



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.

SPECIFICATIONS

Supply Voltage: 100 - 240 volts, 50/60 Hz

Power Consumption: 10VA

Ambient Temperature Limit: 140°F (60°C)

Fuse: Glass type, 5 x 20 mm, 1A (x2), 250 volts

Shipping Weight: 5 lbs.

OPERATION CHART —Test Unit BP500

CONTROL TYPE	LINE INPUT VOLTAGE	FLAME SCANNER SEL. SWITCH	FLAME SIGNAL SEL. SWITCH	AUXILAIRY SWITCH	REFERENCE BULLETIN
BP110UV BP110UVF	110 VAC	UV/FR ¹	AUTO	OPEN	BP-1002
BP110IR BP110IRF	110 VAC	PbS ²	AUTO	OPEN	BP-1002
BP230UV BP230UVF	230 VAC	UV/FR ¹	AUTO	OPEN	BP-1002
BP230IR BP230IRF	230 VAC	PbS ²	AUTO	OPEN	BP-1002

NOTE 1: 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.

NOTE 2: IR control model supports IR flame signal operations. Tester should be set to output IR signal.



INSTALLATION

1. For best results, the BP500 Test Unit should be placed on a smooth flat surface.
2. The BP500 frame is grounded through the third pin on line cord for use with grounding type 3-wire receptacle.
3. Always disconnect before inserting the BurnerPRO control. Do not touch the wiring base terminals without verifying that line power has been disconnected.

OPERATION AND TESTS

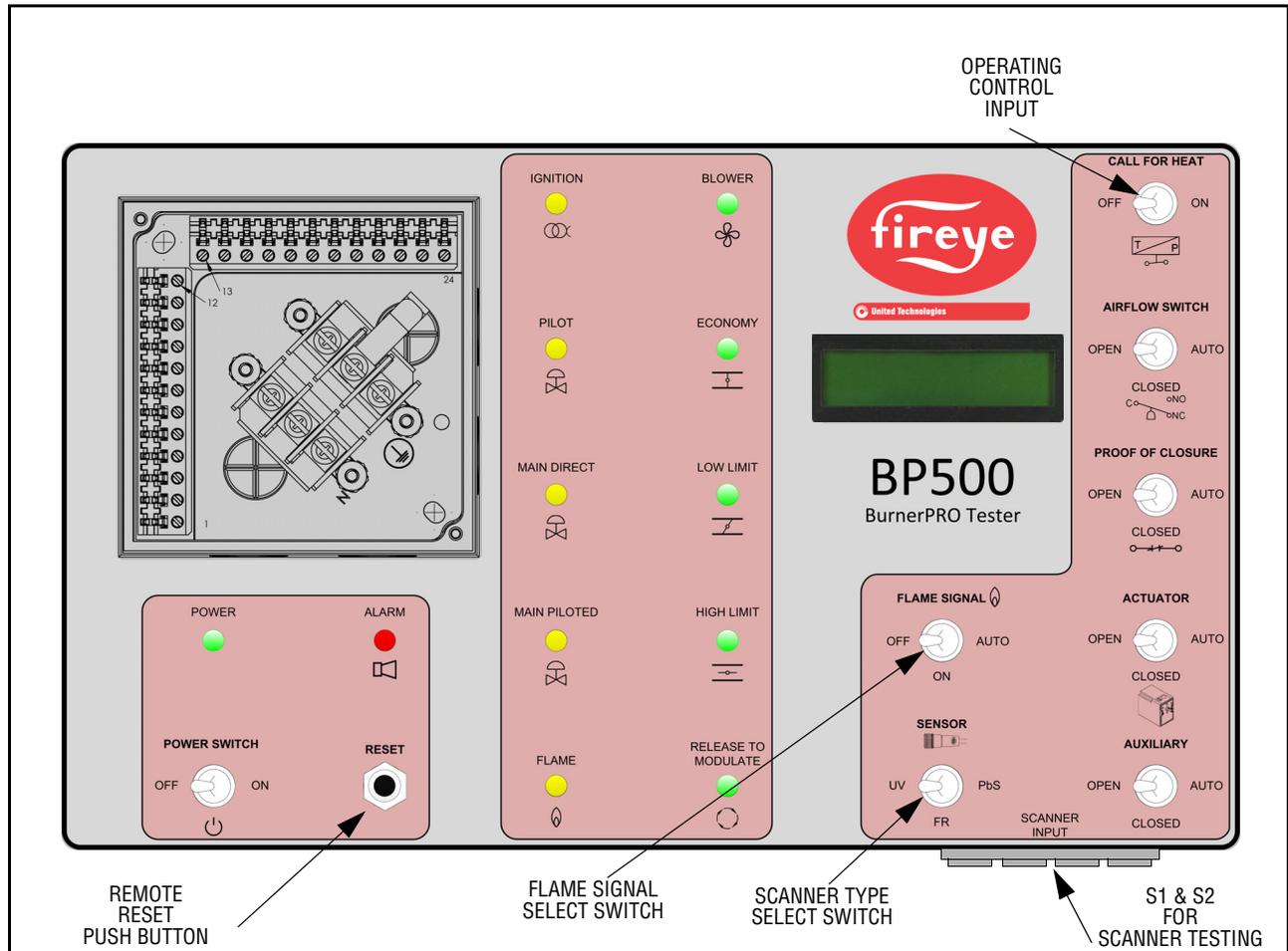
Identification

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 - 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

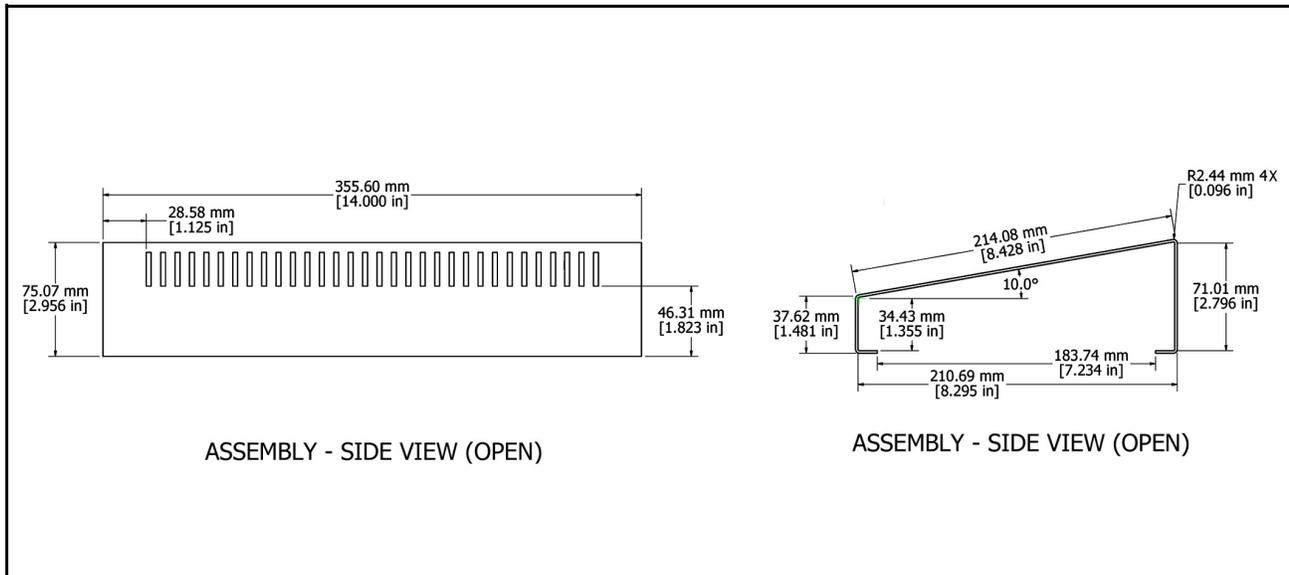
1. Turn “Power” switch off.
2. Install a BurnerPRO control and secure it in the tester with the mounting screws.
3. Refer to the description of operation and the programming sequence chart in the Fireye bulletin for the control being tested.
4. Turn on the “Power” switch and position the control switches accordingly.
5. Installation and operating instructions provided in the Fireye Control bulletin (BP-1002) 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



NOTICE

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

WARRANTIES

FIREYE guarantees for *one year from the date of installation or 18 months from date of manufacture* of its products to replace, or, at its option, to repair any product or part thereof (except lamps and photocells) which is found defective in material or workmanship or which otherwise fails to conform to the description of the product on the face of its sales order. **THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES AND FIREYE MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.** Except as specifically stated in these general terms and conditions of sale, remedies with respect to any product or part number manufactured or sold by Fireeye shall be limited exclusively to the right to replacement or repair as above provided. In no event shall Fireeye be liable for consequential or special damages of any nature that may arise in connection with such product or part.



FIREYE®
3 Manchester Road
Derry, New Hampshire 03038 USA
www.fireeye.com

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