

## UV-IR-HD 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 fires. 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.

The detector provides high-definition (HD) video output of the monitored area with clear imaging of a fire event and of personnel at distances up to 100 ft. (30m) allowing rescuers to know the exact situation before entering the hazardous area. It will automatically record a video of a fire event (1 min pre-alarm / up to 3 min post-alarm).

Add to that, the integral HD quality video, with event recording, on top of the proven superior capabilities of UV-IR flame detection and you have a very powerful safety tool to protect your personnel, plant and process.



### KEY BENEFITS

- High immunity to False Alarm
- Ultra-fast detection mode detection within 5 milliseconds for fireballs or explosions
- Hydrogen and Hydrocarbons flame detection
- High sensitivity – up to 100 ft. (30m) for a 1 ft<sup>2</sup> (0.1m<sup>2</sup>) n-heptane pan fire
- HD video output with Automatic HD video recording of fire events. Data/Event logger: Alarms, faults and other relevant events are logged to non-volatile memory
- Ethernet communication – in addition to the standard methods, such as 4-20mA and Modbus
- Built-in-Test (BIT) – Automatic and manual internal self-test of window cleanliness and the overall operation of the detector (for both IR and UV channels)
- Window heater to avoid condensation and icing
- Stainless steel tilt mount with horizontal and vertical adjustment
- UV and IR warning levels – 0-20mA – Current output warning when elevated UV or IR radiation is detected

### ORDERING

<b>FIK-UV-IR-HD-AS11</b> <sup>1</sup>	Detector with HD video output, M25 conduit openings
<b>FIK-UV-IR-HD-AS21</b> <sup>1</sup>	Detector with HD video output, 3/4" NPT conduit openings
<b>FIK-TMO-S02</b> <sup>2</sup>	Tilt Mount, Stainless Steel (shown above)
<b>FIK-FSM-UV-IR-KIT</b> <sup>2</sup>	Flame Simulator Kit
<b>FIK-USB/RS485</b> <sup>2,3</sup>	RS-485 to USB Converter Kit
<b>FIK-WCO-S02</b> <sup>2,4</sup>	Weather Cover, Stainless Steel

<sup>1</sup>ATEX, EAC CU TR, HART 7 and SIL 2 models available. Contact Fike at 1-800-979-3453 for ordering information

<sup>2</sup>Ordered separately

<sup>3</sup> Converts detector RS-485 communication network to USB for connection to a computer port.

<sup>4</sup> Used only in very hot or very cold environments.

## SPECIFICATIONS

<b>FIRE DETECTION</b>	<b>Detection time and distance</b>	5ms for fast burst of explosion 1.5s for 1 ft <sup>2</sup> (0.1m <sup>2</sup> ) n-heptane pan fire at 0-50 ft. (0-15m) <3s for 1 ft <sup>2</sup> (0.1m <sup>2</sup> ) n-heptane pan fire at 50-100 ft. (15-30m)
	<b>Field of view (IR detection)</b>	90° Horizontal, 80° Vertical
	<b>Time Delay</b>	0-30 seconds
	<b>Built in Test</b>	Automatic or Manual
<b>VIDEO FUNCTIONALITY</b>	<b>HD Video</b>	Allows clear imaging of fire and humans at 100 ft. (30m) distance
	<b>Video recording of alarm events</b>	1-minute pre-event and 3 minutes post-event
	<b>System integration protocol</b>	ONVIF (Open Network Video Interface Forum) Profile S
<b>ELECTRICAL SPECIFICATIONS</b>	<b>Operating Voltage</b>	24 VDC nominal (18-32 VDC)
	<b>Current Consumption</b>	Standby: 180mA Maximum: 250mA all systems in operation (including window heater)
	<b>Conduit Entries</b>	2x cable and conduit entries ¾" 14NPT or M25x1.5
	<b>Wiring</b>	12-20AWG (2.5-0.35mm <sup>2</sup> )
<b>OUTPUTS</b>	<b>Relays</b>	SPST volt-free contacts rated 2A at 30 VDC Alarm – normally open Fault – normally closed
	<b>0-20mA (stepped) current output</b>	3 wire and 4 wire configurations (sink and source)
	<b>Indication</b>	Tri-color LED (Green, Yellow, Red)
	<b>Modbus</b>	RTU compatible on RS-485
	<b>Digital (for video)</b>	IP network IEEE 802.3 10Base-t
	<b>Composite video</b>	NTSC or PAL
<b>MECHANICAL SPECIFICATIONS</b>	<b>Size</b>	7.87 x 5.12 x 5.12" (200 x 130 x 130 mm)
	<b>Weight</b>	Detector (stainless steel 316): 9.8 lbs. (4.4 kg) Tilt mount (stainless steel 316): 5.4 lbs. (2.4 kg)
<b>ENVIRONMENTAL SPECIFICATIONS</b>	<b>Temperature Range</b>	Operating: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
	<b>Humidity</b>	Up to 99% (RH), non-condensing
	<b>Ingress Protection</b>	IP66 & 68 (2m, 24hr); NEMA 4X & 6P
<b>APPROVALS</b>	<b>IECEX</b>	Ex db IIB T5 Gb -50°C ≤ Ta ≤ 75°C Ex db IIB T4 Gb -50°C ≤ Ta ≤ 85°C
	<b>FMus &amp; FMc</b>	Class I, Div. 1, Groups B, C & D: T4 Class I, Zone 1, AEx/Ex db IIB T4 Gb T4 -50°C ≤ Ta ≤ 85°C T5 -50°C ≤ Ta ≤ 75°C
	<b>Performance</b>	ANSI FM 3260 EN 54-10
<b>WARRANTY</b>	<b>5 Years</b>	

## 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	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Radiation heater, 1850W	2.0 (0.6)	No Alarm	2.0 (0.6)	No Alarm
Quartz lamp (500W) non-shielded	10.0 (3.0)	No Alarm	10.0 (3.0)	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

## RESPONSE CHARACTERISTICS

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time (s)
N-Heptane	1 x 1 ft.	Extreme	98 (30)	3.0
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.5
Gasoline	2 x 2 ft.	Extreme	164 (50)	8.1
Gasoline	1 x 1 ft.	Extreme	98 (30)	2.9
Methane	32-in Plume	Extreme	59 (18)	4.8
LPG	32-in Plume	Extreme	75 (23)	3.2
LPG	32-in Plume	Medium	33 (10)	0.6
Diesel	1 x 1 ft.	Extreme	75 (23)	3.0
JP5	2 x 2 ft.	Extreme	75 (23)	3.1
JP5	1 x 1 ft.	Medium	33 (10)	2.1
Kerosene	1 x 1 ft.	Extreme	75 (23)	2.5
Methanol	1 x 1 ft.	Extreme	59 (18)	3.8
Methanol	1 x 1 ft.	Medium	26 (8)	2.2
Ethanol	1 x 1 ft.	Extreme	72 (22)	3.8
Isopropanol	1 x 1 ft.	Extreme	75 (23)	3.0
Polypropylene	1 x 1 ft.	Extreme	49 (15)	3.1
Paper	1 x 1 ft.	Extreme	33 (10)	3.9
H <sub>2</sub>	32-in Plume	Extreme	66 (20)	3.6