



# FLAME DETECTORS

## FLAMESPEC IR3 HD FLAME DETECTOR



FLAMESPEC  
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### DESCRIPTION

The FlameSpec IR3 HD flame detector delivers exceptional detection performance of all types of hydrocarbon fires (visible and non-visible). The detector addresses slow-growing fires and fast eruptions of fire using improved triple IR technology in all weather and light conditions with the highest immunity to false alarms.

The detector provides high-definition (HD) colour video output of the monitored area with clear imaging of fire events and personnel up to 30 metres, allowing responders to know the exact situation before entering the hazardous area.

All fire events are recorded and stored in the detector for local or remote download and analysis. The recordings start one minute before detection and continue for up to four minutes; the event video can be used for post-incident investigation. Continuous HD video can also be streamed live to a control room and recorded on a Network Video Recorder (NVR).

### FEATURES

- Highest immunity to false alarms.
- Hydrocarbon flame detection. Three wavelengths, in the infrared spectral range of 4.0 to 5.0  $\mu\text{m}$ , with clear separation.
- Each sensor has the same field of view to improve false alarm immunity further.
- HD, or composite, video output with automatic HD video recording of events.
- Ultra-fast detection within 40 milliseconds for fireballs or explosions.
- Fast flame detection, <1.5 s for standard fire up to 30 m. Option for <0.5 s in compliance with NFPA 33 available.
- Detects up to 80 metres for a 0.1 m<sup>2</sup> n-heptane fire.
- Five selectable sensitivity levels.
- Universal outputs, 3 and 4 wire, 4-20 mA sink/source, Fire, Auxiliary and Fault Relays. RS485 port using Modbus RTU.
- Event logger: Alarms, faults and videos are logged to non-volatile memory.
- Built-in Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation.
- Dirty optics warning for preventive maintenance needs.
- Window heater to avoid condensation and icing.
- Stainless steel tilt mount with horizontal and vertical adjustment.
- HART® 7 for configuration and maintenance option available.
- SIL2 option available.
- 5-Year warranty.





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### SPECIFICATIONS

<b>FIRE DETECTION</b>	<b>Detection Time &amp; Distance</b>	40ms for fast fire burst or explosion 1.5s for 0.1 m <sup>2</sup> pan fire at 0–30m 4.1s for 0.1 m <sup>2</sup> pan fire at 30–80m
	<b>Sensitivity Range</b>	Five sensitivity ranges: Extreme, High, Medium, Low, Very Low
	<b>Field of view (IR detection)</b>	90° Horizontal, 75° Vertical
	<b>Time Delay</b>	0-30 seconds
	<b>Built-in Test</b>	Automatic and Manual
	<b>HD Video</b>	Colour HD as standard. Near IR filtered option (X2 on request)
<b>VIDEO</b>		
<b>FUNCTIONALITY</b>	<b>Recording of alarm events</b>	1 minute pre-event and up to 3 minutes post-event
	<b>System integration protocol</b>	ONVIF (Open Network Video Interface Forum) Profile S
<b>ELECTRICAL</b>	<b>Operating Voltage</b>	24 VDC nominal (18-32 VDC)
	<b>Current Consumption</b>	Standby: 180mA Maximum: 300mA (including window heater)
	<b>Conduit Entries</b>	2x cable and conduit entries 3/4" NPT(F) 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 3 Relays: Alarm & Auxiliary – normally open; Fault – normally closed
	<b>0-20 mA (stepped) current output</b>	3-wire and 4-wire configurations (sink and source) HART Rev 7.0 units available upon request
	<b>Indication</b>	Tri-colour LED (Green, Yellow, Red)
	<b>Modbus</b>	RTU compatible on RS485
	<b>Digital (for video)</b>	IP network IEEE 802.3 100Base-T
	<b>Composite video</b>	NTSC or PAL
<b>MECHANICAL</b>	<b>Size</b>	200 x 130 x 130 mm
	<b>Weight</b>	Detector (Stainless Steel 316): 4.4 kg Tilt mount (Stainless Steel 316): 2.4 kg
<b>ENVIRONMENTAL</b>	<b>Temperature Range</b>	Operating & Storage: –55°C to +85°C
	<b>Humidity</b>	Up to 99% (RH), non-condensing
	<b>Ingress Protection</b>	IP66 & 68; NEMA 4X & 6P
<b>APPROVALS</b>	<b>ATEX</b>	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
	<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>EAC CU TR</b>	1Ex d IIC T5 Gb or 1Ex de IIC T5 Gb and Ex tb IIIC T95°C Db –55°C≤Ta≤75°C 1Ex d IIC T4 Gb or 1Ex de IIC T4 Gb and Ex tb IIIC T105°C Db –55°C≤Ta≤85°C
	<b>Performance</b>	ANSI FM 3260. EN 54-10
	<b>Functional safety</b>	Complies to SIL2, per IEC 61508 - units available upon request
	<b>MED</b>	DNVGL Cert# MED-B-00006AM - units available upon request

### ORDERING INFORMATION

Product Code	Product Description
FG-IR3-HD-EXSS	IR3 Flame Detector + HD Camera: Hydrocarbon Fires, SS316
FG-WCSS-HD	Weather Cover: Flame Detector with integral HD camera, SS316
FG-AS-HD	Airshield: Flame Detectors with integral HD camera only
FG-FSIM-IR3-KIT	Flame Simulator Kit: IR3 Hydrocarbon Flame Detector

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