

1. INTENDED USE

Designed for hazardous industries where fast fire detection is critical and nuisance alarms are not an option. The Viking VSF303 UVIR is an explosion proof ultraviolet-infrared flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances. The VSF303 UVIR has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at over 128 feet in less than 5 seconds.

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




2. APPROVALS AND CERTIFICATIONS



FMus Approved
Class 1 Div 1 Groups B, C, D T4
Ambient
 -58 °F to +185 °F
 (-50 °C to +85 °C)

Class 1 Zone 1
AEx/Ex db IIC T4
Ambient
 -58 °F to +185 °F
 (-50 °C to +85 °C)



ATEX  II 2 G Ex db IIC T4
IECEX Ex db IIC T4
Ambient -76 °F to +185 °F
(-60 °C to +85 °C)



INMETRO Ex db IIC T4*
PESO Ex db IIC T4*
Ta=-76 °F to +185 °F (-60 °C to +85 °C)



Performance approvals
FM3260
EN 54-10



Ingress NEMA type 4X/ 4P IP66/67
IEC 61508 SIL 2 Capable*
Marine ABS Product Assessment*

*Designed to meet



3. TECHNICAL SPECIFICATIONS & FEATURES

3.1 Specifications

| Parameters | Value |
|-----------------------|---|
| Operating temperature | -76 °F to +185°F (-60°C to +85°C) |
| Storage temperature | -76 °F to +185°F (-60°C to +85°C) |
| Humidity | 0 to 100% RH non-condensing |
| Operating voltage | 24 Vdc Nominal (range is 18 to 32 Vdc) |
| Outputs | Relay contacts (SPST 2 A at 30Vdc) - alarm and fault. 0-20mA, HART® |
| Power consumption | 3 W minimum (heater off); 15 W at 32 Vdc maximum (heater on) |
| Field of view | 100° horizontal by 80° vertical |
| Speed of response | less than 5 seconds (typical) |
| Dimensions | 4" diameter x 8" L (100 mm diameter x 200 mm) |
| Materials | 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 (6 Kg) |

| Flame Sensitivity | | | |
|----------------------|-------------------------|-----------------------|-------------|
| | Fuel | Fire Size | Distance |
| High Sensitivity | n-Heptane | 1'x1' / 30 cm x 30 cm | 128' (39 m) |
| | n-Heptane + arc welding | 1'x1' / 30 cm x 30 cm | 128' (39 m) |
| | Gasoline | 1'x1' / 30 cm x 30 cm | 128' (39 m) |
| | Diesel | 1'x1' / 30 cm x 30 cm | 98' (30 m) |
| | Crude oil (heavy fuel) | 20"x20" 0.5 m x 0.5 m | 98' (30 m) |
| | JP4 | 1'x1' / 30 cm x 30 cm | 98' (30 m) |
| | Methane | 39" plume / 1 m | 98' (37 m) |
| | Ethanol | 1'x1' / 30 cm x 30 cm | 98' (30 m) |
| | Methanol | 1'x1' / 30 cm x 30 cm | 98' (30 m) |
| Standard Sensitivity | n-Heptane | 1'x1' / 30 cm x 30 cm | 83' (25 m) |
| | Gasoline | 1'x1' / 30 cm x 30 cm | 83' (25 m) |
| | JP4 | 1'x1' / 30 cm x 30 cm | 55' (17 m) |
| | Methane | 39" plume / 60 cm | 83' (25 m) |
| | Ethanol | 1'x1' / 30 cm x 30 cm | 55' (17 m) |



3.2 Features

- UVIR 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
- Design to meet 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[®], as standard
- SIL 2 capable

4. ORDERING INFORMATION

Detector

| Part Number | Description |
|-------------|---|
| 27028 | 3/4 inch NPT, dual entry |
| 27029 | M25, dual entry |
| 27030 | 3/4 inch NPT, dual entry, stainless steel |
| 27031 | M25, dual entry, stainless steel |
| 27032 | 3/4 inch NPT, single entry |
| 27033 | 3/4 inch NPT, single entry, stainless steel |

Accessories

| Part Number | Description |
|-------------|---|
| 24376 | Flame simulator (VSF3008) |
| 24384 | 2" pole mount bracket |
| 24385 | 3" pole mount bracket |
| 24386 | 4" pole mount bracket |
| 24377 | Vertical to horizontal mounting adapter |
| 24383 | Sunshield |
| 26299 | Duct mount bracket |
| 25518 | Air shield |
| 24380 | Detector sealing kit |

5. CONTACT

The sprinkler and accessories are available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

The Viking Corporation
 5150 Beltway SE
 Caledonia, MI 49316
 Tel.: (800) 968-9501
 Fax: 269-818-1680
 Technical Services: 1-877-384-5464
 techsvcs@vikingcorp.com
 www.vikinggroupinc.com/locations