



**GENERAL MONITORS**  
Protection for life.

# MODELS FL3110/FL3111

## UV/IR and UV Unitised Flame Detectors



### Features

- Wide Field of View
- LED Status Indication
- Continuous Optical Path Monitoring (COPM)
- Stainless Steel Construction
- EExe Wiring Compartment
- Five Output Configurations

### Benefits

- Greater coverage for detecting fires utilising fewer detectors
- Status clearly visible from front
- Checks optical path integrity and detector's electronic circuitry once every minute
- High level of corrosion resistance for Marine Environments
- Ease of Field Wiring connection
- Flexibility of choice and economy of purchase

### Description

General Monitors' Models FL3110 and FL3111 are UV/IR and UV only flame detectors designed to detect unwanted fires and provide alarm outputs directly from the detector while maintaining false alarm immunity. They complement the existing FL3112 multi-IR detector, completing the "family".

The Model FL3110 detects fires by monitoring in both the ultraviolet and infrared (UV & IR) spectral ranges making it highly immune to false alarms caused by lightning, arc welding, hot objects and other sources of radiation. The Model FL3111 detects in only the ultraviolet (UV) spectral range for optimised speed of response.

The detectors' electronics are integral within an explosion-proof housing, allowing detector information to be processed at the point of detection. The electronics are fully separated from the Exe wire compartment, offering protection during installation and service. The Models FL3110 and FL3111 are available in a number of output configurations:

- 4-20mA stepped output + single serial communications port
- Dual serial communications ports
- Warning, alarm and fault relays
- Alarm and fault relays with on-board EOL and alarm resistor
- 4-20mA stepped output only

The serial communication port(s) allows 128 units (247 using repeaters) to be linked up to a host computer using the MODBUS RTU protocol. The communication registers provide alarm status, fault and other information for operation, trouble shooting or programming the unit.

The COPM (Continuous Optical Path Monitoring) self test feature checks the optical path integrity (window cleanliness) and the detector's electronic circuitry once every minute.

### Applications

- Refineries
- Drilling and Production Platforms
- Fuel Loading Facilities
- Compressor Stations
- Electrostatic Paint Spray Booths
- LNG/LPG Processing and Storage Facilities
- Gas Turbines
- Chemical Plants
- Aircraft Hangars



## MODELS FL3110/FL3111

### System Specifications

<b>Wave Lengths:</b>	185 to 260nm (UV) 4.35 microns (IR)
<b>Field of View:</b>	120° horizontal 115° vertical (FL3110) 140° horizontal 135° vertical (FL3111)
<b>Sensitivity:</b>	Approved performance specifications-50feet(15.2m) distance for a 1sq. ft( 0.092m <sup>2</sup> ) gasoline fire.
<b>Typical Response Time:</b>	<3sec @ 50 ft. (FL3110) <1sec @ 50 ft. (FL3111)
<b>Minimum Sensor Response Time:</b>	UV/IR -FL3110<500 ms UV-FL3111<100ms
<b>Accessories:</b>	Programming Card
<b>Classification:</b>	II 2 GD EEx de IIC T4/T5, IP66/676
<b>Warranty:</b>	Two years
<b>Approvals:</b>	ATEX and CE Marking. Russian VNIPO pending.

### Environmental Specifications

<b>Operating Temperature Range:</b>	-40°C to +90°C (-40°F to +194°F)
<b>Storage Temperature Range:</b>	-40°C to +90°C (-40°F to +194°F)
<b>Operating Humidity Range:</b>	0% to 100% RH, non-condensing

### Mechanical Specifications

<b>Housing:</b>	Stainless steel
<b>Diameter:</b>	84mm (3.3 inches)
<b>Length:</b>	136 mm (5.3 inches))
<b>Weight:</b>	2.27kg (5 lbs)
<b>Cable Entries:</b>	2 x M20
<b>Mounting:</b>	Adjustable surface mount bracket included

### Electrical Specifications

<b>Input Power:</b>	20-36 VDC 24 VDC @ 150mA max. (3.6w max.)
<b>Analogue Signal:</b>	4-20mA (600 Ohms max.)
<b>Fault Signal:</b>	0mA
<b>COPM Fault:</b>	2.0mA ± 0.2mA
<b>Ready Signal:</b>	4.0mA ± 0.2mA
<b>Warn Signal:</b>	16.0mA ± 0.2mA
<b>Alarm Signal:</b>	20.0mA ± 0.2mA
<b>Relay Contact Rating:</b>	1A 30VDC resistive
<b>Selectable options:</b>	Sensitivity:100%,75%,50% Alarm time delay 2, 4 ,8 or 10 seconds Warn & alarm relays: Latching/Non-latching Energised/De-energised
<b>Serial Communications:</b>	MODBUS RTU, suitable for linking up to 128 units and 247 with repeaters.
<b>RFI/EMI Protection:</b>	Complies with EN50270
<b>Exe Terminal:</b>	0.75 – 2.5mm2 (12-22 AWG)
<b>Status Indicators:</b>	Two LED's with status and fault cues
<b>Faults Monitoring:</b>	RAM,EPROMand EEPROM checksum errors, optics failure/blockage and low supply voltage
<b>Standard Configuration:</b>	FL3110-1-5-1-3-1-1-1 FL3111-1-5-1-3-1-1-1

Specifications subject to change without notice.

Represented by:

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