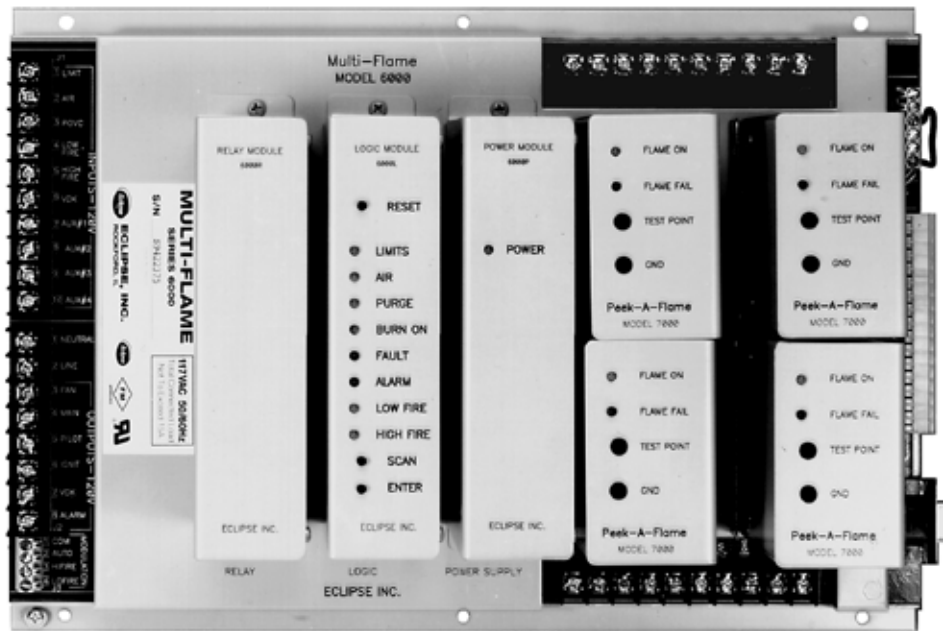


Eclipse Combustion Multi-Flame Multi-Burner Flame Monitoring System Series 6000

820
Bulletin
6/95



Standard Features

- UL recognized, FM approved and CSA certified.
- Microcomputer based system.
- “Plug-in” modular design for the following parts onto the motherboard: power supply, relay module, logic module, and up to four Eclipse Peek-A-Flame sensor modules with 0-12 VDC signal test ports .
- Monitors up to 8 burners (four from mother board and four from expansion board).
- Flame sensor modules for ultraviolet and/or flame rod.
- 8-Position DIP switch for sequence and timing functions, as well as system configuration.
- Fault relay testing.
- Dynamic on-board testing.
- Proof of valve closure testing.
- Test mode for pilot flame adjustments.

Optional Features

- Monitoring capability for up to four auxiliary inputs.
- Interface for remote LCD display (remote reset on display is also available).
- Non-volatile memory for sequence history (only when used with a remote display or a remote terminal).
- Sequence message, lockout status, total hours of operation, and total cycles of operation—when used with a remote display.
- Communications interface (RS232 or RS485).



ECLIPSE COMBUSTION

Specifications

Supply	90-130 VAC, 50/60 HZ standard.		
Temperature Limits	Multi-Flame	6000	-40° to +60°C (-40° to +140°F)
	Peek-A-Flame	7000	-40° to +60°C (-40° to +140°F)
	U.V. scanner	5600-91	-40° to +125°C (-40° to +257°F)
	U.V. self-check scanner	5602-91	-40° to +60°C (-40° to +140°F)
	Remote display	6000D	0° to 50°C (32° to 122°F)
Flame Failure Response Time	3 seconds ± 0.5		
Trial For Ignition	Modulating: 5 or 10 seconds selectable. Process: 10 or 15 seconds selectable.		
Pilot Interrupt (if selected)	Modulating: 5 or 10 seconds. Process: 10 or 15 seconds.		
Purge Time	Modulating: selectable from 0 to 225 seconds in 15 second increments. Process: selectable from 30 seconds to 13.5 minutes in 30 second increments.		
Output Relay Contact Ratings	Terminals J2-4 through J2-8	1/3 HP (inductive load) 10 amps (resistive load)	
<i>(Ratings @ 120VAC; 15A Total Connected Load)</i>	Terminal J2-3	1/2 HP (inductive load) 16 amps (resistive load)	
Modulation Contact Ratings	Terminals J3-1 through J3-4	1/3 HP (inductive load) 10 amps (resistive load)	
<i>(Ratings @ 120VAC)</i>			
Shipping Weight	7 kilograms (15 lbs.) for four burner unit		

Dip Switch Settings

S2 Dip Switch

SW1: Recycling mode selection (On=Recycling; Off=Non-recycling)
SW2: Pilot selection (On=Intermittent, where pilot remains on during burner cycle; Off=Interrupted, where pilot valve closes after main burner is established).
SW3: Trial-for-ignition (TFI) range selection (On=10 seconds; Off=5 seconds (with S4-SW7 on), or 15 seconds (with S4-SW7 off).
SW4 through 8: Purge time selection (switch settings are additive); see illustration at right for exact times.

DIP Switch Settings			
NOTE: Switch settings are for illustrative purposes only!			
DIP Switch S2 Settings			
8	0	30 SEC.	
7	120 SEC.	MODULATION	7 MIN.
6	60 SEC.	PURGE TIME (ADDITIVE)	3 MIN.
5	30 SEC.	S4#8=ON	2 MIN.
4	15 SEC.		1 MIN.
3	10 SEC. TFI = ON 5 SEC. TFI = OFF (S4#7 = ON)		10 SEC. TFI = ON 15 SEC. TFI = OFF (S4#7 = OFF)
2	INTERMITTENT PILOT		INTERRUPTED PILOT
1	RECYCLING		NON-RECYCLING
ON ↔ OFF			
DIP Switch S4 Settings			
8	MODULATION	PROCESS	
7	10/5 SEC. TFI	10/15 SEC. TFI	
6	PROGRAM ON	PROGRAM OFF	
5	VDK INSTALLED	VDK NOT INSTALLED	
4	AUX. #4 = ON	AUX. #4 = OFF	
3	AUX. #3 = ON	AUX. #3 = OFF	
2	AUX. #2 = ON	AUX. #2 = OFF	
1	AUX. #1 = ON	AUX. #1 = OFF	
ON ↔ OFF			

S4 Dip Switch

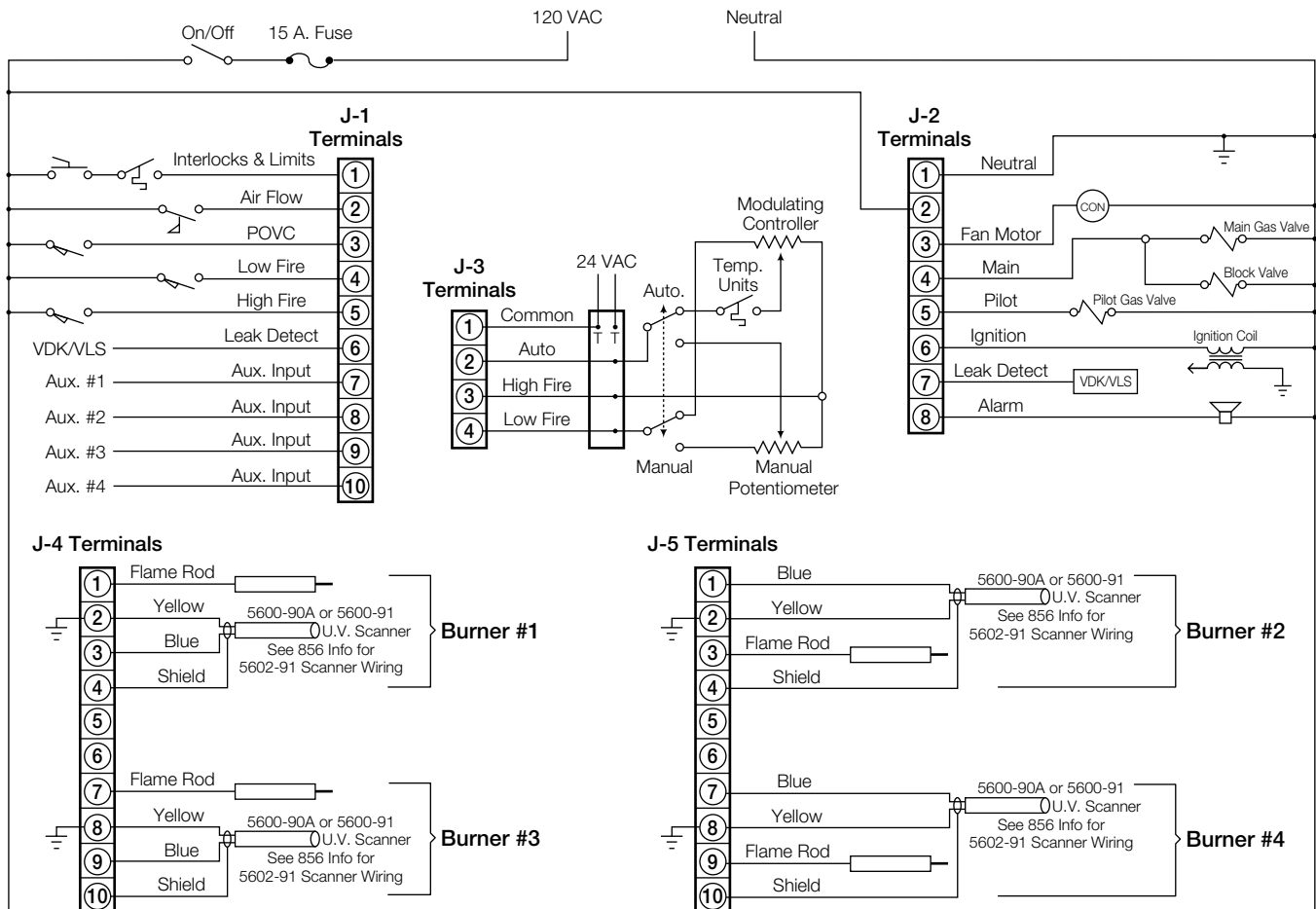
SW1 through 4: Actuation of auxiliary inputs (optional)
SW5: For using a VDK leak detector or any valve leakage sensor (VLS) (optional)
SW6: Future option
SW7: TFI range selection
SW8: Operational mode selection (On=Modulation; Off=Process). This selection activates the purge outputs. It also determines which purge times are used by switches 4 through 8 on S2 dip switch.

S6 Dip Switch

Used to select the number of burners in the system as follows:

# of Burners	SW1	SW2	SW3	SW4	SW5 thru 8
1	On	Off	Off	Off	Off
2	Off	On	Off	Off	Off
3	On	On	Off	Off	Off
4	Off	Off	On	Off	Off
5	On	Off	On	Off	Off
6	Off	On	On	Off	Off
7	On	On	On	Off	Off
8	Off	Off	Off	On	Off

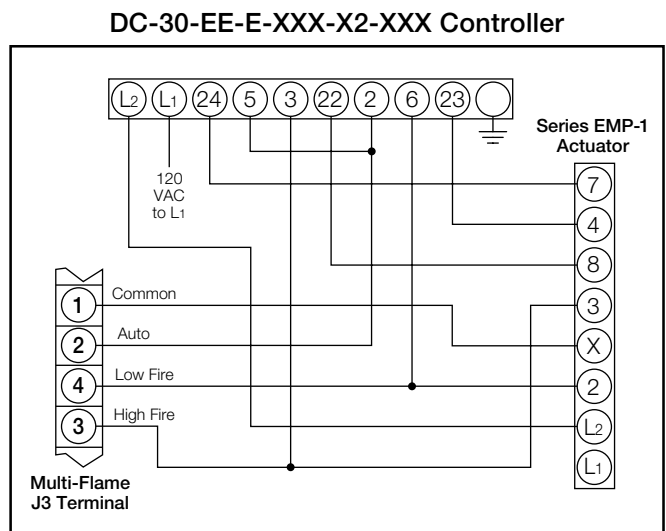
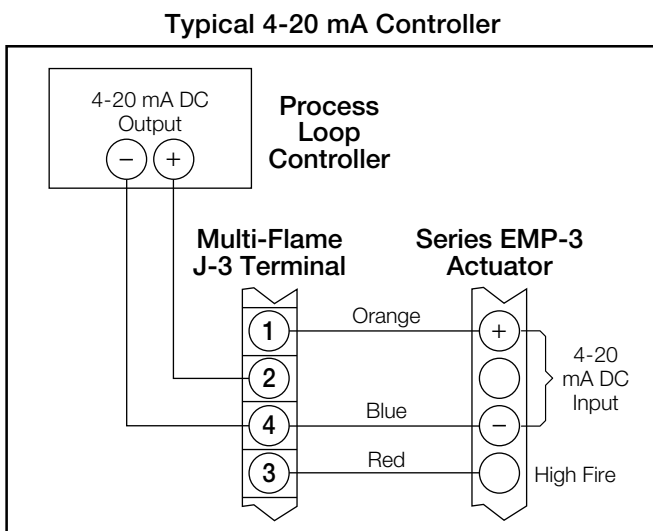
Wiring Diagram



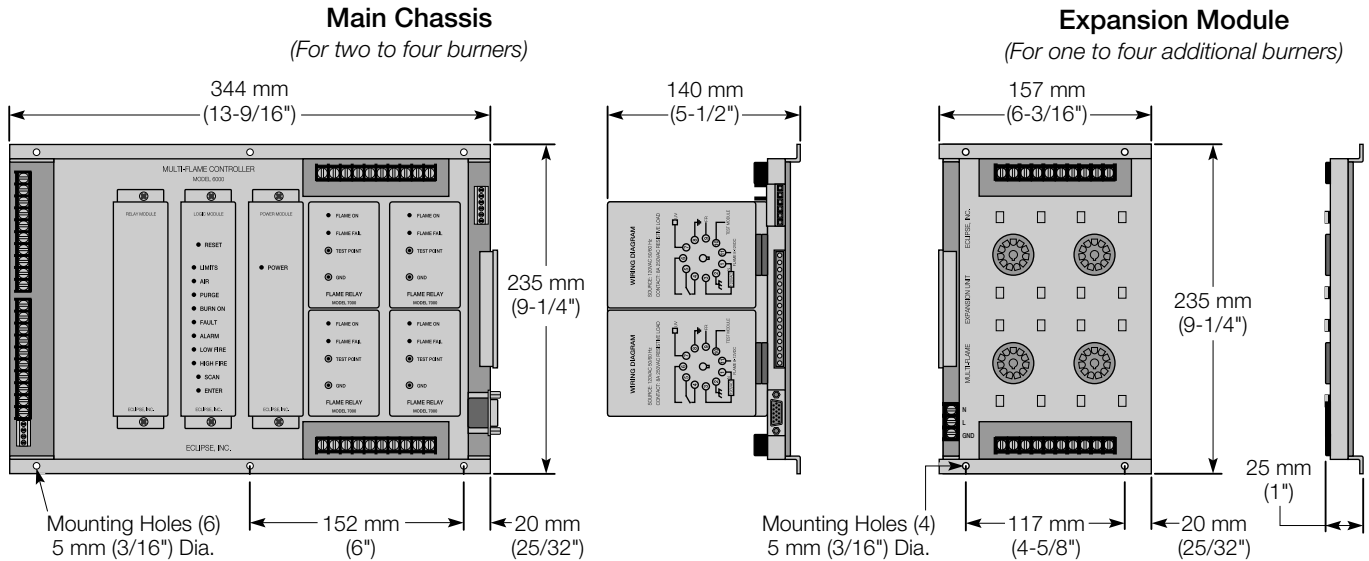
Notes:

1. Wiring must conform to applicable electrical codes.
2. Ground, shielding and conduit must not be connected to terminal ground (T-2, T-8 on J-4 & -5).
3. Wires must meet 90°C (194°F) specification minimum and must be No. 16 AWG or larger and in accordance with all applicable codes.
4. Flame sensor wires must be run in their own separate conduit or shielded cable. Multiple shielded cables can be run in a common conduit.
5. Flame signal should read between 4 and 12 VDC with 10K ohm/volt impedance meter. Flame failure is approximately 2 VDC. Positive TEST POINT jack is on the cover on each Peek-A-Flame with negative point being the ground (GND jack).
6. Purge time, TFI, intermittent/interrupted pilot, and re-cycle/non-recycle selections are made with a DIP switch located in the logic module.

Typical Wiring Examples for Eclipse EMP Series Actuators



Dimensions



Multi-Flame LCD Display Messages (with Optional Remote Display)

Burner Start-up	Burner Operation	Lockout	Failure
<ul style="list-style-type: none"> Safe Start OK Limits Open Fan Energized Air Proven Purge To High Fire¹ Purge To Low Fire¹ Pilot Trial For Ignition Pilot Flame On Main Flame On Main Flame On Pilot Off VDK/VLS OK² 	<ul style="list-style-type: none"> Automatic Modulation¹ Flame #Y³ (Flame Signal) (Elapsed Time) Post Purge <p>System Alerts</p> <ul style="list-style-type: none"> Main Flame Fail Recycling Air Failure Recycling Unsafe Flame On Unsafe Air Short Test (For Minimum Pilot) 	<ul style="list-style-type: none"> Main Valve Fail Unsafe Flame Purge Air Not Proven Air Failure Hi Damper Fail Low Fire Fail Pilot Flame Fail Main Flame Fail Unsafe Flame On No Purge Select VDK/VLS Fail² 	<ul style="list-style-type: none"> Program Switch Error Relay Fail Watchdog Fail L-Internal Fault V-Internal Fault K-Internal Fault D-Internal Fault
			<p>¹ with Modulation option</p> <p>² with VDK/Valve Leakage Sensor (VLS) option</p> <p>³ Y=Burner number being scanned</p>

Available Options & Their Configuration

