panel. See figure 9.



Electric Heat Kit Wiring Harness CN 53

Figure 5. Connect Heat Kit to CN 53



Figure 6. VVCA Main Board CN 53

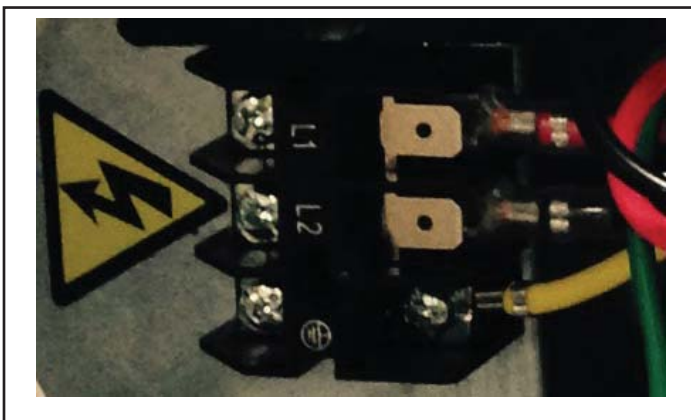


Figure 7. Connect High Voltage Wiring

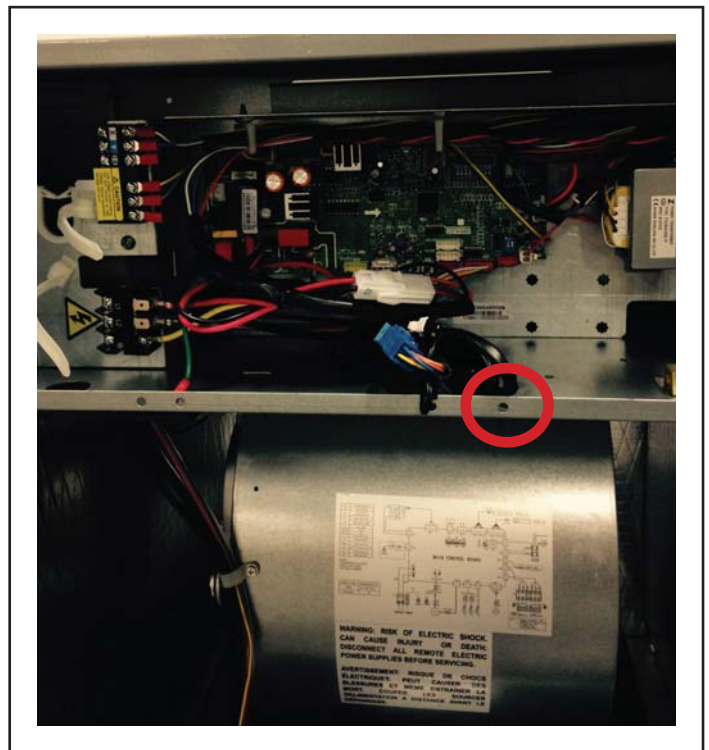
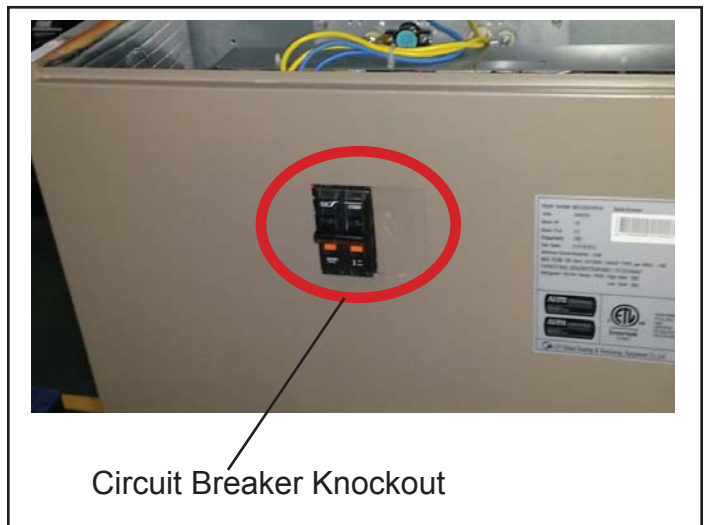


Figure 8. Secure Circuit Breaker Panel

13. Reinstall the blower access panel and top panel (if removed) on the VVCA unit.
14. Restore power to the VVCA unit. Turn on power to the electric heat kit.



Circuit Breaker Knockout

Figure 9. Break Out Circuit Breaker Knockout

VVCA018H4

Description		Input			Blower Motor Full Load Amps	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection	Blower Speed		
		Volt	kW	<sup>1</sup> Btuh				Low	Medium	High
5 kW	V8EH0050P-1P (13P59)	208	3.8	12,800	3.0	26.8	30	•	•	•
		220	4.2	14,300	3.0	27.8	30	•	•	•
		230	4.6	15,700	3.0	28.8	30	•	•	•
		240	5.0	17,100	3.0	29.8	30	•	•	•
7.5 kW	V8EH0080P-1P (13P63)	208	5.6	19,200	3.0	37.8	40	---	•	•
		220	6.3	21,500	3.0	39.8	40	---	•	•
		230	6.9	23,500	3.0	41.8	45	---	•	•
		240	7.5	25,600	3.0	42.8	45	---	•	•

VVCA024H4

Description		Input			Blower Motor Full Load Amps	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection	Blower Speed		
		Volt	kW	<sup>1</sup> Btuh				Low	Medium	High
5 kW	V8EH0050P-1P (13P59)	208	3.8	12,800	3.0	26.8	30	•	•	•
		220	4.2	14,300	3.0	27.8	30	•	•	•
		230	4.6	15,700	3.0	28.8	30	•	•	•
		240	5.0	17,100	3.0	29.8	30	•	•	•
7.5 kW	V8EH0080P-1P (13P63)	208	5.6	19,200	3.0	37.8	40	•	•	•
		220	6.3	21,500	3.0	39.8	40	•	•	•
		230	6.9	23,500	3.0	41.8	45	•	•	•
		240	7.5	25,600	3.0	42.8	45	•	•	•
10 kW	V8EH0100P-1P (13P64)	208	7.5	25,600	3.0	48.8	50	---	•	•
		220	8.4	28,700	3.0	51.8	60	---	•	•
		230	9.2	31,400	3.0	53.8	60	---	•	•
		240	10.0	34,100	3.0	55.8	60	---	•	•

VVCA030H4

Description		Input			Blower Motor Full Load Amps	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection	Blower Speed		
		Volt	kW	<sup>1</sup> Btuh				Low	Medium	High
5 kW	V8EH0050P-1P (13P59)	208	3.8	12,800	3.0	26.8	30	•	•	•
		220	4.2	14,300	3.0	27.8	30	•	•	•
		230	4.6	15,700	3.0	28.8	30	•	•	•
		240	5.0	17,100	3.0	29.8	30	•	•	•
7.5 kW	V8EH0080P-1P (13P63)	208	5.6	19,200	3.0	37.8	40	•	•	•
		220	6.3	21,500	3.0	39.8	45	•	•	•
		230	6.9	23,500	3.0	41.8	45	•	•	•
		240	7.5	25,600	3.0	42.8	45	•	•	•
10 kW	V8EH0100P-1P (13P64)	208	7.5	25,600	3.0	48.8	50	•	•	•
		220	8.4	28,700	3.0	51.8	60	•	•	•
		230	9.2	31,400	3.0	53.8	60	•	•	•
		240	10.0	34,100	3.0	55.8	60	•	•	•

VVCA036H4

	Description	Input			Blower Motor Full Load Amps	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection	Blower Speed		
		Volt	kW	<sup>1</sup> Btuh				Low	Medium	High
5 kW	V8EH0050P-1P (13P59)	208	3.8	12,800	4.2	28.3	30	•	•	•
		220	4.2	14,300	4.2	29.3	30	•	•	•
		230	4.6	15,700	4.2	30.3	35	•	•	•
		240	5.0	17,100	4.2	31.3	35	•	•	•
7.5 kW	V8EH0080P-1P (13P63)	208	5.6	19,200	4.2	39.3	40	•	•	•
		220	6.3	21,500	4.2	41.3	45	•	•	•
		230	6.9	23,500	4.2	42.3	45	•	•	•
		240	7.5	25,600	4.2	44.3	45	•	•	•
10 kW	V8EH0100P-1P (13P64)	208	7.5	25,600	4.2	50.3	60	•	•	•
		220	8.4	28,700	4.2	53.3	60	•	•	•
		230	9.2	31,400	4.2	55.3	60	•	•	•
		240	10.0	34,100	4.2	57.3	60	•	•	•

VVCA048H4, VVCA054H4

	Description	Input			Blower Motor Full Load Amps	<sup>2</sup> Minimum Circuit Ampacity		<sup>3</sup> Maximum Overcurrent Protection		Single Point Power Source		Blower Speed		
		Volt	kW	<sup>1</sup> Btuh		Ckt 1	Ckt 2	Ckt 1	Ckt 2	<sup>2</sup> Minimum Circuit Ampacity	<sup>3</sup> Maximum Overcurrent Protection	Low	Medium	High
5 kW	V8EH0050P-1P (13P59)	208	3.8	12,800	4.2	---	---	---	---	28.3	30	•	•	•
		220	4.2	14,300	4.2	---	---	---	---	29.3	30	•	•	•
		230	4.6	15,700	4.2	---	---	---	---	30.3	35	•	•	•
		240	5.0	17,100	4.2	---	---	---	---	31.3	35	•	•	•
7.5 kW	V8EH0080P-1P (13P63)	208	5.6	19,200	4.2	---	---	---	---	39.3	40	•	•	•
		220	6.3	21,500	4.2	---	---	---	---	41.3	45	•	•	•
		230	6.9	23,500	4.2	---	---	---	---	42.3	45	•	•	•
		240	7.5	25,600	4.2	---	---	---	---	44.3	45	•	•	•
10 kW	V8EH0100P-1P (13P64)	208	7.5	25,600	4.2	---	---	---	---	50.3	60	•	•	•
		220	8.4	28,700	4.2	---	---	---	---	53.3	60	•	•	•
		230	9.2	31,400	4.2	---	---	---	---	55.3	60	•	•	•
		240	10.0	34,100	4.2	---	---	---	---	57.3	60	•	•	•
15 kW	V8EH0150P-1P (13P75)	208	11.3	38,400	4.2	50.3	23	60	25	73.3	80	---	•	•
		220	12.6	43,000	4.2	53.3	24	60	25	77.3	80	---	•	•
		230	13.8	47,000	4.2	55.3	25	60	25	80.3	90	---	•	•
		240	15.0	51,000	4.2	57.3	26	60	30	83.3	90	---	•	•
20 kW	V8EH0200P-1P (13P76)	208	15.0	51,200	4.2	50.3	45	60	50	95.3	100	---	•	•
		220	16.8	57,300	4.2	53.3	48	60	50	101.3	110	---	•	•
		230	18.4	62,700	4.2	55.3	50	60	50	105.3	110	---	•	•
		240	20.0	68,200	4.2	57.3	52	60	60	109.3	110	---	•	•

NOTE - Circuit 1 Minimum Circuit Ampacity includes the Blower Motor Full Load Amps.

<sup>1</sup> Electric heater capacity only - does not include additional blower motor heat capacity.

<sup>2</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F.

<sup>3</sup> HACR type breaker or fuse.

# Wiring

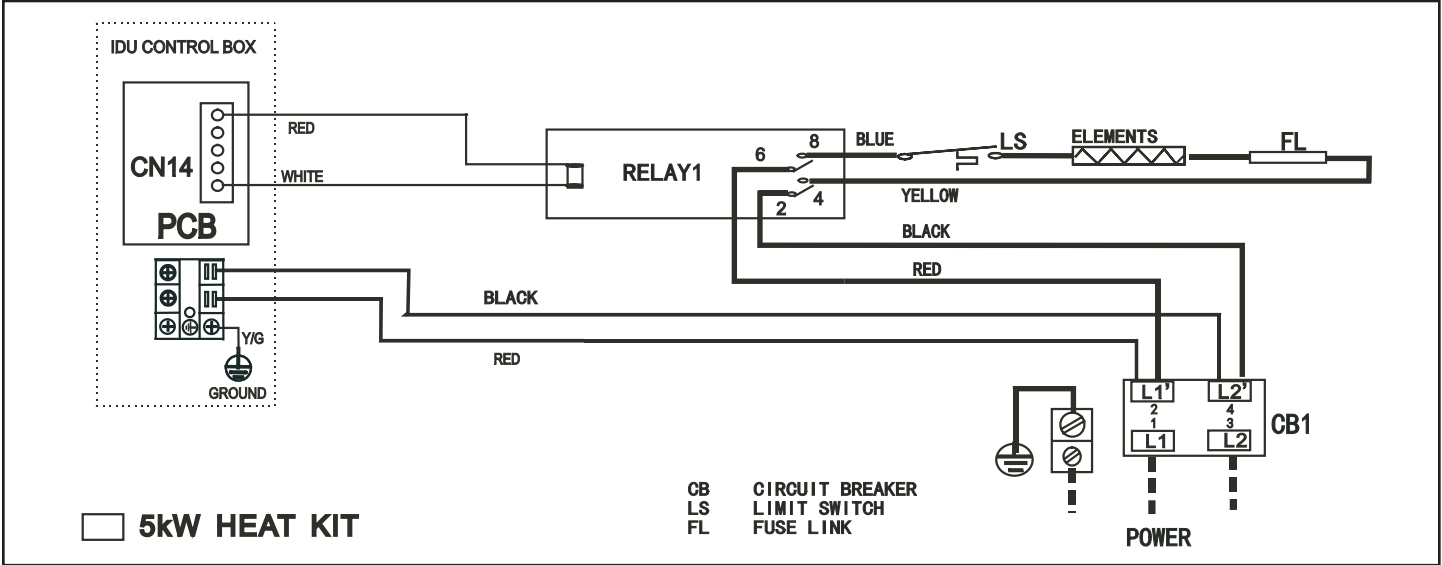


Figure 6. 5kW Wiring Diagram

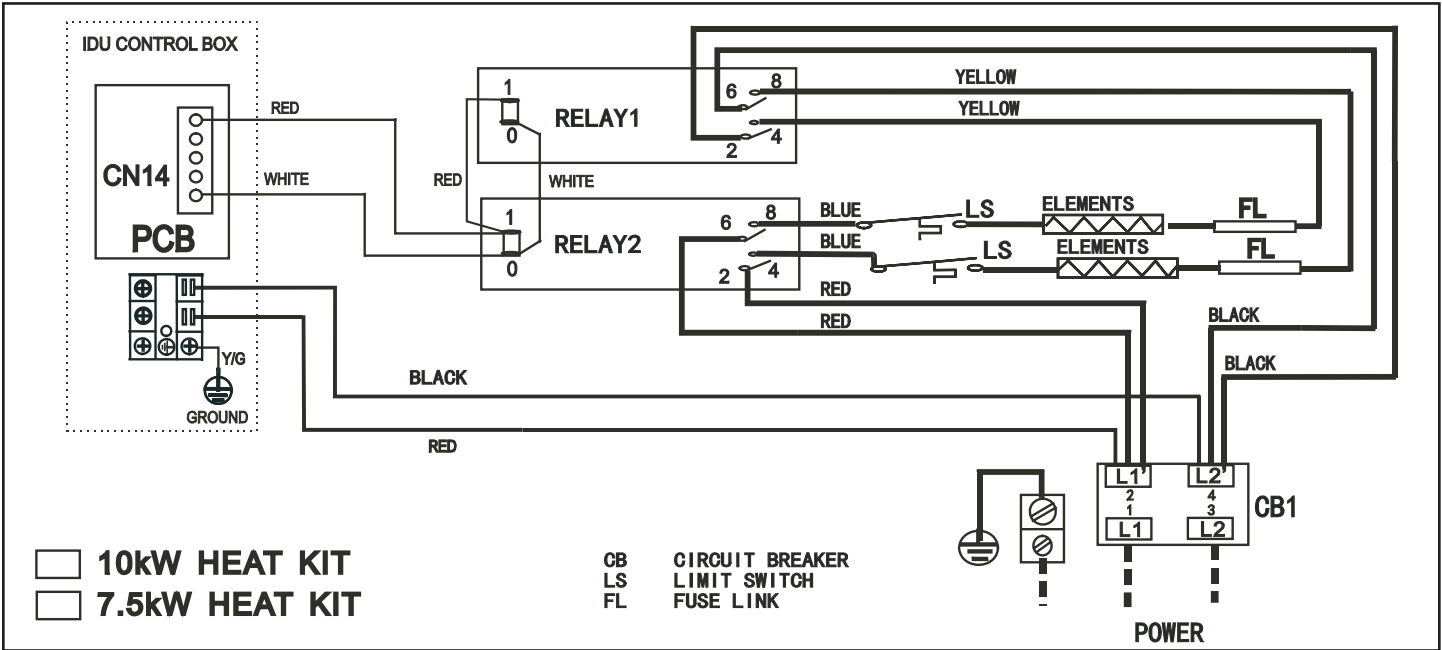


Figure 10. 7.5 and 10kW Wiring Diagram

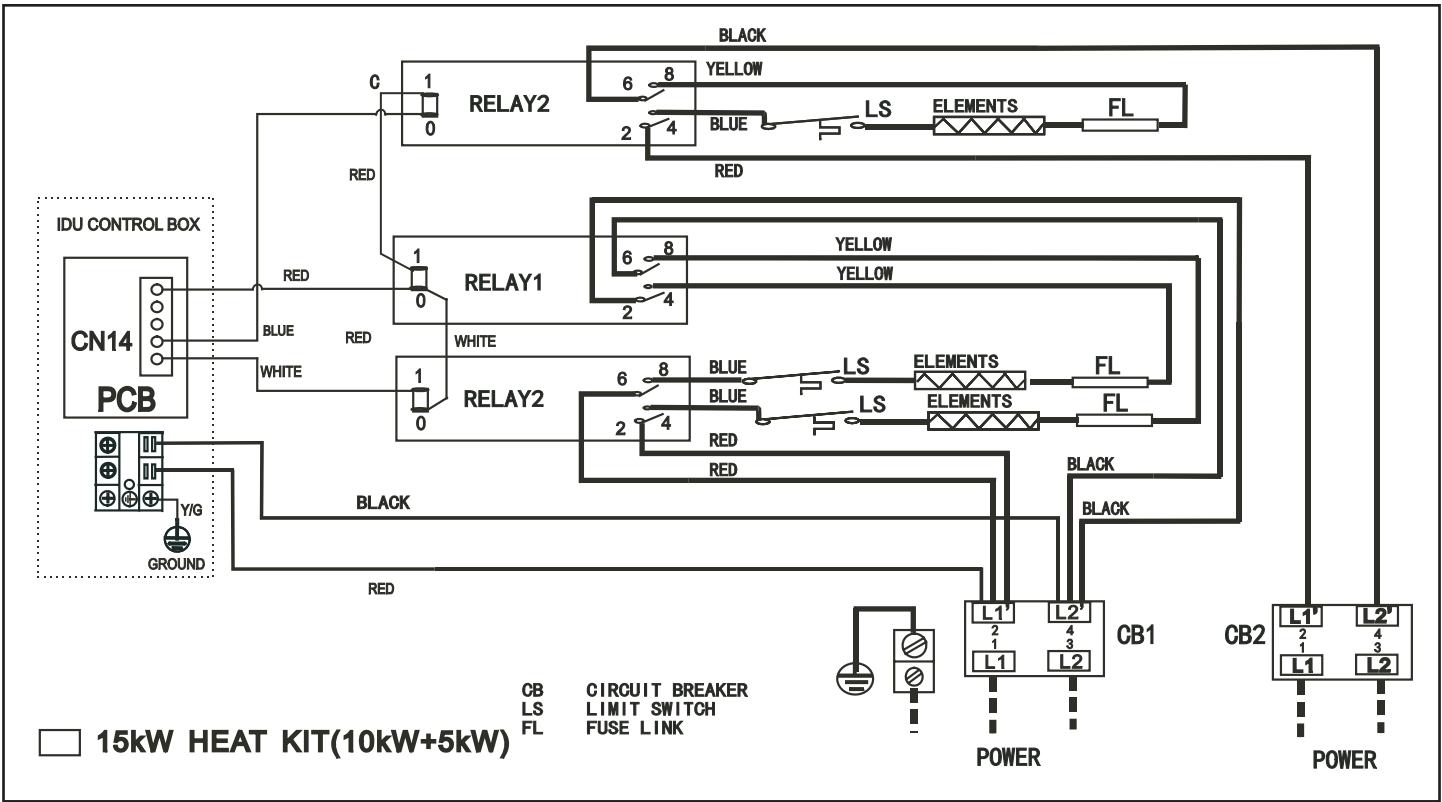


Figure 11. 15kW Wiring Diagram

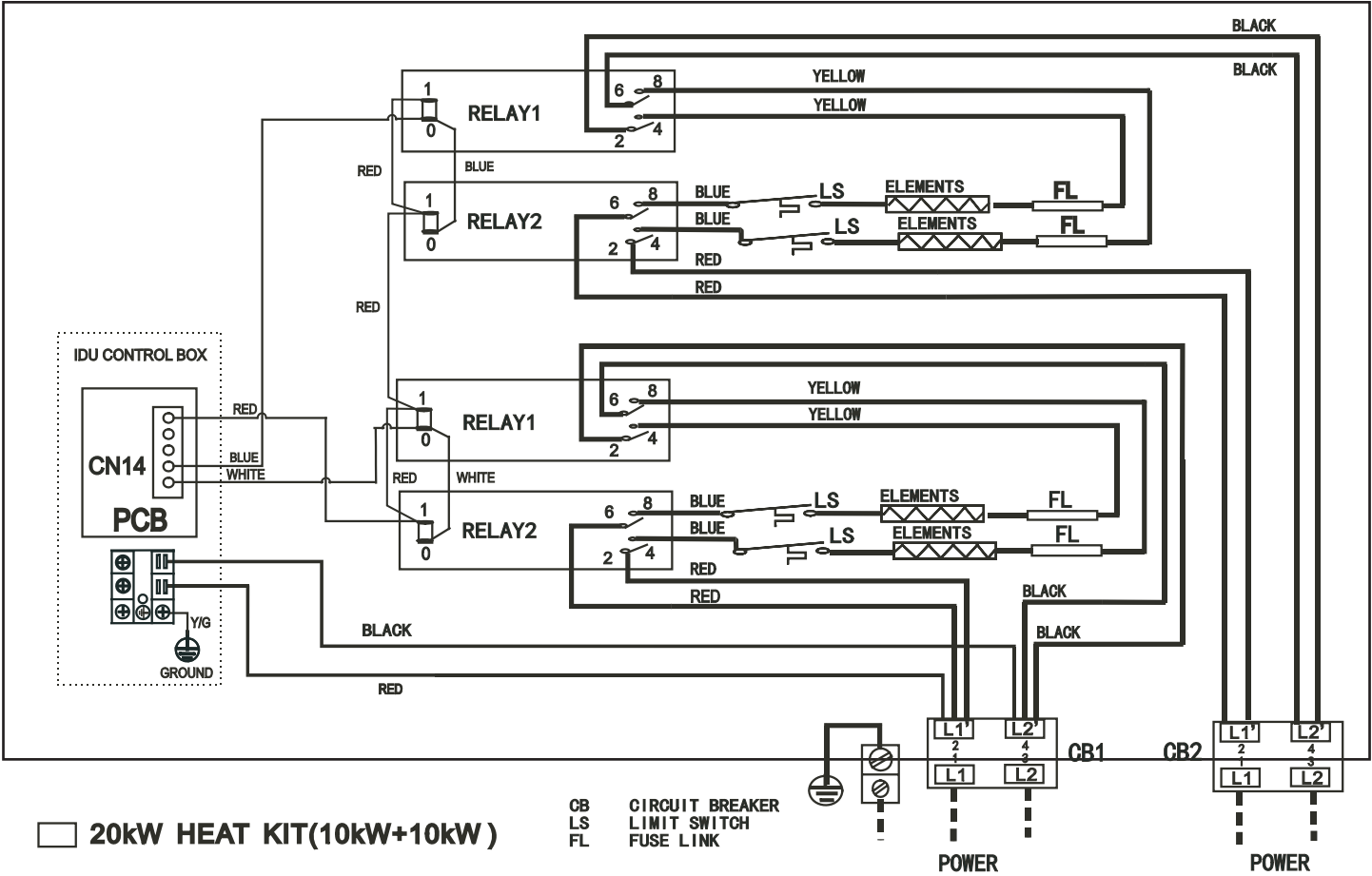


Figure 12. 20kW Wiring Diagram

