VIKING®   TECHNICAL DATA   VSF303

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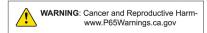## MULTI SPECTRUM IR FLAME DETECTOR

Designed for hazardous industries where fast fire detection is critical and nuisance alarms are not an option.

The Viking VSF303 is an explosion proof multi spectrum IR (IR3) flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances. The VSF303 has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at nearly 200 feet in less than 5 seconds.

Features and Benefits

The VSF303 compliments the VSF301 and VSF300 Visual Flame Detectors by delivering superior performance in the detection of hydrocarbon fires which are not detectable in the visible spectrum. The VSF303 utilizes the latest IR flame detection algorithms to ensure maximum false alarm immunity.

⚠️ **WARNING**: Cancer and Reproductive Harm-www.P65Warnings.ca.gov

Multi Spectrum IR design delivers long detection distances and enhanced false alarm immunity
• Continuous optical test, without a reflector
• Verifies operation and improves device up-time
Microprocessor controlled heated optics
• Maintains operation in harsh weather conditions (snow, ice, condensation)
International hazardous area approvals
• FM / ATEX / IEC Ex
Certified performance testing to multiple fuels
• FM 3260
• EN 54-10
Adjustable sensitivity levels
• For application flexibility
• Ensure detectors do not cross vote
External testing with a long-range flame simulator
• Minimizes the need for scaffolding
Easy integration using industry standard outputs:
• Alarm and Fault Relays
• 0-20mA
• HART® 7, as standard
• Certified SIL 2 capable
• 5 year warranty

Applications

Typical applications include:

• On/Offshore Oil and Gas Processing Facilities
• Refineries
• Petrochemical Plants
• Chemical Facilities
• Pharmaceutical
• Aircraft Hangars
• Road Tunnels
• Power Generation
• Tank Farms
• Road & Rail Loading Racks
• LNG / LPG
• Warehouses/ Storage Areas
• Waste Recycling/ Biomass Plants
• Printing Industry

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Technical Specification

Environmental
Operating Temp -76°F to +185°F (-60°C to +85°C)
Storage Temp -76°F to +185°F (-60°C to +85°C)
Humidity 0 to 100% RH non-condensing

Operating Voltage
24 VDC Nominal – (Range 18 to 32 VDC)

Power Consumption
3 W minimum (heater off)
12 W maximum (heater on)

Field of View
90° horizontal by 90° vertical

Speed of Response
5 seconds (Typical)

Flame Sensitivity

	Fuel	Fire Size	Distance
HIGH SENSITIVITY	n-Heptane	1'x1' / 30cm x 30cm	196 feet (60m)
	n-Heptane + arc welding	1'x1' / 30cm x 30cm	196 feet (60m)
	Gasoline	1'x1' / 30cm x 30cm	196 feet (60m)
	Diesel	1'x1' / 30cm x 30cm	164 feet (50m)
	Crude oil (heavy fuel)	20"x20" 0.5mx0.5m	164 feet (50m)
	JP4	1'x1' / 30cm x 30cm	196 feet (60m)
	Methane	24" plume / 60 cm	164 feet (50m)
	Ethanol	1'x1' / 30cm x 30cm	137 feet (42m)
	Methanol	1'x1' / 30cm x 30cm	137 feet (42m)
STANDARD SENSITIVITY	n-Heptane	1'x1' / 30cm x 30cm	98 feet (30m)
	Gasoline	1'x1' / 30cm x 30cm	98 feet (30m)
	JP4	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	24" plume / 60 cm	98 feet (30m)
	Ethanol	1'x1' / 30cm x 30cm	98 feet (30m)

Enclosure
Dimensions: 4" Diameter x 8" L 100 mm Dia x 200 mm
Material: Copper free aluminum or 316 stainless steel
Entry size: 3/4 inch NPT or M25
Weight: Aluminum 5.5 lbs (2.5 Kg) Stainless steel 13.2 lbs (6 Kg)

Outputs
Relay contacts - alarm and fault
0-20mA (current source)
HART 7

Certification
Class 1 Div 1 Groups B, C, D T4
Ambient –50°C to +85°C

Class 1 Zone 1 AEx/Ex db IIC T4
Ambient –50°C to +85°C

ATEX   II 2 G Ex db IIC T4
IECEx Ex db IIC T4
Ambient –60°C to +85°C

Performance approvals
FM 3260
EN 54-10
Ingress   NEMA type 4X / IP66
IEC 61508 Certified SIL 2 Capable

Accessories
Flame Simulator (VSF3008 ITEST)
Vertical to Horizontal Mounting Adapter
Standard Bracket (spare)
Marine Bracket
Detector Sealing Kit (Metric)
Flame Simulator Charger
Sun-shield
USB to RS485 Converter
USB HART Modem
2", 3" & 4" Pole Mount Bracket

FM APPROVED
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Ex
IEC
IECEx
CERTIFIED SIL 2 CAPABLE
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