



- Senses UV radiation for extremely fast fire detection
- 120° field of view and long range detection
- Automatic through-the-lens diagnostic self-test
- Weather and explosion proof enclosure

Overview

The model 3966 UV flame detector is designed to detect unwanted fires, and output appropriate alarm information. The model 3966 senses ultraviolet radiation in the appropriate wavelength for extremely fast fire detection. The model 3966 will sense both hydrocarbon and non-hydrocarbon fires, a technology which has proven itself over decades of reliable service.

The model 3966 is available in two versions, one for standard industrial applications where a maximum operating temperature of 85°C is the norm, 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 are available 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 model 3966 UV flame detector are turbine enclosures, powerplants, compressor stations, LPG facilities, LNG facilities and hangars.

Features & Benefits

- Available in special high temperature version, -40°C to +257°F (-40° to +125°C)
- Field of view 120 degrees.
- Robust, weatherproof enclosure for indoor or outdoor applications (Type 4X).
- Advanced through-the-lens diagnostic self-test.
- Field configurable relays and sensitivity.
- High intensity, localized indication of fire or fault.
- Five-year warranty on sensors from date of delivery. Three-year warranty on components or manufacturing defects from date of delivery.
- Long range detection.
- FM, CSA, IECEx, ATEX, SIL2, EMC, LVD.
- Self-contained, explosion-proof enclosure.
- State-of-the-art microprocessor control.
- No radioactive source used.

Specifications*

Performance Ratings

Responsive to Flame Types:

- hydrocarbon (gasoline, propane, methane, alcohol, etc.)
- non-hydrocarbon (hydrogen, silane, hydrazine, magnesium, etc.)

3rd Party Certified to Detect:

- saturating signal source in 15 milliseconds
- 1 sq. ft. gasoline fire at 50 ft. in 1 sec typical
- Horizontal Field of view of 120°

Operating Temperature Range

Standard Model: -40° to 185°F (-40° to 85°C)

High Temp. Model: -40° to 257°F (-40° to 125°C)

Mechanical Specifications

Weight: (aluminum) 2.4 kg (5 lbs)

Weight: (stainless steel) 6.3 kg (13 lbs)

Height x width x depth: 114 x 140 x 153 mm
(4.5 x 5.5 x 6.0 in)

Conduit entry: ¾-14 NPT or M20-1.5

Spectral Response

Ultraviolet peak sensitivity of 0.22 µm

Detector Inputs

Inputs:

Nominal voltage 24 VDC (ripple voltage <240mV)
Range 20 to 30 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
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
- 4 mA = Normal
- 3 mA = Fire relay coil fault
- 1 mA = Self-test fault
- 0 mA = Current loop fault

RS-485 Serial

Environmental Ratings

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 (standard model)
Ex tb IIIC T100°C Db IP66 for dust (standard model)
Ex db IIB+H₂ T4 Gb for gas (high temp. model)
Ex tb IIIC T135°C Db IP66 for dust (high temp. model)

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.



*Specifications subject to change without notice

Ordering Information: The following part number is essential in selection of the correct product. Please build up the desired part by inserting the code for each element into the appropriate space (i.e. 3966-0-0-1-0-0).

Model	Fire Type	Enclosure	Test Feature	Fire Relay Configuration	Approval
	-X	-X	-X	-X	-X
3966	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	↓	↓	↓	↓	↓
- 0 = Industrial Temp. Fire Detector - 1 = High Temp. Fire Detector		- 0 = Aluminum, ¾-14NPT(white) - 2 = Stainless Steel, ¾-14 NPT - 3 = Aluminum, M20-1.5 (white) - 5 = Stainless Steel, M20-1.5	- 1 = Auto Self-Test	- 0 = Latching - 1 = Non-Latching	- 0 = FM, CSA, IECEx, ATEX, EMC, LVD, SIL2

Accessories:

3900-01	SS Tilt Mount for Aluminum Enclosures	3900-02	SS Tilt Mount for Stainless Steel Enclosures
3900-04	Air Shield Model # 3966 and # 3986	3900-05	SS Sun Shade/Rain Guard
3900-07	Universal Tester Multi IR & UV/IR #3966, 3976, 3986	3900-08	Battery Pack for Tester # 3900-06 & # 3900-07
3900-09	Charger for Tester # 3900-06 & # 3900-07	3900-10	UV Tester Only Model # 3966, CSA, US Voltage
3900-11	UV Tester Only Model # 3966, CE, Euro Voltage	3900-12	Battery Pack for Tester # 3900-10 & # 3900-11
3900-13	Air Shield, High Temp Model # 3966	3900-14	2" Pole Mount Kit for # 3900-01 Bracket
3900-15	2" Pole Mount Kit for # 3900-02 Bracket		