



# MEUV1, MEUV4, MEUVS1, MEUVS4, MEIR1, MEIR4, MERT1, MERT4, MECD1 and MECD4

AMPLIFIER MODULES FOR USE WITH THE  
FIREYE® MODULAR MicroM™ CONTROL



Year 2000 Compliant in accordance with BSI document DISC PD2000-I:1998

## DESCRIPTION

The Fireeye MEUV1, MEUV4, MEUVS1, MEUVS4, MERT1, MERT4, MEIR1, MEIR4, MECD1 and MECD4 are Amplifier Modules used with the Fireeye Modular MicroM control. These amplifier modules provide flame scanning capabilities using any of the Fireeye standard ultraviolet scanners, self-check scanners, infrared scanners, cadmium sulfide scanners, flame rods, and photocells. The Flame Failure Response Time (F.F.R.T.) of the control is determined by the selection of the amplifier module (see Ordering Information). Test jacks are provided on the amplifier modules to permit flame signal measurement during operation and is a uniform 0-10 vdc for all models.

After scanner selection, the proper amplifier module **must** be used in the Modular MicroM chassis (see Ordering Information). The amplifier module incorporates a plug-in design for ease of installation.

The programmer module determines the operational characteristics of the control (e.g. relight, purge timing, etc.).

For proper and safe application of this product, you must refer to bulletin MC-5000 for a detailed description of the operation of the Modular MicroM control, including installation instructions, operating sequences for the programmer modules, etc. Also follow the scanner installation and wiring instructions found in bulletins MC-5000 for proper flame scanning operation.



**WARNING: Selection of this control for a particular application should be made by a competent professional, licensed by a state or other government agency. Inappropriate application of this product could result in an unsafe condition hazardous to life and property. Installation should not be considered complete until pilot turndown and other appropriate performance tests have been successfully completed.**

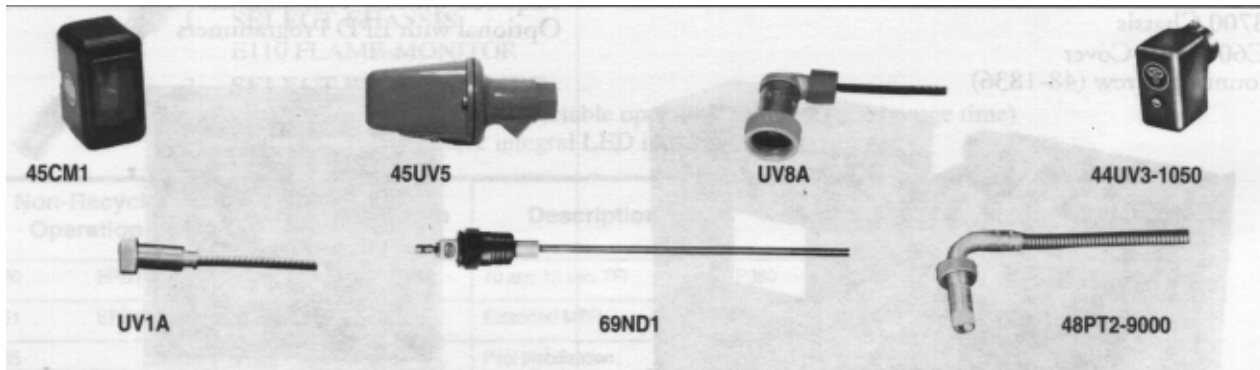


## ORDERING INFORMATION

### Flame Amplifier Selection:

MicroM Amplifier Models:	
MEUV1	UV amplifier, 0.8 second FFRT, uses UV1A, UV2, UV8A and 45UV3-1050 scanners.
MEUV4	UV amplifier, 3 second FFRT, uses UV1A, UV2, UV8A and 45UV3-1050 scanners.
MEUVS1	UV Self-Check amplifier, 0.8 second FFRT, uses 45UV5-1009 scanner.
MEUVS4	UV Self-Check amplifier, 3 second FFRT, uses 45UV5-1009 scanner.
MERT1	Flame Rod / Photocell amplifier, 0.8 second FFRT, uses 69ND1 or 45CM1.
MERT4	Flame Rod / Photocell amplifier, 3 second FFRT, uses 69ND1 or 45CM1.
MEIR1	Infrared amplifier, 0.8 second FFRT, uses 48PT2 scanner.
MEIR4	Infrared amplifier, 3 second FFRT, uses 48PT2 scanner.
MECD1	Cadmium sulfide amplifier, 0.8 second FFRT, uses CS1A5 scanner.
MECD4	Cadmium sulfide amplifier, 3 second FFRT, uses CS1A5 scanner.

## FLAME SCANNERS



**CAUTION:** The UV1, UV2, UV8A and 45UV3 ultra-violet flame scanners and associated amplifier modules are non self-checking UV systems and should be applied only to burners that cycle often (e.g.: a minimum of once per 12 hours) in order for the safety checking circuit to be exercised. If component checking is required during burner operation for constantly fired burners, utilize the self-checking ultra-violet flame scanners (45UV5) with associated amplifier module (MEUVS1, MEUVS4) or the infrared flame scanner (48PT2) with associated Auto Check amplifier (MEIR1, MEIR4).

UV SCANNERS:		BULLETIN
UV1A3	1/2" NPT connector, 3 ft. (914mm) flexible cable, non self-checking.	SC-102
UV1A6	1/2" NPT connector, 6 ft. (1828mm) flexible cable, non self-checking.	SC-102
UV2	3/8" NPT connector, 3ft. (914mm) flexible cable, non self-checking.	SC-102
UV8A	1/2" NPT 90° head, 6 ft. unshielded leads.	SC-102
45UV3-1050	3/4" sleeve/set screw mount. Non self-checking.	SC-102
45UV5-1009	UV self-check scanner 8 ft. (2400mm) leads. 1" NPT threads. 120 VAC shutter. Use with MEUVS type amplifier.	SC-101

FLAME DETECTORS:		BULLETIN
45CM1-1000	Photocell with filter.	SC-103
45CM1-1000Y	Photocell without filter.	SC-103
69ND1-1000K4	12 inch flame rod, 1/2" NPT connector.	SC-103
69ND1-1000K6	18 inch flame rod, 1/2" NPT connector.	SC-103
69ND1-1000K8	24 Inch flame rod, 1/2" NPT connector.	SC-103



INFRARED SCANNERS:		BULLETIN
48PT2-1003	Infrared scanner 8 ft. (2400mm) shielded cable, straight head.	SC-103
48PT2-1007	Infrared scanner 4 ft. (1200mm) shielded cable, straight head.	SC-103
48PT2-9003	Infrared scanner 8 ft. (2400mm) shielded cable, 90° head.	SC-103
48PT2-9007	Infrared scanner 4 ft. (1200mm) shielded cable, 90° head.	SC-103
48PT2-9007W	Infrared scanner 4 ft. (1200mm) shielded cable, 90° head, water repellent.	SC-103

CADMIUM SULPHIDE:	
CS1A5	Cadmium sulfide 5', with mounting bracket

### Parts and Accessories

Part Number	Description
4-230	Phototube - 922 for 45AM1-45CM1.
4-263-1	Firetron cell for 48PT2 only.
4-314-1	UV tube for 45UV5-1005-1009, 45UV2, 45UV3.
10-88	Set of 3 orifice plugs ( $1/16"$ , $1/8"$ , $3/16"$ ) for 48PT1, 48PT2.
19-30	Pyrex window for 60-801 union.
35-69	Heat insulator, $1/2"$ connection for 48PT, UV1A.
35-75	Water cooled adapter for 48PT, UV1A.
35-127-1	Heat insulator. 1" NPT for 45UV5.
46-38	Replacement lens (1.25" dia.) for 45UV5,.
46-56	Quartz magnifying lens for 45UV3, (1" dia.).
46-58	Quartz (1" dia.) lens for 60-1290 union.
60-302	Swivel mtg. adapter, $1/2"$ NPT for 48PT1, 48PT2, UV1A.
60-801	$1/2"$ union with Pyrex window for 48PT1, 48PT2.
60-1199	Union with quartz window, 1" NPT for 45UV2, 45UV3, 45UV5.
60-1257	Union with quartz window, $1/2"$ NPT for UV1A.
60-1290	Union with quartz lens, $1/2"$ NPT for UV1A.
60-1664-3	Swivel mount adapter, 1" NPT for 45UV5 scanners.
61-436	Lens cap (standard) for 48PT scanners.
61-2914	Shutter and bracket assembly only for 45UV5-1009.
61-3263	Shutter, bracket and lens assembly with lens holder and gasket for 45UV5-1005-1009, 1105 (includes a 61-2914).
82-95	Lens holder for 45UV5 scanner.
92-45	Quartz window used in 45UV3-1050 and 60-1237 union.
92-48	Quartz window used in 60-1199 union.
124-13	"O" Ring used in 60-1199 union.
124-14	"O" Ring used in 60-801, 60-1257, 60-1290.

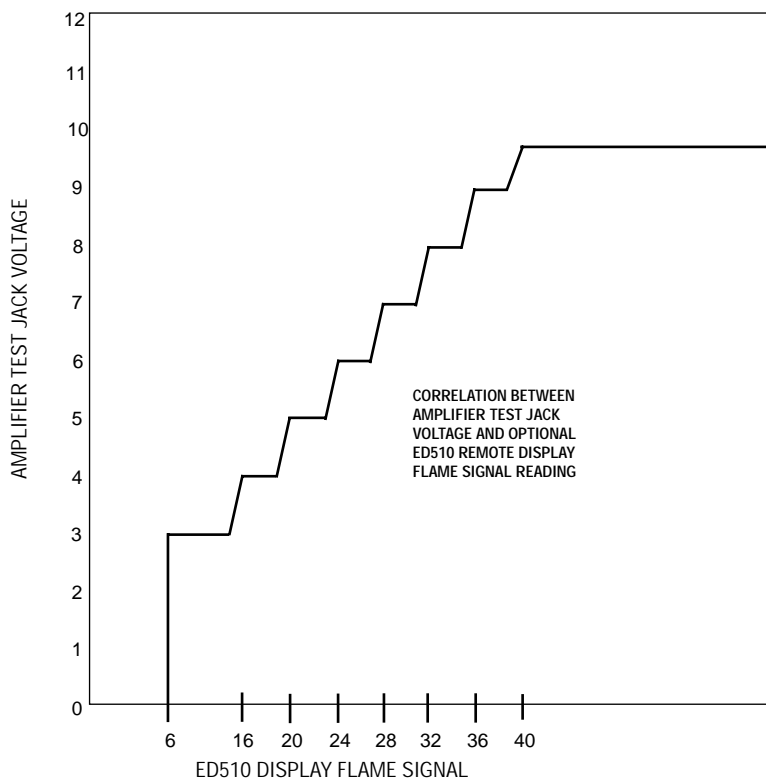
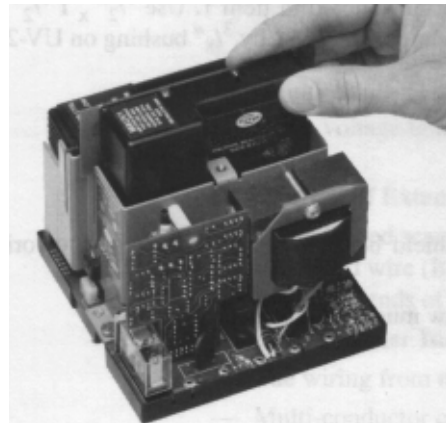


**Remove power from the control and remove the control from its wiring base before proceeding.**

## INSTALLATION

The amplifier modules are used with the Fireye Modular MicroM Base Chassis (P/N MEC120, MEC120C, MEC120R, MEC120D, MEC120RC for 120VAC, P/N MEC230, for 230VAC). They are installed in the chassis by grabbing hold of the amplifier module by the edges of its printed circuit board, aligning the module with the guide slots on the opening in the middle of the chassis, and inserting the module into the pin connectors.

The amplifier modules are designed to fit in the proper slot only. **DO NOT FORCE THEM.**



## 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 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 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  
<http://www.fireye.com>

MAMP-1  
JANUARY 2000  
Supersedes Nov. 1998