BP500
TEST UNIT for
BurnerPRO™ Controls

DESCRIPTION

Fireye Test Unit type BP500 provides a simple convenient means for field testing the Fireye BurnerPRO controls. When a Fireye control chassis is plugged into the tester, a complete burner firing operation can be simulated and checked through the use of switches and indicating lights on the panel. Supports all BurnerPRO models up to third generation.

SPECIFICATIONS

Supply Voltage: 110VAC/60Hz or 230VAC/50Hz, depending on control type (see table below)
Power Consumption: 10VA
Ambient Temperature Limit: 140°F (60°C)
Fuse: Glass type, 5 x 20 mm, 1A (x2), 250 volts, example Bussman AGC-1 or equivalent

Shipping Weight: 5 lbs.

OPERATION CHART —Test Unit BP500

CONTROL TYPE	LINE INPUT VOLTAGE	FLAME SCANNER SEL. SW	FLAME SIGNAL SW
BP110UV BP110UVFR BP110UVFRM BP110UVFRP	110 VAC	UV UV or FR UV or FR UV or FR	AUTO
BP110UVFR BP110UVFRM BP110UVFRP	110 VAC	PbS	AUTO
BP230UV BP230UVFR BP230UVFRM BP230UVFRP	230 VAC	UV UV or FR UV or FR UV or FR	AUTO
BP230UVFR BP230UVFRM BP230UVFRP	230 VAC	PbS	AUTO

UV control model supports UV & FR flame signal operations. Tester can be set to output both flame signals if AUX Switch is set for AUTO.

INSTALLATION

1. For best results, the BP500 Test Unit should be placed on a smooth flat surface.
2. The BP500 chassis is grounded via the ground connection supplied by the line power cord.
3. Always disconnect the power before inserting the BurnerPRO control into the wiring base. Do not touch the wiring base terminals without verifying that the line power has been disconnected.

OPERATION AND TESTS

Identification

1. POWER Switch - Simulates the main disconnect switch. Connected between the hot line and terminal 1 of the wiring base.

2. CALL FOR HEAT Switch - Simulates recycle limit or operating control, connected between terminals 4 and 5.

3. AIRFLOW Switch - Simulates burner airflow switch. Form C switch connected between terminals 4 (C), 13 (NC), and 14 (NO). The switch has a center "Always ON" position.

4. PROOF OF CLOSURE Switch - Simulates proof of closure switch on main fuel valve. Connected between terminals 4 and 12. The switch has a center "Always ON" position.

5. ACTUATOR Switch - Simulates modulating actuator position for Closed, Low Fire, and High Fire. Actuator energizes terminal 8 when at position. The switch has a center "Always ON" position.

6. FLAME SIGNAL Switch – "ON" it supports for internal simulator, "OFF" it supports for external scanner. Permits the flame simulator circuits to be controlled manually or automatically. The switch has a center "Always ON" position.

7. FLAME SENSOR Switch - Selects type of simulating signal for use with appropriate BurnerPRO under test. PbS = Infrared, UV = Ultra-Violet, FR = Flame Rod.

8. RESET Switch - Momentary switch used for resetting a BurnerPRO unit in a Lockout/Alarm state.

9. AUXILIARY Switch - Special function switch for flame output. Toggle to the 'OPEN' position for single flame behavior. Toggle to the 'AUTO' position for (UV+FR) dual flame behavior.

10. BLOWER Indicator - Indicates that the burner motor circuit has been energized. Powered by terminals 6 & 7.

11. ECONOMY Indicator - Indicates position of actuator during Standby/Idle state.

12. LOW LIMIT Indicator - Indicates position of actuator during low fire or light-off states.

13. HIGH LIMIT Indicator - Indicates position of actuator during high fire or Purge states.

14. IGNITION Indicator - Indicates that the ignition transformer has been energized. Powered by terminal 16.

15. PILOT Indicator - Indicates that the pilot valve has been energized. Powered by terminal 17.

16. MAIN DIRECT Indicator - Indicates that the Main Direct fuel valve has been energized. Powered by terminal 18.

17. MAIN PILOTED Indicator - Indicates that the Main Piloted fuel valve has been energized. Powered by terminal 19.

18. RELEASE TO MODULATE Indicator - Indicates that the system has established main flame and has transitioned control to the "external" load controller.

19. FLAME Indicator - Indicates that flame signal is present.

20. POWER Indicator - Indicates that mains power is available.

21. ALARM Indicator - Indicates that the BurnerPRO control is in Lockout state.

22. OLED/LCD 2x16 Display - Use to show the burner sequence states.

OPERATING PROCEDURE FOR AUTOMATIC UNITS

1. Turn "Power" switch off.
2. Install a BurnerPRO control and secure it in the tester with the mounting screws.
3. Refer to the description of operation and the programming sequence chart in the Fireye bulletin for the control being tested.
4. Turn on the "Power" switch and position the control switches accordingly.
5. Installation and operating instructions provided in the Fireye BurnerPRO bulletin (BP-1003) will assist with testing and troubleshooting.
6. Ignition failure test can be simulated by turning the "flame signal switch" off (left position) and initiating a normal start up cycle. At the appropriate time the ignition circuits will be energized for the duration of the trial for ignition period, and then de-energized. The pilot or main fuel valve circuit will not be energized and the control will lockout.
7. Main flame failure test can be simulated by turning the "flame signal switch" off, during a normal firing period. The main fuel valve circuit will be de-energized and the control will lockout.
8. For external scanner testing, attach a UV90L, UV1AL, or 48PT2 to the scanner test jacks. Make sure the scanner is hooked into the proper port and the polarity of S1/S2 is correct. Set the flame signal switch to the OFF position. During Standby conditions, if a flame source (halogen lamp or cigarette lighter) is applied close to the scanner sight window, the installed BurnerPRO control unit should signal that a flame signal is detected. If the BP500 is run through its operating sequence and the flame source is applied to the scanner during the ignition phase, the BurnerPRO control unit would transition through PTFI, MTFI, and AUTO. Removing the applied flame source will subsequently lead to a flame loss lockout.

PANEL LAYOUT

DIMENSIONS

ASSEMBLY - SIDE VIEW (OPEN)

ASSEMBLY - SIDE VIEW (OPEN)
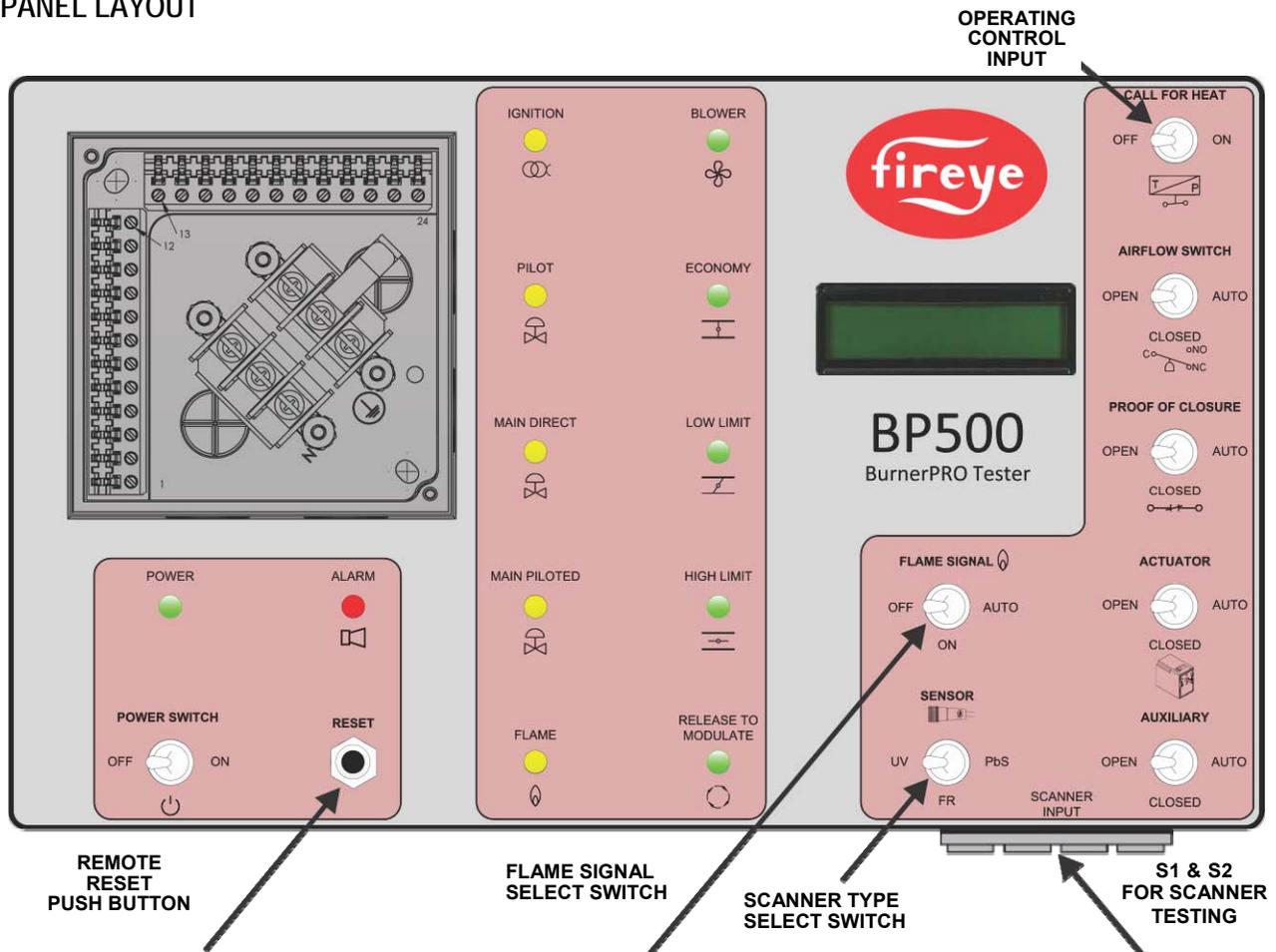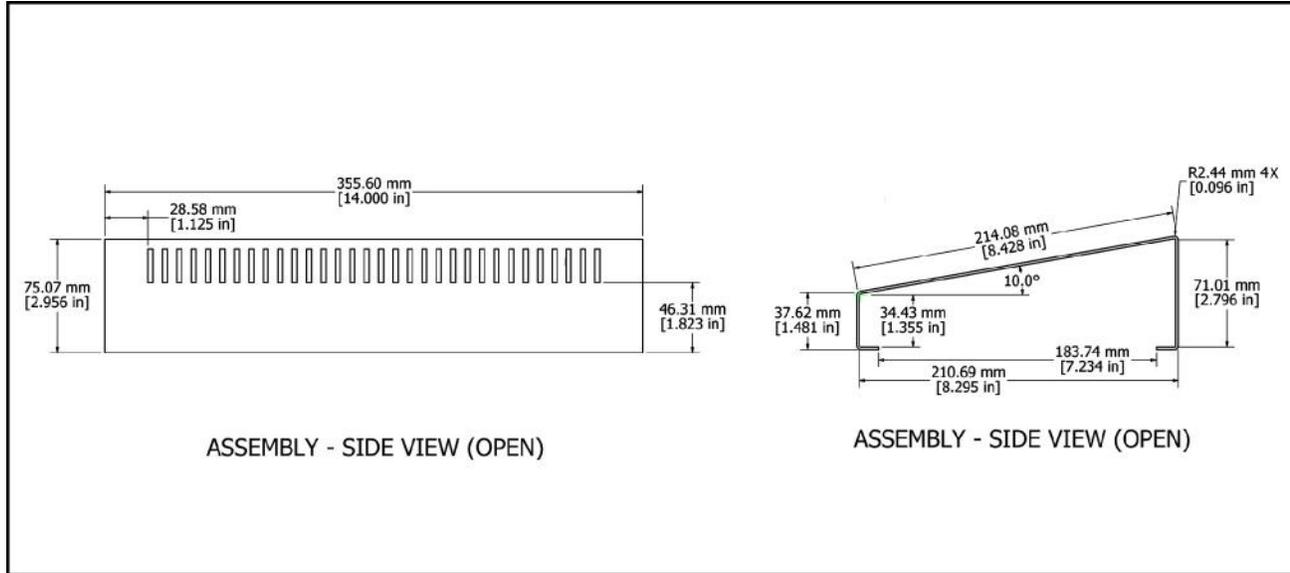
NOTICE

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 and Conditions of Sale, pertains only to the Fireye products and not to any other equipment or to the combined system or its overall performance.

WARRANTIES

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