



**GENERAL MONITORS**  
Protection for life.

# Model FL3112

## Digital Frequency Infrared Flame Detector



### Features

- 'DFIR' Technology
- 120° Field of View
- LED status indication
- Stainless steel or bronze (AB2)
- EExe Wiring compartment
- Five output configurations

### Benefits

- High rejection of false alarms
- Greater coverage for detecting fires utilising fewer detectors
- Status clearly visible from front
- Choice of corrosion-resistant body for offshore applications
- Ease of field wiring connection
- Flexibility of choice and economy of purchase

### Description

The General Monitors Model FL3112 is a Digital Frequency Infrared Flame Detector designed to detect unwanted fires and provide alarm output directly from the detector while maintaining false alarm immunity.

The Model FL3112 detects radiation from the infrared spectral region of a flame producing a flame detector that is virtually immune to false alarms caused by lightning, arc welding, hot objects and other sources of radiation.

The detector's 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 Model FL3112 is 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 & 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



# MODEL FL3112

## System Specification

- IR Centre wavelength:** 4.35 microns
- Horizontal & vertical Field of View:** 120° maximum
- Sensitivity:** Approved performance specifications: 50 feet (15.2m) distance for a 1sq. ft. (0.092m) gasoline fire
- Typical response time:** < 2 seconds @ 50ft.
- Minimum sensor response time:** < 500 ms
- Warranty:** Two years
- Approvals:** ATEX & CE Marking  
Approved for Russia and Kazakhstan
- Classification:** VNII PO EExd IIC, T6, IP66/67
- Accessories:** Mounting bracket

## Environmental Specification

- Operating temperature standard range:** -40°C to +75°C (-40°F to +167°F)
- Storage temperature range:** -40°C to +75°C (-40°F to +176°F)
- Operating humidity range:** 0 to 100% RH non-condensing

## Mechanical Specification

- Housing:** Stainless steel or bronze (AB2)
- Diameter:** 84mm (3.3 inches)
- Length:** 136 mm (5.3 inches)
- Weight:** 2.5 kg (5.5 lbs)  
Stainless steel or Bronze
- Cable entries:** M20 2 ports

## Electrical Specification

- Input power:** 20 to 36 VDC 24VDC @ 150mA max. (3.6w max.)
- Analogue Signal:** 4-20mA (600 ohms max)
- Fault signal:** 0mA
- COPM Fault:** 2.0mA ± 0.2mA
- Ready Signal:** 4.0mA ± 0.2mA
- Warn Signal:** 16.0mA ± 0.2mA
- Alarm Signal:** 20.0mA ± 0.2mA
- Relay contact rating:** 1A 30VDC resistive
- Selectable options:** Sensitivity: 100%, 75%, 50%  
Alarm time delay: 1, 2, 4 or 10 seconds  
Warn & alarm relays: Latching/non-latching Energised/de-energised
- Serial communications:** MODBUS RTU, suitable for linking up to 128 units and 247 with repeaters
- RFI/EMI Protection:** Complies with EN50081-2, EN50082-2
- Exe Terminal:** 0.75 - 2.5mm<sup>2</sup> (12-22 AWG)
- Status indicators:** Two LED's with status and fault cues
- Fault monitoring:** RAM, EPROM and EEPROM Checksum errors, optics failure/ blockage and low supply voltage

*Specifications subject to change without notice*

*Represented by:*

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