Flame Detector Model Deflametec
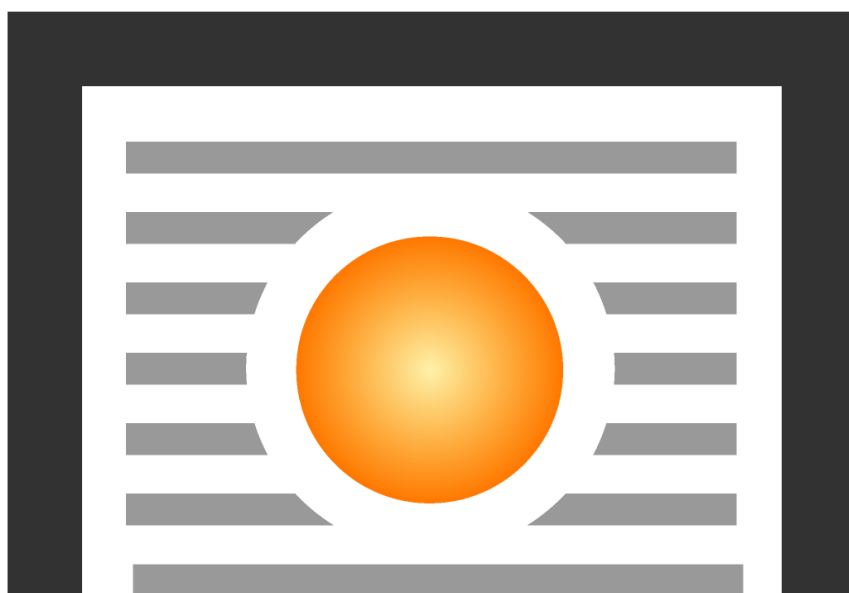
Data sheet

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Description

The Deflametec is a robust and reliable flame detector.

Deflametec detectors provide the means of reducing risks of false alarms to a minimum. Deflametec detects fires exclusively from the narrow spectral range, which equals the light radiated from carbon oxidation.

EN54-10:2002, Class 1 flame detector, CE Electronics, IP 67.7 stainless steel ANSI 316L housing, Ex II 3G/D nA T4 Flame detection in large areas, (30 m).

- Fire detection insensitive to hot surfaces
- Fire detector insensitive to minor blurring of the lens
- Custom set time delays, with LED indication on detector, available,
- Indoor and outdoor use
- Potential free alarm relays (NO/NC) suitable connection to alarm panel
- Built-in Lens check for easy check of blurring of the lens, with LED indication on detector
- Independent signal circuit
- Simple installation and enclosed stainless steel installation bracket
- 2 meter flying wire connection
- Low maintenance.

Technical Data		
Dimensions	See fig. 1	
Materials	Housing	Stainless Steel ANSI 316L
	Gaskets	EPDM
	Lens	Clear Fused Quartz
Weight	Net	0.35 kg
	Brute	0.5 kg
Storage Temperature	-20°C to 95°C	
Operating Temperature	-10°C to 55°C	
Spectral detection Range	185 nm–260 nm	
Field of View	See fig. 3	
LED Signals	See table 2	
Electrical Data		
Power Supply	Min	21 Vdc
	Max	27 Vdc
	Suggested	24 Vdc
Output Signal		
Relay Parameters	Max	50 Vdc & 100 mA
Potential Free Relay Signal	NO/NC	
Connection		
Mechanical	Use enclosed installation brackets w/ ø10 mm bolt	
Electrical	See fig. 2	

Application

The DeFlameTec flame detector provides the means of reliable fire detection in most areas, with a simple installation, low maintenance and easy test of performance.

Typical applications are as follows:

- Useful in both indoor and outdoor applications
    - Process areas
    - machinery spaces
    - production lines
    - Inventories
    - Storages
    - Infrastructure tunnels
    - Cable Tunnels
- Areas with equipment prone to have hot surfaces
- Areas divided into fire zones, etc.
- Onshore applications
- Offshore applications
- Maritime applications
- Areas containing explosive atmospheres

Certification

DeFlameTec flame detector:
EN 54-10:2002, class 1.

Detector Electronics

CE to EN 50130, EN 61000-6-3
Housing: IP 67
ATEX EX II 3G/D nA T4

This means that the detector is certified for the protection all applications, except mining ducts, of which hazardous gas or dust rich atmospheres
may occur. The detector will not create sparks and will not overheat, diminishing the chance of the detector causing a rapid combustion.

Check

Prior to installation

It is to be checked that the type of detector match the requested type and that the detector is intact.

Detectors which have been dropped or damaged in any way should not be installed. Only detectors with intact factory seals should be installed. It is to be checked that the factory seal is complete and not broken or in any way tampered with.

Table 2

LED color	Detector response:
Green (flashing)	Booted and supplied with sufficient power
Green (constant)	Incandescent light detected (Lens check)
Yellow	Fire detected, no alarm
Red	Alarm relay activated

After installation
See the Commission section

Sensitivity	
Delay Time	50 impulses/1 seconds
	Customization available per request

Installation and maintenance
DeFlameTec detectors shall be installed in locations where the detector lens
is protected from debree and possible collection of water on the lens surface.

DeFlameTec detector shall be installed on steady vibration free construction elements using an 8mm stainless steel bolt.

The DeFlameTec detectors shall be secured in a position from where the detector lens has a free view of the designated area.

The designated monitoring area shall be within the full sensitivity area (Fig. 3.) of the detector.

The flying wire should be terminated in a sealed connection box which match the requirements of the location and further connected to an explosion proof safety barrier for installations in Ex areas.

Commissioning
The sensitivity to fire is checked using a flame, representing the flame sensitivity which are required for the location.

Alarms and time delays are checked with the flame in all border areas of the flame detectors detection area.

Lens check alarm are to be checked with an incandescent light source aimed at the detector lense from a location in the designated area.

Maintenance
DeFlameTec detectors has an expected lifetime of five years under standard conditions.

DeFlameTec detectors should have their lens regularly checked for debris, blurring and collection of water, oil and other liquids, on the lens, which reduces the sensitivity of the flame detection of the detector.

DeFlameTec detectors should regularly be checked in accordance with the Commissioning section of this datasheet, to secure future alarm signals.

The DeFlameTec detectors are supplied from factory with all screws and nuts sealed. Detectors should not be attempted repaired on site.
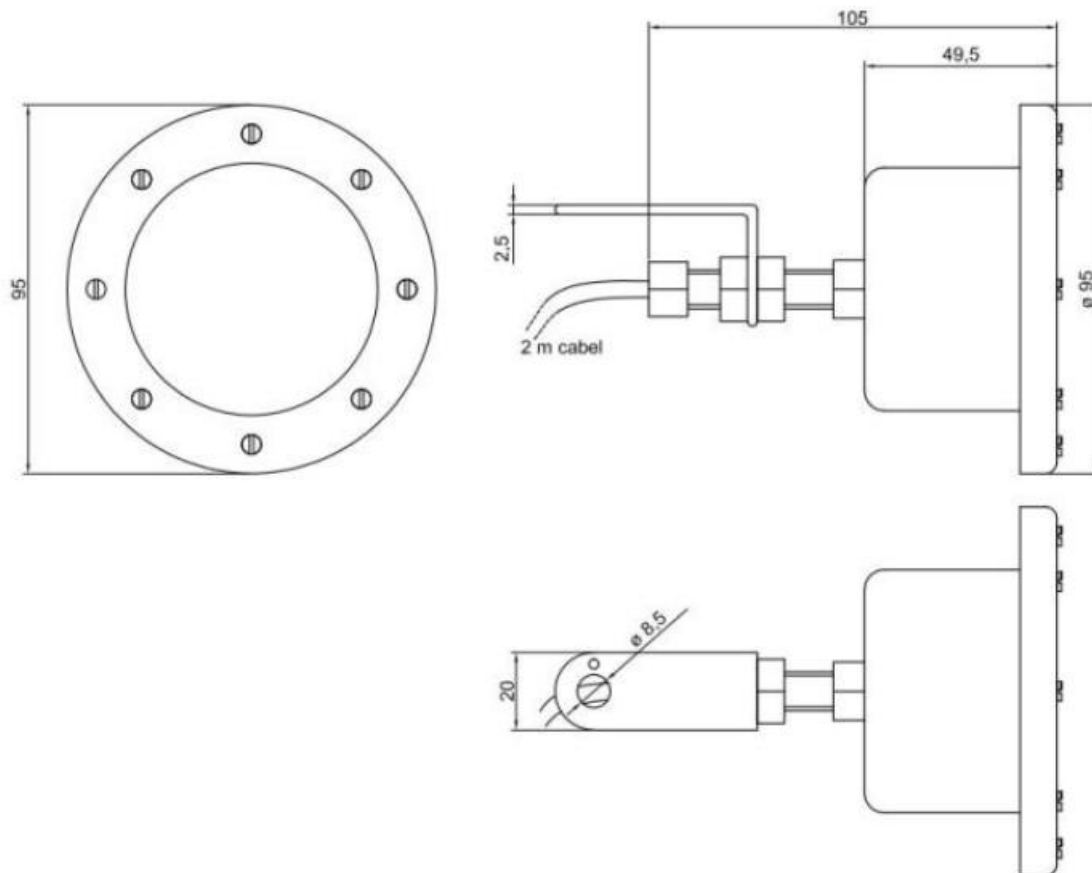
Compromised detectors should be returned to Safevent for repair.

Safevent denounces all responsibilities on detectors which have been attempted repaired on site, or where factory seals are broken.
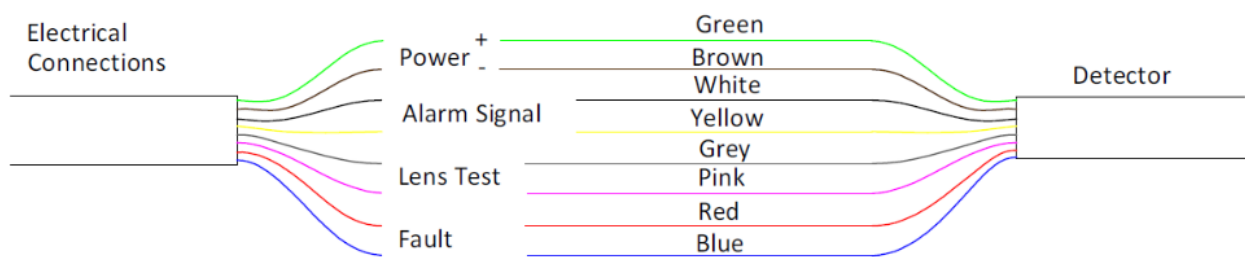
Quality Check

All DeFlameTec detectors are after final assembly 100% quality tested with a propan+butan flame (7cm x 30cm) at 22m distance and 130°±10% detection angle.

Dimensions (figure 1)

Electric wiring (figure 2)

Field of view (figure 3)

Fig. 3. Illustration of the field of view of the flame detector.
Illustrates the areas in which the flame detector will reliably detect fires.
Data collected from flame detector detecting a methane flame through an aperture 20 cm x 3 cm in size.