



## MULTI-SPECTRUM INFRARED IR5 FLAME DETECTOR

### Omniguard® model 760



The Omniguard® model 760 multi-spectrum infrared flame detector is designed to detect fires and output appropriate alarm information. In a breakthrough technological advance, the model 760 senses infrared radiation in five discreet infrared (IR5) wavelengths for early fire detection. The model 760 utilizes the patented Omniguard® Fire Event Algorithm (FEA) for superior false alarm immunity.

The multi-spectrum sensor information, combined with the sophisticated algorithm, enables the model 760 the ability to quickly detect 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. Typical applications for the Omniguard® 760 model are refineries, pipelines, production platforms, power plants, compressor stations, LNG facilities, LPG facilities, tank farms, hangars, and petrochemical plants.

### 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

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 feet 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)

Type 4X weatherproof, dust-tight, watertight

CE0081  II 2 G/D

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

Ex tb IIIC T100°C Db IP66 for dust

#### Housings

Copper-free aluminum conversion coated to MIL-C-5541C, Class 3 (white)

Stainless Steel 316 housing with passive finish per MIL-S-5002C, Type 1

#### Operating temperature

-40°C to +85°C (-40°F to +185°F)

#### Operating humidity

0-95% RH (non-condensing)

(withstands up to 100% RH for short periods)

*Specifications continue on next page...*

### Key features

- ✧ Patented Fire Event Analysis (FEA) algorithm for superior false-alarm immunity
- ✧ Five-year warranty on sensors from date of delivery, three-year warranty on components or manufacturing defects from date of delivery
- ✧ Field of view 90°
- ✧ Robust, weatherproof enclosure for indoor or outdoor applications
- ✧ FM, CSA, IECEx, ATEX, SIL2, UKCA, ECAS-Ex, PESO
- ✧ Advanced through-the-lens diagnostic self-test
- ✧ Long range detection
- ✧ Self-contained, explosion-proof enclosure
- ✧ Field configurable relays and sensitivity
- ✧ State-of-the-art microprocessor control
- ✧ High intensity, localized indication of fire or fault

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## Specifications (continued)

### Spectral response

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

### Detector inputs

#### Inputs

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

### Power consumption

- standby 33 mA
- standby 4-20 mA 38 mA
- fire alarm 47 mA
- auto test 75 mA
- manual test 94 mA

### Detector outputs

#### Relay

- relays (2) fire, trouble, dry contacts, hermetically sealed
- fire relay user selectable latching or non-latching
- rated 2 A at 30 VDC, User selectable NO or NC

### Current loop 0 to 20 mA output

- 20 mA = Fire
- 16 mA = Fire IR warning
- 15 mA = Ref IR warning
- 4 mA = Normal
- 3 mA = Fire relay coil fault
- 2.5 mA = Block fault
- 1.5 mA = Exceedance fault
- 1 mA = Self-test fault
- 0 mA = Current loop fault

RS485 MODBUS RTU

### Mechanical considerations

Weight 2,4 kg (5 lbs) (aluminum)  
6.3 kg (13 lbs) (stainless steel)

Height x width x depth 114 x 140 x 125 mm  
(4.5 x 5.5 x 4.9 in)

Conduit entry 3/4-14 NPT or M20-1.5

### Optional accessories

Swivel mount (SS304) 20856 (for aluminum detectors)

Pole mount 2" (SS316L) 26803 (for swivel mount 20856)

Swivel mount (SS316) 24784 (for stainless steel detectors)

Pole mount 2" (SS316L) 26807 (for swivel mount 24784)

Rain shield/Sun shield 27976  
(SS316L)

Air shield assembly 19797

Portable test unit 545

## Ordering information

### To order, please specify

Type Omniguard® model 760

Designation Multi-spectrum infrared flame detector

Ordering number 760 - X X X X X

### Fire type

0 Hydrocarbon/non-hydrocarbon

### Housing material/conduit entry

- 0 Aluminum, 3/4-14 NPT (white)
- 2 Stainless steel, 3/4-14 NPT
- 3 Aluminum, M20-1.5 (white)
- 5 Stainless steel, M20-1.5

### Test feature

1 Auto self-test

### Fire relay configuration

- 0 Latching
- 1 Non-latching

### Approvals

0 FM, CSA, IECEx, ATEX, SIL2,  
UKCA, ECAS-Ex, PESO, CE, EMC, LVD



For information on the specific certifications and approvals  
each Omniguard® Flame Detector holds please visit:  
[www.omniguardbyfirefly.com/flamedetectors](http://www.omniguardbyfirefly.com/flamedetectors)