

HEATEC TEC-NOTE

Publication No. 2-09-211

Retrofitting Fireeye® BurnerLogix™ Controls on Heatec HC and HCS heaters

This document provides instructions for retrofitting Fireeye BurnerLogix controls (Figure 1) to Heatec HC and HCS heaters. Fireeye and BurnerLogix are trademarks of Fireeye, a Kidde Company.

The new Fireeye BurnerLogix controls include the following units:

- Display Module BLV512
- Burner control YB110 with Programmer Module YP100

These new controls replace older Fireeye Flame Monitor E110 used on control panels (Figure 2) of HC and HCS heaters until recently. The older controls are being phased out and will be available only for a limited time.

The new controls provide some advantages over the older Flame Monitor controls. Consequently, some owners may want to upgrade to the new controls even though the older ones are operating satisfactorily at the present time.

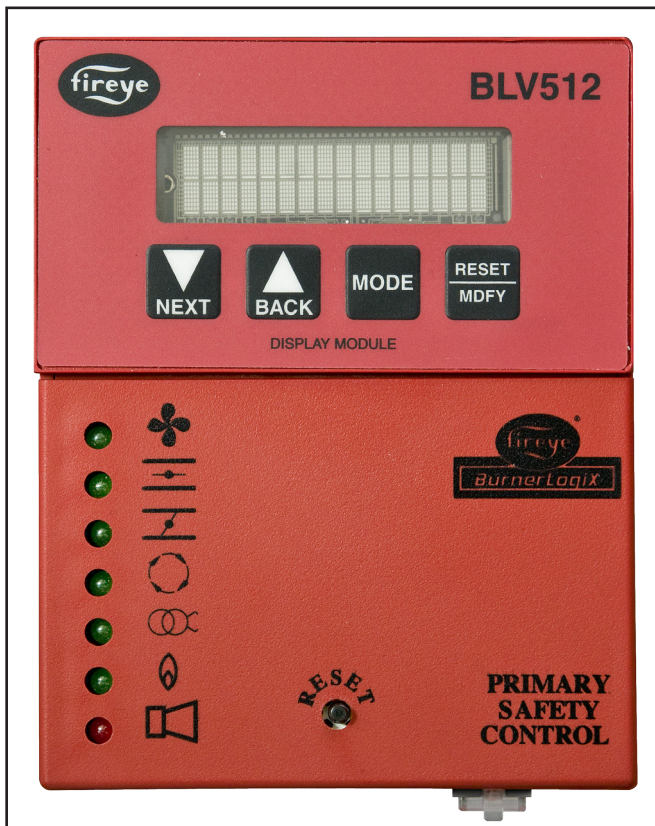


Figure 1 New Fireeye Burner Logix controls.

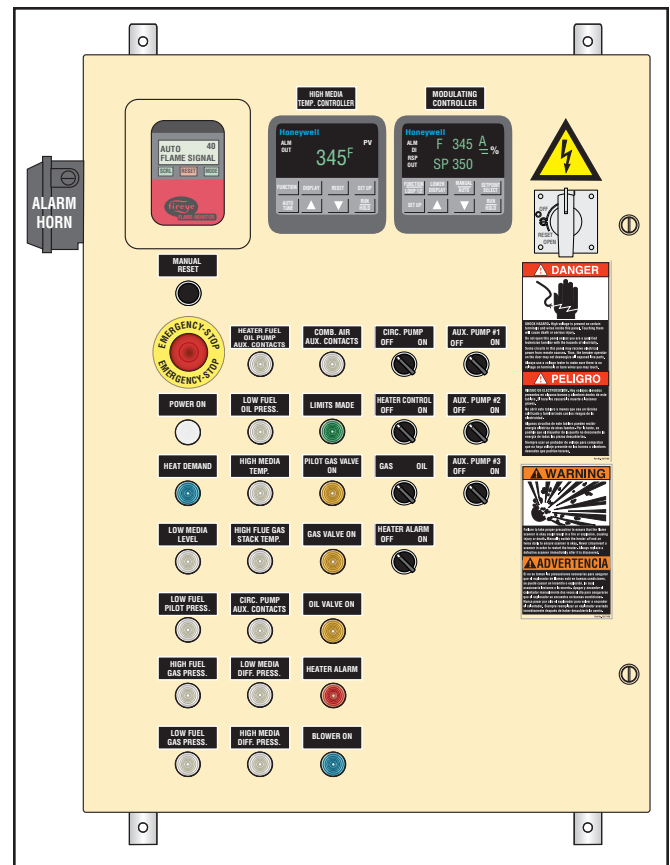


Figure 2. Typical control panel using old Fireeye Flame Monitor.

WARNING

Do not use Fireye Programmer Module YP100 on a Heatec heater unless the module was programmed at the Heatec factory. New modules obtained directly from Fireye or other suppliers may not be programmed to ensure safe operation of Heatec heaters. Inappropriate programming could result in an explosion with serious injuries or death.

In order to comply with safety codes applicable to our heaters we reset all new Fireye programmer modules that we use on our heaters. We lock the settings to ensure that they cannot be changed accidentally.

If a heater is operated using a new module with *unlocked* settings, those settings will be locked

automatically after eight hours of operation. And once those settings are locked, they are permanent and cannot be changed.

To make sure that your programmer module has the appropriate Heatec settings, check all of its settings shown in the **Heatec settings** column of Figure 3. Make this check immediately after installing the new controller. Heatec settings that differ from the Fireye factory default settings are shown in red. Heatec settings that are the same as Fireye factory default settings are marked **same as Fireye default**.

Please refer to Fireye Publication BL-1001 for instructions on use of the keypad to check factory default parameters. A printed copy of this document is furnished with Fireye Burner Logix controls. It is also available as a pdf document from the Fireye website at: <http://www.fireye.net/pdf/BL-1001.pdf>

Figure 3. Fireye factory settings vs Heatec factory settings.

Parameter	Fireye Factory Default	Heatec settings
Purge time	00:30s	00:60s
Count method	DOWN	Same as Fireye default
Prove 3-P open at start	NO	YES
PTFI*MTFI timing	10/10*10/15	Same as Fireye default
Terminal 6 interrupted or intermittent	INTRP	Same as Fireye default
Prove M-8 open	NO	YES
Prove M-D open	NO	YES
Post purge	0:15	Same as Fireye default
3-P Recycle	YES	Same as Fireye default
M-D WAIT 10m	YES	Same as Fireye default
PROVE M-D TFI	NO	YES
Baud rate	9600	Same as Fireye default
Unit address	00	Same as Fireye default
Lock Settings	NO	YES
DO IR LEARN	NO	Same as Fireye default

INSTALLATION PROCEDURE

1. Disconnect all electrical power to the heater.
2. Open door of heater control panel. (See Figure 2.)
3. Remove old Fireye Flame Monitor E-110 from base. (See Figure 4.)
4. Disconnect wires from base and remove base. (See Figure 5.)
5. Update the wire numbers of six of the original wires as indicated in Figure 10.
6. Install base for new Burner Control YB110 where the old E110 base was located and connect wires to base. (See Figures 6 and 10.)
7. Install new Burner control YB110 including Programmer Module YP100. (See Figure 7.)
8. Install Display Module BLV512. (See Figure 8.)
9. Remove ribbon cable from remote reset switch and install two new wires as indicated in Figure 11. (See Figures 9 and 11.)
10. Restore electrical power to the heater.
11. Check settings of Fireye Programmer Module YP100 to make sure they match the Heatec settings shown in Figure 3.
12. Close door of control panel and start the heater.
13. Check all limit circuits for proper operation. in



Figure 4. Old Flame Monitor E110.

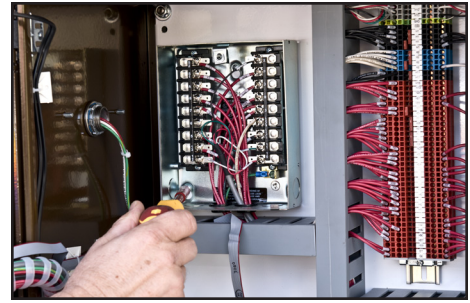


Figure 5. Base of E110.



Figure 6. Base for YB110.

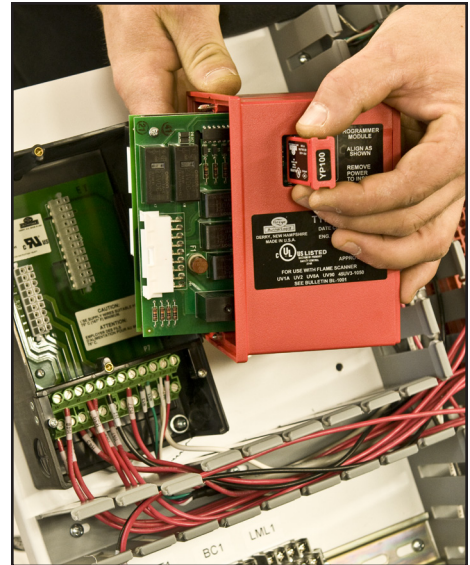


Figure 7. New Burner Control YB110 and Programmer Module YP100.



Figure 8. Display Module BLV512.

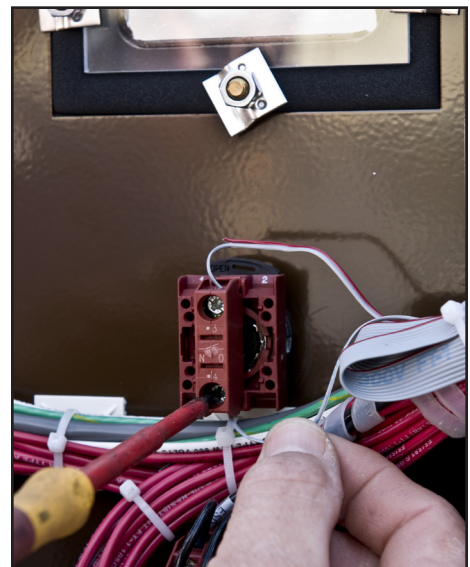


Figure 9. Original reset switch with ribbon cable.

accordance with Heatec Tec-Note Publication No. 7-04-136.

Figure 10. Wire connections

ORIGINAL WIRE NUMBER	ORIGINAL CONNECTION ON BASE OF E110	UPDATED WIRE NUMBER	CONNECT TO TERMINALS ON BASE OF YB110
S2	S2	S2	S2
S1	S1	S1	S1
H43	A	H43	A
H47	8	H47	8
H40	7	H40	7
(NA)	6	(NA)	6
H37	5	H39	5
H21	13	H38	13
H12	12	H12	12
H13	X	H13	X
H36	P	H37	P
H48	D	H49	D
H49	M	H48	M
H22	3	21	3
H2	L2/N	H2	L2/N
H1	L1/L	H1	L1
H11	11	H11	11
H10	10	H10	10
(NA)	(NA)	(NA)	W
(NA)	(NA)	(NA)	21
(NA)	(NA)	(NEW RED WIRE)	22
(NA)	(NA)	(NA)	23
(NA)	(NA)	(NA)	16
(GREEN WIRE)	(EQUIPMENT GND)	(GREEN WIRE)	E

Some of the original wires that connect to the base of new Burner Control VB110 have wire numbers that should be updated. To update a wire number you will need to remove original number and apply the new number. The wire numbers that have changed are shown above in red. Please mark updated wire numbers on prints of wiring diagrams originally furnished with your heater. Original wire numbers of some older heaters do not include the letter H. It is not necessary to update an old wire number just to include the letter H.

Figure 11. Reset switch wire connections

WIRE NUMBER	CONNECT FROM	CONNECT TO
(MAKE NEW BLACK WIRE 16 GAUGE)	HEATER TERMINAL L1	ONE TERMINAL ON RESET SWITCH
(MAKE NEW RED WIRE 16 GAUGE)	OTHER TERMINAL ON RESET SWITCH	TERMINAL 22 ON BASE OF BURNER CONTROL YB110