



**OmniGuard®**  
by Firefly

# MULTI-SPECTRUM INFRARED FLAME DETECTOR

## OmniGuard® model 760

The OmniGuard® Model 760 multi-spectrum infrared flame detector is designed to detect unwanted fires, and output appropriate alarm information. In a breakthrough technological advance, the model 760 senses infrared radiation in five discreet infrared (IR<sup>2</sup>) wavelengths for early fire detection for maximum protection of people, machinery, and facilities. The model 760 utilizes the patented OmniGuard® Fire Event Algorithm for superior false alarm immunity.

The multi-spectrum sensor information, combined with the sophisticated algorithm, enables the model 760 the ability to detect both hydrocarbon and certain non-hydrocarbon fueled fires. The model 760 also features an automatic self test function to monitor the detector's ability to sense fires and report a fault condition when impaired. The self test feature also eliminates the need for any external test fixtures.



Typical applications: turbine enclosures, generator rooms, munitions facilities, battery rooms, and gas cabinets.

### Specifications

#### Performance ratings

Responsive to hydrocarbon and non-hydrocarbon flames.

Third-party performance certified to detect:

Normal sensitivity

- 1 square foot gasoline fire at 75 feet in <1 second
- 1 square foot n-Heptane fire at 75 feet in <1 second
- 0.75 inch diameter orifice with a flow rate of 1.5 SCFM hydrogen plume at 50 feet in <1 second

Enhanced sensitivity

- 1 square foot gasoline fire at 100 feet in <1 second
- 1 square foot n-Heptane fire at 100 feet in <1 second

Long distance sensitivity

- 1 square foot gasoline fire at 200 feet in <1 second
- 1 square foot n-Heptane fire at 200 feet in <1 second
- 4 square foot JP-5 fire at 200 ft in <5 seconds

#### Environmental ratings

Rated:

Class I, Division 1, Groups B, C & D (explosion proof)

Class II, Division 1, Groups E, F & G (dust ignition proof)

NEMA 4X weatherproof, dust-tight, watertight

CE0081  II 2 G/D

Ex d IIB+H<sub>2</sub> T5 Gb for gas

Ex tb IIIC T100°C Db IP66 for dust

Standard housing is copper-free aluminium conversion coated to MIL-C-5541C, Class 3 (white).  
Optional stainless steel housing available with passive finish per MIL-5-5002C, Type 1.

### Key features

- Patented Fire Event Analysis (FEA) algorithm for superior false-alarm immunity
- Five year warranty
- Wide field of view (90°)
- FM, CSA, IECEx and ATEX approved
- User selectable sensitivities
- Advanced through-the-lens diagnostic self-test (no external test source required)
- Long range detection
- Self-contained, explosion-proof enclosure
- Field configurable relays and sensitivity
- State-of-the-art microprocessor control
- High intensity, localized indication of proper operation, fire or fault

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## Specifications (continued)

Standard operating temperature range:  
-40° to +85°C (-40° to +185°F)

### Spectral response

Infrared peak sensitivities of 2.2 µm, 2.9 µm, 3.7 µm, 4.4 µm, and 5.8 µm.

### Detector inputs

#### Inputs

- nominal voltage 24 VDC (ripple voltage <240mV)
- range 20 to 30 VDC

#### Power consumption

- standby 80 mA
- alarm 100 mA
- auto and manual test 160 mA

### Detector outputs

#### Relay

- relays (2) fire, trouble, dry contacts, hermetically sealed
- rated 2 A at 28 VDC. User selects NO or NC
- fire relay user selects latching or non-latching

Current loop (standard version): 0 to 20 mA output

- 20 mA = fire
- 16 mA = warning fire IR
- 5 mA = warning ref IR
- 3 mA = fire relay coil fault
- 2 mA = calibration not complete
- 1 mA = self-test fault
- 0 mA = current loop fault
- 4 mA = normal

MODBUS RS-485 serial I/O

### Mechanical considerations

- Weight 5 lb (aluminium)
- Height x width 4.80 in x 5.50 in
- Conduit entry 3/4-14 NPTF or M20-1.5

### Optional accessories

- Swivel mount No 4651027 (used with aluminium)

## Ordering information

### To order, please specify

Type Omniguard® model 760

Designation Multi-spectrum infrared flame detector

Ordering number 760 - X X X O O

Fire type \_\_\_\_\_  
0 Hydrocarbon/non-hydrocarbon

Housing material/conduit entry \_\_\_\_\_  
0 aluminium, 3/4-14 NPT (white)  
3 aluminium, M20-1.5 (white)

Test feature \_\_\_\_\_  
1 auto self-test

Fire relay configuration \_\_\_\_\_

Agency approvals \_\_\_\_\_  
Factory Mutual (FM)  
ATEX  
Canadian Standards Association (CSA)  
IECEX



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