Honeywell | Flame Detection

FSL100 Series Flame Detectors
UV, UV/IR, IR3

UV, UV/IR, IR3 Flame Detectors

The FSL100 Series of flame detectors from Honeywell delivers robust, fast, and reliable detection of flaming fires in a wide range of applications.

The range consists of UV, UV/IR and IR3 flame detectors. All utilize sophisticated sensing and signal analysis to detect fires quickly while also rejecting false alarms.

The FSL100 may be small and lightweight for easy installation but it is designed to work in tough indoor/outdoor environments, as well as potentially explosive atmospheres.

With a large field of view it can detect a range of different types of fire including hydrocarbon and non-hydrocarbon sources. Available in UV, UV/IR and IR3 we have your application covered.

Honeywell recommends using a swivel mount for all installations and testing installed flame detectors once per year with an approved test lamp.

Suitable for Many Applications

- UV, UV/IR and IR3 available
- Hydrocarbon and non-hydrocarbon sources
- Use in potentially explosive atmospheres
- Indoor and outdoor operation
- High visibility red or discrete white models available

Great Performance

- Approved to EN54-10 and FM3260 flame detector standards
- Comprehensive automatic self test
- Remote manual self test option

Fast & Reliable

- High speed sensors and microprocessor
- Sophisticated analysis algorithms
- False alarm rejection

Reduced Life Cost

- Long life elements
- Pressure compensation to avoid contamination
- 2 year warranty

Ease of Installation and Use

- Relay and mA outputs as standard
- Lightweight GRP housing
- Pre-formed knockouts
- Optional swivel mounting bracket
- Long range test lamp available

FSL100-UV

- Suitable for indoor applications; for example fume hoods and hydrogen storage areas
- Effective solution for materials burning with low temperatures, e.g. Sulphur
- Alarms to fires from heavy hydrocarbons (wood, paper, petroleum, etc.), light hydrocarbons (methanol, methane, etc.), and hydrogen
- Good resistance against the influences of:
  - Direct and reflected sunlight
  - Artificial light, such as fluorescent tubes and glass covered halogen lamps

FSL100-UV/IR

- Analysis of the flame flicker-frequency for improved false alarm rejection
- Dual sensing methodology enables a wide range of hydrocarbon and non-hydrocarbon fires to be effectively detected
- Good resistance against the influences of:
  - Direct and reflected sunlight
  - Artificial light, such as fluorescent tubes and glass covered halogen lamps
  - Arcs and electric discharges (static or from e.g. electric motors)
  - The radiation from electric welding provided that the electric welding takes place at a distance more than 10 feet from the flame detector (a welding rod contains organic compounds which may produce a small flame)

FSL100-IR3

- Analysis of the flame flicker frequency for improved false alarm rejection
- Particularly suited to liquid hydrocarbon and dirty fires
- Affected less by window contamination or smoky fires
- Good resistance against the influences of:
  - Direct and reflected sunlight
  - Artificial light, such as fluorescent tubes and glass covered halogen lamps
  - Arcs and electric discharges (static or from e.g. electric motors)
  - The radiation from electric welding provided that the electric welding takes place at a distance more than 10 feet from the flame detector (a welding rod contains organic compounds which may produce a small flame)
- Especially suitable fires that emit large amounts of smoke

APPLICATIONS

APPLICATION*	UV	UV/IR	IR3
Aircraft hangars		✓	✓✓
Atriums		✓	✓✓
Battery storage rooms / data communication	✓	✓✓	
Biogas		✓	✓✓
Car, bus, tram and train parking		✓	✓✓
Clean rooms: semi-conductor, pharmaceutical, & hospital operating rooms	✓	✓✓	
CNG filling/refilling for buses (public transportation)		✓✓	✓✓
Cold storage	✓✓		
Diesel engine rooms		✓	✓✓
Electric power transformers		✓✓	✓
Engine test cells/rooms	✓	✓✓	✓✓
Fume hoods	✓✓	✓	
Gas cabinets	✓	✓✓	✓
Gas/Gasoline engine rooms	✓	✓✓	✓✓
Heating rooms for chemicals	✓✓	✓	
Indoor chemical, fuel, and solvent storage	✓	✓✓	✓
Indoor hydrocarbon storage and processing	✓	✓	✓✓
Indoor hydrogen storage and processing	✓✓	✓✓	
Laboratories	✓	✓✓	✓
Loading and unloading terminals: truck, rail, & marine		✓✓	✓✓
Monitoring of machinery	✓	✓✓	✓✓
Oil and Gas pipe line and pumping stations		✓	✓✓
Outdoor chemical, fuel, paint, and solvent storage		✓	✓✓
Outdoor hydrogen storage and processing		✓✓	
Paint spray booths			✓✓
Radio amplifier rooms / Isolators for antennas	✓✓		
Recycling and waste processing plants		✓	✓✓

Suitable ✓ Recommended ✓✓

*Please contact your regional sales representative to discuss your application

GENERAL SPECIFICATION

SPECIFICATIONS: FSL100 SERIES FLAME DETECTORS	
FSL100 Flame Detector types	FSL100-UV, FSL100-UVIR and FSL100-IR3; Choice of red or white housings
Range	110 ft /35 m (IR3), 25 m/80 ft (UV, UV/IR) alarming within 10 seconds to a 1 ft2(0.1 m^2)n-heptane fire
Cone of vision	90˚ minimum horizontal and vertical
Power	10-28 VDC (12-24 VDC nominal)
Local LEDs	● Continuous green: normal operation ● Continuous yellow: fault ● Flashing yellow: Fault and guide to repeat self-test after a self-test failure ● Continuous red: alarm
Current output	Standard available 4–20 mA (stepped, sinking, non-isolated) • 0 mA power fault / microprocessor fault • 2 mA optical fault • 4 mA normal operation • >20 mA alarm
Relay output: **- Alarm relay** **- Fault relay**	De-energized during normal operation, no alarm, SPDT, 30 VDC – 2 A, 60 W max. Energised during normal operation, no fault, SPDT, 30 VDC – 2 A, 60 W max.
Cable gland & terminals	Cable entry M20 clearance. Supplied with gland suitable for cable diameter from 0.2" (5.5mm) to 0.5"(13mm). Terminals suitable for 0.5mm^2 (20AWG) to 1.5mm^2 (15AWG) wire
Start up times	<10 sec
Alarm response time	8 to 30 sec
Alarm output settings	Selectable LEDs and relays latching/non-latching; factory setting: latching
Automatic & manual Self-Test	Automatic Sensor Test (built in Self-Test) and manual Self-Test
Operating current normal	25 mA at 24 VDC
Current in alarm, at 24 VDC	±75 mA at 24 VDC
Connections to:	• Fire control panels using end of line (EOL) and alarm resistors (current increase) • Devices that operate via relay switched outputs • PLCs with 4–20 mA inputs
End of line and alarm resistor	To be adjusted to the fire control panel; free terminals are dedicated to the resistors **Note:** the alarm and EOL resistor must be rated 2 W min. each and the total power dissipation of both alarm and EOL resistor should not exceed 2 W
Housing	Glass Reinforced Polyester (GRP), Non-incendive. UV resistant, Self-Extinguishing V–0 (UL-94)
Swivel Mount	PA66, UV resistant; Stainless Steel fixings; 280 g (0.62 lb)
Pressure compensating element	PCE (Pressure Compensating Element) avoids moisture build-up in the detector housing due to changes in ambient air-pressure
Dimensions	4.9 x 3.15 x 2.25 in (125 x 80 x 57 mm)
Weight	1.05 lb (465 g)
Ingress protection	IP65
Temperature, operating	–40 ˚F to +158 ˚F (–40 ˚C to +70 ˚C)
Temperature, ambient ATEX and FM class 3611	–13 ˚F to +158 ˚F (–25 ˚C to +70 ˚C)