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 automatic, manual and magnetic optical integrity (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 0 to 20 mA output with HART 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 0 to 20 mA output are not available with the pulse model. A tricolor LED on the detector faceplate indicates normal condition and notifies personnel of fire alarm or fault conditions.

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

Typical applications include:
- Dirty environments
- Petrochemical applications
- Automotive applications
- Powder coating applications
- Turbines.

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- EN 54-10 Certified (VdS).
- ATEX Directive compliant.
- EQP models available.
- TDSA (Time Domain Signal Analysis) for unequaled false alarm rejection.
- Responds to a fire in the presence of modulated blackbody radiation (i.e. heaters, ovens, turbines) without false alarm.
- HART models available.
- High speed capability — 40 milliseconds.
- Microprocessor controlled heated optics for increased resistance to moisture and ice.
- Automatic, manual or magnetic optical integrity (Oi) testing — no external test lamp required.
- Easily replaceable Oi plate.
- Fire, fault and auxiliary relays standard.
- MODBUS RS-485 communication.
- 0 to 20 mA isolated output (optional).
- Pulse output for compatibility with controller based systems (optional).
- A tricolor LED on the detector faceplate indicates normal condition and notifies personnel of fire alarm or 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).
- RFI and EMC Directive compliant.
- Built-in data logging/event monitoring.
Operating Voltage: 24 Vdc. Operating range is 18 to 30 Vdc.

Power Consumption: 2.1 watts @ 24 Vdc minimum. 16.5 watts @ 30 Vdc with EOL resistor installed and heater on maximum.

Relays: Contacts rated 5 amperes at 30 Vdc.

- **Fire Alarm:** Form C (NO and NC contacts) — normally de-energized — latching/non-latching.
- **Fault:** Form A (NO contacts) — normally energized — latching/non-latching.
- **Auxiliary:** Form C (NO and NC contacts) — normally energized — latching/non-latching.

Current Output: 0–20 mA, with a maximum loop resistance of 500 ohms from 18–19.9 Vdc, 600 ohms from 20–30 Vdc.

Temperature Range: Operating: −40°F to +167°F (−40°C to +75°C). Storage: −67°F to +185°F (−55°C to +85°C).

Humidity Range: 0 to 95% relative humidity, can withstand 100% condensing humidity for short periods of time.

Field of View: The X9800 has a 90 degree cone of vision with the highest sensitivity lying along its central axis.

Warranty: 3 years.

Enclosure Material: Copper-free aluminum or 316 stainless steel.

Conduit Entry Size: 3/4 inch NPT or 25 mm.

Shipping Weight (Approximate): Aluminum: 6 pounds (2.75 kg), Stainless Steel: 10 pounds (4.5 kg).

Response Characteristics:

**Very High Sensitivity, TDSA On**

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Size</th>
<th>Distance Feet (m)</th>
<th>Typical Response Time (seconds)</th>
<th>Quick Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Heptane</td>
<td>1 x 1 foot</td>
<td>85 (25.9)</td>
<td>15</td>
<td>Off</td>
</tr>
<tr>
<td>Methane</td>
<td>32 inch plume</td>
<td>60 (18.3)</td>
<td>5</td>
<td>Off</td>
</tr>
<tr>
<td>Propane</td>
<td>Torch</td>
<td>2 (0.6)</td>
<td>0.04</td>
<td>On</td>
</tr>
</tbody>
</table>

NOTE: Refer to the X9800 instruction manual 95-8554 for details regarding detector response.

Certification:

**Increased Safety Model**

- Class I, Div. 1, Groups B, C & D (T5);
- Class II, Div. 1, Groups E, F, & G (T5);
- Class I, Div. 2, Groups A, B, C & D (T3);
- Class II, Div. 2, Groups F & G (T3);
- Class III.

- Enclosure NEMA/Type 4X.

**IECEx Certificate of Conformity**

- IECEx ULD 06.0018X

**Flameproof Model**

- Ex d IIC T5–T6 Gb
- Ex d IIC T5–T6 Gb
- Ex d IIC T5–T6 Gb
- Ex d IIC T5–T6 Gb

- T6 (T_{amb} = −50°C to +60°C).
- T5 (T_{amb} = −50°C to +75°C).
- IP66.

Dimensions: Dimensions shown in inches (centimeters).

Wiring Terminal Identification for Standard X9800:

| 9 | 4-20 mA + | 19 | 4-20 mA – SPARE |
| 8 | 4-20 mA – REF SPARE |
| 7 | COM FIRE | 17 | COM FIRE COM AUX |
| 6 | N.O. FIRE | 16 | N.O. FIRE N.O. AUX |
| 5 | N.C. FIRE | 15 | N.C. FIRE N.C. AUX |
| 4 | COM FAULT | 14 | COM FAULT RS-485 A |
| 3 | N.O. FAULT | 13 | N.O. FAULT RS-485 B |
| 2 | 24 VDC + | 12 | 24 VDC + MAN 24V |
| 1 | 24 VDC – | 11 | 24 VDC – 24 VDC – |

Specifications subject to change without notice.

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