WIRING BASE ADAPTER
to convert from
Honeywell® RM7800 to BurnerLogiX®
60-BLX-HON-VP / 60-BLX-HON-NVP

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With this wiring base adapter (WBA), most customers using Honeywell RM7800/7840 flame safeguards can easily switch to Fireye BurnerLogiX. There are various reasons for which this WBA could be beneficial, including availability, price, convenience, or just a desire to use made in USA, Fireye controls.

Ordering Information

Part Number	Description
60-BLX-HON-VP	This WBA is for Honeywell and Fireye controls that require valve proving functionality or low gas pressure (LGP) functionality.
60-BLX-HON-NVP	This WBA is for Honeywell and Fireye controls that DO NOT require valve proving functionality or low gas pressure (LGP) functionality.

⚠	WARNING: Failure to properly install, operate, or commission the equipment in this manual could result in significant property damage, severe injury, or death. It is the responsibility of the owner or user to ensure that the equipment described is installed, operated and commissioned in compliance with this manual and other system component manuals, as well with all applicable national and local codes.

FORWARD

Both Honeywell and Fireye have a range of flame safeguards and efficiency controls, competing for the same space on an OEM or end user burner, boiler, heater, roof top make-up air units, etc. In the case of the Honeywell RM7800/7840, Fireye has its competitive product with superior features in the BurnerLogiX. Both controls offer similar functionalities such as fuel valve end switch (FVES) proving and operating control safety limit inputs. Typical wiring terminals on either include alarm output, modulating control, ignition output, pilot valve and main valve connections. You can see these details on the pages below.

The point of this introduction is to illustrate that because both flame safeguards have very similar inputs and outputs (I/O), such that when you desire to replace a Honeywell RM7800 , the BurnerLogiX can be used in its place with a simple, safe, certified wiring base adapter. There is very little, too no panel wiring to be done except in rare cases.

CLARIFICATIONS

It is important to note that when converting from a Honeywell RM7800/7840 to a Fireye BurnerLogiX, it is required that the installer also change the flame scanner. This is because the Honeywell unit uses 60-220VAC flame sensor input, while Fireye uses a higher voltage, more discretionary 300VAC. Flame rods are generic in design and use and do not need to be replaced.

Note the height inside the control panel. A BurnerLogiX control is 5.25" tall and the Honeywell RM7800/RM7840 is 5.5" tall. A typical OEM or field-installed panel is 8-9" deep. This Fireye solution which includes the Q7800 base (already existing), the WBA and BurnerLogiX chassis measures 7" tall. While most panels provide the required depth, please check prior to committing to this solution. For full Flame Scanner selection see BL-1001, pages 42 & 43.

CROSS REFERENCE INFORMATION

Using this information, an installer or contractor can make the correct choice of BurnerLogiX chassis, programmer and flame scanner to quickly and safely update their system. While most Honeywell controls can be converted to BurnerLogiX, some cannot. Fireye focused this design on the RM7800L / RM7840L controls and the RM7800G/RM7840G. This is not for use while converting the or RM7800<u>M</u> versions. Below is the wiring cross reference that has been used to design the printed circuit board (PCB) wiring traces on those boards. When converting the 'G' models, a YP200 programmer must be used.

Fireye offers a version (60-BLX-HON-VP) for installations that have valve proving or LGP functions already existing. The second version (60-BLX-HON-NVP) is for installations NOT requiring valve proving or LGP. These adapters remove the difficult rewiring effort. The adapter crosses all the I/O from the Honeywell spade connectors and via the circuit board, it redirects to the BurnerLogiX control having the same functionality.

Because Honeywell uses S1 and Earth Ground for its flame scanners, Fireye added a convenient 5-pin connector with two pins labeled S1 and S2. Simply wire the new Fireye flame scanner to these screw terminals and click the green connector into the adapter.

See the figure on the next page for details.

IMPORTANT:

If the Honeywell control being replaced has valve proving or LGP, please use step 4 in lieu of step 3.

Note:

For either steps 3 or 4, the installer has the option of putting the 5-pin connector onto the circuit board in one of two ways. This is for convenience whether the wires can go down or up. It is important to determine the direction before screwing the wires into the 5-pin connector, so they mate to the correct terminal (S1, S2, FSS, etc.)
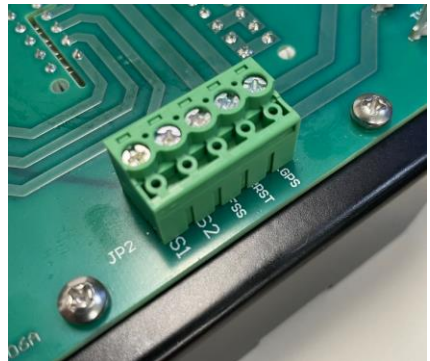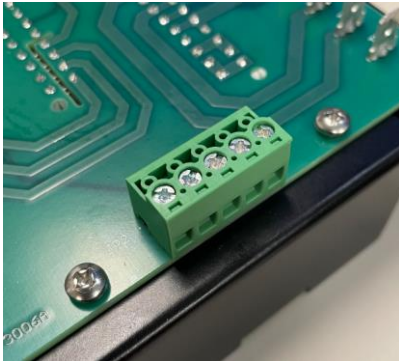
Cross Reference Table

Technical Document
BurnerLogix Replacement Options fo Honeywell 7800

Honeywell Control	Honeywell Amplifier	Fireye Chassis	Fireye Programmer (choose one)	Fireye Wiring Base (choose one)	Fireye Display (choose one if needed)	Fireye Scanners (choose one)
RM7800E RM7800G RM7800L[1] RM7840E RM7840G RM7840L[1] RM7845A	R7847A R7847B	YB110FR	YP100[2] (4s FFRT) YP102[2] (2s FFRT) YP138[2]	60-2810-1 60-2812-1 60-2814-1	BLV512 (VFD) BLL510 (LCD)	Use existing flame rod
	R7848A R7848B R7852A R7852B	YB110IR	YP100[2] (4s FFRT) YP102[2] (2s FFRT) YP138[2]	60-2810-1 60-2812-1 60-2814-1	BLV512 (VFD) BLL510 (LCD)	48PT2-10xx 48PT2-90xx
	R7849A R7849B R7851B	YB110UV	YP1002 (4s FFRT) YP102[2] (2s FFRT) YP138[2]	60-2810-1 60-2812-1 60-2814-1	BLV512 (VFD) BLL510 (LCD)	UV1Axx UV8A or UV8Axx UV2 or UV2Ax 45UV3-xxxx UV90-x
	R7824C R7847C R7851C R7861A R7886A	YB110UVSC	YP100[2] (4s FFRT) YP102[2] (2s FFRT) YP138[2]	60-2810-1 60-2812-1 60-2814-1	BLV512 (VFD) BLL510 (LCD)	45UV5-xxxx 55UV5-xxxx

[1] Valve proving is not supported with the BurnerLogix.
[2] Purge timings, pilot type (interrupted or intermittent), recycle/non-recycle, damper proving and other options must be set using one of the displays shown.

Follow these steps to convert existing RM7800/RM7840 control **WITHOUT** valve proving or LGP.

Honeywell	Function	Fireye w/o valve proving	
	WIRING CROSS REFERENCE		
	Honeywell RM7800L/RM7840L		
	for Controls **without** valve proving or LGP		
4	Line Voltage Supply (L1)	**L1**	
L2 (N)	Line Voltage Common	**L2**	
F (11)	Flame Sensor	**S1 ***	
G	Flame Sensor Ground[a] Earth G[a]	**S2 ***	
4 - 6	Burner Control and Limits	**3**	
4 - 20	Pre Ignition Interlock (FVES) Input	**L1 - 13**	Note 2
6 - 7	Lockout/Running Interlock	**3 - P**	
10	Ignition - Early Spark (5 sec)	**W**	Note 3
8	10 sec PTFI, 10 sec MTFI	**5**	Note 4
21	10 sec PTFI, 15 sec MTFI	**6**	Note 4
9	Main Fuel Valve	**7**	
5	Blower Motor	**M**	
5 - 18	Low Fire Switch Input	**M - D**	Note 5
5 - 19	High Fire Switch Input	**M - 8**	Note 5
3	Alarm	**A**	
	MODULATING CIRCUIT		
12	Firing Rate High Fire	**X**	
13	Firing Rate Common	**10**	
14	Firing Rate Low Fire	**12**	
15	Firing Rate Modulate (Auto)	**11**	
	OPTIONAL for use with BURNERLOGIX		
16	Not Used	**16 (Revert to Pilot)**	
17	Not Used	**21 (Start Input)**	
22	Shutter	**21 (Remote Reset)**	
Note 1: For RM7840L replacement, omit BLL510 or BLV512 display.			
Note 2: Identify and isolate indication 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 & 6 PTFI & 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			

Follow these steps to convert existing RM7800/RM7840 control **WITH** valve proving or LGP.

WIRING CROSS REFERENCE			
Honeywell RM7800L/RM7840L			
for Controls **with** valve proving or LGP			
Honeywell	Function	Fireye w/o valve proving	
4	Line Voltage Supply (L1)	L1	
L2 (N)	Line Voltage Common	L2	
F (11)	Flame Sensor	S1 *	
G	Flame Sensor Groundª Earth Gª	S2 *	
17	Burner Control and Limits	3	
4 - 20	Pre Ignition Interlock (FVES) Input	L1 - 13	Note 2
6 - 7	Lockout/Running Interlock	3 - P	
10	Ignition - Early Spark (5 sec)	W	Note 3
8	10 sec PTFI, 10 sec MTFI	5	Note 4
21	MV2 (downstream)	7 * (MV2)	Note 4
9	Main Fuel Valve (MV1) Upstream	6 * (MV1)	
5	Blower Motor	M	
5 - 18	Low Fire Switch Input	M - D	Note 5
5 - 19	High Fire Switch Input	M - 8	Note 5
3	Alarm	A	
	MODULATING CIRCUIT		
12	Firing Rate High Fire	X	
13	Firing Rate Common	10	
14	Firing Rate Low Fire	12	
15	Firing Rate Modulate (Auto)	11	
	OPTIONAL for use with BURNERLOGIX		
16	Valve proving switch	16 (Fuel Selector Switch)	
6	Unused	21 (Low Gas Press Switch)	
22	Shutter	22 (Remote Reset)	
Note 1: For RM7840L replacement, omit BLL510 or BLV512 display.			
Note 2: Identify and isolate indication 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 & 6 PTFI & 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			

INSTALLATION

> ⚠ Warning: Installer must be a trained safety control technician.
> Verify that electrical power is disconnected before starting installation.
> Close the manual main fuel valve.

1. Loosen the two (2) screws holding the RM7800/RM7840 into its Q7800A (plastic panel mounted base) or Q7800B (metal wall mounted base) and set aside. Once the Honeywell control is removed, you will be looking into the Q7800 wiring base as shown below.

Figure 1

2. Carefully remove the adapter from its packaging and set aside the mounting hardware and locate the 5-pin connector. This will be used first in the next step to attach the new Fireye flame scanner.

3. For controls WITHOUT valve proving or low gas pressure. **(MOST COMMON)**

a. Remove the new Fireye flame scanner (sold separately) from its packaging and attach the S1 and S2 wires to the two (2) threaded terminals on the 5-pin connector, as shown below. If you are using an existing control with remote reset, attach that to the 3rd of 5 terminals. The other two (2) terminals will not be used. Next, firmly press the 5-pin connector into the underside of the adapter.

Figure 2

4. For controls WITH valve proving or low gas pressure.
   (**NOT COMMON**)

   a. Remove the new Fireye flame scanner (sold separately) from its packaging and attach the S1 and S2 wires to the two (2) threaded terminals on the 5-pin connector, as shown below. If you are using an existing control with remote reset, attach that to the 3rd of 5 terminals. One other terminal will be wired where the Honeywell control terminal 16 was for FSS (fuel selector switch). Lastly LGPS will be wired where the Honeywell control terminal 6 was.
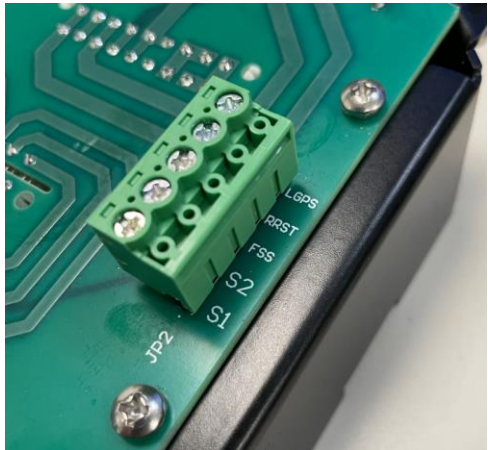
Figure 3

5. Carefully rotate the adapter and click into the Q7800 wiring base and secure it together, being cautious not to pinch the wires. It is important not to force the adapter into the Q7800 wiring base noting that the adapter can only be installed into the Honeywell Q7800 in one direction.

Figure 4

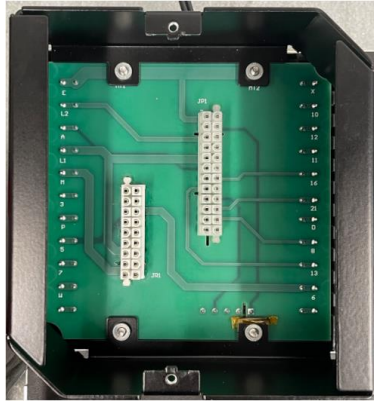6. Now the adapter is secured into the Q7800 wiring base and it will look as such.

Figure 5

7. Insert the BurnerLogiX chassis into the adapter, mating the white connectors on the chassis to the white connectors on the adapter. These can only be installed in one direction.
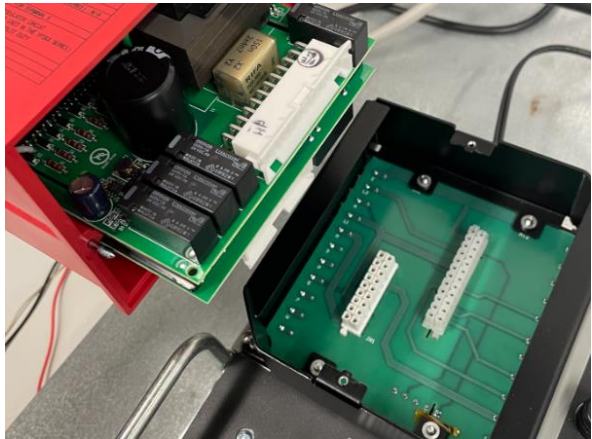

Figure 6

8. Once that is securely inserted, finish torquing the new screws into the BurnerLogiX chassis.

Figure 7

9. Insert your new YPxxx programmer and note it can only be inserted in one direction.

10. Apply power to the panel and set up the adjustable parameters that are in the BurnerLogiX chassis. To do this you require either the BLL510 or BLV512 display.

NOTE: Both controls have operator-settable parameters for functions and timings such as PTFI, count down or count up timings, purge timings, and more. The installation technician should document the settings from the former Honeywell control so that those can be adjusted the same, in the new Fireye BurnerLogiX control. Just use the underlined section.

1. Adjust the BurnerLogiX parameters to match those of the RM7800/RM7840 that was replaced.

2. Turn off the main gas and conduct the check-out procedures as shown in the Fireye BL-1001 manual. Verify that all safeties and limits function properly. The equipment may now be put into service.

USEFUL DOCUMENTATION

Fireye BL-1001:
BurnerLogiX flame safeguard installation and instruction manual

Honeywell 65-0084-4:
7800 series, Q7800A, B 22-Terminal Wiring subbase manual

NOTICE

When Fireye products are combined with equipment manufactured by others and/or integrated into systems designed or manufactured by others, the Fireye warranty, as stated in its General Terms & Conditions of Sale, pertains only to the Fireye products and not to any other equipment or to the combined system or its overall performance.

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