The first name in flame monitoring and combustion control

BurnerLogiX Conversion Guides

Contents

BunerLogiX Conversions

GENERAL CONVERSION PROCEDURE

1. Bulletin BL-1001 (BurnerLogix), MC-5000 (MicroM) or E-1101 (Flame-Monitor) read and understood.
2. Installer must be a trained, experienced, flame safeguard control service technician.
3. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage. More than one power supply disconnect may be involved.
4. All wiring must comply with applicable local electrical codes, ordinances, and regulations.
5. All line voltage terminal wiring shall be no. 14, 16 or 18 copper conductor TTW (60C) or THW (75C) or THHN (90C), 600 volt insulation wire. A maximum of two conductors can be wired to each 60-2814-1 wiring base terminal.
6. Voltage and frequency of the power supply and flame detector(s) connected to this control must agree with those marked on the device.
7. Loads connected to the control terminals must not exceed ratings listed in Bulletin BL-1001, MC-5000 or E-1101, or on the product label.
8. All external timers must be listed or component recognized by authorities having jurisdiction for the specific purpose for which they are used.
9. Perform all required checkout tests after installation is complete.

IMPORTANT:

1. For on-off gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in series between the flame safeguard control and the main fuel valve(s).
2. ***CAUTION****: While programmers are mechanically interchangeable in that they mate with a common chassis/amplifier module, you should select the correct model for your application. Inappropriate application of a control could result in an unsafe condition hazardous to life and property. Selection of a control for a particular application should be made by a competent professional, such as a boiler/burner service technician licensed by a state or other government agency.*
3. *For applications that require two 45UV5-1009 or 55UV5-1009 self checking scanners, use shutter control module 60-3745-1.*
4. ***WARNING:*** *This equipment generates and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures which may be required to correct the interference.*
5. *This digital apparatus does not exceed the Class B limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications.*

GENERAL DIRECTIONS:

1. Disconnect all power to control being replaced. Note that more than one power supply disconnect may be involved.
2. Remove old control from wiring base.
3. Mark all wires on wiring base; i.e., wires connected to terminal 1 should be marked 1.
4. Disconnect wires from wiring base.
5. Remove old subbase.
6. Mount appropriate Fireye wiring base.
7. Connect wires to wiring base according to wiring conversion for control being replaced. Pay close attention to notes.
    a. Wiring must comply with all applicable codes, ordinances and regulations.
    b. Wiring must comply with NEC Class 1 (Line Voltage) wiring.
    c. Recommended wire routing of lead wires:
        i. Do not run high voltage ignition transformer wires in the same conduit with any other wires.
        ii. Do not route flame detector lead wires in conduit with line voltage circuits. Use separate conduit where necessary.
    d. Maximum wire lengths:
        i. The maximum lead wire length is 200 ft. (61 meters) to terminal inputs (Operating limits, interlocks, valves, etc.).
        ii. Flame Detector lead wires: see section on flame scanners.
        iii. Remote reset: The maximum length of wire is 500 feet (152 meters) to a normally open remote reset push-button, but should remain within sight and sound of the burner.
        iv. Modbus communications: The maximum cable length of wire is 3200 feet (1000 meters) for RS-485.
    e. **NOTE**: UL allows only two electrical wires to each wiring base terminal. Wiring information may show more than two wires to a particular terminal, which may require an external connection to accomplish the connection.
8. Proper grounding of the green wiring base terminal screw to an electrical earth ground is a MUST for proper operation of the BurnerLogix, Flame-Monitor or MicroM controls.
9. Select proper flame amplifier according to the amplifier cross reference information.
10. Install the BurnerLogix. Make all necessary selections provided in the PROGRAM SETUP sub-menu.
11. Refer to the control bulletin for proper checkout and startup.

BunerLogiX Conversions

Wiring Cross Reference

Amplifier and Scanner Reference Guide

Honeywell			Fireye	
Amplifier	**Scanner**	**Type**	**Amplifier**	**Scanner**
			Flame-Monitor Amplifiers	
R7247A R7247B	C7004 (Flame Rod) or C7010, C7013, C7014 (Photocell)	**Flame Rectification**	**YB110FR**	69ND1 (Flame Rod) or 45MC1 (Photocell)
R7847A R7847B	C7012A,C	**Self Check Ultra-violet**	**YB110UVSC**	45UV5-1009
R7248A R7248B R7848A R7848B	C7015	**InfraRed**	YB110IR	48PT2
R7249A R7849A R7849B	C7027, C7035, C7044	**UltraViolet**	YB110UV	UV1A3, UV2, 45UV3
R7476A	C7076	**Self Check UV**	**YB110UVSC**	45UV5-1009
R7247C R7847C	C7012E	**Self Check UV**	**YB110UVSC**	45UV5-1009
			MicroM Amplifiers	
R7289A1004 R7289A1012	C7004, C7007 (Flame Rod), C7010 (Photocell)	**Flame Rectification**	MERT4 MERT1	69ND1 (Flame Rod) or 45MC1 (Photocell)
R7290A1001 R7290A1019	C7027, C7035, C7044	**UltraViolet**	MEUV4 MEUV1	UV1A3, UV2, 45UV3

Refer to appropriate Bulletin (BL-1001) for proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT Fireye **E110, EUVS4, and EP381**
TO **YB110UVSC, BLL512, YP300,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

E110	Function	YB110UVSC	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
S1	Scanner	S1	
S2	Scanner	S2	
L1 – 13	Operating Control	L1 – 3	
13 - 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	
3 – P	Running Interlocks (Air Flow Switch)	3 – P	Note 3
5	10 Sec – Interrupted Pilot	5	
6	Intermittent Pilot	6	Note 1
7	Main Fuel Valve	7	
M	Blower Motor	M	
M – D	Low Fire Start Switch	M – D	
A	**Alarm**	A	
	Jumper	10 to 5	Note 2
X	Ignition Transformer	X	
8	Not Used	8	
11	Not Used	11	
12	Not Used	12	

Note 1	Terminal 6 selectable intermittent/interrupted operation. Default is intermittent.
Note 2	For early spark termination using terminal X, connect jumper from terminal 5 to terminal 10
Note 3	Terminal P selectable recycle/non-recycle operation
Note 4	The default purge time for the YP300 is 30 seconds. Use the keypad/display module to set the purge time to 15 seconds or appropriate value.
Note 5	Substitute YB110UV for non self-check UV or YB110IR for AutoCheck infrared. Use appropriate scanner.
Note 5	Terminal W Energized 5 seconds into auto

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT **FIREYE 70D10**
TO FIREYE **BURNERLOGIX using YB110XX, YP100**, and **60-2814-1 see Note 1**
Refer to Amplifier and Scanner Reference Guide

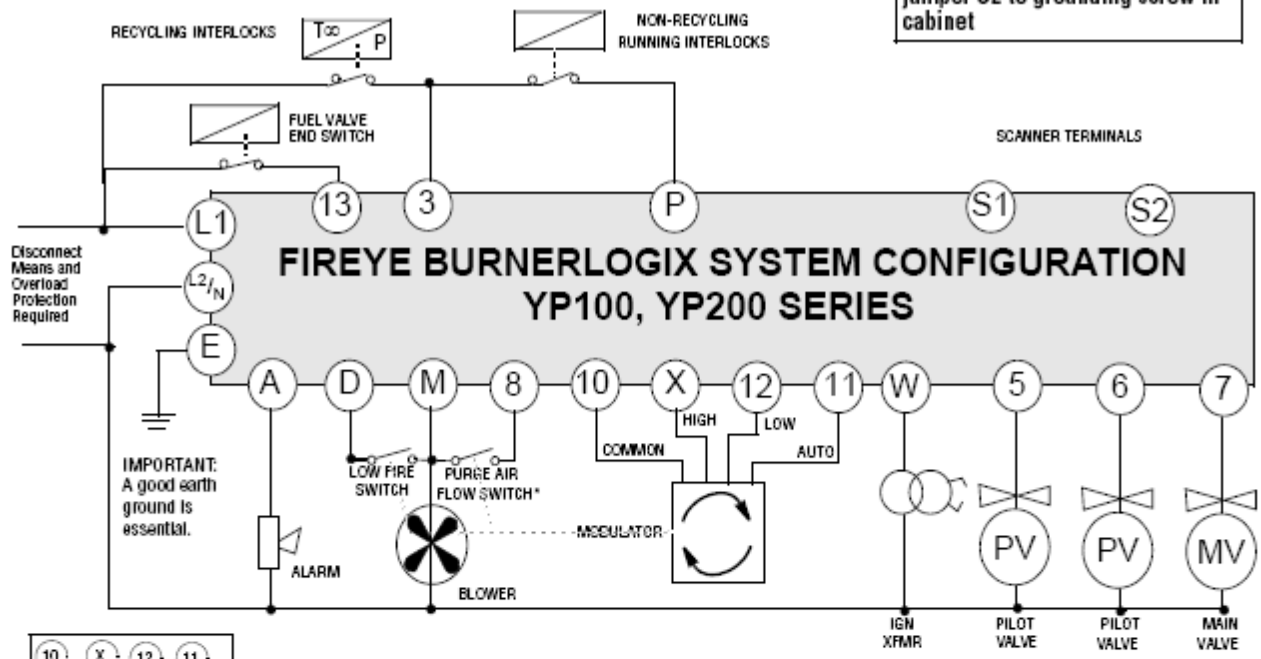
70D10	Function	BurnerLogix	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
-	Earth Ground	E	
S1	Scanner (+)	S1	
S2	Scanner (-)	S2	
L1 – 13	Operating Control Interlock	L1 - 3	Note 2
13 - 3	Pre-Ignition Interlocks (Fuel Valve End Switch)	L1 - 13	Note 3
3 – P	Running Interlocks (Air Flow Switch)	3 - P	
10	MODULATION COMMON	10	
12	MODULATION LOW FIRE	12	
X	MODULATION HIGH FIRE	X	
11	AUTO MODULATION	11	
M	Blower Motor	M	
M - D	Low Fire Start Interlock	M - D	
D - 8	Open Damper Purge Interlock	M - 8	Note 4
-	5 sec Early Spark Termination	W	Note 5
5	10 sec Interrupted Pilot	5	Note 6
6	15 sec Interrupted Pilot	6	Note 6
7	Main Fuel Valve	7	
A	**Alarm**	A	

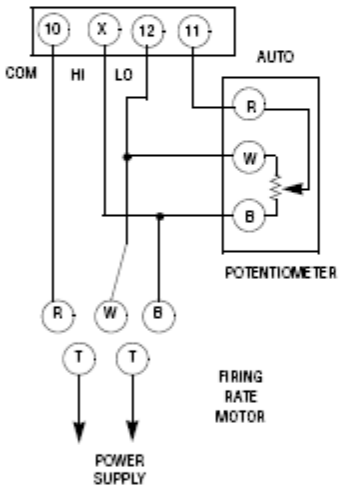
Note 1	Select **YB110UV** for Ultra-Violet, **YB110IR** for infrared and **YB110UVSC** for self-check UV.
Note 2	On the 70D10 the operating limit is wired L1-13. This must be moved to L1-3 on the BurnerLogix.
Note 3	On the 70D10 the proof of closure (FVES) is wired 13-3. This must be moved to L1-13 on the BurnerLogix.
Note 4	Open damper interlock is wired from M-8 on BurnerLogix.
Note 5	Terminal W is energized for the first 5 seconds of PTFI.
Note 6	See BL-1001 for proper timing adjustment.

Refer to Bulletin BL-1001 for proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

SUGGESTED WIRING DIAGRAM FOR YP100/YP200 PROGRAMERS

Note: When Flame Rod is used jumper S2 to grounding screw in cabinet

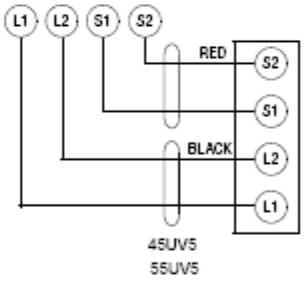




1. Purge air switch from M to 8 not required for YP200.
2. YP200 programmer recycles on 3-P open.
3. Terminal 6 selectable interrupted/intermittent pilot.
4. Terminal W active first 5 seconds of PTFI (YP100 Series only).
5. See chart on Table 2 for selectable timings.

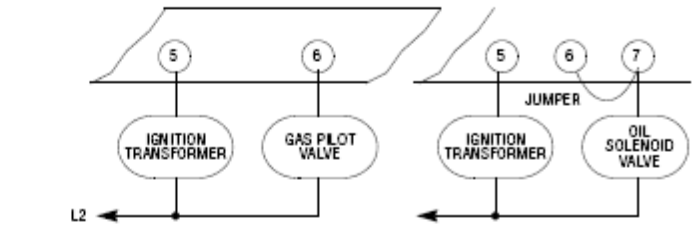
Connect terminal E to grounded bonding screw in cabinet.

All wiring must comply with NEC Class 1 (Line Voltage) wiring.



Caution: All safety limit switches should be approved as limit controls and should be wired directly in the circuit of the Flame Safeguard control. The use of electronic switches to close interlock circuits may cause erratic operation.

TYPICAL WIRING ARRANGEMENT FOR PILOT IGNITER



WIRING ARRANGEMENT FOR IGNITION TRANSFORMER & GAS PILOT VALVE FOR SPARK CUTOFF FEATURE
SET PTFI*MTFI SETTINGS APPROPRIATELY

WIRING ARRANGEMENT FOR SPARK IGNITED OIL BURNER

Wiring Cross Reference

TO CONVERT **FIREYE 70D20**
TO FIREYE **BURNERLOGIX using YB110XX, YP200**, and **60-2814-1 see Note 1**
Refer to Amplifier and Scanner Reference Guide

70D20	Function	BurnerLogix	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
-	Earth Ground	E	
S1	Scanner (+)	S1	
S2	Scanner (-)	S2	
L1 – 13	Operating Control Interlock	L1 - 3	Note 2
13 - 3	Pre-Ignition Interlocks (Fuel Valve End Switch)	L1 - 13	Note 3
3 – P	Running Interlocks (Air Flow Switch)	3 - P	
10	MODULATION COMMON	10	
12	MODULATION LOW FIRE	12	
X	MODULATION HIGH FIRE	X	
11	AUTO MODULATION	11	
M	Blower Motor	M	
M - D	Low Fire Start Interlock	M - D	
-	5 sec Early Spark Termination	W	Note 4
5	10 sec Interrupted Pilot	5	Note 5
6	15 sec Interrupted Pilot	6	Note 5
7	Main Fuel Valve	7	
A	Alarm	A	

Note 1	Select **YB110UV** for Ultra-Violet, **YB110IR** for infrared and **YB110UVSC** for self-check UV.
Note 2	On the 70D20 the operating limit is wired L1-13. This must be moved to L1-3 on the BurnerLogix.
Note 3	On the 70D20 the proof of closure (FVES) is wired 13-3. This must be moved to L1-13 on the BurnerLogix.
Note 4	Terminal W is energized for the first 5 seconds of PTFI.
Note 5	See BL-1001 for proper timing adjustment.

Refer to Bulletin BL-1001 for proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

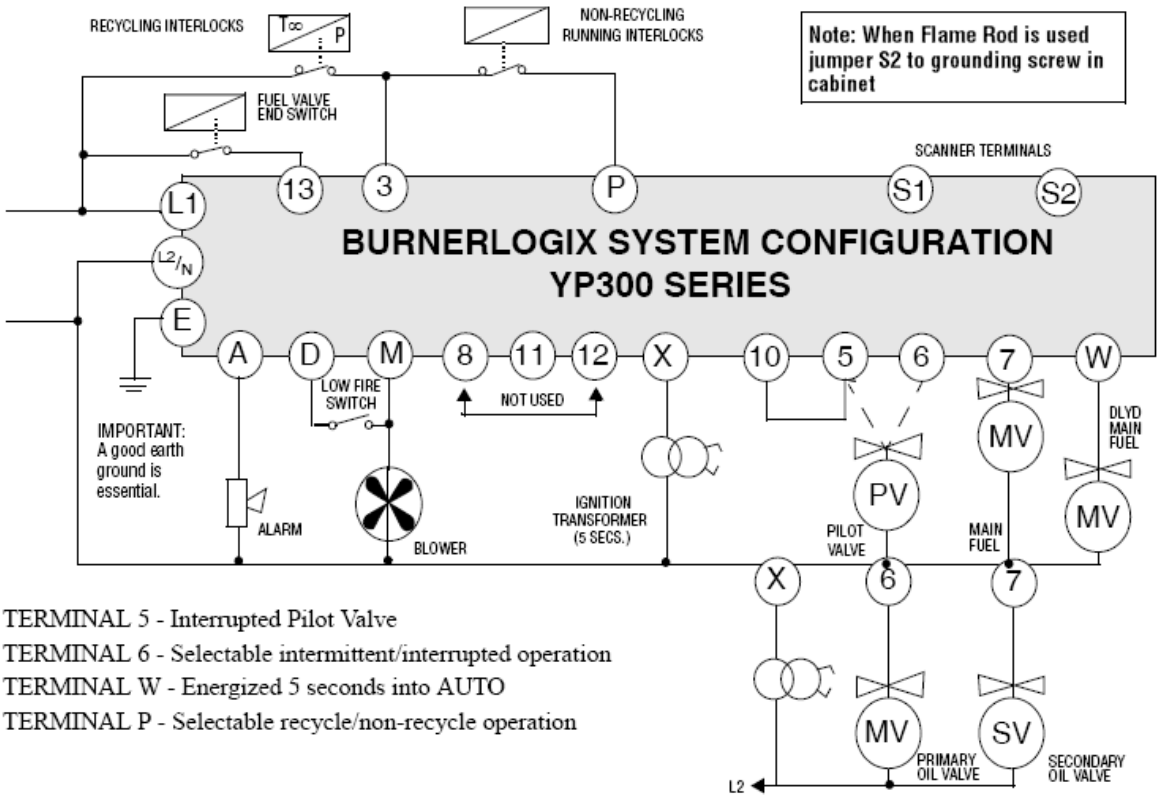
TO CONVERT **FIREYE 70D30**
TO FIREYE **BURNERLOGIX using YB110XX, YP300**, and **60-2814-1**
see Note 1
Refer to Amplifier and Scanner Reference Guide

70D30	Function	BurnerLogix	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
-	Earth Ground	E	
S1	Scanner (+)	S1	
S2	Scanner (-)	S2	
L1 – 13	Operating Control Interlock	L1 - 3	Note 2
13 - 3	Pre-Ignition Interlocks (Fuel Valve End Switch)	L1 - 13	Note 3
3 – P	Running Interlocks (Air Flow Switch)	3 - P	
10	Connect to terminal 5	10	Note 4
X	5 Second early spark ignition	X	
12		12	
11		11	
M	Blower Motor	M	
M - D	Low Fire Start Interlock	M - D	
-	2nd stage firing, secondary fuel valve	W	Note 5
5	10 sec Interrupted Pilot	5	Note 6
6	Intermittent Pilot	6	Note 6
7	Main Fuel Valve	7	
A	**Alarm**	A	

Note 1	Select **YB110UV** for Ultra-Violet, **YB110IR** for infrared and **YB110UVSC** for self-check UV.
Note 2	On the 70D30 the operating limit is wired L1-13. This must be moved to L1-3 on the BurnerLogix.
Note 3	On the 70D30 the proof of closure (FVES) is wired 13-3. This must be move to L1-13 on the BurnerLogix.
Note 4	Connect terminal 5 to terminal 10
Note 5	Terminal W is energized 5 seconds after start of AUTO
Note 6	See BL-1001 for proper timing adjustment.

Refer to Bulletin BL-1001 for proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

SUGGESTED WIRING DIAGRAM FOR YP300 PROGRAMMERS



TERMINAL 5 - Interrupted Pilot Valve
TERMINAL 6 - Selectable intermittent/interrupted operation
TERMINAL W - Energized 5 seconds into AUTO
TERMINAL P - Selectable recycle/non-recycle operation

Wiring Cross Reference

HONEYWELL **BC7000L / PM720G2005**
TO **YB110, BLL510, YP200** (Notes 1 & 3)**, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 4
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	Note 2
18	5 Sec – Early Spark Termination	5	Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings in PROGRAM SETUP sub-menu.
Note 2	MTFI timing greater than 15 seconds is not available with BurnerLogix.
Note 3	Purge time is set in the PROGRAM SETUP sub-menu
Note 4	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **BC7000L / PM720L1030**
TO **YB110, BLL510, YP100** (See Note 1)**, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 3
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
18	5 Sec – Early Spark Termination	5	Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 2
8 – 15	Open Damper Proving Switch	M - 8	Note 2
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings in PROGRAM SETUP sub-menu.
Note 2	Move high fire start switch and low fire start switch wires from Honeywell terminal 8 to Fireye terminal M.
Note 3	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **BC7000L / PM720L2004**
TO **YB110, BLL510, YP100** (See Note 1)**, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 3
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
18	5 Sec – Early Spark Termination	5	See Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
L1 – 15	Open Damper Proving Switch	M - 8	Note 2
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings in PROGRAM SETUP sub-menu.
Note 2	Move high fire start switch wire from L1 and low fire start switch wire from terminal 8 to Fireye terminal M.
Note 3	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **BC7000L / PM720M2036**
TO **YB110, BLL510, YP300** (See Note 2)**, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 4
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	Intermittent Pilot	6	
18	5 Sec – Early Spark Termination	X	See Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
N/A	Low Fire Start Switch	M – D	See Note 3
9	**Alarm**	A	

Note 1 If terminal 18 (early spark termination) is used, jumper terminal 5 to terminal 10 to provide 5 sec PTFI on terminal X.

Note 2 If terminal 15 is jumped to terminal 8 on the Honeywell control (7 sec purge), set purge time in PROGRAM SETUP sub-menu to 7 seconds.

Note 3 Honeywell control does not provide a low fire start switch. Either install low fire start switch or jumper terminal M to D on the Fireye control.

Note 4 Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4150G1087 (CB2-1A)**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 3	Operating Control	L1 – 3	
3 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 1
4 – 12	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 14	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
13	High Fire	X	
10	Common	10	
11	Auto	11	
16	Low Fire	12	

Note 1 Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **CB20** (833-2200)(R4140G-1023)
TO **YB110, BLL510, YP200, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 3	Operating Control	L1 – 3	
3 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	
4 – 12	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 14	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
13	High Fire	X	
10	Common	10	
11	Auto	11	
16	Low Fire	12	

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L1022 / CB40** (833-2201)
TO **YB110, BLL510, YP160, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 3	Operating Control	L1 – 3	
3 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
4 – 12	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
14 – 15	Low Fire Start Switch	M – D	Note 2
15 – 8	High Fire Start Switch	M – 8	Note 3
9	**Alarm**	A	
	Modulation Circuit		
13	High Fire	X	
10	Common	10	
11	Auto	11	
16	Low Fire	12	

Note 1	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.
Note 2	Move low fire start switch wire from Honeywell terminal 15 to Fireye terminal M, and move low fire start switch wire from Honeywell terminal 14 to Fireye terminal D.
Note 3	Move high fire start switch wire from Honeywell terminal 15 to Fireye terminal M, and move high fire start switch wire from Honeywell terminal 8 to Fireye terminal 8.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **CB70**
TO **YB110, BLL510, YP100, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
L1 – 3	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	
4 – 12	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
L1 – 14	Low Fire Start Switch	M – D	
L1 – 15	High Fire Start Switch	M – 8	
9	**Alarm**	A	
	Modulation Circuit		
13	High Fire	X	
10	Common	10	
11	Auto	11	
16	Low Fire	12	

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL GP101 (**R4140M1079)**
TO **YB110, BLL510, YP300**, and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
S1	Scanner	S1	
S2	Scanner	S2	
L1 - 13	Operating Control	L1 – 3	Note 1
13 - 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 1
3 - P	Running Interlocks (Air Flow Switch)	3 – P	Note 1
18	5 sec Early Spark Termination	X	Note 2
5	10 sec Interrupted Pilot	5	
6	Intermittent Pilot (Oil Valve for direct spark ignition)	6	Note 3
7	Main Fuel Valve	7	
M	Blower Motor	M	
n/a	Low Fire Start Switch	M - D	Note 4
A	Alarm	A	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	To use terminal X, jumper terminal 5 to terminal 10 and terminal 10 to L1.
Note 3	On the 4140M-1079, terminal 6 is energized 5 seconds after terminals 18 and 5 are energized. Terminal 5 (Honeywell) energized for a total of 25 seconds. On the Fireye, terminal 6 is energized at the same time as terminals X and 5. Terminal 5 energized for a total of 20 seconds. Terminal W is energized 5 seconds after the start of AUTO.
Note 4	If low fire start switch is not used then jump terminals M-D
Note 5	The default purge time for the YP300 is 30 seconds. Use keypad/display module to set purge time to 90 seconds or appropriate value.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **GP201 (R4140G1189)**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	GP	Function	Fireye	
L1	L1	Hot – 120 VAC	L1	
L2	L2	Ground – Neutral	L2	
F	S1	Scanner	S1	
G	S2	Scanner	S2	
L1 – 4	L1 – 13	Operating Control	L1 – 3	Note 1
4 - 16	13 – 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 1
16 – 3	3 – P	Running Interlocks (Air Flow Switch)	3 – P	
18	18	4 Sec – Early Spark Termination	5	Note 2
5	5	10 Sec – Interrupted Pilot/Ign	5	
6	6	Oil Valve – Direct Spark	6	Note 3
7	7	Main Fuel Valve – Pilot Ignited	7	
8	M	Blower Motor	M	
8 – 13	M - D	Low Fire Start Switch	M – D	
9	A	**Alarm**	A	
		Modulation Circuit		
10	X	High Fire	X	
11	10	Common	10	
12	11	Auto	11	
14	12	Low Fire	12	

Note 1	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.
Note 2	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings correctly. Or connect spark transformer to terminal W and pilot valve to 5.
Note 3	For direct spark ignition, connect ignition transformer to terminal 5 and oil valve to terminal 6. Set terminal 6 to intermittent operation.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **GP301 (R4140L1089)**
TO **YB110, BLL510, YP100,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
S1	Scanner	S1	
S2	Scanner	S2	
L1 – 13	Operating Control	L1 – 3	
13 - 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 1
3 – P	Running Interlocks (Air Flow Switch)	3 – P	
18	4 Sec – Early Spark Termination	5	Note 2
5	10 Sec – Interrupted Pilot/Ign	5	
6	Oil Valve – Direct Spark	6	Note 3
7	Main Fuel Valve – Pilot Ignited	7	
M	Blower Motor	M	
M – D	Low Fire Start Switch	M – D	
Jumper	Open Damper Switch	M - 8	Note 4
A	Alarm	A	
	Modulation Circuit		
X	High Fire	X	
10	Common	10	
11	Auto	11	
12	Low Fire	12	

Note 1	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.
Note 2	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings correctly. Or connect spark transformer to terminal W and pilot valve to terminal 5.
Note 3	For direct spark ignition, connect ignition transformer to terminal 5 and oil valve to terminal 7. Jumper terminal 6 to 7.
Note 4	If open damper prove is not used, jump terminals M-8

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4138C**
TO **YB110, BLL510, YP300** (see Note 6)**,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
7 – 8	Stop Switch	L1 – 3	Note 1
Externally powered	Blower	M	Note 2
N/A	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 3
Main Switch – L1	Running Interlocks (Air Flow Switch)	3 – P	
Manual start switch	Ignition	5	
19	Pilot Valve	6	
20	Main Fuel Valve	7	
M	Blower Motor	M	
18 – 17	High Fire Interlock	M – 8	Note 4
6 – Manual Start	Low Fire Start Switch	M – D	Note 5
	Manual Start Switch	M – D	Note 5
16	**Alarm**	A	

Note 1	Stop switch is wired between L1 – 3. Switch must be closed to light off burner.
Note 2	The blower fan can be either powered externally or connected to terminal M. Terminal M is de-energized after a safety lockout.
Note 3	Jumper terminals L1 - 13
Note 4	The YP300 does not provide a high fire purge interlock.
Note 5	The low fire start switch and manual start switch are wired in series between terminals M – D.
Note 6	Set PROGRAM SETUP VALUES for intermittent operation on terminal 6, infinite wait on M-D input and non-recycle operation on 3 – P.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140G1007**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	Note 1
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	R4140G1007 has a 40 second high fire purge. In PROGRAM SETUP sub-menu, set purge time to 40 seconds using keypad/display module. Control has a proven high fire purge interlock

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140G1056**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 13	
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
18	5 second Ignition	5	
5	10 Sec – Interrupted Pilot	6	
6	Intermittent Pilot	6	Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	If terminal 6 is used as an intermittent pilot, set terminal 6 for intermittent operation in PROGRAM SETUP sub-menu using keypad /display module using keypad/display module.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140G1064**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
18	5 second Ignition	5	
5	10 Sec – Interrupted Pilot	6	
6	Intermittent Pilot	6	Note 1
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	If terminal 6 is used as an intermittent pilot, set terminal 6 for intermittent operation in PROGRAM SETUP sub-menu using keypad/display module.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140G1106**
TO **YB110, BLL510, YP200,** and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L1006** (with heavy duty cover)
TO **YB110, BLL510, YP100, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 2
8 – 15	Open Damper Proving Switch	M – 8	Note 2
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.
Note 2	Connect terminal 8 for open damper switch and low fire start switch to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L1014**
TO **YB110, BLL510, YP160, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 2
8 – 15	Open Damper Proving Switch	M – 8	Note 2
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.
Note 2	Connect terminal 8 for open damper switch and low fire start switch to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L1055**
TO **YB110, BLL510, YP100, 60-2814-1**.
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	30 Sec – Interrupted Pilot	6	15 Sec
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 2
8 – 15	Open Damper Proving Switch	M – 8	Note 2
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.
Note 2	Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L-1030 or 1097** (with heavy duty cover)
TO **YB110, BLL510, YP100, 60-2814-1** (See Note 1).
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
18	5 Sec – Early Spark Termination	5	Note 2
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 3
8 – 15	High Fire Start Switch	M – 8	Note 3
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.
Note 2	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings located in PROGRAM SETUP.
Note 3	Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R4140L1147**
TO **YB110, BLL510, YP100, 60-2814-1** (See Notes 2 and 3).
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 4	Operating Control	L1 – 3	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 or 30 Sec – Interrupted Pilot	6	Note 2
18	5 Sec – Early Spark Termination	5	Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	Note 4
15 – 8	High Fire Start Switch	M – 8	Note 4
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.
Note 2	The R4140L1147 provides a 15 or 30 second (field selectable) MTFI timing on terminal 6. 15 sec without jumper, 30 sec with jumper. Set timing for terminal 6 in PROGRAM SETUP sub-menu.
Note 3	If terminal 18 (early spark termination) is used, set timing for terminal 5 in PROGRAM SETUP sub-menu.
Note 4	Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140M1004/1012**
TO **YB110, BLL510, YP300**, and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
	5 sec Early Spark Termination	X	N/A
5	10 sec Interrupted Pilot	5	
6	Intermittent Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
	Low Fire Start Switch	M – D	N/A
9	**Alarm**	A	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140M1038**
TO **YB110, BLL510, YP300** (see Note 3), and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
18	5 sec Early Spark Termination	X	See Note 2
5	10 sec Interrupted Pilot	5	
6	Intermittent Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
10	Damper Control		Not Avail.

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	To use terminal X, jumper terminal 5 to terminal 10.
Note 3	R4140M1038 has a 42 second purge. Set purge time in PROGRAM SETUP sub-menu to appropriate value using keypad/display module.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4140M1046 / R4140M1053**
TO **YB110, BLL510, YP300 (Note 1)**, and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	Note 2
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	Note 2
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	Note 2
18	5 sec Early Spark Termination	X	Note 3
5	10 sec Interrupted Pilot	5	
6	Intermittent Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
10	Damper Control		Not Avail.

Note 1	Set purge time to 90 seconds from PROGRAM SETUP sub-menu.
Note 2	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 3	To use terminal X, jumper terminal 5 to terminal 10.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4150A1056**
TO **YB110, BLL510, YP300** (See Note 5), and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
10 – 11	Running Interlocks (Air Flow Switch)	3 – P	See Note 2
5	10 Sec Ignition	X	See Note 3
6	Interrupted Pilot	6	See Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
N/A	Low Fire Start Switch	M – D	See Note 4
9	**Alarm**	A	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	The air flow switch on the R4150A may be wired between terminals 16 and 3.
Note 3	R4150A provides a 10 second PTFI on terminals 5 and 6, followed by a 5 second pilot stabilization period (terminal 5 off). The YP300 provides a 5 second PTFI on terminal X and a 10 sec PTFI on terminal 6. Terminal 5 must be jumped to terminal 10 to use terminal X.
Note 4	The R4150A does not have a low fire start switch.
Note 5	Use PROGRAM SETUP sub-menu to set terminal 6 to interrupted operation.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4150A1247**
TO **YB110, BLL510, YP300** (See Note 5), and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
10 – 11	Running Interlocks (Air Flow Switch)	3 – P	See Note 2
5	15 Sec – Interrupted Pilot / Ignition	6	See Note 3
6	Intermittent Pilot	6	See Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
N/A	Low Fire Start Switch	M – D	See Note 4
9	**Alarm**	A	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	The air flow switch on the R4150A may be wired between terminals 16 and 3.
Note 3	For 15 second interrupted pilot or intermittent operation on terminal 6, use PROGRAM SETUP sub-menu. The YP300 also provides a 10 second interrupted pilot on terminal 5.
Note 4	The R4150A did not have a low fire start switch.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4150G1004**
TO **YB110, BLL510, YP200** (See Note 4), and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
5	14 Sec – Interrupted Pilot	6	See Note 2
6	Intermittent Pilot	6	See Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	The R4150G1004 has a 9 second PTFI and 14 MTFI on terminal 5. The YP200 has a 10 second PTFI and 15 second MTFI on terminal 6. See PTFI*MTFI Timings for other settings.
Note 3	If intermittent pilot is required, set terminal 6 to intermittent operation through PROGRAM SETUP sub-menu.
Note 4	PROGRAM SETUP sub-menu provides purge time adjustment.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

TO CONVERT HONEYWELL **R4150G1046**
TO **YB110, BLL510, YP200** (See Note 4), and **60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	L1 – 13	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
5	9 Sec – Interrupted Pilot	5	See Note 2
6	Intermittent Pilot	6	See Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
9	**Alarm**	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	

Note 1	Terminal 16 on the Honeywell wiring base is used as a tie point only. Identify and isolate the appropriate wires to the operating control, fuel valve end switch, and running interlocks.
Note 2	The R4150G1046 has a 9 second PTFI and MTFI on terminal 5. The YP200 has a 10 second PTFI and MTFI on terminal 5. Set PROGRAM SETUP sub-menu.
Note 3	If intermittent pilot is required, set terminal 6 to intermittent operation through PROGRAM SETUP sub-menu.
Note 4	PROGRAM SETUP sub-menu provides purge time adjustment.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **EC / RM7850A**
TO **YB110, BLL510, YP100, 60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
4	Hot – 120 VAC	L1	
N	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
20 – 6	Operating Control	L1 – 3	
4 - 17	Pre-Ignition Interlocks Fuel Valve End Switch	L1 – 13	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
16 – 20	Lockout Input	N/A	See Note 1
10	3 or 5 Sec Ignition - Early Spark Termination	5	See Note 2
8	8 or 10 Sec PTFI, 3 or 5 sec MTFI – Interrupted Pilot	6	See Note 3
21	Intermittent Pilot	N/A	See Note 4
9	Main Fuel Valve	7	
5	Blower Motor	M	
4 – 18	Low Fire Start Switch	M – D	
4 – 19	Open Damper Proving Switch	M - 8	
3	**Alarm**	A	
	Modulation Circuit		
12	High Fire	X	
13	Common	10	
14	Auto	11	
15	Low Fire	12	

Note 1	The EC/RM7850A provides a terminal for a lockout input, which must remain closed or the control will lock out.
Note 2	Fireye terminal 5 provides 5 second ignition timing. Honeywell terminal 10 energized for 3 sec prior to energizing pilot fuel valve. Fireye terminals 5 and 6 are energized simultaneously.
Note 3	Timings for terminals 5 and 6 can be selected through the PROGRAM SETUP sub-menu.
Note 4	Intermittent pilot operation for terminal 6 can be selected through the PROGRAM SETUP sub-menu.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **RM7800G / RM7840G**
TO **YB110, BLL510** (Note 1)**, YP200** (Note 2)**, 60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
4	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
4 – 6	Operating Control	L1 – 3	
4 - 20	Pre-Ignition Interlocks Fuel Valve End Switch	L1 –13	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	4 Sec Ignition Early Spark Termination	W	Note 2
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot	5	Note 3
21	15 sec PTFI, 30 sec MTFI – intermittent / interrupted Pilot	6	Note 4
9	Main Fuel Valve	7	
5	Combustion Blower Motor	M	
5 – 18	Low Fire Start Switch	M – D	
3	**Alarm**	A	
	Modulation Circuit		
12	High Fire	X	
13	Common	10	
14	Low Fire	12	
15	Auto	11	

Note 1	For RM7840G replacement, omit BLL510 display.
Note 2	If Honeywell terminal 10 (early spark termination) is used, connect to terminal W.
Note 3	Timings for terminals 5 and 6 for PTFI and MTFI can be set in PROGRAM SETUP sub-menu.
Note 4	Terminal 6 can be set for intermittent operation through the PROGRAM SETUP sub-menu using optional keypad/display module.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **RM7800L / RM7840L**
TO **YB110, BLL510** (Note 1)**, YP100** (Note 3)**, 60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
4	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	**Scanner**	S2	
4 – 6	Operating Control	L1 – 3	
4 - 20	Pre-Ignition Interlocks **Fuel Valve End Switch**	L1 –13	Note 2
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	4 Sec Ignition Early Spark Termination	W	Note 3
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot	5	Note 4
21	10 sec PTFI, 15 sec MTFI - interrupted Pilot	6	Note 4
9	Main Fuel Valve	7	
5	Combustion Blower Motor	M	
5 – 18	Low Fire Start Switch	M – D	Note 5
5 – 19	Open Damper Proving Switch	M - 8	Note 5
3	**Alarm**	A	
	Modulation Circuit		
12	High Fire	X	
13	Common	10	
14	Low Fire	12	
15	Auto	11	

Note 1	For RM7840L replacement, omit BLL510 display.
Note 2	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.
Note 3	If Honeywell terminal 10 (early spark termination) is used, connect to terminal W.
Note 4	Timings for terminals 5 and 6 for PTFI and MTFI can be set in PROGRAM SETUP sub-menu.
Note 5	Move high fire start switch and low fire start switch wires from Honeywell terminal 5 to Fireye terminal M.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **RM7800M / RM7840M**
TO **YB110, BLL510** (Note 1)**, EP300, 60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
4	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
4 – 6	Operating Control	L1 – 3	
4 - 20	Pre-Ignition Interlocks Fuel Valve End Switch	L1 – 13	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	5 Sec Ignition Early Spark Termination	X	Note 2
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot / Ignition	5	
21	Intermittent Pilot	6	
9	Main Fuel Valve	7	
5	Combustion Blower Motor	M	
5 – 18	Low Fire Start Switch	M – D	
3	**Alarm**	A	
15	Damper Motor	Not Available	

Note 1	For RM7840M replacement, omit BLL510 display.
Note 2	Connect a jumper wire from terminal 5 to terminal 10 to get 5 second operation on terminal X during PTFI.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **EC / RM7830A**
TO **YB110, BLL510, YP300** (See Note 5)**, 60-2814-1**
Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
5	Hot – 120 VAC	L1	
N	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
20 – 6	Operating Control	L1 – 3	
5 - 17	Pre-Ignition Interlocks Fuel Valve End Switch	L1 – 13	Note 4
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
16 – 20	Lockout Input	N/A	Note 1
10	3 or 5 Sec Ignition - Early Spark Termination	X	Note 2
8	8 or 10 Sec PTFI, 3 or 5 sec MTFI – Interrupted Pilot	5	Note 3
21	Intermittent Pilot	6	
9	Main Fuel Valve	7	
4	Blower Motor	M	
N/A	Low Fire Start Switch	M – D	
3	**Alarm**	A	

Note 1	The EC/RM7830A provides a terminal for a lockout input, which must remain closed or the control will lock out.
Note 2	Fireye terminal 5 must be jumped to terminal 10 for 5 second early spark operation on terminal X.
Note 3	Fireye terminal 5 provides a 10 sec PTFI timing and a 10 sec MTFI timing.
Note 4	Identify and isolate indicate switch and rewire to appropriate Fireye terminals.
Note 5	Use PROGRAM SETUP sub-menu to set non-recycle operation.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Wiring Cross Reference

HONEYWELL **R7140L2007**
TO **YB110xx[1], BLL510, YP100** (Note 1)**, 60-2814-1**.
[1]Refer to Amplifier and Scanner Reference Guide

Honeywell	Function	Fireye	
L1	Hot – 120 VAC	L1	
L2	Ground – Neutral	L2	
F	Scanner	S1	
G	Scanner	S2	
L1 – 16	Operating Control	L1 – 3	
16 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	L1 – 13	Note 3
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	Note 3
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	
18	5 Sec – Early Spark Termination	5	Note 2
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 - 15	High Fire Purge Interlock	M - 8	
8 – 13	Low Fire Start Switch	M – D	
9	Alarm	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1	Purge time is set in the PROGRAM SETUP sub-menu
Note 2	If terminal 18 (early spark termination) is used, set PTFI*MTFI Timings in PROGRAM SETUP sub-menu.
Note 3	Identify and isolate indicated switch and rewire to appropriate Fireye terminals.

Refer to Bulletin BL-1001 for correct amplifier selection, proper installation, grounding, operational and safety checkout procedures. Perform safety checks of the entire system prior to allowing fuel entry into boiler. Complete safety checks, flame signal levels, minimum pilot tests with fuel on.

Fireye is a leading manufacturer of flame safeguard controls and burner management systems for commercial and industrial applications throughout the world. Our products can be found in a variety of public buildings, commercial properties, power plants, pulp and paper mills, petrochemical facilities and food processing plants.

For more information, please visit fireye.com.

fireye.com

WR-00-2-0300-0-006-B (2025/05)

Join us on