

FlameSpec UV-IR-F

UV-IR-F Flame Detector

Model: FLS-UV-IR-F

Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Avg Resp.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	1 x 1 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
Syngas (30%CH ₄ :70%H ₂)	1 x 1 ft.	Extreme	66 (20)	1.0
Syngas (30%CH ₄ :70%H ₂)	1 x 1 ft.	Medium	33 (10)	1.2

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Immunity to False Alarm

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 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Fluorescent, 70W (3x23.3W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric arc	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Arc welding	10.0 (3.0)	No Alarm	10.0 (3.0)	No Alarm
Radiation heater, 2000W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Halogen lamp (500W) non-shielded	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Halogen lamp (1000W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Mercury vapor lamp 160Wx3	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Exhausts	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Projector led	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Solenoid bell	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Soldering iron	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric Drill	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm

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FIRE DETECTION	Detection time and distance	5ms for fast burst of 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)
	Electrical Entries	2x cable and conduit entries 3/4" NPT(F) or M25x1.5
	Wiring	12-20AWG (2.5-0.35mm ²)
OUTPUTS	Relays	SPST volt-free contacts rated 2A at 30 VDC 3 relays: Alarm & 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 (not available XO option)
	Indication	Tri-color LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS-485
MECHANICAL SPECIFICATIONS	Size	5.51 x 3.54 x 3.54" (140x90x90mm)
	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 & PESO	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
	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 (not available XO option)
ACCESSORIES	Stainless steel weather cover, model FLS-WCO-S01	
	2" & 3" pole mount adapter, model FLS-PMA-S23	
	Airshield for areas with high airborne contamination, model FLS-ASD-S01	
WARRANTY	5 years	



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