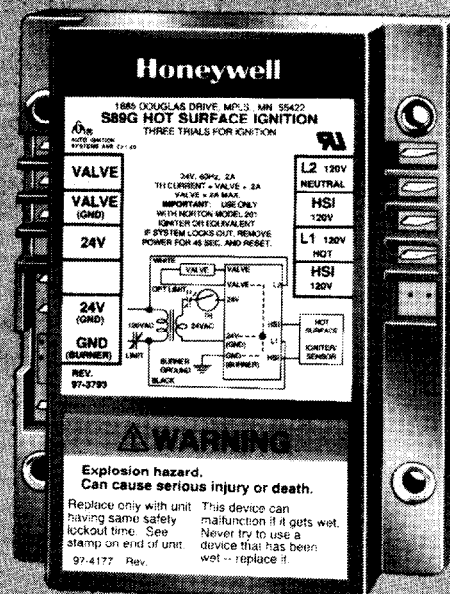


Honeywell

THE S89 AND S890 PROVIDE OPERATING CONTROL AND SYSTEM SHUTDOWN ON LOSS OF MAIN BURNER FLAME IN DIRECT IGNITION CENTRAL HEAT FURNACES AND HEATING APPLIANCES WITH HOT SURFACE IGNITER.

- ☐ S89C,G,J and S890C,G,J are for systems with a combination igniter-sensor.
- ☐ S890D,H and S890D,H are for systems with separate igniter and sensor.
- ☐ S89C,D,J and S890C,D,J lock out after one try for ignition.
- ☐ S89G,H and S890G,H provide three tries for ignition before lockout, with 30 sec. min. purge before second and third tries.
- ☐ S89J and S890J provide 2 or 4 sec. (depending on model) max. ignition activation periods.
- ☐ S890 provides 30 sec. min. prepurge on initial trial for ignition.
- ☐ Compatible with Norton 201 and 271 or equivalent hot surface igniters.
- ☐ S89D,H and S890D,H require a separate sensor mounted on burner (Q354 recommended).
- ☐ Available with leadwires for line voltage connections.
- ☐ Available with Molex plug for connecting D80D Vent Damper.
- ☐ Modules can be used on either natural or LP gas; they provide 100 percent shutoff of gas on lockout.
- ☐ Modules have relay contacts for use with any direct ignition gas control with max. 2.0 A, 24 Vac rating.
- ☐ Modules use rectification principle for flame sensing.
- ☐ Minus 40° F to +175° F [minus 40° C to +79° C] temperature rating.

HOT SURFACE IGNITION MODULES



S89C, D, G, H, J
S890C, D, G, H, J

SPECIFICATIONS

IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, THIS UNIT MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, THIS PRODUCT IS TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

MODELS: See Table 1.

TABLE 1—HOT SURFACE IGNITION MODULES

TABLE 1 - HOT SURFACE IGNITION MODELS					
MODEL	NO. IGNITION TRIALS	IGNITER/ SENSOR TYPE	LOCKOUT TIMING	IGNITION ACTIVATION PERIOD ^a	PREPURGE TIMING
S89C	1	Combination	4, 6, 11 or 15 sec. nom., as ordered	Not special IAP model.	None
S89D	1	Separate			
S89G	3	Combination			
S89H	3	Separate			
S89J	1	Combination	4 sec. nom.	2 sec. max.	
			6 sec. nom.	4 sec. max.	
S890C	1	Combination	4, 6, 11 or 15 sec. nom., as ordered	Not special IAP model.	30 sec. min.
S890D	1	Separate			
S890G	3	Combination			
S890H	3	Separate			
S890J	1	Combination	4 sec. nom.	2 sec. max.	
			6 sec. nom.	4 sec. max.	

^a Ignition activation period (IAP) is the time both the igniter and the gas control are powered following warmup. The gas control remains open 0.75 sec. min. after igniter turns off to allow flame sensing.

(continued on page 3)

ORDERING INFORMATION

WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALE OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY—

1. Order number.
2. Lockout timing.
3. Leadwires, if desired.
4. Molex plug for vent damper connection, if required.
5. Other components as required.

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 HONEYWELL RESIDENTIAL SALES OFFICE (CHECK WHITE PAGES OF YOUR PHONE DIRECTORY).
2. RESIDENTIAL DIVISION CUSTOMER SERVICE
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH
MINNEAPOLIS, MINNESOTA 55422-4386 (612) 542-7500

IN CANADA—HONEYWELL LIMITED/HONEYWELL LIMITEE, 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO M1P 2V9. INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

ELECTRICAL RATINGS:

Voltage and frequency: 20.5 to 28.5 V (24 V nom.), 60 Hz.

Current rating: 0.2 A.

Gas control contact ratings (at 24 Vac): 2.0 A running, 20.0 A inrush.

IGNITER WARM-UP PERIOD: 34 sec., nom.

THERMOSTAT ANTICIPATOR SETTING: 0.2 A plus gas control current rating.

AMBIENT TEMPERATURE RATING: Minus 40° F to +175° F [minus 40° C to +79° C].

RELATIVE HUMIDITY RATING: 5 to 90 percent at 95° F.
FLAME FAILURE RESPONSE TIME: 2 sec. max. with a 2.5 µA flame signal.

FLAME CURRENT: 0.8 µA DC, min.

TERMINALS: 1/4 in. male quick connects for line voltage and sensor connections; 3/16 in. male quick connects for all low voltage connections. Terminal options (specify when ordering):

- Molex plug for connection to D80D Vent Damper.
- 10 in. [250 mm] min. color-coded leadwires for all line voltage connections.

MOUNTING: Mounts in any position. Fasten with No. 6-32 machine or No. 8 sheetmetal screws, 1 in. long.

DIMENSIONS: See Fig. 1.

UNDERWRITERS LABORATORIES INC. COMPONENT RECOGNIZED: FILE NO. MP268, Guide No. MCCZ2.

CANADIAN GAS ASSOCIATION CERTIFIED: 1029-ABI-6218.

AMERICAN GAS ASSOCIATION CERTIFIED: 20-20B1.

OTHER SYSTEM CONTROLS

The S89 and S890 provide operating control of a direct ignition system using a hot surface igniter. Additional components required to complete the system must be ordered separately. They include:

DUAL VALVE COMBINATION GAS CONTROL: Any direct ignition gas control with 2.0 A max. main valve

rating. VR8205, VR845, VR854, VR8450 or VR8540 recommended.

HOT SURFACE IGNITER OR IGNITER-SENSOR: Norton Model 201 or 271 or equivalent.

NOTE: If igniter other than Norton Model 201 or 271 is used, the igniter must meet the following minimum specifications, required over the life of the igniter:

- Igniter must reach 1000° C [1832° F] within 34 seconds with 102 Vac applied.
- Igniter must maintain at least 500M ohms insulation resistance between the igniter leadwires and the igniter mounting bracket.
- Igniter must not develop an insulating layer on its surface (over time) which would prevent flame sensing.
- Igniter surface area immersed in flame must not exceed 1/4 of the grounded area immersed in flame. This would prevent flame sensing.
- Igniter current draw at 132 Vac must not exceed 5 A.

SENSOR: Separate sensor required for all S89D,H and S890D,H. Honeywell Q354 recommended.

IGNITER WIRING: Provide wiring harness to suit application.

- Leadwires: No. 18 AWG, stranded copper with 105° C rated 1/16 in. PVC insulation.

- Terminals: Insulated 1/4 in. female quick connects or solderless connectors to module (depending on module) and suitable connector to igniter.

TRANSFORMER: Add current ratings of module, gas control, vent damper and any other components of the control system to determine transformer size requirement.

THERMOSTAT: Compatible with any Honeywell 24 V thermostat and with competitive 24 V thermostats that are powered independently of the module.

HIGH LIMIT AND OTHER AUXILIARY CONTROLS: As specified by the heating appliance manufacturer.

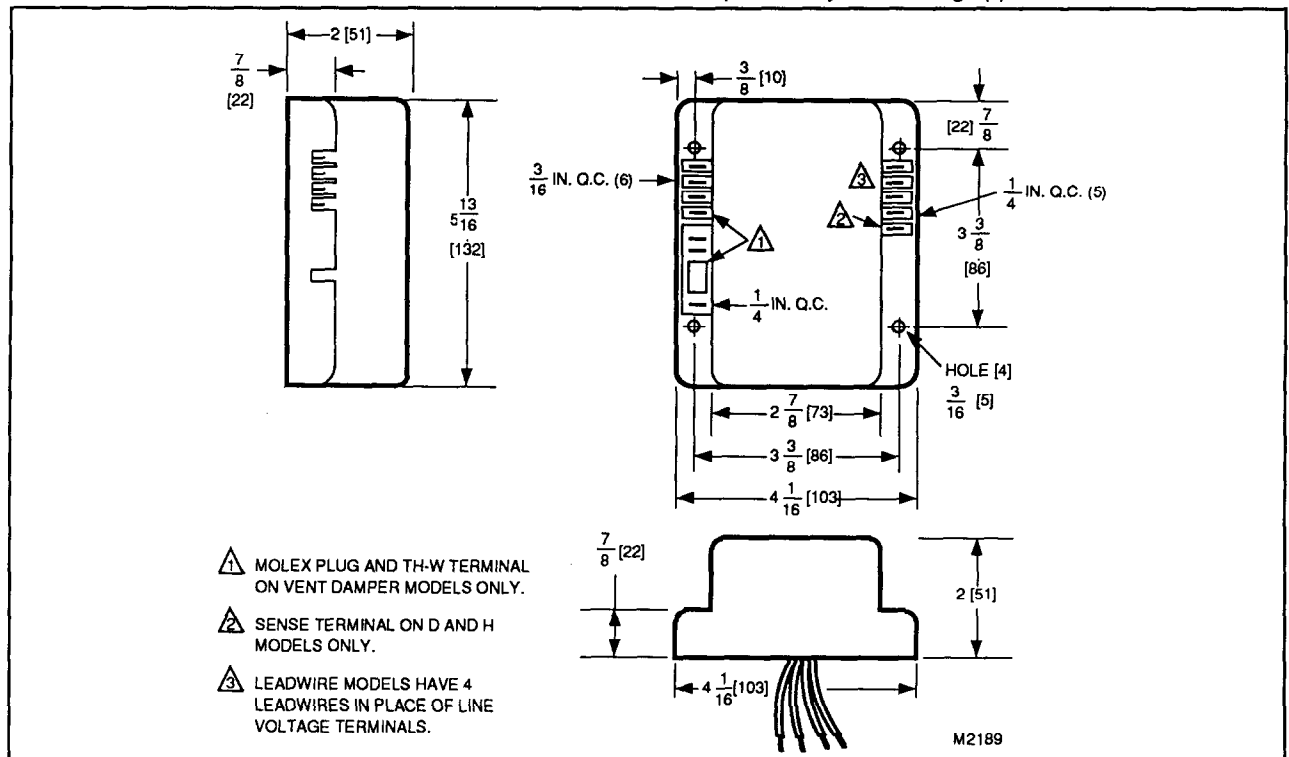


FIG. 1—APPROXIMATE S89/S890 DIMENSIONS IN in. [mm IN BRACKETS].