


## SERIES 05-14

### PROOF-OF-FLAME DIRECT SPARK IGNITION SYSTEM (POTTED)

U.S. Patent Nos. 3,504,992; 3,832,123; 3,847,533; 3,861,854  
Canadian Patent No. 860,521

#### FEATURES

- Conforms to ANSI Standards
- Positive Ignition/Proof of Flame
- Spark Interruption Immediately Upon Ignition
- Thermostat and/or Manual Reset Options
- Remote Flame Sensing Capability
- Potted for Protection from Severe Environments

 Recognized under the Component Program of Underwriters Laboratories Inc.

 Certified by the Canadian Standards Association

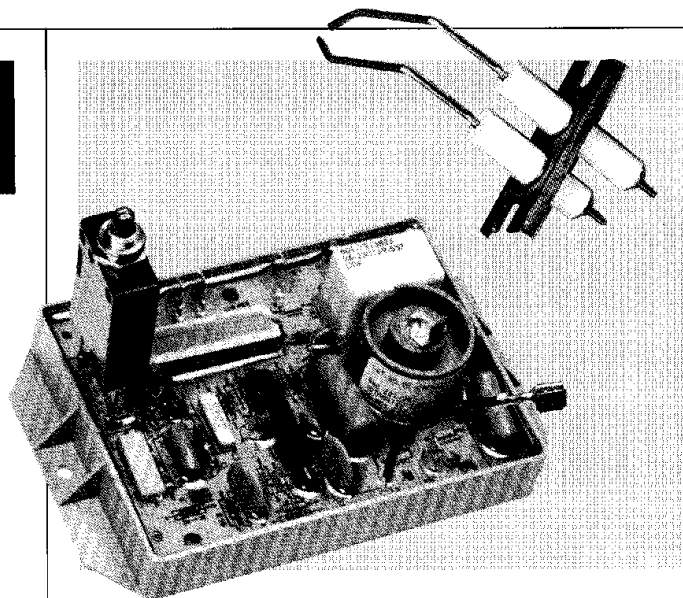
#### GENERAL INFORMATION

The Fenwal Series 05-14 ignition/proof-of-flame system is adaptable to all types of gas equipment. This versatile unit eliminates the need for gas consuming pilot burners by providing positive ignition of main burners when heat is required. The ignition spark operates until the flame is established and then immediately shuts off. Flame sensing is achieved through the flame rectification principle and is positive. If, after a try-for-ignition, a flame is not present, the unit then automatically removes power from the gas valve.

The flame sense electrode can be mounted remotely from the high voltage electrode assembly to assure that the proper flame envelope has been developed or mounted locally as an integral part of the high voltage electrode assembly.

The unit may be connected either to retry for ignition or to lockout immediately in the event of a loss of flame. Resetting, after a lockout, may be accomplished by either cycling the thermostat or by manually resetting a thermally actuated circuit breaker, depending upon the model selected. The circuit breaker is present in all models to protect the unit from malfunctions.

The unit is potted in a plastic case using a clear plastic resin and provides increased resistance to damage caused by shock and vibration and the detrimental effects of severe environments.



#### SPECIFICATIONS

##### Control Board (Models Available)

- 120 VAC valve relay, local sensing.
- Isolated valve contacts, local sensing.
- 120 VAC valve relay, remote sensing.
- Isolated valve contacts, remote sensing.

Input Voltage: 120 VAC, 60 Hz, nominal.

Current Drain: 50 mA (175 mA to 250 mA momentarily during ignition).

Ambient: -40°F to 140°F, Operating.

##### Gas Valve Relay

Contact Current Ratings:

- A) Common relay output  
120 VAC 5 amps
- B) Isolated valve contacts
  - 1) 24 VAC 5 amps
  - 2) 120 VAC 2.5 amps
  - 3) 240 VAC 1.2 amps

Timing (Trial-for-ignition): 3.3 seconds,  
4.7 seconds,  
10 seconds

##### Electrodes

22-100000-XXX\*: Gap; 0.125" ± 0.031"  
\*Last three digits designate configuration.

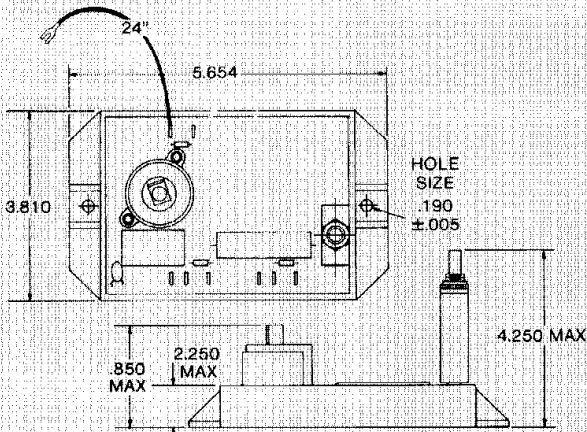
##### Lead Wire

High Voltage, 05-125978-OXX\*\*  
(Ambient: -65°F to 450°F†)

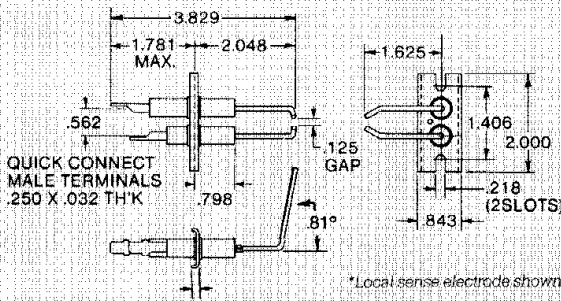
**CAUTION:** If ambient temperature ratings are exceeded, damage to the unit and/or improper operation may result.

\*\*Last three digits designate length of wire inches.  
FX: .024 - 24 inches. When ordering, specify length required.  
†Wire manufacturer's recommended temperature range

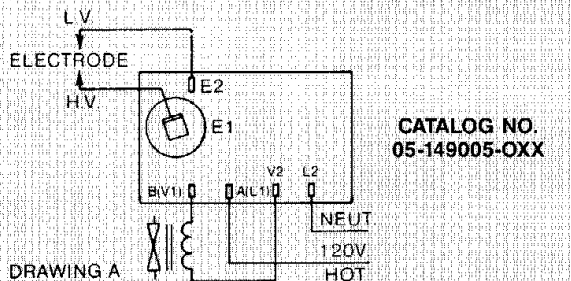
## OUTLINE DIMENSIONS



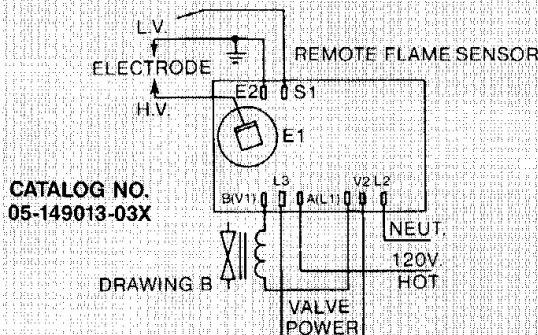
**ELECTRODE: 22-100000-459\***  
(for other configurations consult factory)



## WIRING DIAGRAMS

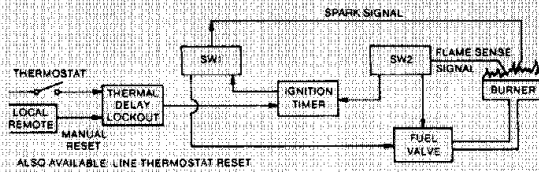


**CATALOG NO.  
05-149005-OXX**



**CATALOG NO.  
05-149013-03X**

## BLOCK DIAGRAM



\*FLAME SENSING ELECTRODE MAY BE SEPARATED AND REMOTELY LOCATED.

## HOW TO ORDER

Fenwal Series 05-14 ignitors are available for virtually any gas fired equipment. They offer thermostat or manual reset, local or remote flame sensing, 120 VAC valve relay or isolated valve contacts. In addition, Fenwal offers over 60 different electrode configurations to fit your exact requirements.

To order the ignition control board, consult the factory.

**Ex:** 05-149005-005 = Series 05-14 ignitor with thermostat reset, 120 VAC valve relay, local flame sensing and ignition period of 10 seconds.

**To Order Electrodes** (22-100000-459), consult factory for other configurations.

**To Order Lead Wires**, specify length required as last three digits of part number. See Specifications. 05-125978-0XX, High Voltage.

**Ex:** 05-125978-024 = High Voltage lead wires. 24 inches long.

**WARNING:** Direct Vent, Sealed Combustion, Forced Draft, or similar types of appliances require the use of a gasket material suitable for use at temperatures up to 600°F. The gasket is to be installed between the electrode mounting brackets and the mating surfaces of the combustion chamber to reliably contain the toxic products of combustion and fuel gases within the combustion chamber. An incomplete seal could allow these gases to escape from the combustion chamber and to accumulate in occupied areas, creating hazardous conditions that may result in property damage, personal injury or even death from fire, explosion and/or toxic gases.

"The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. NOTHING HEREIN SHALL CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE."