

IPES IR 3 FLAME DETECTOR



JSC “Electronstandart-pribor” 's Model IR3 Flame detector is designed to detect and alarm for conditions of flame and fire within it's field vision. One a condition is detected it would transfer alarm signals to receiving-and-control devices (RCD) of control and operations rooms, fire alarms, and burglar/fire alarm systems.

The main advantage of the IR3 multi-spectral infrared flame detector is that it alarms only when data from three different IR wavelengths agree that a flame or fire is present in the field of view. The multi-spectral monitoring allows us to guarantee maximum fire recognition sensitivity along with rapid response time and virtually no false alarms. There exists many different types of false alarm sources, such as: direct sunlight, indirect sunlight, arc welder flash, resistive heaters, fluorescent, halogen and incandescent light and all can be the source of false alarms. To avoid the influence of these spurious on a true alarm signal, the most complete and consistently performing flame detectors in “Electronstandart-pribor” product line are made with the multi-spectral IR technology.

In the process of operation, IPES generates informational analog signals 4-20 mA, a standard communication channel RS-485 under protocol MODBUS RTU, and “dry relay” contacts. The IPES IR3 Flame Detector is constructed in an explosion-proof housing for use in hazardous (classified) locations and meets the certification requirements of Class I, Division 1, Group B, C & D, T4.

Field of application

- Warehouses of combustive-lubricating matter
- As parts of fire extinguishing systems
- Flammable and explosively dangerous zones with high concentration of hydrocarbons, oil and oil products
- Flammable and explosively dangerous manufactures
- Gas transporting and storage facilities

Features and Benefits

- Electronic report of events
- Low power consumption
- Immune to false stimuli sources
- Adjustable and stable swivel mounting
- Digital, analog and “dry contact” relay outputs
- Optional fire simulator device for operability testing is available
- High sensitivity due to the use of optical, multi-spectral sensors
- Connection to external control & fire systems is possible
- Fewer number of detectors required to achieve complete area coverage
- Corrosion resistant design and wide operating temperature range allow for IPES to be used in harsh environmental conditions and in unheated zones

Warranty 5 years



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Electrical Characteristics

Operating Voltage 24 vdc. Operating range is 18 to 30 vdc.

Power consumption Not exceed 2 VA at standby state
Not exceed 3 VA at fire alarm

Current Outputs

Analog signal 4-20mA
Fault signal 2 mA ± 0,1 mA
Ready signal 4 mA ± 0,1 mA
Fire signal 18 mA ± 0,1 mA
Test Mode 8 mA ± 0,1 mA

Relay Contact Digital: RS 485, Analog: 4-20 mA
 "Dry Contact" Relay

Fire Alarm: - From X3, (3,4)
 - normally closed
 - latching/non-latching

Fault: - From X3 (1,2)
 - normally open
 - latching/non-latching

Standby: - From X3 (3,4)
 - normally open
 - From X3 (1,2)
 - normally closed

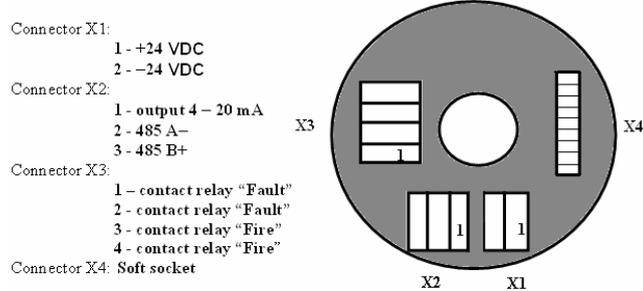
Operating Temperature

Storage temperature -40°F to +185°F
 (-40 °C to +85 °C)

Humidity Range -76°F to +185°F
 (-60°C to +85 °C)
 0 to 100 % Relative humidity,
 non-condensing

Arrangement and functions of connection terminals

The Figure presents the arrangement and function of mounting connection terminals on the IPES back plane (viewed from the side where the elements are mounted).



Mechanical characteristics:

Enclosure Material Stainless steel 316/ Aluminum

Cable Entry 3/4 inch -14 NPT

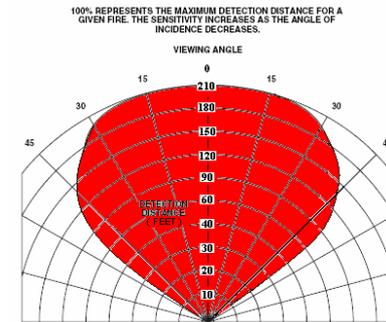
Wiring 15 AWG (101.4 feet per pound)

Weight Aluminum: 5,5 lbs (2,5 kg)
 Stainless steel: 11 lbs (5,0 kg)

Warranty 5 years

Field of View
Very High Sensitivity

Fuel	Horizontal (Left)	Horizontal (Right)	Vertical (Up)	Vertical (Down)	Min. Distance	Avg. Time
n-heptane	50°	50°	50°	50°	56.1 ft (17.1 m)	3 sec.
Methanol	50°	50°	50°	50°	41 ft (12.5 m)	2 sec.
JP5	50°	50°	50°	50°	82 ft (25m)	3 sec.



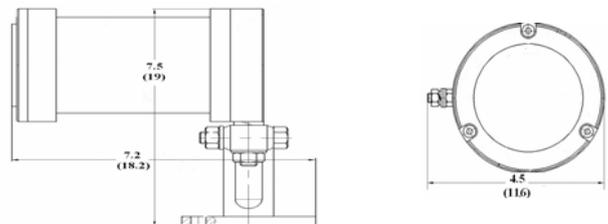
Response
Very High Sensitivity

Fuel	Size	Distance Feet (M)	Typical Response Time (Sec.)
n-Heptane	1 ft x 1 ft	210(64)	6
Methanol	1 ft x 1 ft	150 (45.7)	7
JP5	2 ft x 2ft	210 (64)	4.5

*Standard Liters Per Minute (Standard conditions defined as +25°C and 14.696 PSIA).

Dimensions

Dimensions shown in inches (centimeters)



Certification:



Class I, Division 1, Groups B, C & D,
 IP 66



Class I, Division 1, Groups B, C & D
 T4 Ta = -40°C to +85°C IP 66

IECEX
 Certificate of Conformity
 IECEX FMG 02.0002
 Ex b IIC T4 Ta = -40°C to +85°C



NEMKO 06 ATEX 1219X

II 2 G EEx d IIC T4
 Ta = +85°C



Certified of conformity
 EMC
 CE mark