FIRE & GAS DETECTION TECHNOLOGIES INC.

True innovation in Flame Detection

The FlameSpec Family

A complete range of high performance
Triple IR (IR3) and UVIR flame detectors with
optional integrated High Definition Camera

ASSEMBLED IN USA

www.fg-detection.com

ABOUT US

With over 30 years experience in the design and manufacture of Flame Detection, Fire & Gas Detection Technologies Inc. is addressing the daily problems that impact productivity, safety and the bottom line with new innovative solutions in Flame Detection and Analysis. Our focus is to provide equipment that will be used to create a safer working place in the face of accidents and process safety failures by providing Operators with the most important, reliable information allowing optimum Safety and Incident response decision making.

We are committed to respond to the market requirements for improved performance and more reliable flame detection products. That includes:

• Fastest speed of response • Highest immunity to false alarms • Operation in all weather conditions • Reduced cost of ownership • Expert technical & application support • Technical Excellence • Continuous Improvement

WHY FLAMESPEC

Best in Class Performance

- FM3260 & EN54-10 Approval
- Superior False alarm rejection
- Speed of response
- Wide range of tested fuels
- Up to 100m detection range
- Ultrafast 5ms UVIR & 40ms IR3 detection speed
- Low Power consumption
- 4.9mega pixel HD camera

Integration

- 5x Sensitivity settings
- Low Power consumption
- Enhanced operator software
- IP68/IP66 housing
- 3 or 4 wire 4-20mA
- 3 x Relays Alarm, Fault, Aux
- Modbus RTU RS485 and HART7 digital output
- Data & Event Logger

Quality

- Black Box video recording
- Dynamic Heated lens
- No undetected Failures SIL2
- MTBF >250,000 hrs
- Built in Test with Dirty Optics Warning
- Conformal Coated PCBs

OUR NEW FEATURES

- 3 x SPST relays Alarm, Fault & Auxiliary for increased flexibility
- HART 7 Digital Communication
- SIL 2 Certification
- 5 Sensitivity settings IR3
- Dirty Optics Warning feature
- Hot CO_2 alarm rejection function
- NFPA 33 Hi-Speed Performance FM tested (<0.5secs to alarm)
- 4.9 MegaPixel Integrated HD camera
- Black-Box video recording HD Inside

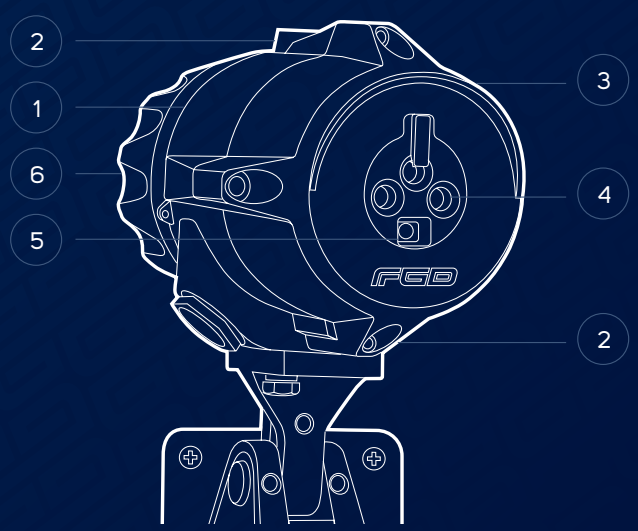
FLAME DETECTORS

with integrated High Definition video

An integrated High-Definition (HD) Camera allows clear imaging of fire and people at 100 ft. (30m). All fire events are recorded and stored in the detector for local or remote download and analysis. Continuous HD video can also be streamed live to a control room and recorded on a Network Video Recorder (NVR).

MECHANICAL DESIGN

1. 316 Stainless Steel Housing with Electro-Polish finish
2. Easy retrofit to existing mounts
3. Precipitation lip
4. Individually machined Sensor Aperture for maximum signal accuracy reducing interference
5. Integrated HD IP Camera
6. Integrated Terminal Connections separated and hermetically sealed from the main enclosure NEMA 4X/6P



FLS-X3 Detector CO2L – Hangar Mode

The FlameSpec IR3-ASx3 flame detector has been optimised to provide fast, robust detection for a wide range of hydrocarbon fires where combustion exhaust may be present. Whilst detecting real fires, the IR3-ASx3 will analyse and reject any false signal from a hot CO_2 exhaust.

Typical applications include: Aircraft hangars; Hardened; Aircraft shelters; Helipads; Areas with high vehicle activity: Waste recycling facilities, Road/Rail tanker loading racks.

FLS-X5 Detector for Hi-Speed Detection

The FlameSpec ASx5 range flame detectors have been optimised to provide extra-fast detection of fires in hi-speed production processes. The detector is designed to meet the NFPA33 standard which requires the detector to alarm on an event in less than 0-5secs. Performance tested and approved, the FLS ASx5 range is available in UVIR, IR3 and IR3-H2 configurations.

Typical applications include: Automotive Spray Booths; High speed printing and coating; Fast moving conveyors and trains. Aerosol filling stations.

FlameSpec IR3

FLS IR3-HD
FLS IR3 (without HD camera)

Triple IR (IR3) Flame Detector with HD video detects hydrocarbon fuel and gas fires at long distances and provides the highest immunity to false alarms with its triple spectrum design.

The unmatched detection times and distances are:

- 40ms for fast fire burst or explosion
- 1.5s for 1 ft^2 ($0.1m^2$) pan fire at 0–100 ft. (0–30m)
- 4s for 1 ft^2 ($0.1m^2$) pan fire at 100–230 ft. (30–70m)
- RGB Colour or Near IR greyscale video output
- TCP-IP or analogue
- 4.9 megapixel resolution
- ONVIF profile S compatible
- Up to 200 video events record capacity

When Every Second Counts...

FlameSpec UVIR

FLS UVIR-HD
FLS UVIR (without HD camera)

A UV and IR detector, comprising an IR sensor that operates at a wavelength of 2.7 µm and a solar blind UV sensor, the FLS UVIR-HD detects hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires. The UV sensor has a special logic circuit that prevents false alarms from solar radiation.

- 5ms for fast burst of explosion
- 1.5s for 1 ft^2 ($0.1m^2$) pan fire at 0–50 ft. (0–15m)
- Up to 3s for 1 ft^2 ($0.1m^2$) pan fire at 50–100 ft. (15–30m)
- RGB Colour or Near IR greyscale video output
- TCP-IP or analogue
- 4.9 megapixel resolution
- ONVIF profile S compatible
- Up to 200 video events record capacity

FlameSpec IR3

FLS IR3-H2-HD
FLS IR3-H2 (without HD camera)

Detects "invisible" hydrogen (H2) gas fires at long distances and provides the highest immunity to false alarms with its triple spectrum design. A special filter in front of the HD camera allows you to see the "invisible" fire.

The FLS IR3-H2-HD is fast, responding in:

- 40ms for fast fire burst or explosion
- 1.5s for 32" (0.8m) hydrogen fire at 0–66 ft. (0–20m)
- 4s for 32" (0.8m) hydrogen fire at 66–100 ft. (20–30m)
- RGB Colour or Near IR greyscale video output
- TCP-IP or analogue
- 4.9 megapixel resolution
- ONVIF profile S compatible
- Up to video 200 events record capacity

ACCESSORIES

Air Shield Assembly

Part no. FLS-ASD-S01/S02

Optical flame detectors are often used in highly polluted or dirty areas, where maintenance personnel are forced to access the detector frequently to clean its optical window. The FLS-ASD-SOx air shield, has been specifically developed for FlameSpec series of optical flame detectors, allowing the detector to be installed under tough environmental conditions, where they may be exposed to oil vapors, sand, dust, and other particulate matter.

Tilt Mount Assembly

Part no. FLS-TMO-S01/S02

FlameSpec tilt mount adaptor enables wall or pole mounting of both Standard and HD Flame Detectors. Wall mount option gives >90° lateral movement and 75° Vertical movement for exceptional mounting flexibility.

Weather Cover Assembly

Part no. FLS-WCO-S01/S02

Weather shield provides additional environmental protection against rain, snow and sun. Mounting directly the top of the detector. 316 stainless Steel construction for long life in all environments.

Pole Mount Assembly

Part no. FLS-PMA-S23

The pole mount enables to install the detectors with its mounting brackets. Stainless Steel construction for long life in all environments.

USB Adapter

Part no. USB/RS485

USB/RS485 converter kit for connection of detector RS485 output to PC/Laptop for use with FGD Communicator Software.

HART 7 Digital Communication Across the range. Why is HART useful on a flame detector? HART offers a number of features that provide value to clients from a standard HMI & Device Configuration to Asset life and event recording. HART 7 features include:

- Advanced Device-AMS Communication gives operators more useful information
- Push Notifications on events
- Unified HART 7 DTM & DD Files for broad system compatibility
- Wireless Communication ready

SIL 2 Certification according EN61508-2010:

- Up to 75 parameters monitored
- >250,000 hrs MTBF
- SIL 2 with 12 months maintenance interval
- Design process and electronics
- Design process for software

APPROVALS

Explosion Proof
- ATEX: II 2 G D
- FMus & FMc
- FMu Class I Div.1, Groups B,C&D; T4
- FMc Class I, Zone 1, Aex/Ex db IIC T4 Gb
- IECEx
- InMetro
- PESO
- EAC CU TR

Performance
- ANSI FM3260
- EN54-10

MED
- DNV GL

Functional Safety
- SIL EN61508-2010

Vibration
- MIL-STD-810C 514.2 procedure 8

APPLICATIONS COVERED

- Offshore Oil & Gas Production Platforms including FPSOs
- Onshore Oil & Gas Storage
- Battery Energy Storage System
- Automotive Paint Booths, Powder Coating and Printing
- Hydrogen, Methane Gas, Coal and Oil Fire Power Plants
- HVDC (High Voltage Distribution Centre) Electrical Distribution
- Munitions & Firework Production
- Hydrocarbon Gas and Hydrogen storage and distribution
- Truck & train loading and offloading terminals
- Fixed and Mobile Compression Power Units
- LNG, LPG and Hydrogen bottling plants
- Hydrogen Generation
- Ammonia to Hydrogen production
- Aircraft Hangars and Refueling area
- Helicopter refueling and Helidecks
- Fertiliser production and storage

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