GENERAL MONITORS

Protection for life.

FL3100 Flame Detector Series

*Monitoring Accuracy and Reliability
You Can Depend On.*

Dependable Flame Detector Performance

- Immunity to False Alarms
- RS-485 MODBUS RTU Serial Communication
- High-Temperature Resistance
- Compact, Rugged Housing

The FL3100H (UV/IR), and FL3101H (UV) feature rugged, explosion-proof aluminum or stainless steel housings for use in hazardous environments.

FL3100H

FL3101H

Designed with advanced ultraviolet (UV) and infrared (IR) sensing technology, the FL3100 Flame Detector Series represents the state-of-the-art in secure flame monitoring. The microcontroller-based FL3100 Series from General Monitors rapidly and accurately senses unwanted fires, issuing alarm outputs directly from the detector, without compromising false alarm immunity, providing reliable and secure protection of people, equipment and facilities.

General Monitors

A worldwide sensor technology leader, General Monitors is well known for its advanced, high performance instruments. The company's experience and reputation for safety and innovation is unparalleled. No matter what the application, you can count on instruments from General Monitors to provide the necessary plant protection.
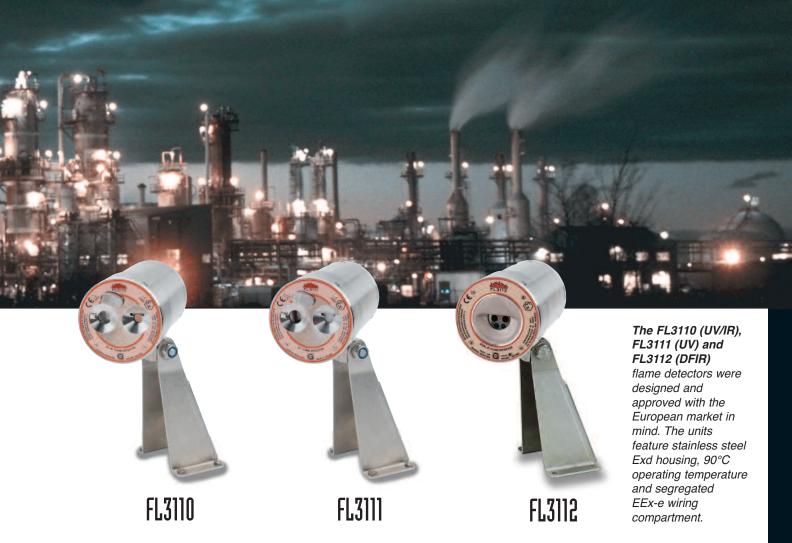
Application-Specific Flame Detection

The versatile FL3100 Flame Detector Series is designed for a wide variety of flame detection applications. Choose from interchangeable UV, UV/IR or Digital Frequency Infrared (DFIR) detectors to meet individual application requirements. Highly accurate built-in flicker-discrimination circuitry and self-checking Continuous Optical Path Monitoring (COPM) ensure the FL3100 Series offers exceptional fire protection, free from the worry of false alarms in:

- **Petroleum Refineries**
- **Offshore Drilling & Production Platforms**
- **Fuel Loading Facilities**
- **LNG & LPG Processing & Storage Plants**
- **Chemical Processing & Pharmaceuticals**

- **Aircraft Hangars**
- **Automotive Assembly**
- **Paint Spray Booths**
- **Compressor Stations**
- **Gas Turbines**
- **Warehousing and Distribution Facilities**
- **Hydrogen Plants**

Accessories

The Model FL802 is a multi-channel Readout/Display that supports zone (and voting) flame sensing with multiple detectors. The Model TA402A is a single channel Fire Trip Amplifier module, which is part of the Zero Two Series Gas and Fire Detection System. Various input/output cards are available for complete fire and gas detection.

FL3110

FL3111

FL3112

The FL3110 (UV/IR), FL3111 (UV) and FL3112 (DFIR) flame detectors were designed and approved with the European market in mind. The units feature stainless steel Exd housing, 90°C operating temperature and segregated EEx-e wiring compartment.

Key Features

The FL3100 Flame Detector Series is designed with:

- **Continuous Optical Path Monitoring checks the optical path integrity once every minute.**

- **Flicker discrimination circuitry reduces the possibility of false alarms even in the presence of arc welding, lightning, sunlight or hot objects.**

- **Modbus or HART user interface for easy, flexible networking. Dual Modbus optional. HART available on FL3100H and FL3101H models only.**

- **4-20mA analog output for remote alarm and fault indication.**

- **Aluminum or Stainless Steel Housing Supports Harsh Conditions and Explosion-Proof Environments.**

- **Standard Wide Temperature Range -40˚F to 185˚F (-40˚C to 85˚C)**

- **Special Version of FL3100H for Detection of Hydrogen Fires.**

- **Modular Components Result in Low Maintenance and Reduced Total Cost of Ownership.**

Advanced Flame Detector Design

The FL3100H/ 01H, FL3110 /11 contain a phototube that responds to radiation in the 185-260 nanometer range. The UV portion of the FL3100H /FL3110 detector is combined with a pyroelectric detector, which responds to a change in the intensity of infrared radiation (4.35 um) achieving a very high degree of discrimination.

Only the correct combination and intensity of UV/IR radiation determined by algorithm in the microcontroller can signal an alarm.

The unitized FL3112 Digital Frequency Infrared Detector utilizes infrared detectors and Digital Frequency Analysis (DFA). The infrared detector analyzes high and low frequencies, in addition to comparing flame and reference wavelengths, thus discriminating against false alarms. Associated with the detector is flicker discrimination circuits, which are sensitive to flame modulation, including that produced by a large fire.

System Approvals

In support of applications worldwide, our flame detectors feature universal product approvals: CSA, FM, ATEX, IECEx and CE Marking. ATEX, IECEx and CE Marking available for the FL3110, FL3111, and FL3112. (Patents 5,917,489 & 6,150,659) SIL 2/3 Suitable.

Responsive, Expert Support

No matter where you are, 24-hour technical service and support is available from General Monitors. The company has two manufacturing and six sales and service facilities that are strategically located worldwide for efficient support:

- *Lake Forest, California*
- *Houston, Texas*
- *Republic of Ireland*
- *Singapore*
- *United Arab Emirates*
- *United Kingdom*

Quality Commitment

With the FL3100 Series, General Monitors brings its reputation for quality and reliability to the flame detection market. General Monitors is ISO 9001:2008 certified, utilizing continuous process improvement quality programs.

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