



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 discrete 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 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, turbine enclosures, power plants, compressor stations, LNG facilities, LPG facilities, tank farms, hangars, and petrochemical plants.



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 degrees
- ✧ Robust, weatherproof enclosure for indoor or outdoor applications
- ✧ FM, CSA, IECEx, ATEX, SIL2, Russian Fire Certificate, EMC, LVD, CSFM
- ✧ 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

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 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)
 Type 4X weatherproof, dust-tight, watertight
 CE0081  II 2 G/D
 Ex db IIB+H₂ T5 Gb for gas
 Ex tb IIIC T100°C Db IP66 for dust

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

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Specifications (continued)

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 selectable NO or NC
- fire relay user selectable 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
- 1.5 mA = Exceedance fault
- 2.5 mA = Block fault
- 1 mA = Self-test fault
- 0 mA = Current loop fault
- 4 mA = Normal

MODBUS RS-485 serial I/O

Mechanical considerations

- Weight 2,4 kg (5 lbs)
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 No 20856 (used with aluminum)
No 24784 (used with stainless steel)
- Portable test unit Model 545
- Air shield kit No 19797
- Rain shield No 23546

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 Aluminium, 3/4-14 NPT (white)
- 2 Stainless Steel, 3/4-14 NPT
- 3 Aluminium, 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,
Russian Fire Certificate, EMC, LVD, CSFM

