

# AutroFlame X98AF

## Infrared Flame Detector Product datasheet

### Features

- FM 3260 (2000).
- EN 54-10 Certified (VdS).
- ATEX Directive compliant.
- TDSA (Time Domain Signal Analysis) for unequalled 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.
- 4 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.

### Application/Description

The evolution continues with the new X98AF IR Flame Detector. The X98AF 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 *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. Auxiliary relay and 4 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 X98AF 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.

**Specifications**

<b>Input Voltage</b>	24 Vdc nominal. Operating range is 18 to 30 Vdc.
<b>Power Consumption</b>	2.1 watts @ 24 Vdc minimum. 16.5 watts @ 30 Vdc with EOL resistor installed and heater on maximum.
<b>Relays</b>	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.
<b>Current Output (opt.)</b>	0–20 mA, with a maximum loop resistance of 500 ohms from 18–19.9 Vdc, 600 ohms from 20–30 Vdc.
<b>Temperature Range</b>	Operating: –40°F to +167°F (–40°C to +75°C). Storage: –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 X98AF has a 90 degree cone of vision with the highest sensitivity lying along its central axis.
<b>Warranty</b>	3 years
<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>	Aluminum: 6 pounds (2.75 kg). Stainless Steel: 10 pounds (4.5 kg).
<b>Part Numbers</b>	Aluminum: 116-5861-011.3981 Stainless Steel: 116-5861-011.3980

**Response Characteristics**

Very High Sensitivity, TDSA On

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

NOTE: Refer to the X52AF instruction manual x98af\_igb for details regarding detector response.

**Certification**



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.

Increased Safety Model  
**CE** 0539 **Ex** II 2 G  
 Ex d e IIC T5–T6 Gb  
 DEMKO 02 ATEX 132195X  
 T6 (Tamb = –50°C to +60°C).  
 T5 (Tamb = –50°C to +75°C).  
 IP66

**IECEx Certificate of Conformity**

IECEx ULD 06.0018X  
 Ex d e IIC T5–T6 Gb  
 T6 (Tamb = –50°C to +60°C).  
 T5 (Tamb = –50°C to +75°C).  
 IP66

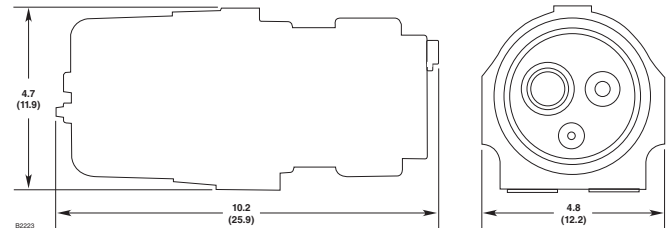
Flameproof Model  
**CE** 0539 **Ex** II 2 G  
 Ex d IIC T5–T6 Gb  
 DEMKO 02 ATEX 132195X  
 T6 (Tamb = –55°C to +60°C).  
 T5 (Tamb = –55°C to +75°C).  
 IP66

– or –

Ex d IIC T5–T6 Gb  
 T6 (Tamb = –55°C to +60°C).  
 T5 (Tamb = –55°C to +75°C).  
 IP66.

**Dimensions**

Dimensions shown in inches (centimeters)



**Wiring**

14 AWG (2.08 mm<sup>2</sup>) or 16 AWG (1.31 mm<sup>2</sup>) shielded cable is 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 FIRE	COM AUX	27
6	N.O. FIRE	16	N.O. FIRE	N.O. AUX	26
5	N.C. FIRE	15	N.C. FIRE	N.C. AUX	25
4	COM FAULT	14	COM FAULT	RS-485 A	24
3	N.O. FAULT	13	N.O. FAULT	RS-485 B	23
2	24 VDC +	12	24 VDC +	MAN O <sub>1</sub>	22
1	24 VDC –	11	24 VDC –	24 VDC –	21

B2061

Wiring Terminal Identification for X98AF

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