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VSD

Video Smoke Detection - Overview

SAEVU is an advanced digital Video Smoke Detection (VSD) system based on the NetVU connected platform. Its hard wired outputs are fully configurable volt free contacts which are activated on smoke and or Flame detection. It continuously monitors and records the incoming video stream from up to four video cameras. It event records the information to the internal hard drive while distributing the smoke and flame events providing live and recorded video images to multiple users distributed over the TCP.IP network with full color overlay of the event for fast visual verification.

Images are recorded in watermarked (MD5) MJPEG format. Live or recorded images can be requested over the network in either MJPEG or MPEG4 formats, offering significantly higher frame rates over limited bandwidth connections.

Remote system configurations and operation is carried out via a series of web pages using a browser such as Netscape or Internet Explorer.

Alarms can be generated by physical wired inputs or VSD events from any camera. These recorded events can then be protected on disk to prevent accidental erasure.

SAEVU Observer is a Java based software package which allows the user to view live or recorded images from any SAEVU connected unit on the network. This powerful database offers the user a step by step video history of a recorded alarm events, if required, incidents can be selected and downloaded for storage on any computer or LAN/WAN destination; full central monitoring functions are also included. SAEVU observer is shipped with every SAEVU digital Video Smoke Detection System.

Standard Features:

4 Camera inputs
Desktop or Rack Mounted
Up to 4 IDE hard drives providing from 300GB to 2 Terabytes of storage
100 images per second recording capability at full MJPEG quality

As an example, a 2 Terabyte video server could record for almost 2 months recording at 20 images per second based on 20kB high resolution images.

CPD MEMBER
Construction CPD Certification Service

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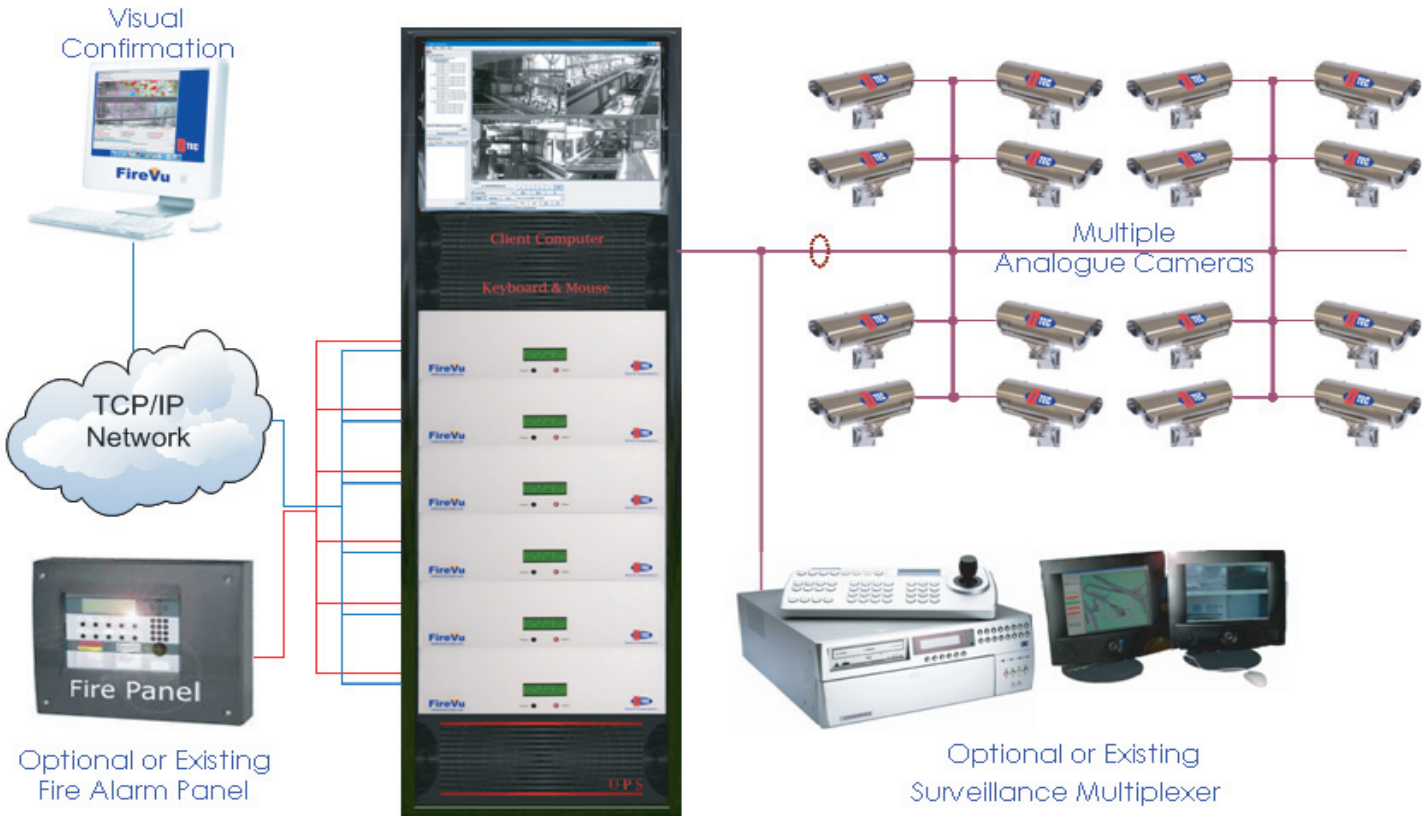
- Color smoke overlay for fast visual confirmation
- 16 customizable zones per camera
- 16 relay outputs
- 16 alarm inputs, N/O or N/C contacts
- HTML control and set-up pages
- Pre and post-alarm event recording
- Alarm and VSD events can be protected on disk
- Standard or variable record rate for each camera
- Variable play back speed
- Digital watermark of MJPEG images with certificate creation using the MD5 algorithm
- Video streaming MPEG4 while simultaneously recording high quality MJPEG
- Video expiry period to comply with data regulations
- Configurable for central monitoring applications
- SMS and E-mail reporting of events
- Full security with multiple passwords
- Dial-on-alarm sends images to remote units via ISDN,PSTN or Ethernet
- 10/100 BaseT LAN network interface with full/half duplex support and auto DHCP/DNS on capable networks
- Bandwidth limitation option avoids network congestion
- Front panel display indicates IP address and fault messages
- LED's Display alarm and fault
- Software Firewall allows users to restrict access
- Security log files record all connections and illegal access



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FE-F2000

Projected Beam Detector

The system Is comprised of a transmitter which projects a modulated infrared light beam to a receiver. The received signal is analyzed by a controller usually located at ground level. If smoke is present in the beam path for more than 8—10 seconds, a fire relay is activated in the controller. The system is designed to be mounted so that the beam will project between 1ft. (0.305 m) and 2ft. (0.61m) below and parallel to the ceiling. Lateral detection may be up to 30ft. (9.144m) either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.288m x 100m). The control unit must be located within 330ft. cable run of the receiver unit.

Standard Features:

- Separate Transmitter and Receiver Units
- Signal Strength indicating LED's
- Range 33ft. To 330ft. (10m to 100m)
- Easy set up and alignment
- Internal test switch
- Calibrated obscuration test filter included
- 3 selectable alarm thresholds: 25%, 35% or 50%
- Microprocessor controlled
- Alarm latching or auto reset
- Automatic gain control
- 12 VDC or 24 VDC operation
- Separate alarm and trouble contacts
- Ground Level Control Unit
- Alignment by Universal Bracket

Smoke Detection:

If smoke is present in the beam's path, the received signal is reduced by a level determined by the density of the smoke. If the smoke reduces the signal strength to between the obscuration threshold and 93% for more than 8 to 10 seconds, the fire alarm relay is activated. The alarm threshold may be set to 25%, 35% or 50% to suit the installation.

Operation:

The infrared signal is sent from the transmitter via an optical system. At 330 ft. (100m) the diameter of this infrared signal is approximately 10 ft. (3.05m). The wide angle beam arrangement simplifies alignment and increases stability. It is important that the projected beam smoke detector is positioned correctly to minimize the detection time. A fire alarm condition occurs when the smoke obscures the infrared beam. The time to detect a fire condition depends on the location of the smoke beam within the premises, the volume of smoke produced, the construction of the roof, and ventilation considerations.

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Specifications:

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a Nationally Recognized Testing Laboratory's Listed separately supplied 4-wire control panel. Unit shall be listed to U.L. 268 and shall consist of a transmitter, receiver and control box. The detector shall operate between a range of 33ft. to 330 ft. (10m to 100m). The temperature range of the beam shall be -4°F to +131°F (-20°C to +55°C). The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The unit shall include a wall mounting bracket. Testing shall be carried out by using a calibration test filter. The Projected beam type smoke detector shall be a Space Age Electronics, Inc. Fireray 2000.

Beam Detector Spacing:

On smooth ceilings, up to 60 ft. (18.288m) between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on ceiling height, airflow characteristics and response requirements. See NFPA 72 for further information.

Electrical Specifications:

Primary Input Power
10.2 to 30 VDC
Protection:
100ma Fuse in Control unit
Standby Current
8.5mA @ 24VDC
Alarm Current
16.5 mA @ 24 VDC
Relay Contacts
2A at 30 VDC, resistive
Reset Time
5 Seconds maximum
Start Up Time (Automatic)
45 Seconds
Optical Wavelength:
880nm.
Temperature Rating:
-4°F to +131°F (-20°C to +55°C)
Relative Humidity:
0% to 93% RH non-condensing
Operational Range:
33 ft.- 330 ft. (10m - 100m)
RFI Immunity:
10V/m @ KHz-1 GHz
Field wiring size:
14-24 AWG

Sensitivity:
25%, 35%, 50%
Fire Alarm Thresholds:
1.25dB (25%), 1.87dB (35%), 3dB (50%)
Beam tolerance to misalignment at 35%:
Transmitter +/- 1°
Receiver +/- 4°
Weight-Controller:
4.00 lbs (1.8 kg)
Weight-Transmitter/Receiver:
12 oz. (650 gms.)
Dimensions-Controller:
8.5" W x 10.5" H x 3.5" D
(210mm W x 265mm H x 88mm D)
Dimensions-Transmitter/Receiver (including mounting brackets):
4" W x 3.25" H x 3.75" D
(83mm W x 95mm H x 101mm D)
Unit shipping weight 8 lbs.

Approvals:

UL	UROX.S3417
ULC	UROXC.S3417
MEA	293-98-E
CSFM	7260-1508:101

This Product Manufactured by
Fire Fighting Enterprises

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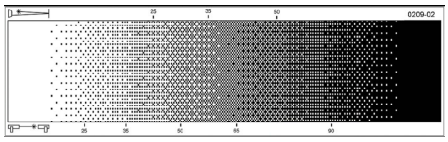
Ordering Information:

Part #	Description
FE-F2000	Projected beam smoke detector 33ft. to 330ft. (10m to 100m)

NO EXCUSES!

FE-F2000& FE-F2000EEXD

Projected Beam Accessories



FE-0209

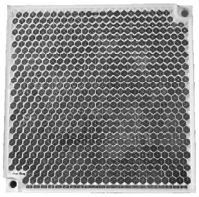
FE-0209 Obscuration Filter
Replacement Obscuration Filter for performing UL sensitivity test for both Projected and Reflected Beam Smoke Detectors 25% to 100% Obscuration

FE-0201

FE-0201 Alignment Tool
Remote Alignment tools is used with Fireray 2000 Project Beam Detector for alignment of the receiver at the installed location. This allows 1-man to set up, service and test a Fireray 2000. Requires a 4th conductor to be run from control box to receiver head.

FE-23835

FE-23835 Surface Mount Wall Bracket
Surface Mount Wall Alignment Bracket for Fireray 2000 EExd Explosion Proof Projected Beam Detector. Bracket pivots horizontally and vertically for accurate alignment of Beam Detector. (Atex Head not included).



FE-23901

FE-23901 Prism
Replacement Prisms for Reflective Beam Smoke Detectors Also used for “Retro Mode” with the Fireray 2000.

NFPA NEMA

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FE-F2000 EExd

Explosion Proof Projected Beam

The Fireray 2000 EExd is ideally suited to protect large areas with potentially explosive atmospheres, protection against smoking fires can be provided by this beam. Fireray 2000 EExd includes an infrared transmitter and a receiver, both of which are ATEX-certified for use in Group 2 hazardous areas (comparable to US CSA Certification for use in Class 1, Division 2, Groups A, B, C & D hazardous locations). There is a separate , safe area, wall-mounted remote low level control unit to allow adjustment and testing from a convenient non-hazardous location.

The product is designed for large enclosures with oil rigs, refineries, ordinance stores, waste water treatment plants, and similar premises. It provides an early warning of smoldering smoke-generated fires, some of which may not be picked up by flame detectors installed in many hazardous areas.

Smoke Detection

If smoke is present in the beam's path, the received signal is reduced by a level determined by the density of the smoke. If the smoke reduces the signal strength to between the obscuration threshold and 93% for more than 8 to 10 seconds, the fire alarm relay in the control unit is activated. The alarm threshold may be set to 25%, 35% or 50% to suite the installation.

Standard Features:

- Separate Transmitter and Receiver Units certified to EExd
- Signal Strength indicating LED's
- Range 33ft. to 330ft. (10m to 100m)
- Easy set up and alignment
- Internal test switch
- Conforms to BS5839 Part 5 EExd IIB T6
- 3 selectable alarm thresholds: 25%, 35% or 50%
- Alarm latching or auto reset
- Automatic gain control
- 12 VDC or 24 VDC operation
- Separate alarm and trouble relay contacts
- Ground Level Control Unit
- Alignment by Universal Bracket

Operation:

The infrared signal is sent from the transmitter via an optical system. At 330 ft. (100m) the diameter of this infrared signal is approximately 10 ft. (3.05m). The wide angle beam arrangement simplifies alignment and increases stability.

It is important that the projected beam smoke detector is positioned correctly to minimize the detection time.

A fire alarm condition occurs when the smoke obscures the infrared beam. The time to detect a fire condition depends on the location of the smoke beam within the premises, the volume of smoke produced, the construction of the roof, and ventilation considerations.

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Specifications:

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a Nationally Recognized Testing Laboratory's Listed separately supplied 4-wire control panel. The unit shall consist of an integrated transmitter and receiver. The detector shall operate between the range of 33ft to 330ft (10m to 100m). The temperature range of the beam shall be –4ºF to +131ºF (-20ºCto +55ºC). The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lense. The beam detector shall be ATEX Certified, comply with BS5839 Part 5 and meet Eexd IIB T6 temperature range requirments. The unit shall include one wall mount alignment bracket. Testing shall be carried out by using a calibration test filter. The projected beam smoke detector shall be a Space Age Electronics, Inc. Fireray 2000 EExd.

Beam Detector Spacing:

On smooth ceilings, up to 60ft. (18.288m) between projected beams and not more than one-half that spacing between a projected beam and a side wall. Other spacing may be used depending on ceiling height, airflow characteristics and response requirements. See NFPA 72 for further information

Electrical Specifications:

Primary Input Power
11.5 to 30 VDC
Protection:
100ma Fuse in Control unit
Standby Current
8.5mA @ 24VDC
Alarm Current
16.5 mA @ 24 VDC
Relay Contacts
2A at 30 VDC, resistive
Reset Time
5 Seconds maximum
Start Up Time (Automatic)
45 Seconds
Optical Wavelength:
880nm.
Temperature Rating:
-4°F to 131°F (-20°C to +55°C)
Relative Humidity:
0% to 93% RH non-condensing
Operational Range:
33 ft.- 330 ft. (10m - 100m)
RFI Immunity:
10V/m @ KHz-1 GHz
Field wiring size:
14-24 AWG

Sensitivity:
25%, 35%, 50%
Fire Alarm Thresholds:
1.25dB (25%), 1.87dB (35%), 3dB (50%)
Beam tolerance to misalignment at 35%:
Transmitter +/- 1°
Receiver +/- 4°
Weight-Controller:
4.00 lbs (1.8 kg)
Weight-Transmitter/Receiver:
8.8 lbs. (4 kg.)
Dimensions-Controller:
8.5" W x 10.5" H x 3.5" D
(210mm W x 265mm H x 88mm D)
Dimensions-Transmitter/Receiver (including mounting brackets):
4.8" W x 4.8" H x 4.8" D
(120mm W x 120mm H x 120mm D)
Unit shipping weight 18.5 lbs.

Approvals:

ATEX	Group 2
Sira	03ATEX1504
BS5839	Part 5 EExd IIB T6

This Product Manufactured by
Fire Fighting Enterprises

Ordering Information:

Part #	Description
FE-F2000 EExd	Explosion Proof Projected Beam Detector

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FE-50RU/ FE-100RU

Reflective Beam Detector

The system is comprised of a single unit incorporating an infra-red transmitter and receiver. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level is reached. The system is designed to be mounted so the beam will project between 1ft. (0.305 m) and 2ft. (0.61m) below and parallel to the ceiling. Lateral detection may be up to 30ft. (9.144m) on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.288m x 100m).

Standard Features:

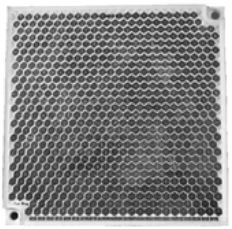
- Models for ranges of
  15 ft. to 160 ft. (5m to 50m)
  160 ft. to 330 ft. (50m to 100m)
- Easy set up and alignment
- Single Compact Housing
- Calibrated obscuration test filter included
- 3 selectable alarm thresholds:
  25%, 35% or 50%
- Microprocessor controlled
- Alarm latching or auto reset
- Automatic gain control
- 12 VDC or 24 VDC operation
- Separate alarm and trouble contacts
- Remote Test Station

Applications:

Open areas where ceiling heights exceed 25ft. (Warehouses, Hotel Atriums, Industrial Plants and School Gymnasiums) Public areas where cosmetics are of prime importance and detector heads need to be small and unobtrusive. (Shopping Malls, Libraries, Theaters and Churches)

Benefits:

Reduces installation costs where 6 or more spot detectors are required in a single area. Reduces service time by taking advantage of optional remote test station located at ground level for system test without disruption of the site.



1 Prism supplied for the FE-50RU
and 4 Prisms supplied for the FE-100RU

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Specifications:

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a Nationally Recognized Testing Labatory's Listed separately supplied 4-wire control panel. Unit shall be listed to U.L. 268 and shall consist of an integrated transmitter and receiver. The detector shall operate between a range of 15 ft. to 330 ft. (5m to 100m). The UL Listed temperature range of the beam shall be 32°F to 100°F (0°C to 37.8°C). The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The unit shall include a wall mounting bracket. Testing shall be carried out by using a calibrated obscuration test filter. The Reflective beam type smoke detector shall be a Space Age Electronics, Inc. 50RU (160 ft./50m) or 100RU (330 ft./100m).

Beam Detector Spacing:

On smooth ceilings, up to 60 ft. (18.288m) between reflective beams and not more than one-half that spacing between a reflective beam and a sidewall. Other spacing may be used depending on ceiling height, airflow characteristics and response requirements. See NFPA 72 for further information.

Electrical Specifications:

Primary Input Power:
10.2 to 30 VDC
Standby Current:
4mA @ 24VDC
Alarm Current:
15 mA @ 24 VDC
Relay Contacts:
1A at 30 VDC Resistive
Reset Time:
5 Seconds maximum
Start Up Time:
10 Seconds
Optical Wavelength:
880nm.
Temperature Rating:
-22°F to 131°F (-30°C to 55°C)
32°F to 100°F (0°C to 37.8°C) UL
Relative Humidity:
10% to 93% RH non-condensing
Range:
50RU 15-160 ft. (5m to 50m)
100RU 160-330 ft. (50m - 100m)
Sensitivity:
25%, 35%, 50%

Dimensions:
8.25" H x 4.5" D x 4.75" W
(21.0cm H x 11.43cm D x
12.065cm W)
Unit shipping weight 3 lbs

Operational Specifications:

- Latching / Non Latching Alarm
- Fault condition (Trouble)
- 90% or more obscuration (Trouble)
- Automatic gain control
- Improper set up alignment (Trouble)
- Reflector targeting mode
- Microprocessor Controlled
- 3 Sensitivity Selections
- Alarm Indicator—Red LED
- Trouble Indicator—Amber LED

Approvals:

UL	UROX.S3417
ULC	UROXC.S3417
MEA	70-02-E
CSFM	7260-1508:102

This Product Maanufactured by
Fire Fighting Enterprises

Ordering Information:

Part #	Description
FE-50RU	160FT Reflective Beam Detector
FE-100RU	330FT Reflective Beam Detector

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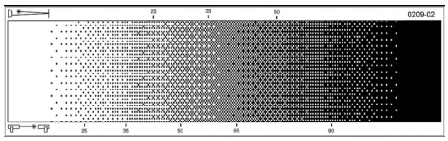
FE-50RU/ FE-100RU

Reflective Beam Accessories

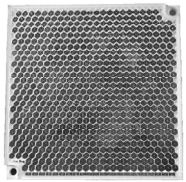


FE-0209

FE-0209 Obscuration Filter
Replacement Obscuration Filter for performing UL sensitivity test for both Projected and Reflected Beam Smoke Detectors 25% to 100% Obscuration

FE-0400-01

FE-0400-01 LLC Remote Test Station
Compatible with either 50RU or 100RU
Single Gang Stainless Steel Wall Plate
7” Pigtail Leads
Includes Data Link Cable Assembly
Allows Low Level Testing of Reflective Beam Detectors
Approvals: UL,ULC, MEA, CSFM

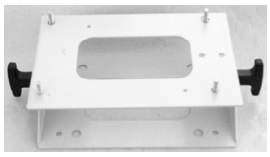


FE-23901

FE-23901 Prism
Replacement Prisms for Reflective Beam Smoke Detectors
Also used for “Retro Mode” with the Fireray 2000.

FE-0608

FE-0608 Surface Mount Back Box
Surface Mount Back Box for 50RU/100RU Reflective Beam Detectors. Two 1/2”-3/4” conduit knock-outs on each side. Finished size 9 1/4” H x 6” W x 2” D. Termination block included. Universal back plate mounting with one conduit knock-out.



FE-0893

FE-0893 Surface Mount Wall Bracket
Surface Mount Wall Alignment Bracket for 50RU/100RU Reflective Beam Detectors or Prism. Bracket pivots up to 45º for accurate alignment of Beam Detector or Prism.

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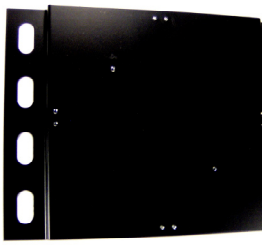
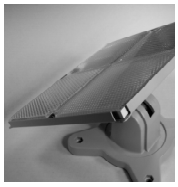
FE-5000-005

FE-5000-005 Universal Mounting Bracket
Universal Mounting Bracket for Fireray 5000 Reflective Beam Detector and Accessories. Bracket pivots for accurate alignment of Beam Detector and Prisms.



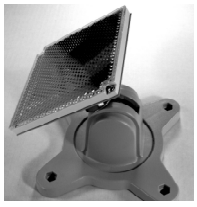
FE-5000-006

FE-5000-006 Prism Wall Bracket
Reflector Wall Bracket comes pre-drilled to mount 1 (Up to 160 Feet) or 4 (160 Feet to 330 Feet) prisms. Hole pattern on side mounting flange similar to Unistrut. Prisms are ordered separately.



FE-5000-007

FE-5000-007 4 Prism Alignment Adaptor
Comes pre-drilled to mount 4 Prisms. Designed to mount on the Alignment Adaptor 5000-5005. Prisms and Alignment Adaptor 5000-5005 are ordered separately.



FE-5000-008

FE-5000-008 Single Prism Alignment Adaptor
Comes pre-drilled to mount 1 Prism. Designed to mount on the Alignment Adaptor 5000-5005. Prisms and Alignment Adaptor 5000-5005 are ordered separately.

FE-5000-014

FE-5000-014 Ceiling Pendant Mount Bracket
Comes pre-drilled to mount F-5000 Detector Head. Supplied with 1-2 1/2" long nipple. Other lengths by contractor. Can be used for Single or Bi-Directional Applications. Includes 2 mounting plates and 1 blank cover.

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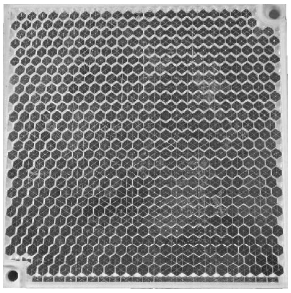
FE-5000

Self-Aligning Reflective Beam

The Fireray 5000 System is an auto-aligning infrared beam smoke detector. Once the detector head is installed, using the easyfit mounting system, an integral LASER can be activated. This allows the reflective prism to be located quickly and with confidence. The AutOptimiser beam alignment system then takes over and automatically steers and maintains the beam in the optimum position for reliable performance. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level of obscuration is reached. The system is designed to be mounted so the beam will project between 1ft. (0.31m) and 2ft. (0.61m) below and parallel to the ceiling. Lateral detection may be up to 30ft. (9.144m) on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.29m x 100m).

Standard Features:

- Range of 26.25 ft. to 330 ft. (8m to 100m)
- AutOptimiser beam alignment system
- Ground Level System Controller
- LASER Assisted Prism Mounting
- AutOptimise Beam Alignment
- Electronic Obscuration Test
- Contamination Compensation
- Building Shift Compensation
- Separate alarm and trouble contacts
- Remote display and control unit with LCD backlight
- Password protected settings
- Programmable obscuration thresholds: 10% - 60% in 1% increments
- Programmable Fault and Alarm Timing: 2—30 Seconds
- 3 Year Warranty



1 Prism included for 15 - 160 Foot installations.
4 Prisms required for 160 - 330 Foot installations.
Use the FE-5000-004 Long Range Kit.

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SPACE AGE ELECTRONICS, INC.

Specifications:

The projected beam type smoke detector shall be a 4-wire 24 VDC device to be used with a Nationally Recognized Testing Laboratory's Listed separately supplied 4-wire control panel. Unit shall be listed to U.L. 268 and shall consist of an integrated transmitter/receiver and a remote control unit. The detector shall operate between a range of 26.25 ft. to 330 ft. (8m to 100m). The UL Listed temperature range of the beam shall be 32°F to 100°F (0°C to 37.8°C). The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The Reflective Beam shall include the AutoOptimise Beam Aligment feature to ensure the unit is always receiving the maximum signal available, and shall be able to compensate for building shift. The unit shall include a wall mounting remote display and control unit with LCD backlight.

Testing shall be carried out by using the UL approved internal obscuration test. The Reflective beam type smoke detector shall be an Space Age Electronics, Inc. Fireray 5000.

Electrical Specifications:

Primary Input Power:
- 14 to 28 VDC

Standby Current:
- Low Current Mode: 12mA @ 24VDC
- High Current Mode: 52mA @24VDC

Alarm Current:
- 52 mA @ 24 VDC

Relay Contacts:
- 1A at 30 VDC Resistive

Reset Time:
- 5 Seconds maximum

Start Up Time:
- 45 Seconds

Optical Wavelength:
- 850nm.

Temperature Rating:
- -22°F to 131°F (-20°C to 55°C)
- 32°F to 100°F (0°C to 37.8°C) UL

Relative Humidity:
- 0% to 93% RH non-condensing

Range:
- 26.25ft. to 330ft. (8m to 100m)

Cableing Between Detector & Controller:
- 24—14 AWG 1—Pair Shieled

Sensitivity:
- 10% - 60% (35% Default)

Dimensions:
- Head:
  - 5.28" H x 5.31" L x 5.28" W
  - (135mm H x 134mm L x 132mm W)
- Controller:
  - 2.80" H x 9.25" L x 7.87" W
  - (71mm H x 235mm L x 200mm W)
- Prism:
  - 0.37" H x 4.13" L x 3.94" W
  - (9.5mm H x 105mm L x 100mm W)

Unit ship weight 5.75 lbs.

Approvals:

UL	UROX.S3417
ULC	UROXC.S3417
MEA	22-08-E
CSFM	7260-1508:104

This Product Manufactured by
Fire Fighting Enterprises

Ordering Information:

Part #	Description
FE-5000-001	Self-Aligning Reflective Beam Detector

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UL LISTED ULC

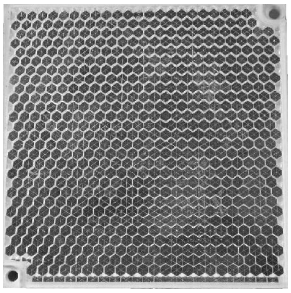
FE-5000

Self-Aligning Reflective Beam

The Fireray 5000 System is an auto-aligning, selfcorrecting infrared beam smoke detector. Up to 4 detector heads can report to a single ground level controller. Once the detector head is installed, using the easyfit mounting system an integral LASER can be activated. This allows the reflective prism to be located quickly and with confidence. The Auto-Align function ensures proper alignment and maximum signal during the beam installation. AutoOptimise automatically steers and maintains the beam in the optimum position for reliable performance. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level obscuration is reached. The system is designed to be mounted so the beam will project between 1ft. (0.31m) and 2ft. (0.61m) below and parallel to the ceiling. Lateral detection may be up to 30ft. (9.144m) on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.29m x 100m).

Standard Features:

- Up to 4 Detector Heads reporting to One Ground Level Controller
- Range of 26.25 ft. to 330 ft. (8m to 100m)
- Built in Laser assisted prism mounting
- Auto-Alignment 2-4 minutes per head
- AutOptimise - Auto-Correction due to building shift
- Built-In electronic UL/ULC obscurationacceptance Fire Test
- Contamination compensation
- Common alarm and trouble contacts
- Password protected settings
- Low current draw 10-16 mA.
- Built-In 1/2”/M-20 conduit knock-outs on the system controller
- Programmable obscuration thresholds: 10% - 60% in 1% increments
- Programmable Fault and Alarm timing: 2—30 Seconds
- 5 Year Warranty



1 Prism included for 15 - 160 Foot installations.
4 Prisms required for 160 - 330 Foot installations.
Use the FE-5000-004 Long Range Kit.

NFPA NEMA NYC BUILDINGS

LISTING STATE OF CALIFORNIA STATE FIRE MARSHAL SERVICE

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Specifications:

The projected beam type smoke detector shall be listed to U.L. 268 and shall consist of up to four integrated transmitter, receiver detector heads and single low level remote control unit. The detector shall operate between a range of 26.25 ft. to 330 ft. (8m to Fireray 5000 Reflective Beam Smoke Detector 100m). The temperature range of the system shall be -4°F to 131°F (-20°C to 55°C). The beam detector heads shall include an integral built-in laser pointer to assist prism mounting. The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The beams detector heads shall include AutoOptimise Self-Correcting motorized head feature to ensure unit is always receiving maximum signal available, and shall automatically compensate for Building Shift. The unit shall include a low level remote display and control unit with LCD readout for set-up, reporting and testing of up to 4 separate detector heads. The system shall be capable of programming obscuration thresholds for 10% to 60% in 1% increments.

The system shall be capable of programming delay to fault and delay to alarm from 2 seconds to 30 seconds in 1 second increments. Test and acceptance of the system shall be carried out by using the UL approved internal electronic obscuration fire test. The projected beam type smoke detector shall be a 4-wire 24 VDC device to be used with a Nationally Recognized Testing Laboratory's Listed separately supplied 4-wire control panel. The Reflective beam type smoke detector shall be a Space Age Electronics Fireray 5000.

Electrical Specifications:

Primary Input Power:	14 to 28 VDC
Standby Current:	Low Current Mode: 10mA to 16mA @24 VDC depending on number of detectorheads used High Current Mode: 50mA @24VDC
Alarm Current:	10mA to 16mA @ 24 VDC depending on number of detector heads used
Relay Contacts:	1A at 30 VDC Resistive
Reset Time:	5 Seconds maximum
Start Up Time:	45 Seconds
Optical Wavelength:	850nm.
Sensitivity:	10% - 60% (35% Default)
Temperature Rating:	-22°F to 131°F (-20°C to 55°C) For UL Listed Installations, 32°F to 100°F (0°C to 37.8°C).
Relative Humidity:	0% to 93% RH non-condensing
Range:	26.25ft. to 330ft. (8m to 100m)
Cableing:	24—14 AWG 1—Pair Shielded

Housing:	Flame Retardant ABS
IP Rating:	IP54
Finish:	Light Grey/Black
Conduit Knock Outs	Controller: 7— 1/2"/M-20 Detector Head—1 M-20
Weight:	Head & Controller 3.24 lbs
Dimensions:	Head:
Head:	5.28" H x 5.31" L x 5.28" W
	Controller: 3.20" H x 9.25" L x 7.87" W
	Prism: 0.37" H x 4.13" L x 3.94" W

Approvals:

UL	UROX.S3417
ULC	UROXC.S3417
MEA	22-08-E
CSFM	7260-1508:104

Ordering Information:

Part #	Description
FE-5000-103	Reflective Auto Align beam smoke detector 27ft.. to 330ft. System includes 1 Detector Head, 1 Controller and 1 Prism.
FE-5000-031	Additional Detector Head and 1 Prism, Use up to 3 additional heads per 5000-103
Accessories:	Refreence Our Document LT10520.PDF

This Product Manufactured by
Fire Fighting Enterprises

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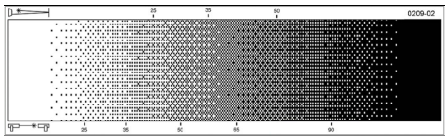
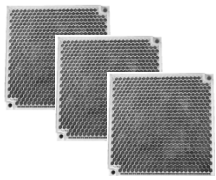
FE-5000

Reflective Beam Accessories



FE-0209

FE-0209 Obscuration Filter
Replacement Obscuration Filter for performing UL sensitivity test for both Projected and Reflected Beam Smoke Detectors 25% to 100% Obscuration.

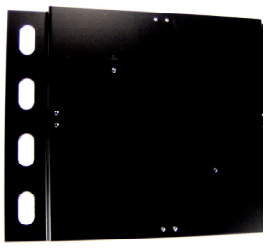


FE-5000-004

FE-5000-004 Long Range Prism Kit
3 Additional Prisms for use with F-5000 when the Prism installation is between 160 Feet and 330 feet from the Detector Head.

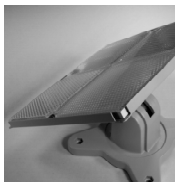
FE-5000-005

FE-5000-005 Universal Mounting Bracket
Universal Mounting Bracket for Fireray 5000 Reflective Beam Detector and Accessories. Bracket pivots for accurate alignment of Beam Detector and Prisms.



FE-5000-006

FE-5000-006 Prism Wall Bracket
Reflector Wall Bracket comes pre-drilled to mount 1 (Up to 160 Feet) or 4 (160 Feet to 330 Feet) prisms. Hole pattern on side mounting flange similar to Unistrut. Prisms are ordered separately.



FE-5000-007

FE-5000-007 4 Prism Alignment Adaptor
Comes pre-drilled to mount 4 Prisms. Designed to mount on the Alignment Adaptor 5000-5005. Prisms and Alignment Adaptor 5000-5005 are ordered separately.

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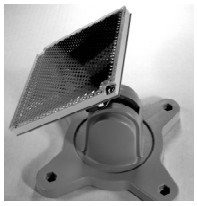
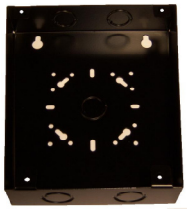
FE-5000-008



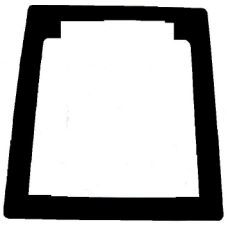
FE-5000-008 Single Prism Alignment Adaptor
Comes pre-drilled to mount 1 Prism. Designed to mount on the Alignment Adaptor 5000-5005. Prisms and Alignment Adaptor 5000-5005 are ordered separately.

FE-5000-009



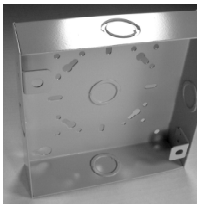
FE-5000-009 Controller Back Box
Includes conduit knock-outs on top and bottom. Surface or Flush Mount. Will mount to single gang, double gang or 4 square box.

FE-5000-010



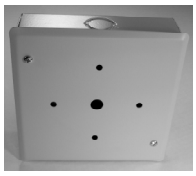
FE-5000-010 Semi Flush Trim Plate
Mounts on the 5000-009 Controller Back Box for Semi Flush Installations.

FE-5000-011



FE-5000-011 Detector Back Box
Back box includes conduit knock-outs on all four sides. Will mount over single gang, double gang or 4 square box. Requires 5000-012 cover plate , ordered separately.

FE-5000-012

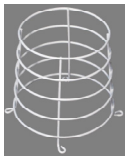


FE-5000-012 Detector Cover Plate
Use with the 5000-012 back box. Pre-drilled to mount the 5000 Detector Head. Order back box and cover plate separately.

FE-5000-014

FE-5000-014 Ceiling Pendant Mount Bracket
Comes pre-drilled to mount F-5000 Detector Head. Supplied with 1-2 1/2" long nipple. Other lengths by contractor. Can be used for Single or Bi-Directional Applications. Includes 2 mounting plates and 1 blank cover.

FE-5000-017



FE-5000-017 Wire Protective Cage
F-5000 Detector Wire Protective Cage. Made to mount to either the 5000-011/012 or to a flat surface. Includes 4 Philips Head screws and 4 plastic anchors.

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SIGNALING

UL LISTED

RT-3000

Nema 4X Duct Smoke Detectors

Weathertight, Hi-Temp, Low Flow & No Tools

FEATURES

- 180° visibility for all visual indicators with cover in place
- Operating voltages: 230VAC, 115VAC, 24VAC, 24VDC
- Patented cover tether retains the one-piece cover at unit
- Flashing LED on detector head indicates normal operation, can be viewed with cover on
- Ionization and Photoelectric versions available
- Interconnect up to 30 units for common functions
- Works with the complete range of APC remote accessories
- to include all legacy duct detectors and sample tubes from APC Compatible with building automation and fire alarm systems

Installation - Mechanical

- Patented cover latch offers the industry's only no-tools single point cover assembly
- Patented cover tether keeps cover at unit for convenience
- Patented no-tools front or rear loading and removing sampling/ exhaust tubes
- All gaskets are permanently attached and pre-installed

Installation - Electrical

- Patented no-tools terminal blocks for easier wiring with built-in test meter probe access
- Intuitively labeled terminal positions
- Dedicated and segregated terminal blocks for power input, FACU interface, relay control, remote accessories and detector interconnection
- No confusing "special programming" required
- Permanently attached wiring diagram on inside front cover
- Two sets of 10A form "C" alarm contacts
- One set of 10A form "C" trouble contacts
- One set of 1A form "A" alarm contacts and one set of 7A form "B" trouble contacts for FACU interface Testing
- Patented Maintenance Mode offers 3-minute interval for test and maintenance functions with no extra trouble reports to the system (auto shut-off upon cover latch engagement)
- Patented Test Port allows for aerosol smoke testing without cover removal
- Magnet test capability (magnet included)

Service

- Standard interchangeable "twist-in" UL268 photoelectric or ionization heads for easy cleaning and replacement
- Advanced detector head design yields internal dust filtering
- Front no-tools sampling tube removal and replacement
- provides for simple inspection of debris accumulation
- Compatible with all legacy APC remotes, duct detectors and sample tubes

Performance

- NEMA 4X watertight enclosure for non-hazardous indoor and outdoor applications, to include corrosive environments
- Listed for air velocities between 100-4000 ft./min
- Ion and Photo models listed for applications ranging from -4°F to 158°F (-20°C to 70°C)

Made In .A

3240-1004:105

ISO 9001 REGISTERED COMPANY

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SPACE AGE ELECTRONICS, INC.

Specifications:

Air duct smoke detectors shall be RT-3000 Series. For ionization detectors the model number is RT-3000-N. For photoelectric detectors the model number is RT-3000-P. The detectors shall be listed by Underwriters Laboratories per UL 268A. The detectors shall operate at air velocities from 100 feet per minute to 4,000 feet per minute and at high temperatures of no less than 158°F (70°C). Shall provide visual pilot, trouble and alarm indications; shall provide instantaneous cover removal notification with maintenance by-pass The detector enclosure shall be NEMA 4X rated and shall prevent accumulation of condensate within the detection chamber. Visual indication of alarm, trouble and power must be provided on the detector front, as well as a manual test and reset switch. Detector head shall not require additional filters or screens which must be maintained, and shall include both a standby and alarm visual indication. The housing shall contain a detector base which will accept photoelectric or ionization detector heads. Terminal connections shall require no tools for wire installation and shall be compatible with wire gauges between #14 and #22 AWG. Terminals shall be provided for remote pilot, remote alarm indications, strobe/horn, and remote test/reset switch. All wiring must comply with local codes and regulations. A method of testing the alarm function at the detector with a magnet and a method of smoke testing the detector without removing the cover must be provided. All unit, remote accessory, and common function connection designations must be permanently affixed to the unit. Cover and sampling/exhaust tube installation or removal must not require the use of tools. Capability for interconnection of up to 30 units shall be provided for common functions. Sampling and exhaust tubes shall be capable of removal/installation from the front and/or rear of the detector for inspection/maintenance.

POWER REQUIREMENTS: (without accessories)		230VAC 17	mA
Standby:		115VAC 31	mA
		24VAC 122.6	mA
		24VDC 45	mA
Alarm:		230VAC 29	mA
		115VAC 50	mA
		24VAC 251	mA
		24VDC 100	mA
RELAY CONTACT RATING:			
Alarm Contacts:		Resistive load: 2 sets form “C” rated at 10 Amps @ 125VAC	
		Resistive load: 1 set form “A” rated at 1 Amp (FACP) @ 30VDC	
Trouble Contacts:		Resistive load: 1 set form “C” rated at 10 Amps @ 125VAC	
		Resistive load: 1 set form “B” rated at 7 Amps (FACP) @ 30VDC	
AIR VELOCITY:		100 to 4,000 ft./min.	
AMBIENT TEMPERATURE:		RT-3000-N	-4°F to 158°F (-20°C to 70°C)
		RT-3000-P	-4°F to 140°F (-20°C to 60°C)
HUMIDITY:		10% to 93% RH (@32°C) Non-Condensing / Non-Freezing	
WIRING:		Solid or stranded: #14 to #24 AWG terminals	
APPROVALS:		UL Listed (UL268A, UROX) File # S2829	
		CSFM Listed (3240-1004:105) (pending)	
		MEA Accepted (73-92-E; VOL. 27) (pending)	
MATERIAL:		Grey plastic backbox, white plastic cover (Makrolon 94V-0)	
DIMENSIONS:		13 ½" L x 5 ½" W x 2 ¼" H	
MAX. NET WT.:		3 ½ lbs.	
RADIOACTIVE ELEMENT:		For RT-3000-N (Ionization) Americium 241; 0.9 Micro-Curie	
HARDWARE:		7" exhaust tube, FAST Tube sectional sampling tube starter, sampling tube end cap, mounting template, test magnet, and mounting hardware included.	

Ordering Information:

Part #	Description
RT-3000-N	Ionization: 230VAC, 115VAC, 24VAC, 24VDC 55000-225
RT-3000-P	Photoelectric: 230VAC, 115VAC, 24VAC, 24VDC 55000-328
SSU-55000-225	Replacement Ionization Detector
SSU-55000-328	Replacement Photoelectric Detector

SAMPLING TUBES:

FAST Tube	Sectional sampling tube, kit fits up to 90” duct width
STN-1.0	Metal sampling tube for 6” to 12” duct width
STN-2.5	Metal sampling tube for 12” to 3.0’ duct width
STN-5.0	Metal sampling tube for 3.0’ to 5.0’ duct width
STN-10.0	Metal sampling tube for 5.0’ to 10.0’ duct width

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SL-2000

Duct Smoke Detector

Product Application:

The SL-2000 Series Smoke Duct Detector is the latest innovation for early detection of smoke and products of combustion present in air moving through HVAC ducts in Commercial, Industrial, and Residential applications. The unit is designed to prevent the recirculation or spread of smoke by air handling systems, fans, and blowers. Complete systems may be shut down in the event of smoke detection. The SL-2000 is designed and built to meet all local code requirements, as well as the NFPA and ICC standards regarding HVAC supply and return duct smoke detectors. Output terminals are provided for a wide range of remote accessories such as horns, strobes, remote status indicators, and test/reset key switches or push buttons.

The SL-2000 includes many features that represent true innovations from current generation duct smoke detectors. Our traditional installer/servicer-friendly approach has been closely followed and expanded throughout the SL-2000. Our attention to detail has yielded a host of “No-Tools Required” features. Innovative design combined with unsurpassed customer service equals the right combination for all of your projects. Our standard features detail many of the customer-driven innovations incorporated in the SL-2000 Series.

Standard Features:

- Low-Flow Technology: Listed for velocities between 100-4000 ft./min
- Both models listed for high-temperature applications
- Operating voltages: 230VAC, 115VAC, 24VAC, 24VDC
- Interconnect up to 30 units for common functions
- Patented “No-Tools Required” front *or* rear loading and removing sampling/ exhaust tubes
- Patented “Test Port Valve” allows for aerosol smoke testing without cover removal
- Clear cover fitted with four captive “No-Tools Required” thumbscrews w/ cover removal trouble indication
- Magnet test capability (magnet included)
- Unit includes green pilot and red alarm visual indicators
- Four sets of Form “C” alarm contacts
- Standard interchangeable “plug-in” UL268 photoelectric or ionization heads
- Detector head design acts as an internal dust filter

ISO 9001 REGISTERED COMPANY

CSFM Listed

NEMA

c UL US LISTED

NYC BUILDINGS

NFPA

Made In U.S.A.

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SPACE AGE ELECTRONICS, INC.

Engineers' & Architects' Specifications:

Air duct smoke detectors shall be Space Age Electronics, Inc. SL-2000 Series. The detectors shall be listed by UL per UL 268A. The detectors shall operate at air velocities from 100 feet per minute to 4,000 feet per minute and at temperatures of no greater than 140°F (60°C). Visual indication of alarm and power must be provided on the detector front. A manual reset switch shall be located on front of the device. Detector shall not require additional filters or screens which must be maintained. Terminal connections shall be of the screw type, a minimum of #6 screw (#12 to #22 AWG compatible). A method of testing the alarm function with a magnet must be provided. Cover and sampling/exhaust tube installation or removal must not require the use of tools. Capability for interconnection of up to 30 units shall be provided for common functions. Sample and exhaust tubes shall be capable of installation or removal from the front or rear of the detector for inspection and maintenance.

Product Specs:

SAE PN#	**SSU-SL-2000-N** Ionization: 230VAC, 115VAC, 24VAC & 24VDC **SSU-SL-2000-P** Photoelectric: 230VAC, 115VAC, 24VAC & 24VDC
DETECTOR MODEL NUMBER:	SSU-55000-225 Ionization replacement head only SSU-55000-328 Photoelectric replacement head only
SAMPLING TUBES:	**STN - 1** Sampling Tube for 12" or less duct width **STN - 2.5** Sampling Tube for 2.5" to 6" duct width **STN - 5** Sampling Tube for 2.5' to 5' duct width **STN - 10** Sampling Tube for 5' to 10' duct width
ACCESSORIES:	MS-Series and MSR-Series remote accessories, WP-2000 weatherproof enclosure, TG-2000 aerosol test gas and T-PB power supplies (available from Air Products and Controls, Inc.)
POWER REQUIREMENTS: (Without accessories) Stand By:	8mA @230VAC 14mA @ 115VAC 55mA @ 24 VAC 14mA @ 24VDC
Alarm Current:	18mA @230VAC 32mA @ 115VAC 190mA @ 24 VAC 68mA @ 24VDC
RELAY CONTACT RATING:	
Alarm Contacts:	Resistive load: 2 sets Form "C" rated 10 A @ 115VAC Resistive load: 1 set Form "A" rated 2 A
Trouble Contacts:	Resistive load: 1 set Form "C" rated 10A @ 115VAC
AIR VELOCITY:	100 to 4,000 Ft./min.
AMBIENT TEMPERATURE:	**Model SSU-SL-2000-N** 32ºF to 155ºF (0ºC to 70ºC) **Model SSU-SL-2000-P** 32ºF to 100ºF (0ºC to 38ºC)
HUMIDITY:	85 + 5% RH (@ 32º C or 86 + 3.6º F) non-condensing/non-freezing
WIRING:	#14 to #22 AWG terminals
APPROVALS:	UL & CUL Listed (UL268A, UROX & UROX7) File # S2829 CSFM Listed (3240-1004:105) MEA Accepted (73-92-E; VOL. 27)
MATERIAL:	Grey plastic back box, clear plastic cover (Makrolon 94V-0)
DIMENSIONS:	13.5" W x 4.5" H x 2.25" D
MAX. NET WT.:	2.5 lbs.
RADIOACTIVE ELEMENT:	For the **SSU-SL-2000-N** only (ionization) contains Americium 241; 0.9 micro-Curie. Do not expose to corrosive atmospheres!
HARDWARE	7" exhaust tube end cap, mounting template, test magnet and mounting hardware included.

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SSU-SL-701-KIT

Duct Carbon Monoxide Detector Kit

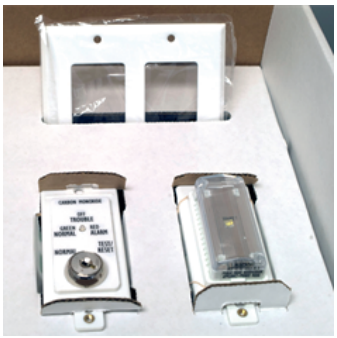
The SSU-SL-701-KIT Duct Carbon Monoxide Detector Kit provides early detection of carbon monoxide in air moving through the HVAC duct supply, return, or both in commercial, industrial, or residential applications.

The SSU-SL-701-KIT is fitted with a UL Listed electrochemical sensor that notifies at for distinct levels of carbon monoxide PPM published hazardous by both OSHA and the NFPA, and has a life of approximately six years in normal enviornmental conditions. The specific alarm condition met is annunciated at the detector, and historical data can be retrived from the unit to aid in resolving the source of contamination

The SSU-SL-701-KIT alerts building occupants of an AHU-circulated carbon monoxide contamination prior to its distribution of the “occupied” space. Output terminals are provied for the MSR-50/CO remote accessory, used to provide private mode (non-public) audible and visual alarm indication in a remote location. Combination CO / Fire Alarm Control Units can, and must, be notified of an alarm or trouble condition to provide Public Mode Notification and Remote Reporting.

Product Features:

- Hybrid-Style sensor monitors at the national standards set by OSHA (IAQ) and UL 2075/2034 (life safety)
- “Snap-in” Sensor is easily replaced at end of life
- Solid green LED on sensor head indicates normal operation
- Detector Test Mode allows for aerosol CO testing without cover removal using Test Port Value
- Historical, retrievable reporting data stored at the unit
- Unit performs “hidden” self-test every 24 hours
- Patented front or rear loading and removing sampling/exhaust tubes
- Interconnect up to 30 units for common functions
- Advanced sensor design yields internal dust filtering
- No additional screens or filters to clean
- Compatible with Building Automation and Combination CO/Fire alarm systems
- Complete wiring details permanently attached to unit



MSR-50/CO Remote Accessory: for private mode audible and visual alarm indication at a remote location.

Designed to prevent the circulation of invisible, toxic CO by air handlers, fans and blowers. Complete systems may be shut down in an alarm state.

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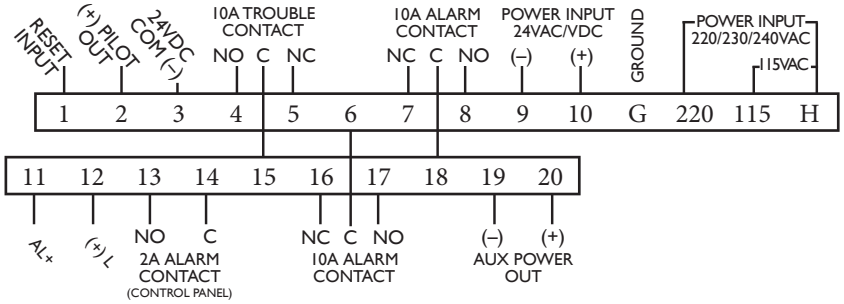
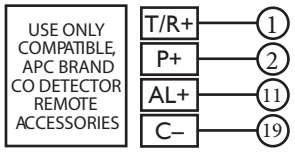
WIRING



MSR-50/CO WIRING



PRODUCT SPECIFICATIONS

MODEL NUMBER:	**SSU-SL-701-KIT**
SENSOR MODEL NUMBER:	**SL-701** 7-CO
PACKAGE INCLUDES:	SL-701 CO Detector MSR-50/CO Remote Accessory Fast Tube Air Sampling Tubes 8" Fast Exhaust Tube Mounting Template Necessary Mounting Hardware Installation Instructions
POWER REQUIREMENTS:	Input Power / Standby Current / Alarm Current 24VAC / 55mA / 190mA 24VDC / 14mA / 68mA 115VAC / 22mA / 32mA 230VAC / 12mA / 18mA
RELAY CONTACT RATING:	
Alarm Contacts:	Resistive load: 2 sets form "C" rated at 10 Amps @ 115VAC Resistive load: 1 set form "A" rated at 2 Amps
Trouble Contacts:	Resistive load: 1 set form "C" rated at 10 Amps @ 115VAC
AIR VELOCITY:	100 to 4,000 ft./min.
AMBIENT TEMPERATURE:	32ºF to 158ºF (0ºC to 70ºC)
HUMIDITY:	10% to 85% RH Non-Condensing / Non-Freezing
WIRING:	Solid or stranded: #12 to #22 AWG terminals
MATERIAL:	Grey plastic backbox, clear plastic cover (Makrolon 94V-0) Do not expose to corrosive atmospheres
DIMENSIONS:	13 ½" L x 4 ½" W x 2 ¼" D
MAX. NET WT.:	2 ½ lbs.

CO Detector Test Gas Sold Separately

SSU-TG-701

The SL-701 is a CO system detector, it is not a smoke detector or a CO alarm. It detects Carbon Monoxide as caused by fossil fuel fired appliances and/or as introduced from the outside in fresh air intakes in the HVAC system.

Ordering Information:

Part #	Description
SSU-SL-701-KIT	Duct Carbon Monoxide Detector
SSU-TG-701	CO Detector Test Gas Canister

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SM5

SM-501 Series
Duct Smoke Detectors

The SM-501 Series Duct Smoke Detector provides early detection of smoke and products of combustion present in air moving through HVAC ducts in commercial, industrial and residential applications. The SM-501 is designed to prevent the re-circulation of smoke by the air handling systems, fans, and blowers. Complete systems may be shut down in the event of smoke detection.

The SM-501 model will operate on any one of four input voltages (230VAC, 115VAC, 24VAC or 24VDC). The SM-501 allows up to 30 detectors to be interconnected for many common functions.

The SM-501 is enclosed in a compact housing. Each unit provides two sets of 10 Amp form "C" alarm contacts, along with one set of 10 Amp form "C" trouble contacts for monitoring head removal and supply voltage failure.

The green pilot and red alarm visual indicators provided on the front of the SM-501 duct unit signal the operating status of the device. The green pilot LED will be extinguished when the detector head is removed. A manual test/reset switch is located next to the visual indicators.

The SM-501 has been specially designed to allow common detector functions to be linked between up to 30 detectors. Specifically, 30 units may be wired to use a common test/reset function, and to alarm when a single unit alarms. Also, up to 15 units with signaling devices may be interconnected to operate with a single alarm. The SM-501 is designed and built to meet all local requirements, as well as the NFPA regulations regarding duct smoke detectors. Output terminals are provided for remote accessories such as horns, strobes, remote status indicators and test/reset key switches or push buttons.

The ionization and photoelectric detector heads are interchangeable. Air sampling is accomplished via two tubes which protrude into the duct. An exhaust tube of one standard length (7.0") is supplied in the installation kit with the duct smoke unit. Once the duct width had been determined, the air intake sampling tubes must be ordered. Sampling tubes are supplied in three standard lengths (2.5ft, 5.0ft and 10.0ft), and are cut to size to fit the duct. Mounting the duct smoke detector is accomplished be the use of a template and four sheet metal screws, as provided. Mounting can be achieved without the removal of the clear cover, which is secured by four captive screws.

Standard Features:

- Operating voltages 230VAC, 115VA, 24VAC, 24VDC
- Interconnect up to 30 units for common functions
- UL, CSFM and MEA Listed
- Compact Size
- 2 Sets of alarm contacts
- 1 set of trouble contacts
- Rugged steel back box with clear cover
- Compatible with the WP-1 weatherproof enclosure
- Easy retro-fit/upgrade of existing RW Series detectors
- Clear cover fitted with 4 captive screws
- Large terminal connection screws
- Interchangeable "Plug-In" photoelectric or ionization heads
- Easy Installation without cover removal (Mechanical)
- Dust filtering in detector head
- No additional screens or filters to clean
- Over 15 remote accessories available

MEA NFPA UL LISTED

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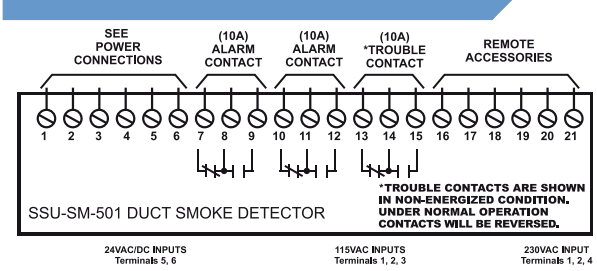

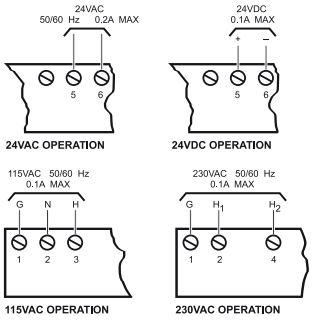

PRODUCT SPECIFICATIONS

SAE PN#		
	SSU-SM-501-N	Ionization: 230VAC, 115VAC, 24VAC, 24VAC/DC
	SSU-SM-501-P	Photoelectric: 230VAC, 115VAC, 24VAC, 24VAC/DC
DETECTOR MODEL NUMBER:	S60 Ionization Detector Head 55000-250APO S60 Photoelectric Detector Head 55000-350APO	
SAMPLING TUBES:	**STS-2.5**	Sampling tube for 6" to 2.5' duct width
	STS-5.0	Sampling tube for 2.5' to 5.0' duct width
	STS-10.0	Sampling tube for 5.0' to 10.0' duct width
ACCESSORIES:	MS-Series remote accessories, SSU-WP-1 weatherproof enclosures, and T-PB power supplies (Available from Air Products and Controls Inc.)	
POWER REQUIREMENTS: (Without accessories)	230VAC	12.0 mA
Stand By:	115VAC	25.0 mA
	24VAC	35.0 mA
	24VDC	15.0 mA
Head in Alarm:	230VAC	16.0 mA
	115VAC	32.0 mA
	24VAC	74.0 mA
	24VDC	56.0 mA
RELAY CONTACT RATING:		
Alarm Contacts:	2 sets form "C" rated at 10 Amps @ 115VAC Resistive	
Trouble Contacts:	1 set form "C" rated at 10 Amps @ 115VAC Resistive	
AIR VELOCITY:	500 to 4,000 ft./min.	
AMBIENT TEMPERATURE:	**SSU-SM-501-N**	32ºF to 155ºF (0ºC to 68ºC)
	SSU-SM-501-P	32ºF to 100ºF (0ºC to 38ºC)
HUMIDITY:	10% to 85% R.H. No Condensation	
WIRING:	#14 to #22 AWG terminals	
APPROVALS:	Underwriters Laboratories Listed (UL268A;UROX.S2829) CSFM Listed (3240-1004:108) MEA Listed (73-92-EX;VOL.20)	
MATERIAL:	18 Ga. Steel backbox, clear plastic cover	
FINISH:	Grey Paint	
DIMENSIONS:	L-9 1/ 8" X W-7 1/ 4" X H-2 1/ 4"	
MAX. NET WT.:	3 1/ 2 lbs.	
RADIOACTIVE ELEMENT:	For **SSU-SM-501-N** (Ionization) Americium 241; 0.9 Micro-Curie Do Not Expose to Corrosive Atmospheres	
HARDWARE:	7" exhaust tube, sampling tube end cap, mounting template and mounting hardware included	

ENGINEERS & ARCHITECTS SPECIFICATIONS

- Air duct smoke detectors shall be Space Age Electronics, Inc. SM-501 Series. For Ionization detectors the model number is SSU-SM-501-N. For photoelectric detectors the model number is SSU-SM-501-P. The detectors shall be listed by Underwriters Laboratories per UL 268A. The detectors shall operate at air velocities from 500 feet per minute to 4,000 feet per minute.
- The duct detector housings shall be of metal construction and complete mechanical installation may be performed without removal of detector cover.
- Visual indication of alarm and power must be provided on the detector front.
- A manual reset switch shall be located on front of the device.
- Detector head shall not require additional filters or screens which must be maintained.
- The housing shall contain a detector base which will accept photoelectric or ionization detector heads.
- Terminal connections shall be of the screw type and be a minimum of #6 screw. Terminals shall be provided for remote pilot, remote alarm indications, strobe/horn and remote reset switch. All wiring must comply with local codes and regulations.

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WPE

SAE PN# SSU-WP-1
RW/SM Series detector not included

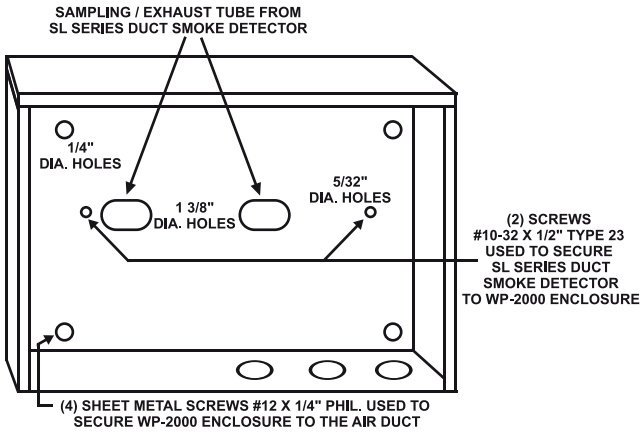
SAE PN# SSU-WP-2000
SL Series detector not included

WP Series
Weatherproof Enclosures for Duct Smoke Detectors

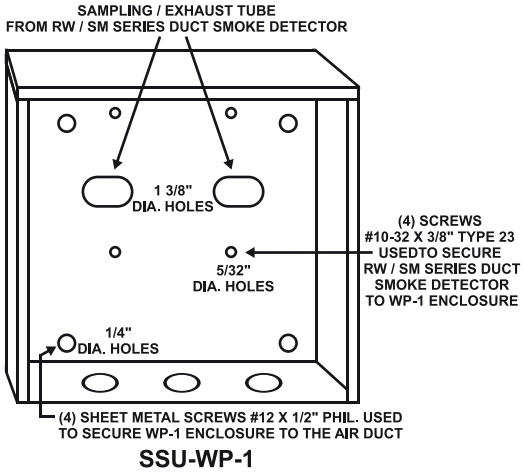
The SSU- WP-1 enclosure provides protection for the RW and SM Series duct smoke detectors. The SSU- WP-2000 enclosure provides protection for the SL Series duct smoke detectors. These enclosures offer outdoor protection from rain, sleet and snow, or indoor protection from dripping water.

Standard Features:

- 16 gauge steel throughout
- Egg shell white painted finish throughout
- Drip shield top
- Slip-on removable cover
- Embossed mounting holes on back of enclosure
- 3 knockouts in bottom of enclosure
- UL 50 type 3R
- NEMA type 3R
- Foam gaskets for sampling/exhaust holes provided
- All hardware included



SSU-WP-2000



SSU-WP-1

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PRODUCT SPECIFICATIONS

SAE PN#		SSU-WP-1	SSU-WP-2000
USE:		RW and SM Series	SL Series
DIMENSIONS:	H	12" (305mm)	11.063" (281mm)
	W	12" (305mm)	18.125" (460mm)
	D	4.25" (108mm)	4.375" (111mm)
CONDUIT KNOCKOUTS:		In bottom: 3 convertible 0.75" to 1.75"	
METAL WORK:		16ga CRS with white painted finish	
FRONT ACCESS:		Removable cover	
HARDWARE:		Enclosure and duct detector mounting included	
PROTECTION RATING:		3R – UL 50, NEMA and CSA Outdoor: Internal equipment protected from falling rain, etc.; undamaged by ice formation	
AMBIENT TEMPERATURE:		See appropriate RW, SM or SL Series detector specifications	
LISTINGS AND APPROVALS:			
	UL:	NITW.E69392*	
	CUL:	NITW7.E69392*	

*NITW = Industrial Control Panel Enclosures; /7 = Certified for Canada

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DMS

MS Series
Remote Accessories

SSU-RA

The MS Series remote accessories are designed to be used with the Duct Smoke Detectors to provide audible and visual indication as well as remote test/reset functions. These devices are constructed of attractive, yet durable brushed stainless steel and mount on a standard single or double gang electrical backbox.

SSU-RA/

SSU-RA/R

SSU-RA/P/R

SSU-RA/P/T

SSU-RA/FT/P

SSU-KA/R

SSU-KA/P/R

SSU-KA/P/R/T

SSU-RD

SSU-F/T

SSU-RH/P/A

SSU-RH/KA/P/R

SSU-RH/KA/P/A/T


SSU-RH

MEA

UL LISTED

STATE FIRE MARSHAL
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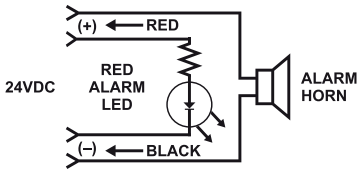
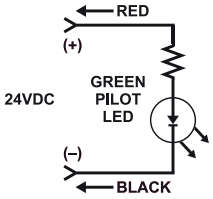
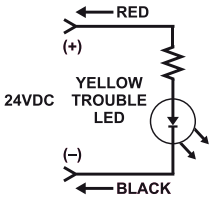
Wiring



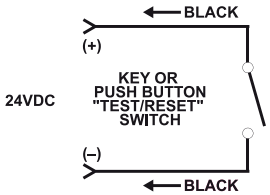
ALARM



PILOT



FAULT/TROUBLE



TEST/RESET

> FOR APPROPRIATE DUCT DETECTOR TERMINALS, PLEASE REFER TO DETECTOR INSTALLATION INSTRUCTIONS.

PRODUCT SPECIFICATIONS

SAE PN#	PILOT LED (GREEN)	ALARM LED (RED)	FAULT/ TROUBLE LED (YELLOW)	PUSH BUTTON TEST/ RESET	KEY OPERATED TEST/ RESET	HORN	SINGLE GANG	DOUBLE GANG
SSU-RA		•					•	
SSU-RA/P	•	•					•	
SSU-RA/R		•		•			•	
SSU-RA/P/R	•	•		•			•	
SSU-RA/P/T	•		•				•	
SSU-RA/FT/P	•		•	•			•	
SSU-KA/R		•			•		•	
SSU-KA/P/R	•	•			•		•	
SSU-KA/P/R/T	•		•		•		•	
SSU-RD		•					•	
SSU-F/T			•				•	
SSU-RH/P/A	•	•				•	•	
SSU-RH/KA/P/R	•	•			•	•		•
SSU-RH/KA/P/A/T	•	•	•		•	•		•
SSU-RH						•	•	

POWER REQUIREMENTS:	Alarm LED	15mA @ 24VDC
	Pilot LED	15mA @ 24VDC
	Alarm Horn	20mA @ 24VDC
SOUND PRESSURE:	Alarm Horn	78 db @ 10 ft
DIMENSIONS:	Single Gang	4 1/2"(114.3mm)H x 2 3/4"(69.85mm)W
	Double Gang	4 1/2"(114.3mm)H x 4 1/2"(114.3mm)W
WIRING:	LEDs/Horn	6" 24 AWG pigtails
	Switches	6" 22 AWG pigtails
APPROVALS:	UL Listed for use with Air Products and Controls duct smoke detectors including all RW-Series, SM-Series and SL-Series duct smoke detectors. UL URRQ. S7425 CSFM 7300-1004:107 MEA 73-92-E VOL25	

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