FLAMEVision™

Array Based Infrared Flame Detectors

Features:

- Built-in CCTV option to assist with rapid response
- Fast, enhanced flame detection using infrared detection
- Simplifies alarm handling for remote control room situations
- Provides immediate visual ID of alarm location
- Robust housing with heated optics
- Automatic monitoring of detector functionality including signal transmission through window status
- 256 infrared sensor array monitoring the field of view to separately identify flame and non flame sources
- Range of integral interface options
- Masking of part of field of view in software configuration tool
- Over 50m detection range with 90° field of view
- Remote video monitoring with fire location and detector information
- Automatic Optical Integrity Monitoring

FLAMEVision Array Based Infrared Flame Detection

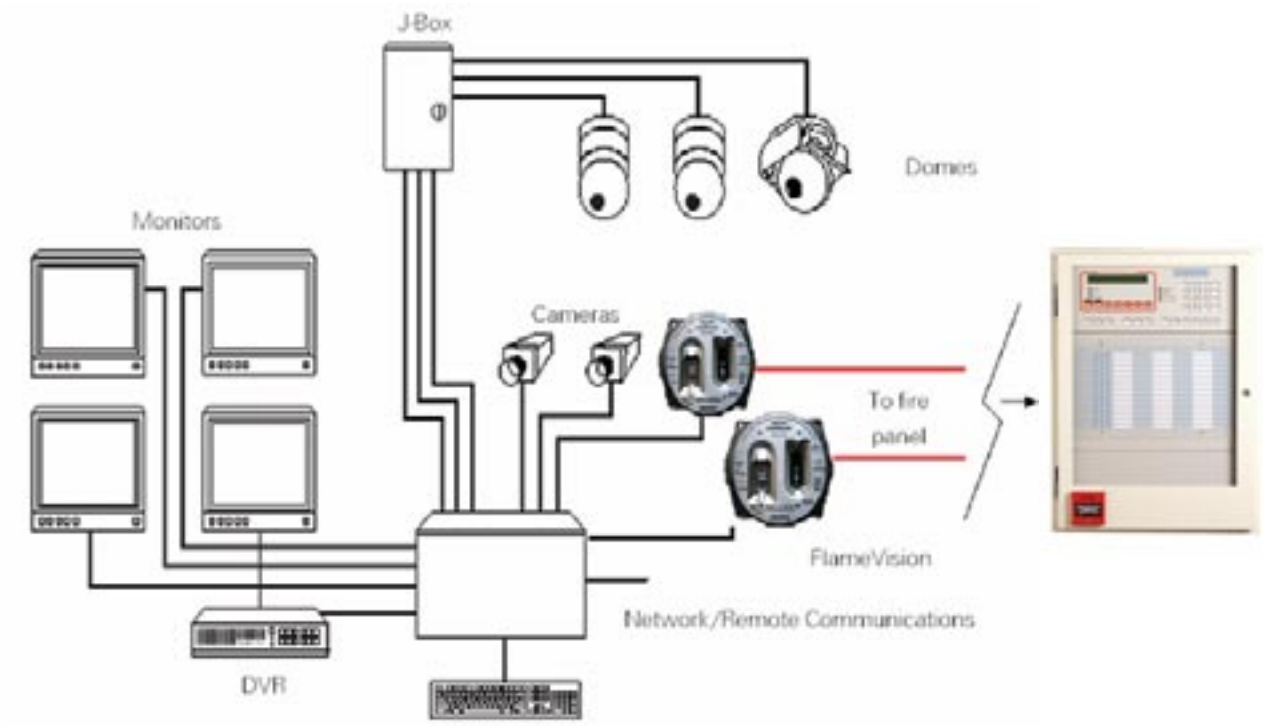
The FLAMEVision detector utilises infrared array based flame detection combined with integral CCTV to automatically and reliably identify flame incidents and pinpoint the location on a video image.

By using an array as the sensing component, the FLAMEVision detectors are able to locate the angular position of the fire within the field of view. The detectors use this information to provide superimposed location information on a composite video output from an internal CCTV camera and to signal the coordinates of this location on its data output. This information allows the operator to quickly verify the alarm and implement the necessary actions. It also provides a valuable tool for false alarm control and event audit processes.

The FLAMEVision offers a major improvement in both flame detection capability and immunity to false alarm sources over triple IR detectors. It also includes features designed to reduce maintenance requirements.

The FLAMEVision range of detectors provide, as standard, the following system interface:

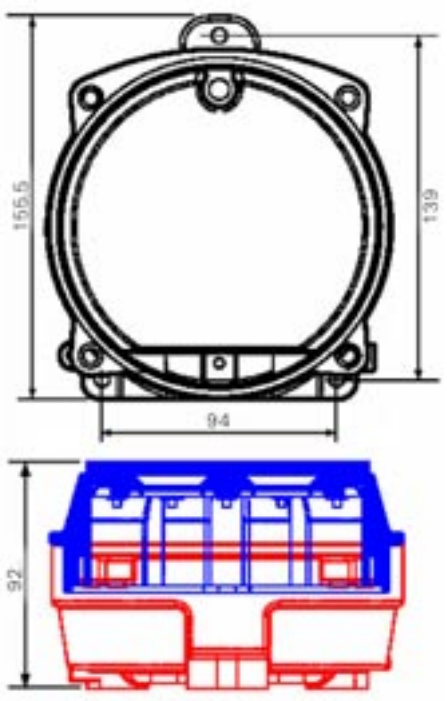
- Volt-free relay contacts for alarm and fault, programmable as normally open or normally closed
- An analogue output current, in the range 4 to 20mA, proportional to the flame detection signal
- RS485 serial data port suitable for network connection using a MODBUS protocol
- Video output compatible with twisted pair video cable



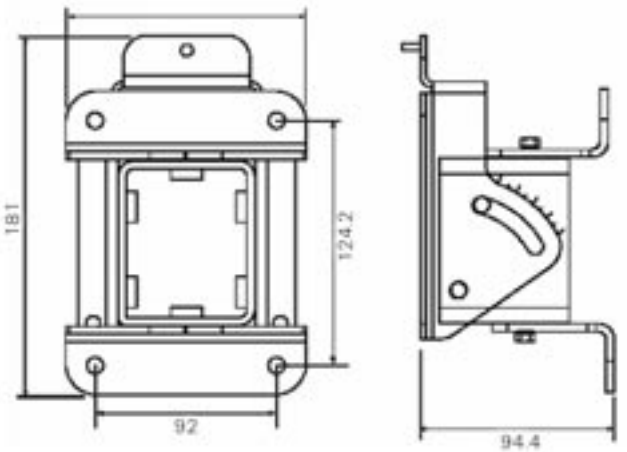
Benefits

- Highly sensitive to flame, thus increasing probability of early detection of hydrocarbon fires over a longer range.
- Able to see flames through smoke and through high densities of solvent vapours thus increasing the probability of early detection of hydrocarbon fires.
- Insensitive to artificial light sources, such as halogen lights.
- Consistent, high sensitivity, flame detection throughout a 90° field of view due to 256 individual sensors.
- Consistent detection of different types of hydrocarbon fuels from alcohol to aviation fuel with range or size of fire related to calorific value of the fuel.
- Pinpoint location of the fire within the field of view enabling more effective counter measures to be taken.
- Regular self-testing of critical electronic circuits and regular monitoring of the detector window (OIM) reducing the frequency of regular maintenance visits.
- Integral flame simulation for verification of detection path enabling either easy walk-testing of the installation or testing by remote control to ensure continued reliability of the detector operation.
- Options of different system interfaces as standard.
- Sealed to IP66 and IP67 (when suitable cable gland and sealant are used) ensuring long term reliability in harsh environment.
- Software masking of identified unwanted sources of radiation in the detector field of view.

FLAMEVision alarm superimposed on a CCTV image (Illustration only)



FLAMEVision Dimensions



Adjustable Mounting Bracket and Surface Mounting Dimensions

Mechanical Characteristics

Dimensions

Height	155.5 mm
Width	152.0 mm
Depth	92.0 mm
Weight	4 kg
Mounting bracket	
Weight	1.54 kg

Materials

Enclosure	Stainless steel 316L, ANC4BFCLC to BS 3146: Part 2
Detection window	Sapphire
Camera window	Toughened glass
Guard/label plate	Stainless steel 316S16 to BS 1449: Part 2
Mounting bracket	Stainless steel 316S16 to BS 1449: Part 2
Exposed Fasteners	Stainless steel 316 A4
Electronic modules	Fibreglass substrate

Electrical access

FV311 series detectors	Standard M20 gland holes (2)
FV312 series detectors	Multi twisted pair screened cable

Interface outputs

MODBUS / 4-20mA / Fire and fault relay / Video Out

Environmental Characteristics

Temperature

Operating temperature	-40°C to + 80°C (no camera)
Operating temperature	+10°C to + 55°C (incl. camera)
Maximum temperature	120°C (for 10 minutes max.)
Storage temperature	-40°C to + 80°C

Humidity

Relative humidity	Up to 99% (non condensing)

Enclosure Protection

Enclosure protection	Tested to IP66 and IP67

Pressure

Normal operating atmospheric pressure	910 mbar to 1055 mbar

Heat Radiation

Heat radiation from sun	0 to 1kWm^2 typical

Camera Specification

Composite video	(1V p-p) into 75 Ohm
Horizontal resolution	Standard 450 TVL
Light Sensitivity (-30 IRE)	0.3 Lux
Iris / Exposure control	Elect. 1/50 - 1/100,000 sec

Specifications

Vibration & Shock

The following maximum levels are applicable:

Operational vibration	1.24 mm displacement (from 5 Hz to 14.2 Hz)
	1.0 g (from 14.2 to 150 Hz)
Operational shock/impact	20.0ms^2

Electromagnetic Compatibility

Tested to the following levels:

Radiated radio frequency	10V/m (from 80MHz to 2GHz)
	30V/m (from 415MHz to 466MHz)
	30V/m (from 890MHz to 960MHz)
Conducted radio frequency	10V/m (from 150kHz to 100MHz)
Fast electrical transient	± 2kV (applied for 5 minutes)
Slow high-energy surge	± 2.4kV
Electrostatic discharge	± 8kV (air discharge)
	± 6 kV (contact discharge)

Flameproof Certification

All variants of the FLAMEVision detector are designed to comply with EN 50 014 and EN 50 018 for flameproof enclosures. They are certified: ATEX code: II 2 G Cenelec code: EEx d IIC T4 (-40°C to +80°C) and T5 (-40°C to +65°C) Under ATEX certificate number Baseefa04ATEX0176X. This certification shows the FLAMEVision detectors are certified 'flameproof', meeting the requirements of EN 50014 and EN 540018. They are classified as suitable for zones 1 and 2 areas over an ambient temperature range -40°C to +80°C for temperature class T4 gasses, or up to +65°C for temperature classification T5 gasses.

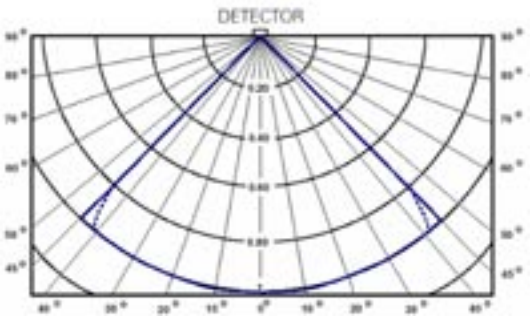
Ordering Information

Detectors

516.300.006	FV311S cable gland entries no camera
516.300.008	FV311SC cable gland entries - PAL camera
516.300.007	FV311SC-N cable gland entries - NTSC cam.
516.300.055	FV312S sealed back box - no camera
516.300.057	FV312SC sealed back box - PAL camera
516.300.056	FV312SC-N sealed back box - NTSC camera

Ancillary equipment

517.300.001	MB300 FLAMEVision Mounting Bracket
517.300.002	WH300 FLAMEVision Weather Hood
517.300.021	WT300 FLAMEVision Walk Test Tool
517.300.022	CTI300 FLAMEVision Off-line Config. Tool
517.300.006	MK300 FLAMEVision Field Spares Kit



FLAMEVision Coverage Plan

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