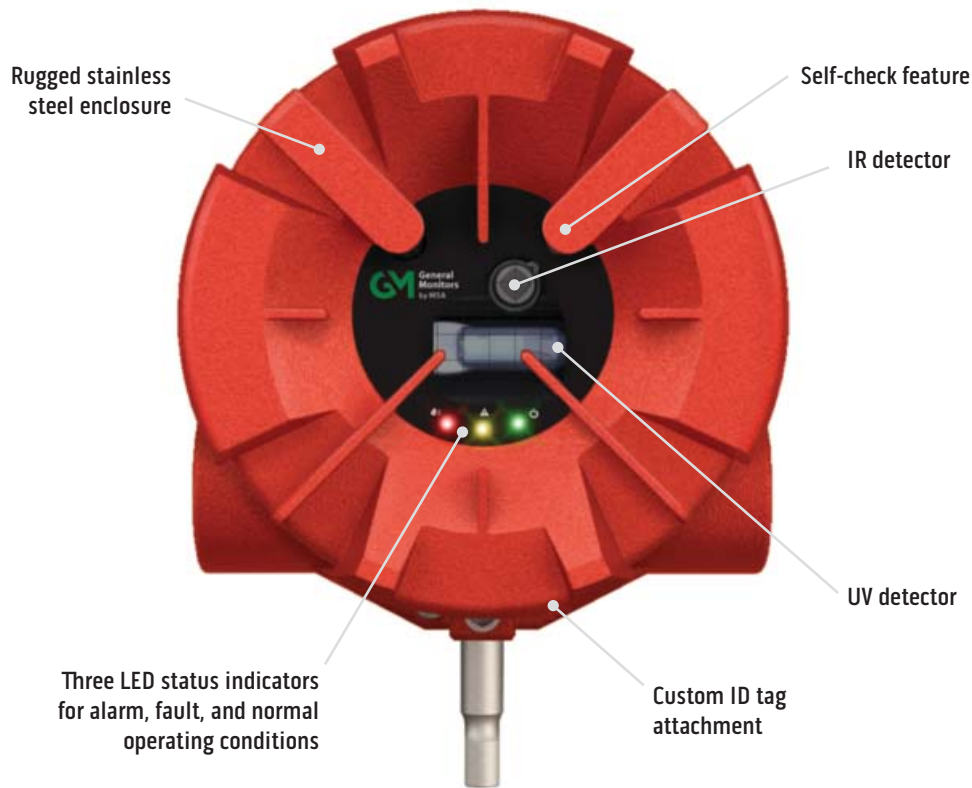


FL500 UV/IR FLAME DETECTOR



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.



WE KNOW WHAT'S AT STAKE.

FL500 UV/IR FLAME DETECTOR



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 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 | High, Medium, Low |
| Time Delay | Alarm High 2, 4, 8, or 10 seconds |
| Alarm Low & Alarm High 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. |
| 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.

ID 1466-18-MC / August 2018

© MSA 2018

Corporate Headquarters:
MSA – The Safety Company
1000 Cranberry Woods Drive
Cranberry Township, PA 16066
United States
+1-724-776-8600
info.us@MSAsafety.com

Design Center:
General Monitors
26776 Simpatica Circle
Lake Forest, CA 92630
United States
+1-949-581-4464
info.gm@MSAsafety.com

Additional locations can be found on our web site:
www.MSAsafety.com