FLO-GLO™
IGNITION PROCESS SYSTEMS

ELECTRONIC IGNITION SYSTEM
For Gas LIghts

Installatlon and User Manual

PART # GPI-50-HS-120V

what is flo-glo?

Not since the dawn of man and his discovery of fire, has such a revolution of harnessing the flame come about. The revolution is called the FLO-GLO Ignition Process System. Now anyone can enjoy the soft, soothing, flickering glow of a real open flame gas lantern without sacrificing the convenience of an electric light. The FLO-GLO model GPI-50-HS-120V electronic igniter safely and reliably ignites, monitors & extinguishes the open flames featured in natural gas and propane fueled lights and lanterns. To control a FLO-GLO powered lantern, simply flip a light switch, or use the optional hand held remote control.

FLO-GLO™

Manufactured by: Gas Pressure Igniters, Inc..
www.FLO-GLO.com

important

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS IGNITION SYSTEM. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING **INSTALLATION AND OPERATION.** FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, OPERATION, SERVICE AND/OR MAINTENANCE, POSSIBLY **RESULTING IN FIRE, ELECTRICAL SHOCK, EXPLOSION, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

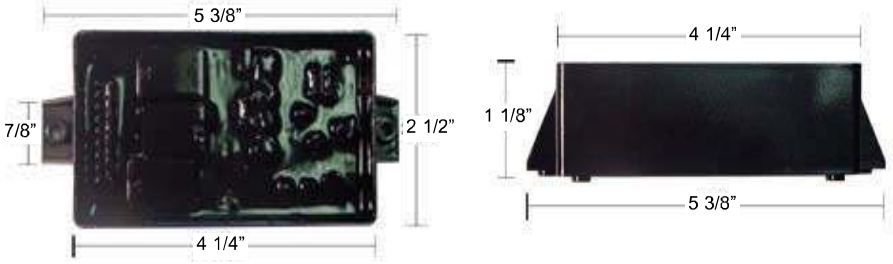
legal notice

The Information included in this manual is intended to supply our customers and installers with the detailed information necessary to make informed purchase and installation decisions. We openly supply this information so our customers are not asked to endure tiresome and time consuming security checks. For our competitors, if you chose to use this information illegally, please be aware that all information herein is protected by applicable copyrights, trademarks and patents and any infringements thereof will be **vigorously prosecuted.**

components

The FLO-GLO GPI-50 ignition system consists of an encapsulated microprocessor ignition control, a solenoid valve, a hot surface igniter, a burner assembly and an optional remote control. All component parts are agency certified.

Ignition control: part #GPI50-IC-1



The Flo-Glo microprocessor ignition control circuit design provides precise, repeatable sequences for the ignition times and purge times as well as multiple attempts for ignition.

features

- Safe Start / Automatic lockout for safety
- Potted for protection from wash down and vibration
- Multiple ignition attempts for increased reliability
- Flame current test pins facilitates field service

agency / certifications

Design certified by CSA International to CAN C22.2#199-M89 and ANSI Z21.21 for automatic ignition systems, including UL 1998 software review.

specifications

- **Input Voltage Control:** 102 to 138 VAC 50/60 Hz (Class 2 Transformer)

- **Current Line:** 120 VAC, 100mA max @ 120 VAC at 25°C (Control only)

- **Output (Contact Ratings) Gas Valve:** 1.5A max @ 120 VAC

- **Hot Surface Element:** 5.0A max @120 VAC

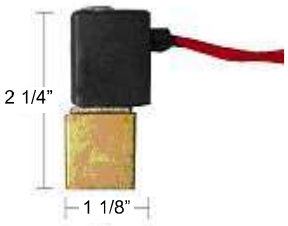
- **Operating Temperatures:** -40°F to+175°F (-40°C to +80°C)

- **Flame Sensitivity:** 1.0 uA of mA minimum

- **Type of Gas:** Natural, Propane

- **Moisture Resistance:** Potted to operate up to 100% R.H.

solenoid valve: part # GPI50-SV-2



Solenoid Valve

Gas Input Side 1

Gas Outlet Side 2

The FLO-GLO ignition system solenoid valve is a direct acting brass valve that may be mounted in **any position. Valve** input is 1/8" npt (side 1), **gas valve output is 1/8" npt (side 2).**

nominal ambient temperature ranges

32°F to 135°F / 0°C to 57°C

agency / certifications

CSA certified, UL recognized component, meets applicable CE directives.

hot surface Ignlter: part # GPI50-HS-3

Side Front Top

The FLO-GLO Ignition system utilizes a 120V hot surface Igniter. The Igniter is attached to the barrel assembly with a single screw and to the burner assembly with the adjustable dual barrel slide (see figure 1 pg 8-9). This Igniter also serves as the flame sensor. Hot surface Igniters produce no physical or electrical noise.

hot surface Ignlter specifications

- **Time to temperature: <7.0 seconds**
- **Room temperature resistance: 30-300 Ohms**
- **Minimum temperature: 1796F / 980C @ 102V**
- **Maximum temperature: 2875F / 1580C @ 132V**
- **Igniter material: Proprietary ceramic composite**

agency approval

CSA approved.

burner assembly: part # GPI50-BA-4

The proprietary FLO-GLO burner assembly is specifically designed to offer a large attractive flame with the least fuel consumption possible (1350 btu/hr).

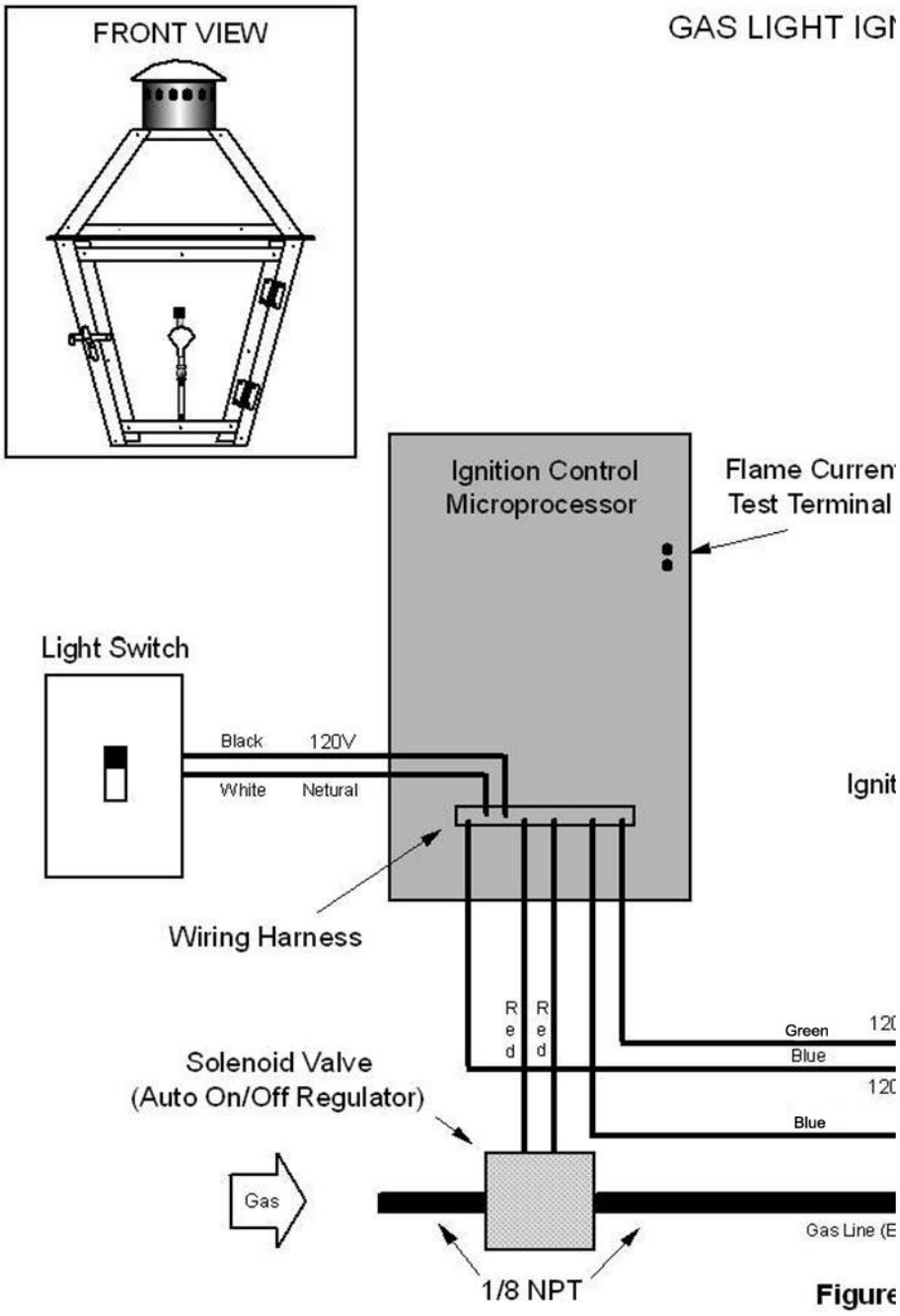
Although other burner assemblies may operate efficiently with the FLO-GLO Igniter system, the Company does not guaran its product with unapproved burner configurations.

remote control: part # GPI50-HS-RM

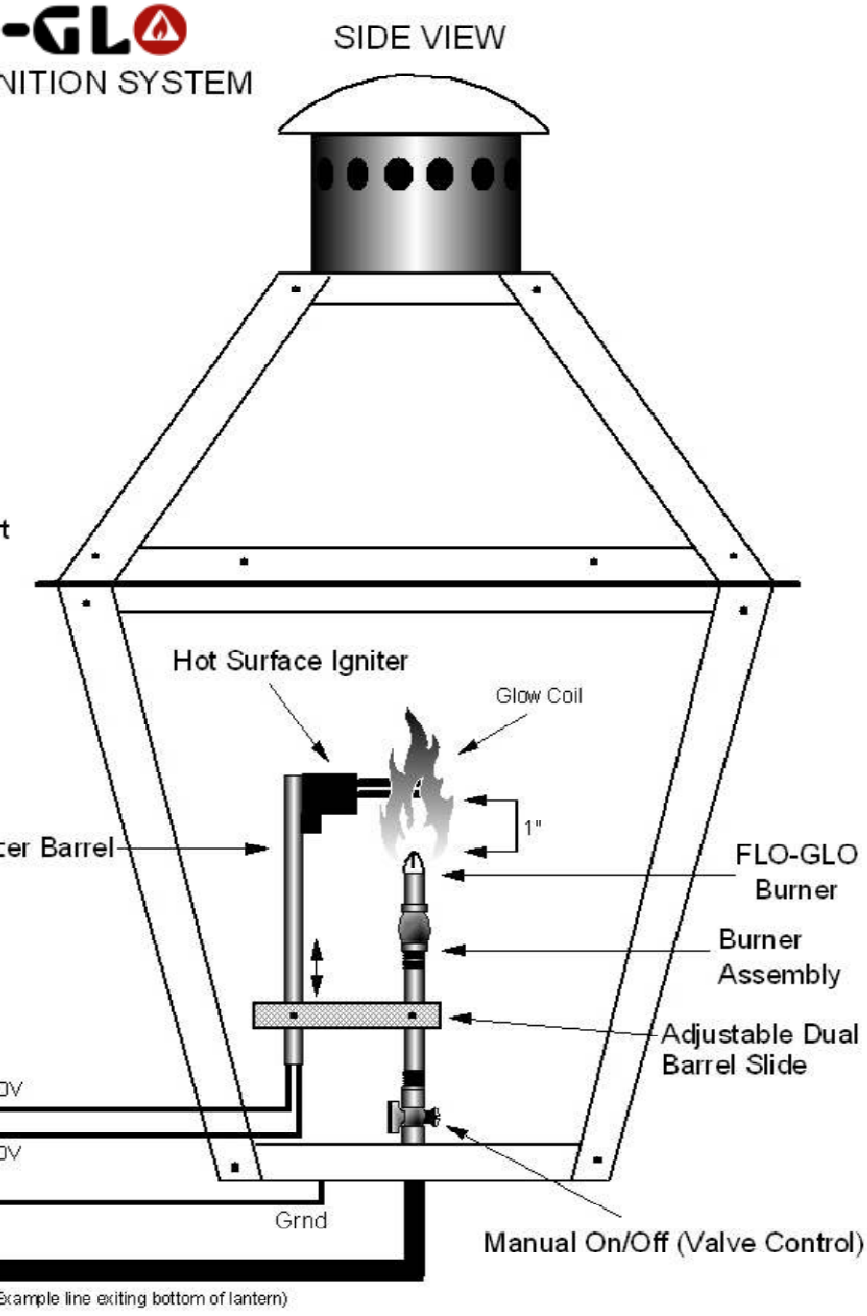
See manual for FLO-GLO

PART # GPI-50-HS-120V-RM

[For specifications on the optional remote control]


FRONT VIEW
GAS LIGHT IGI
Ignition Control
Microprocessor
Flame Curren
Test Terminal
Light Switch
Black
120V
White
Netural
Ignit
Wiring Harness
Red
Red
Green
Blue
Blue
Solenoid Valve
(Auto On/Off Regulator)
Gas
Gas Line (E
1/8 NPT
Figure

-GLO
NITION SYSTEM



e 1

installation

Installations should conform to all local plumbing and electrical codes. Electrical connections should be made with UL approved 105°C / 221°F rated 18 gauge stranded wire with .054" minimum insulation.

wiring instructions summary

See Diagram Figure 1 (page 8-9)

- Black lead to 120 VAC input

- White lead to 120 VAC neutral

- Red leads to solenoid valve

- Blue leads to igniter

- Green lead (ground) to light

- (Remote control models only) Orange lead to receiver (eye)

- Gas valve input 1/8" npt (side 1)

- Gas valve output 1/8" npt (side 2)

important note

Adjust the dual barrel slide to place the hot surface igniter glow coil in the most constant portion of flame, approximately 1" above the Flo-Glo burner.

mounting

The FLO-GLO electronic igniter ignition control microprocessor is not position sensitive and can be **mounted vertically or horizontally. The** control may be mounted on any surface and **may be fastened with #6** sheet metal screws. **Secure the control to areas that will remain below the maximum ambient tem-**perature of 80°C / 175°F.

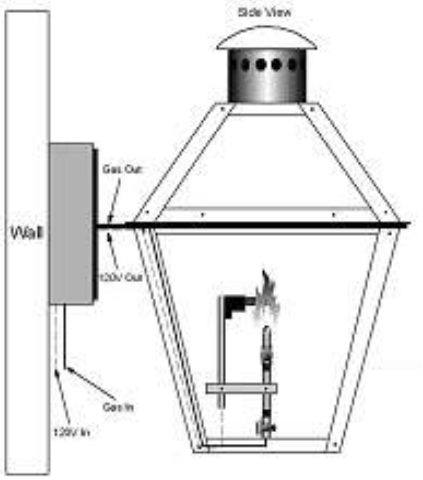
caution

Label all wires prior to disconnection. Wiring errors can cause **improper and dangerous installation and/or operation.**

Sample Installation
BRACKET MOUNTED LIGHTS
French Quarter Style Lantern

Figures below illustrate the recommended and most common Installation of the Flo-Glo Igniter **racket mounted lights.**

The Ignition control microprocessor and valve are housed In the custom Igniter box (6"x6"x1¾").

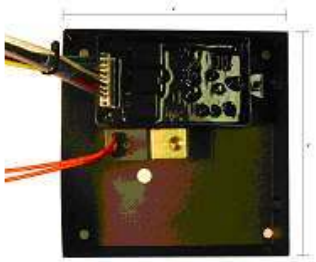


The schematic at left depicts an Igniter box designed to have gas / electrical leads enter from bottom and exit through center front of box.

Note: The box may be designed to have gas / electrical leads enter and exit the back / front of box [as pictured below] or box may be designed to allow for side / bottom entry and exit.

Front View of Installed Lantern

Close Up of Igniter Box Exterior



Close Up of Igniter Box Interior

Sample Installation

FLUSH MOUNTED LIGHTS

Williamsburg Style Lantern

Most common Installation of the Flo-Glo Igniter in **flush mounted lights.**

Note: Custom Igniter box should be two Inches (2") or more In depth to facilitate Installation.

The Ignition control microprocessor and valve are located In the custom Igniter box. The Igniter box should follow the lines of the lantern for the most attractive Installation.

sequence of operation / flame recovery / safety lockout

power up

Upon supplying power (120 volts), the ignition control will perform a self-test, monitor the flame sensor input to verify no flame is present, enter the thermostat-scan-state, and begin ignition sequence.

ignition

When the ignition sequence begins, the control will re-perform a self-test and a safety timing sequence flame check. The hot surface igniter is then energized for the heat-up period, followed by the opening of the gas valve for the trial for ignition (TFI) period. (Note: If a flame is detected, the gas valve will remain de-energized). The TFI period is when the igniter is energized (red hot) and the solenoid valve is also opened allowing for the ignition of the gas fuel (natural or propane).

operation

When a valid flame is detected during the TFI period, the igniter is de-activated, and the gas valve remains open. The burner and flame is constantly monitored to assure the system operates properly. If the flame is lost, the gas valve will be shut off within 0.8 seconds.

system failure during the trial for ignition period

Should the burner fail to light or the flame is not detected during the TFI period, the gas valve is closed and the ignition control performs an inter-purge delay before attempting another TFI. The control will attempt two additional TFI's before locking out. In lockout, the gas valve is turned off immediately.

re-ignition: failure of established flame

If the established flame signal is lost while the burner is operating, the control will respond within 0.8 seconds and close the gas valve. The system will then reset and begin a new TFI.

onboard safety system: lockout mode

If multiple attempts to light the burner have failed or the flame is not established and verified by sensor, the control will automatically enter lockout mode. For safety reasons, the control will not open the gas valve unless there is intervention by the user. The user may recover from lockout by powering the system down for five seconds.

troubleshooting guide

does not start

A. Check all lead connections (see page 8)
B. No voltage to ignition control
C. Circuit breaker fault

valve on - no ignIter

A. Check lead connections
B. Check igniter position*

ignIter on - no valve

A. Check lead connections

flame ok during TFI (trial for ignition) - no flame sendesed after TFI

A. Check ground to burner
B. Check flame current**
C. Check gas flow and burner assembly
D. Check lead connections

*hot surface ignIter posItIon

Proper locatIon of the hot surface IgnIter Is Important to achIeve optImum system performance for both IgnItIon and flame sensing. The FLO-GLO adjustable dual barrel slIde mechanism allows for easy and precise placement of the hot surface IgnIter. The IgnIter glow coil should be about 1" above the burner tip (the most constant part the flame).

* *flame current

Flame current Is the current that passes through the flame from the flame sensor (hot surface portion of IgnIter) to the ground (burner tip). The mInImum flame current necessary to keep the system from lockout Is 1.0 mIcro amp. To measure the flame current, connect an analog DC mIcroammeter to the FC test terminals. Meter should read 1.0mA or hIgher. If the meter reads below "0" on the scale, meter leads are reversed. DIsconnect power and reconnect meter leads for proper polarIty.

what to do If you smell gas

- Do not try to lIght any applIance
- Do not touch any electrical switch
- Do not use the telephone In your buIldIng
- Contact your gas supplIer and follow gas supplIers' Instructions
- If you cannot reach your gas supplIer, contact the fIre department

Not slnce the dawn of man and hls dlscov-ery of flre, has such a revolutlon of harnesslng the flame come about. Welcome to the revolutlon.

FLO-GLO

www.FLO-GLO.com
877.7FLO-GLO
877.735.6456
Manufactured by:
Gas Pressure Igniters, Inc.