

# **SPECIFICATION**

## **FLAMEGARD IR<sup>3</sup> FLAME DETECTOR**

## **SPECIFICATION FOR THE FLAMEGARD IR<sup>3</sup> FLAME DETECTOR**

- 1.0 The Flame Detector shall be a microprocessor-based, triple IR spectrum flame detector. The detector shall have two different output set levels for Alarm and Warning and four selectable sensitivity levels.
- 2.0 The detector shall be capable of discriminating between fire and non-fire sources of radiation such as halogen and mercury lamps, incident IR lights, heaters, X-Ray, ARC Welding, sunlight and combination of any two of the above radiant sources. The discriminating ability shall be maintained when the radiation is chopped at any frequency.
- 3.0 The detector shall have four selectable sensitivity levels, each sensitivity level shall be capable of detecting fire as follows:
  - a. 1 sq. ft. gasoline fire at 15 m. (50 ft.) warning (20 m., 55 ft.)
  - b. 1 sq. ft. gasoline fire at 30 m. (100 ft.) warning (40 m., 110 ft.)
  - c. 1 sq. ft. gasoline fire at 40 m. (130 ft.) warning (50 m., 165 ft.)
  - d. 1 sq. ft. gasoline fire at 50 m. (165 ft.) warning (60 m., 200 ft.)
- 4.0 The detector shall contain both automatic and manual BIT (built-in-test). The automatic self test function will be capable of verifying the cleanliness of the lens, proper operation of the sensors and all electronic circuitry.
- 5.0 The detector shall contain dry contact RELAYS for direct connection to any approved fire alarm system. The detector shall have dry contact relays for the fire alarm output, fault and accessory relay and 4-20mA output. The fire alarm relays shall be rated for 2 Amps at 30 VDC and 2 Amps at 250 VAC. The fault and accessory relays shall be rated for 5 Amps at 30 VDC and 5 Amps at 250 VAC.
- 6.0 The detector shall have two LEDs visible through the detector window to allow visual annunciation of detector normal operation (standby), warning, alarm and fault status.
- 7.0 The operating voltage shall be 18-32 VDC. The maximum power consumption of the detector in the standby mode shall be 130mA and in alarm mode 180mA.

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8.0 The detector shall have the following field selectable features:

- , Alarm time delay up to 30 seconds
- , Latching or non-latching alarm relay
- , Automatic or manual built-in-test
- , Sensitivity level

9.0 The field of view shall be 90E.

10.0 The detector housing shall be an explosion proof heavy duty, copper free aluminum casting. The housing finish shall be epoxy enamel. Cover shall be sealed, totally protected against dust and water, per NEMA Type 6P (totally protected against dust and water), salt spray and foam/water fire fighting agents. The circuit boards shall be conformably coated. The detector housing shall be approved for use in Class I, Division 1, Groups B, C, and D; Class II, Division 1, Groups E, F, and G areas. All approval agency decals must appear on the product.

11.0 The detector shall maintain at least 85% of its sensitivity (Fire Detection) when the lens are exposed to any one of the following: water spray, smoke, salt water film, dry salt deposits, oil or fresh water film.

12.0 The detector shall meet to MIL-STD-810C requirements. The detector shall function as required in the temperatures ranging from -40EC (-40EF) to 70EC (160EF). The detector's storage temperature shall be from -50EC (-65EF) to 85EC (185EF).

The detector shall operate over humidity range of 0 t 100% RH for the operating temperature range for 164 hours.

The detector shall endure an exposure to dust at a minimum of 3 gram/cubic ft. at a velocity of 1,750 fpm for 12 hours.

The detector shall not malfunction during or after a vibration test of 1.5 g within a range of 5 to 50 Hz and 4.2 g within a range of 50 to 500 Hz for 9 hours.

The detector shall operate as required after being subjected to a mechanical shock of 40 g sine wave for 11 seconds.

13.0 The detector shall have a minimum warranty of three years.

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14.0 The Flame Detector shall be a Mine Safety Appliances Company FlameGard IR<sup>3</sup> Flame Detector, or equal.