Dräger Flame 5000
Flame Detection

The Dräger Flame 5000 is an imaging based explosion proof flame detector. This visual flame detection system uses digital image processing and advanced algorithms to process and interpret flame characteristics. This principle offers an extended field of view and fewer false alarms. Each detector is equipped with a colour CCTV camera.

Dräger. Technology for Life®

Benefits

Immunity against false alarms

The unique software algorithm of the Dräger Flame 5000 is capable of discriminating between genuine fire conditions and other radiant sources that may cause conventional detectors to become desensitized or produce unwanted alarms. The detector is immune to common sources of unwanted alarms such as welding work, hot CO_2 emissions and flare reflections. This makes it to a great partner on your oil rig or industry plant.

Maximum field of view

The Dräger Flame 5000 can detect n-heptane fires of 0.1 m^2 (1 ft^2) or greater at a distance of 44 m (144 ft) within a 90° horizontal and 65° vertical field of view. The detector's field of view is a rectangular pyramid shape. This gives it one of the greatest standard coverage area and range of any flame detector currently available.

Flexible operation

The Dräger Flame 5000 operates as a stand-alone unit to transmit live video recordings or can be connected to a control system or a fire panel to provide fault and fire signalling. This is achieved using a 0 to 20 mA signal or relay outputs. An integrated memory card enables the detector to record videos before and after alarm events.

Depending on the environmental conditions you can choose between an aluminium or a stainless steel housing.

Safe and fast intervention

Live video provides instant visual verification of a fire alarm without the operator having to enter a dangerous area. This reduces the risk of injury and improves response time.

An optical verification facility checks the window for contamination and ensures its field of view is not compromised by obstructions placed immediately in front of the detector.

Functional test

The Dräger FS-5000 flame simulator tests Dräger Flame Detectors at distances up to eight metres (22 ft). With reduced need for scaffold or ladders to access the detector, maintenance costs can be decreased.

Easy to install and use

The detector is very easy to install using a mounting bracket of stainless steel. The swiveling mounting bracket ensures that the device is optimally aimed towards potential sources of fire. The device status is displayed to nearby workers by tri-coloured LED light.

System Components

D-6806-2016

Dräger REGARD® 7000

The Dräger REGARD® 7000 is a modular and therefore highly expandable analysis system for monitoring various gases and vapours. Suitable for gas warning systems with various levels of complexity and numbers of transmitters, the Dräger REGARD® 7000 also features exceptional reliability and efficiency. An additional benefit is the backward compatibility with the REGARD®.

D-27777-2009

Dräger REGARD® 3900

The Dräger REGARD® 3900 is a standalone, self contained control system for the detection of Toxic, Oxygen and Ex hazards. The control system is fully configurable between 1 and 16 channels, depending upon the type and quantity of input/output boards installed.

Accessories

ST-8006-2008

Dräger FS-5000

The Dräger FS-5000 flame simulator is used to simulate the presence of fire or flames to test the correct operation of the Dräger Flame 5000 or the Dräger Flame 3000.

Related Products

D-49075-2012

Dräger Flame 3000

The Dräger Flame 3000 is an imaging based explosion proof flame detector. This visual flame detection system uses digital image processing and advanced algorithms to process and interpret flame characteristics. This principle offers an extended field of view and fewer false alarms.

Technical Data

Detector Characteristics

Type		Explosion proof visual Flame detector and live colour video
Spectral range		Near infrared
Field of view		Horizontal 90°, vertical 65°
Response time		4 seconds (typical), configurable up to 30 seconds
Live colour video		640 x 480 Pixel (PAL or NTSC, configurable)
Video recording via SD-card		8.5 seconds before and after alarm event
Detection range (Pan fire 0.1 m^2/1 ft^2)	Methane	30 m (100 ft)*
	Ethanol	25 m (85 ft)
	n-heptane/petrol	44 m (144 ft)
	JP4	61 m (200 ft)**
	Diesel	40 m (130 ft)
	Ethylene glycol	15 m (50 ft)
	Crude oil	40 m (130 ft)***

* Plume fire 0.9 m (3 ft), ** Pan fire 0.4 m^2 (4 ft^2), *** Pan fire 0.25 m^2 (2.7 ft^2)

Ambient Conditions

Temperature	#60 to +85 °C (#76 to +185 °F)
Pressure	915 to 1,055 hPa
Humidity	0 to 95 % RH, non-condensing

Electrical Data

Relay		Alarm and fault
Signal Output		0 to 20 mA
	Fault	0 mA
	Optical Fault	2 mA
	Operating mode	5 mA
	Alarm	18 mA
Communication		RS485, HART® 5
Supply Voltage		24 VDC nominal (18 to 32 VDC)
Power Input		Minimum 6 W (10 W typical, maximum 15 W with heating)

Housing

Material	Aluminium or Stainless Steel
Cable Gland	M20, M25 or ¾“NPT
Weight	2.5 kg (5.5 lbs) Aluminium or 6 kg (13.2 lbs) Stainless Steel
Dimensions (D x L)	200 x 100 mm (7.9 x 3.9 inch)
Protection Class	IP66, NEMA 4X

Approvals

ATEX	II 2 G Ex d IIC T4
IECEx	Ex d IIC T4
FM/CFM	Class 1 Division 1 Groups B, C and D T4 Class 1 Zone 1 AEx/Ex d IIC T4
Functional Safety (SIL)	SIL2#certified
Decalaration of Conformity of Performance	EN54#10 (VdS) FM3260 (Radiant Energy#Sensing Fire Detectors for Automatic Fire Alarm Signaling), FM3600, FM3615, FM3810, ANSI/NFPA 72

Ordering Information

Dräger Flame 5000	Order No
Dräger Flame 5000, M20, 4-20mA, PAL video mode, Aluminium	420 93 08
Dräger Flame 5000, M20, Relay, NTSC video mode, Aluminium	420 93 09
Dräger Flame 5000, ¾ NPT, Relay, NTSC video mode, Aluminium	420 93 10
Dräger Flame 5000, ¾ NPT, 4-20mA, PAL video mode, Aluminium	420 93 11
Dräger Flame 5000, M25, 4-20mA, PAL video mode, Aluminium	420 93 33
Dräger Flame 5000, M25, Relay, NTSC video mode, Aluminium	420 93 34
Dräger Flame 5000, M20, 4-20mA, PAL video mode, Stainless Steel	420 93 20
Dräger Flame 5000, M20, Relay, NTSC video mode, Stainless Steel	420 93 21
Dräger Flame 5000, ¾ NPT, Relay, NTSC video mode, Stainless Steel	420 93 22
Dräger Flame 5000, ¾ NPT, 4-20mA, PAL video mode, Stainless Steel	420 93 23
Dräger Flame 5000, M25, 4-20mA, PAL video mode, Stainless Steel	420 93 35
Dräger Flame 5000, M25, Relay, NTSC video mode, Stainless Steel	420 93 36
Dräger FS-5000	420 93 07
Dräger CCTV Balanced Line to BNC Video Converter	420 93 27

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