

Kit Instructions

LIGHT SERVICE COMMERCIAL ELECTRIC WATER HEATER CONVERSION KIT

240 Volt, 9,000 Watt Conversions Only



CONTENTS

FOREWORD	3	Introduction	4
Required Ability	3	Heater Preparation	4
Conversion Materials	3	Simultaneous/Non-Simultaneous Conversion	4
CONVERSION INSTRUCTIONS	4	Final Assembly	6
Required Ability	4	Miscellaneous Information	7

FOREWORD

The number of heating elements must remain the same. Increasing or decreasing the number of heating elements from the original build is not approved by Underwriter Laboratories, Inc.

The heater to be converted and the appropriate conversion for the heater must be found on the same page of this manual. Read the entire contents of this manual before attempting any conversion.

⚠ WARNING	
Electrical Shock Hazard	
	<ul style="list-style-type: none">• Turn off power at the branch circuit breaker serving the water heater before performing any service.• Label all wires prior to disconnecting when performing service. Wiring errors can cause improper and dangerous operation.• Verify proper operation after servicing.• Failure to follow these instructions can result in personal injury or death.

REQUIRED ABILITY

CONVERSION OF ANY WATER HEATER LISTED IN THIS MANUAL REQUIRES ABILITY EQUIVALENT TO THAT OF A QUALIFIED SERVICE TECHNICIAN OR QUALIFIED AGENCY.

CONVERSION MATERIALS

- Conversion kit: Includes conversion instructions, conversion kit label, caution label.

Note: 12,000W @ 277V to 9,000W @ 240V Conversions Only

CONVERSION INSTRUCTIONS

REQUIRED ABILITY

CONVERSION OF ANY WATER HEATER LISTED IN THIS MANUAL REQUIRES ABILITY EQUIVALENT TO THAT OF A QUALIFIED SERVICE TECHNICIAN OR QUALIFIED AGENCY.

INTRODUCTION

Satisfying a customer order for an electric heater from inventory may require modification of the kW input or the voltage. Conversions may involve revision to one or both of these electrical characteristics. The number of elements cannot be changed.

240 Volt 9.0 kW conversions do not require element replacement. Therefore, the installer need only perform simultaneous vs. non-simultaneous operation conversions, if applicable, and apply appropriate Rating Plate Overlay and Caution Labels.

HEATER PREPARATION

The heater should be placed in a well lit area. Removal of the shipping carton is not required. Locate front of carton (opposite side of heater identification label). Cut a three-sided flap into front of carton, cut should be on top, bottom and right side approximately 4" from carton edges. Leave the left side of the flap as a hinge. Cuts made 4" from the edge of carton will permit proper reclosure when conversion is completed.

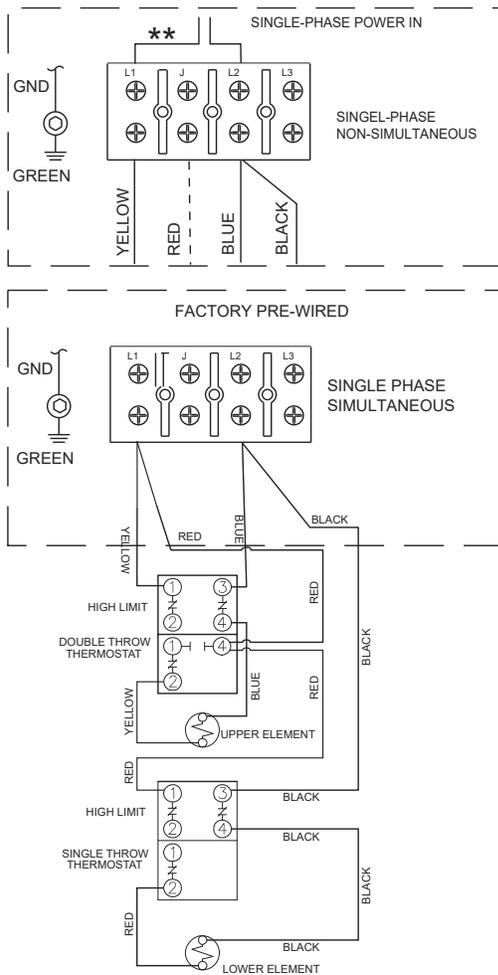
If changes are required to the Simultaneous/Non-Simultaneous operation of the heater the top packaging locator will need to be removed for access to the heater's electrical junction box.

SIMULTANEOUS/NON-SIMULTANEOUS CONVERSION

- A. Refer to *Figure 1* (Four-Wire Circuit for Dual-Element Heater) for simultaneous/non-simultaneous wiring configurations.
- B. Locate the junction box on top of the heater. Remove the cover.
- C. The heater is factory wired for simultaneous operation. For field conversion to single phase non-simultaneous operation, move the Red wire from the L1 terminal to the J terminal, see Figure 1 below. Leave the Yellow wire in the L1 terminal and check that all wiring connections are tight before applying power to the water heater.
- D. Re-install the junction box cover.

Notice

Recheck all terminals for tightness, proper wiring per schematic, and neatness of wiring. Heater should be no less than factory constructed quality and appearance.



* NOTE:
MUST NOT BE CONVERTED TO
SIMULTANEOUS OPERATION IF TOTAL
CURRENT DRAW EXCEED 48 AMPS.

----- : FIELD CONVERSION

Figure 1. Four-Wire Circuit for Dual-Element Heater

FINAL ASSEMBLY

A. RATING PLATE MODIFICATION OF DUAL ELEMENTS ELECTRIC WATER HEATERS.

Following is an example of the standard rating plate supplied on the front of dual element commercial electric water heaters.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>COMMERCIAL STORAGE TANK WATER HEATER</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 5px;"> <p>LISTED 22U1</p> <p>LLC</p> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">VOLTS AC ONLY VOLT CA SEULEMENT</td> <td style="width: 33%; text-align: center;">WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS</td> <td style="width: 33%; text-align: center;">WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS</td> <td style="width: 10%; text-align: center;">PHASE</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">TOTAL WATTS CONNECTED COURANT TOTAL</td> </tr> <tr> <td style="text-align: center;">INTERLOCK 1 PH/3 PH</td> <td colspan="2" style="text-align: center;">SIMULTANEOUS 1 PH 3 PH</td> <td style="border: 1px dashed black;"></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td style="text-align: center;">XXXXXXXXXX</td> </tr> </table>	VOLTS AC ONLY VOLT CA SEULEMENT	WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS	WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS	PHASE					TOTAL WATTS CONNECTED COURANT TOTAL				INTERLOCK 1 PH/3 PH	SIMULTANEOUS 1 PH 3 PH						XXXXXXXXXX
VOLTS AC ONLY VOLT CA SEULEMENT	WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS	WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS	PHASE																		
TOTAL WATTS CONNECTED COURANT TOTAL																					
INTERLOCK 1 PH/3 PH	SIMULTANEOUS 1 PH 3 PH																				
			XXXXXXXXXX																		

The volts, phase, and watts information of the rating plate must be modified by covering them with conversion label provided in the conversion kit. Be sure the new ratings on the label match the conversion you have just completed.

Peel off the back of the label and paste over the area as shown on the revised rating plate below.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>COMMERCIAL STORAGE TANK WATER HEATER</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 5px;"> <p>LISTED 22U1</p> <p>LLC</p> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">VOLTS AC ONLY VOLT CA SEULEMENT</td> <td style="width: 33%; text-align: center;">WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS</td> <td style="width: 33%; text-align: center;">WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS</td> <td style="width: 10%; text-align: center;">PHASE</td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">TOTAL WATTS CONNECTED COURANT TOTAL</td> </tr> <tr> <td style="text-align: center;">INTERLOCK 1 PH/3 PH</td> <td colspan="2" style="text-align: center;">SIMULTANEOUS 1 PH 3 PH</td> <td style="border: 1px dashed black;"></td> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td style="text-align: center;">XXXXXXXXXX</td> </tr> </table>	VOLTS AC ONLY VOLT CA SEULEMENT	WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS	WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS	PHASE					TOTAL WATTS CONNECTED COURANT TOTAL				INTERLOCK 1 PH/3 PH	SIMULTANEOUS 1 PH 3 PH						XXXXXXXXXX
VOLTS AC ONLY VOLT CA SEULEMENT	WATTS UPPER COURANT DE L'ELEMENT DU HAUT EN WATTS	WATTS LOWER COURANT DE L'ELEMENT DU HAUT EN WATTS	PHASE																		
TOTAL WATTS CONNECTED COURANT TOTAL																					
INTERLOCK 1 PH/3 PH	SIMULTANEOUS 1 PH 3 PH																				
			XXXXXXXXXX																		

B. CAUTION LABEL

Peel off back of caution label and place as near to rating plate as possible, taking care not to cover any existing labels.

C. CARTON IDENTIFICATION

Using a black permanent marker, cross out heater identification on carton as appropriate. In bold letters, write new electrical specifications on carton, matching those on the revised rating plate.

D. SHIPPING CARTON

Close and tape the cardboard flap on the front of carton and re-install the top locator if removed. Seal top of carton.



DO NOT ENERGIZE THE BRANCH CIRCUIT FOR ANY REASON BEFORE THE HEATER TANK IS FILLED WITH WATER. DOING SO WILL CAUSE THE HEATING ELEMENTS TO BURN OUT AND VOID WARRANTY.

MISCELLANEOUS INFORMATION

Table 1. FULL LOAD CURRENT IN AMPERES

kW Input	240V
4.5	18.8

