

# AUTOMATIC **oi**\*



## IR Flame Detector X9800

### DESCRIPTION

Y E A R

3

WARRANTY

The evolution continues with the new X9800 IR Flame Detector. The X9800 meets the most stringent requirements worldwide with advanced detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The detector is equipped with both automatic and manual **oi** test capability. The detector has Division and Zone explosion-proof ratings and is suitable for use in indoor and outdoor applications.

The standard output configuration includes fire, fault and auxiliary relays. An optional 4 to 20 mA output can be provided in addition to the three relays. A model with pulse output is available for easy retrofitting into existing Det-Tronics controller based systems. Auxiliary relay and 4 to 20 mA output are not available with the pulse model. A multi-color LED on the detector faceplate indicates detector status condition.

The X9800 housing is available in aluminum or stainless steel, with NEMA 4X and IP66 rating.

Typical applications include:

- Turbines
- Petrochemical applications
- Automotive applications
- Dirty environments.

\***oi** is Detector Electronics' Trademark for its patented Optical Integrity Systems, U.S. Patent 3,952,196, United Kingdom Patent 1,534,969, Canada Patent 1,059,598.

### FEATURES

- Unequaled false alarm rejection, TDSA.
- Responds to a fire in the presence of modulated blackbody radiation (i.e. heaters, ovens, turbines) without false alarm.
- High speed capability — 40 milliseconds.
- Heated optics for increased resistance to moisture and ice.
- Automatic, manual or magnetic optical integrity (**oi**) testing.
- Easily replaceable **oi** plate.
- Fire, fault and auxiliary relays standard.
- 4 to 20 mA isolated output (optional).
- Pulse output for compatibility with controller based systems (optional).
- Tricolor LED indicates normal operation, fire and fault conditions.
- Operates under adverse weather conditions and in dirty environments.
- Mounting swivel allows easy sighting.
- Integral wiring compartment for ease of installation.
- Class A wiring per NFPA-72.
- Meets NFPA-33 response requirement for under 0.5 second (available when model selected).
- Built-in data logging / event monitoring.

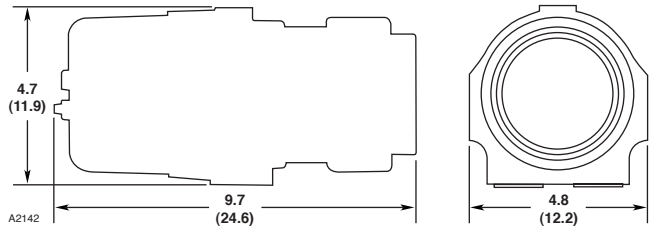
## SPECIFICATIONS

<b>Operating Voltage</b>	24 vdc. Operating range is 18 to 30 vdc.
<b>Power Consumption</b>	2.1 watts @ 24 vdc minimum. 14.5 watts @ 30 vdc with EOL resistor installed and heater on maximum.
<b>Relays</b>	Contacts rated 5 amperes at 30 vdc.  <u>Fire Alarm:</u> — Form C (NO and NC contacts) — normally de-energized — latching/non-latching.  <u>Fault:</u> — Form A (NO contacts) — normally energized — latching/non-latching.  <u>Auxiliary*:</u> — Form C (NO and NC contacts) — normally energized — latching/non-latching.
<b>Current Output*</b> (Optional)	4–20 mA, with a maximum loop resistance of 500 ohms from 18–19.9 vdc, 600 ohms from 20–30 vdc.
<b>Temperature Range</b>	<u>Operating:</u> –40°F to +167°F (–40°C to +75°C). <u>Storage:</u> –67°F to +185°F (–55°C to +85°C).
<b>Humidity Range</b>	0 to 95% relative humidity, can withstand 100% condensing humidity for short periods of time.
<b>Field of View</b>	The X9800 has a 90 degree cone of vision with the highest sensitivity lying along its central axis.
<b>Warranty</b>	3 years, sensor and electronics.
<b>Response Characteristics</b>	

Sensitivity	Fuel	Size	Distance (Feet)	Typical Response Time (Sec.)
High	n-Heptane	1 x 1 foot	50	Under 15 Seconds
High	Methane	30 inch plume	35	Under 10 Seconds

\*Auxiliary relay and 4 to 20 mA output are not available on pulse output model.

<b>Certification</b>	Class I, Div. 1, Groups B, C & D; Class II, Div. 1, Groups E, F, & G; Class I, Div. 2, Groups A, B, C & D (T4); Class II, Div. 2, Groups F & G (T4); Class III. NEMA/Type 4X. Increased Safety Model EEx de IIC T5–T6, T 86°C T6 (Tamb = –55°C to +60°C). T5 (Tamb = –55°C to +75°C). IP66. Flameproof Model EEx d IIC T5–T6, T 86°C T6 (Tamb = –55°C to +60°C). T5 (Tamb = –55°C to +75°C). IP66.
<b>Enclosure Material</b>	Copper-free aluminum or 316 stainless steel.
<b>Conduit Entry Size</b>	3/4 inch NPT or 25 mm.
<b>Shipping Weight</b> (Approximate)	<u>Aluminum:</u> 6 pounds (2.7 kg). <u>Stainless Steel:</u> 10 pounds (4.5 kg).
<b>Dimensions</b>	Dimensions shown in inches (centimeters).



**Wiring** 12 AWG (2.5 mm<sup>2</sup>) to 22 AWG (0.5 mm<sup>2</sup>) shielded cable recommended.

9	4-20 mA +	19	4-20 mA —	SPARE	29
8	4-20 mA + REF	18	4-20 mA — REF	SPARE	28
7	COM FIRE	17		COM AUX	27
6	N.O. FIRE	16		N.O. AUX	26
5	N.C. FIRE	15		N.C. AUX	25
4	COM FAULT	14		RS-485 A	24
3	N.O. FAULT	13		RS-485 B	23
2	24 VDC +	12		MAN OI	22
1	24 VDC —	11		24 VDC —	21

Wiring Terminal Identification for Standard X9800



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