The first name in flame monitoring and combustion control

Flame-Monitor Conversion Guides

Contents

Flame-Monitor 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.

Flame-Monitor Conversions

Wiring Cross Reference

Amplifier and Scanner Reference Guide

Honeywell			Fireye	
Amplifier	**Scanner**	**Type**	**Amplifier**	**Scanner**
		Flame-Monitor Amplifiers		
R7247A	C7004 (Flame Rod) or C7010, C7013, C7014 (Photocell)	**Flame Rectification**	ERT1	69ND1 (Flame Rod) or 45MC1 (Photocell)
R7247B	C7004 (Flame Rod) or C7010, C7013, C7014 (Photocell)	**Flame Rectification**	ERT1	69ND1 (Flame Rod) or 45MC1 (Photocell)
R7248A	C7015	**InfraRed**	E1R1	48PT2
R7248B	C7015		E1R1	48PT2
R7249A	C7027, C7035, C7044	**UltraViolet**	EUV1	UV1A3, UV2, 45UV3
R7476A	C7076	**Self Check**	EUVS4	45UV5-1009
R7247C	C7012E	**UltraViolet**	EUVS4	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 (E-1101 or MC-5000) 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

HONEYWELL **BC7000L / PM720G2005**
TO **E110, ED510, EP260** (See Notes 1 & 2)**, 60-1386-2**.
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	
5	10 Sec – Interrupted Pilot	5	
6	15 Sec – Interrupted Pilot	6	See Note 2
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	
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, use **EP270** programmer.

Note 2 If terminal 15 is jumpered to terminal 8 on the Honeywell control, use **EP261** programmer (30 sec MTFI on term 6)

Note 3 Honeywll control provides a 40 sec purge. Fireye control provides a 30 second purge.

Refer to Bulletin E-1101 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

HONEYWELL **BC7000L / PM720L1030**
TO **E110, ED510, EP160** (See Note 1)**, 60-1386-2**.
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	
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	
8 – 15	High Fire Start Switch	D - 8	See 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, use **EP170** programmer.

Note 2 Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal D.

Refer to Bulletin E-1101 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

HONEYWELL **BC7000L / PM720L2004**
TO **E110, ED510, EP160** (See Note 1)**, 60-1386-2**.
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	
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	High Fire Start Switch	D - 8	See 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, use **EP170** programmer.

Note 2 Honeywell control has Energy Saving Pre-purge (ESP). Fireye control does not have ESP.

Refer to Bulletin E-1101 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

HONEYWELL **BC7000L / PM720M2036**
TO **E110, ED510, EP380** (See Note 2)**, 60-1386-2**.
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	
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 on the E110 to provide 5 sec PTFI on terminal X.

Note 2 If terminal 15 is jumpered to terminal 8 on the Honeywell control (7 sec purge), use **EP381** programmer (15 sec purge)

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.

Refer to Bulletin E-1101 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

HONEYWELL **CB20** (833-2200)
TO **E110, ED510, EP260, 60-1386-2**.
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 – 13
3 - 4	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 3
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 E-1101 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

HONEYWELL **CB70**
TO **E110, ED510, EP160, 60-1386-2**.
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 – 13	See Note 1
L1 – 3	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 3	See Note 1
4 – 12	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
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	See Note 1
L1 – 15	High Fire Start Switch	D – 8	See Note 1
9	Alarm	A	
	Modulation Circuit		
13	High Fire	X	
10	Common	10	
11	Auto	11	
16	Low Fire	12	

Note 1 Identify and isolate indicated switches and rewire to appropriate Fireye terminals.

Refer to Bulletin E-1101 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 HONEYWELL GP101 (**R4140M1079)**
TO **E110, ED510, EP390**, and **60-1386-2**
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 - 13	Operating Control	L1 – 13	See Note 1
13 - 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	See Note 1
3 - P	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	See Note 3
7	Main Fuel Valve	7	
M	Blower Motor	M	
	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.

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.

Refer to Bulletin E-1101 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 HONEYWELL **GP201 (R4140G1189)**
TO **E110, ED510, EP260,** and **60-1386-2**
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 – 13	
13 - 3	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	
3 – P	Running Interlocks (Air Flow Switch)	3 – P	
18	4 Sec – Early Spark Termination	5	See Note 1
5	10 Sec – Interrupted Pilot/Ign	5	
6	Oil Valve – Direct Spark	6	See Note 2
7	Main Fuel Valve – Pilot Ignited	7	
M	Blower Motor	M	
M – D	Low Fire Start Switch	M – D	
A	Alarm	A	
	Modulation Circuit		
X	High Fire	X	
10	Common	10	
11	Auto	11	
12	Low Fire	12	

Note 1 If terminal 18 (early spark termination) is used, use **EP270** programmer.

Note 2 For direct spark ignition, connect ignition transformer to terminal 5 (of **EP270**) and oil valve to terminal 7. Jumper terminal 6 to terminal 7

Refer to Bulletin E-1101 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 HONEYWELL **R4140G1007**
TO **E110, ED510, EP261,** and **60-1386-2**
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 – 13	
4 - 16	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	
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	See Note 1
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1 R4140G1007 has a 40 second high fire purge. EP261 has a 30 second high fire purge. Neither control has a proven high fire purge interlock

Refer to Bulletin E-1101 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 HONEYWELL **R4140G1056**
TO **E110, ED510, EP270,** and **60-1386-2**
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	See 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, install relay whose 120 VAC coil is powered from terminal 7, and it's normally open relay contacts are wired between terminals 6 and 7.

Refer to Bulletin E-1101 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 HONEYWELL **R4140G1064**
TO **E110, ED510, EP270,** and **60-1386-2**
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	See 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, install relay whose 120 VAC coil is powered from terminal 7, and it's normally open relay contacts are wired between terminals 6 and 7.

Refer to Bulletin E-1101 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 HONEYWELL **R4140G1106**
TO **E110, ED510, EP260,** and **60-1386-2**
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 – 13
4 - 16	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3
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

Refer to Bulletin E-1101 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

HONEYWELL **R4140L1014**
TO **E110, ED510, EP160, 60-1386-2**.
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 – 13	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 3	
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	
8 – 15	High Fire Start Switch	D - 8	See Note 1
9	Alarm	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1 Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal D.

Refer to Bulletin E-1101 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

HONEYWELL **R4140L1055**
TO **E110, ED510, EP161, 60-1386-2**.
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 – 13	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 3	
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	30 Sec – Interrupted Pilot	6	
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
8 – 15	High Fire Start Switch	D - 8	See Note 1
9	Alarm	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1 Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal D.

Refer to Bulletin E-1101 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

HONEYWELL **R4140L1097** (with heavy duty cover)
TO **E110, ED510, EP160, 60-1386-2** (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 – 13	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 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	
8 – 15	High Fire Start Switch	D - 8	See 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, use **EP170** programmer.

Note 2 Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal D.

Refer to Bulletin E-1101 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

HONEYWELL **R4140L1147**
TO **E110, ED510, EP160, 60-1386-2** (See Note 1 and 2).
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 – 13	
4 - 16	Pre-Ignition Interlocks Fuel Valve Interlock	13 – 3	
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	
5	10 Sec – Interrupted Pilot	5	
6	15 or 30 Sec – Interrupted Pilot	6	See Note 1
18	5 Sec – Early Spark Termination	5	See Note 2
7	Main Fuel Valve	7	
8	Blower Motor	M	
8 – 13	Low Fire Start Switch	M – D	
15 – 8	High Fire Start Switch	D - 8	See Note 3
9	Alarm	A	
	Modulation Circuit		
10	High Fire	X	
11	Common	10	
12	Auto	11	
14	Low Fire	12	

Note 1 The R4140L1147 provides a 15 or 30 second (field selectable) MTFI timing on terminal 6. 15 sec without jumper, 30 sec with jumper. 15 sec – use **EP160**, 30 sec – use **EP161**.

Note 2 If terminal 18 (early spark termination) is used, use **EP170** programmer.

Note 3 Move high fire start switch wire from Honeywell terminal 15 to Fireye terminal D. Move high fire start switch wire from Honeywell terminal 8 to Fireye terminal 8.

Refer to Bulletin E-1101 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 HONEYWELL **R4140M1020**
TO **E110, ED510, EP380** (see Note 3), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	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 R4140M1020 has a 42 second purge. EP380 has a 30 second purge. Can extend purge time via dipswitches.

Refer to Bulletin E-1101 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 HONEYWELL **R4140M1038**
TO **E110, ED510, EP380** (see Note 3), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	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. EP380 has a 30 second purge. Can extend purge time via dipswitches.

Refer to Bulletin E-1101 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 HONEYWELL **R4140M1046**
TO **E110, ED510, EP390**, and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	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.

Refer to Bulletin E-1101 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 HONEYWELL **R4140M1103 / R4140M1111**
TO **E110, ED510, EP380** or **EP161** (see Note 3, 4), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1,2
5	10 sec Interrupted Pilot	5	
6	10 or 30 sec interrupted pilot	6	See Note 3
7	Main Fuel Valve	7	
8	Blower Motor	M	
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 EP162 has a non-recycle operation on the 3 - P circuit. The EP380 has a selectable recycle or non-recycle operation on the 3 – P circuit.

Note 3 The R4140M1103 and R4140M1111 provide a field selectable 10 second or 30 second MTFI timing on terminal 6. If set for 10 second MTFI, use EP380. If set for 30 sec MTFI, use EP162.

Note 4 The EP161 has a modulating control circuit (terminals 10, 11, 12, and X) that are not used.

Refer to Bulletin E-1101 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 HONEYWELL **R4150A1247**
TO **E110, ED510, EP380** (See Note 5), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	See Note 1
10 – 11	Running Interlocks (Air Flow Switch)	3 – P	See Note 2
5	15 Sec – Interrupted Pilot	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 If the 15 second interrupted pilot is required, set dipswitch #2 on the EP380 in the Up position. If the intermittent pilot is required, set dipswitch #2 in the down position. The EP380 also provides a 10 second interrupted pilot on terminal 5.

Note 4 The R4150A did not have a low fire start switch.

Note 5 Set dipswitch #1 in the down position – recycle operation.

Refer to Bulletin E-1101 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 HONEYWELL **R4150G1004**
TO **E110, ED510, EP260** (See Note 4), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	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 EP260 has a 10 second PTFI and 15 second MTFI on terminal 6.

Note 3 If the intermittent pilot is required, use an external relay whose coil is powered from terminal 7 and wire its normally open relay contacts between terminal 7 and terminal 6.

Note 4 Set purge time via dipswitches to 90 seconds on EP260

Refer to Bulletin E-1101 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 HONEYWELL **R4150G1012**
TO **E110, ED510, EP270** (See Note 4), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	See Note 1
16 – 3	Running Interlocks (Air Flow Switch)	3 – P	See Note 1
5	9 Sec – Interrupted Pilot	6	See Note 2
6	Intermittent Pilot	6	See Note 3
11	Early Spark Ignition Xfmr	5	
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	
	Common	10	Note 5
	Low	12	Unused
	Auto	11	Note 5

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 R4150G1012 has a 15 second PTFI. The EP270 has a 10 second PTFI on terminal 6 and 15 second MTFI. The EP270 has early spark termination on terminal 5.

Note 3 If the intermittent pilot is required, use an external relay whose coil is powered from terminal 7 and wire its normally open relay contacts between terminal 7 and terminal 6.

Note 4 Set purge time via dipswitches to 60 seconds on EP270

Note 5 Connect terminal 13 to terminal 10, jumper terminal X to 11

Refer to Bulletin E-1101 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 HONEYWELL **R4150G1046**
TO **E110, ED510, EP260** (See Note 4), and **60-1386-2**
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	See Note 1
16 - 4	Pre-Ignition Interlocks (Fuel Valve Interlock)	13 – 3	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 EP260 has a 10 second PTFI and MTFI on terminal 5.

Note 3 If the intermittent pilot is required, use an external relay whose coil is powered from terminal 7 and wire its normally open relay contacts between terminal 7 and terminal 6.

Note 4 Set purge time via dipswitches to 60 seconds on EP260

Refer to Bulletin E-1101 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

HONEYWELL **RM7800G / RM7840G**
TO **E110, ED510, EP260 (See Note 1), 60-1386-2**
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 – 13	
4 - 20	Pre-Ignition Interlocks Fuel Valve End Switch	13 – 3	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	4 Sec Ignition Early Spark Termination	5	See Note 1
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot	5	
21	15 sec PTFI, 30 sec MTFI – intermittent / interrupted Pilot	6	See Note 2 See Note 3
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 If Honeywell terminal 10 (early spark termination) is used, use EP270 programmer.

Note 2 With EP260, Fireye terminal 6 provides a 10 sec PTFI timing and a 15 sec MTFI timing. With EP270, terminal 6 provides 10 sec MTFI timing.

Note 3 For an intermittent pilot, install relay whose coil is powered by terminal 7, and its normally open contacts are connected to terminals 6 and 7.

Refer to Bulletin E-1101 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

HONEYWELL **RM7800L / RM7840L**
TO **E110, ED510, EP160 (See Note 1), 60-1386-2**
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 – 13	
4 - 20	Pre-Ignition Interlocks Fuel Valve End Switch	13 – 3	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	4 Sec Ignition Early Spark Termination	5	See Note 1
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot	5	
21	10 sec PTFI, 15 sec MTFI - interrupted Pilot	6	See Note 2
9	Main Fuel Valve	7	
5	Combustion Blower Motor	M	
5 – 18	Low Fire Start Switch	M – D	
5 – 19	High Fire Start Switch	D - 8	
3	Alarm	A	
	Modulation Circuit		
12	High Fire	X	
13	Common	10	
14	Low Fire	12	
15	Auto	11	

Note 1 If Honeywell terminal 10 (early spark termination) is used, use EP170 programmer.

Note 2 With EP160, Fireye terminal 6 provides a 10 sec PTFI timing and a 15 sec MTFI timing. With EP170, terminal 6 provides 10 sec MTFI timing.

Refer to Bulletin E-1101 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

HONEYWELL **RM7800M / RM7840M**
TO **E110, ED510, EP380, 60-1386-2**
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 – 13	
4 - 20	Pre-Ignition Interlocks Fuel Valve End Switch	13 – 3	
6 – 7	Running Interlocks (Air Flow Switch)	3 – P	
10	5 Sec Ignition Early Spark Termination	X	See Note 1
8	10 Sec PTFI, 10 sec MTFI – Interrupted Pilot / Ignition	5	
21	Intermittent Pilot	6	See Note 2
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 Connect a jumper wire from terminal 5 to terminal 10.
Note 2 For intermittent operation, dipswitch #2 must be in the down position.

Refer to Bulletin E-1101 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

HONEYWELL **EC / RM7830A**
TO **E110, ED510, EP380** (See Note 5)**, 60-1386-2**
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 – 13	
5 - 17	Pre-Ignition Interlocks Fuel Valve End Switch	13 – 3	
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	X	See Note 2
8	8 or 10 Sec PTFI, 3 or 5 sec MTFI – Interrupted Pilot	5	See Note 3
21	Intermittent Pilot	6	See Note 4
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 X provides a 5 sec ignition timing. Fireye terminal 5 must be jumpered to terminal 10 for this function. Honeywell terminal 10 energized for 3 sec prior to energizing pilot fuel valve. Fireye terminal 5 energized with pilot fuel valve.

Note 3 Fireye terminal 5 provides a 10 sec PTFI timing and a 10 sec MTFI timing.

Note 4 Fireye Dipswitch 2 must be in the Down position for intermittent pilot on terminal 6.

Note 5 Fireye Dipswitch 1 must be in the Up position for non-recycle operation.

Wiring Cross Reference

HONEYWELL **EC / RM7850A**
TO **E110, ED510, EP170, 60-1386-2**
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 – 13	
4 - 17	Pre-Ignition Interlocks Fuel Valve End Switch	13 – 3	
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	High Fire Start Switch	D - 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 a 5 sec ignition timing. Honeywell terminal 10 energized for 3 sec prior to energizing pilot fuel valve. Fireye terminal 5 energized with pilot fuel valve.

Note 3 Fireye terminal 6 provides a 10 sec PTFI timing and a 10 sec MTFI timing.

Note 4 Intermittent pilot not available on EP170 programmer.

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