

Models **FL3100H / FL3101H**

UV/ IR and UV Unitized Flame Detectors



General Monitors



Applications

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

Features & Benefits

- Wide field of view offers greater fire detection coverage
- Event logging stores fault and alarm history
- 4-20 mA stepped output conforms to industry standard for remote alarm and fault indication
- Modbus and HART user interface provides complete status and control capability in the control room
- Wide operating temperature range permits use at higher ambient temperature
- Continuous Optical Path Monitoring (COPM) checks optical path integrity and detector's electronic circuitry once every minute
- Three SPDT high-current programmable relay outputs provide immediate and time delayed relay outputs for alarm, warn and fault conditions

The General Monitors FL3100H and FL3101H are Ultraviolet/ Infrared and Ultraviolet-only flame detectors designed to detect unwanted fires and provide alarm outputs directly from the detector while maintaining false alarm immunity.

The FL3100H 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 FL3101H detects in only the ultraviolet (UV) spectral range for optimized speed of response.

Other features of the FL3100H and FL3101H include three alarm/fault relays, and an RS-485 serial output with Modbus RTU protocol for linking up to 128 detectors in series or 247 with repeaters. The RS-485 and HART outputs provide status, alarm, fault and other information for operation, troubleshooting or programming of the units. HART allows this feature without rewiring.

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.

*Because every life has a **purpose...***

System Specifications	
WAVE LENGTHS	185 to 260 nm (UV) 4.35 microns (IR)
FIELD OF VIEW	120° max. conical (FL3100H) 140° max. conical (FL3101H)
SENSITIVITY	Approved performance specifications— 50 feet (15.2m) distance for a 1 sq. ft (0.092 m ²) heptane fire.
TYPICAL RESPONSE TIME	< 3 sec @ 50 ft. (FL3100H) < 1 sec @ 50 ft. (FL3101H)
MINIMUM SENSOR RESPONSE TIME	UV/ IR – FL3100H < 500 ms UV – FL3101H < 100 ms
ACCESSORIES	Swivel elbow union, mounting bracket, test lamp
CLASSIFICATION	Class I, Div 1, Groups B, C, D; Class II, Div 1, Groups E, F, G; Class III, Type 4X Ex db IIC T5 Gb; Ex tb IIIC T100°C Db IP66/IP67
WARRANTY	Two years
APPROVALS	CSA, FM, ATEX, IECEx, GOST, INMETRO HART registered, SIL 3 suitable (FM)
PATENT NUMBER	5,914,489
Environmental Specifications	
OPERATING TEMPERATURE RANGE	-40° F to +185° F (-40° C to +85° C)
STORAGE TEMPERATURE RANGE	-40° F to +185° F (-40° C to +85° C)
OPERATING HUMIDITY RANGE	0% to 95% RH, non-condensing
Mechanical Specifications	
HOUSING	Aluminum (Stainless steel optional)
DIAMETER	6" (152 mm)
LENGTH	5.5" (140 mm)
WEIGHT	
ALUMINUM	5 lbs (2.3 kg)
STAINLESS STEEL	16 lbs (7.3 kg)
MOUNTING	Stainless steel mounting bracket
CABLE ENTRY	2 x ¾" NPT or 2 x 25 mm ISO
STANDARD CONFIGURATION	FL3100H-1-5-1-3-1-1-1 FL3101H-1-5-1-3-1-1-1

Electrical Specifications	
INPUT POWER	20-36 VDC 24 VDC @ 150 mA max. (3.6 W max.)
ANALOG SIGNAL	0 – 20 mA (600 ohms maximum)
FAULT MODE	0 – 0.2 mA*
COPM FAULT	2 mA, ± 0.2 mA**
READY SIGNAL	4 mA, ± 0.2 mA
IR SIGNAL	8 mA, +0.2 mA (FL3100H only)
UV SIGNAL	12 mA, +0.2 mA (FL3100H only)
WARN SIGNAL	16 mA, ± 0.2 mA
ALARM SIGNAL	20 mA, ± 0.2 mA
RELAY CONTACT RATING	8 A 250 VAC, 8 A @ 30 VDC resistive (North America). 8 A @ 30 V RMS/42.4 V peak, 8 A @ 30 VDC resistive (Europe).
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. Optional—Dual Modbus.
BAUD RATE	2400, 4800, 9600, or 19200 BPS
HART (OPTIONAL)	Fully HART foundation compliant
WIRELESS COMMUNICATION	Available with ELPRO Technologies wireless devices
EMC	Complies with EN 50130-4, EN 61000-6-4
CABLE REQUIREMENTS	Screened or screened and armored to BS5308 Part 2, Type 2 or equivalent.
STATUS INDICATOR	2 LEDs with status, fault and alarm indication
FAULTS MONITORED	Memory checksum, reset line shorted, optics failure/blockage, internal voltages, and low supply voltage

* Under HART, current values can be either 3.5 mA or 1.25 mA, depending on user selection

** Under HART, current value can be either 3.5 mA or 2.0 mA, depending on user selection



Equipamientos Analíticos S.A

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