FlameGard® 5 MSIR Flame Detector
Frequently Asked Questions

MSA
The Safety Company

Will your flame detectors respond to arc welding and / or lightning?
Due to the Artificial Neural Networks in the MSIR, our detectors have been trained to discern between flames and other stimuli that may mimic flames. As a result, our detectors will not respond to lightning or welding that occurs more than 10 feet from the detector.

Why do I need to use the test lamp on the flame detectors if they already have self checking every minute?
The continuous optical path monitoring (COPM) self checking only tests the lamps and windows for dirt, and the detector circuits. It does not test the relays or the 0-20mA stepped output. The FlameGard 5 Test Lamp allows you to test everything including the relays and output from the 0-20mA.

How should the flame detectors be mounted?
The MSIR uses a bracket that allows the detector to be rotated in all three dimensions. Typically, a short piece of flexible conduit is installed between the detector and the rigid conduit to allow for adjustments. We also recommend the detectors be mounted looking down at an angle to prevent dirt, dust and moisture from collecting on the windows.

What do the LED's mean?
The slowly flashing green LED indicates the unit is functioning correctly and that it is not in alarm condition. A slow flashing red LED indicates the unit has sensed a fire and is waiting for the user defined time delay to expire before going into alarm. A rapidly flashing LED indicates the unit is in alarm.

What approvals do you have on your product?
CSA, FM, ULC, ATEX, IECEx & CE Marking. HART Registerd. SIL 3 suitable. FM Certified to IEC 61508.

Do you have an NFPA 72 controller that can be used with your flame detectors?
MSA's Model 10k offers intelligent, flexible and reliable solutions. The system's hardware configuration and software have been tested by FM standards 3110, 3111, 6310 and 6340 to verify NFPA 72 Compliance.

What is Neural Network Technology (NNT)?
NNT is the "brain" behind the detector. It allows the unit to make intelligent decisions based on training and an adaptive recognition algorithm that works similar to a human brain. Think of a small tree you used to play on as a child. If you were to visit that tree 30 years later it would be very different in appearance but your brain is able to determine that it is the same tree based on its appearance. NNT allows the MSIR detector to do the same thing with fires and, conversely, with false alarm sources.

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

Will your flame detector see hydrogen?
The MSIR detector will not see a hydrogen fire. The MSA FlameGard 5 UV/IR – H_2 detector will see a hydrogen fire and is better suited for that application.

What outputs do you have available on your product?
A 0 – 20 mA stepped output with HART is available along with ModBus and Relays. ModBus RTU is suitable for linking up to 128 units and 147 units with repeaters.

Can your product be loop powered?
The MSIR cannot as it requires up to 3.6 W.

What is the range for your flame detector?
The FlameGard 5 MSIR Detector has the ability to detect one square foot n-heptane fire at a distance of 230 feet in less than 10 seconds and a one foot plume of methane at a distance of 80 feet.

What is the field of view? or angle of coverage?
The maximum field of view of 100 degrees at 100 feet and 90 degrees at 210 feet make this an attractive fire detection option for a multitude of applications. The benefit to this greater range and wider field of view is that the number of detectors required in many applications can be reduced, along with installation costs, while achieving greater false alarm immunity.

How many detectors are in your multi-spectral infrared detector?
There are four sensors that provide more data, increased detection distances, excellent immunity to false alarms, faster response times and better performance under various environmental conditions. Two that look for distinct IR frequencies in the CO_2 spike of a fire and two detectors that are used to eliminate false alarms. This data is then automatically conveyed to the neural network where the actual threat level is determined.

What is the enclosure made of?
Powder coated, explosion proof, 316 Stainless Steel housing makes this detector ideal for corrosive environments.

What is the temperature range of your device?
The detector has the ability to function between -40° F to +176° F (-40° C to +80° C).

Is your product SIL rated? or suitable for use in a safety system?
It is rated as SIL 3 suitable and is FM certified to IEC 61508.

Why would I choose MSA's MSIR product over UV/IR technology?
Industry leading false alarm immunity and an extremely large detection area make the FlameGard 5 MSIR Flame Detector an attractive option for most installations.

How many flame detectors do I need?
We are unable to provide guidance in this regard; however, we are happy to recommend third parties who specialize in this area. Please contact your Territory Sales Manager for further information.

What is the input power range of your product?
20-36 V DC , 150 mA current draw at 24 VDC.

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