



**FSL100 Series Flame Detectors  
UV, UVIR, IR3**

# UV, UVIR, IR3 Flame Detectors



## Suitable for Many Applications

- UV, UVIR 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
- Continuous health monitoring
- False alarm rejection

## Reduced Life Cost

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

## 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

## 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, UVIR and IR3 flame detectors. All utilise 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 they are designed to work in tough environments both in and out of doors as well as potentially explosive atmospheres.

With a large field of view they can detect a range of different types of fire including hydrocarbon and non hydrocarbon sources. Available in UV, UVIR and 3IR we have your application covered.



# UV, UV/IR, IR3 Flame Detectors



## 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
- Detects fires caused by higher hydrocarbons (wood, paper, petrol) as well as hydrogen and lower hydrocarbons such as methanol and methane
- Good resistance against the influences of:
  - Direct and reflected sunlight
  - Artificial light, such as fluorescent tubes and glass covered halogen lamps

## FSL100-UVIR



- 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
- Monitors higher hydrocarbons flames (wood, paper, petrol) but also hydrogen and lower hydrocarbons such as methanol and methane
- 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 3 meters from the flame detector (a welding rod contains organic compounds which show flame phenomena)

## 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
- Detects higher hydrocarbons flames (wood, paper, petrol) and lower hydrocarbons such as methanol and methane
- 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 3 meters from the flame detector (a welding rod contains organic compounds which show flame phenomena)
- Especially suitable for smoky fires. Analysis of the flame flicker frequency for improved false alarm rejection

Also available in White

# Applications



Application	UV	UVIR	IR3
Aircraft hangars		✓	✓✓
Atriums		✓	✓✓
Bio gas setups and stables		✓	✓✓
Car, bus, tram and train parking's		✓	✓✓
Chemical storages, fuel and solvent storage, indoors	✓	✓✓	✓
Chemical storages, fuels, paint and solvent storage outdoors		✓	✓✓
Cold Storages	✓✓		
Electric power transformers		✓✓	✓
Engine rooms diesel		✓	✓✓
Engine rooms gas	✓	✓✓	✓✓
Fuel service stations and plug-in hybrid charging stations		✓✓	✓✓
Fume hoods	✓✓	✓	
Heating Rooms for chemicals	✓✓	✓	
Hydrocarbons storage and processing indoors	✓	✓	✓✓
Hydrogen storage and processing indoors	✓✓	✓✓	
Hydrogen storage and processing outdoors		✓✓	
Isolators for antennas	✓✓		
Laboratories	✓	✓✓	✓
Monitoring of machinery	✓	✓✓	✓✓
Oil and Gas pipe line and pumping stations		✓	✓✓
Paint spray booth's		✓	✓✓
Radio amplifier rooms	✓✓		
Recycling and waste processing plants		✓	✓✓



Suitable ✓ Recommended ✓✓

# General Specification



## Specifications: FSL100 Series Flame Detectors

<b>FSL100 Flame Detector types</b>	FSL100-UV, FSL100-UVIR and FSL100-IR3; Choice of red or white housings
<b>Range</b>	35 m/110 ft (IR3), 25 m/80 ft (UV, UVIR) alarming within 10 seconds to a 0.1 m <sup>2</sup> (1 ft <sup>2</sup> ) n-heptane fire
<b>Cone of vision</b>	90° minimum horizontal and vertical
<b>Power</b>	12/24 VDC (10–28 V DC nominal)
<b>Local LEDs</b>	<ul style="list-style-type: none"> <li>● Continuous green: normal operation</li> <li>● Continuous yellow: fault</li> <li>● Flashing yellow: Fault and guide to repeat self-test after a self-test failure</li> <li>● Continuous red: alarm</li> </ul>
<b>Current output</b>	Standard available 4–20 mA (stepped, sinking, non-isolated) <ul style="list-style-type: none"> <li>● 0 mA power fault / microprocessor fault</li> <li>● 2 mA optical fault</li> <li>● 4 mA normal operation</li> <li>● &gt;20 mA alarm</li> </ul>
<b>Relay outputs:</b> - Alarm relay - Fault relay	De-energised 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.
<b>Cable gland &amp; terminals</b>	Cable entry M20 clearance. Supplied with gland suitable for cable diameter from 5.5mm (0.2") to 13mm (0.5"). Terminals suitable for 0.5mm <sup>2</sup> (20AWG) to 1.5mm <sup>2</sup> (15AWG) wire
<b>Start up time</b>	<10 sec
<b>Alarm response time</b>	8 to 30 sec
<b>Alarm output settings</b>	Selectable LEDs and relays latching/non latching; factory setting: latching
<b>Automatic &amp; manual Self-Test</b>	Automatic Sensor Test (Built in Self-Test) and manual self-test
<b>Operating current normal</b>	25 mA at 24 VDC
<b>Current in alarm, at 24 VDC</b>	±75 mA at 24 VDC
<b>Connections to:</b>	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
<b>End of line and alarm resistor</b>	To be adjusted to the fire control panel; free terminals are dedicated to the resistors <b>Note:</b> 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
<b>Housing</b>	Glass Reinforced Polyester (GRP), Nonincendive. UV resistant, Self-Extinguishing V-0 (UL-94)
<b>Swivel Mount</b>	PA66, UV resistant; Stainless Steel fixings; 280 g (0.62 lb)
<b>Pressure compensating element</b>	PCE (Pressure Compensating Element) avoids moisture build-up in the detector housing due to changes in ambient air-pressure
<b>Dimensions</b>	125 x 80 x 57 mm (4.9 x 3.15 x 2.25 in)
<b>Weight</b>	465 g (1.05 lb)
<b>Ingress protection</b>	IP65
<b>Temperature, operating</b>	–40 °C to +70 °C (–40 °F to +158 °F)
<b>Temperature, ambient ATEX and FM class 3611</b>	–25 °C to +70 °C (–13 °F to +158 °F)

## Approvals

Hazardous Area	Description
ATEX / IECEx	Zone 2/22
FM3611	FM3611 Non Incendive (non Sparking) Class 1, 2 & 3 Div 2

Performance Approvals	Description
EN54-10	Class 2 (UV & UVIR type) / Class 1 (IR3 type)
FM3260	(pending*)

## Ordering Information

Part Number	Description
<b>FSL100-UV (red housing)</b> <b>FSL100-UV-W (white housing)</b>	UV flame detector Suitable for ATEX zone 2/22; FM 3611 Class 1, 2 & 3 Div 2 EN54-10 (HIGH sensitivity) certificate FM3260 approval (pending*)
<b>FSL100-UVIR (red housing)</b> <b>FSL100-UVIR-W (white housing)</b>	UV/IR flame detector Suitable for ATEX zone 2/22; FM 3611 Class 1, 2 & 3 Div 2 EN54-10 (HIGH sensitivity) certificate FM3260 approval (pending*)
<b>FSL100-IR3 (red housing)</b> <b>FSL100-IR3-W (white housing)</b>	Triple IR flame detector Suitable for ATEX zone 2/22; FM 3611 Class 1, 2 & 3 Div 2 EN54-10 (HIGH sensitivity) certificate FM3260 approval (pending*)
<b>FSL100-SM21</b>	Swivel mount (White)
<b>FSL100-TL</b>	FSL100 test lamp, incl. universal charger and carrying case; safe areas only
<b>FSL100-TLX</b>	FSL100 test lamp, incl. carrying case; intrinsically safe; hazardous area

\*Please contact your Honeywell representative

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