

The first name in flame monitoring  
and combustion control



Integrated  
Flame  
Scanners

[fireeye.com](http://fireeye.com)

# InSight™ Flame Scanners

## INSIGHT II SCANNERS

The Fireye InSight Type 95DSS3 flame scanner is a microprocessor based flame scanner utilizing solid state dual (IR and UV) sensors.

The InSight Type 95 flame scanners incorporate dual internal flame relays with adjustable ON/OFF thresholds, thereby eliminating the need for a remote flame amplifier.

The InSight scanners detect the presence or absence of a target flame in single or multi-burner applications.

### Features:

- Integrated design includes internal flame relay and 4-20mA output
- Keypad/display for programming
- Remote communications and file select capabilities
- Programmable flame flicker frequency, sensor gain, pull-in and drop-out set points, and FFRT
- 95DSS3 Infrared transmitter option

### Specifications:

- 95DS dual sensor: 295 to 320 & 700 to 1700nm
- Supply voltage: 24 VDC
- Housing: NEMA 4X, Class I, Division 2, Groups A, B, C & D
- Ex d IIC T6 ATEX
- 95DSS3: SIL3



**Solid State  
Dual Sensor**

**UV 295 - 320nm  
IR 700 - 1700nm**



Ready

### Discrimination:



### Fuel Selection:

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## INSIGHT I SCANNERS

The Fireye InSight Type 95DSS2 flame scanner is a microprocessor based flame scanner utilizing solid state dual (IR and UV) sensors.

The InSight Type 95 flame scanners incorporate an internal flame relay with adjustable ON/OFF thresholds, thereby eliminating the need for a remote flame amplifier.

The InSight scanners detect the presence or absence of a target flame in single or multi-burner applications.

### Features:

- Integrated design includes internal flame relay and 4-20mA output
- Keypad/display for programming
- Remote communications and file select capabilities
- Programmable flame flicker frequency, sensor gain, pull-in and drop-out set points, and FFRT

### Specifications:

- 95DS dual sensor: 295 to 320 & 700 to 1700nm
- Supply voltage: 24 VDC
- Housing: NEMA 4X, Class I, Division 2, Groups A, B, C & D
- Ex d IIC T6 ATEX
- 95DSS2: SIL2



**Solid State  
Dual Sensor**

**UV 295 - 320nm  
IR 700 - 1700nm**

### Discrimination:



### Fuel Selection:

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## INSIGHT S4 SCANNERS

The Fireye InSight Type 95IRS4 and 95UVS4 flame scanners are microprocessor based flame scanners utilizing solid state infrared (IR) and ultraviolet (UV) sensors.

The InSight Type 95 flame scanners incorporate an internal flame relay with adjustable ON/OFF thresholds, thereby eliminating the need for a remote flame amplifier.

The InSight scanners detect the presence or absence of a target flame in single or multi-burner applications.

### Features:

- Integrated design includes internal flame relay and 4-20mA output
- Keypad/display for programming
- Remote communications and file select capabilities
- Programmable flame flicker frequency, sensor gain, pull-in and drop-out set points, and FFRT

### Specifications:

- 95IRS4 infrared sensor: 700 to 1700nm
- 95UVS4 ultraviolet sensor: 295 to 320nm
- Supply voltage: 24 VDC
- Housing: NEMA 4X, Class I, Division 2, Groups A, B, C & D
- Ex d IIC T6 ATEX
- 95IRS4 & 95UVS4: SIL3



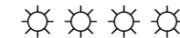
**Solid State  
UV Sensor**

**UV 295 - 320nm**



Ready

### Discrimination:



### Fuel Selection:

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



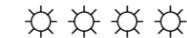
Coal



**Solid State  
IR Sensor**

**IR 700 - 1700nm**

### Discrimination:



### Fuel Selection:

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



# Phoenix Flame Scanners

## PHOENIX SCANNERS

Fireye Phoenix 85UV, extended 85UV (K3) & 85IR QD self-checking scanners are used to detect ultraviolet emissions from fossil fuel flames such as natural gas, coke oven gas, propane, methane, butane, kerosene, light petroleum distillates and diesel fuels. They are suited for hydrogen applications, duct burners, industrial gas burners, refinery applications ignition systems and Low NOx detection and for continuous or non-continuous burner operation.

The Fireye Phoenix type 85 QD flame scanners are microprocessor based devices utilizing a solid state flame detection sensor. The Phoenix flame scanners incorporate an internal flame relay with automatically set ON/OFF thresholds, thereby eliminating the need for a remote flame amplifier or flame switch.

### Features:

- Automatic flame characterization
- Optimum gain and flicker frequency detection
- Fully automatic programming
- Easy Installation
- Streamlined user interface, simplifies operation
- Flame learn cycle completes in less than one minute
- Background flame characterized in less than one minute

### Specifications:

- 85UV Ultraviolet sensor: 295-320nm
- 85UV Extended ultraviolet sensor: 310-500nm
- 85IR Infrared sensor: 830-1100 nm
- Supply voltage: 24 VDC
- Housing: NEMA 4X, Class I, Division 2, Groups A, B, C & D
- Ex d IIC T6 ATEX
- SIL 3



**Solid State UV Sensor**

UV 295 - 340nm



### Discrimination:



### Fuel Selection:

- Natural Gas
- Gas Igniter
- Waste Gas, H<sup>2</sup> & H<sup>2</sup>S
- Air Atomized Fuel
- Steam Atomized Fuel
- Coal

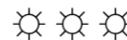


**Solid State Extended UV Sensor**

UV 310 - 500nm



### Discrimination:



### Fuel Selection:

- Natural Gas
- Gas Igniter
- Waste Gas, H<sup>2</sup> & H<sup>2</sup>S
- Air Atomized Fuel
- Steam Atomized Fuel
- Coal



**Solid State IR Sensor**

IR 830 - 1100nm



### Discrimination:



### Fuel Selection:

- Natural Gas
- Gas Igniter
- Waste Gas, H<sup>2</sup> & H<sup>2</sup>S
- Air Atomized Fuel
- Steam Atomized Fuel
- Coal

# Simplicity & Alternate Flame Scanners

## SIMPLICITY SCANNERS

Fireye 65UV5 self-checking scanners are used to detect ultraviolet emissions from fossil fuel flames such as natural gas, coke oven gas, propane, methane, butane, kerosene, light petroleum distillates and diesel fuels.

The Fireye 65UV5 flame scanner incorporates an internal flame relay with a fixed ON/OFF threshold thereby eliminating the need for an external flame amplifier. Models are available with a four-second or a one-second flame failure response time (FFRT).

The Fireye 65UV5 flame scanner is powered by 24 VDC and includes a quick disconnect four-conductor cable, available in multiple lengths. A color-coded internal LED indicates flame status and alarm condition. This can be viewed through the removable rear access screw opening.

### Features:

- Fully integrated design includes internal flame relay
- No programming, minimal setting up, "out of the box" operation
- Superb detection, sensitivity and wide angle of view
- Field proven and reliable technology
- Worldwide safety agency approvals
- Rugged NEMA 4X (IP66) housing
- Truly economical solution
- Two versions covering world-wide applications

### Specifications:

- 65UV5 Ultraviolet sensor: 190-270nm
- Supply voltage: 24 VDC
- Housing: NEMA 4X, Class I, Division 2, Groups A, B, C & D
- Ex d IIC T6 ATEX



**Geiger-Muller UV Tube**

UV 190 - 270nm

### Discrimination:



### Fuel Selection:

- Natural Gas
- Gas Igniter
- Waste Gas, H<sup>2</sup> & H<sup>2</sup>S
- Air Atomized Fuel
- Steam Atomized Fuel
- Coal

## 45UV5 SCANNERS

### Features:

- Ultraviolet tube, sensitivity deep in the UV range for improved discrimination
- Adjustable sensitivity based on position of UV tube

### Specifications:

- Optical range: 190-270nm
- Supply voltage: 120 VAC, provided by 25SU3/25SU5 amplifier
- Available in NEMA (Class I, Division 2, Group C and D) and Cenelec approved explosion proof housing (Ex d IIC T6)



## UV1AL, UV90L & UV5 SCANNERS

### Specifications:

- Optical range: 190-270nm
- Supply voltage: 560 VAC (supplied by control)
- Mounting threads: 1/2" NPT
- Operating temperature: -40°C to 94°C (40°F to 200°F)
- Available in NEMA (Class 1, Div 2, Group C and D) and Cenelec approved explosion proof housing (EEx d IIC T6)



## 48PT2 SCANNERS

### Specifications:

- Optical range: low frequency (12-25 Hz) in the infrared range
- Supply voltage: 7 VDC (supplied by the control)
- Operating temperature: -40°C to 60°C (40°F to 140°F)
- Rated for NEMA 4X
- Tray Cable – Exposed Run (TC-ER) and complies with the Standard for Metal Clad Cable, UL 1569



## 69ND1 FLAME RODS

The Fireye flame rod (69ND1) is made from high temperature resistant metal and can be used to detect gas flames only. Available in multiple lengths.



# Application Quick Guide

Whether your application requires high flame sensitivity, high flame discrimination, high safety integrity, explosion proofing or worldwide agency approvals, Fireye has the product to fit the need.

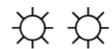


## SIMPLICITY SCANNERS

Geiger-Muller UV Tube

UV 190 - 270nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## PHOENIX SCANNERS

Solid State UV Sensor

UV 295 - 340nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## PHOENIX SCANNERS

Solid State Extended UV Sensor

UV 310 - 500nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## PHOENIX SCANNERS

Solid State IR Sensor

IR 830 - 1100nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal

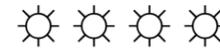


## INSIGHT S4 SCANNERS

Solid State UV Sensor

UV 295 - 320nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## INSIGHT S4 SCANNERS

Solid State IR Sensor

IR 700 - 1700nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## INSIGHT II SCANNERS

Solid State Dual Sensor

UV 295 - 320nm  
IR 700 - 1700nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal



## INSIGHT I SCANNERS

Solid State Dual Sensor

UV 295 - 320nm  
IR 700 - 1700nm

### Discrimination



### Fuel Selection

Natural Gas



Gas Igniter



Waste Gas, H<sup>2</sup> & H<sup>2</sup>S



Air Atomized Fuel



Steam Atomized Fuel



Coal





Fireeye is a leading manufacturer of flame safeguard controls and burner management systems for commercial and industrial applications throughout the world. Our products can be found in a variety of public buildings, commercial properties, power plants, pulp and paper mills, petrochemical facilities and food processing plants.

**For more information, please visit [fireeye.com](https://www.fireeye.com).**

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