

# INSTALLATION AND MAINTENANCE



## LPWC Series Ceiling Heaters

Model #  
**LPW1227C**

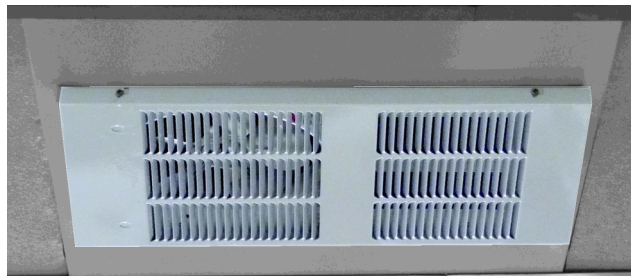


Figure 1-1



DANGER

**ELECTRIC SHOCK OR FIRE HAZARD**

**READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND PERSONAL INJURY**

## ⚠ WARNING ⚠

**READ CAREFULLY** - Use the heater only as described in this manual. Any other use is not recommended and could result in fire, electric shock, and personal injury. Following these instructions will prevent difficulties that might occur during the installation and use of the heater. Please study the instructions first, as they may save considerable time and trouble during use addition to providing important safety information. Make sure to save these instructions for future use.

- ⚠ **WARNING** 1. Read all instructions before wiring or using this heater.
- ⚠ **WARNING** 2. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, boxes, etc., and curtains must be at least 3 feet away from the front and sides of heater.
- ⚠ **WARNING** 3. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
- ⚠ **WARNING** 4. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a qualified electrician for repair before reusing.
- ⚠ **WARNING** 5. Do not use outdoors.
- ⚠ **WARNING** 6. To disconnect heater, turn controls to OFF, and turn OFF power from main service panel.
- ⚠ **WARNING** 7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
- ⚠ **WARNING** 8. To prevent a possible of fire, do not block air intakes or exhaust in any manner.
- ⚠ **WARNING** 9. A heater has hot and arching or sparking parts inside. Do not use it in areas where gasoline, paint, or any other flammable vapors or liquids are stored.
- ⚠ **WARNING** 10. Use this heater only as described in the manual. Any other use is not recommended by the manufacturer and may cause fire, electric shock, explosion or injury to people and or property.
- ⚠ **WARNING** 11. This heater includes a **SMART LIMIT PROTECTION** that shuts down heater in the event of excessive over heating.
- ⚠ **WARNING** 12. Heater is not intended for use in bathrooms, laundry areas or similar indoor locations. Never locate heater where it may fall into a bathtub or other water container.

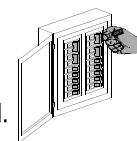
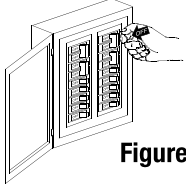


Figure 1-2

# LPW INSTALLATION INSTRUCTIONS



**CAUTION!**  
Turn OFF all electrical power to install heater

Figure 2-1

## Rating Label Location



Figure 2-3

## DANGER

**ELECTRIC SHOCK OR FIRE HAZARD**

READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND PERSONAL INJURY

Figure 2-2

ALL WARRANTIES ARE VOID IF THIS HEATER IS USED DURING CONSTRUCTION FOR HEATING.  
**King Electrical Mfg. Seattle Wa.** LISTED HEATER E273  
 Do Not Install Less Than 6" From Vertical Side Walls. Install Bottom Of Heater Not Less Than 4" Above The Finished Floor. The Electrical Power To The Heater Is To Be Disconnected Before The Grill Is Removed For Cleaning. Do Not Operate The Heater With Grill Removed. For Use With Wallbox LPWV/WWC. Installez La Partie 182mm Loin De Murage Verticale. Installez La Partie Interieure Du Radiateur Au Moins A 100mm Audeessus Du Plancher Fini.  
**MODEL: LPW2740T WATTS: 4000 VOLTS: 277**  
 CIRCLE MAXIMUM WATTS THIS HEATER IS WIRED FOR  
 277 VOLT: 4000-3000-2000-1000  
 MADE IN U.S.A.

### Selecting a location for your heater:

Do Not install less than 6 inches from vertical side walls or open edge of door. This heater must have an unrestricted airflow. Do Not select a location where it is likely to be blocked by furniture, curtains, etc. Be sure the location selected allows sufficient space for the heater as shown below by Table 1. Do Not locate this heater in an area where combustible vapors, gases, flammable liquids, or excessive lint, dust or moisture is present.

Table 1

Minimum Clearances for heater:			
Front	TOP	BOTTOM	SIDES
36 in	12 in	4 in	6 in
0.9 m	30.5 cm	10.2 cm	15.2 cm

The wire and breaker sizing chart will give a general rule of installation size. Consult an electrician if you are not knowledgeable about wiring codes.

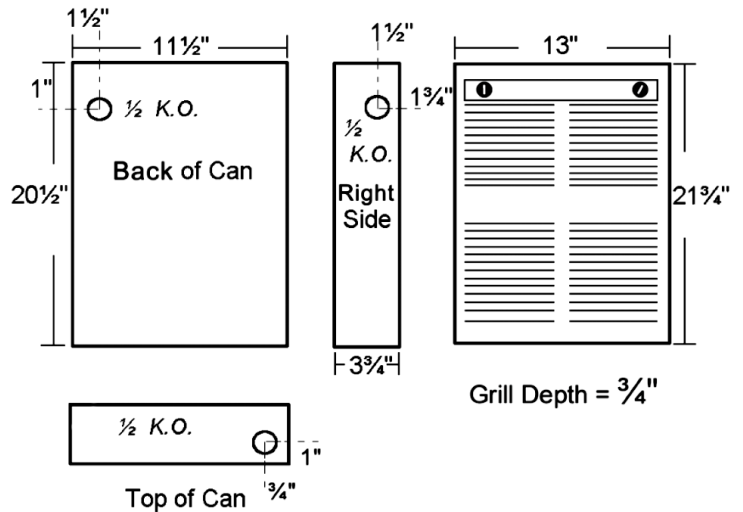
### Wire and Breaker Sizing:

#### WIRING: Branch Circuit Connection

Table 2

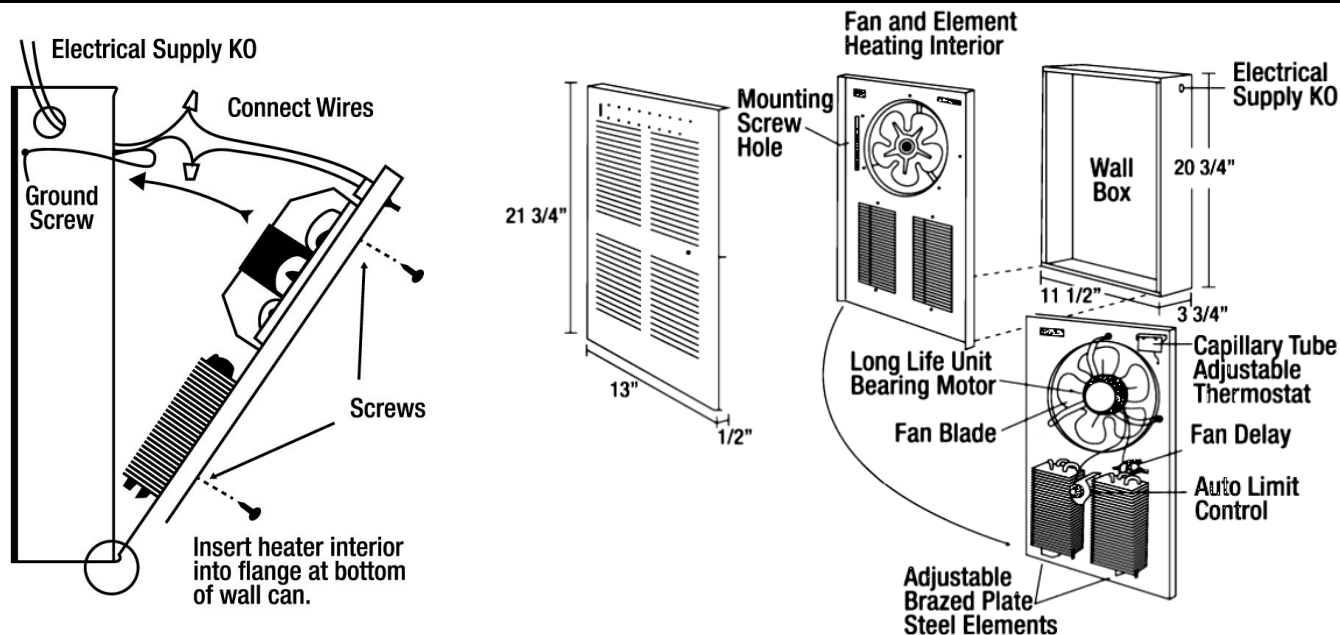
Total Amps	Minimum AWG. Wire Size (Copper)	Circuit Breaker or Fuse Size
0 thru 12	#14	15 amp
12.1 thru 16	#12	20 amp
16.1 thru 24	#10	30 amp

Zero clearance to insulation.



1. Connect heater only to the voltage, amperage and frequency specified on the nameplate.
2. Wiring procedures and connections shall be in accordance with all National and local codes having jurisdiction.
3. Set the bag containing the grill and packet with (4) grill screws aside.
4. Loosen mounting screw and remove fan heater assembly.
5. A knockout of 1/2 inch conduit size (7/8 inch) is provided in the back and side of the heater for power to enter. Provide proper strain relief connectors (not included) for your wire entering the wall box.
6. Install wall box a minimum of 6 inches from vertical side walls and 4 inches above floor.
7. Secure wall box to the 2 x 4 studs using the (2) holes on the side of the wall box. Secure to wall stud on opposite side if required.
8. Connect supply wires, attach ground feed wire to the green ground wire with wire nuts.
9. Reinstall heater assembly into wall box with screw at top of interior.
10. Install grill securely with screws provided in packet. Do Not over tighten.
11. Test unit by turning thermostat up past room temperature. You will see a puff of smoke as the elements are energized and the fan turns on. This is a normal burn off of manufacturing lubricants and will dissipate in 5 minutes.
12. Heater will continue to run until the room temperature you set is reached and then turn itself off until temperature drops again.

# WIRING

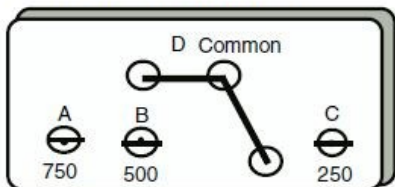


## INSTALLATION INSTRUCTIONS

This heater is shipped from the factory wired at maximum wattage of 2750 Watts at 120 Volts. To reduce the wattage unplug (disconnect) an insulated push on terminal and wrap with electrical tape to prevent the possibility of electrical contact with other parts.

### WIRE COLOR CODING

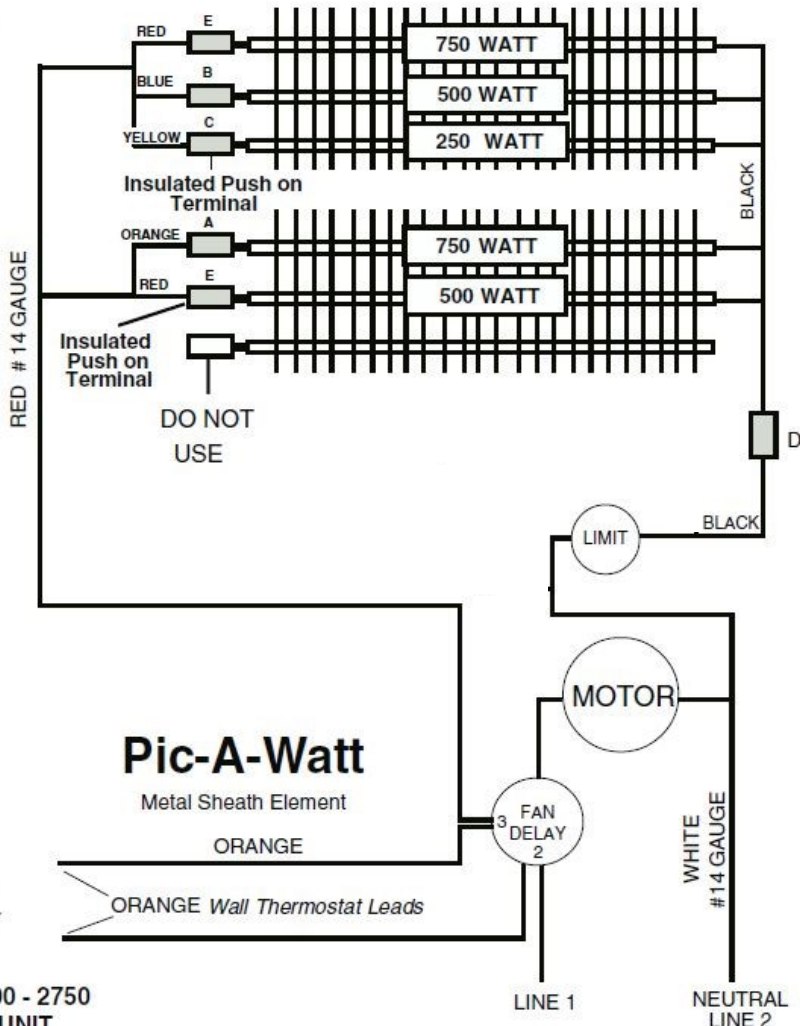
- A - Orange - Disconnects the 750 Watt Element
- B - Blue - Disconnects the 500 Watt Element
- C - Yellow - Disconnects the 250 Watt Element
- D - Black - Energized Common Leg **Do Not Disconnect**
- E - Red - **Do Not Disconnect**



END VIEW OF ELEMENT SHOWING QUICK CONNECT TERMINALS

A - 750 WATT B - 500 WATT C - 250 WATT  
 D - COMMON LEG OF POWER SUPPLY

1250 - 1500 - 1750 - 2000 - 2250 - 2500 - 2750  
**WATTAGES AVAILABLE IN ONE UNIT**



# OPERATING INSTRUCTIONS

## LPW Series Heater



This heater is equipped with a thermal overload **SMART LIMIT PROTECTION** which disconnects elements and motor in the event normal operating temperatures are exceeded. If thermal overload trips due to abnormal operating temperatures, thermal overload remains open until manually reset by turning the heater Off for 15 minutes. Inspect for any objects on or adjacent to the heater that may cause high temperatures. After inspecting the heater, keep the power to the heater off for 10 minutes to reset the **SLP** thermal protector. If the **SLP** thermal protector shuts the heater off again, immediately turn the heater OFF at the circuit breaker and inspect the heater for possible fan motor failure or dirt and lint on the heating element. Repeat the starting procedure. **DO NOT TAMPER OR REMOVE THIS DEVICE.**

### General information and guidelines:

This heater must be properly installed before it is used. DO NOT tamper with or change the operating of this heater. Service personnel refer to Maintenance & Warranty section for service of any type.

### Operation:

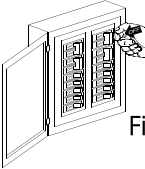
1. This heater must be properly installed in accordance with the National Electrical Codes (NEC) & local electrical codes before it is used.
2. After the electric heater has been completely installed, all thermostats should be turned to LOW or NO HEAT. Turn ON breakers, wait 3 to 5 minutes. Check to see that all heaters are operating. Should any not be operating, disconnect power and check wiring.
3. Allow entire system to operate steadily for 1/2 hour. This should remove oily residue from manufacturing. (Some smoking may occur).
4. Select the setting for comfort on all thermostats.
5. A safety limit control is provided to turn off the heater automatically if it is blocked or otherwise overheats due to an abnormal condition. DO NOT bypass or remove this safety device from the electrical circuit—see Warning Figure 3 on page 2. During normal use, this safety control should not operate. If you find that this control is operating, make sure the heater is not being blocked. If it continues to cycle the heater off, disconnect power to heater and have it checked and or repaired by a qualified electrician.

Table 3

SYMPTOM	PROBLEM	SOLUTION
Breaker Trips	<ol style="list-style-type: none"> <li>1. Short Circuit</li> <li>2. Overloaded Circuit</li> <li>3. Improper Voltage</li> </ol>	<ol style="list-style-type: none"> <li>1. Find source of short. Trace heater circuit and verify the heater is wire properly.</li> <li>2. Reduce wattage in circuit. Refer to circuit sizing table for maximum wattage.</li> <li>3. Verify the heater voltage matches the supply voltage.</li> </ol>
Heater not working	<ol style="list-style-type: none"> <li>1. No Power</li> <li>2. Loose Connections</li> <li>3. Defective Limit</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn Breaker ON, turn thermostat ON, check that the breaker is position properly on panel bus-bar. A 2-Pole breaker must be connected to both bus-bars (A &amp; B phase) to produce 240V power.</li> <li>2. Tighten wire connections.</li> <li>3. By-pass the limit to test. If heater works, replace the limit</li> </ol>
Heater Smokes	<ol style="list-style-type: none"> <li>1. Oil on element</li> <li>2. Needs Cleaning</li> </ol>	<ol style="list-style-type: none"> <li>1. It is normal for the element to burn off some light finishing oil used in the manufacturing process when first energized. Open windows and allow room to vent until it stops, usually within a few minutes.</li> <li>2. Remove any dust or dirt accumulations.</li> </ol>
Room Temperature does not match thermostat setting.	<ol style="list-style-type: none"> <li>1. Thermostat affected by another heat source.</li> <li>2. Improper calibration</li> </ol>	<ol style="list-style-type: none"> <li>1. Sunlight or other heat sources can affect the thermostat. Move the thermostat to another location or remove the heat source.</li> <li>2. Remove cover and adjust calibration screw.</li> </ol>
Room Temperature swings from too hot to too cold.	<ol style="list-style-type: none"> <li>1. Defective or low quality thermostat</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with a better quality thermostat. Anticipated thermostats are fairly accurate; and electronic thermostat is best.</li> </ol>

## MAINTENANCE AND WARRANTY

**Maintenance & Cleaning:** Basic maintenance is listed below and should be performed annually. When necessary, any required servicing should be performed by qualified service personnel. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.



**WARNING:** Turn the electrical power OFF at the electrical panel board (circuit breaker or fuse box) and lock or tag this panel board door to prevent someone from turning on power while you are working on this heater. Failure to do so could result in serious electrical shock, burns, or possible death.

Figure 2

**Before cleaning this heater, the heating element of the heater must be cool.**

1. Before removing grill, turn the electrical power OFF. Circuit breakers are often not marked correctly and turning the wrong breaker off could mean electricity is flowing to the heater, even if the heater does not appear to be working. If you are uncomfortable working with electrical appliances, unable to follow these guidelines, or do not have the necessary equipment, consult a qualified electrician. Once you verify the power is off completely, proceed to the next step.
2. Remove screws and take off grille. Wash grille with hot soapy water and dry immediately
3. Using a hair dryer or vacuum on blow cycle, hold the fan in place to prevent it from turning and blow debris back through the element. Do not touch element. Vacuum loose debris without touching the elements.
4. Replace grille and secure with screws.
5. Turn thermostat to desired setting.
6. Turn power back ON at the electrical panel board.

## WARRANTY INFORMATION

King Electrical Manufacturing Company will repair or replace, without charge to the original owner, any LPW Series heater found to be defective or malfunctioning within 2 years of installation. This warranty requires the owner or his agent install the equipment in accordance with the National Electrical Code, any other applicable heating or electrical codes, and the manufacturer's installation instructions. It further requires that reasonable and necessary maintenance be performed on the unit. Failure to properly maintain the unit will result in the warranty being voided. The company is not liable for abuse or misuse of product as may be finally determined by the company. The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs and shipping costs incurred to return products to King Manufacturing. King Manufacturing will repair or replace, at our option, at no charge to the customer with return freight paid by King. King Manufacturing shall not be liable for consequential damages arising with respect to the product, whether based upon negligence, tort, strict liability or contract. No other written or oral warranty applies, nor any warranties by representatives dealers, employees of King, or any other person. All returns require a King Return Goods Authorization (RGA); Unauthorized returns will be refused. Do not return malfunctioning/defective products to store.



# INSTALLATION INSTRUCTIONS

SAVE THESE INSTRUCTIONS

## LPW2045C 208 Volt and LPW2445C 240 Volt MODELS

*Power must be brought to the heater first - then to wall thermostat*

### Instructions for ceiling mount unit with remote wall thermostat

It is *extremely important* to verify that the electrical power supply is the same voltage as the heater you are installing. 208 / 240 / 277 and 120 Volt heaters are **not interchangeable!** Powering a 208 / 240 / 277 Volt unit with 120 Volt supply wires will reduce the heater's output by approximately 75%. Powering a 120 Volt unit with 208 / 240 / 277 Volt supply wires will destroy the heater and voids all warranties.

**NOTICE:** The power **must** be brought to the heater first (not to the wall mounted or remote thermostat). This is necessary to provide power for the fan to cool down the element after the thermostat has opened. Use a single pole line voltage wall thermostat or switch to control this heater.

**CAUTION:** Open the circuit breaker supplying the heater before attempting installation, maintenance, or repairs. Lock or tag circuit breaker panel door. Failure to do so could result in serious electrical shock, burns, or possible death.

1. Remove heater contents from carton.
2. Remove grille by loosening the four mounting screws along the sides of the front panel.
3. Detach interior assembly from the ceiling case by removing the four screws along each side of the interior panel. Lift and tilt assembly away from the top of the ceiling case. Free the bottom edge from the metal lip inside the ceiling case. Place the interior assembly in a safe location until the ceiling case is mounted.
4. Mount heater enclosure can on ceiling joists a minimum of 6" from side wall, using the holes provided in the sides of the case. The face of the case should be flush with the finished ceiling surface. Installation of the interior and grille to the ceiling case will cover an approximate 1/2" periphery along the outer area of the opening.
5. Mount heater wall installation case on wall studs a minimum of 6" from side wall or open edge of a door and a minimum of 4" from floor (10" recommended), using the holes provided in the sides of the case. The face of the case should be flush with the finished wall. Installation of the interior and grille to the ceiling case covers an approximate 5/8" periphery along the outer area of the opening.
6. After ceiling case is secured, interior assembly leads may be attached to supply wires and interior secured to ceiling case. **NOTE:** The LPW heater is equipped with two steel elements having a capacity of 2250 Watts each, for a combined capacity of 4500 Watts. The heater is factory-wired at 4500 Watts. To adjust the heater for lower wattages remove the appropriate colored wire according to the illustration and wattage diagram provided on the back side of this sheet. Be sure to insulate and secure the unused lead.
7. Reinstall interior assembly on ceiling case using screws provided.
8. Mount grille to interior with screws provided.
9. Installation is now complete and the heater ready for use.
10. Use a single pole line voltage wall thermostat or switch **only** to control this heater.



### Maintenance & Warranty

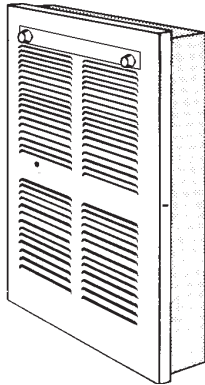
The high quality and superior design of this unit will enable years of maintenance-free performance. Once yearly the heater should be checked for lint or dust accumulation but no further maintenance is required. The motor is permanently lubricated and sealed. A five year warranty is provided on the Pic-A-Watt element and 1 year on all materials, components and workmanship.

OWNERS GUIDE & INSTALLATION INSTRUCTIONS SHOULD BE LEFT WITH HEATER FOR HOME OWNER

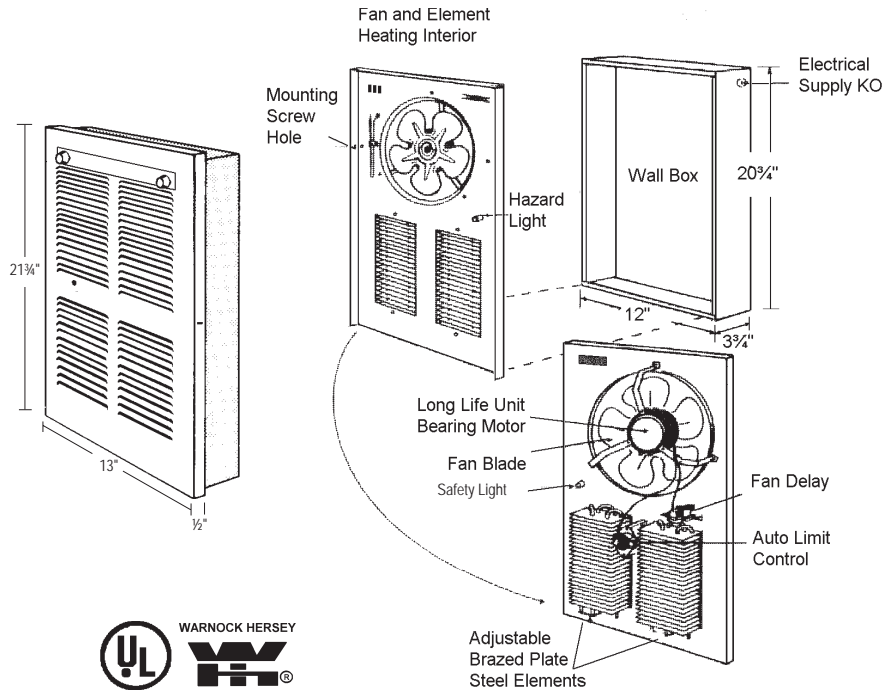
# INSTALLATION INSTRUCTIONS

## SAFETY LIGHT

**NOTICE - The light may illuminate periodically during normal operation for 10 to 45 seconds. This flashing is not a hazard. If the light stays on steadily for 1 to 5 minutes an over-temperature condition probably exists and the heater should be examined.**



SAVE THESE INSTRUCTIONS

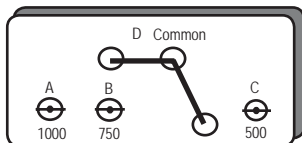


### INSTALLATION INSTRUCTIONS

This heater is shipped from the factory wired for maximum wattage of 4500 Watts. To reduce the wattage unplug (disconnect) an insulated push on terminal and wrap with electrical tape to prevent the possibility of electrical contact with other parts.

#### WIRE COLOR CODING

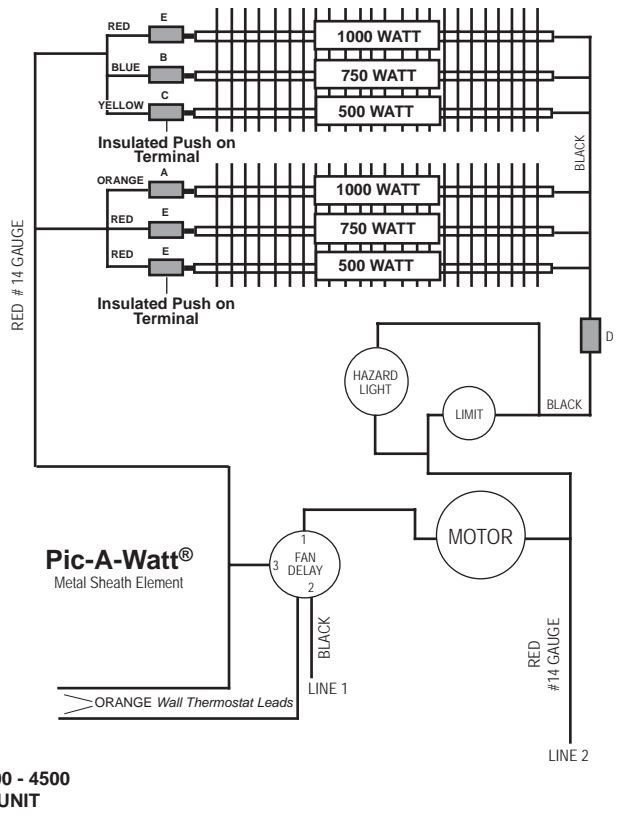
- A - Orange - disconnects the 1000 Watt element
- B - Blue - disconnects the 750 Watt element
- C - Yellow - disconnects the 500 Watt element
- D - Black - Energized Common Leg **Do Not Disconnect**
- E - Red - **Do Not Disconnect**



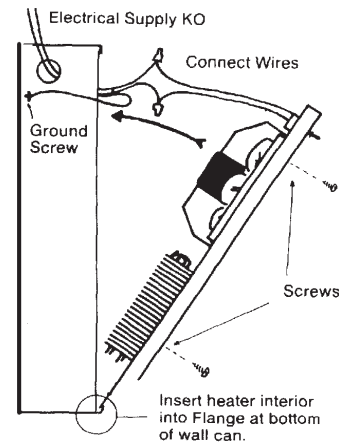
END VIEW OF ELEMENT SHOWING QUICK CONNECT TERMINALS

- A - 1000 WATT B - 750 WATT C - 500 WATT
- D - COMMON LEG OF POWER SUPPLY

**2250 - 2750 - 3000 - 3250 - 3750 - 4000 - 4500 WATTAGES AVAILABLE IN ONE UNIT**



This heater includes a visual alarm to warn that parts of the heater are getting excessively hot. If the alarm flashes, immediately turn the heater off and inspect for any objects on or adjacent to the heater that may cause high temperatures.



# LPW2045C

# LPW2445C

LPW 2045C-2445C.indd : 9/09

OWNERS GUIDE & INSTALLATION INSTRUCTIONS SHOULD BE LEFT WITH HEATER FOR HOME OWNER

# INSTALLATION INSTRUCTIONS

SAVE THESE INSTRUCTIONS

## LPW2740C 277 Volt MODELS

*Power must be brought to the heater first - then to wall thermostat*

### Instructions for ceiling mount unit with remote wall thermostat

It is *extremely important* to verify that the electrical power supply is the same voltage as the heater you are installing. 208 / 240 / 277 and 120 Volt heaters are not interchangeable! Powering a 208 / 240 / 277 Volt unit with 120 Volt supply wires will reduce the heater's output by approximately 75%. Powering a 120 Volt unit with 208 / 240 / 277 Volt supply wires will destroy the heater and voids all warranties.

**NOTICE:** The power **must** be brought to the heater first (not to the wall mounted or remote thermostat). This is necessary to provide power for the fan to cool down the element after the thermostat has opened. Use a single pole line voltage wall thermostat or switch to control this heater.

**CAUTION:** Open the circuit breaker supplying the heater before attempting installation, maintenance, or repairs. Lock or tag circuit breaker panel door. Failure to do so could result in serious electrical shock, burns, or possible death.

1. Remove heater contents from carton.
2. Remove grille by loosening the four mounting screws along the sides of the front panel.
3. Detach interior assembly from the ceiling case by removing the four screws along each side of the interior panel. Lift and tilt assembly away from the top of the ceiling case. Free the bottom edge from the metal lip inside the ceiling case. Place the interior assembly in a safe location until the ceiling case is mounted.
4. Mount heater enclosure can on ceiling joists a minimum of 6" from side wall, using the holes provided in the sides of the case. The face of the case should be flush with the finished ceiling surface. Installation of the interior and grille to the ceiling case will cover an approximate 1/2" periphery along the outer area of the opening.
5. Mount heater wall installation case on wall studs a minimum of 6" from side wall or open edge of a door and a minimum of 4" from floor (10" recommended), using the holes provided in the sides of the case. The face of the case should be flush with the finished wall. Installation of the interior and grille to the ceiling case covers an approximate 5/8" periphery along the outer area of the opening.
6. After ceiling case is secured, interior assembly leads may be attached to supply wires and interior secured to ceiling case. **NOTE:** The LPW heater is equipped with two steel elements having a capacity of 2250 Watts each, for a combined capacity of 4500 Watts. The heater is factory-wired at 4500 Watts. To adjust the heater for lower wattages remove the appropriate colored wire according to the illustration and wattage diagram provided on the back side of this sheet. Be sure to insulate and secure the unused lead.
7. Reinstall interior assembly on ceiling case using screws provided.
8. Mount grille to interior with screws provided.
9. Installation is now complete and the heater ready for use.
10. Use a single pole line voltage wall thermostat or switch **only** to control this heater.



### Maintenance & Warranty

The high quality and superior design of this unit will enable years of maintenance-free performance. Once yearly the heater should be checked for lint or dust accumulation but no further maintenance is required. The motor is permanently lubricated and sealed. A five year warranty is provided on the Pic-A-Watt element and 1 year on all materials, components and workmanship.

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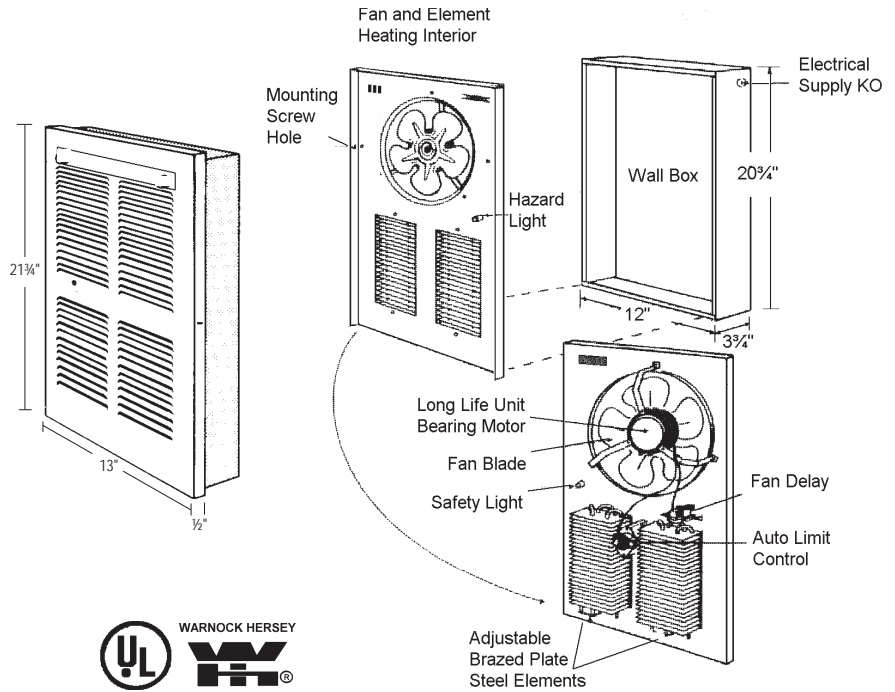
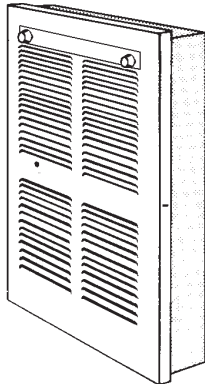


# INSTALLATION INSTRUCTIONS

## SAFETY LIGHT

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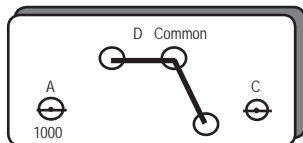


### INSTALLATION INSTRUCTIONS

This heater is shipped from the factory wired for maximum wattage of 4000 Watts. To reduce the wattage unplug (disconnect) an insulated push on terminal and wrap with electrical tape to prevent the possibility of electrical contact with other parts.

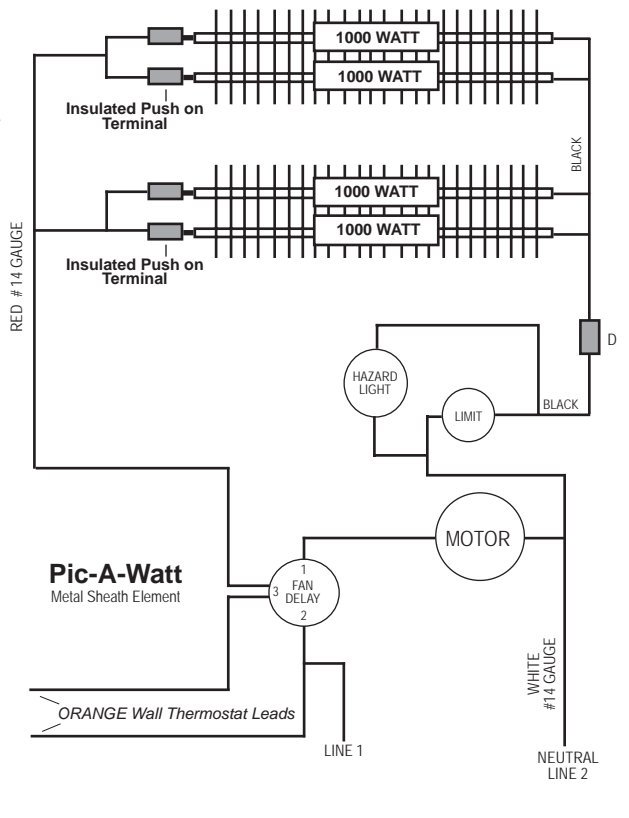
#### WIRE COLOR CODING

- A - Disconnects the 1000 Watt Element
  - D - Energized Common Leg
- DO NOT DISCONNECT**

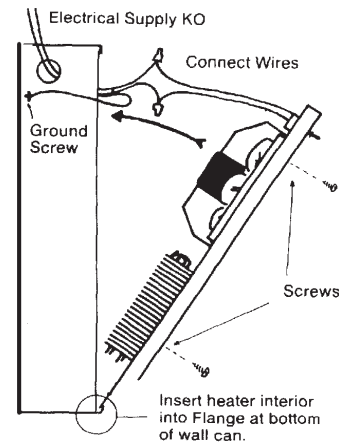


END VIEW OF ELEMENT SHOWING QUICK CONNECT TERMINALS

- A - 1000 WATT
- D - COMMON LEG OF POWER SUPPLY



*This heater includes a visual alarm to warn that parts of the heater are getting excessively hot. If the alarm flashes, immediately turn the heater off and inspect for any objects on or adjacent to the heater that may cause high temperatures.*



## LPW2740C

LPW 2740C.indd : 9/09

OWNERS GUIDE & INSTALLATION INSTRUCTIONS SHOULD BE LEFT WITH HEATER FOR HOME OWNER