



SUBMITTAL DATA

INFRARED RADIANT PATIO HEATER

☐ GG35 ELITE SERIES

(CHECK ONE)

☐ NATURAL GAS

(CHECK ONE)

☐ TWO STAGE CONTROL

(CHECK ONE)

☐ GGE50 ELITE SERIES

☐ PROPANE GAS

☐ TWO STAGE CONTROL
W/REMOTE CONTROLLER

PROJECT:	DATE:
ADDRESS:	
ARCHITECT/ENGINEER:	
ADDRESS:	
CONTRACTOR:	
ADDRESS:	
SUBMITTED BY:	

EQUIPMENT USED:

ACCESSORIES:

<input type="checkbox"/> 3 Position Switch	PN# 90404610	<input type="checkbox"/> Heat Shield Kit - GGE35:	PN# 04603501
<input type="checkbox"/> Single Switch Controller:	PN# 90404630	<input type="checkbox"/> Heat Shield Kit - GGE50:	PN# 04605001
<input type="checkbox"/> Two Stage Relay kit	PN# 90404601	<input type="checkbox"/> Ceiling Mount Bracket Kit:	PN# 04601010
<input type="checkbox"/> Gas Pressure Regulator:	PN# 91204601	<input type="checkbox"/> Telescopic Mounting Bracket:	PN# 04601530
<input type="checkbox"/> Black SS Gas Connector:	PN# 91404602	<input type="checkbox"/> Column Mounting Arm Kit:	PN# 04601007
<input type="checkbox"/> Gas Connection Kit	PN# 91404603	<input type="checkbox"/>	




GENERAL INFORMATION

This heater is a self-contained infrared radiant ceramic patio heater for use in locations where flammable gases or vapors are not generally present and is intended for space heating non-residential spaces.

This patio heater model is approved to two different heater standards:

- A "Patio Heater" for Outdoor Use in Residential and Commercial/Industrial Applications.
- And as a "Gas-Fired High Intensity Infrared Heater" for Indoor Spaces of Commercial/ Industrial Applications. Not for use in residential dwellings.

Note: A residential dwelling is a domicile intended for use by one or more persons and that includes one or more areas, such as those used for cooking, eating, living, sleeping, or a sanitary facility. A residential dwelling does not include a workshop, or outdoors.

 WARNING	
	
Carbon Monoxide and Fire Hazard	
<p>This heater is not approved to be installed in any residential indoor application. This includes, but is not limited to, the home, living quarters, attached garages, solariums, RV's, mobile homes, etc.</p>	
<p>Installation in residential indoor spaces may result in death, asphyxiation, serious injury or property damage.</p>	

 WARNING

Fire Hazard
<p>Keep all flammable objects, liquids and vapors the minimum required clearances to combustibles away from equipment.</p>
<p>Some objects will catch fire or explode when placed close to equipment.</p>
<p>Failure to follow these instructions can result in death, injury or property damage.</p>

SAFETY REQUIREMENTS

- The heater area must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids.
- This heater is designed for use with one type of gas (Propane or Natural). Make sure that the type of gas to be supplied to this heater matches that shown on the heater rating plate.
- DO NOT install this heater directly onto a propane container or propane cylinder. Propane containers (propane cylinders) must not be stored indoors or in the vicinity of any gas-burning appliance.
- DO NOT Store flammable materials near the heater.
- DO NOT locate gas and electric supply lines directly above the heaters path of flue products. The path of flue products will change if an optional low clearance heat shield is installed.
- Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.
- Young Children should be carefully supervised when they are in the area of the heater.
- DO NOT spray aerosols or flammable materials in the vicinity of this appliance while it is in operation.
- Clothing or other flammable materials should not be hung from the heater or placed on or near the heater.
- NEVER attempt to service the heater while it is plugged in, operating or hot.
- Any guard or other protective device removed for servicing a heater must be replaced prior to operating the heater.
- DO NOT Install the heater in a recess, alcove or enclosure.
- Installation and repair should be done by a licensed contractor qualified in the installation and service of gas heating equipment. The heater should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that the control compartment, air passageways and burner of the heater be kept clean.
- If any changes are made to the patio or building structure after the heaters are installed such as adding plastic curtains to enclose the patio the modified design must be checked by a qualified person to ensure that the clearance combustibles and ventilation requirements are maintained.

- DO NOT paint any surface of the heater.
- DO NOT throw objects at the heater.
- Avoid inhaling fumes emitted from the heater's first use. Smoke and odor from the burning of oils used in manufacturing will appear. Both the smoke and odor will dissipate after approximately 30 minutes.

INSTALLATION REQUIREMENTS

Installation of this heater must conform with local building codes or, in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1 In Canada, the installation must conform to current CSA B149.1 (The Natural Gas and Propane Installation Code) in the absence of local codes. Heaters shall be installed by a licensed contractor or licensed installer. Clearances to combustibles as outlined in this manual should always be observed. In areas used for storage of combustible materials where they may be stacked below the heater, NFPA54 requires that the installer must post signs that will “specify the maximum permissible stacking height to maintain the required clearances from the heater to combustibles.”

Every heater shall be located with respect to building construction and other equipment so as to permit access to the heater. Each installer shall use quality installation practices when locating the heater and must give consideration to clearances to combustible materials, vehicles parked below, lights, overhead doors, storage areas with stacked materials, sprinkler heads, gas and electrical lines, and any other possible obstructions or hazards. Consideration also must be given to service accessibility.

Roberts Gordon will not recognize the warranty for any use other than space heating.

This heater is for Indoor and Outdoor Installation and is used in Unvented mode. The term Unvented actually means Indirect Vented. While the products of combustion are expelled into the building, national codes require 4 CFM/1000 BTU of heater input ventilation in the building to dilute these products of combustion. This ventilation may be provided by gravity or mechanical means.

This heater is not an explosion proof heater. Where the possibility of exposure to volatile and low flash point materials exists, it could result in property damage or death. This heater must not be installed in a spray booth where the heater can operate during the spraying process. Consult your local fire marshal or insurance company.

This heater must be applied and operated under the general concepts of reasonable use and installed using best building practices.

It is the responsibility of the qualified installer to supply the appropriate lifting equipment to safely install the radiant heater. Tools required for the safe installation, startup and maintenance are various screwdrivers, wrenches, pipe wrenches, voltmeter, air and gas manometer, level and required tools to safely install the chosen hanging materials.



CAUTION

Do not install this heater indoors in a structure with no insulation in the roof—condensation will occur.

The heater, when installed in aircraft hangars and public garages, must be installed in accordance with ANSI/NFPA 409-latest edition (Standard for Aircraft Hangars), ANSI/NFPA 88a-latest edition (Standard for Parking Structures), and ANSI/NFPA 88b-latest edition (Standard for Repair Garages) with the following clearances:

- a. At least 10 feet above the upper surfaces of wings or engine enclosures of the highest aircraft that may be housed in the hangar and at least 8 feet above the floor in shops, offices, and other sections of hangars communicating with aircraft storage or service areas.
- b. At least 8 feet above the floor in public garages. ▲ **WARNING:** Minimum clearances marked on the heater must be maintained from vehicles parked below the heater.

(FOR CANADA ONLY)

- a. Installation of this appliance is to be in accordance with latest edition of CSA B149.1 (Natural Gas and Propane Installation Code).
- b. For installation in public garages or aircraft hangars, the minimum clearances from the bottom of the infrared heater to the upper surface of the highest aircraft or vehicle shall be 50 percent greater than the certified minimum clearance, but the clearance shall not be less than 8 feet.

MINIMUM CLEARANCES TO COMBUSTIBLES



A critical safety factor to consider before installation is the clearances to combustible materials. Clearance to combustibles is defined as the minimum distance you must have between the surfaces of the heater and the combustible item. Considerations must also be made for moving objects around the infrared heater.

⚠ WARNING This heater must not be installed where the products of combustion can build up and prevent them being exhausted to the atmosphere. This includes applications such as enclosures, recessed ceilings and alcoves.

⚠ WARNING This heater can be equipped with a heat shield to reduce the clearances to combustibles towards the ceiling. Due to the variety of possible heater mounting angles the heat shield must be mounted in the correct location to match the heater mounting angle. See section 13.0 heat shield installation.

Approved installation angles are 0, 15, 30, 45 and 60 degrees with the heat shield installed.

⚠ WARNING Certain materials or objects, when stored under the heater, will be subjected to radiant heat and could be seriously damaged. Observe the Minimum Clearances to Combustibles listed in the manual and on the heater at all times.

For maximum safety the building must be evaluated for hazards before installing the heater system.

Examples include, but are not limited to:

- Gas and electrical lines
- Combustible and explosive materials
- Chemical storage areas
- Areas of high chemical fume concentrations
- Provisions for accessibility to the heater
- Adequate clearances around the openings
- Combustion and ventilating air supply
- Vehicles parking areas
- Vehicles with lifts or cranes
- Storage areas with stacked materials
- Lights
- Sprinkler heads
- Overhead doors and tracks
- Dirty, contaminated environment

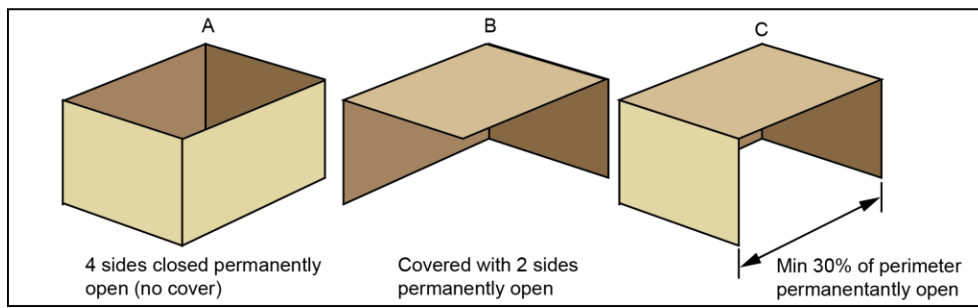
This heater is approved for both INDOOR and OUTDOOR installation. Both installation options have different clearances to combustibles as described below. These must be observed.

INDOOR clearances to combustibles are defined as a surface temperature of 90° F above ambient temperature.

OUTDOOR clearances to combustibles are defined as a surface temperature of 117° F above ambient temperature.

OUTDOOR Spaces are defined as a shelter no more inclusive than:

- a) with walls on all sides, but with no overhead cover.
- b) within a partial enclosure which includes an overhead cover and no more than two side walls. These side walls may be parallel, as in a breezeway, or at right angles to each other.
- c) Within a partial enclosure which includes an overhead cover and three side walls, as long as 30 percent or more of the horizontal periphery of the enclosure is permanently open.




⚠ WARNING For the purposes of clearances to combustibles and ventilation all applications not classified as outdoors according to the definitions above shall comply with the requirements for indoor installations.

Minimum clearances shall be measured from the outer surfaces of the heater or heat shield if installed, as shown in the diagrams for the different installation positions.

⚠ WARNING Fire sprinkler heads must be located at an appropriate distance from the heater. This distance may exceed the published clearance to combustibles. The exhaust gas temperature will be 800°F (426°C) and above where it exits the heater. Certain applications will require the use of high temperature sprinkler heads or relocation of the heaters. Sprinkler head temperatures lower than “blue color code” might not be suitable in the vicinity of the heater.

Sprinkler systems containing propylene glycol or other flammable substances are not to be used in conjunction with this heater without careful consideration for and avoidance of potential fire or explosion hazards. For further information consult the authority having jurisdiction. Always observe applicable state and local codes.

⚠ WARNING Always maintain minimum clearances and post signs where needed. This heater is supplied with a wall mounted sign shown below. It is the installers responsibility to ensure that the sign is completed with the correct clearance to combustible distances for the installation and that the sign is posted in a location where it is easily accessed.

**WARNING**

**FIRE HAZARD**

Combustible material must be located outside the clearance distance listed from heater. Some objects will catch fire or explode when placed close to heater. Failure to follow to do so may result in death, injury or property damage.

Maintain the following clearances: _____ to the side, _____ above and 40" below the heater from combustible materials.

ATTACH THIS INFORMATION CARD ADJACENT TO THE GORDONGLO ELITE HEATER(S) CONTROLS(S)

- **INSTALLER:** Write the highest clearance distance any model in the blank spaces above using permanent ink. The clearances to combustibles can be located on a label attached to the heater or in the I & O Instructions. I & O's can also be located on www.robertsgordon.com Phone 716-852-4400
- Enclosing a patio with a wind break etc. may change the heater location from being OUTDOOR to INDOOR. See I & O instructions for INDOOR clearances to combustible and ventilation requirements.
- Read the Installation and Operating Instructions (I & Os) thoroughly before installation, operation or service.

Installation and Service of GordonGlo Elite equipment must be performed by a qualified contractor and conform with all requirements of I & O Instructions, National and Local codes. Annual inspection is recommended prior to the heating season to ensure proper operation of the heating equipment.

PN 43344950 NOV 2018

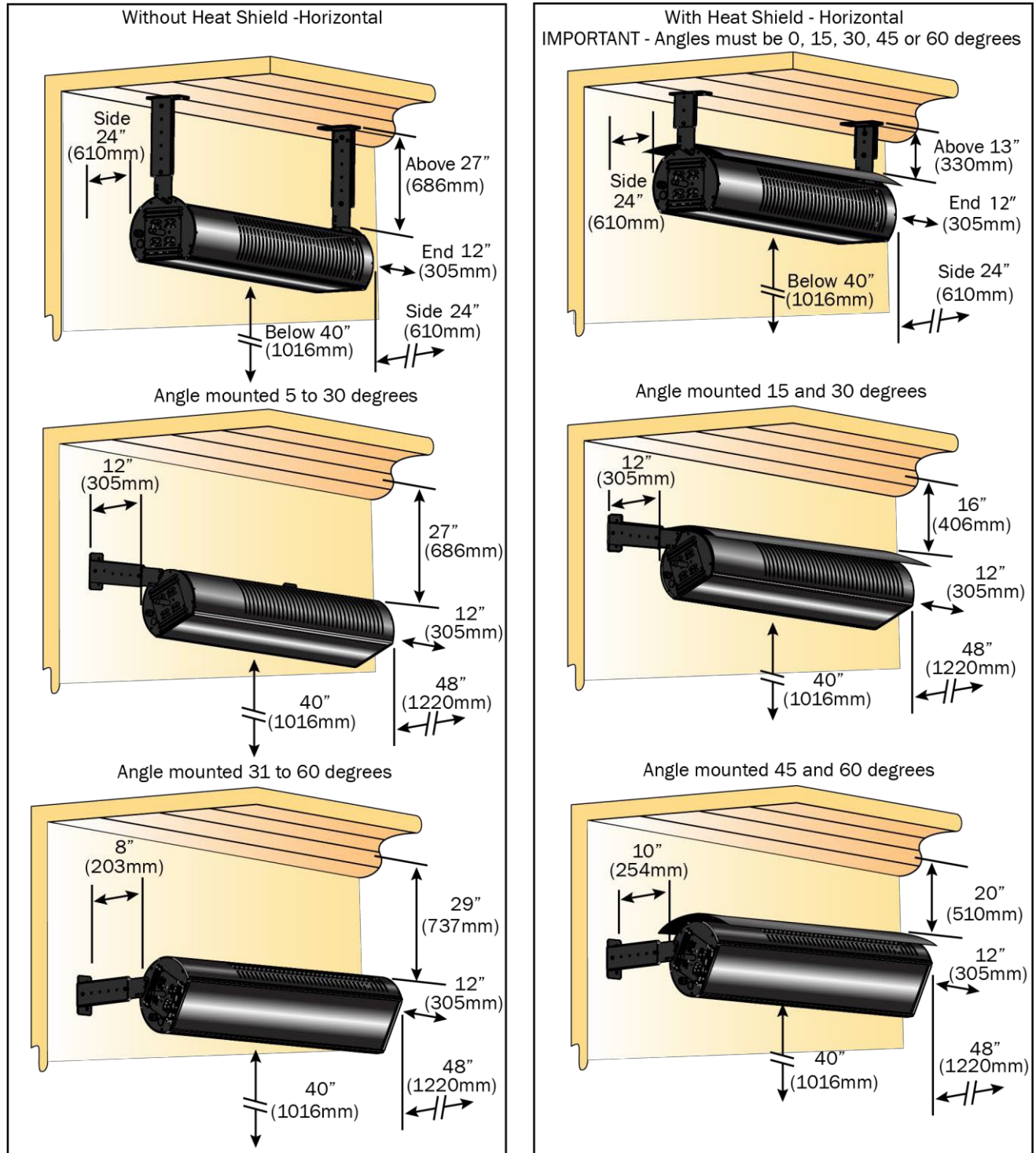
Copies of this card may be ordered at no charge for installation near the heater.

Part Number 43344950 WARNINGS CARD – GGE35

Part Number 43344900 WARNINGS CARD – GGE50

⚠ WARNING Clearances to combustibles are posted on the heater. In areas used for storage of combustible materials where they may be stacked below the heater the installer must post signs that will “specify the maximum permissible stacking height to maintain the required clearances from the heater to combustibles. Roberts Gordon recommends posting these signs adjacent to the heater thermostat or other suitable location that will provide enhanced visibility.

INDOOR CLEARANCES TO COMBUSTIBLES - GGE35 MODELS

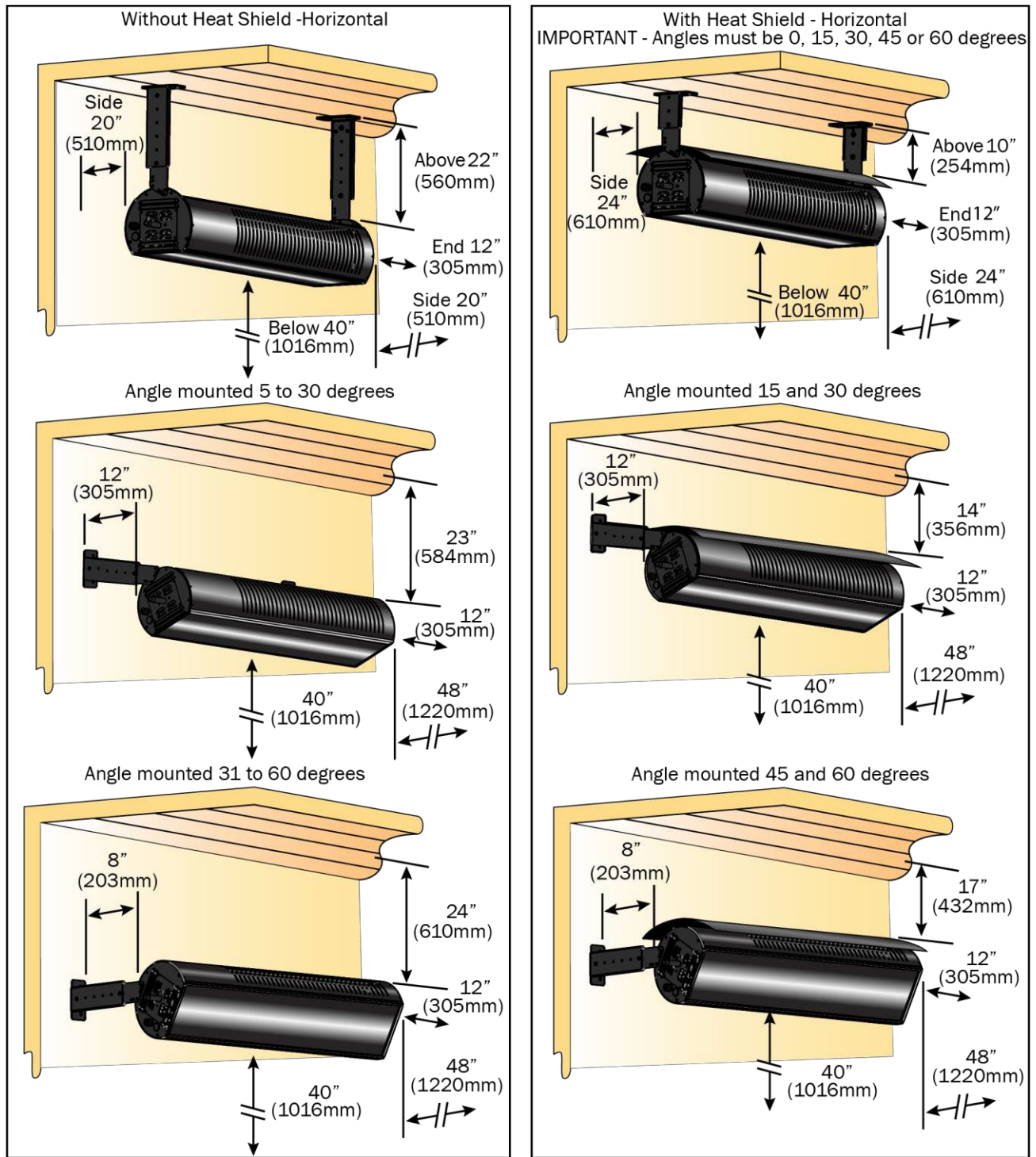


⚠ WARNING The stated clearance to combustibles represents a surface temperature of 90° F (50° C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.

See below the possible surface temperature at the clearance to combustible distance for different ambient temperatures within the heated space.

Ambient Temperature	70° F (21.1° C)	65° F (18.3° C)	60° F (15.5° C)
Surface Temperature	160° F (71.1° C)	155° F (68.3° C)	150° F (65.6° C)

OUTDOOR CLEARANCES TO COMBUSTIBLES - GGE35 MODELS

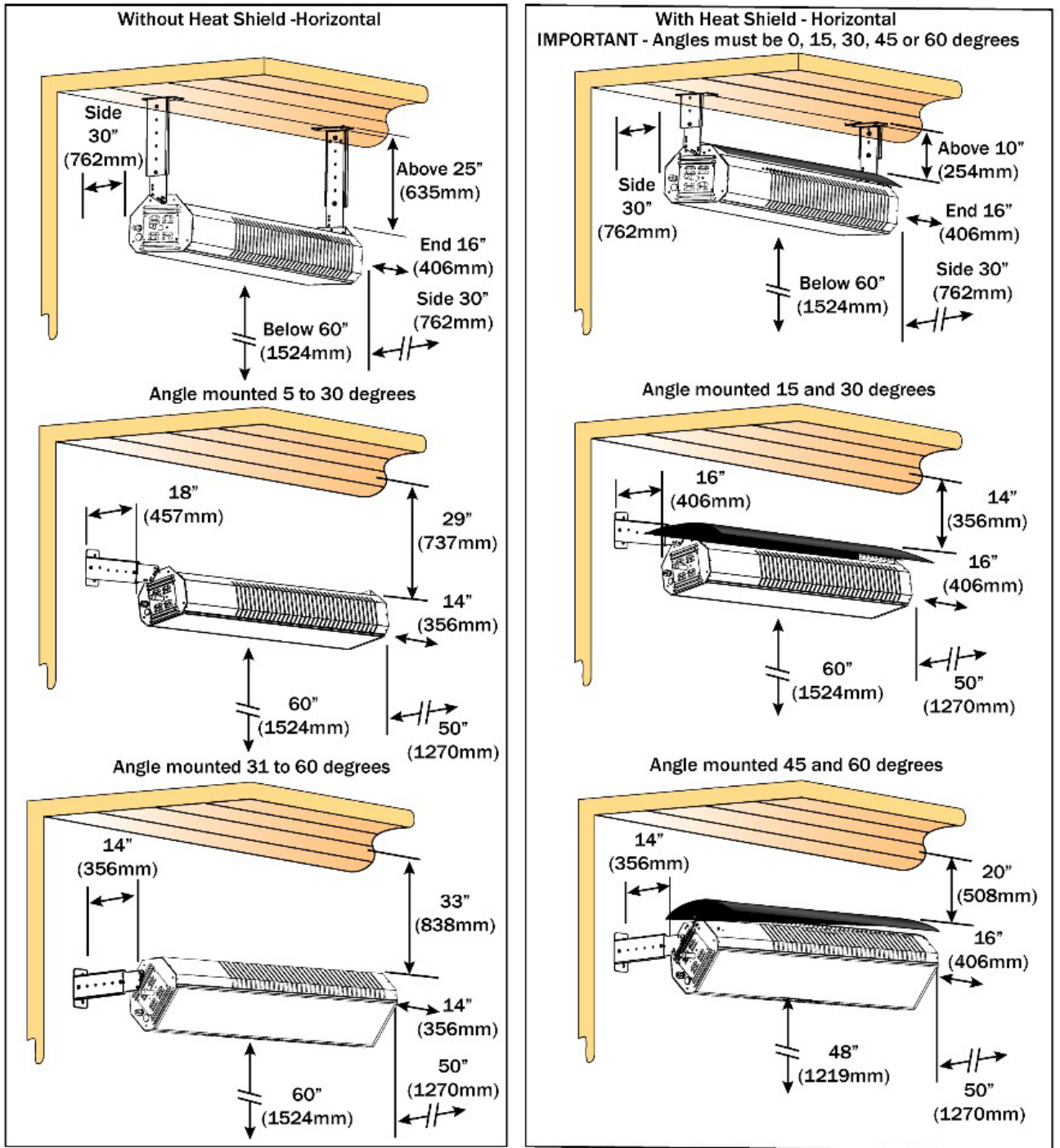


⚠ WARNING The stated clearance to combustibles represents a surface temperature of 117° F (65° C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.

See below the possible surface temperature at the clearance to combustible distance for different ambient temperatures within the heated space.

Ambient Temperature	70° F (21.1° C)	65° F (18.3° C)	60° F (15.5° C)
Surface Temperature	187° F (86.1° C)	182° F (83.3° C)	177° F (80.6° C)

INDOOR CLEARANCES TO COMBUSTIBLES – GGE50 MODELS

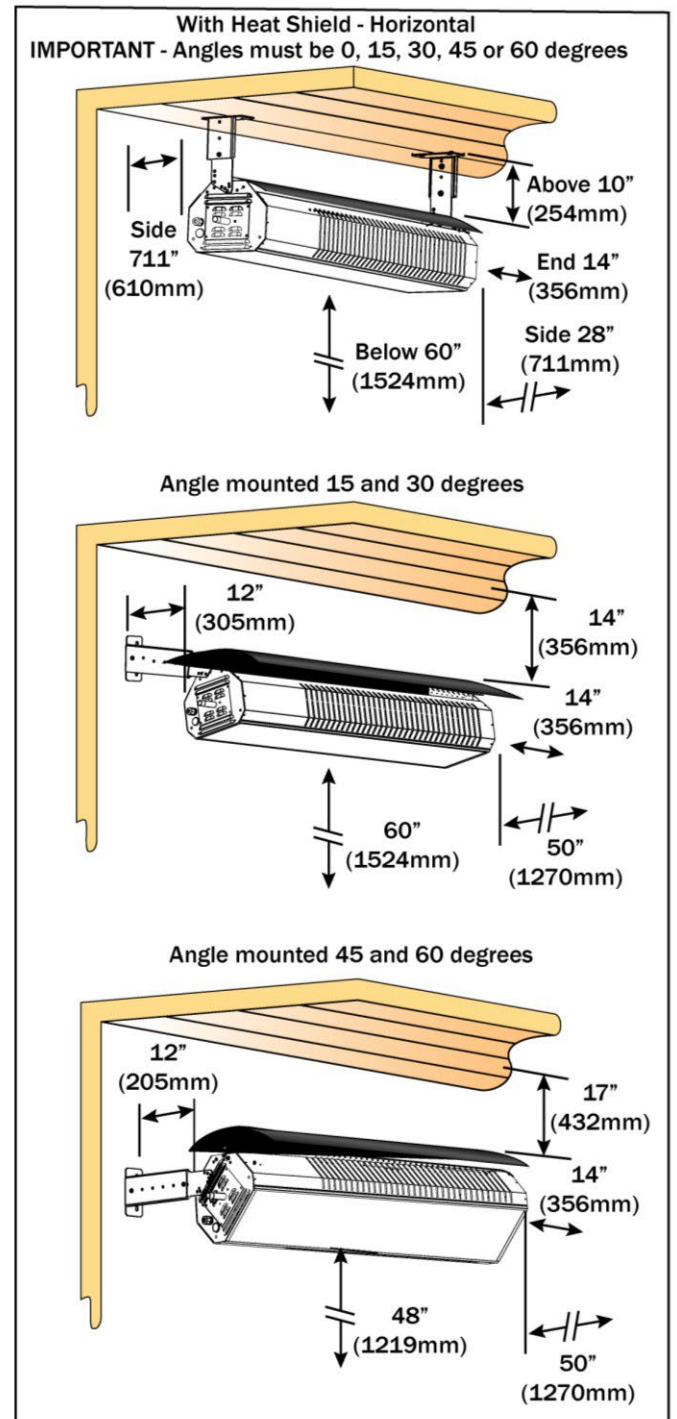
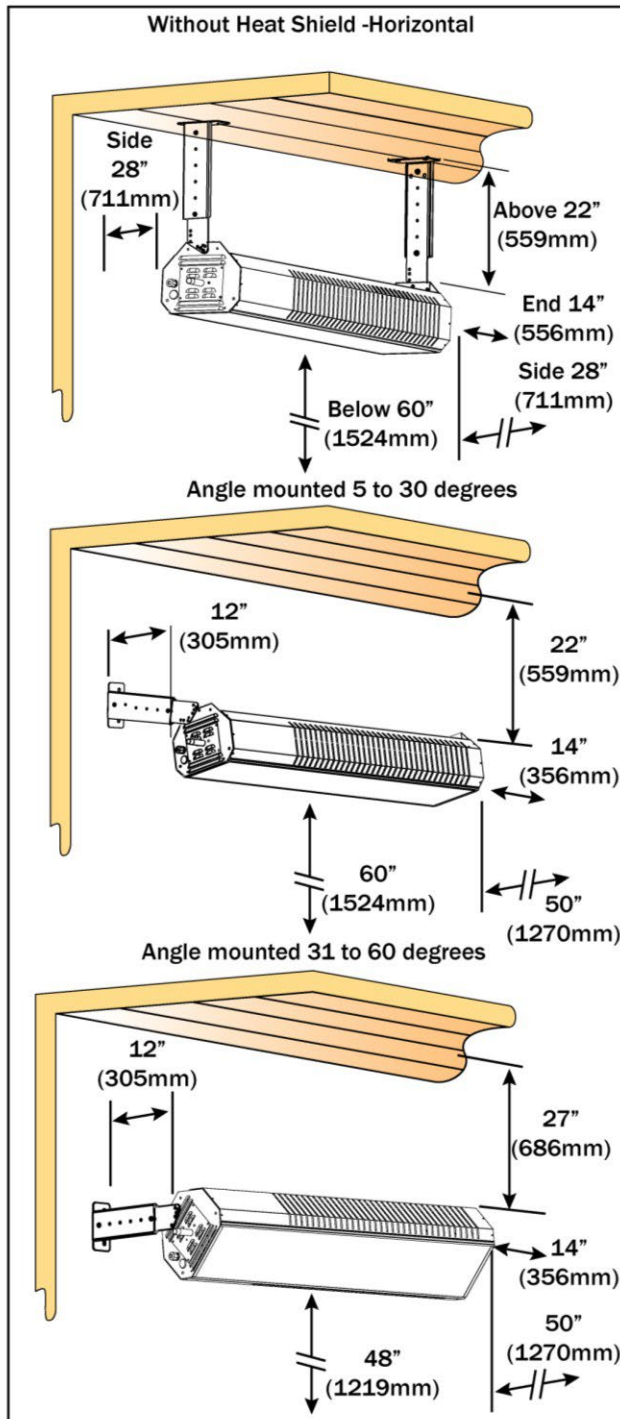


⚠ WARNING The stated clearance to combustibles represents a surface temperature of 90° F (50° C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.

See below the possible surface temperature at the clearance to combustible distance for different ambient temperatures within the heated space.

Ambient Temperature	70° F (21.1° C)	65° F (18.3° C)	60° F (15.5° C)
Surface Temperature	160° F (71.1° C)	155° F (68.3° C)	150° F (65.6° C)

OUTDOOR CLEARANCES TO COMBUSTIBLES – GGE50 MODELS



⚠ WARNING The stated clearance to combustibles represents a surface temperature of 117° F (65° C) above room temperature. Building materials with a low heat tolerance (such as plastics, vinyl siding, canvas, tri-ply, etc.) may be subject to degradation at lower temperatures. It is the installer's responsibility to assure that adjacent materials are protected from degradation.

See below the possible surface temperature at the clearance to combustible distance for different ambient temperatures within the heated space.

Ambient Temperature	70 °F (21.1 °C)	65 °F (18.3 °C)	60 °F (15.5 °C)
Surface Temperature	187 °F (86.1 °C)	182 °F (83.3 °C)	177 °F (80.6 °C)

SPECIFICATIONS

Model No.	Btu/hr High Input	(2-stage) Btu/hr Low Input	Orifice Size				Recommended* Mounting Height		
			Natural Gas		Propane Gas		@ 0 °	@ 5 ° to 30 °	@ 30 ° to 60 °
GGE35	35,000	24,000	#41	0.096 inch	#51	0.067 inch	8 to 11 ft	7 to 9 ft	6.5 to 8 ft
GGE50	N - 51,000 L - 50,000	34,000 33,000	2.9mm	0.114 inch	1.95 mm	0.077 inch	9 to 12 ft	8.5 to 11 ft	8 to 10 ft

* For mounting heights outside the recommended distances consult your local Space-Ray Representative.

Model Identification:

Control Option 35/50	Gas Type	Description
0460XXNG	Natural	Two Stage - High/Low Fire
0460XXLP	Propane	Two Stage - High/Low Fire
0460XXNG-RM	Natural	Two Stage - High/Low Fire (with remote)
0460XXLP-RM	Propane	Two Stage - High/Low Fire (with remote)

Two stage heaters are supplied with a jumper to enable single stage (high fire only) operation. See electrical section for instructions.

Type Gas	Gas Pipe Connection	Electrical Supply	Current Rating	Weight
Natural or Propane	½" NPT (Male)	120 Volt, 60Hz, 1 Phase	0.4 Amp	GGE35 - 55 lbs GGE50 - 62 lbs

Module Electrical Rating:	Ignition System (direct spark):
Input-Control: 18-30 VAC 50/60 Hz (class 2 transformer) Input Power-Line: 120 VAC (L1, IND contacts only) Flame Sensitivity: 0.7 µA (microamps) minimum	10 second trial for ignition period 7 second pre-purge period 15 second inter-purge period 3 tries for ignition. separate flame sensor potted, 100% water protected

Approved installation angles are 0, 15, 30, 45 and 60 degrees with heat shield installed.

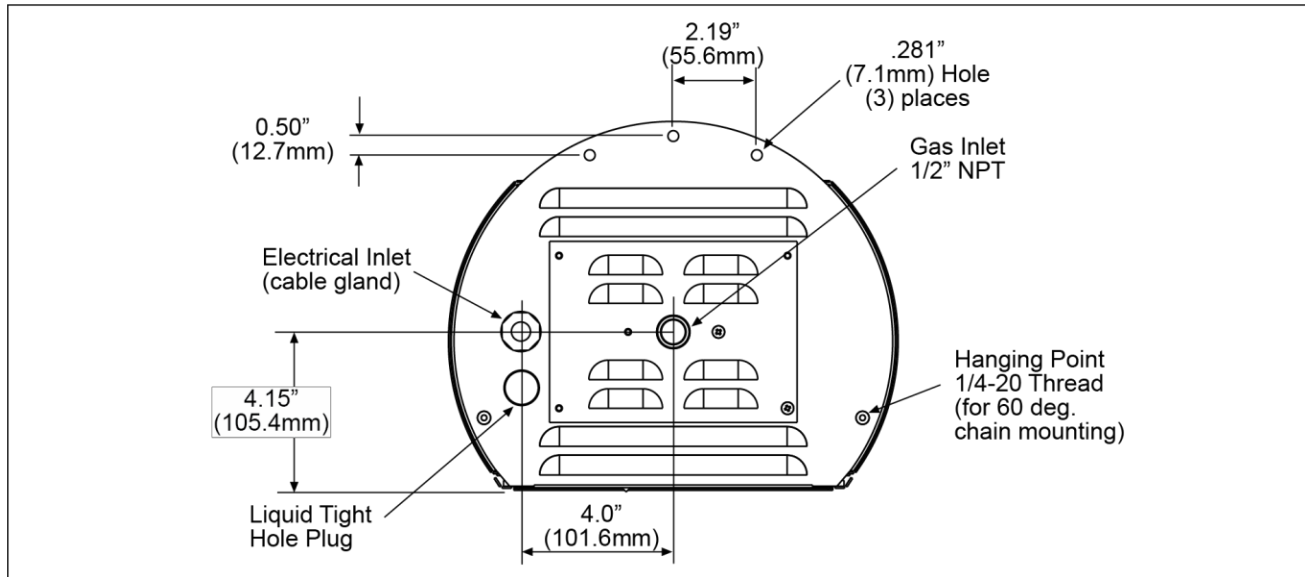
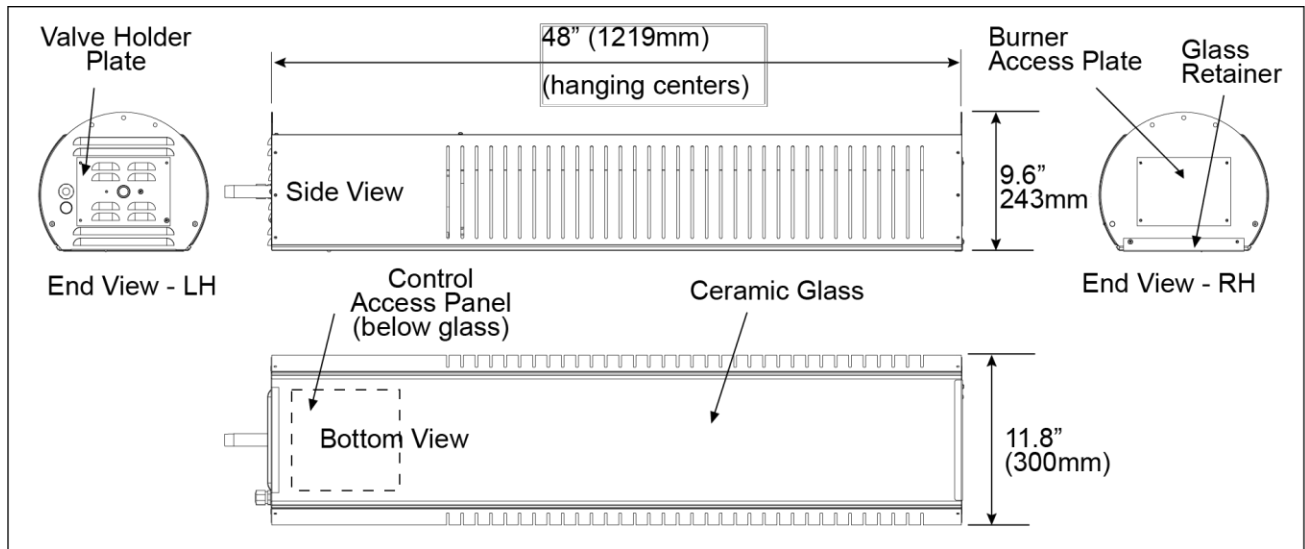
PACKING LIST

Package contents are listed below:

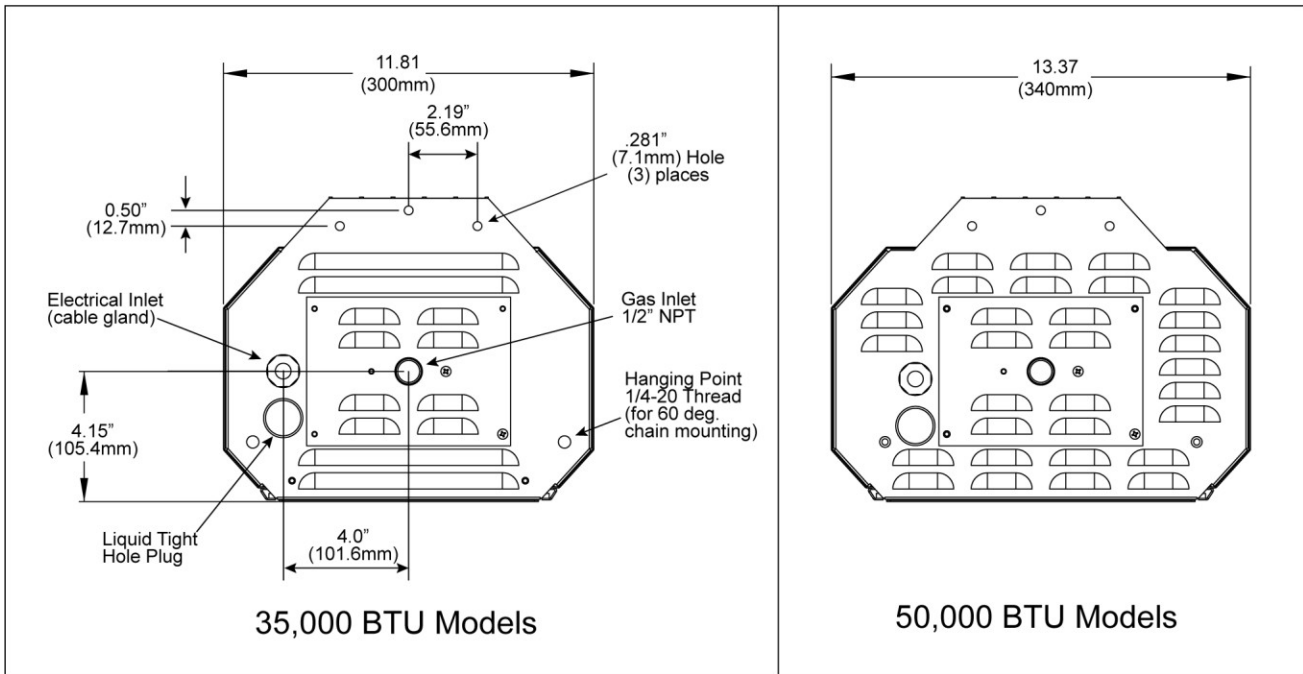
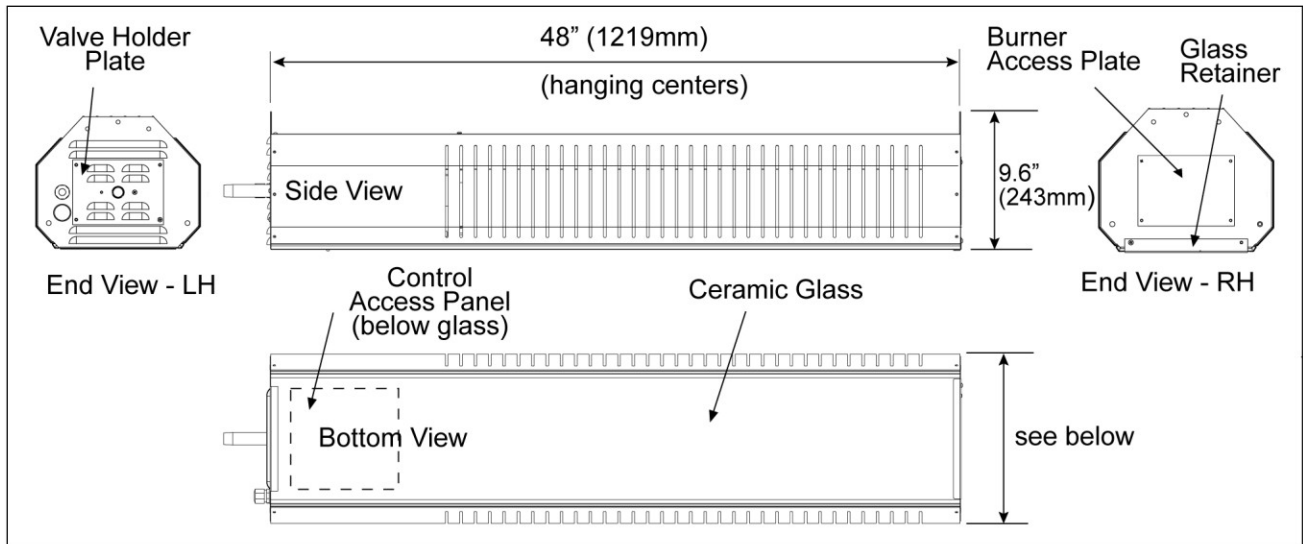
Model	Part Number	Gas Type
GGE-35NG - 2 STAGE	046035NG	Natural
GGE-35LP- - 2 STAGE	046035LP	Propane
GGE-35NG-RM - 2 STAGE - (with remote)	046035NG-RM	Natural
GGE-35LP-RM - 2 STAGE - (with remote)	046035LP-RM	Propane
GGE-50NG- 2 STAGE	046050NG	Natural
GGE-50LP - 2 STAGE	046050LP	Propane
GGE-50NG-RM - 2 STAGE - (with remote)	046050NG-RM	Natural
GGE-50LP-RM - 2 STAGE - (with remote)	046050LP-RM	Propane

Description	Qty Per
Patio Heater	1
Ceramic Glass 8.94" x 48" Black (GGE35)	1
Ceramic Glass 10.50" x 48" Black (GGE50)	1
GGE Clearances Sign	1
Angle Mounting Gauge Plate	1
Remote 2-stage Space-Ray (RM models only)	1
AAA Battery 2 Pack (RM models only)	1
3 Position Switch Kit (RM models only)	1

DIMENSIONS - GGE35 - ROUND BODY

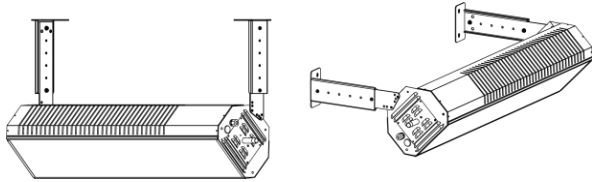
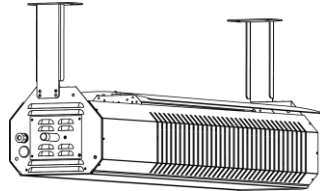
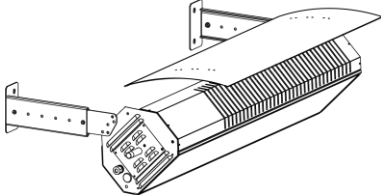
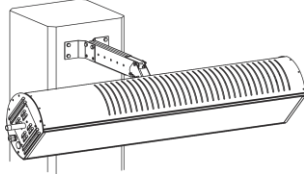
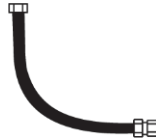
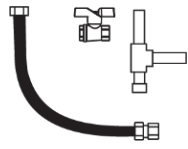

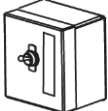


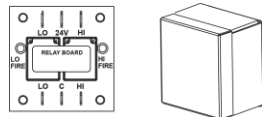
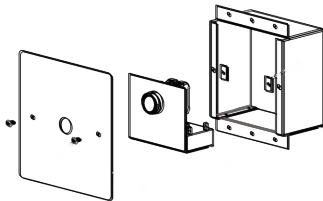
DIMENSIONS - GGE35 & GGE50 - 8 SIDED BODY



ACCESSORIES

Below are the optional accessories available for the Gordon Glo Elite Patio heater.

PN	Description	Picture
04601530	Wall / Ceiling Telescopic Mounting Bracket Kit- 15"-30" overhead space (check clearances to combustibles space above the heater before ordering) includes both the 15-22" and 22-30" extension legs.	
04601010	Ceiling Mount Bracket Kit- 10" fixed installation for minimum overhead clearance. This bracket is only for horizontal mounting with the heat shield	
04603501 GGE35 40460501 GGE50	Heat Shield Kit - Reduced clearances to combustible option when installed. Mounting angles are restricted to 0, 15, 30, 45 and 60°.	
04601007	Column Mounting Arm Kit - suitable for columns 8" and wider.	
91404602	Gas Connector - Black Powder Coated Paint to match the heater. 1/2"OD -24" Long with 1/2MIP X 1/2 FIP Connection	
91404603	Gas Connection Kit- 1/2"-Includes Gas Connector, Manual Ball Valve, Sediment Trap (Tee, Cap, Nipple), Thread Sealing Compound	
91204601	Gas regulator 2psig to 11" W.C. 1/2" NPT inlet and outlet.	
90404610	3 Position Switch Kit, (High/Low/Off) for manual heater control. Included with-RM models	

PN	Description	Picture
90404601	Two Stage Relay Kit (one per heater required) for controlling multiple heaters w/a single 24V Two Stage thermostat	
90404630	Single switch controller with built in 60 minute automatic timer. Switch is an illuminated rotary 3 position mounted on RG faceplate and is recess mounted into a wall.	


GAS PRESSURE TABLE

GAS PRESSURE TABLE				
GAS TYPE	MANIFOLD PRESSURE		SUPPLY PRESSURE	
	High	Low (2-stage only)	Minimum*	Maximum
Natural Gas	6.0" W.C.	2.8" W.C.	7" W.C.	14" W.C.
Propane Gas	11.0" W.C.	5.0" W.C.	11.5" W.C.	14" W.C.

*Minimum permissible gas supply pressure for purpose of input adjustment

ELECTRICAL CONNECTIONS

⚠ WARNING



Electric Shock Hazard

Disconnect electrical power and gas supply before servicing.

This appliance must be connected to a properly grounded electrical source.

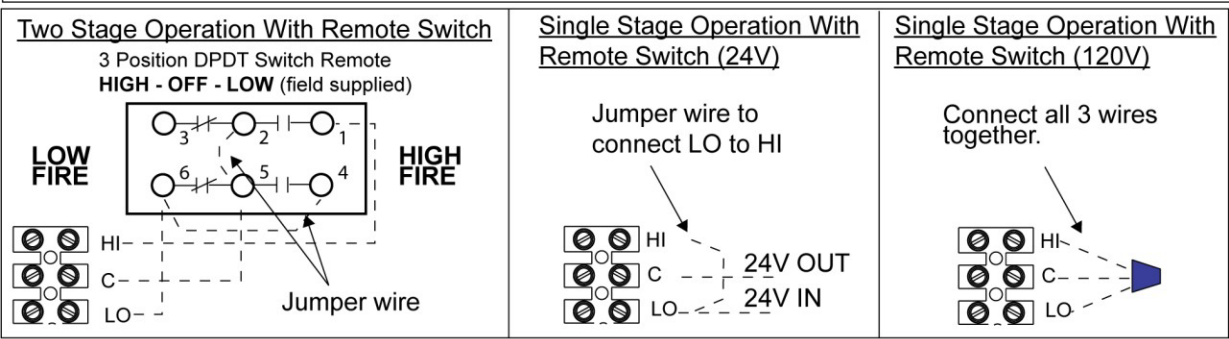
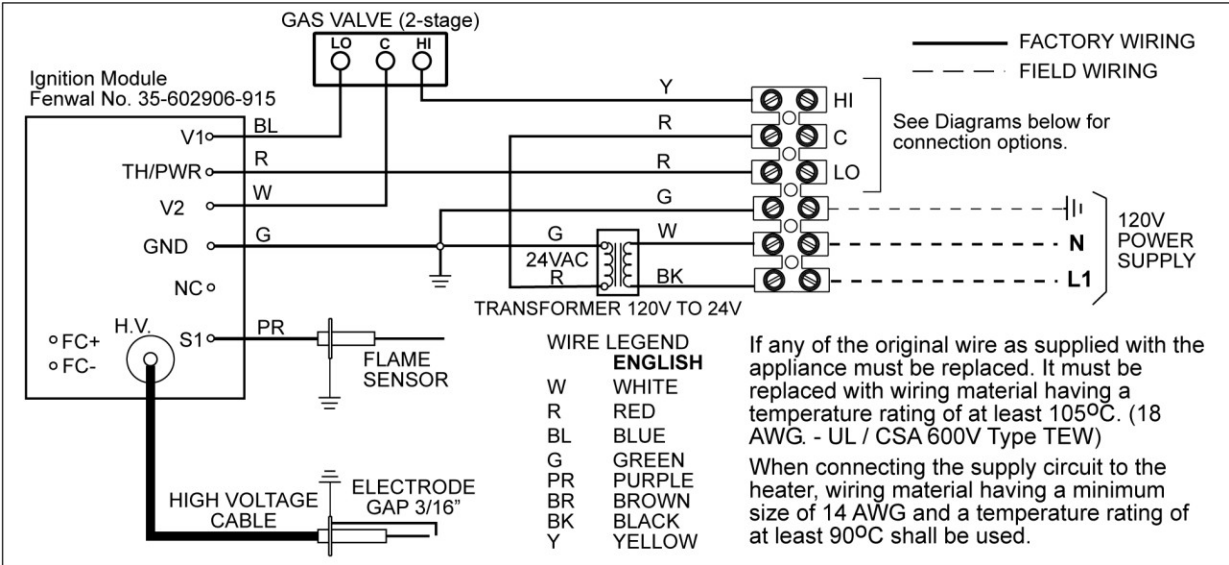
Failure to do so may result in death or serious injury.

- All electric wiring shall conform to the latest edition of the National Electrical Code (ANSI/NFPA No. 70), or the code legally authorized in the locality where the installation is made.
- The unit must be electrically grounded in accordance with the National Electrical Code (ANSI/NFPA No. 70-latest edition).
In Canada, refer to current *Canadian Electrical Code*, Parts I and II, and CAN/CSA-C22.2 No. 3 or CAN/CSA-C22.2 No. 60335-2-102:16.
- The wiring providing power to the heater shall be connected to a permanently live electrical circuit, one that is not controlled by a light switch.

4. The power supply to the unit should be protected with a fused disconnect switch or circuit breaker. A service switch, as required by local codes, shall be located in the vicinity of the heater (check local codes for allowable distances) and should be identified as Heater Service Switch. All electrical wiring must be located in accordance with the required Clearances to Combustibles below the heater (See section 4).
5. When connecting the supply circuit to the heater, wiring material having a minimum size of 14 AWG and a temperature rating of at least 90°C shall be used.

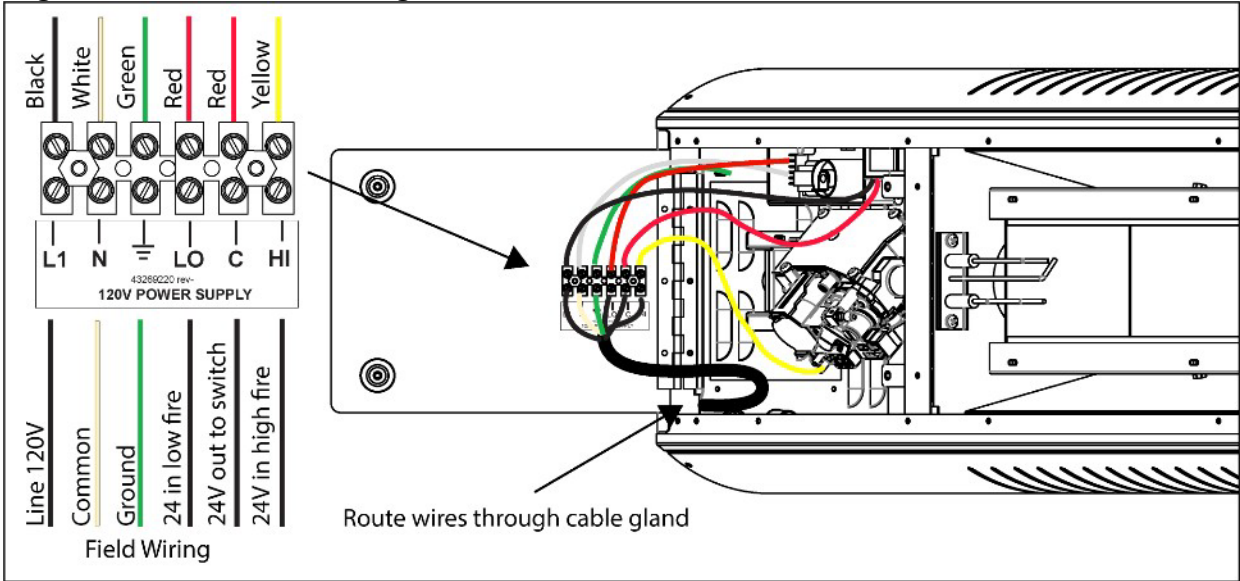
INTERNAL CONNECTION WIRING DIAGRAM – W/O REMOTE

The figure below shows the internal wiring diagram of the heater and the optional external connections depending on how the heater will be controlled.

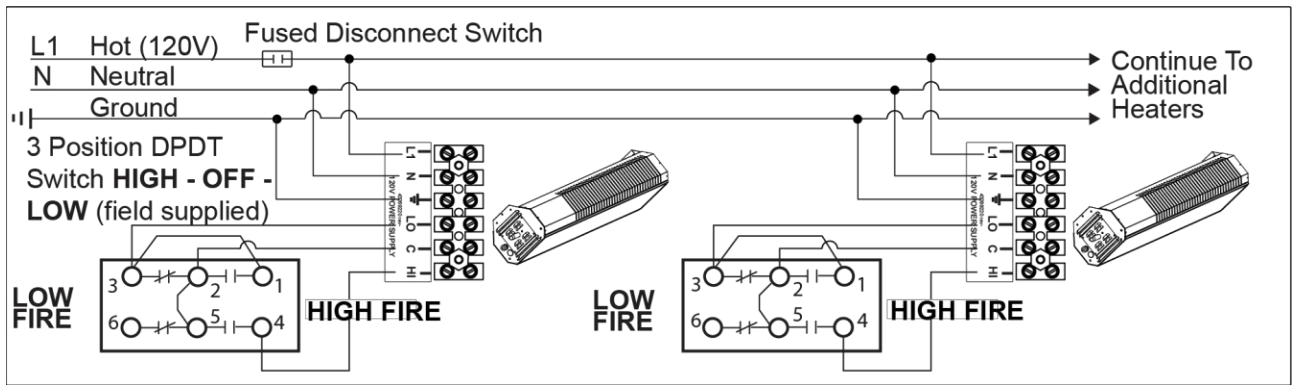


FIELD CONNECTIONS AND WIRING DIAGRAMS – 2 STAGE 24V-W/OREMOTE

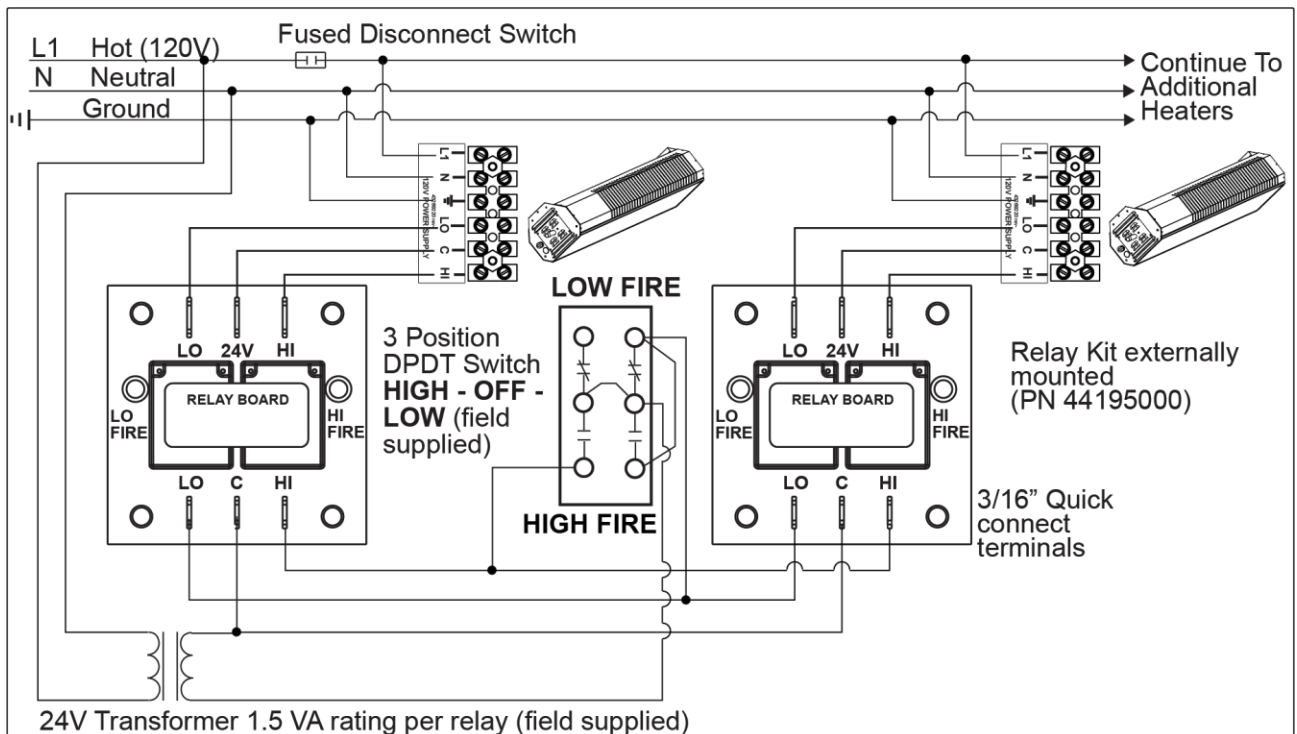
The figure below shows the field wiring connections to the heater terminal block.



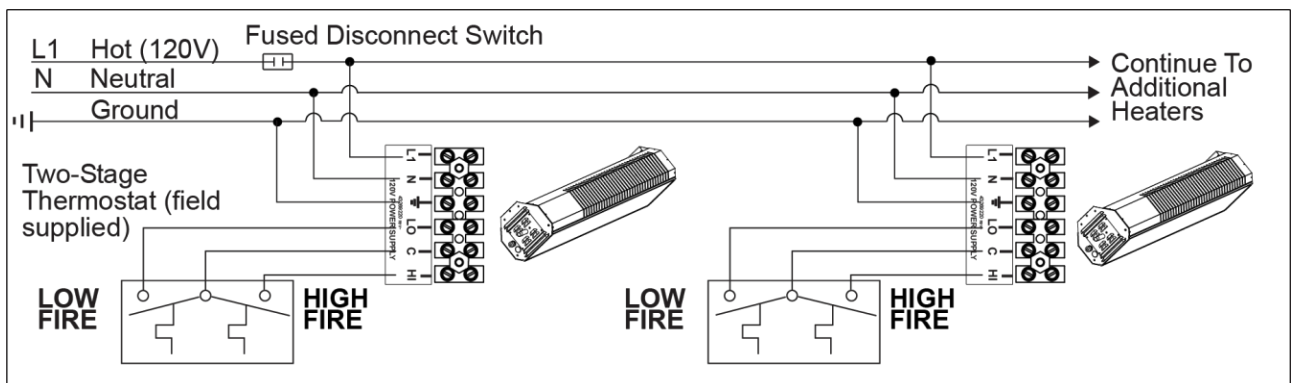
A. LOW VOLTAGE (24V) 3 POSITION SWITCH CONNECTIONS - SINGLE HEATERS



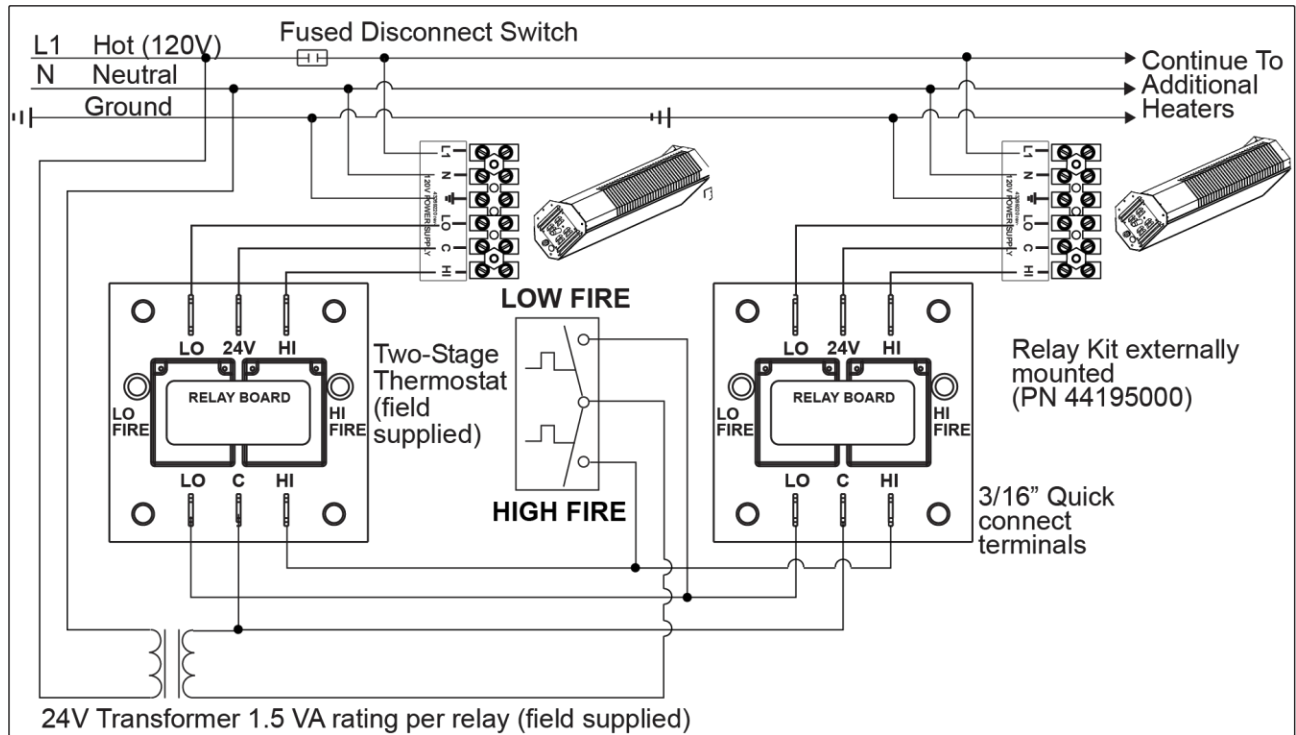
B. LOW VOLTAGE (24V) 3 POSITION SWITCH CONNECTIONS - MULTIPLE HEATERS



C. LOW VOLTAGE (24V) THERMOSTAT CONNECTIONS - SINGLE HEATERS



D. LOW VOLTAGE (24V) THERMOSTAT CONNECTIONS - MULTIPLE HEATERS



FIELD CONNECTIONS AND WIRING DIAGRAMS SINGLE STAGE 24V MODELS W/O REMOTE

The figure below shows the internal connection to operate the heater turning on and off 24V power to the heater with a permanent live power supply.

Important: To operate the heater as single stage a jumper wire must be installed across the 24V LO and HI terminals as shown below. The heater will not operate with only 24V power to the HI terminal.

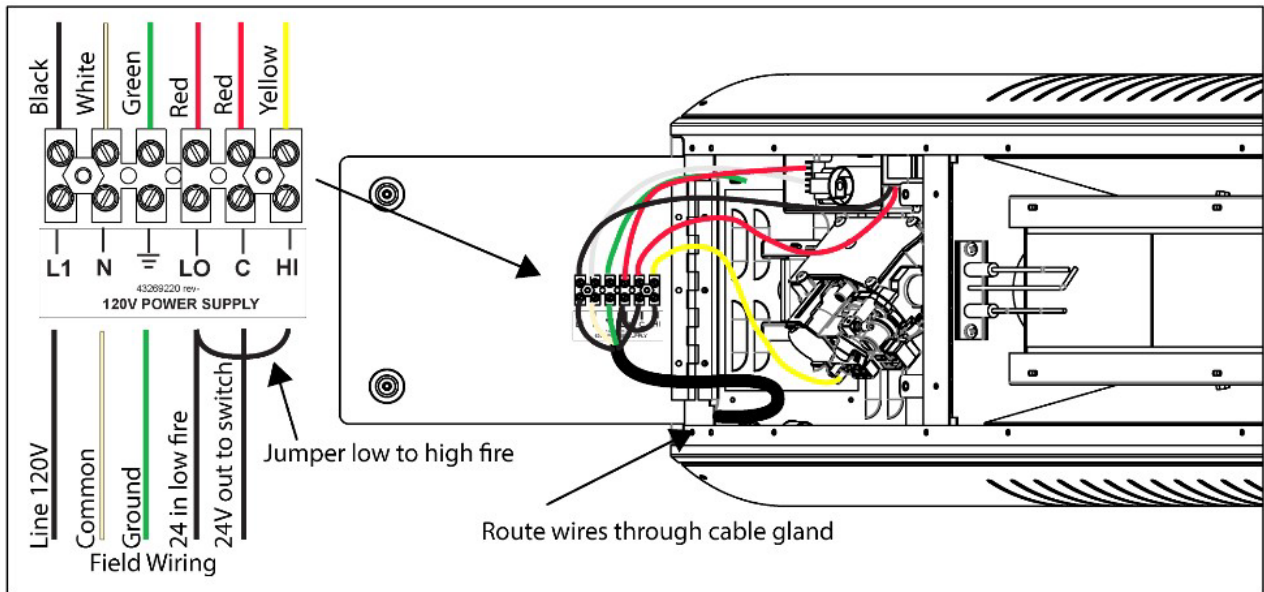


Diagram illustrating the wiring for the 24V heater system. The system includes a power source (L1 Hot 120V, N Neutral, Ground), a Fused Disconnect Switch, a 2 Position SPST Switch (ON - OFF, field supplied), and the heater unit. The heater unit has terminals L1, N, Ground, LO, and HI. A jumper is installed between the LO and HI terminals. The power continues to additional heaters.

FIELD CONNECTIONS AND WIRING DIAGRAMS

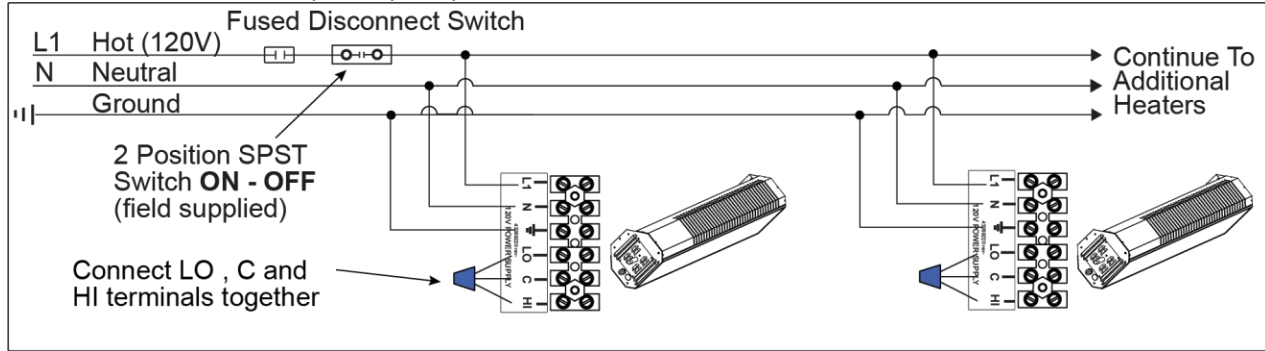
SINGLE STAGE 120V MODELS W/O REMOTE

The diagram illustrates the electrical connections for a 120V power supply and field wiring. On the left, a terminal block is labeled with the following colors and terminals: Black (L1), White (N), Green (Ground), Red (LO), Red (C), and Yellow (HI). Below this, a section labeled "Field Wiring" shows three wires (Line 120V, Common, and Ground) being connected to a blue terminal block. An arrow points from the text "Connect LO, C and HI terminals together" to the blue terminal block. On the right, a cross-section of a motor or generator shows the internal wiring. Arrows indicate the routing of the wires from the terminal block into the device, with a note "Route wires through cable gland" pointing to the entry point.

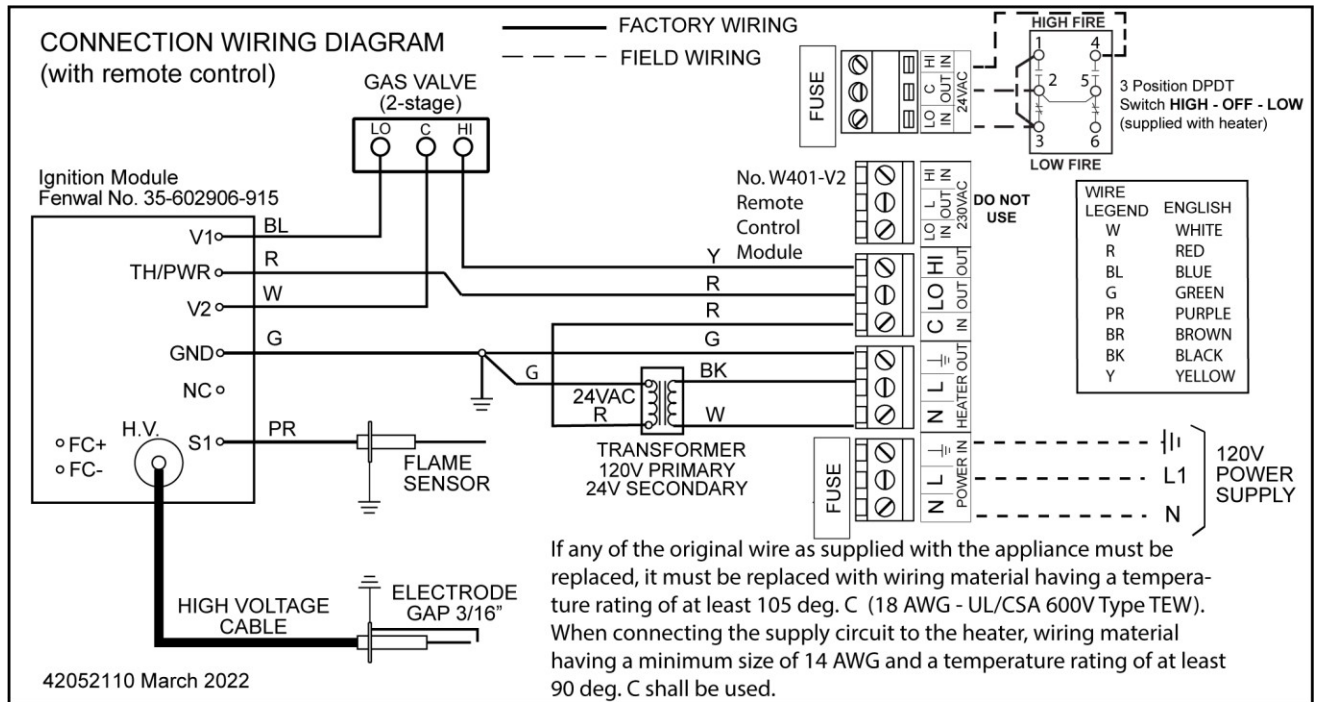
Wiring diagram for the 2-position SPST switch. The diagram shows a power source with L1 (Hot 120V), N (Neutral), and Ground lines. A 'Fused Disconnect Switch' is connected to the L1 line. The switch has two positions: 'ON' and 'OFF'. In the 'ON' position, the L1 line is connected to the 'LO' terminal of the heater unit. In the 'OFF' position, the L1 line is connected to the 'HI' terminal of the heater unit. The 'N' and 'Ground' lines are connected to the 'N' and 'G' terminals of the heater unit. The heater unit has terminals labeled L1, N, G, LO, and HI. The diagram also shows a 'Continue To Additional Heaters' connection.

Submittal ♦ GGE
April 2024

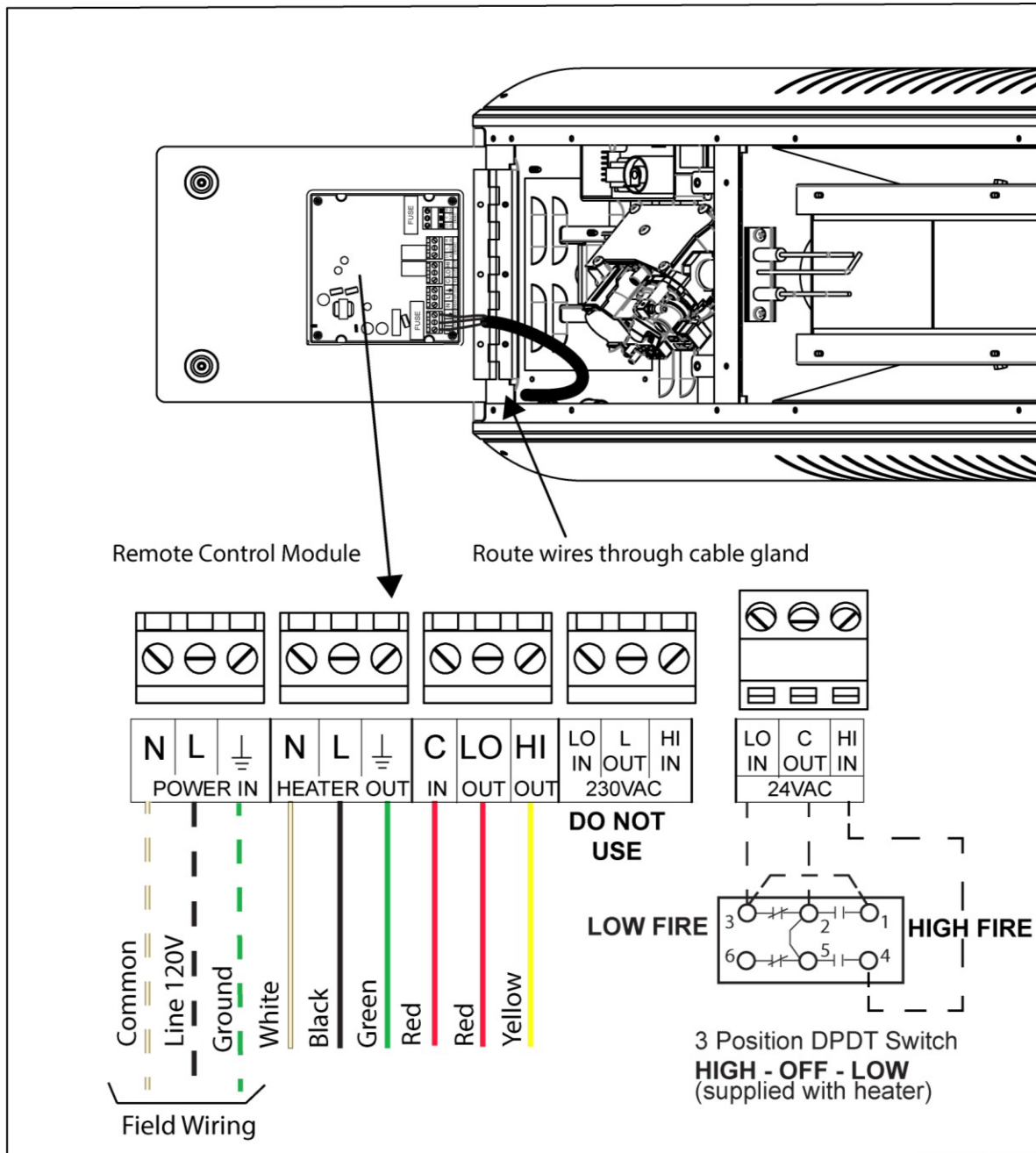
B. LINE VOLTAGE (120V) ON / OFF SWITCH CONNECTION - MULTIPLE HEATERS



INTERNAL CONNECTION WIRING DIAGRAM – MODELS W/REMOTE



FIELD CONNECTION AND WIRING DIAGRAM 2 STAGE 24V MODELS




The figure above shows the field wiring connections to the heater remote control module.

The 3-position switch can be located in a separate area from the heater. Maximum control wire length for the 3-position switch is 200 ft (61m). Minimum wire gauge is 18 gauge (1.0 mm²)

VENTILATION

⚠ WARNING



Carbon Monoxide Hazard

Heaters installed indoors require a minimum ventilation of 4 CFM per 1,000 Btu/hr of total install capacity.

Failure to do so may result in death, serious injury, property damage or illness from Carbon Monoxide poisoning.

Where unvented infrared heaters are used, natural or mechanical means shall be provided to supply and exhaust at least 4 cfm per 1000 Btu/hr input of installed heaters.

Exhaust openings for removing flue products shall be above the level of the heaters.

This heater requires ventilation in the building to dilute the product of combustion and provide fresh air for efficient combustion. Power ventilation is recommended, and the minimum vent flow required is as follows:

GGE35 SERIES = 140 cfm

GGE50 SERIES = 204 cfm

The General Ventilation Rules outlined in ASHRAE GUIDE AND DATA BOOK should be observed when locating vents. Exhaust vents must be located at the highest point above and in the vicinity of the heaters and the inlet vents must be located below the level of the heaters. Inlet openings in the building should be well distributed high in the sidewalls and should direct incoming air upward to dilute products of combustion while preventing drafts at lower levels. Inlets are typically 1 to 3 sq. ft. Local codes may require that mechanical exhaust systems be interlocked with thermostats to function simultaneously.

HEATER OPERATION – MODELS WITH REMOTE

The 3-position switch is intended as a back up to the remote control. The operation of the switch is dominant over the remote control. The remote will only operate the heater when the 3-position switch is in the OFF (center) position.

Multiple GGE35 heaters can be controlled individually with the same remote.

An LED with various blinking sequences can be seen through the dark glass. The blinking sequence as indicated below show if the heater is in standby, operated via remote or operated via the 3-position switch.

To operate the heater with the remote control.

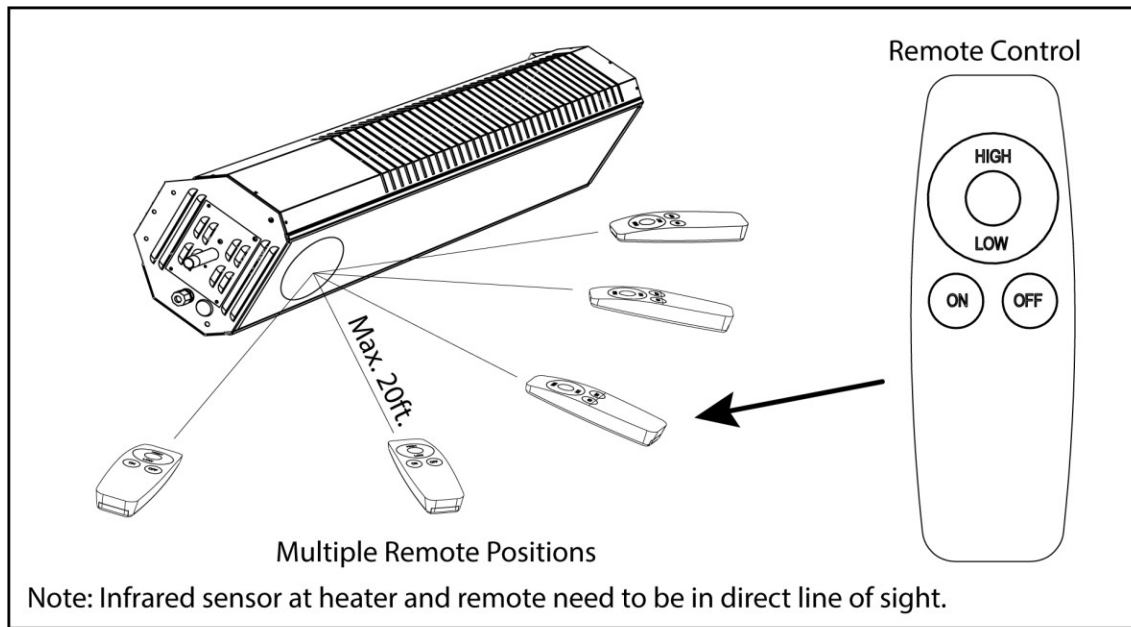
1. Make sure the 3-position switch is in the OFF (center) position.
2. Aim the remote toward the control portion of the heater as shown and press ON. Note: The maximum distance to operate the remote away from the heater should be approximately 20 ft. longer distances might not give a good signal to operate the heater.
3. Pressing LOW will enable the heater to run on the lowest heat output (Low Fire).
4. Pressing HIGH will enable the heater to run on the highest heat output (High Fire).
5. Pressing OFF will turn the heater off.

Using the 3-position switch:

Note: the remote will not operate the heater when the switch is in the high or low fire position.

1. Pushing the switch into the LOW will start the heater in Low fire.

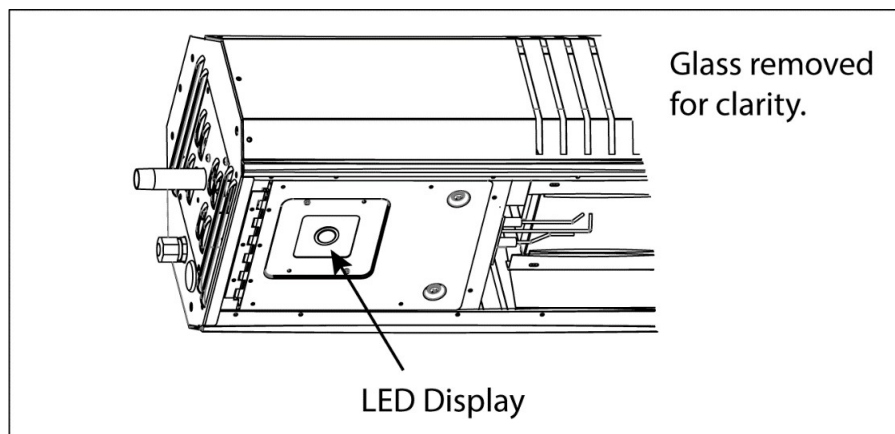
2. Pushing the switch into the HIGH position will start the heater in High fire.
3. Pushing the switch into the OFF position will turn the heater OFF.



LED blinking sequence:

The LED is clearly visible behind the glass. It is located on the control side (gas and electrical supply) of the heater. The blinking sequence below identifies the operating mode of the heater.

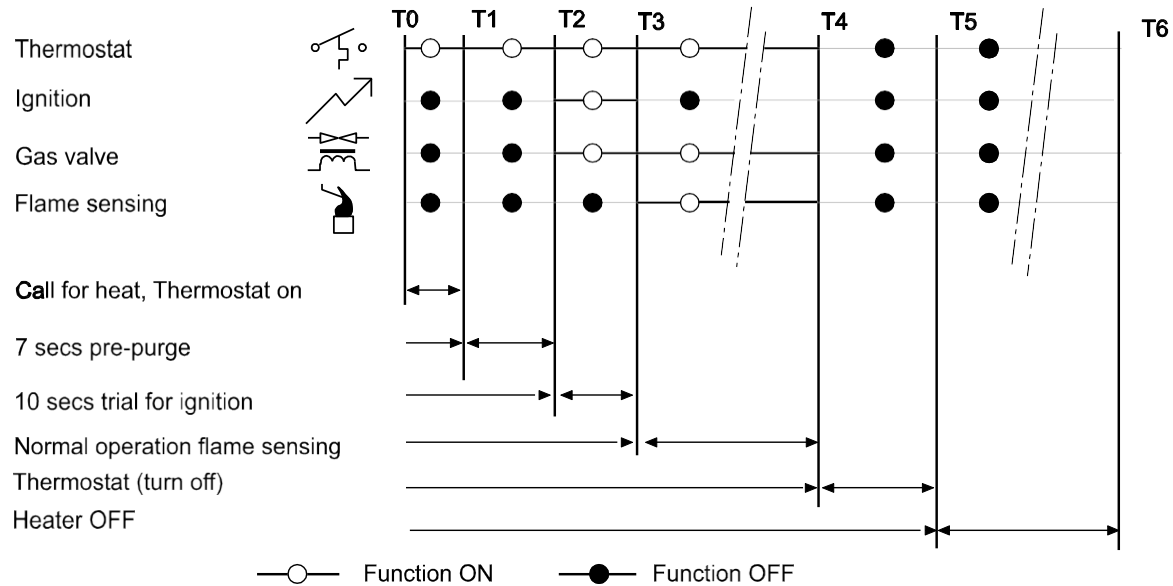
Functions	Operation	LED blinking sequence		
		On time (secs)	Off time (secs)	Repetition
Stand By mode	Heater OFF	0.1	60	Continuous
Using Remote	Heater low Fire	5	5	Continuous
Using remote	Heater High Fire	1	5	Continuous
Using Switch	Heater low Fire	1	1	Continuous
Using Switch	Heater High Fire	5	1	Continuous
Internal board fault	Heater OFF	constant	N/A	N/A



SEQUENCE OF OPERATION

Normal operation:

The chart below shows the sequence of operation for the normal operating cycle of the heater turned on and off by a remote thermostat.



If the burner fails to light, or flame is not detected during the first trial for ignition (a period of 10 seconds) the gas valve is de-energized and the control goes through an inter-purge delay of 15 seconds before another ignition attempt. The control will attempt two additional ignition trials before going into lockout.

If 'Lockout' occurs, switch off the electrical supply to the appliance, wait for 10 seconds before switching on the electrical supply to the appliance to repeat the ignition sequence.

WARRANTY

LIMITED WARRANTY: the manufacturer, warrants to the original owner of any infrared gas heater that said heater will be free from defects in material or workmanship under normal use and service. The heater(s) shall be installed, used and maintained strictly in accordance with the manufacturer's instructions. The manufacturer's sole obligation under this warranty shall be limited to furnishing replacement parts, F.O.B. Buffalo, NY, for 12 months from the date of installation, or 18 months from the date of shipment by the manufacturer, whichever period shall expire first. Labor charges for removal of defective parts and the installation of the replacement parts are not included. This warranty applies only within the USA and Canada.

WARNING: Manufacturer's warranty shall not apply: (a) to damage to the heater when used in an atmosphere containing halogenated hydrocarbons or other corrosive chemicals. Some compounds in the air can be ingested into the equipment and can cause an accelerated rate of corrosion of some of the parts of the heating components. The use of such chemical compounds in or near the operating environment of the heater should be avoided where a longer heater life is desirable; (b) to any heater or components which have been repaired or replaced with other than factory parts, modified in any way, misused, or damaged, or which have been used contrary to the manufacturer's written instructions. Replacement parts are available through Space-Ray representatives or their distributors.

LIMITATION OF WARRANTY: THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. WITHOUT LIMITING THE FOREGOING, THE MANUFACTURER EXPRESSLY EXCLUDES ANY AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTY OF MERCHANTABILITY FOR ITS PRODUCTS.

If any provision of this warranty is found to be void, unenforceable or unconscionable, then the same is hereby severed and the remainder of this warranty is hereby saved and shall remain in force.

EXCLUSIVE REMEDY: The sole and exclusive remedy under this warranty is the replacement of the defective parts or heaters as hereinabove specified. THE MANUFACTURER DOES HEREBY EXPRESSLY EXCLUDE ANY AND ALL LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES UNDER THIS OR ANY OTHER WARRANTY. Without intending to limit the aforesaid exclusion, THE MANUFACTURER DOES HEREBY EXCLUDE ANY LIABILITY UNDER THIS OR ANY OTHER WARRANTY FOR INJURIES AND COMMERCIAL LOSSES TO PROPERTY THAT RESULT FROM THE OPERATION, PROPER OR IMPROPER, OF ITS PRODUCTS.

ADDITIONAL WARRANTY ON BURNER ASSEMBLY: Manufacturer warrants to the original owner of any CSA design certified heater that, if installed, used and maintained strictly in accordance with the printed instructions received with the heater, the manufacturer will at any time during the below listed time periods, furnish at no cost to the original owner, replacement burners which have become inoperative by reason of any defect in our workmanship, materials or construction. The manufacturer's obligation under this warranty shall be limited to furnishing replacements for three years from the date of installation:

The manufacturer will not be responsible for labor charges incurred for removal or installation of burners. Any transportation charges involved in the return or repair are excluded.

ADDITIONAL TERMS: Manufacturer assumes no liability for delay in performing its obligations under the aforesaid warranty. Manufacturer assumes no liability for failure in performing its obligations there under if failure results directly or indirectly from any cause beyond its control, including but not limited to acts of God, acts of Government, floods, fires, shortages of materials, strikes and other labor difficulties or delays or failures of transportation facilities.

THIS FOR ALL OUTDOOR APPLICATIONS AND INDUSTRIAL/COMMERCIAL NON-RESIDENTIAL APPLICATIONS. Installation and service shall be by a Licensed Contractor and in accordance with National and Local Codes.

When presenting warranty claims, proof of date of purchase must be submitted.

No Representative is authorized to assume for the manufacturer any liability except as set forth above.

In case of claim under this warranty, contact: Roberts Gordon, 1250 William Street, Buffalo NY 14206 (716) 852-4400