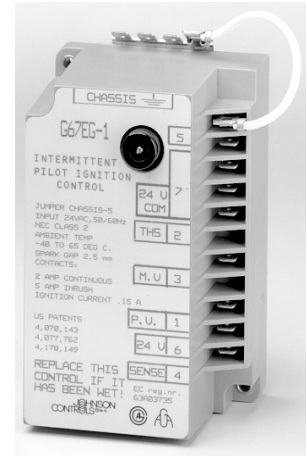


# G67 Intermittent Pilot Ignition Controls

The G67 Intermittent Pilot Ignition (IPI) Control is used to automatically light a pilot burner and energize the main burner gas valve of a heating system in response to the thermostat's call for heat. When the heating load is satisfied, the thermostat opens and the G67 de-energizes the pilot and main burner gas valves. The G67 can be used with equipment with a maximum firing rate of 117 kW (400,000 Btu/hr). Any application over 117 kW (400,000 Btu/hr) must be approved in advance by the Johnson Controls Application Engineering Department.



**Figure 1: G67 Intermittent Pilot Ignition Control**



**Figure 2: EC Approved G67EG Intermittent Pilot Ignition Control**

Features and Benefits	
<input type="checkbox"/> <b>Energy Efficient</b>	Allows pilot gas to be on only during the run cycle
<input type="checkbox"/> <b>High Energy Spark</b>	Promotes consistent dependable pilot lighting
<input type="checkbox"/> <b>Compact Size</b>	Provides limited space applications
<input type="checkbox"/> <b>Solid State Components</b>	Provides long life
<input type="checkbox"/> <b>Quick Response to Loss of Pilot Flame</b>	Provides rapid closure of main valve (0.8 second maximum)
<input type="checkbox"/> <b>G67EG Approved Worldwide</b>	Broadens applications to include global markets

## Application

The G67 ignition control may only be used for two types of applications:

- well ventilated or outdoor applications
- power vent or induced draft application

The G67 is suitable for operation over a temperature range of -40 to 66°C (-40 to 150°F). Consideration must be given to the temperature of the surface on which the G67 is mounted.

Use the G67B( ) only on rooftop, excess air, and power vented gas burning equipment.

When using the G67, the appliance or equipment must be approved by a recognized testing agency in accordance with the applicable American National Standards. See *Specifications* section. No other application is permissible.

The G67 solid-state ignition control lights a pilot burner by a spark. Pilot gas is ignited and burns during each run cycle (intermittent pilot). Main burner and pilot gas are extinguished during the Off cycle. All applications must use a redundant main gas valve.

The main gas valve will not open until the pilot flame has been proven by the sensing circuit. Should a loss of flame occur, the main valve closes and the spark recurs within 0.8 seconds.

## Operating Mode Definitions

The following definitions describe operating conditions:

*Trial for Ignition*--Period during which the pilot valve and spark are activated attempting to ignite gas at the main burner.

*Run*--Main gas valve remains energized and the spark is turned off after successful ignition.

*Flameout*--Loss of proven flame. Should a flameout occur, the main valve closes and the spark recurs within 0.8 seconds.

## Sequence of Operation

Figure 3 illustrates the sequence of operation for the G67.

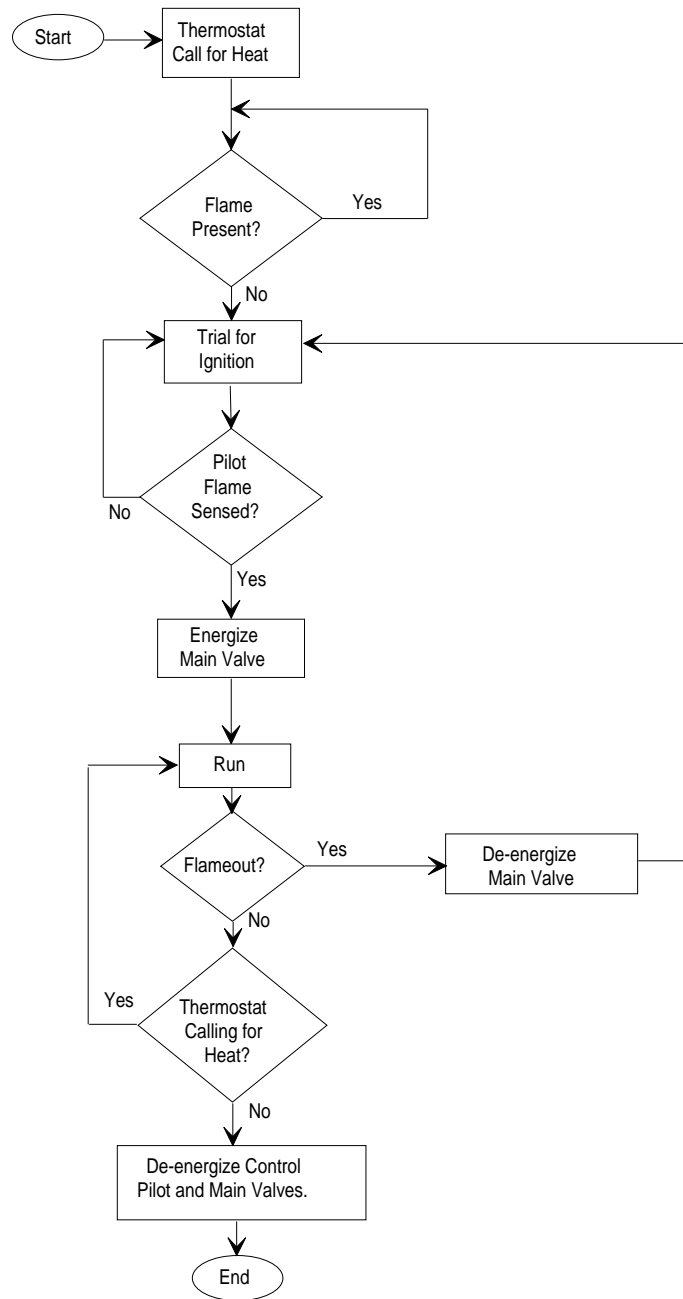
On a call for heat from the system thermostat, the G67 ignition control simultaneously opens the pilot valve and supplies a continuous spark to the pilot burner's electrode. When the pilot burner gas ignites, the pilot flame sensor detects the pilot flame and signals the G67 to energize the main gas valve and discontinue the spark. The main gas valve will not be energized until the flame sensor detects the presence of the pilot flame.

If the pilot flame goes out (with the thermostat still calling for heat), the G67 will de-energize the main gas valve and provide a continuous spark at the pilot burner's electrode. When the pilot flame is re-ignited and detected by the pilot flame sensor, the main gas valve is energized and the spark is shut off. The G67 ignition control de-energizes the pilot gas valve and main burner gas valve when the thermostat stops calling for heat.

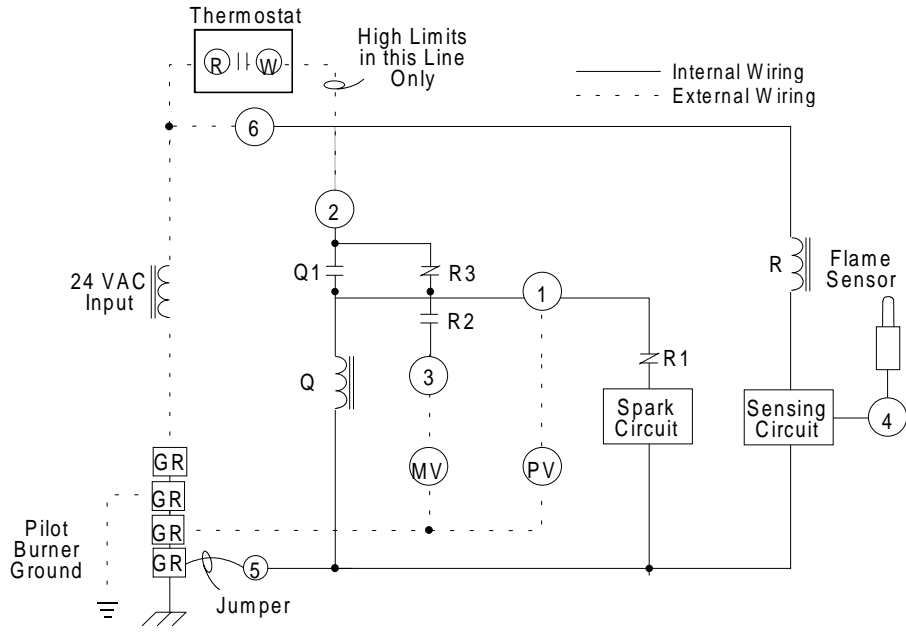
## Mounting

Choose a location that provides the shortest, direct cable route to the spark electrode, flame sensor assembly. Easy access to the terminals is desired for wiring and servicing. The G67 may be mounted in any position.

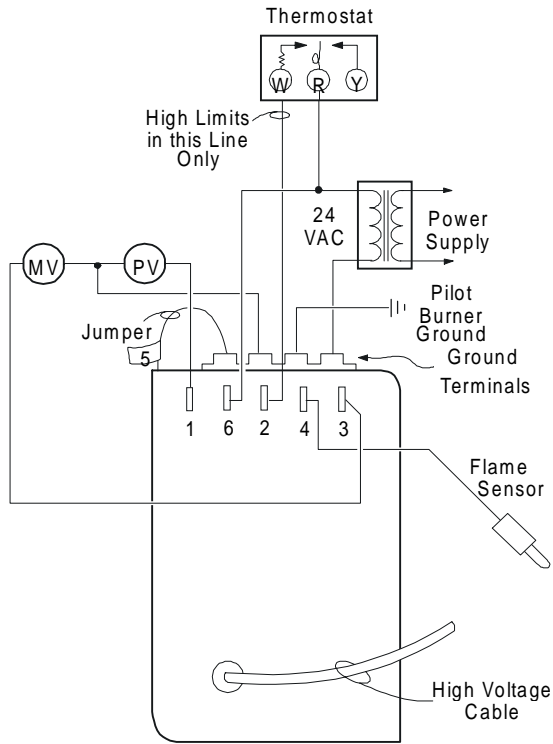
For G67A and G67B, refer to Figures 4 through 6 for wiring schematics/diagrams and Figure 7 for mounting dimensions. For G67EG, refer to Figures 8 and 9 for wiring schematic/diagram and Figure 10 for mounting dimensions.



**Figure 3: Sequence of Operation**

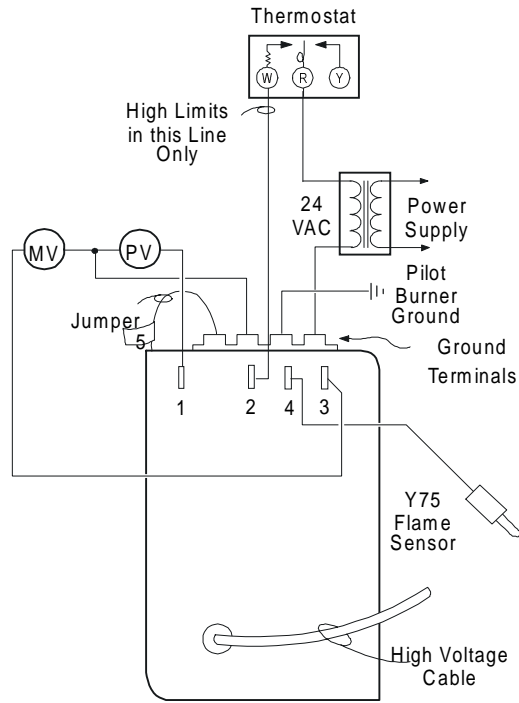


**Figure 4: Wiring Schematic for G67 Self-Checking Control**



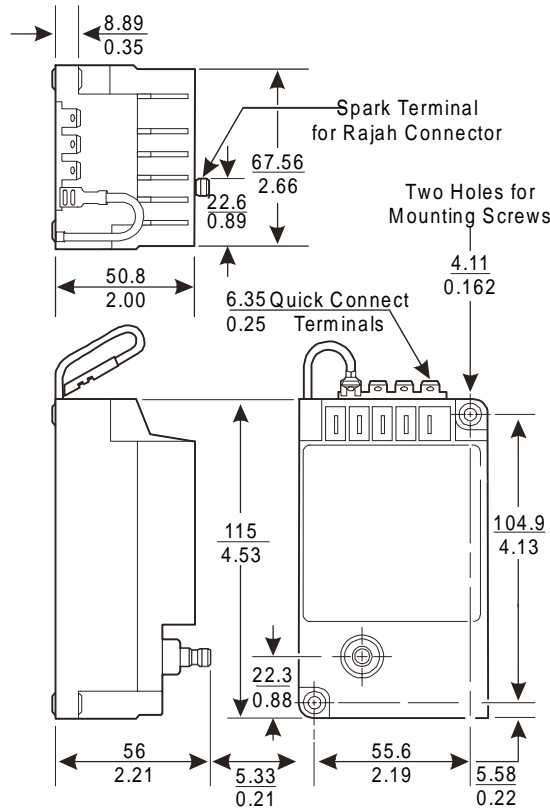
Power is wired directly to R (Common) on the thermostat and Terminal 6 on the G67.

**Figure 5: Wiring Diagram for G67A()**

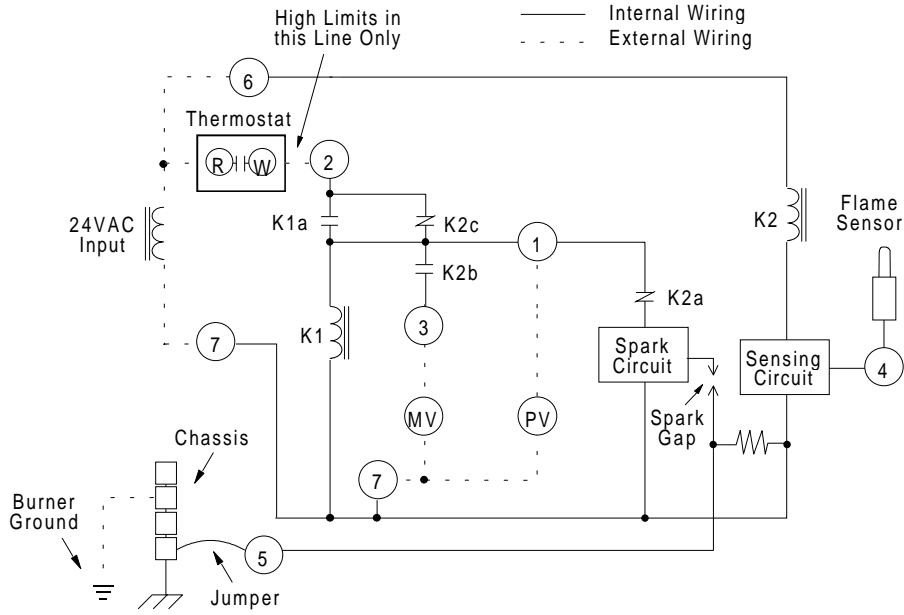


Power is wired directly to R (Common) on the thermostat. Terminals 1 and 2 on the G67 are tied together internally.

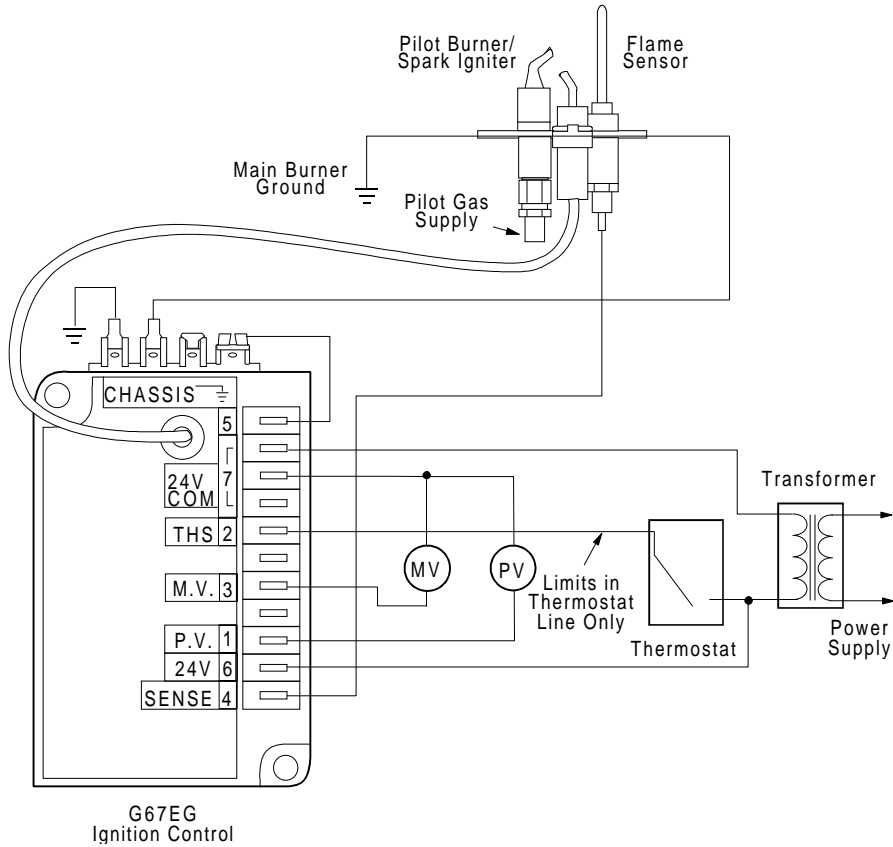
**Figure 6: Wiring Diagram for G67B( )**



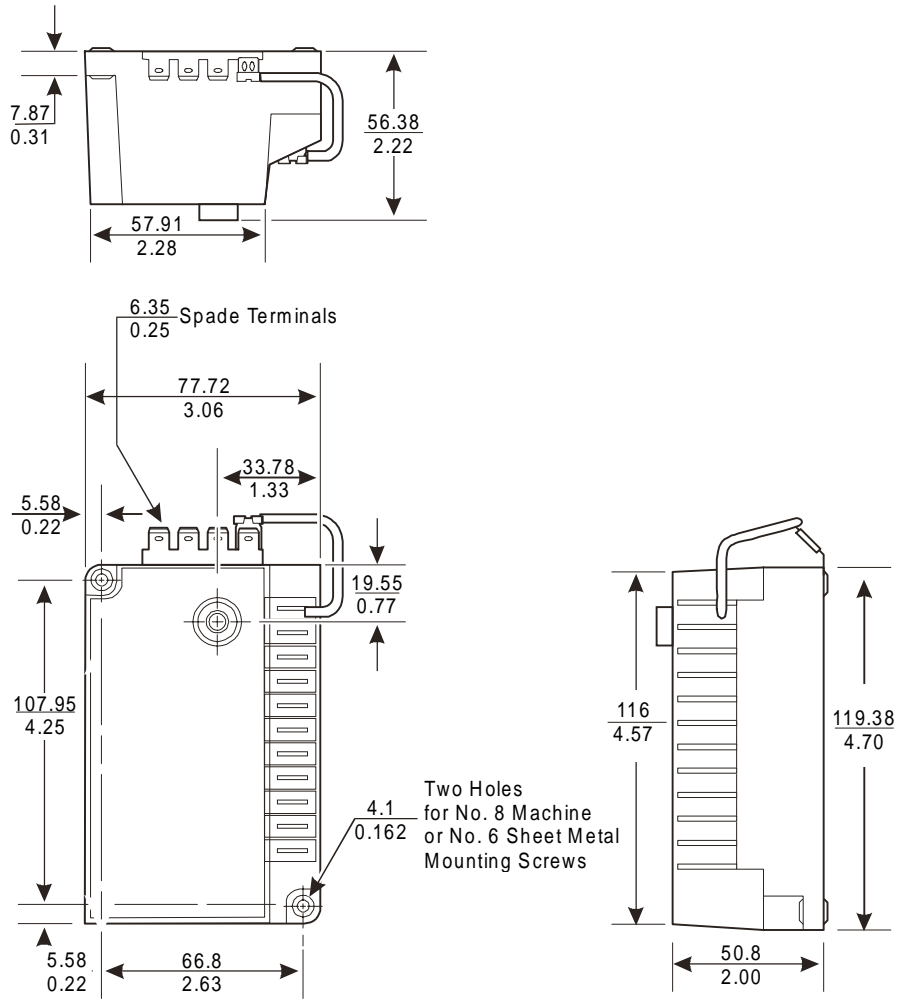
**Figure 7: G67(A and B) Mounting Dimensions, mm (in.)**



**Figure 8: Wiring Schematic for G67EG Self-Checking Control**



**Figure 9: Wiring Diagram for G67EG**



**Figure 10: G67EG Mounting Dimensions, mm (in.)**

# Ordering Information

**G 67**   -

Customer-specific Requirements

1st Letter	Trial Time	Other Features
<b>A</b>	Non-100% Lockout	Self Checking
<b>B</b>	Non-100% Lockout	Non-Self Checking
<b>E</b>	Non-100% Lockout	Self Checking/EC Approval

2nd Letter	Voltage	
<b>G</b>	24V	60 Hz

The presence of a particular construction in this information does not guarantee its availability. Consult Johnson Controls for available constructions.



---

## Notes

---

## Notes

---

## Notes

# Specifications

<b>Product</b>	G67 Non-100% Lockout Intermittent Pilot Ignition Control
<b>Ignition Type</b>	Indirect
<b>Ignition Source</b>	High voltage spark, capacitive discharge
<b>Maximum High Voltage Cable Length</b>	1,220 mm (48 in.) recommended
<b>Flame Detection Means</b>	Flame rectification
<b>Flame Detection Types</b>	Remote sensing
<b>Minimum Flame Current</b>	0.2 microampere
<b>Flame Failure Response Time</b>	0.8 second, maximum
<b>Spark Gap</b>	2.5 mm (0.1 in.) nominal
<b>Ignition Trial Time</b>	Infinite
<b>Power Requirements</b>	
<b>Control</b>	24 VAC, 50/60 Hz, nominal
<b>Operation Current</b>	0.15A nominal + valves
<b>Contact Ratings</b>	
<b>Main Valve</b>	2A continuous, 5A inrush
<b>Pilot Valve</b>	2A continuous, 5A inrush
<b>Ambient Operating and Storage Temperature</b>	-40 to 66°C (-40 to 150°F)
<b>Humidity</b>	95% RH non-condensing
<b>Types of Gas</b>	Natural, Liquefied Petroleum (LP), manufactured, mixed, or LP gas-air mixture may be used in a well-vented or outdoor application.
<b>Packaging</b>	Bulk pack supplied to original equipment manufacturer (individual pack options).
<b>Bulk Pack Quantity</b>	50
<b>Bulk Pack Weight</b>	12 kg (27 lb)
<b>Agency Listing</b>	IAS (AGA, CGA) Certificate Number C2154020 EN/EC Type Examination Certificate Number 115687 (G67EG only)
<b>Specification Standards</b>	ANSI Standard Z21.20 CSA C22.2-No. 199 EN 298 (G67EG only)

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Refer to the G67 Series Technical Bulletins (LIT-121190 and LIT-121191) for necessary information on the installation, use, and servicing of this product.



**Controls Group**  
507 E. Michigan Street  
P.O. Box 423  
Milwaukee, WI 53201

[www.johnsoncontrols.com](http://www.johnsoncontrols.com)  
**FAN 435.0**  
Heating Line Product Guide  
Printed in U.S.A