



GENERAL MONITORS
Protection for life.

MODEL FL3102

Digital Frequency Infrared Flame Detector



Features

- Continuous Optical Path Monitoring (COPM)
- LED Status Indication
- 0-20 mA Stepped Output
- Three SPDT Programmable Relay Outputs
- RS-485 MODBUS RTU Serial Communications
- Wireless Capability

Benefits

- Checks optical path integrity and the detector's electronic circuitry once per minute
- Provides visual indication of fault and alarm status
- Industry standard for remote alarm and fault indication
- Immediate and time delayed relay outputs for Warning, Alarm & Fault
- Provides addressable communication link with redundancy for design specifications
- Compatible with ELPRO Technologies wireless devices

Description

The General Monitors Model FL3102 is a digital frequency infrared flame detector designed to detect unwanted fires, and provide alarm outputs directly from the detector while maintaining high false alarm immunity.

The FL3102 detects radiation from the infrared spectral region of a flame. This makes the FL3102 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 FL3102 provides a stepped output 0-20mA signal which indicates detection and fault status. Other features of the FL3102 include three alarm/fault relays, and an RS-485 output with MODBUS RTU protocol for linking up to 128 detectors in series or 247 units with repeaters. The output signals provide alarm status, fault and other information for operation, troubleshooting or programming of the unit.

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

The FL3102 is available in either an aluminum or stainless steel housing rated for use in Class I, Div. 1, Groups B, C & D areas; Class II, Groups E, F & G and Class III areas.

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 FL3102

System Specifications

IR Center Wavelength:	4.35 microns
Field of View:	110° maximum
Sensitivity:	Approved performance specifications - 50 feet (15.2 m) distance for a 1 sq. ft (0.092 m ²) gasoline fire.
Typical Response Time:	<3 seconds @ 50 ft.
Minimum Sensor Response Time:	<500 ms
Accessories:	Swivel elbow union, mounting bracket, air shield, test lamp
Classification:	Class I, Division 1, Groups B, C & D; Class II, Groups E, F & G; Class III, Type 4X, IICG EEx d IIC T5, IP66
Warranty:	Two years
Approvals:	FM, CSA, ATEX & CE Marking

Patent Number: 6,150,659

Environmental Specifications

Operating Temperature Range:	-40°F to +167°F (-40°C to +75°C)
Storage Temperature Range:	-40°F to +167°F (-40°C to +75°C)
Operating Humidity Range:	0% to 100% RH, non-condensing

Mechanical Specifications

Housing:	Aluminum (Stainless steel optional)
Diameter:	6 inches (152 mm)
Length:	5.5 inches (140 mm)
Weight:	5 lbs (2.27 kg) - Aluminum 16 lbs (7.26 kg) - Stainless Steel
Mounting:	3/4" NPT (2 ports)

Electrical Specifications

Input Power:	20-36 VDC 24 VDC @ 150 mA max. (3.6 w max.)
Analog Signal:	0-20 mA (600 Ohms max.)
Fault Signal:	0 mA
COPM Fault:	2.0 mA, ± 0.2 mA
Ready Signal:	4.0 mA, ± 0.2 mA
WARN Signal:	16.0 mA, ± 0.2 mA
ALARM Signal:	20.0 mA, ± 0.2 mA
Relay Contact Rating:	SPDT, 8A @ 250 VAC, 8A @ 24 VDC resistive max.
Dip Switch Selectable Options:	Sensitivity: 100%, 75%, 50% Alarm Time Delay: 2, 4, 8, or 10 seconds Warn & Alarm Relays: Latching/Non-Latching Energized/De-Energized
RS-485 Output:	MODBUS RTU, suitable for linking up to 128 units or up to 247 units with repeaters
Option:	Dual MODBUS
Baud Rate:	2400, 4800, 9600 or 19200 BPS
RFI/EMI Protection:	Complies with EN50081-2, EN50082-2
Cable Requirements:	Max. distance between detector and power source @ 24 VDC nominal (20 Ohm loop), 14 AWG - 4500ft (1370 m) Terminal Blocks - 12-22 AWG
Wireless Communication:	Available with ELPRO wireless devices
Status Indicator:	LED provides status and fault information
Faults Monitored:	EPROM and EEPROM checksum errors, optics failure/blockage and low supply voltage
Standard Configuration:	FL3102-1-5-1-3-1

Specifications subject to change without notice.

Represented by:

General Monitors Worldwide



www.generalmonitors.com

Lake Forest, CA

26776 Simpatica Circle
Lake Forest, California, 92630
Tel: +1-949-581-4464
Fax: +1-949-581-1151
email: info@generalmonitors.com

Houston, TX

9776 Whithorn Drive
Houston, Texas, 77095
Tel: +1-281-855-6000
Fax: +1-281-855-3290
email: gmlhou@generalmonitors.com

Ireland

Ballybrit Business Park
Galway
Republic of Ireland
Tel: +353-91-751175
Fax: +353-91-751317
email: info@gmil.ie

Singapore

No. 2 Kallang Pudding Road
#09-16 Mactech Building
Singapore 349307
Tel: +65-6748-3488
Fax: +65-6748-1911
email: genmon@gmpacifica.com.sg

United Arab Emirates

P.O. Box 61209
Jebel Ali
Dubai
United Arab Emirates
Tel: +971-4-8815751
Fax: +971-4-8817927
email: gme@emirates.net.ae

United Kingdom

Heather Close
Lyme Green Business Park
Macclesfield, Cheshire
United Kingdom, SK11 0LR
Tel: +44-1625-619583
Fax: +44-1625-619098
email: info@generalmonitors.co.uk