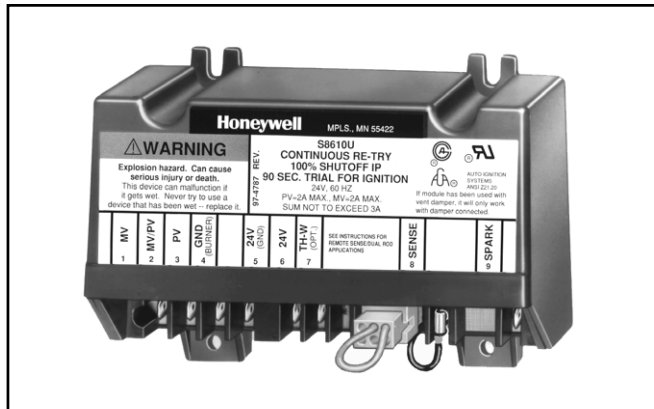


## S8610U Universal Intermittent Pilot Module

### PRODUCT DATA



### APPLICATION

The S8610U Universal Replacement Ignition Module is designed to provide easy field replacement of a wide range of intermittent pilot ignition modules manufactured by Honeywell, Robertshaw, Johnson and others. The S8610U Module provides ignition sequence, flame monitoring, and safety shutoff for intermittent pilot central furnaces, residential boilers, and other heating appliances.

### FEATURES

- Provides up to 1.0A pilot and 2.0A main valve current rating.
- System uses rectification principle for flame sensing.
- For use with separate igniter and sensor or combination igniter-sensor. Q345, Q348, Q362, Q373 or Q381 Igniter-sensor recommended as combination igniter-sensor; Q179C with igniter and sensor mounted on one bracket, or Q354 Sensor with Q345, Q348, Q362, Q373 or Q381 Igniter-sensor recommended as separate igniter and sensor.
- Q3450/Q3480 Hot Surface Pilot hardware plugs directly into system control.
- Can be used on natural or LP gas; provides 100 percent shutoff on ignition failure. Waits six minutes nominal following shutoff, then reinitiates the pilot ignition sequence. The ignition trial-shutoff-wait cycle repeats until the pilot lights or the call for heat ends.
- Replaces numerous Honeywell and competitor modules.
- Capacitive discharge spark output.
- Temperature rating is -40°F to 175°F (-40°C to 79°C) when used with 1.0A or less main valve; -40°F to 165°F (-40°C to 74°C) when used with 1.0 to 2.0A main valve.

### Contents

Application .....	1
Features .....	1
Specifications .....	2
Ordering Information .....	2
Planning the Installation .....	4
Installation .....	6
Startup and Checkout .....	15
Maintenance .....	15
Operation .....	16
Troubleshooting .....	17
ANSI Standards .....	21



## SPECIFICATIONS

### IMPORTANT

*The specifications given in this publication do not include normal manufacturing tolerances. Therefore, units may not exactly match the listed specifications. Also, units are tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.*

### SUPER TRADELINE® Models

SUPER TRADELINE® models are selected and packaged for ease of handling, ease of stocking, and maximum replacement value. SUPER TRADELINE® model specifications are the same as those of standard models except as noted.

#### SUPER TRADELINE® Model Available:

S8610U Universal Intermittent Pilot Module.

#### Electrical Ratings:

Voltage: 24V, 60 Hz.

Current Draw: 1A pilot valve, 2A main valve.

Valve Contact Rating: 0.2A.

#### Trial for Ignition:

90 seconds maximum, then 100% shutoff (pilot and main gas).

#### Continuous Retry:

Five-minute minimum (six-minute nominal) delay if pilot fails to light during trial for ignition. After delay, trial for ignition is repeated. This sequence (trial, delay, trial, delay) continues until pilot lights or call for heat ends.

#### Spark Generator Output:

13 kV peak at 25 pF load.

#### Thermostat Anticipator Setting:

0.2A plus pilot valve rating plus main valve rating.

#### Ambient Temperature Rating:

-40°F to +175°F (-40°C to +79°C) with main valve rated 1.0A or less.

-40°F to +165°F (-40°C to +74°C) with main valve rated 1.0A to 2.0A.

#### Relative Humidity Rating:

5 to 90% RH at 95°F.

#### Flame Failure Response Time:

0.8 sec at 1.0 mA flame current.

#### Terminals:

SENSE: 3/16 in. male quick connect.

All Other Terminals Including Ignition: 1/4 in. male quick connects. Molex plug for connection to Honeywell D80D or D892 Vent Damper.

#### Flame Current:

1 uA minimum.

#### Mounting:

Mounts in any position except with terminals up. However, recommended mounting position is with terminals down to provide maximum protection from dripping water or dust accumulation. Fasten with no. 6-32 machine or no. 8 sheetmetal screws of appropriate length. See Fig. 1.

#### Underwriters Laboratories Inc. Component Recognized:

File no. MH15564, Guide no. MCCZ2.

#### IAS Design Certified: C2030011.

### Other System Components

These modules provide operating control of an intermittent pilot system. Additional components required to complete the system must be ordered separately:

- Dual valve combination gas control designed for intermittent pilot.
- Combination pilot burner/igniter-sensor or separate igniter and sensor on pilot burner bracket.
- Ignition cable.
- Transformer.
- 24V thermostat.
- High limit and other auxiliary controls, as required.

#### Dual Valve Combination Gas Control:

Any that meet current ratings listed below. VR8204, VR8440 or VR8520 are recommended.

S8610U: 1.0A pilot, 2.0A main valve.

#### Pilot Burner/Igniter-Sensor:

See Table 1.

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number, or specify:

1. SUPER TRADELINE® order number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Logistics  
Honeywell Inc., 1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

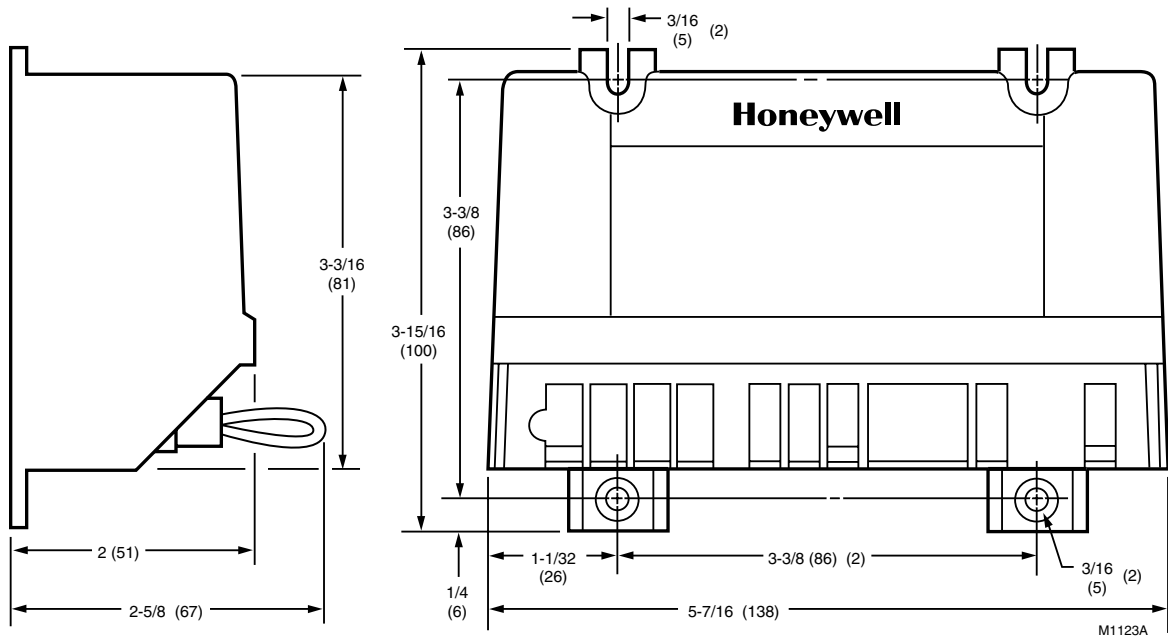


Fig. 1. Approximate ignition module dimensions in in. (mm).

Table 1. Pilot Burner/Igniter-Sensors.

	Pilot Burner/ Igniter-Sensor	Flow Rate*	
		cfh	m <sup>3</sup> /hr
Combined	Q345	0.8	0.02
	Q348	1.5	0.04
	Q362	0.5	0.014
	Q373	0.8	0.02
	Q381	0.5	0.014
Separate	Q179C	1.8	0.05
	Q354 with Q345, Q348, Q362 or Q381.		

\*With natural gas at 7.0 in. wc (1.7 kPa).

**Ignition Cable:**

Use Honeywell preassembled cable, see Table 2, or assemble locally. Use the cable recommended in Table 3 (or equivalent), insulated female 1/4 in. quick connect and insulated Rajah connector receptacle. Maximum recommended length is 36 in. (914 mm).

Table 2. Honeywell Preassembled Ignition Cables (UL Style 3257).

Cable Part Number	Length	Module End	Igniter End
394800-30	30 in.	1/4 in. quick connect, insulated	Rajah connector receptacle, 90 degree rubber boot
394801-30	30 in.	1/4 in. quick connect, insulated	Rajah connector receptacle, straight rubber boot

Table 3. Recommended Ignition Cable for Field Assembly.

Cable Type	Voltage Rating (rms)	Temperature Rating	
		°C	°F
UL Style 3217	10,000	150	302
UL Style 3257	10,000	250	484

**Transformer:**

Add current ratings of module, pilot valve, main valve, vent damper and any other components of the control system to determine transformer-size requirement. Use a 30 VA or larger transformer if a vent damper will be connected to the S8610U Vent Damper Connector.

**Thermostat:**

Use open-close switch type, or independently-powered electronic, 24V thermostat capable of switching rated control system load. Before using electronic thermostat powered through the heating/cooling controls, consult thermostat manufacturer to assure proper control system operation.

**High Limit and Other Auxiliary Controls:**

As specified by the heating appliance manufacturer.

**Ignition Modules Replaced**

**⚠ WARNING**

Check Table 4 before replacing an existing intermittent pilot module with the S8610U. If the existing module is not listed, do not use the S8610U to replace it unless you are certain the specifications of the S8610U match those of the existing module.