

## IPES IR3 FLAME DETECTOR

IPES IR3 Flame Detector of ESP provides a superior sensitivity for fires from oil and petrochemical products. It is also indicated for a wide range of other fire types including metal fires.

IPES IR3's, advanced detection technology ensures rapid flame recognition and alarm signaling. In addition, IPES IR3's selective, multi spectral technology virtually eliminates false alarms. It ignores false triggers from sources such as direct or indirect sunlight, arc welder flash, resistive heaters, fluorescent, halogen, and incandescent light.

IPES IR3 sends an alarm only when data from three different IR wavelengths agree that a flame or fire is present in the field of view. Upon confirmation of flame or fire, the IPES IR3 transfers alarm signals to receiving control devices located in control and operations rooms and to fire alarms and burglar/fire alarm systems.

The combination of multiple sensors and wavelength range settings make the IPES IR3 an excellent choice for elimination of false alarms, by sources such as radiation, artificial lighting, direct and indirect sunlight, arc welding and metal grinding.

The IPES IR3 Flame Detector is constructed with an explosion proof housing for use in hazardous(classified) locations. It meets the certification and requirements for SIL-3.



Areas of Use	Feature and benefits
<ul style="list-style-type: none"> <li>» Power stations and petroleum and gas stations</li> <li>» Storage of combustive-lubricating materials</li> <li>» Tank ships and other vessels</li> <li>» Vanish and dye industry</li> <li>» Storage of oily products</li> <li>» Oil and gas industry</li> <li>» LNG/PNG processing and storage</li> </ul>	<ul style="list-style-type: none"> <li>» Automatic and Manual self check for any internal component failure.</li> <li>» Quick warm up time of detector (15 seconds from cold start)</li> <li>» Tri-color Status LED</li> <li>» Industry standard digital, analog and relay outputs are used for alarm and fault indications</li> <li>» Heated optics prevent accumulation of snow, ice and condensation</li> <li>» SIL-3 Third Party Certified</li> <li>» Optical path obstruction monitoring</li> <li>» Robust multicultural sensing technology against false alarms.</li> <li>» Highest flame sensitivity</li> <li>» Maximum sensitivity setting response time less than 1 sec.</li> <li>» Hydrogen flame detection</li> </ul>



### **SIL-3 Rated**

The IPES device is SIL-3 Third Party certified. This enables the device to be utilized in the most critical applications.

### **Heated Optics**

Heated Optics enables the device to operate in the harshest environments leaving it unaffected by ice or water build up on the detector optics.

### **Built-In Self Test**

The IPES IR3 device has an inbuilt feature to perform continuous self testing in order to ensure that all of the sensing elements are functioning correctly.

### **Highest Temperature Range**

The IPES detector has been designed for use in the harshest environments, therefore it possess one of the highest operating temperatures and is suitable for use in turbines and other environments where such conditions are present.

### **Swivel Mounting**

The detector possesses a swivel mounting bracket allowing the device to be easily mounted and adjusted to monitor the required perimeter.

### **False Alarm Immunity**

The IPES IR3 device posses the immunity to false alarms like no other detector in the market. The combination of three different spectral IR sensors alongside the ESP developed smart algorithm, makes the device the obvious choice for any operator.



## Specification:

Voltage Supply: 24 VDC (18-32 VDC)  
 Power Supply: <3.6W (Test Mode)  
 <2.0W (Standby)  
 <7.0W (Heated Optics)

Outputs:
 

- 4-20mA
- RS-485
- HART 7.0
- Relay (Fault & Fire)

## Response:

Fuel	Distance Feet (M)	Size	Typical Response
n-Heptane	210 (64)	1 ft * 1 ft	5.0
Methanol	150 (26)	1 ft * 1 ft	7.0
JP5	210 (64)	2 ft * 2 ft	4.5

## Operational Characteristics:

Detection Range : up to 64 meters  
 Viewing Angle: 120° (Conical)  
 Response Time: <3 sec.  
 Built In Test: Automatic & Manual  
 Operating Temperature: -40°C to +85°C  
 Humidity Range: 0-95% RH  
 Ingress Protection: IP66/68  
 Indication: 3 colour LED (normal, fault, alarm indication)  
 Ex Marking: Ex d IIC T4 Gb  
 SIL Rating: SIL 3

## Mechanical Characteristics

Material: Stainless Steel (SS316)/Aluminium  
 Cable Entry: 2 x M20 (other options on request)  
 Weight: 6.0 kg (SS316)  
 2.5 kg (Aluminium)  
 Warranty: 2 years

## Certification



SIL 3 (IEC 61508)  
 Class I, Division 1  
 Groups B, C & D  
 IP66

Class I, Division 1  
 Groups B, C & D  
 IP66

Ex d IIC T4 Gb  
 -45 °C ≤ Ta ≤ +85 °C  
 IP66

