FL500 UV/IR FLAME DETECTOR

Rugged stainless steel enclosure

Self-check feature

IR detector

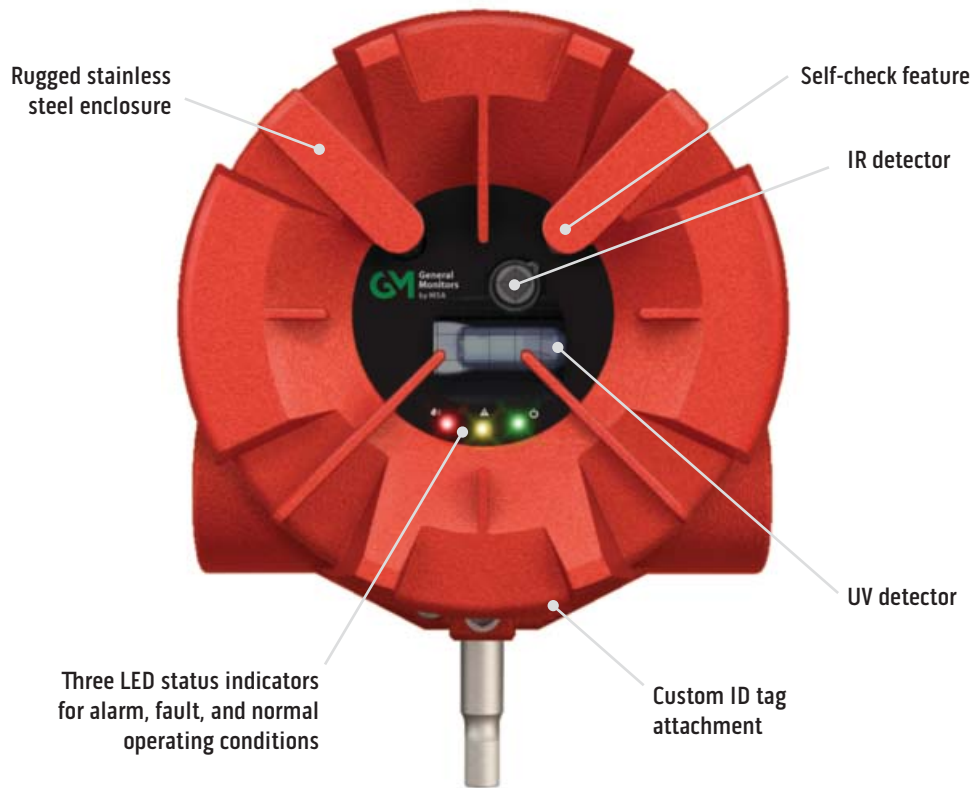Three LED status indicators for alarm, fault, and normal operating conditions

Custom ID tag attachment

UV detector

UV/IR TECHNOLOGY

A UV/IR flame detector combines an ultraviolet (UV) sensor for quick response and an infrared (IR) sensor that monitors radiation emitted by a flame. This combination offers increased immunity, operates at faster speeds and is suited for both indoor and outdoor use.

IMPROVED DESIGN

Stainless steel housing, three LED status indicators, reduced footprint, and simplified wiring make the FL500 easy to install and maintain.

FM PERFORMANCE APPROVED DETECTION

The FL500 has six fuel sources performance approved by Factory Mutual (FM)—heptane, methane, methanol, propane, ethane, and butane.

SAFETY INTEGRITY SELF-CHECK

Every two minutes, a built in self-check known as Continuous Optical Path Monitoring (COPM) performs an optical and electrical check to ensure the optical path is clear and the electronic circuitry is operational.

RELIABLE TESTING ANYTIME, ANYWHERE

The FL500 can be tested with our exclusive TL105 Test Lamp, which simulates the flickering of a fire. This allows the detector to be tested under simulated fire conditions without the associated risk of an open flame.

FL500 UV/IR FLAME DETECTOR

GM General Monitors by MSA

SYSTEM SPECIFICATIONS

Wave Lengths	185 to 260 nm (UV) 4.35 microns (IR)
Field of View	Up to 130° max. conical

Fuel	Distance (ft.)	Response Time (s)
n-Heptane	90	6.0
n-Heptane	60	< 3.0
Methanol	40	12.0
Methane	80	< 10.0
Propane	60	< 7.0
Butane	55	< 6.0
Ethane	60	< 3.0

Accessories	test lamp
Classification	Class I, Div 1, Groups A*, B, C, D; Class II, Div 1, Groups E, F, G; Class III, Type 6P Ex db IIC T5 Gb; Ex tb IIIC T100°C Db II 2 G D IP66/IP67
Warranty	Two Years
Approvals	CSA, FM, ATEX, IECEx, CE Marking Compliance to CPR through EN 54-10 HART 7 registered

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range	-67°F to +185°F (-55°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	316 Stainless Steel, powder coated
Diameter	4.5" (114 mm)
Length	5.5" (140 mm)
Weight	9 lb. (4.0 kg)
Mounting	Stainless steel mounting bracket
Cable Entry	2 x 3/4" NPT or 2 x 25 mm
Standard Configuration	FL500-3-5-1-2-1-1-1-1 3.5 mA HART, source current, relays, Modbus, high sensitivity, 4 sec. delay, 3/4" NPT, mounting bracket

ELECTRICAL SPECIFICATIONS

Input Power	20-36 VDC 200 mA max. current (3 W max. power consumption)
Typical Current	80 to 150 mA
Analog Output	Source or Sink
Analog Signal	0-20 mA
Fault Mode	0-0.2 mA**
COPM Self-Check Fault	2 mA, ± 0.2 mA***
Ready Signal	4 mA, ± 0.2 mA
IR Signal	8 mA, ± 0.2 mA
UV Signal	12 mA, ± 0.2 mA
Alarm Low	16 mA, ± 0.2 mA
Alarm High	20 mA, ± 0.2 mA
Relay Contact Rating	5 A 250 VAC, 5 A @ 30 VDC resistive (North America), 5 A @ 30 V RMS/42.4 V peak, 5 A @30 VDC resistive (Europe)
Dip Switch Selectable Options Sensitivity Time Delay Alarm Low & Alarm High Relays	 High, Medium, Low Alarm High 2, 4, 8, or 10 seconds 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.
BAUD Rate	2400, 4800, 9600, or 19200 BPS
HART	Fully HART 7 FieldComm compliant
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	3 LEDs with status, fault, and alarm conditions
Faults Monitored	Memory checksum, reset line shorted, optics blockage, internal voltages, and low supply voltage

* Applicable to FM approval only
** Under HART, current values can be either 3.5 mA or 1.25 mA, depending on user selection
*** Under HART, current values can be either 3.5 mA or 2.0 mA, depending on user selection

Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products. Specifications subject to change without notice.

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