Ignition Pilot Modules

S89E,F Direct Spark Ignition Modules

Provide electronic control of direct spark ignition systems, with external spark transformers, used on gas-fired furnaces, boilers, conversion burners and other heating appliances.
- Controls ignition sequence and gas control operation in direct spark ignition systems.
- Control separate 120 Vac spark generator that provides high voltage potential for main burner ignition.
- Lockout after one trial for ignition if main burner fails to ignite.
- Reset from thermostat after lockout. Use separate electrodes for spark ignition and flame sensing.
- Use any 24 Vac combination gas control designed for direct spark applications and rated at 2.0A or less.

Application: Provide electronic control of direct spark ignition systems used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 5 1/4 in. high x 4 1/16 in. wide x 1 15/16 in. long (133 mm high x 103 mm wide x 49 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Sense: Two Rod
Ignition Sequence: Single trial for main burner ignition (then shut down and lockout)

Ignition Source: External (120 Vac powered) High Voltage Spark Generator
Ignition System Type: Direct Spark Ignition
Maximum Valve Load @ 24 Vac (Amps): 2A
Typical Gas Control: VR8205, VR8305
Typical Ignition Hardware: Q652, Q345
Maximum Ambient Temperature: (-40 C to +79 C) -40 F to +175 F

Approvals:
Canadian Standards Association: Design Certified

Product Number	Flame Failure Re-ignition Time (sec)	Flame Failure Response Time (sec)	Ignition Trial Time (sec)	Ignition Trials To Lockout	Lockout Timing	PrePurge	Includes
S89E1058	0.8 sec. maximum	2.0 sec. @ 2.5 microamp	4 sec.	1	4 sec.	—	—
S89F1098	0.8 sec. maximum	2.0 sec. @ 2.5 microamp	4 sec.	1	4 sec.	30 sec. minimum	—
S89F1106	0.8 sec. maximum	2.0 sec. @ 2.5 microamp	4 sec.	1	4 sec.	30 sec. minimum	Labels applied upside down for inverted mounting

Y8610U Universal Retrofit Intermittent Pilot Gas Burner Ignition Systems

Complete kits converting conventional standing pilot system to intermittent pilot system. For use with 24 Vac gas-fired atmospheric furnaces, boiler and heating appliances.
- Y8610U kits are for use with natural or LP gas: provides 100 percent pilot gas shutoff if pilot fails to light; after 6-minute delay, trial for ignition is repeated.
- Ignition trail/delay sequence is repeated until the appliance lights or call for heat is removed.

Application: Provide electronic control of intermittent pilot ignition systems used on gas fired furnaces, boilers, and other heating appliances.
Dimensions, Approximate: 3 15/16 in. high x 5 7/16 in. wide x 2 5/8 in. deep (100 mm high x 138 mm wide x 67 mm deep)
Type of Gas: Natural or LP
Electrical Ratings: 24 Vac
Frequency: 60 Hz
Flame Sense: Single Rod or Two Rods

Ignition Sequence: Continuous retry, after trial for ignition, pilot gas shuts off for 5 minutes, then another trial for pilot ignition takes place
Ignition Source: Internal high voltage spark generator
Ignition System Type: Intermittent Pilot
Maximum Valve Load @ 24 Vac (Amps): 1A Pilot, 2A Main @ 24Vac
Typical Gas Control: VR8204, VR8304
Typical Ignition Hardware: Q345, Q3451
Maximum Ambient Temperature: (-40 C to +74 C) -40 F to +165 F

Product Number	Flame Failure Response Time (sec)	Ignition Trial Time (sec)	Ignition Trials To Lockout	Lockout Timing	PrePurge	Includes
Y8610U4001	2.0 sec	15 or 90 seconds	continuous retry	15 or 90 seconds	0 or 30 seconds	VR8204A2142 valve (1/2 x 1/2; 3.5 in. WC setting; 150 kBtu/hr at 1 in. p.d.)
Y8610U6006	2.0 sec	15 or 90 seconds	continuous retry	15 or 90 seconds	0 or 30 seconds	VR8304M3558 (1/2 x 3/4; 3.5 in. setting; 270kBtu/hr at 1 in. p.d.)

Ignition Pilot Modules Selection Guide

Universal Service Part	Applications				Timings				
	Ignition System	Flame Sensor	Ignition Sequence (Note 1)	Ignition Trials To Lockout (Note 1)	Ignition Trial Time	Between Trial Time	Pre-Purge	Flame Failure Response Time
S8910U1000	Line Volt Hot Surface Ignition	1 or 2 Rods	P	1 or 3 Field Selectable	4 sec. or 7 sec. Field Selectable	96 sec., 3 Trial Mode Only	32 sec.	1.5 sec
S8610U3009	Intermittent Pilot	1 or 2 Rods	C	C	15 sec. or 90 sec. Field Selectable	5 Minute Delay After Failed Trial for Ignition	0 sec. or 30 sec. Field Selectable	2.0 sec. max.
Y8610U6006	Intermittent Pilot	Single Rod	C	C	15 sec. or 90 sec. Field Selectable	5 Minute Delay After Failed Trial for Ignition	0 sec.	2.0 sec. max.

Universal Service Part	Features and Functions				Cross-Reference			
	Type of Gas	Ignition Source	Typical Ignition Hardware	Includes	Honeywell	White-Rodgers	Robertshaw	Johnson Controls
S8910U1000	Nat or LP	Switched Line Voltage	Norton 201, Norton 271, Hot Surface Elements, Q354 Flame Rod	—	S89C1004, S89C1007, S89C1012, S89C1046, S89C1087, S89C1103, S89D1002, S89G1005, S89F1011, S89G1013, S89G1021, S89G1029, S89G1047, S89H1003, S89H1011, S89H1029, S89J1008, S890D1006, S890G1003, S890G1037, S89H1002, S890H1010	50E47 1-79, 101-179, 201-279, 301-379; 5047F1-79, 101-179, 201-279, 301-379	HS780-17NL 104A, 306A, 308A; HS780-17NR 104A, 306A, 308A; HS780-34NL 108A, 304A, 306A, 308A, 312A; HS780-34NR 104A, 306A, 308A, 312A; HS780-34PL 308A	—
S8610U3009	Nat or LP	Internal	Q345, Q3451, Q3452	Internal Damper Connector	S86 Series, S90 Series, S8600 Series, S8610 Series, S8620 Series, S8660 Series, S8670 Series, S8680J1004	50D49-350, 50D49-360, 50D49-361, 50D50-843, 50D-401	710-713, 710-715, 735-737, 780-002, 780-003, 780-701, 780-715, 780-735, 780-736, 780-737, 780-845, SP710, SP715, SP720, SP730, SP735, SP750 Series	CSA42, 43, 44, 45, 46, 48, 49; G60, G65, G67, G770 Series
Y8610U6006	Nat or LP	Internal	Adapter for Pilot Burner Included	—	Y8610U3003	—	—	—

Notes:

1. Ignition Sequence

C = Continuous retry - After trial for ignition, pilot gas shuts off for 5 minutes, then another trial for pilot ignition takes place.

P = The number of trials for ignition and trial time is determined by the selection tab. If a selection tab is not installed, the module will operate at four seconds trial time and one ignition trial.

For a complete cross-reference, visit www.customer.honeywell.com