

## ► Spyglass SG50

### Optical flame detectors for difficult fires



#### Technical specifications

High-performance optical flame detector **Spyglass SG50 series**

**Features:** Long detection distances, low false alarms

**Several signal types available:** 0 - 20mA

Modbus, HART and/or Relay

**Certifications:** FMus, FMc, ATEX, IECEx and UKEX. SIL2

**Mechanical design:**

- 316 stainless steel case with electro-polished finish
- Native climate protection
- Separate terminal box hermetically sealed to main enclosure NEMA 4X/6P

#### Integrated high-definition video option

The high-definition (HD) camera provides a clear image of the fire via a video system, enabling you to observe the fire from a distance, analyze the situation accurately and implement the appropriate safety measures. A video of one minute before and up to 3 minutes after an event is recorded by the detector for post-fire analysis of the causes of the incident.

Color is preferred for hydrocarbon fires, to give a realistic view. Some fires involving fuels such as hydrogen or alcohol can be practically invisible to the human eye and do not show up well on color video. Near-infrared video is the best solution for obtaining a clear visualization of the extent of flames with specific fires.

#### The NFPA33 option - Ultra-fast detection

The NFPA33 option is available in UVIR, IR3 and IR3-H2 configurations. It enables ultra-fast detection of fires in high-speed production processes such as spray booths for the automotive industry, high-speed printing and coating, conveyors and fast-moving vehicles, etc. The NFPA33 standard requires the detector to activate an alarm in case of an event in less than 0.5 seconds.

#### Product description

The IR3 and UV/IR flame detectors in the **Spyglass SG50 range** offer first-class performance in terms of both response time and detection area. They have perfect immunity to false alarms, enabling them to operate in the harshest environments and the most adverse climates.

All detectors in the **Spyglass SG50 range** are available with a high-definition video option. This allows users to make critical safety decisions remotely in real time or carry out post-accident analysis.

With the implementation of optimised algorithms and a new on-board video functionality in colour or near infrared depending on the type of fuel, the **Spyglass SG50 series** offers unrivalled performance for detecting a wide variety of fires. Several versions are available.

#### ► Spyglass IR3 Flame Detector

The IR3 flame detector detects fuel and hydrocarbons gas fires at long distance while offering the highest immunity to false alarms thanks to its triple wavelength design.

#### ► Spyglass IR3-H2 flame detector

Detects "invisible" hydrogen gas fires at long distance and offers the greatest immunity to false alarms thanks to its triple wavelength design. The IR3-H<sub>2</sub> can also detect fires involving other substances such as ammonia, silane, as well as fires emanating from new energy transition processes.

#### ► Spyglass UV/IR & UV/IR-F flame detectors

The UV/IR and UV/IR-F flame detectors use an IR sensor and a UV sensor that is insensitive to sunlight to detect fires quickly.

- The UV/IR model is set to a wavelength that detects a wide variety of fuels, including hydrogen, ammonia, silane and metal fires.
- The UV/IR-F model is set to the optimum wavelength for detecting hydrocarbon fires but sacrifices the ability to see non-hydrocarbon fires such as hydrogen. It is optimised for ultra-fast response to fireballs and explosions.

#### ► CO2L detector - Hot CO2 release

The CO<sub>2</sub>-L flame detector has been optimized to provide fast, reliable detection on a wide range of hydrocarbon fires where combustion exhaust gases may be present. As well as detecting actual fires, the detector analyzes and rejects any false signal from hot CO<sub>2</sub> exhaust. Typical applications: civil or military aircraft hangars, heliports, tunnels, loading docks, etc.

► **Models and specifications**

Specifications	IR3	IR3-H2	UV/IR	UV/IR-F
Distance in mètres	80 meters	30 meters	30 meters	30 meters
	0,33 x 0,33 m n-heptane	0,8 m H2 panache	0,33 x 0,33 m n-heptane	0,33 x 0,33 m n-heptane
Average response time	40 ms in the event of explosion or rapid fire	40 ms in the event of explosion or rapid fire	5 ms in the event of explosion or rapid fire	5 ms in the event of explosion or rapid fire
	1,3 s à 15 metres	1,5 s à 20 metres	1 s à 15 metres	1 s à 15 metres
	4,1 s à 70 metres	4,0 s à 30 metres	< 2 s à 30 metres	< 2 s à 30 metres
Description & assets	Detector for all hydrocarbon and other organic fires	Detector for hydrogen, methanol, ammonia and desilane fires. Also suitable for H2/CH4 mixture fires	Detector for hydrocarbon or non-hydrocarbon fires such as hydrogen and metal fires	Detector for hydrocarbon fires, metal fires, sparks, electric arcs and ammunition (ultra-fast)
	Maximum sensitivity, offers highest immunity against false alarms ; not suitable for non-hydrocarbon fires	Superior sensitivity, immunity to false alarms for non-hydrocarbon fires	Moderate sensitivity ; affected by reflected sunlight, electric arcs or welding	Moderate sensitivity ; not suitable for non-hydrocarbon fires (hydrogen)
	Best choice for hydrocarbon fires ; insensitive to solar radiation	Best choice for non-hydrocarbon fires, detects invisible hydrogen flames	Versatile detector for the widest range of fuel types	Ultra-fast response to fireballs and explosions

► **CO2L Model**

Fuel	Container size	Distance in metres	Response time	Applications
N-Heptane	1 x 1 foot	80 metres	4.2 seconds	<ul style="list-style-type: none"> <li>• Tanker loading ramps</li> <li>• Aircraft hangars</li> <li>• Protection of airport entrance gates and jetties</li> <li>• Heliports, where down-draught from helicopter engines is a potential source of false alarms</li> </ul>
Gasonline	1 x 1 foot	70 metres	3.2 seconds	
Diesel	1 x 1 foot	50 metres	3.6 seconds	
JP5	1 x 1 foot	50 metres	3.6 seconds	
JP5	2 x 2 feet	80 metres	10.3 seconds	
Kerosene	1 x 1 foot	50 metres	3.5 seconds	
Polypropylene	1 x 1 foot	35 metres	3.3 seconds	
IPA	1 x 1 foot	55 metres	2.5 seconds	
Wood	1 x 1 foot	40 metres	5 seconds	

► **Accessories**

ball joint



air shield



mast mounting



weather protection accessory



flame simulators



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