SAVE THESE INSTRUCTIONS

IMPORTANT INSTRUCTIONS

king
Smart Heating Solutions

PX ComfortCraft
Fan Forced Heater



SMART SLP LIMIT PROTECTION

UL LISTED

Covers all PX ComfortCraft models

⚠ 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 - These instructions are written in an effort to prevent potential difficulties that might arise during installation. Studying the instructions first may save you considerable time and money later. Observing the following procedures will keep installation time to a minimum.

IMPORTANT INSTRUCTIONS

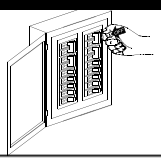
When using electrical heating appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. **Read all instructions before wiring or using this heater.**
2. WARNING: 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 at least 3ft (.9 m) from the front of the heater and keep them away from the sides and rear.
3. CAUTION: Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
4. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by qualified electrician for repair before reusing.
5. Do not use outdoors.
6. WARNING: To disconnect heater, turn controls to OFF, and turn OFF power to heater circuit at main disconnect panel.
7. WARNING: 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.
8. To prevent a possible of fire, do not block air intakes or exhaust in any manner.
9. A heater may have hot and arching or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.
10. WARNING: Use this heater only as described in this manual. Any other use is not recommended by the manufacturer and may cause fire, electric shock, explosion or injury to people and or property.
11. All electrical work and materials must comply with the National Electric Code (NEC), the Occupational Safety and Health Act (OSHA), and all state and local codes.
12. Use copper conductors only.
13. Verify that the electrical supply wires are the same voltage as the heater.
14. Heater must be installed in a wall can.
15. Use orient ring to properly align wall can and make sure it is flush with sheetrock.
16. DO NOT select a location where it is likely to be blocked by furniture, curtains, etc.
17. Be sure the location selected allows sufficient space for the heater as shown by Table 1.
18. Connect grounding lead to grounding screw provided. Keep all foreign objects out of heater.
19. DANGER. High temperatures may be generated under certain abnormal conditions. Do not partially or fully cover or obstruct the front of this heater.

MADE IN USA

SAVE THESE INSTRUCTIONS

PX INSTALLATION INSTRUCTIONS



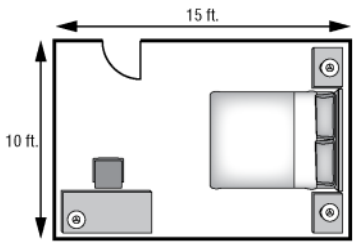
CAUTION!
Turn OFF all electrical power to install heater

What's The Right Heat Output For My Room?

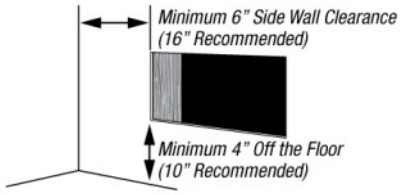
To get the most energy efficient heat output for your room, determine the square footage of the room to be heated and multiply by 10 to get the wattage required.

Example

Room Size (10 ft. x 15 ft.) = 150 sq. ft.
150 sq. ft. x 10 watts/sq. ft. = 1500 watts
Solution: Select 1500 Watt setting during installation.



Heater Placement



Selecting A Location For Your Heater:
DO NOT install less than 6" (15cm) from vertical side walls or open edge of door. This heater must have an unrestricted air-flow. 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 by Table 1. DO NOT locate this heater in an area where combustible vapors, gases liquids, or excessive lint, dust or moisture is present.

Minimum Clearances for heater: **Table 1**

Front	TOP	BOTTOM	SIDES
36 in	12 in	4 in	6 in
0.9 m	30.5 cm	10.2 cm	15.2 cm

* Rated for zero clearance to insulation.

Wire and Breaker Sizing:
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.

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

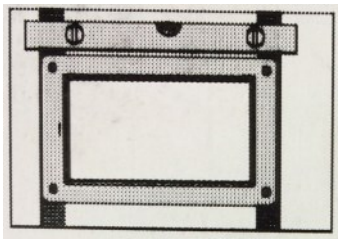
INSTALLATION INSTRUCTIONS

STEP 1 Route Supply Wires
Route supply wire from the circuit breaker to the stud cavity where the heater/wall can will be located.

STEP 2 Mount Orientation Mounting Plate
(NEW CONSTRUCTION ONLY)

Position orientation mounting plate horizontally on studs, with label facing you, and attach to both studs with two wood screws (not included) on each side (See Figure 1). Use a level to ensure proper alignment. The 90 degree lip on the inside of the orient ring cutout should butt up to a wall stud on the left side. Proceed with drywall installation.

Figure **1**



STEP 3 Cut Sheetrock and Mount The Wall Can
Cut out a hole in the sheetrock using a sheetrock saw (not included). **For new construction** with orientation ring installed, use orientation ring as a guide. **For remodel installations** (without orientation ring installed behind the sheetrock), the wall can will fit between 2 studs which should be installed 16" on center per building code. Cut a hole in sheetrock approximately 14-1/2 inches wide by 8.5 inches tall.
Secure supply wires to wall can prior to mounting wall can in wall.

Remove a knockout from the wall can and attach the supply wire with a strain relief connector (not included) leaving a minimum of 6 inches wire lead. Connect supply ground wire to grounding screw in wall can with a wire connector (not included).

Mount the wall can securely to wall studs with 4 screws (not included) through holes provided in the wall can.

STEP 4 Install Heater Assembly
Orient heater assembly in wall can. Connect the supply wires to the heater with insulated wire connectors (not included). Secure with 3 screws provided into mounting tabs.

STEP 5 Install Grill

WIRING DIAGRAM

WIRING DIAGRAM

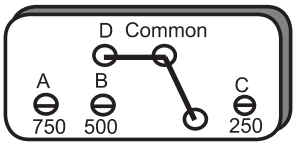
WATTAGE SELECTION

The heater is factory wired to 1500 Watts at 120 Volts. To reduce wattage unplug an insulated push on terminal per color coding below. Wrap with electrical tape to prevent possibility of electrical contact with other parts.

WIRE COLOR CODING

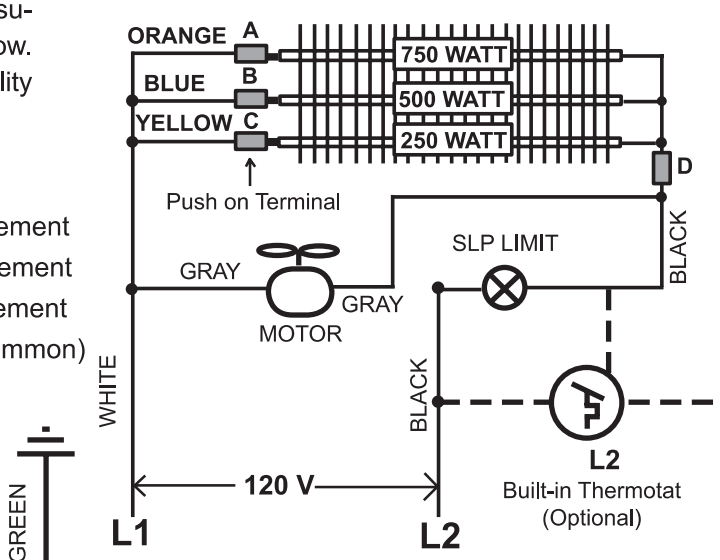
A Orange Disconnects the 750 Watt element
B Blue Disconnects the 500 Watt element
C Yellow Disconnects the 250 Watt element
D Black DO NOT DISCONNECT (Common)

END VIEW OF ELEMENT



A - 750 W **B** - 500 W **C** - 250 W
D - Common Leg of Power Supply

PIC-A-WATT® **1215** 120V 1500W
Steel Sheath Element





Field Connections

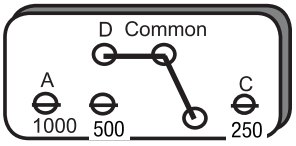
WATTAGE SELECTION

The heater is factory wired to 1750 Watts at 208/240 Volts. To reduce wattage unplug an insulated push on terminal per the color coding below. Wrap with electrical tape to prevent the possibility of electrical contact with other parts.

WIRE COLOR CODING

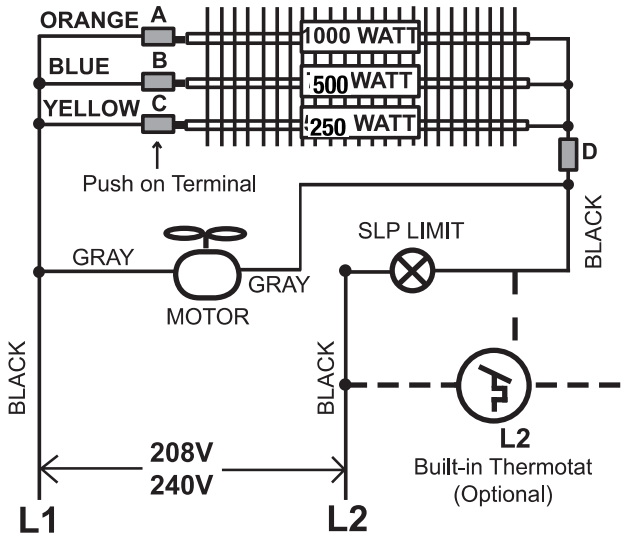
A Orange Disconnects the 1000 Watt element
B Blue Disconnects the 500 Watt element
C Yellow Disconnects the 250 Watt element
D Black DO NOT DISCONNECT (Common)

END VIEW OF ELEMENT



A - 1000 W **B** - 500 W **C** - 250 W
D - Common Leg of Power Supply

PIC-A-WATT® **2017** 208V **1750W**
Steel Sheath Element **2417** 240V **1750W**

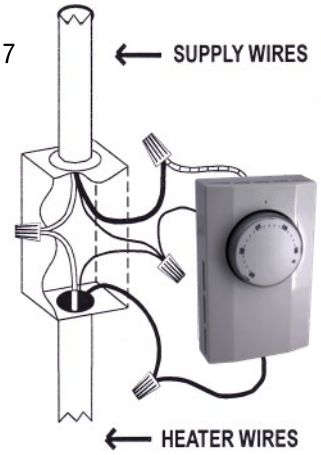


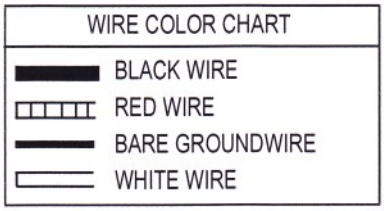


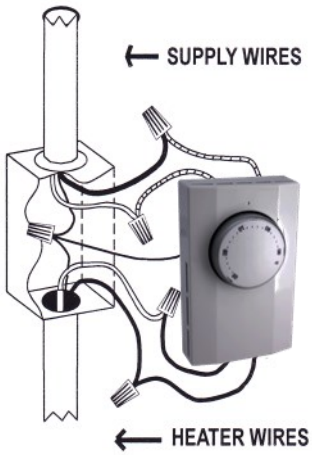
Field Connections

REMOTE WALL THERMOSTAT INSTALLATION

Figure 7







Connection Diagram for Wall Mounted Single Pole Thermostat

1. Red thermostat wire to black power supply wire.
2. Black thermostat wire to black heater wire.
3. White power supply wire to white heater wire.
4. Connect all bare ground wires together.

Connection Diagram for Wall Mounted Double Pole Thermostat

1. Connect the two red thermostat wires to the black and white power supply wires.
2. Connect the two black thermostat wires to the black and white heater wires.
3. Connect all the bare ground wires together.

TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Breaker Trips	1. Short Circuit 2. Overloaded Circuit 3. Improper Voltage	1. Find source of short. Trace heater circuit and verify the heater is wire properly. 2. Reduce wattage in circuit. Refer to circuit sizing table for maximum wattage. 3. Verify the heater voltage matches the supply voltage.
Heater not working	1. No Power 2. Loose Connections 3. Defective Limit	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&B phase) to produce 240V power. 2. Tighten wire connections. 3. By-pass the limit to test. If heater works, replace the limit.
Heater Smokes	1. Oil on Element 2. Needs Cleaning	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. 2. Remove any dust or dirt accumulations.
Room Temperature does not match thermostat setting	1. Thermostat affected by another heat source. 2. Improper calibration	1. Sunlight or other heat sources can affect the thermostat. Move the thermostat to another location or remove the heat source. 2. Remove cover and adjust calibration screw.
Room Temperature swings from too hot to too cold	1. Defective or low quality thermostat	1. Replace with a better quality thermostat. Anticipated thermostats are fairly accurate; an electronic thermostat is best.

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Fan Forced Heater



SMART LIMIT PROTECTION AND WARRANTY

Heater Safety Limit Tripped?

U.S. PATENT #6,748,163 B2
SMART SLP® LIMIT
PROTECTION

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 shall remain open until manually reset by turning the heater OFF for fifteen 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 15 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 THIS DEVICE

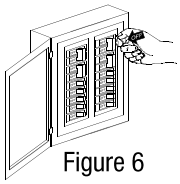
Maintenance & Warranty Information:

The high quality and superior design of this heater will provide years of trouble-free performance. Each year the heater should be checked and cleaned for lint and dust accumulation. We recommend using a soft bristled brush such as a paint brush to assist in removing contaminants from the heater.

Limited FIVE Year Warranty:

King Mfg. Co. will repair or replace without charge any King product found to be defective or malfunctioning during the first 5 years of purchase to the original owner.

MAINTENANCE AND CLEANING


Figure 6

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.

1. Before removing grill, turn the electrical power OFF and elements to cool. 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 and element is cool, proceed to the next step.
2. Remove screws and take off grill. Wash grille with hot soapy water and dry immediately
3. Using a hair dryer or vacuum on blow cycle, blow debris back through the element. Do not touch element. Vacuum or use a soft brush and remove lose debris without touching the elements. The fan motor does not require lubrication.
4. Re-attach grill and secure with screws.
5. Turn thermostat to desired setting.
6. Turn power back ON at the electrical panel board.

WARNING: All other servicing should be performed by authorized service personnel.

We're Here to Help!
For any difficulties installing or operating this product
Call Us Toll Free at:
1-800-603-5464 Ext 111
7:00 am -3:30 pm PST Mon-Fri
Visit king-electric.com or email us at info@king-electric.com