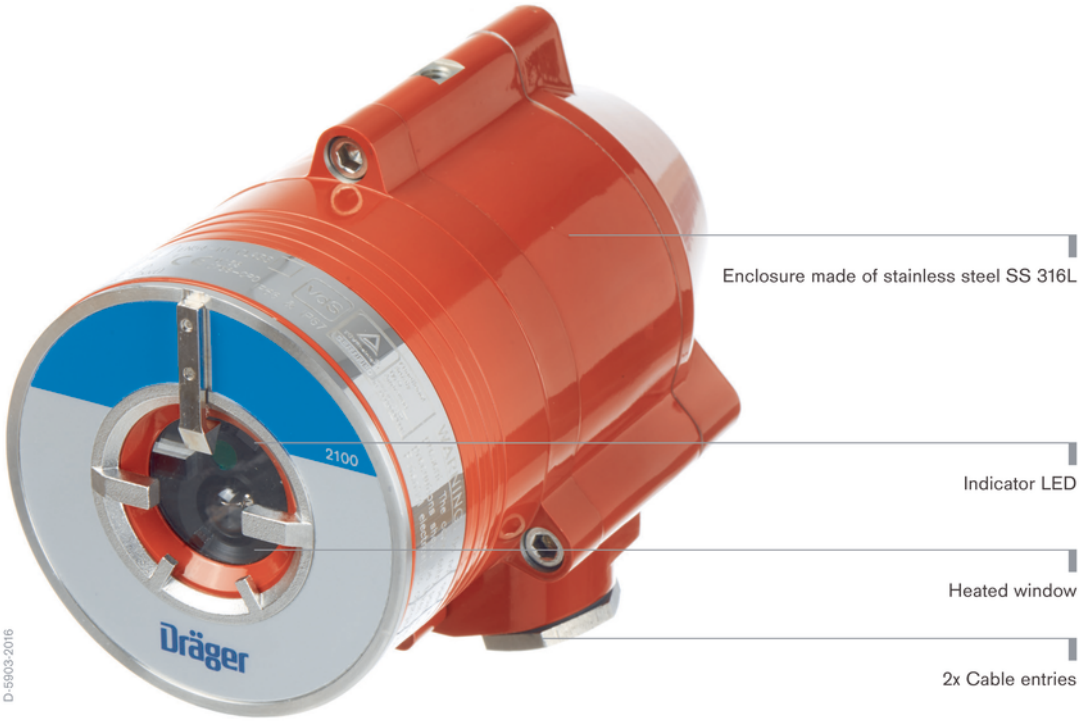
Dräger Flame 2100
Flame Detection

Working in areas with combustible gases, vapors, or materials requires fire/ flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2100 is a single spectrum optical detector using an ultra-violet sensor to detect flames, while eliminating interference from solar-radiation and other non-fire UV sources.



Dräger. Technology for Life®

Benefits

Budget-Friendly and Always Reliable

The Dräger Flame 2100 uses advanced flame analysis tools to quickly detect a wide number of flames. These include: hydrocarbon- based fuel and gas fires, invisible hydrogen flames, fires from hydrides, ammonia, silane and other organics. Together, with its ability to detect a flash fire in less than 200 msec, nothing remains unnoticed.

Tough and Intelligent

The Flame 2100 is one of the most weather resistant UV Flame Detectors currently available on the market. It comes with new features such as a heated window to eliminate icing and condensation, HART® capabilities for digital, lower power requirements and a compact, lighter design. The Flame 2100 comes with a built-in test option (BIT).

Reliability

Functional safety is a concept applicable across all industry sectors. It is fundamental to enabling complex technology used for safety-related systems. It provides assurance that the safety-related systems will offer the necessary risk reduction. The Dräger Flame 2100 is highly reliable and complies with the IEC 61508 Safety Integrity Requirements of SIL2.

Automatic and manual optics checks (BIT)

Automatic checks of the detector electronics and optics helps ensure that no fault goes undetected. Additionally, the test can be triggered manually at any time.

Easily visible status LED

A tri-colored LED, which is visible at the front of the detector, provides a simple status indication to personnel in close proximity to the detector. Green indicates normal operation, yellow indicates a fault, and red indicates the presence of radiation from a fire.

Simple installation and commissioning

Installation is simple! The detector is easily installed with a stainless steel tilt mount, enabling the detector to be rotated up to 60 degrees in all directions. This offers flexibility in positioning the detector in relation to potential fire sources.

Further benefits and features:

- Solar blind UV spectrum design
- Fast Response—200 msec response to saturated signal

Benefits

- Automatic and Manual Built-In-Test (BIT)—to ensure continued reliable operation
- Heated window—for operation in harsh weather conditions (snow, ice, condensation)
- Multiple output options for maximum flexibility and compatibility
- 3 Relays for Alarm, Fault, and Auxiliary
- 0–20 mA (stepped)
- HART® Protocol for maintenance and asset management
- RS-485, Modbus compatible
- Approved to Safety Integrity Level 2 (SIL2—TÜV)
- Ex approvals for worldwide application: ATEX, IECEx, FM/FMC, CSA
- 3rd party performance tested: EN54-10 (VdS), FM3260

System Components

D-27777-2009

Dräger REGARD® 3900

The Dräger REGARD® 3900 is a standalone control system for the detection of toxic gases, oxygen levels, 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

D-51319-2015

Flame Simulator

The Flame Simulator emits radiation in a unique sequential pattern corresponding to and recognizable by the detector as fire. This allows the detectors to be tested under simulated fire conditions without the associated risks of an open flame.

D-5921-2016

Weather Cover

The Weather Cover protects the detector from different weather conditions, such as snow or rain.

D-5925-2016

Laser Pointer

Does the detector cover the area that needs protection? Is it located correctly? Does the detector's cone of vision cover the most dangerous spot? This accessory enables the installer to optimise detector location and its actual detection area coverage.

D-5926-2016

Air Shield

The Air Shield allows the installation of the Dräger Flame 2000 series detectors under tough environmental conditions where they may be exposed to oil vapors, sand, dust and other particulate matter.

Services

D-19072-2016

Dräger Service

When your operation's safety equipment is backed by over 125 years of experience and supported by the same team that engineered it, you can rely on service and rental solutions that are tailored to meet your unique needs. With Dräger's safety solutions, you get complete peace of mind, budget security, and full-service support that you can count on every step of the way. That's the Dräger Service Advantage.

Related Products

D-5904-2016

Dräger Flame 2000

Working in areas with combustible gases, vapors, or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. Flame 2000 uses an advanced infrared (IR) and optical sensor to provide maximum sensitivity to carbon dioxide spectral bands.

D-5905-2016

Dräger Flame 2350

Working in areas with combustible gases, vapors, or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2350 is a dual spectrum optical detector, using a combination of ultra-violet and infrared sensors to detect fires at a high speed response time of 200 milliseconds.

Related Products

D-5902-2016

Dräger Flame 2370

Working in areas with combustible gases, vapors, or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2370 is a dual spectrum optical detector, using a combination of ultra-violet and infrared sensors to detect fires at a high speed response time of 20 milliseconds.

D-5900-2016

Dräger Flame 2500

Working in areas with combustible gases, vapours or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2500 features three infrared sensors to identify fire events with exceptional sensitivity and extreme immunity to false alarms.

D-5901-2016

Dräger Flame 2700

Working in areas with combustible gases, vapor, or materials requires fire/flame detection as a life-saving necessity. The best solutions must combine state-of-the-art technology with rugged durability and be ready to reliably work in any situation. The Drager Flame 2700 multi-IR incorporates several detection algorithms to simultaneously detect both CO_2 & H_2O peaks, and reduce false alarms.

Technical Data

Type	Explosion proof UV flame detector for hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires	
Spectral Response	UV = 0,185 – 0,260 µm	
Measuring Performance	Field of view	Horizontal 100°; Vertical 95°
	Response Time	Typically 3 seconds. 200 msec to flash fire
Detection Range (at highest Sensitivity Setting for 1 ft² (0.1 m²) pan fire)	Fuel	ft / m
	n-Heptane / Gasoline	50 / 15
	Diesel Fuel / JP5 / Kerosene	37 /11
	Ethanol 95 %	37 /11
	Methanol	25 / 7.5
	IPA (Isopropyl Alcohol)	37 /11
	Hydrogen*	39 / 12
	Methane / LPG*	43 / 13
	Polypropylene Pellets	33 / 10
	Silane**	22 / 7
	Office Paper	20 / 6

* 30" (0.75 m) high, 10" (0.25 m) width plume fire; ** 20" (0.5 m) high, 8" (0.2 m) width plume fire

Electrical Data

Output Signals	0 – 20 mA (stepped), HART®
Fault Signal	0 + 1 mA
BIT Fault Signal	2 mA ±10 %
Normal Signal	4 mA ±10 %
Warning Signal	16 mA ±5 %
Alarm Signal	20 mA ±5 %
Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 2 A at 30 VDC
RS485	Modbus compatible communication link
Power supply	24 VDC nominal (18 – 32 VDC)
Power Consumption	Standby: Max. 90 mA (110 mA with heated window) Alarm: Max. 130 mA (160 mA with heated window)

Ambient Conditions

Temperature	-55 to +75 °C / -67 to +167 °F (operating) -55 to +85 °C / -67 to +185 °F (option and storage)
Humidity	Up to 95 % non-condensing (withstands up to 100 % RH for short periods)

Enclosure

Material	Stainless steel SS 316
Material Option	Heavy duty copper free aluminum, red epoxy enamel finish
Connecting Thread	2 × 3/4" – 14 NPT or 2 × M25 × 1.5 mm
Weight	Detector SS 316L 2.8 kg / aluminum 1.3 kg Tilt mount 1.0 kg
Dimensions Detector	101.6 × 117 × 157 mm
Ingress Protection	IP66 and IP67, NEMA 250 6P

Approvals

ATEX and IECEx	Ex II 2 G D		
	Ex d e IIC T5 Gb	Ex d e IIC T4 Gb	Ex d e mb IIC T4 Gb
	Ex tb IIIC T96°C Db	Ex tb IIIC T106°C Db	Ex tb IIIC T98°C Db
	(-55 °C ≤ Ta ≤ +75 °C)	(-55 °C ≤ Ta ≤ +85 °C)	(Ta = -55 °C to +75 °C)

Technical Data

FM/FMC/CSA	Class I Div. 1, Groups B, C & D
	Class II/III Div. 1, Groups E, F & G
Safety Integrity Level	SIL2 certified by TÜV (EN61508)
Performance Approval	EN54-10 (VdS)
	FM3260
CE marking	EMI/RFI protected to EN61326-3 and EN61000-6-3

Ordering Information

Dräger Flame 2100 (UB-111SC)	68 13 922
Dräger Flame 2100 (UB-211SC)	68 13 923
Dräger Flame 2100 (UB-311SC)	68 13 924
Dräger Flame 2100 (UB-211AC)	68 13 943
Dräger Flame 2100 (UB-311AC)	68 13 944
Dräger Flame 2100 (UB-112SF)	68 13 963
Dräger Flame 2100 (UB-212SF)	68 13 964
Dräger Flame 2100 (UB-312SF)	68 13 965

Accessories

Flame Simulator FS-1200 (UV&IR,UV)	68 13 974
Dräger Flame 2xx0 Air Shield	68 13 977
Dräger Flame 2xx0 Duct Mount	68 13 978
Tilt Mount Flame Detector	68 13 979
Weather cover Flame Detector (SS)	68 13 189
Weather cover Flame Detector (ABS)	68 13 190
Dräger Flame 2xx0 Laser Pointer	68 13 890
Dräger Flame Pole Mount 3"	68 13 323
Dräger Flame Pole Mount 2"	68 13 322
Dräger Flame USB RS-485 Kit	68 13 994
Battery Pack for Flame Simulator FS1x00	68 13 889

Notes

Notes

91 03 658 | 17.08-1 | HQ | PP | Subject to modifications | © 2017 Drägerwerk AG & Co. KGaA

CORPORATE HEADQUARTERS
Drägerwerk AG & Co. KGaA
Moislinger Allee 53–55
23558 Lübeck, Germany
www.draeger.com

Customer Service:
USA
+1 800-4DRAGER
(+1 800-437-2437)

CANADA
+1 877-DRAGER1
(+1 877-372-4371)

Technical Service:
USA
+1 800-4DRAGER
(+1 800-437-2437)

Locate your Regional Sales Representative at:
www.draeger.com/contact