Fike®

UV-IR-F Flame Detector

The UV-IR-F flame detector provides ultra-fast response, high performance and reliable detection of a large variety of fires including hydrocarbon fires (visible and non- visible). The detector addresses slow growing fires as well as 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
- Hydrocarbon flame detection. Spectrum response of IR radiation in the 4.0-5.0 micron range
- Ultra-fast detection mode detection within 5 milliseconds for fireballs or explosions
- High sensitivity – up to 100 ft. (30m) for a 1 ft^2 (0.1m^2) n-heptane pan fire
- Data/Event logger – alarms, faults and other relevant events are logged to non-volatile memory
- Built-in-Test (BIT) – Automatic and manual internal self-test of window cleanliness and the overall operation of the detector
- Window heater to avoid condensation and icing
- Tilt mounting bracket can be connected either above or below the detector
- UV and IR warning levels – 0-20mA – Current output warning when elevated UV or IR radiation is detected

ORDERING

FIK-UV-IR-F-AS11[1]	Detector, hydrocarbon fire only, M25 conduit openings
FIK-UV-IR-F-AS21[1]	Detector, hydrocarbon fire only, ¾" NPT conduit openings
FIK-TMO-S01[2]	Tilt Mount, Stainless Steel (shown above)
FIK-FSIM-UV-IR-KIT[2]	Flame Simulator Kit
FIK-USB/RS485[2,3]	RS-485 to USB Converter Kit
FIK-WCO-S01[2,4]	Weather Cover, Stainless Steel

[1] ATEX model available. Contact Fike at 1-800-979-3453 for ordering information.
[2] Ordered separately
[3] Converts detector RS-485 communication network to USB for connection to a computer port.
[4] Used only in very hot or very cold environments.

SPECIFICATIONS

FIRE DETECTION	**Detection time and distance**	5ms for fast burst of explosion
		1.5s for 1 ft^2 (0.1m^2) n-heptane pan fire at 0-50 ft. (0-15m)
		<3s for 1 ft^2 (0.1m^2) n-heptane pan fire at 50-100 ft. (15-30m)
	Field of view (IR detection)	90° Horizontal, 80° Vertical
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 conduit entries ¾" 14NPT or M25x1.5
	Wiring	12-20AWG (2.5-0.35mm^2)
OUTPUTS	**Relays**	Volt-free contacts rated 2A at 30 VDC
		Alarm – normally open
		Fault – normally closed
	0-20mA (stepped) current output	3 wire and 4 wire (isolated) configurations (sink and source)
	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): 6.6 lbs. (3.0 kg)
		Tilt mount (stainless steel): 3.3 lbs. (1.5 kg)
ENVIRONMENTAL SPECIFICATIONS	**Temperature Range**	Operating: -67°F to +167°F (-55°C to +75°C)
		Option: -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*	**IECEx**	Ex db IIC T5 Gb -50°C ≤ Ta ≤ 75°C
		Ex db IIC T4 Gb -50°C ≤ Ta ≤ 85°C
	FM & 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
WARRANTY	**5 Years**	

*All products designed and tested to relevant approval standards.

IMMUNITY TO FALSE ALARMS

False Alarm Source	Modulated		Unmodulated	
	Distance ft. (m)	Response	Distance ft. (m)	Response
Sunlight, Direct, Reflected		No Alarm		No Alarm
Incandescent frosted glass light, 300W	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Fluorescent, 70W (3x23.3W)	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Electric arc	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Arc welding	10.0 (3.0)	No Alarm	10.0 (3.0)	No Alarm
Radiation heater, 2000W	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Halogen lamp (1000W)	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Halogen lamp (500W) non-shielded	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Mercury vapor lamp 160Wx3	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Exhausts	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Projector LED	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Solenoid bell	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Soldering iron	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Electric Drill	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm

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RESPONSE CHARACTERISTICS

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time (s)
N-Heptane	1 x 1 ft.	Extreme	98 (30)	3.2
N-Heptane	1 x 1 ft.	High	75 (23)	1.6
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.4
N-Heptane	1 x 1 ft.	Low	16 (5)	0.9
Gasoline	2 x 2 ft.	Extreme	197 (60)	5.3
Gasoline	1 x 1 ft.	Extreme	98 (30)	3.4
Gasoline	1 x 1 ft.	Medium	49 (15)	2.7
Methane	32-in Plume	Extreme	59 (18)	1.6
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)	1.3
LPG	32-in Plume	Low	13 (4)	1.0
Diesel	1 x 1 ft.	Extreme	75 (23)	4.3
Diesel	1 x 1 ft.	Medium	36 (11)	1.6
JP5	2 x 2 ft.	Extreme	75 (23)	7.0
JP5	1 x 1 ft.	High	56 (17)	2.3
JP5	1 x 1 ft.	Medium	36 (11)	1.5
JP5	1 x 1 ft.	Low	16 (5)	2.6
Kerosene	1 x 1 ft.	Extreme	75 (23)	2.9
Kerosene	1 x 1 ft.	Medium	36 (11)	1.4
Methanol	1 x 1 ft.	Extreme	59 (18)	3.6
Methanol	1 x 1 ft.	High	43 (13)	1.2
Methanol	1 x 1 ft.	Medium	30 (9)	1.3
Methanol	1 x 1 ft.	Low	10 (3)	1.1
Ethanol	1 x 1 ft.	Extreme	72 (22)	4.5
Ethanol	1 x 1 ft.	Medium	31 (9.5)	1.2
Isopropanol	1 x 1 ft.	Extreme	75 (23)	2.8
Isopropanol	1 x 1 ft.	Medium	36 (11)	1.4
Polypropylene	1 x 1 ft.	Extreme	49 (15)	1.8
Polypropylene	1 x 1 ft.	Medium	23 (7)	1.7
Paper	1 x 1 ft.	Extreme	33 (10)	2.6
Paper	1 x 1 ft.	Medium	23 (7)	2.0