fire protection
TECHNOLOGIES

Fike®

UV-IR Flame Detector

The UV-IR flame detector provides ultra-fast response, high performance, and reliable detection of a large variety of fires, including hydrocarbon fires (visible and non-visible), as well as hydrogen and methane/hydrogen mixed fires. The detector addresses both slow-growing fires and fast eruptions of fire using improved UV-IR technology. The detector operates in all weather and light conditions.

KEY BENEFITS

- High immunity to false alarm
- High sensitivity – up to 100 ft. (30m) for a 1 ft^2 (0.1m^2) n-heptane pan fire
- Hydrocarbon and non-hydrocarbon flame detection
- Ultra-fast detection mode detection within 5 milliseconds for fireballs or explosions
- High speed (<0.5s) model [X5] available for compliance with NFPA 33
- Event logger – alarms, faults, and other relevant events are logged into memory
- Built-in-Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation
- HART® 7, for configuration & maintenance - option available.
- Window heater to avoid condensation and icing
- Stainless steel tilt mount with horizontal and vertical adjustment
- Detects high UV (sparks and arcs) or IR levels via auxiliary relay and 4-20mA
- SIL 2 compliant - option is available.

ORDERING

FIK-UV-IR-AS11	UV-IR Flame Detector, SS316, 2 x M25 entries, standard configuration
FIK-UV-IR-AS11-H	UV-IR Flame Detector, SS316, 2 x M25 entries, process industry (SIL 2-HART)
FIK-UV-IR-AS21	UV-IR Flame Detector, SS316, 2 x ¾" NPT entries, standard configuration
FIK-UV-IR-AS21-H	UV-IR Flame Detector, SS316, 2 x ¾" NPT entries, process industry (SIL 2-HART)
FIK-UV-IR-AS15	UV-IR Flame Detector, SS316, 2 x M25 entries, NFPA 33 (SIL 2-HART)[1]
FIK-UV-IR-AS25	UV-IR Flame Detector, SS316, 2 x ¾" NPT entries, NFPA 33 (SIL 2-HART)[1]
ACCESSORIES	
FIK-TMO-S01	Tilt Mount, SS316, Standard Detector (shown above)
FIK-WCO-S01	Weather Cover, SS316, Standard Detector
FIK-PMA-S23	Pole Mount Adapter, 2 and 3 inch
FIK-PMA-S06	Pole Mount Adapter, 6 inch
FIK-ASD-S01	AIRSHIELD, Standard Detector [2]
FIK-DMX-S01	Duct Mount Assembly without Window, Standard Detector [3]
FIK-DMW-S01	Duct Mount Assembly with Sapphire Window, Standard Detector [4]
FIK-FSIM-UV-IR-KIT	Flame Simulator Kit, UV-IR Detector
FIK-USB/RS485	USB/RS485 Converter Kit [5]

[1] Automotive / Spray booth
[2] Provides protection against dust, snow and other interferences.
[3] Use with FIK-ASD-S01 (sold separately), tilt mount NOT needed.
[4] Tilt mount NOT needed.
[5] For PC/Laptop USB port. Includes FLS Flame Detector Communicator software.

SPECIFICATIONS

FIRE DETECTION	Detection time and distance	5ms for fast burst or explosion
		1s for 1 ft^2 (0.1m^2) n-heptane pan fire at 0-50 ft. (0-15m)
		<2s for 1 ft^2 (0.1m^2) n-heptane pan fire at 50-100 ft. (15-30m)
	Sensitivity Range	4 sensitivity ranges: Extreme, High, Medium, Low
	Field of view (IR detection)	90° Horizontal, 80° Vertical
	Time Delay	0-30 seconds
	Built in Test	Automatic and Manual
ELECTRICAL SPECIFICATIONS	Operating Voltage	24 VDC nominal (18-32 VDC)
	Current Consumption	Standby: 120mA
		180mA all systems in operation (including window heater)
	Conduit Entries	2x cable and conduit entries 3/4" NPT(F) or M25x1.5
	Wiring	12-20AWG (4.0-0.50mm^2)
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 (isolated) configurations (sink and source)
		HART® rev 7.0 (option available)
	Indication	Tri-color LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS-485
MECHANICAL SPECIFICATIONS	Size	5.51 x 3.54 x 3.54" (140 x 90 x 90 mm)
	Weight	Detector (stainless steel 316): 6.6 lbs. (3.0 kg)
		Tilt mount (stainless steel 316): 3.3 lbs. (1.5 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 (2m, 24hr); 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 -50°C≤Ta≤75°C
		Ex db IIC T4 Gb -50°C≤Ta≤85°C
	FMus & FMc	Class I, Div. 1, Groups B, C & D; T4
		Class I, Zone 1, AEx/Ex db IIC T4 Gb
		T4 -50°C ≤ Ta ≤ 85°C
		T5 -50°C ≤ Ta ≤ 75°C
	Performance	ANSI FM 3260
		EN 54-10
	Functional Safety	Complies with SIL2, per IEC 61508 (option available)
	CSFM	Listing 7210-2010:0525
WARRANTY	5 Years	

*All products designed and tested to relevant approval standards.

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
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	10.0 (3.0)
Radiation heater, 1850W	2.0 (0.5)
Quartz lamp (1000W) shielded	2.0 (0.5)
Quartz lamp (500W) non-shielded	7.0 (2.0)
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)

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FIK-UV-IR RESPONSE CHARACTERISTICS (Standard Model X1)

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time (s)
N-Heptane	1 x 1 ft.	Extreme	98 (30)	2.0
N-Heptane	1 x 1 ft.	High	75 (23)	1.7
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.0
N-Heptane	1 x 1 ft.	Low	16 (5)	1.0
Gasoline	2 x 2 ft.	Extreme	197 (60)	3.3
Gasoline	1 x 1 ft.	Extreme	98 (30)	1.8
Gasoline	1 x 1 ft.	Medium	49 (15)	1.3
Methane	32-in Plume	Extreme	59 (18)	1.4
Methane	32-in Plume	Medium	30 (9)	0.9
LPG	32-in Plume	Extreme	75 (23)	1.2
LPG	32-in Plume	High	56 (17)	1.6
LPG	32-in Plume	Medium	33 (10)	1.2
LPG	32-in Plume	Low	13 (4)	1.2
Diesel	1 x 1 ft.	Extreme	75 (23)	2.6
Diesel	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Extreme	75 (23)	3.3
JP5	1 x 1 ft.	High	56 (17)	1.8
JP5	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Low	16 (5)	1.2
Kerosene	1 x 1 ft.	Extreme	75 (23)	1.8
Kerosene	1 x 1 ft.	Medium	36 (11)	0.9
Methanol	1 x 1 ft.	Extreme	52 (16)	0.8
Methanol	1 x 1 ft.	High	43 (13)	3.2
Methanol	1 x 1 ft.	Medium	30 (9)	1.3
Methanol	1 x 1 ft.	Low	10 (3)	2.7
Ethanol	1 x 1 ft.	Extreme	62 (19)	4.1
Ethanol	1 x 1 ft.	Medium	31 (9.5)	2.9
Isopropanol	1 x 1 ft.	Extreme	75 (23)	2.2
Isopropanol	1 x 1 ft.	Medium	36 (11)	0.8
Polypropylene	1 x 1 ft.	Extreme	49 (15)	1.4
Polypropylene	1 x 1 ft.	Medium	23 (7)	0.9
Paper	1 x 1 ft.	Extreme	33 (10)	1.2
Paper	1 x 1 ft.	Medium	23 (7)	1.0
Hydrogen	32-in Plume	Extreme	66 (20)	6.4
Hydrogen	32-in Plume	Medium	33 (10)	1.0
Syngas (30%CH_4:70%H_2)	32-in Plume	Extreme	59 (18)	3.2
Syngas (30%CH_4:70%H_2)	32-in Plume	Medium	33 (10)	1.2

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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