

TEST UNIT

for FLAME-MONITOR™

C and D Series Controls

DESCRIPTION

Fireye® Test Unit type 57AV4 provides a simple convenient means for field testing the Fireye FLAME-MONITOR™ (E110) with components, and “C” and “D” series 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: 120 volts, 50/60 Hz
Power Consumption: 20VA
Ambient Temperature Limit: 140°F (60°C)
Fuse: Type 3 AG, 1 amp, 250 volts
Shipping Weight: 10 lbs.

OPERATION CHART —Test Unit 57AV4

CONTROL TYPE	CONTROL CLASS SWITCH	SCANNER SWITCH	SIGNAL SWITCH	REFERENCE BULLETIN NUMBER	CONTROL TYPE	CONTROL CLASS SWITCH	SCANNER SWITCH	SIGNAL SWITCH	REFERENCE BULLETIN NUMBER
E100* E110/ED510 with					24CJ5*-5010 5011 5015	AUTO AUTO AUTO	ROD ROD ROD	AUTO AUTO AUTO	C12 C12 C15
EP160 EP170	EPD160 EPD170	AUTO	SEE NOTE 1 BELOW	E-1101 EP-1601	25CU6*-5062 -5063 -5065 -5066	AUTO AUTO AUTO AUTO	UV UV UV UV	AUTO AUTO AUTO AUTO	C12 C12 C13 C15
EP260* EP270*	EPD260 EPD 270	AUTO		E-1101 EP-2601	25CF6*-5020 -5021 -5022 -5023	AUTO AUTO AUTO AUTO	Pbs Pbs Pbs Pbs	AUTO AUTO AUTO AUTO	C12 C12 C14 C15
EP380* EP390*	EPD380 EPD390	AUTO		E-1101 EP-3801	25DU4*-5040 -5060	MANUAL MANUAL	UV UV	MANUAL AUTO	CU65 C500
70D10 70D20 70D30 70D40	AUTO AUTO AUTO MANUAL		AUTO AUTO AUTO AUTO	D-1020 D-1020 D-30 D-4041	26DF4*-5030	MANUAL	Pbs	AUTO	C500

*See Note 2

NOTE 1: FOR ERT1 OR 72DRT1 AMPLIFIERS, USE “ROD.”
 FOR EUV1 OR 72DUV1 AMPLIFIERS, USE “UV.”
 FOR E1R1, E1R2, E1R3, 72D1R1, 72D1R3 AMPLIFIERS, USE “Pbs.” Pbs = Infrared.

NOTE 2: Obsolete controls, consult factory for replacement.



INSTALLATION

1. For best results, the 57AV4 Test Unit should be mounted on a vertical surface with screws or bolts at the mounting holes provided. It need not be mounted if it is desired to use it as a portable tester.
2. The type 57AV4 frame is grounded through the third pin on line cord for use with grounding type 3-wire receptacle.
3. For portable use where only 2 wire receptacles are available, use 3 wire to 2 wire adapter and ground the pigtail. When the adapter is inserted in a non-polarized receptacle, insure that the wider blade is at ground potential.

OPERATION AND TESTS

Identification

1. POWER Switch—Simulates the main disconnect switch. Connected between the hot line and terminal L1.
2. LIMIT Switch—Simulates any limit or operating control, connected between terminals L1 and 13 on controls with an FV end switch circuit. Between L1 and 3 on controls without an FV end switch circuit.
3. AIR FLOW Switch—Simulates burner air flow interlock. Connected between terminals 3 and P.
4. FUEL VALVE END Switch—Simulates N.C. switch on main fuel valve. (Used with controls that have an FV end switch circuit.)
5. LOW FIRE INTERLOCK—Simulates burner low fire position interlock. Connected between M and D.
6. PURGE AIR FLOW—Simulates damper purge interlock. Connected between D and 8 (EP160, EP170, EPD160, EPD170, 70D10 units, 25CU6-5065, and 26CF6-5022 units only).
7. START Switch—This switch must be used to start manually operated controls.
8. SIGNAL Switch—Permits the flame simulator circuits to be controlled manually or automatically. The switch has a center-off position.
9. CONTROL CLASS Selector Knob (Auto-Man)—Selects position to test automatic programmer or semi-automatic control.
10. SCANNER SIGNAL Selector Knob (de-energized)—Selects type of flame simulating signal for use with appropriate unit. Pbs = Infrared, UV = Ultra-Violet, Rod = Flame Rod.
11. BLOWER Light—Indicates that the burner motor circuit has been energized. Powered by terminal M.
12. DAMPER Light—Indicates that purge air damper has been energized through terminal 10 (24CJ5-5010, 5011, 25CU6-5062, 5063, 26CF6-5020, 5021 controls only).
13. XFMR Light—Indicates that the spark ignition circuit has energized. Powered by terminal X, on controls type 24CJ5-5010, 5011, 25CU6-5062, 5063, 26CF6-5010, 5011, 70D30.
14. IGNITION No.1 Light—Indicates that the pilot ignition circuit has been energized. Powered by terminal 5.
15. IGNITION No. 2 Light—Indicates that the pilot ignition circuit has been energized. Powered by terminal 6.
16. FUEL Light—Indicates that the main fuel valve circuit has been energized. Powered by terminal 7.
17. ALARM Light—Indicates that the alarm circuit has been energized. Powered by terminal A.
18. AUTO, LOW FIRE, HIGH FIRE Lights—Indicates position of modulator, on controls types E110 with EP160, EP170, EP260, and EP270 programmers, 70D10, 70D20, 24CJ5-5015, 25CU6-5065, 5066, 26CF6-5022, 5023. Damper On/Mod On switch must be in Mod On position.



OPERATING PROCEDURE FOR AUTOMATIC UNITS

E110 with all programmers, 70D10, 70D20, 70D30 units, all C-Series 5000 series units.

1. Turn "Power" switch off.
2. Install a control and secure it in the tester with the chassis retainer
3. Position the switches on the tester in accordance with the chart on the preceding page.
4. Reset the lockout switch on the control.
5. Refer to the description of operation and the programming sequence chart in the Fireye bulletin for the control being tested.
6. Turn on the "Power" switch and program the complete operation of the unit.
7. Installation servicing instructions provided in each Fireye Control bulletin will assist with testing and troubleshooting.
8. Ignition failure test can be simulated by turning the "signal switch" off (center 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 main fuel valve circuit will not be energized and the control will lockout.
9. Main flame failure test can be simulated by turning the "signal switch" off, during a normal firing period. The main fuel valve circuit will be de-energized within 4 seconds and the control will lockout.

OPERATING PROCEDURES FOR MANUAL UNITS

Control Type 25DU4-Model 5040

1. Turn tester "Power" switch off.
2. Install a control and secure it in the tester with the chassis retainer screw.
3. Position the switches on the tester in accordance with the chart on the preceding page.
4. Turn the "Power" switch on.
5. "Ignition #1" and "Alarm" lights are energized.
6. Close and hold the momentary "START" switch. The "Fuel" light is energized. The "Alarm" light is de-energized.
7. When flame signal is detected, "Ignition 2" light is energized, "Ignition 1" light is de-energized.
8. Release the "START" switch.
9. This is the normal running position.
10. To test for flame failure response, turn the "Signal" switch off. Within 4 seconds the "Fuel" and "Ignition 2" lights will be de-energized, the "Alarm" and "Ignition 1" lights will be energized.

Controls Type 25DU4Model 5060, 26DF4-Model 5030, and 70D40

1. Turn tester "Power" switch off.
2. Install a control and secure it in the tester with the chassis retainer.
3. Position the switches on the tester in accordance with the table below. The "Fuel Valve End Switch" must be turned off.

CONTROL CLASS	FUEL VALVE END SWITCH	DAMPER	LIMIT	AIR FLOW	LOW FIRE INTERLOCK	PURGE AIR FLOW	FLAME SIGNAL
MANUAL	OFF	MOD ON	ON	ON	OFF	OFF	AUTO

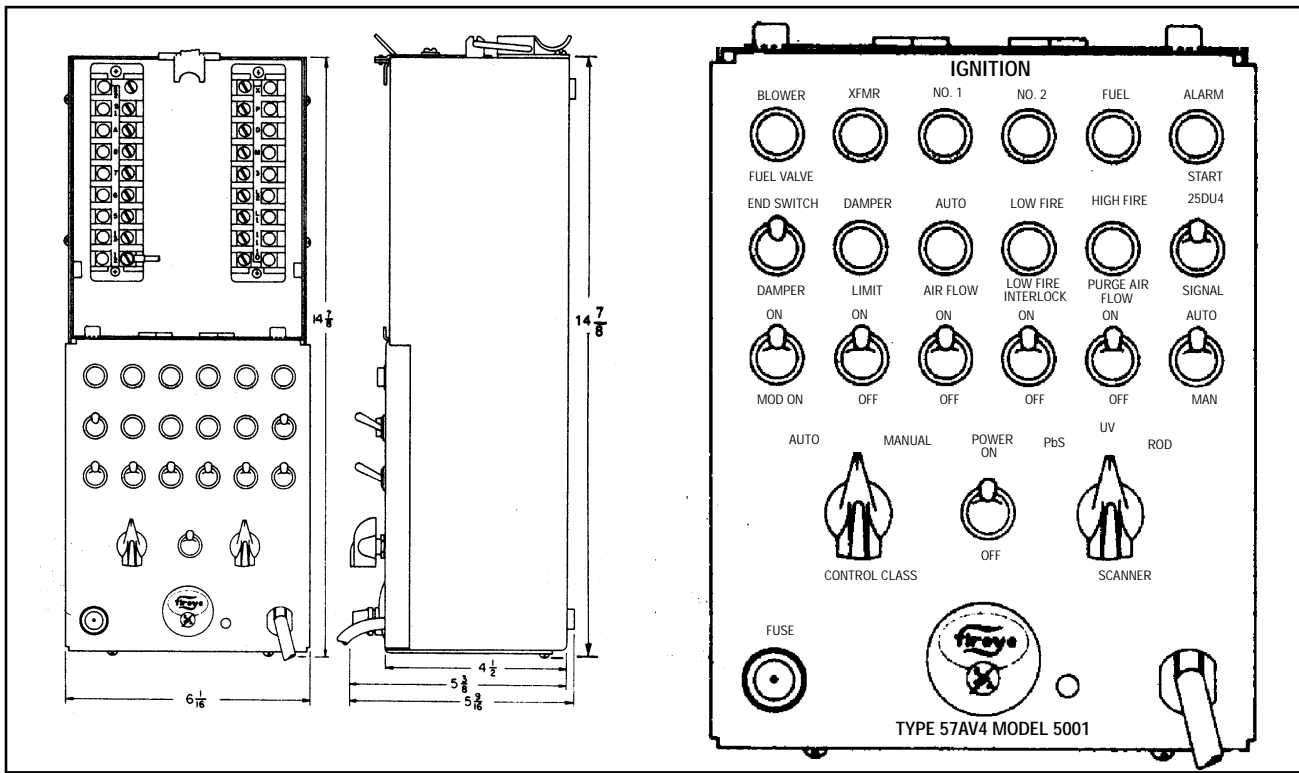
4. Turn the "Power" switch on.
5. "Ignition 1" and "Alarm" lights are energized.
6. Close and hold the momentary "START" switch. The "Fuel," "Auto," "High Fire" lights are energized, the "Alarm" light is de-energized.
7. When flame signal is detected, "Ignition 2" light is energized, "Ignition 1" light is de-energized.



8. Release the "START" switch.
9. This is the normal running position.
10. To test for flame failure response, turn the "Signal" switch off. Within 4 seconds the "Fuel," "Ignition 2," "Auto" and "High Fire" lights will be de-energized. The "Alarm" and "Ignition 1" lights will be energized.

Note: When testing the manual units, the lights on the tester do not indicate burner function but show the proper operation of the load circuits illustrated in the control bulletin.

DIMENSIONS AND PANEL LAYOUT



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

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, electronic tubes and photo-cells) 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 Fireye shall be limited exclusively to the right to replacement or repair as above provided. In no event shall Fireye 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.fireye.com

CP-47
JULY 2004
Supersedes Jan. 2001

