



TECHNICAL DATA SHEET

VSF300 Intelligent Visual Flame Detector

1. INTENDED USE

Designed to have speed-critical detection with no false alarms. The Viking VSF300 Intelligent Visual Flame Detector is an explosion-proof visual flame detector that processes live video to detect the visual characteristics of flame. It also delivers through its FM certified flame detection algorithms and on-board digital signal processing. It is the safest and most advanced flame detector on the market and is proven to perform in the harshest of environments anywhere around the world.



2. APPROVALS AND CERTIFICATIONS



FM Approved
Class 1 Div 1, Groups B, C, D
Class 1 Zone 1 AEx/Ex db IIC T4
Ambient -58°F to +185°F
(-50°C to +85°C)



California Department of Forestry &
Fire Protection

- Listing number: 7210-0533:0502
- Category 7210 - Flame Detector



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



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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 95% RH non-condensing
Operating voltage	24 Vdc Nominal (range is 18 to 32 Vdc)
Outputs	Relay contacts (SPST 2A at 30Vdc) - alarm and fault. 0-20mA (current source)
Power consumption	2.8 W nominal at 24 Vdc
Field of view	80° vertical by 120° horizontal
Speed of response	less than 7 seconds (typical)
Dimensions	4" (100 mm) diameter x 8" (200 mm) length
Materials	Copper-free aluminum or 316 stainless steel
Entry size	3/4" NPT or M25, single or dual
Weight	Aluminum 5.5 lbs (2.5 Kg); stainless steel 13.2 (6 Kg)

3.2 Flame Sensitivity Specifications

Flame Sensitivity		
Fuel	Fire Size	Distance
n-Heptane pan fire	1' x 1' pan	200' (60 m)
n-Heptane direct sunlight	1' x 1' pan	200' (60 m)
n-Heptane modulated sunlight	1' x 1' pan	200' (60 m)
n-Heptane modulated black body	1' x 1' pan	200' (60 m)
n-Heptane arc welding	1' x 1' pan	200' (60 m)
n-Heptane 1000 W lamp	1' x 1' pan	200' (60 m)
Ethanol	1' x 1' pan	100' (30 m)
Methane jet fire	36" plume	86' (26 m)
Gasoline	1' x 1' pan	200' (60 m)
JP4	2' x 2' pan	300' (90 m)
Tri-ethylene glycol	1' x 1' pan	50' (15 m)
Diesel	1' x 1' pan	165' (50 m)
Crude oil (heavy fuel)	20" x 20" pan	165' (50 m)
Silane	24" plume	56' (17 m)



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3.3 Features

- Intelligent visual flame detection (iVFD) principle ensures maximum false alarm immunity and eliminates sensitivity loss in the presence of modulated sunlight and black body heat.
- Continuous optical test without a reflector, which verifies operation and improves device up-time.
- International hazardous area approvals, such as FM, ATEX, and IEC Ex.
- Certified performance testing (through FM 2908) to multiple fuels.
- Specially aware single sensitivity detection
- External testing with a long-range flame simulator, which minimizes the need for scaffolding
- Easy integration using industry standard outputs: such as alarm and fault relays, as well as 0-20mA.

4. ORDERING INFORMATION

Detector

Part Number*	Description
24372	3/4" NPT, dual entry
24373	M25, dual entry
24374	3/4" NPT, dual entry, stainless steel
24375	M25, dual entry
24597	3/4" NPT, single entry
24594	3/4" NPT, single entry, stainless steel

*Additional cable entry variants are available upon request.

Accessories

Part Number	Description
24376	VSF3008 ITEST
24377	Vertical to horizontal mounting adapter
24378	Standard bracket 316 stainless steel (spare only)
24379	Marine bracket 316 stainless steel (not fitted)
24380	Detector sealing kit - metric
24382	Flame simulator charger (spare)
24383	Sunshield
24384	2" pole mount bracket
24385	3" pole mount bracket
24386	4" pole mount bracket

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