

AutroFlame X52AF

UVIR Flame Detector

Product datasheet

Features

- FM 3260 (2000).
- EN 54-10 Certified (VdS).
- ATEX Directive compliant.
- A new level of 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.
- 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.
- 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 X52AF UVIR Flame Detector. The X52AF combines the technologies used in the X22AF and X98AF to provide unparalleled detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The mounting arrangement allows the UV and IR sensors to monitor the same hazardous location with a 90 degree cone of vision. When both sensors simultaneously detect the presence of a flame, an alarm signal is generated. 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 with HART can be provided in addition to the three relays. 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 X52AF housing is available in aluminum or stainless steel, with NEMA 4X and IP66 rating.

Typical applications include:

- Munitions
- Petrochemical applications
- Turbines.

Specifications

Input Voltage	24 Vdc nominal. Operating range is 18 to 30 Vdc.
Power Consumption	2.8 watts @ 24 Vdc minimum. 17.5 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 (opt.)	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 X52AF 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	Aluminum: 6 pounds (2.75 kg). Stainless Steel: 10 pounds (4.5 kg).
Part Numbers	Aluminium: 116-5861-011.3521 Stainless Steel: 116-5861-011.3520

Response Characteristics

Very High Sensitivity UV & IR, Low Arc, TDSA On, Quick Fire On

Fuel	Size	Distance Feet (m)	Typical Response Time (seconds)
n-Heptane	1 x 1 foot	85 (25.9)	14
Methane	32 inch plume	65 (19.8)	5

NOTE: Refer to the X52AF instruction manual x52af_igb for details regarding detector response.

*Auxiliary relay and 0 to 20 mA output are not available on pulse output model.

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

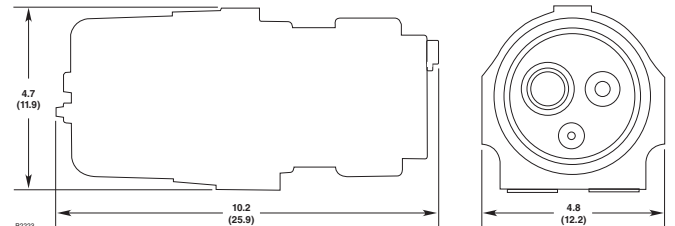
Flameproof Model
CE 0539 **Ex** II 2 G
 Ex d IIC T5–T6 Gb
 DEMKO 02 ATEX 132195X
 T6 (Tamb = –55°C to +60°C).
 T5 (Tamb = –55°C to +75°C).
 IP66

– 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 mm²) or 16 AWG (1.31 mm²) 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 ₁	22
1	24 VDC –	11	24 VDC –	24 VDC –	21

B2061

Wiring Terminal Identification for X52AF

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