FlameGard® 5 **UV/IR Flame Detector**

Ultraviolet and infrared flame detection provides high immunity to false alarms

The FlameGard 5 UV/IR Flame Detector is designed to detect fires and provide alarm outputs directly from the detector while maintaining false alarm immunity.

The FlameGard 5 UV/IR Flame Detector 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.

Other features of the FlameGard 5 UV/IR Detector 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, trouble-shooting or programming of the units. HART enables this feature without the need for rewiring.

The continuous optical path monitoring (COPM) self test feature checks both the optical path integrity (window cleanliness) and the detector's electronic circuitry once every minute.

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

Features and Benefits

- Wide field of view enables greater fire detection coverage
- Event logging stores fault and alarm history
- 4-20 mA stepped output is the 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 operation at higher ambient temperature
- Continuous Optical Path Monitoring (COPM) checks the optical path integrity and the detector'selectronic circuitry once every minute
- Three SPDT high-current programmable relay outputs provide immediate and time-delayed relay outputs for alarm, warning and fault conditions

System Specifications	
Wave Lengths	185 to 260 nm (UV) 4.35 microns (IR)
Field of View	120° max. conical
Sensitivity	Approved performance specifications – 50 feet (15.2m) distance for a 1 sq. ft (0.092m^2) heptane fire
Typical Response Time	< 3sec @ 50 ft.
Minimum Sensor Response Time	500 ms
Classification	Class I, Div 1, Groups B, C & D Class II, Div 1, Groups E, F& G Class III, Type 4X, Ex d 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 approved to IEC 61508
Standard Part Number	5 UVIR - 1513111 FlameGard 5 UVIR Flame Detector Single ModBus, Aluminum, 0-20mA Output, Relays, Aluminum Housing
Accessories	Mounting bracket, test lamp

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)
Length	5.5 inches (140 mm)
Diameter	6 inches (152 mm)
Weight	5 lbs (2.3 kg) – aluminum 16 lbs (7.3 kg) – stainless steel
Mounting	3/4" NPT (2 ports)
Cable Entry	2 x 3/4" NPT or 2 x 25 mm ISO or 2 x 20 mm ISO or 2 x 13.5 PG
Electrical Specifications	
Input Power	20-36 VDC 24 VDC @ 150 mA max. (3.4 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	4.05 mA, ± 0.05 mA
IR Signal	8 mA, ±0.2 mA
UV Signal	12 mA, ± 0.2 mA
WARN Signal	16 mA, ± 0.2 mA
ALARM Signal	20 mA, ± 0.2 mA
Relay Contact Rating	8A 250 VAC, 8A @ 30 VDC resistive (North America) 8A @ 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)	HART 6, HART Device Description Language available. AMS-aware
Wireless Communication	Available with ELPRO Technologies wireless devices
RFI /EMI Protection	Complies with EN 50130-4, EN 61000-6-4
Cable Requirements	Max. distance between detector and power source @ 24 VDC nominal (20 Ohm loop), 14 AWG – 4500 ft (1370 m) Terminal Blocks – 14-22 AWG
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*

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