FLAME DETECTORS
FLAMESPEC UV/IR HD FLAME DETECTOR

**FLAMESPEC
UV/IR HD FLAME DETECTOR**

DESCRIPTION

The FlameSpec UV/IR HD flame detector provides ultra-fast response, high performance and reliable detection of a large variety of fires, including hydrocarbon fires (visible and non-visible), hydrogen and methane/hydrogen mixed fires.

The detector addresses slow-growing fires and fast eruptions of fire using improved UV/IR technology operating in all weather and light conditions. The detector provides a high-definition (HD) colour video output of the monitored area with clear imaging of fire events and personnel at distances up to 30 metres, allowing responders to know the exact situation before entering the hazardous area.

Video and data of events are quickly stored to non-volatile memory. The recordings start one minute before detection and continue for up to four minutes; the event video can be used for post-incident investigation.

FEATURES

- High immunity to false alarms.
- Hydrocarbon and non-hydrocarbon flame detection.
- High sensitivity – up to 30 m for a $0.1 m^2$ n-heptane fire.
- Ultra-fast detection within 5 milliseconds for fireballs or explosions.
- High speed (<0.5 s) model [X5] available for compliance with NFPA 33.
- HD or composite video output with automatic recording of fire events.
- Data/Event logger: Alarms, faults and videos, as well as other relevant events are logged to non-volatile memory.
- Universal outputs, 3- and 4-wire, 4-20 mA sink/source, Fire, Auxiliary and Fault Relays. RS485 port using Modbus RTU.
- Built-in Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation.
- Additional dirty optics warning for preventive maintenance needs.
- HART® 7 for configuration and maintenance option available.
- Window heater to avoid condensation and icing.
- Stainless steel tilt mount with horizontal and vertical adjustment.
- SIL2 capable option available.
- Detect high UV (sparks and arcs) or IR levels via auxiliary relay and 4-20 mA.
- 5-Year warranty.

SPECIFICATIONS

FIRE DETECTION	Detection Time & Distance	5 ms for fast burst of explosion 1.5 s for 0.1 m² n-heptane pan fire at 0–15 m <3 s for 0.1 m² n-heptane pan fire at 15–30 m
	Sensitivity Range	Four 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
VIDEO FUNCTIONALITY	HD Video	Colour HD, as standard. Near IR filtered option (X2 available on request)
	Recording of Alarm Event	1 minute pre-event and up to 3 minutes post-event
	System Integration Protocol	ONVIF (Open Network Video Interface Forum) Profile S
ELECTRICAL	Operating Voltage	24 VDC nominal (18-32V DC)
	Current Consumption	Standby: 180 mA Maximum: 300 mA (including window heater)
	Electrical Entries	2x cable and conduit entries 3/4" NPT(F) or M25x1.5
	Wiring	12-20 AWG (2.5–0.35 mm²)
OUTPUTS	Relays	SPST volt-free contacts rated 2A at 30 V DC 3 relays: Alarm & Auxiliary – normally open; Fault – normally closed
	0-20 mA (stepped) Current Output	3-wire and 4-wire configurations (sink and source) HART® rev 7.0 (option available)
	Indication	Tri-colour LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS485
	Digital (for video)	IP network IEEE 802.3 100Base-T
	Composite Video	NTSC or PAL
MECHANICAL	Size	200 x 130 x 130 mm
	Weight	Detector (Stainless Steel 316): 4.4 kg Tilt mount (Stainless Steel 316): 2.4 kg
ENVIRONMENTAL	Temperature Range	Operating: -55°C to +85°C Storage: -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 & PESO	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
	EAC CU TR	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
	Performance	ANSI FM 3260. EN 54-10
	Functional Safety	Complies to SIL2, per IEC 61508 (option available)

ORDERING INFORMATION

Product Code	Product Description
FG-UVIR-HD-EXSS	UV/IR Flame Detector + HD Camera: Hydrocarbon & Non-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-UVIR-KIT	Flame Simulator Kit: UV/IR Hydrocarbon/Non-Hydrocarbon Flame Detector

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