FLAME VISION SERIES 300 & 400

HIGH PERFORMANCE FLAME DETECTION

tyco Gas & Flame Detection

Safer. Smarter. Tyco.™

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The FLAMEVision family of flame detectors use patented IR array and triple IR solar blind technologies to provide reliable and cost effective fire detection solutions. FLAMEVision can be trusted in high dependency situations where fast acting and accurate flame detection is essential. FLAMEVision detectors offer superior performance in any weather conditions and lighting situations with the added benefit of fire event location information provided by the IR array.

FLAMEVision can protect all hydrocarbon risks in classified hazardous explosive and non hazardous atmospheres. There is a wide range of system design options available with flexible monitoring and control interfaces and integrated video camera for verification purposes. Installation and maintenance procedures are easy and efficient, minimizing the lifetime cost of ownership and reducing the need for complex test equipment and high level operator training.

FEATURES

- **Reliability:** Choice of IR array or enhanced Triple IR solar blind technologies allow users to tailer their systems to provide reliable and fast fire detection.
- **Fast Acting:** FlameVision reacts quickly to minimize the effect of fire and improve life safety through detection with less disruption and downtime.
- **Operator verification:** Optional integrated video camera assists with operator verfication. Also post event analysis and help with alignment verification of sensors.
- **Optimum protection in all weather conditions:** FLAMEVision maintains sensitivity using the enhanced IR sensors through heavy rain, snow, fog and morning dew.
- **Use in hazardous explosive atmospheres:** FLAMEVision is approved for protection regardless of area classification for all applications throughout the facility.
- **Reduced spare inventory and simpler maintenance:** Intrinsically safe, low cost and easy to use test equipment simplifies maintenance and reduces service costs.
- **Easy integration:** FLAMEVision interconnects to site control and safety systems via a range of standard industrial interfaces.
- **Complete peace of mind:** FLAMEVision detectors continually monitor all electronics and perform regular optical window tests.

TYPICAL APPLICATIONS

- Fuel Transport Load Facility
- Diesel Engine Rooms
- Aircraft Hangars
- Outdoor Fuel Storage Tanks
- Underground transportation tunnels
- Refineries
- Waste Management/ Transfer
- Compressor Stations

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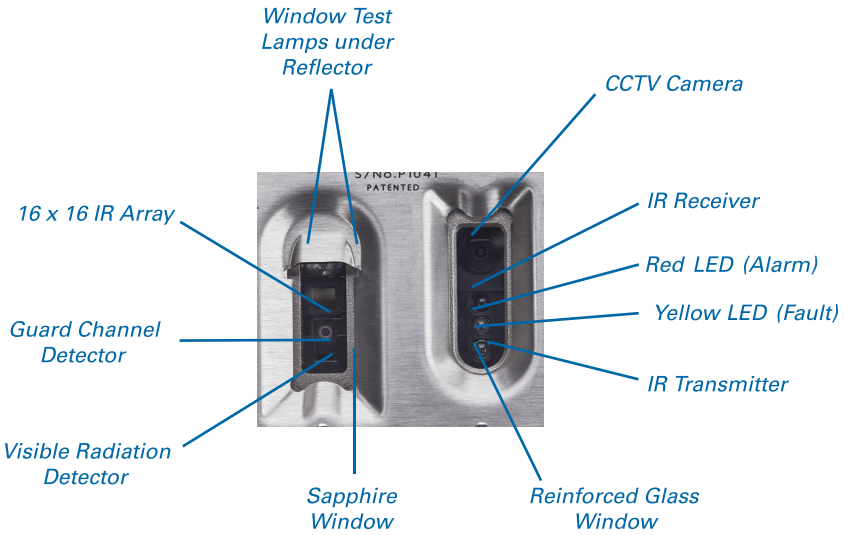
FLAMEVision FV300

FLAMEVision FV300 uses Infra-Red Array based sensing technology to provide the ultimate programmable flame detector. An array of 256 infrared sensors plus two optical channels view the protected area. Powerful algorithms running on a Digital Signal Processor (DSP) are tuned to the characteristics of a fire and accurately the signals from these channels quickly and reliably identify fires. A key advantage of using an array is that the detector can accurately identify the location of the flame within the field of view. The location information is used to overlay a marker on the live video output to highlight the fire location. The user can quickly see the location of fires, and decide on the appropriate action. The location information is also available on the field network interface. User defined areas within the field of view can be masked and un-masked dynamically to improve reliability and maintain maximum coverage at all tImes. The detector can be supplied with an optional integrated color video camera to display a live image of the field of view. This is in addition to the alarm location and status information, which is available as standard on the video output.



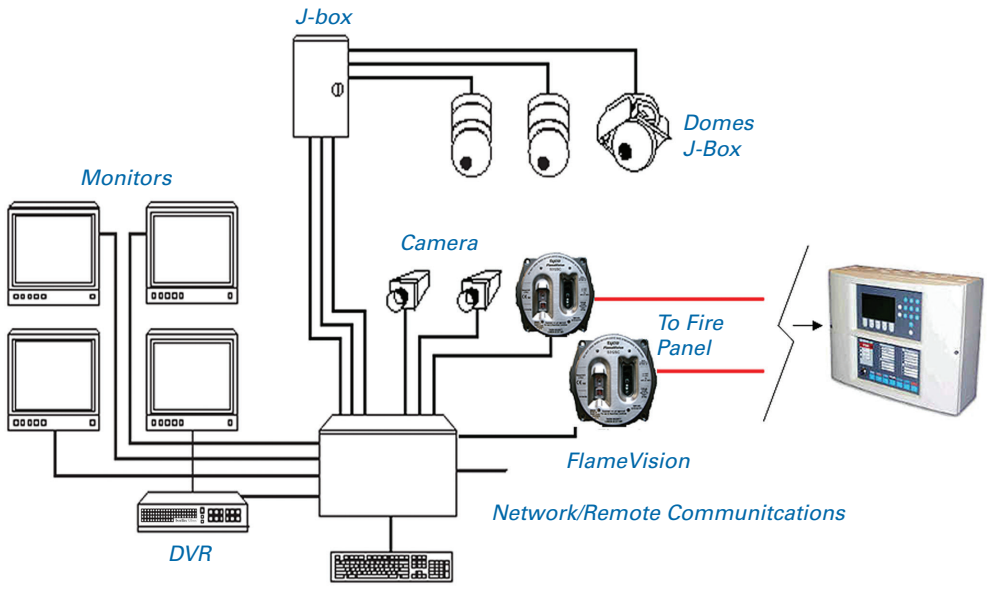
FEATURES

- Advanced array based detector
- Powerful DSP with algorithms to give reliable flame detection of up to 4 radiation sources
- Detection range: Over 50m for 0.1m2 n-heptane pan fire
- Field of view: 90o horizontal, 85o vertical with full range maintained
- High immunity to false alarms
- Solar blind
- Masking of areas in field of view
- Automatic optical path monitoring
- Advanced self test and service features
- Built-in video camera (option): view protected area with alarm location and status overlay
- IEC 61508 Approved (SIL2)

FV300 KEY FEATURES INTERFACES

- Fire & Fault relay contacts NO or NC
- 4-20mA Sink or Source
- MODBUS
- Composite Video o/p ELECTRICAL
- Supply Voltage: 20 to 30 Vdc
- Current Consumption (max): 196mA quiescent current, 205mA Alarm (24 Vdc)
- Heater: 90mA @ 24Vdc
- Connections: 2.5mm2 (14AWG) Terminals DETECTOR PERFORMANCE
- Range (0.1m2n-heptane): 50m
- Field of view: 90O horizontal, 85O vertical

FV300 Operation

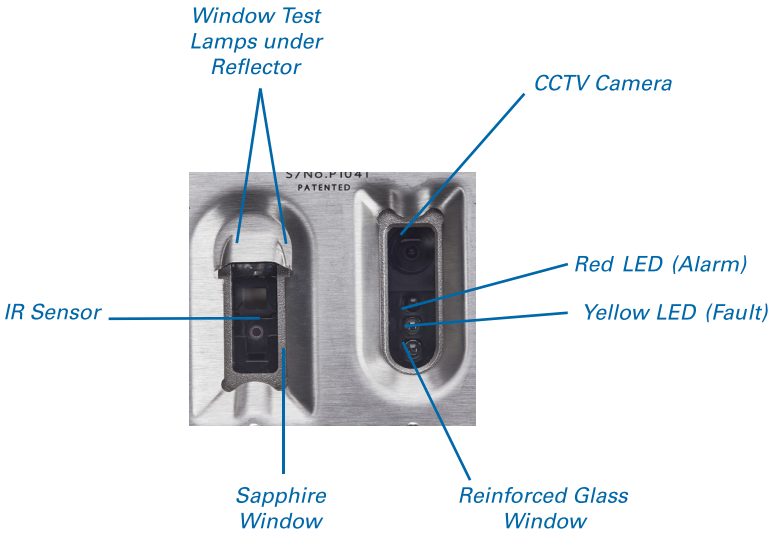


FLAME VISION SERIES 400

FLAMEVision FV400 uses Triple IR solar blind technology for flame detection. This provides a reliable and cost effective solution in standard flame detection applications especially where there is a single hazard in the field of view. The FV400 FLAMEVision detectors use Triple IR solar blind sensing technology and flame detection algorithms to provide high performance sensing capabilities for hydrocarbon fires. This includes the ability to reliably sense flames through high densities of solvent vapors and black smoke, increasing the probability of early detection with consistent detection of many different types of hydrocarbon fuels from alcohol to aviation fuel. Multiple interfaces are provided with the option of an integral CCTV camera to provide a visual means of operator verification.

FEATURES

- Triple IR solar blind sensing technology
- Flexibility in multiple field interfaces
- Detection range: Up to 65m for 0.1m2 n-heptane pan fire
- Automatic optical path monitoring
- Integral flame simulation and remote walk test help reduce the ongoing lifetime cost of the flame detection installation
- Video verification via the integrated optional flameproof camera



FV400 KEY FEATURES

INTERFACES

- Fire & Fault relay contacts NO or NC
- 4-20mA Sink or Source
- Conventional detector I/F
- MODBUS
- Tyco MZX Digital Loop
- Composite Video o/p

ELECTRICAL

- Supply Voltage: 18 to 30 Vdc
- Current Consumption (max): 12mA quiescient current, 22mA Alarm (24 Vdc - interface dependent)
- Heater: 90mA @ 24Vdc External supply required only for camera, heater or MODBUS options
- Connections: 2.5mm2 (14AWG) Terminals

DETECTOR PERFORMANCE

- Range (0.1m2 n-heptane): 65m
- Field of view: 90o horizontal, 85o vertical

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Scott Safety has a long history in the fire safety industry, but it has also been successfully making a mark in the gas detection and protection industry for over 50 years. The FLAMEVision Series Flame Detectors are part of the newest generation of flame detection equipment, innovatively designed to keep personnel the safest they can be.

TECHNICAL SPECIFICATIONS

Mechanical - Detector

Dimension:	155.5 mm (6.1") H x 153 mm (6") W x 92 mm (3.6") D
Weight :	4 kg 8.8 Lb
Gland entry:	2 x M20
Material: to BS3146: Part 2	Stainless steel 316L, ANC4BFCLC
Guard/label plate: 1449: Part 2	Stainless steel 316S16 to BS
Screws external:	Stainless steel 316 A4
Detection window:	Sapphire
Camera window:	Toughened glass

Mechanical - Bracket

Dimension:	181mm (7.2") H x 125 mm (5") W x 95mm (3.75") D
Material:	Stainless steel 316S16 to BS 1449: Part 2
Weight:	1.54kg (3.2lb)

Environmental

Operating temp:	-40°C to +80°C
Storage temp:	-40°C to + 80°C
Operating temp of camera:	-10°C to +50°C
Storage temp with camera:	-20°C to + 70°C (operating temperature is reduced for T5 risks)
Relative humidity:	99% (non condensing)
Enclosure:	IP 66

Flameproof certification:

FV300: ATEX Ex II 2 G D, IECEx, FM, SIL2

FV400: ATEX Ex II 2 G D, IECEx (FM & SIL2 approval pending)

EN54 Approval

CPD EN54-10:2002 + A1:2005

FV300 is classified as Class 1

FV400 is classified as Class 1 on the Extended and Normal range settings.

FV400 is classified as Class 3 on the Half range setting.

Camera Specification

Composite video: (1V p-p) into 75 Ohm via twisted pair balum

Horizontal resolution: Standard 450 TVL

Light sensitivity: (-30 IRE): 0.3 Lux

FV300 ORDERING INFORMATION		
516.300.006	FV311S	IR Array Flame Detector
516.300.007	FV311SCN	IR Array Flame Detector – NTSC camera
516.300.008	FV311SC	IR Array Flame Detector – PAL camera
FV400 ORDERING INFORMATION		
516.300.411	FV411f	Triple IR Flame Detector
516.300.412	FV412f	Triple IR Flame Detector – PAL camera
516.300.413	FV413f	Triple IR Flame Detector – NTSC camera
516.300.421	FV421i **in development*	Triple IR Flame Detector – Intrinsically Safe (I.S.)
FLAMEVISION ACCESSORIES		
517.300.001	MB300	FV Mounting Bracket
517.300.002	WH300	FV Weather Hood
517.300.006	MK300	Field Spares Kit
517.300.021	WT300	Walk Test Controller
517.300.022	CTI300	FV300 Offline Configuration Tool
517.300.024	CTI400	FV400 Offline Configuration Tool

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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