fire protection
TECHNOLOGIES

Fike®

IR3-HD CO2L Triple IR Flame Detector

The IR3-HD CO2L flame detector provides exceptional detection performance for all types of hydrocarbon fires (visible and non-visible). It has been optimized to provide fast, robust detection for a wide range of heavy hydrocarbon fires where combustion exhaust gases may be present. Typical applications include aircraft hangars, helipads, and areas with high vehicle activity.

The detector responds to slow-growing fires as well as fast fire eruptions using improved triple IR (IR3) technology, operating in all weather and light conditions with the highest immunity to false alarms.

High-definition (HD) color video output of the monitored area provides clear imaging of fire events and personnel at distances up to 100 ft. (30m), allowing responders to know the exact situation before entering the hazardous area. Video and data of events are stored and saved quickly to non-volatile memory for post-incident investigation. The recordings start one minute before detection and continue for up to four minutes.

KEY BENEFITS

- High Immunity to False Alarm
- Detects up to 262ft. (80m) for a $1ft^2$ ($0.1m^2$) n-heptane fire
- Ultra-fast detection mode – detection within 40 milliseconds for fireballs or explosions
- Fast flame detection, <1.5s for standard fire up to 100ft (30m).
- HD or composite video output with automatic HD video recording of events.

- Built-in-Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation.
- Window heater to avoid condensation and icing
- Stainless steel tilt mount with horizontal and vertical adjustment.

ORDERING

FIK-IR3-HD-AS13	IR3 Flame Detector, SS316, 2 x M25 entries, Color VID, CO2L (SIL 2-HART®)
FIK-IR3-HD-AS23	IR3 Flame Detector, SS316, 2 x ¾" NPT entries, Color VID, CO2L (SIL 2-HART®)
FIK-IR3-HD-AS14	IR3 Flame Detector, SS316, 2 x M25 entries, Near IR VID, CO2L (SIL 2-HART®)
FIK-IR3-HD-AS24	IR3 Flame Detector, SS316, 2 x ¾" NPT entries, Near IR VID, CO2L (SIL 2-HART®)
ACCESSORIES	
FIK-TMO-S02	Tilt Mount, SS316, HD Detector (shown above)
FIK-WCO-S02	Weather Cover, SS316, HD Detector
FIK-PMA-S23	Pole Mount Adapter, 2 and 3 inch
FIK-PMA-S06	Pole Mount Adapter, 6 inch
FIK-ASD-S02	AIRSHIELD, HD Detector [1]
FIK-FSIM-IR3 KIT	Flame Simulator Kit, IR3 Detector
FIK-USB/RS485	USB/RS485 Converter Kit [2]

[1] Provides protection against dust, snow and other interferences.
[2] For PC/Laptop USB port. Includes FLS Flame Detector Communicator software.

SPECIFICATIONS

FIRE DETECTION	**Detection time and distance**	40ms for fast fire burst or explosion 1.5s for 1 ft² (0.1m²) n-heptane pan fire at 0-100 ft. (0-30m) 4.2s for 1 ft² (0.1m²) n-heptane pan fire at 100-262 ft. (30-80m)
	Sensitivity Range	5 sensitivity ranges: Extreme, High, Medium, Low, Very Low
	Field of view (IR detection)	90° Horizontal, 75° Vertical
	Time Delay	0-30 seconds
	Built in Test	Automatic and Manual
VIDEO FUNCTIONALITY	**HD Video**	Color HD, as standard.
	Video recording of alarm events	1-minute pre-event and 3 minutes post-event
	System integration protocol	ONVIF (Open Network Video Interface Forum) Profile S
ELECTRICAL SPECIFICATIONS	**Operating Voltage**	24 VDC nominal (18-32 VDC)
	Current Consumption	Standby: 180mA Maximum: 300mA all systems in operation (including window heater)
	Conduit Entries	2x cable and conduit entries: 3/4"NPT(F) or M25x1.5
	Wiring	12-20AWG (4.0-0.50mm²)
OUTPUTS	**Relays**	SPST volt-free contacts rated 2A at 30 VDC Alarm – normally open Auxiliary – normally open Fault – normally closed
	0-20mA (stepped) current output	3 wire and 4 wire configurations (sink and source) HART® rev 7.0
	Indication	Tri-color LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS-485
	Digital (for video)	IP network IEEE 802.3 100Base-T
	Composite video	NTSC or PAL
MECHANICAL SPECIFICATIONS	**Size**	7.87 x 5.12 x 5.12" (200 x 130 x 130 mm)
	Weight	Detector (stainless steel 316): 9.8 lbs. (4.4 kg) Tilt mount (stainless steel 316): 5.4 lbs. (2.4 kg)
ENVIRONMENTAL SPECIFICATIONS	**Temperature Range**	Operating: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
	Humidity	Up to 99% (RH), non-condensing
	Ingress Protection	IP66 & 68; NEMA 4X & 6P
APPROVALS	**ATEX**	ATEX: II 2 G D Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
	IECEx & INMETRO	Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
	FMus & FMc	Class I, Div. 1, Groups B, C & D; T4 -50°C≤Ta≤85°C or T5 -50° C≤Ta≤75°C Class II/III, Div. 1, Groups E, F, G; T4 -50°C≤Ta≤85°C or T5 -50°C≤Ta≤75°C Class I, Zone 1, AEx/Ex db IIC T4 Gb or Class I, Zone 1, AEx/Ex db eb IIC T4 Gb -50°C≤Ta≤85°C Class I, Zone 1, AEx/Ex db IIC T5 Gb or Class I, Zone 1, AEx/Ex db eb IIC T5 Gb -50°C≤Ta≤75°C Zone 21, AEx/Ex tb IIIC T95°C Db -50°C≤Ta≤75°C or Zone 21, AEx/Ex tb IIIC T105°C Db -50°C≤Ta≤85°C
	Performance	ANSI FM 3260 EN 54-10
	Functional Safety	Complies with SIL2, per IEC 61508 - option available
WARRANTY	**5 Years**	

IMMUNITY TO FALSE ALARMS AT EXTREME SENSITIVITY (modulated/unmodulated)

False Alarm Source	Maximum Distance in ft. (m)
Sunlight, Direct, Reflected	No response at any distance
Sunlight, Direct, Reflected, with water drops on sensors	No response at any distance
Incandescent frosted glass light, 300W	2.0 (0.5)
Fluorescent, 70W (3x23.3W)	2.0 (0.5)
Electric arc	2.0 (0.5)
Arc welding	12.0 (3.5)
Radiation heater, 1850W	2.0 (0.5)
Radiation Heater, 1850W with water droplets on sensors	2.0 (0.5)
Quartz lamp (1000W) shielded	2.0 (0.5)
Quartz lamp (500W) non-shielded	2.0 (0.5)
Quartz lamp (500W) non-shielded with water drops on sensors	2.0 (0.5)
Mercury vapor lamp 160Wx3	2.0 (0.5)
Car Exhausts	2.0 (0.5)
Projector LED	2.0 (0.5)
Solenoid bell	2.0 (0.5)
Soldering iron	2.0 (0.5)
Electric Drill	2.0 (0.5)

RESPONSE CHARACTERISTICS (Standard models, X1 and X2)

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time (s)
N-Heptane	1 x 1 ft.	Extreme	262 (80)	4.2
N-Heptane	1 x 1 ft.	High	197 (60)	3.7
N-Heptane	1 x 1 ft.	Medium	98 (30)	0.8
N-Heptane	1 x 1 ft.	Low	49 (15)	1.2
N-Heptane	1 x 1 ft.	Very Low	24.5 (7.5)	1.0
Gasoline	1 x 1 ft.	Extreme	230 (70)	3.2
Gasoline	1 x 1 ft.	Medium	98 (30)	1.0
Diesel	1 x 1 ft.	Extreme	164 (50)	3.6
Diesel	1 x 1 ft.	Medium	79 (24)	2.4
JP5	2 x 2 ft.	Extreme	292 (80)	10.3
JP5	1 x 1 ft.	Extreme	164 (50)	3.6
JP5	1 x 1 ft.	High	148 (45)	3.2
JP5	2 x 2 ft.	Medium	148 (45)	3.2
JP5	1 x 1 ft.	Medium	82 (25)	1.4
JP5	1 x 1 ft.	Low	39 (12)	1.2
JP5	1 x 1 ft.	Very Low	20 (6)	1.1
Kerosene	1 x 1 ft.	Extreme	164 (50)	3.5
Kerosene	1 x 1 ft.	Medium	82 (25)	1.2
Polypropylene	1 x 1 ft.	Extreme	115 (35)	3.3
Polypropylene	1 x 1 ft.	Medium	66 (20)	3.3
Isopropanol (IPA)	1 x 1 ft.	Extreme	180 (55)	2.5
Isopropanol (IPA)	1 x 1 ft.	Medium	75 (23)	1.2
Wood	1 x 1 ft.	Extreme	131 (40)	5.7
Wood	1 x 1 ft.	Medium	66 (20)	1.0

PRODUCTS:

Gaseous Suppression

Inert Gas (IG-01, IG-55, IG-100, IG-541)
Novec 1230™ Fluid (FK-5-1-12)
FM-200® (HFC-227ea.)
Carbon Dioxide (CO_2)
Hybrid Systems (N_2 / Water)
Pressure Relief Vents
Enclosure Integrity Testing Equipment
Pipe & Fittings

Water Suppression

Water Mist - High Pressure
Water Mist - Intermediate Pressure
Water Mist - Low Pressure
Hybrid Systems (Water / N_2)
Monitors & Delivery Systems
High Speed Deluge

Foam Suppression

Foam Concentrates
Foam Proportioning
Foam Delivery Systems
Compressed Air Foam
Foam Concentrate Testing

Explosion Protection

Explosion Suppression
Explosion Isolation
Explosion Vents & Pressure Relief
Spark Suppression
Explosibility Testing

Fire Detection

Linear Heat Detection - Digital
Linear Heat Detection - Fibre Optic
Linear Heat Detection - Micro Chip
Flame Detection
Video Imaging Detection
Spark Detection
Control & Indicating Equipment
Thermal Imaging Detection
Aspirating Smoke Detection

Military & Defence

Military Vehicles
Naval Vessels

Special Applications

Micro Environment
Oxygen Reduction
Kitchen Protection Systems
Dry Chemical
Vehicle Systems
Marine & Offshore
Vapour Mitigation
Li-Ion Fire Systems

Support Services

Design / Engineering
Technical Support
Services & Testing

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