

# INSTALLATION AND MAINTENANCE



## GH Series Garage Heater GH2405TB / GH2407TB / GH2410TB



## DO NOT RETURN TO STORE

If you experience any difficulties installing or operating this product.  
Call us Toll Free at: 1-800-603-5464 Ext 111 / 7:00am to 3:30pm PST Mon-Fri  
Support at [king-electric.com](http://king-electric.com) or email us at [info@king-electric.com](mailto:info@king-electric.com)

## 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** To prevent a possible electrical shock, disconnect all power coming to heater at main service panel before wiring or servicing.
- ⚠ WARNING** All wiring must be in accordance with the National Electrical Code (Canadian Electrical Code in Canada) and all applicable local codes.
- ⚠ WARNING** Verify power supply and control voltages coming to the heater match the ratings printed on the heater nameplate before energizing.
- ⚠ WARNING** Heater must be installed so the minimum clearances shown in Specifications table are maintained.
- ⚠ WARNING** This heater is NOT suitable for use in hazardous locations as described by the National Fire Protection Association (NFPA). this heater has hot and arcing or sparking parts inside. DO NOT use in areas where gasoline, paint or other flammable liquids are used or stored.
- ⚠ WARNING** The mounting structure and anchoring hardware MUST BE capable of reliably supporting the weight of the heater plus mounting bracket if used. Refer to specifications table for heater weight.
- ⚠ WARNING** Heater air flow MUST be directed parallel to or away from adjacent walls.
- ⚠ WARNING** To prevent a possible fire, DO NOT block air intakes or exhaust openings in any manner. DO NOT allow foreign objects to enter grill openings as this may cause electric shock, fire or damage to heater.



**CAUTION—RISK OF ELECTRIC SHOCK  
DO NOT OPEN HEATER SHELL**



# GH INSTALLATION INSTRUCTIONS

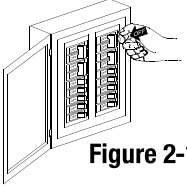


Figure 2-1

**CAUTION!**

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



**DANGER**



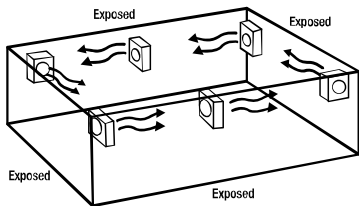
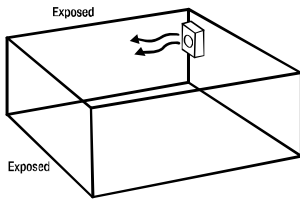
**ELECTRIC SHOCK OR FIRE HAZARD**

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

**Selecting a location for your heater:**

The heater should be installed out of the reach of persons. The direction of air flow should not be restricted by machinery, beams, etc., and the air flow should wipe exposed walls rather than blowing directly at them. When more than one heater is used in an area the heaters should be arranged so that the air discharge of each heater supports the air flow of the others to provide best circulation of warm air.

(see air flow chart)



**Unpack & Inspect Your New Heater**

Remove heater from the box and inspect it for any damage. Verify you have received the universal wall/ceiling mounting bracket.

**Tools Needed**

You will need the following tools to install your unit heater:

- Screwdriver - (Phillips head & slotted)
- Pliers
- Electric Drill
- Wire Cutters
- Adjustable Wrench

**Hardware Needed**

You will also need the following hardware, which can be purchased from your local hardware store or electrical supply house:

- adequate gauge and length of wire for your application
- proper size fuses or breakers to handle amperage
- proper wire connectors for your application
- fasteners appropriate for application that are strong enough to hold unit

For certain applications conduit may be required. Check local electrical codes. Also, if you run the wiring in conduit and wish to be able to turn the heater, be sure to purchase enough flexible conduit to allow the heater to be turned.



**Mounting Height**

When the airflow of the heater is directed vertically or horizontally the minimum mounting height 6 feet from vertical side walls and 6 feet above floor (8 feet above floor for Canada).

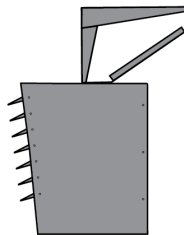
Mounting heights depend upon building utilization and heater kW capacity.

**Distance From Walls**

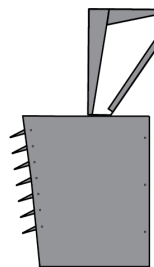
Be sure to maintain 8" minimum clearance to walls and ceilings.

**Mounting Bracket & Heater**

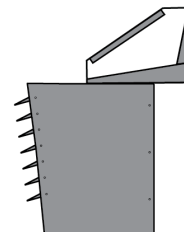
Locate a stud in ceiling or wall and securely fasten bracket to supporting surface with 2 fasteners (appropriate for application and strong enough to hold unit) at least 1-1/4" in length.



**Low Ceiling Mount**



**High Ceiling Mount**



**Wall Mount**

Attach heater to bracket with 3/8" x 1" bolt supplied with bracket. After desired air discharge position has been determined, tighten bolt so the heater will not pivot.

# THERMOSTAT OPERATION INSTRUCTIONS

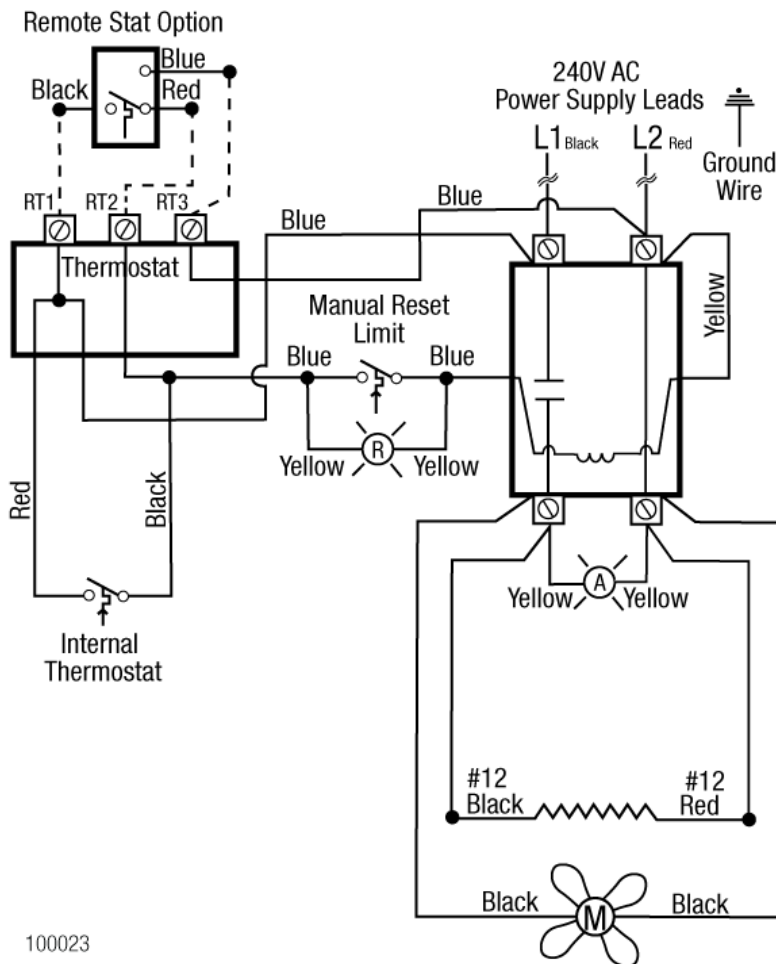
## Setting Thermostat

1. Set the thermostat dial to the maximum temperature.
2. Once the room reaches the desired temperature, turn the thermostat dial back until the heating elements turn off. The heater will cycle automatically around this present temperature. To increase temperature, turn the thermostat knob clockwise. To lower temperature, turn the thermostat counterclockwise.

## WIRING AND OPTIONAL REMOTE THERMOSTAT CONNECTION

**WARNING**  
Before proceeding further with the installation of this heater, turn off the power and lock to the supply line for the heater at the main service box.

### GH2405TB Model Wiring



100023

### Power Supply Connection

Connect the power supply wires to the wire leads in the junction box. Connect the ground wire to the ground lug.

### Wiring Instructions for Remote Mechanical Thermostat:

- 1.) The remote wall thermostat must be rated for 240V and 1-Pole only, do not use a 2-Pole thermostat. Caution: DO NOT use a low voltage (24 volt) thermostat.
- 2.) Pull off the red wire (RT1) and black wire (RT2) from the terminal block. This will disconnect the internal thermostat.
- 3.) Connect the field wires for the remote thermostat to the screw terminals marked RT1 and RT2. Connect ground wire to the heater ground. **DO NOT MAKE ANY FIELD CONNECTIONS TO RT3.**

### Wiring Instructions for King ATMOZ Thermostat:

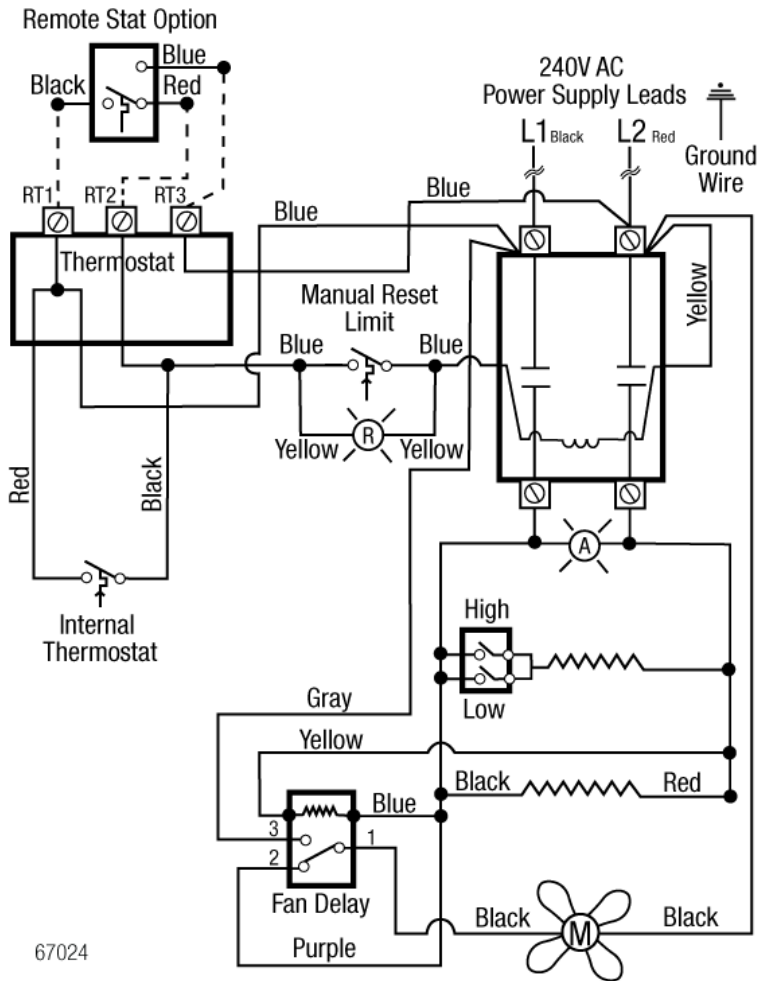
- 1.) Pull off the red wire (RT1) and black wire (RT2) from the terminal block. This will disconnect the internal thermostat.
- 2.) The King ATMOZ requires a 3rd wire installation. Run three conductors plus ground (240V rated) from the wall thermostat to the heater. Connect the thermostat leads as follows: Black to RT1, Red to RT2 and Blue to RT3. Connect ground wire to the heater ground.
- 3.) Refer to the manufactures instructions when using another 3-wire thermostat for proper connections to the heater.

Model	Volts	Watts	Amps	Wire Size	Circuit Protection
GH2405TB	240V	5,000	21	#10/2	30/2

\*240V heater will operate at 208V producing 25% less wattage and will draw 13% less amperage

# WIRING AND OPTIONAL REMOTE THERMOSTAT CONNECTION

## GH2407TB / GH2410TB Model Wiring



### Power Supply Connection

Connect the power supply wires to the wire leads in the junction box. Connect the ground wire to the ground lug.

### Wiring Instructions for Remote Mechanical Thermostat:

- 1.) The remote wall thermostat must be rated for 240V and 1-Pole only, do not use a 2-Pole thermostat. Caution: DO NOT use a low voltage (24 volt) thermostat.
- 2.) Pull off the red wire (RT1) and black wire (RT2) from the terminal block. This will disconnect the internal thermostat.
- 3.) Connect the field wires for the remote thermostat to the screw terminals marked RT1 and RT2. Connect ground wire to the heater ground.

**DO NOT MAKE ANY FIELD CONNECTIONS TO RT3.**

### Wiring Instructions for King ATMOZ Thermostat:

- 1.) Pull off the red wire (RT1) and black wire (RT2) from the terminal block. This will disconnect the internal thermostat.
- 2.) The King ATMOZ requires a 3rd wire installation. Run three conductors plus ground (240V rated) from the wall thermostat to the heater. Connect the thermostat leads as follows: Black to RT1, Red to RT2 and Blue to RT3. Connect ground wire to the heater ground.
- 3.) Refer to the manufactures instructions when using another 3-wire thermostat for proper connections to the heater.

Model	Volts	Watts	Amps	Wire Size	Circuit Protection
GH2407TB	240V	7,500	31.2	#8/2	40/2
GH2410TB	240V	10,000	41.6	#6/2	50/2

**NOTE:** The 240V heater will operate on a 208V power supply, but the wattage will drop by 25% and will draw 13% less wattage.

## MAINTENANCE AND WARRANTY

### Maintenance

Because of its rugged design, superior engineering and high quality craftsmanship and manufacturing, the King GH Unit Heater requires little maintenance. With proper care your electric heater should last a lifetime, however, seasonal cleaning is recommended to maintain the efficiency of the heater. To clean the heating element loosen the 4 Phillips head screws located behind the louvers in the corners of the louver housing. Grasp the louver housing on both sides, lift up and pull out. This provides access to the heating element. Remove dust or lint with a soft brush or a vacuum cleaner. Replace the louver housing and tighten the Phillips head screws. To clean the fan and motor remove the safety grill from the rear of the heater. This provides access to the fan and motor. Wipe the fan and motor with a soft cloth or brush. The fan motor does not require lubrication.

### Warranty

All products covered by this instruction sheet are warranted against defects in workmanship and materials for one year from date of installation, except heating elements which are warranted against defects in workmanship and materials for five years from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment improperly installed or wired or maintained in violation of this instruction sheet. All claims for warranty work must be accompanied by proof of the date of installation. The customer shall be responsible for all cost incurred in the removal or reinstallation or products, including labor costs, and shipping costs incurred to return products to King Manufacturing. King Mfg., will repair or replace, at our option, at no charge to you with return freight paid by King. King Electrical Mfg., shall not be liable for consequential damages arising with respect to the product, whether based upon negligence, tort, strict liability or contract. King Manufacturing can be contacted in Seattle Washington by phone at 206 762-0400 or by fax at 206-763-7738.