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.

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.

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

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.

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

CPM 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 BSS308 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

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
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MSAsafety.com/detection