

# Ignition Modules

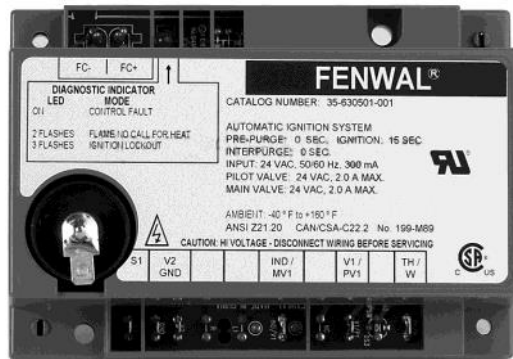
## Direct Spark Ignition Module - DSI



- 24 VAC microprocessor based DSI controls provide precise, repeatable timing sequences for ignition and purge times, one hour automatic reset and flame sensing during pre-purge
- Connection: High voltage terminal spark plug type
- Wiring Connection: Edge connect type
- LED diagnostics
- Remote flame sensing (except 35-605606-115 is local)

Replaces OEM	Pre-Purge	Inter-Purge	Attempts Before Lockout	Trial For Ignition	Cross Reference		Brand	Part Number
					Old Fenwal Part Numbers	Robertsahw Part Numbers		
-	0 Seconds	0 Seconds	1	4 Seconds	-	829-001	Fenwal	35-605601-001
Roberts Gordon	0 Seconds	0 Seconds	1	15 Seconds	05-296426-757	829-012	Fenwal	35-605601-007
Midco 8428-74	30 Seconds	0 Seconds	1	4 Seconds	05-296426-251	829-010	Fenwal	35-605601-201
-	15 Seconds	15 Seconds	3	10 Seconds	05-296466-155	829-005, 829-007	Fenwal	35-605606-115
-	15 Seconds	15 Seconds	3	4 Seconds	05-296466-151	829-013	Fenwal	35-605606-111
Coleman	None	15 Seconds	3	7 Seconds	05-296466-153	829-014	Fenwal	35-605606-113
Lennox 98G2901	30 Seconds	30 Seconds	3	7 Seconds	05-296466-253	829-006	Fenwal	35-605606-223
Roberts Gordon 904340-00	30 Seconds	30 Seconds	3	7 Seconds	05-296466-257	829-004	Fenwal	35-605606-227
Lennox 102186-01	30	30	3	7	05-128844-024	829-006	Fenwal	35-605959-223
Roberts Gordon 90439500	45	45	3	15	-	-	Fenwal	35-605939-337

## Intermittent Pilot Ignition Module - IP



- 24 VAC microprocessor based IP control provides precise, repeatable timing and operating sequences
- On-board LED diagnostics
- Safe start and full time flame sensing
- Custom pre-purge and inter-purge timings
- Mounts on standard 4" junction box
- Flame sense test pins
- Remote flame sense
- Automatic reset 1 hour after lockout option

Pre-Purge	Inter-Purge	Trial For Ignition	Brand	Part Number
None	None	15 Seconds	Fenwal	35-630501-001

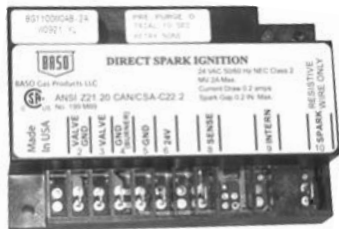


**Flame Sensors, Ignition Wire & Terminals**



# Ignition Modules

## Direct Spark Ignition Module - DSI



- 24 VAC microprocessor based DSI controls suited for replacement and new applications such as furnaces, space heaters, boilers, and commercial cooking equipment
- Approved for natural gas, LP gas, manufactured gas, mixed or LP gas -air mixtures
- LED diagnostics

Replaces	Flame Sense	Pre-purge	Retries	Ignition Trial Time	Brand	Part Number
Johnson G760BAD-1, G760BAD-2, G765BAD-1, G765BAD-1R	Remote	None	3	4 Seconds	Baso	<b>BG1100MAAK-1G</b>
Johnson G765BCA-12, G765BCA-12R	Remote	30 Seconds	3	8 Seconds	Baso	<b>BG1100MADL-1G</b>

## Direct Spark Ignition Module - DSI - Direct OEM Replacement For Lennox



- 24 VAC microprocessor based DSI control for gas furnaces, boilers, water heaters, commercial cooking and other similar appliances
- Features pressure switch monitoring, combustion blower control, LED diagnostics, automatic one hour reset and flame current test pins
- Alarm output (normally closed contact)
- Remote or local flame sensing

Replaces OEM	Brand	Part Number
Lennox 31L5301, 44L59	Fenwal	<b>35-605959-223</b>

## Direct Spark Ignition Module - DSI - Direct OEM Replacement For Lennox



Replaces OEM	Brand	Part Number
Lennox Pulse G891TCA-8103	Baso	<b>BGN891-1C</b>



**Flame Sensors, Ignition Wire & Terminals**

# Ignition Modules

## Direct Spark Ignition Module - DSI



- Solid state, low voltage modules for gas-fired furnaces, boilers and heating appliances
- Control ignition sequence and gas control operation and generate high voltage potential for main burner ignition
- Lockout after one trial for ignition if main burner fails to ignite
- Reset from thermostat after lockout

### Honeywell

Flame Sense	Prepurge	Lockout Timing	Ignition Trial Time	Brand	Part Number
Single Rod	None	11 seconds	11 seconds	Honeywell	S87B1016
Dual Rod	None	11 seconds	11 seconds	Honeywell	S87C1014
Dual Rod	None	6 seconds	6 seconds	Honeywell	S87D1004
Dual Rod	None	11 seconds	11 seconds	Honeywell	S87D1012
Single Rod	30 sec. min	21 seconds	21 seconds	Honeywell	S87J1034

## Direct Spark Ignition Module - DSI



- When the thermostat calls for heat, the DSI control simultaneously initiates synchronous ignition sparking, ignition trial timer and the main burner valve(s). Flame recognition at main burner halts ignition trial timer and ignition sparking. Main burner flame is monitored at a synchronous frequency for the duration of the heating cycle. Should the main burner fail to ignite, the control will automatically go into safety lockout. Lockout is reset through the thermostat by interrupting power to control for a minimum of 5 seconds. Should the main burner flame fail during heat cycle, one re-ignition attempt will be made.
- A shorted ignition electrode and open or shorted high voltage wire will result in control lockout.

### Robertshaw

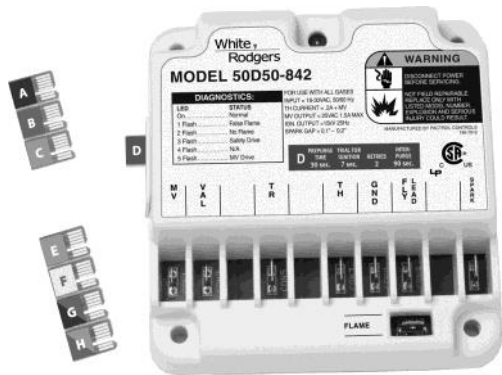
Replaces OEM	Volts	Pre-Purge	Sensor Type	Attempts before lockout	Description	Factory Model Number	Brand	Part Number
Roberts Gordon 90434004, 90434002	24	Yes	Remote	3	Enclosed, Molex Board	RAM-3MC1-01	Robertshaw	790-325



### Flame Sensors, Ignition Wire & Terminals

# Ignition Modules

## Universal Direct Spark Non-Integrated Ignition Module For All Gases - DSI



All Times in Seconds

**White  
Rodgers**

- For gas-fired non-integrated forced air furnaces, boilers and cooking appliances
- Replaces both single and dual rod systems
- Kit Includes: Program keys, color coded timing label, pre-printed hanging carton, cross reference, instructions and double sided foam back tape
- Direct and indirect flame sense
- Color LED indicator for diagnostics

Key	Trial for Ignition	Retries	Prepurge	Interpurge	Brand	Part Number
A	4	2	0	90	White Rodgers	50D50-842
B	4	2	30	90		
C	7	2	0	90		
D	7	2	30	90		
E	7	0	0	NA		
F	7	0	30	NA		
G	11	0	0	NA		
H	11	0	30	NA		

## Spark Proven Pilot Control Kit - Direct Replacement for Lennox



- Microprocessor Based Gas Ignition and Primary Safety Control Designed for Interrupted Spark and Burner Supervision of All Gases Used in Gas Fired Appliance Applications
- Field service replacement for most Honeywell, Robertshaw, and Johnson Controls Intermittent Pilot Ignition Controls used on Lennox G20, G20R, G23 and G26 furnaces. • Kit includes mounting bracket, flame sensor, and all other needed parts. • Color LED indicator for diagnostics.

Key	Reset Time	Pre-purge	Retires	Safety Time	Brand	Part Number
B	300	30	Continuous	90	White Rodgers	50D50-801

### Cross Reference

Lennox / Armstrong / Ducane		Lennox / Armstrong / Ducane		Johnson Controls	Robertshaw	Honeywell	ICM
18G91	41K87	65K93	93K2101	G776RDG-1	SP735L	S8660K1006	ICM2902
18G9101	41K8701	65K9301	97H04	G776RDG-2	SP745		ICM293
28L49	48K99	69J36	97H0401	G776RDG-10			
28L4901	48K9901	69J3601	LB-90087A	G776RDG-11			
30W33	53L90	74H26	LB-90701A	G776RDG-14			
30W3301	53L9001	74H2601	LB-90701B				
34G66	63K24	80N92	LB-90701C				
34G6601	63K2401	80N9201	LB-9071B				
38707B001		93K21	LB-92869A				

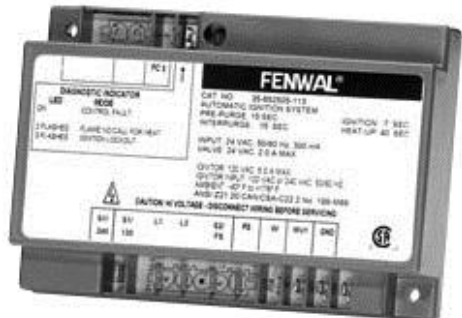


**Flame Sensors, Ignition Wire & Terminals**

**White  
Rodgers**

# Ignition Modules

## Hot Surface Ignition - HSI

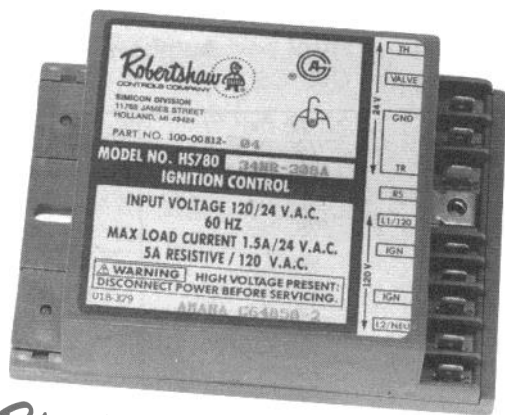


- 24, 120 or 240 VAC field selectable control with line voltage capability
- Microprocessor based HSI controls provide precise, repeatable timing sequences for ignition and purge times with automatic restart
- Features LED diagnostics and edge board connections
- Remote or local flame sensing



Replaces OEM	Ignitor 120/240 VAC Heat Up Time	Pre-Purge	Inter-Purge	Attempts Before Lockout	Trial For Ignition	Cross Reference		Brand	Part Number
						Old Fenwal Part Numbers	Robertshaw Part Numbers		
-	40 sec	0	15 sec	3	7	05-329003-053 35-655801-013	832-002	Fenwal	<b>35-655605-013</b>
Henny Penny 35485	4 sec	0	0	1	7	05-356225-053	835-001	Fenwal	<b>35-655700-003</b>

## Hot Surface Ignition Module -HSI



- Designed for use on gas fired heating systems
- Provides lockout and complete gas shut off if ignition is not proven after the trial for ignition sequences has been completed
- To reset the system the thermostat or system must be opened for at least 10 seconds
- Module supply voltage is 120 VAC
- **See Cross Reference For All Models These Replace**



Replaces OEM	Pre-Purge	Sensor Type	Attempts Before Lockout	Valve Trial Time	Factory Model Number	Brand	Part Number
Rheem 62-22578-01	Yes	Local	3	8 Seconds	HS780-34PL-308A	Robertshaw	<b>780-783</b>
Rheem 62-22578-02	No	Local	3	6 Seconds	HS780-34NL-306A	Robertshaw	<b>780-785</b>



**Flame Sensors, Ignition Wire & Terminals**

# Ignition Modules

## Universal Hot Surface Ignition Module Uni-Kit - HSI

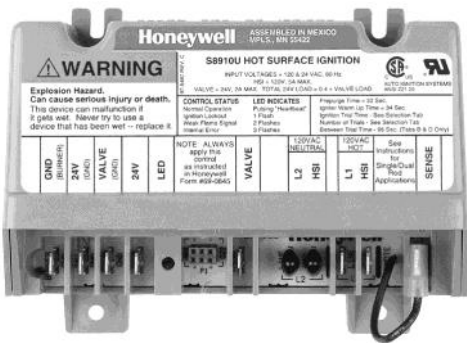


- Comes equipped with field selectable options; flame sense (local or remote), ignition trial times and ignitor warm up times. The flame sense option is determined by a factory installed black jumper wire. For local sense (sensing through the ignitor) the jumper must be connected to the "sense" terminal. For remote sense (a flame rod) the black jumper wire must be removed
- Ignition attempts and timing options are set by using a combination of four field removable tabs. The cross-reference charts in the instruction sheet will indicate the combination of tabs recommended for removal to match the specification of a specific ignition module
- **See Cross Reference For All Models This Replaces**

Robertshaw

Flame Sense	Ignition Trial Time	Warm Up Timing	Ignition Trial to Lockout	Brand	Part Number
Single or Dual Rod	4 seconds or 7 seconds	34 seconds or 17 seconds	1 or 3	Robertshaw	780-910

## Universal Hot Surface Ignition Module - HSI



- Provides operating control of direct ignition system using a 120 Vac hot surface ignitor
- Provides easy field-replacement of a wide range of Honeywell, Robertshaw and White Rodgers hot surface ignition modules
- Can only be used for direct replacement of specific installed models. Check the product specification sheet before replacing an existing hot surface module with the S8910U. If the existing module is not listed, do not use the S8910U to replace it. Always use the selection tab specified in the product specification sheet for the existing module being replaced.
- Replacement of an unlisted module or use of a selection tab other than specified an result in appliance malfunction
- **See Cross Reference For All Models This Replaces**

Honeywell

Flame Sense	Ignition Trial Time	Lockout Timing	Ignition Trial to Lockout	Brand	Part Number
Single or Dual Rod	4 seconds or 7 seconds	4 seconds or 7 seconds	1 or 3	Honeywell	S8910U3000

## Universal Hot Surface Ignition Non-Integrated Silicon Carbide Module - HSI



White Rodgers

- Comes equipped with field selectable options; flame sense (local or remote), ignition trial times and ignitor warm up times. The flame sense option is determined by a factory installed black jumper wire. For local sense (sensing through the ignitor) the jumper must be connected to the "sense" terminal. For remote sense (a flame rod) the black jumper wire must be removed
- Ignition attempts and timing options are set by using a combination of field removable tabs. The cross-reference charts in the instruction sheet will indicate the combination of tabs recommended for removal to match the specification of a specific ignition module
- **See Cross Reference For All Models This Replaces**

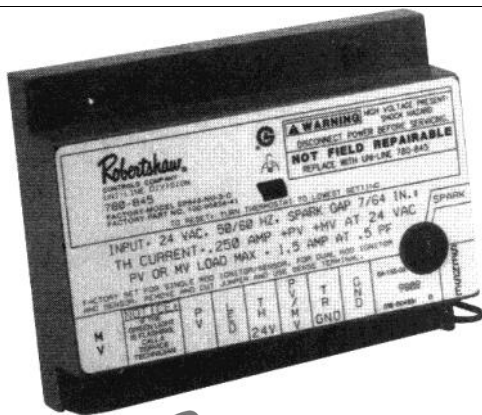
Heat Up Time	Sensor Type	Attempts before lockout	Prepurge	Brand	Part Number
17 or 45 Seconds	Local/Remote	0 or 2	30 Seconds	White Rodgers	50E47-843



## Flame Sensors, Ignition Wire & Terminals

# Ignition Modules

## Intermittent Pilot Ignition Module - IP



Robertshaw

- When the thermostat calls for heat, the control simultaneously initiates ignition sparking and opens the pilot valve portion of the gas valve. Pilot flame recognition stops ignition sparking and opens the main valve portion of the gas valve. Pilot burner flame is continuously monitored at a synchronous frequency for the duration of the heating cycle. Should the pilot flame fail during the heating cycle, the control will shut off the main valve until the pilot flame is established
- Note: The green diagnostic LED will be on continuously for normal operation. The LED will be off for internal lockout and will flash continuously for problems external to the control (ie. Not sending flame).

Ignition Sequence	Prepurge	Lockout Timing	Ignition Trial Time	Brand	Part Number
Continuous trial for pilot ignition	6 Minute Time Delay	1 Hour	90 seconds	Robertshaw	780-845

## Intermittent Pilot Ignition Module - IP - Replacement For Johnson



BASO

- Indirect ignition type
- Approved for natural gas, LP gas, manufactured gas, mixed or LP gas -air mixtures
- High voltage spark, capacitive discharge ignition source
- Flame Detection Means: Flame rectification
- Local or remote flame sense

Replaces	Brand	Part Number
Johnson G600AY-1, G600AY-1C, G670AW-1, G670AW-1C, G67AG-10, G67AG-20, G67AG-3, G67AG-4, G67AG-8, G67BG-2, G67BG-3, G67BG-4, G67BG-5, G67BG-5R	Baso	BG1600M00EK-1AA
Johnson G776RGD-11D, G776RGD-14C	Baso	BG1600M02CR-1AD
Johnson G600AX-1, G600AX-1C, G600AX-2, G600AX-3	Baso	BG1600M10EK-1AA
Johnson G770KHA-2, G770KHA-2C	Baso	BG1600M10EM-1AD
Johnson G600LX-1, G600LX-1C, G600LX-1CM, G600LX-2	Baso	BG1600M10FF-1AA
Johnson G600KX-1, G600KX-1C	Baso	BG1600M10FM-1AA



Flame Sensors, Ignition Wire & Terminals

# Ignition Modules

## Universal Intermittent Pilot Ignition Module - IP



- Indirect ignition type
- Approved for natural gas, LP gas, manufactured gas, mixed or LP gas -air mixtures
- High voltage spark, capacitive discharge ignition source
- Flame Detection Means: Flame rectification
- Local or remote flame sense
- **See Cross Reference For All Models This Replaces**

Pre-purge	Retry	Ignition Trial Time	Brand	Part Number
0 Seconds	5 Minute	25 Seconds	Baso	<b>BG1600M51EF-1AA</b>



**Flame Sensors, Ignition Wire & Terminals**

**Davies**  
Davies Supply Group Ltd.

Calgary (800) 661-1346  
(403) 244-2161

Lethbridge (877) 595-7707  
(403) 381-7707

Saskatoon (877) 355-3377  
(306) 933-2433



# Ignition Modules

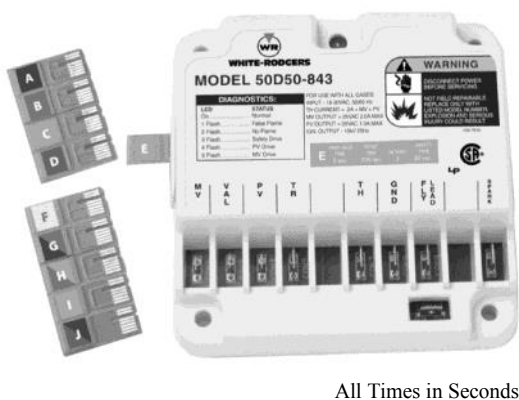
## Universal Intermittent Pilot Module - IP



- Field service replacement for most Honeywell, Robertshaw, Johnson Controls and others
- Provides ignition sequence, flame monitoring and safety shutoff for intermittent pilot central furnaces, residential boilers and other heating appliances
- Provides up to 1.0A pilot & 2.0A main valve current ratings
- Two LED indicators for flame presence / strength and system status / errors
- EnviraCOM™ communication protocol for system diagnostics
- Vent damper connection
- **Replaces existing flame rectification type, intermittent pilot ignition modules with the following characteristics:** Single rod (local sense) or two rod (remote sense) flame sensing, Non-100% shutoff / lockout, or 100% shutoff / continuous retry, Natural & LP gas, shutoff / lockout times of 15 seconds or longer, prepurge configurable to 30 seconds or no prepurge, pilot burners with flow rates of 1500 Btuh or less, with or without integral damper connector
- **This module does NOT replace controls with:** Flame sensing other than by flame rectification (White Rodgers Cycle-Pilot®, or Robertshaw thermal sensing), standing pilot appliances, direct main burner ignition
- Includes a complete list of modules it replaces plus the accessories required to adapt the existing spark cable (Rajah, stud, nail or other) to the spark terminal on the control module

Ignitor Sensor Type	Prepurge Timing	Trial for Pilot Ignition	Ignition Sequence Type	Ignition Sequence (After prepurge, if selected)	Brand	Part Number
Separate (two rod; remote flame sensing) or Combination (one rod; local flame sensing)	None or 30 sec (field selectable)	15 or 90 sec (field selectable)	Retry	Spark and pilot gas ON until lightoff or trial for ignition ends	Honeywell	S8610U3009

## Universal Intermittent Pilot Non-Integrated Spark Ignition Module For All Gases - IP



All Times in Seconds

White  
Rodgers



**Flame Sensors,  
Ignition Wire & Terminals**

- For gas-fired non-integrated forced air furnaces, boilers and cooking appliances
- Replaces both single and dual rod systems
- Kit Includes: Program keys, color coded timing label, pre-printed hanging carton, cross reference, instructions and double sided foam back tape
- Direct and indirect flame sense
- Color LED indicator for diagnostics

Key	Reset Time	Prepurge	Retries	Safety Time	Brand	Part Number
A	300	0	Continuous	90	White Rodgers	50D50-843
B	300	30	Continuous	90		
C	300	0	Continuous	30		
D	300	30	Continuous	30		
E	300	0	2	60		
F	300	30	2	60		
G	300	0	Continuous	15		
H	NA	30	NA	Continuous		
I	300	0	Continuous	4		
J	300	30	Continuous	4		

# Ignition Modules

## Universal Ignition Control Uni-Kits



- Feature a flame sense circuit that will work equally well on a one rod (local sense) or a two rod (remote sense) application
- Includes vent damper adapter assembly
- Easy to install with complete in-depth installation instructions
- **780-001:** The automatic recycle features assure that, in the event of flame failure, main gas is disabled and the spark repetition sequence is restated until pilot gas is ignited. Only after pilot ignition has been re-established can main gas be returned to the burner.
- **780-002:** Lockout feature shuts off all gas to the furnace should pilot ignition fail to occur after a predetermined time period. After 3 tries if no pilot flame is sensed, unit goes into lockout and must be reset at the thermostat.
- **See Cross Reference For All Models These Replace**

Tries for Ignition	Ignition Period	Description	Brand	Part Number
1	0 Seconds	Non Lockout, Natural Gas Only	Robertshaw	<b>780-001</b>
3	90 Seconds w/6 minute time delay between attempts	Lockout	Robertshaw	<b>780-002</b>



*Flame Sensors, Ignition Wire & Terminals*

*Robertshaw*