Omniguard®
by Firefly

ULTRAVIOLET FLAME DETECTOR
Omniguard® model 660

The Omniguard® model 660 UV flame detector is designed to detect fires and output appropriate alarm information. The model 660 senses ultraviolet radiation in the appropriate wavelength for extremely fast fire detection. The model 660 will sense both hydrocarbon and non-hydrocarbon fires, a technology which has proven itself over decades of reliable service.

The model 660 is available in two versions, one for standard industrial applications with a maximum operating temperature of 85°C, and a second which is capable of operating at a maximum sustained temperature of 125°C. This version is especially well suited for turbine enclosure and high temperature industrial applications. Both versions come with 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® 660 model are turbine enclosures, powerplants, compressor stations, LPG facilities, LNG facilities and engine test cells.

Specifications

Performance ratings
Responsive to hydrocarbon (gasoline, propane, methane, alcohol, etc.)
and non-hydrocarbon (hydrogen, silane, hydrazine, magnesium, etc.) flames.

Third-party performance certified to detect saturating signal source in 15 milliseconds, 1 square foot gasoline flame at 50 feet in 1 second typical. Horizontal field of view 120°.

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 Type 4X weatherproof, dust-tight, watertight
CE0081 Ⓔx II 2 G/D
Ex db IIB + H_2 T5 Gb for gas on 660-0XXXX
Ex tb IIIC T100°C Db IP66 for dust on 660-0XXXX
Ex db IIB + H_2 T4 Gb for gas on 660-1XXXX
Ex tb IIIC T135°C Db IP66 for dust on 660-1XXXX

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
Standard operating temperature range:
-40C° to +85°C (-40°F to 185°F)
Special high temperature version:
-40C° to +125°C (-40F° to 257°F)

Operating humidity
0-95% RH (non-condensing)
(withstands up to 100% RH for short periods)

Key features

- Available in special high temperature version, -40°C to +125°C (-40°F to +257°F)
- Five-year warranty on sensors from date of delivery, three-year warranty on components or manufacturing defects from date of delivery
- Field of view 120°
- Robust, weatherproof enclosure for indoor or outdoor applications
- FM, CSA, IECEx, ATEX, SIL2, UKCA, PESO, 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 continue on next page...

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Specifications (continued)

Spectral response

Ultraviolet peak sensitivity of 0.22 µm

Detector inputs

Inputs

• nominal voltage	24 VDC (ripple voltage <240 mV)
• range	20 to 32 VDC

Power consumption

• standby	90 mA
• alarm	110 mA
• auto and manual test	250 mA

Detector outputs

Relay

• relays (2)	fire, trouble, dry contacts, hermetically sealed
• fire relay	user selectable latching or non-latching
• rated (standard)	2 A at 30 VDC, User selectable NO or NC
• rated (high temp.)	4 A at 30 VDC, User selectable NO or NC

Current loop (standard version) 0 to 20 mA output

- 20 mA = Fire
- 4 mA = Normal
- 3 mA = Fire relay coil fault
- 2 mA = EEPROM corrupted fault
- 1 mA = Self-test fault
- 0 mA = Current loop fault

RS485 User Interface (UI)

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 153 mm (4.5 x 5.5 x 6.0 in)
Conduit entry	3/4-14 NPT or M20-1.5

Optional accessories	**Art.no**
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 (SS316L)	23546
Air shield assembly	8001023 (for standard temp. detectors)
Air shield assembly	26489 (for high temp. detectors)
Portable test unit	43808-2 (115VAC, CSA approved) 43808-3 (100-240VAC, CE approved)

Ordering information

To order, please specify

Type	Omniguard® model 660
Designation	Ultraviolet flame detector
Ordering number	660 - X X X X X

Fire type

0 Industrial temperature fire detector
1 High temperature fire detector

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, PESO, Russian Fire Certificate, EMC, LVD, CSFM

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

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