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[4]) 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 quickly detect 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.

Key features

- Patented Fire Event Analysis (FEA) algorithm for superior false-alarm immunity
- Five year warranty
- Wide field of view (90°)
- FM, SIL2, CSA, IECEx and ATEX approved
- User selectable sensitivies
- 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

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
• 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 ⟨Ex⟩ II 2 G/D
    Ex d IIB+H_2 T5 Gb for gas
    Ex tb IIIC T100°C Db IP66 for dust

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

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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, 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
• 1.5 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)
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 NPTF or M20-1.5

Optional accessories
Swivel mount -	No 20856 (used with aluminum)
	No 70991 (used with stainless steel)
Portable test unit -	Model 545
Air shield kit -	No 19796
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

Agency approvals
0 FM, SIL2, CSA, Russian Fire Certificate, IECEx, ATEX, EMC, LVD, CSFM
3 SIL2, IECEx, ATEX, EMC, LVD

Omniguard®
by Firefly