



**GROVELEY DETECTION**

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## Ultraviolet &/or Infrared Flame Detection **FDSW**

### **Ultraviolet Flame Detector**

Hydrocarbon fires burn with a transparent to light blue flame and non-hydrocarbon fires typically burn with a yellow/red colour due to the radiated hot Carbon Dioxide (CO<sub>2</sub>).

The atmosphere consists of many UV absorbing gases and also absorbs UV radiation from the sun (at sea level) but as it is above 300nm it will not affect the detector which works from a 185 - 235 nm (UV-C) range. The UV tube is based on the Gieger-Muller counter and is sensitive to the charged particles that emit from hot sources and the detector can detect at least 500 particles per second - each one causes the UV-tube to short between the electrodes which is translated into a count.

The detector is able to alarm with 200msec, which is not suitable for all applications, since the detector can also pick up UV radiation from static arcs etc - consequently it has a selectable alarm delay.

The performance of an ultraviolet detector will be effected by smoke and vapours and is mostly used for indoor applications .

### **Infrared Flame Detector**

The infrared flame detector detects non-hydrocarbon based flames from burning wood, paper, hydrocarbon, metals etc. It is solar blind and responds to IR energy emitted at 4.4 µm. In addition it analyses the emissions of the flame to ensure it 'flickers'. This detector is particularly suitable for non-hydrocarbon fires with produce lots of smoke as the infrared energy will only be partially absorbed by smoke/vapours.

### **Combined Ultraviolet Infrared Flame Detector**

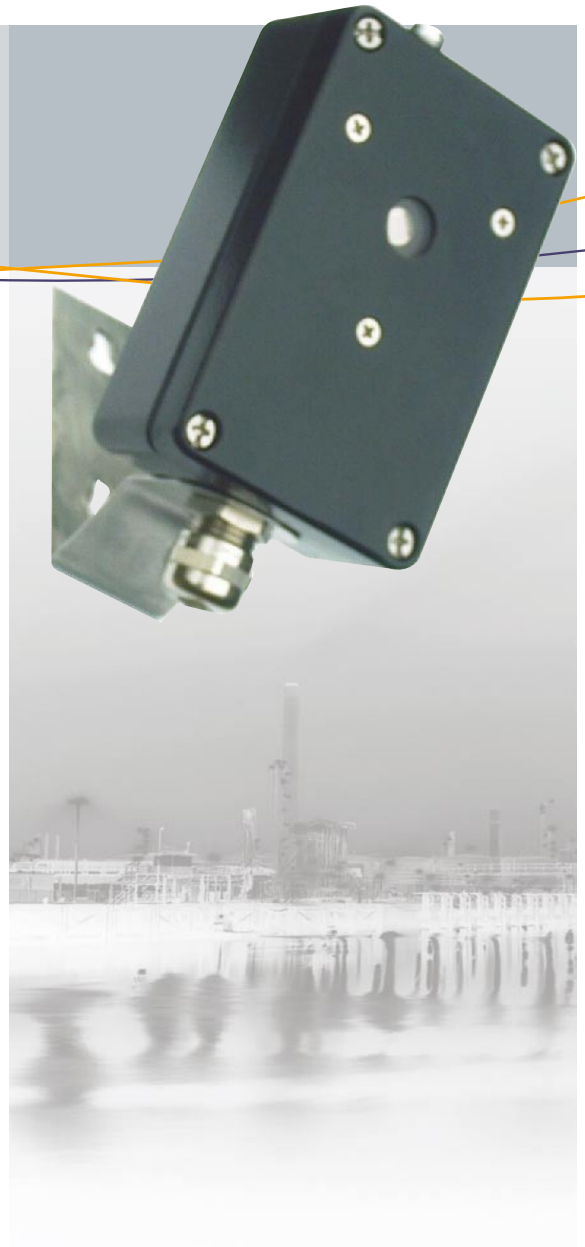
The combined ultraviolet infrared flame detector offers optimum false alarm security because an alarm is not registered unless both the UV and IR sensors' criteria are satisfied.

Typical applications include aircraft hangers, chemical storage, laboratories etc.

- For further application information please contact Groveley Detection

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buying quality...*



# Ultraviolet &/or Infrared Flame Detection FDSW

## TECHNICAL DETAILS

### **Operating Temperature**

- Operating: -20°C to +60°C
- Storage: -20°C to +65°C
- Humidity: 0 to 100% RH

### **Operating Voltage**

- 24VDC Nominal
- 5V to 30V Maximum

### **Operating Current**

- Quiescent: 350 microAmps
- Alarm: 45 milliAmps

### **Cable Entry**

- Conduit Entry: 1 x 16mm

### **Connections**

- Terminals: Suitable for a core diameter of 0.6-1.5mm

### **Environmental**

- Ingress protection to IP65

### **Housing**

- Epoxy coated aluminium
- Bracket: stainless steel (304)

### **Shipping Weight**

- 1 kg
- Dimensions 98L x 65W x 35D Overall (mm)
- Dimensions with airshield 98L x 65W x 55D mm

### **Accessories**

- Mounting & alignment bracket
- Airshield
- Weather protector / sunshield

## **INFRARED FLAME DETECTOR**

- Part number: FDSW-IR

### **Flame Sensitivity**

- 0.1m<sup>2</sup> n-heptane fire @15m
- Coverage: 90° cone of view greatest sensitivity along the central axis

### **Response Time**

- Dip switch selectable:
- 3 seconds, 6 seconds (Default) and 12 seconds

### **Outputs**

- Alarms resistor 560 Ohm (2 wire)
- Latching (default) or non-latching

### **Certification**

- EMC Directive: CE Certified

## **ULTRAVIOLET FLAME DETECTOR**

- Part number: FDSW-185/3

### **Outputs**

- Selectable latching/non-latching current increase
- Alarm output: RED alarm LED
- Alarm resistor: 560 Ohm (2 wire) and 10K Ohm (3 or 4 wire)
- Time delay: selectable > 200 msec, > 2,4 or 6 sec
- Sensor/filter: 185-235nm
- Cone of vision: 90° (with airshield +/-35°)

### **Certification**

- Designed to meet EN54-10

## **COMBINED ULTRAVIOLET INFRARED FLAME DETECTOR**

- Part number: FDSW-UVIR

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