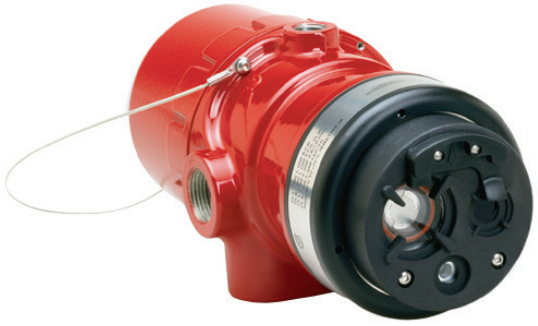
SPECIFICATION DATA

DET-TRONICS®

AUTOMATIC oi



UV Flame Detector
Model X2200/X2200G/X2200M

HART COMMUNICATION PROTOCOL

DESCRIPTION

3 YEAR WARRANTY

The X2200 UV Flame Detector 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 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 tri-color LED on the detector faceplate indicates normal condition and notifies personnel of fire alarm or fault conditions.

The X2200M UV detector utilizes a molybdenum (moly) sensing element. Moly-based sensors have an increased spectral range of 1850 to 2650 angstroms, which is better suited for detecting substances with unusual chemistry, sulfur fires, and some black powders.

The X2200 housing is available in aluminum or stainless steel, with NEMA 4X and IP66/IP67 rating.

Typical applications include:
— Hydrogen storage
— Munitions
— Silane storage
— HVDC converter stations

HIGHLIGHTS

- Complies with FM 3260
- EN54 certified
- Certified SIL 2 capable
- ATEX Directive compliant
- EQP models available
- Advanced signal processing
- False alarm rejection
- HART models available
- Responds to a fire in the presence of modulated blackbody radiation (i.e. heaters, ovens, turbines) without false alarm
- High speed capability
- Automatic, manual or magnetic **oi**® (optical integrity) 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 tri-color LED on the detector faceplate indicates normal condition and notifies personnel of fire alarm or fault conditions
- Mounting arm 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 seconds (available when model selected)
- RFI and EMC Directive compliant
- Built-in data logging / event monitoring

SPECIFICATIONS

Operating Voltage
24 Vdc. Operating range is 18 to 30 Vdc
Maximum ripple is 2 volts peak-to-peak

Power Consumption
2.5 watts @ 24 Vdc nominal
7.6 watts @ 30 Vdc with EOL resistor installed

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* (Optional)
0–20 mA (± 0.3 mA), with a maximum loop resistance of 500 ohms from 18–19.9 Vdc, 600 ohms from 20–30 Vdc

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

Hazardous location ratings from –55°C to +75°C

available on flameproof model

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

Spectral Sensitivity Range
X2200/X2200G wavelength range 185-245 nanometers
X2200M wavelength range 185-265 nanometers

Field of View
The detector has a 90 degree cone of vision (horizontal) with the highest sensitivity lying along its central axis

Source Tube
Contains radioactive isotope Krypton 85 (Kr^{85})
Calculated Activity: 14,800 Becquerels (0.4µCi)
Note: Not applicable to model X2200G

Warranty
3 years

Enclosure Material
Copper-free aluminum (painted) or stainless steel (316/CF8M cast).

Conduit Entry Size
3/4 inch NPT or M25

Wiring
16 AWG or 2.5 mm^2 shielded cable is recommended

Shipping Weight (Approximate)
Aluminum: 7 lbs. (3.2 kg)
Stainless Steel: 14.6 lbs. (6.7 kg)

Response Characteristics

Very High Sensitivity

Fuel	Size	Distance Feet (m)	Typical Response Time (seconds)	Mode
n-Heptane	1 x 1 foot	85 (25.9)	3	Low Arc
Methane	32 inch plume	100 (30.5)	2	Low Arc

NOTE: Refer to the X2200 instruction manual 95-8549 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 per NEMA 250

For FM Zone approval information, refer to the X2200 instruction manual (95-8549).

IEC 61508
Certified SIL 2 Capable
Applies to specific models –
Refer to the SIL 2 Certified
X2200 Safety Manual (95-8672)

VNIIFTRI
Certificate of Conformity to TP TC 012/2011
TC RU C-US. BH02.B.00234
2ExdeIICT6/T5 IP66
T6 (Tamb = –55°C to +60°C)
T5 (Tamb = –55°C to +75°C)
– OR –
1ExdIICT6/T5 IP66
T6 (Tamb = –55°C to +60°C)
T5 (Tamb = –55°C to +75°C)

VNIIPO
Certificate of Conformity to technical regulations, GOST R 53325-2012
C-US.ПБ01.B.02841

Approvals to EN54-10
See X2200 instruction manual (95-8549) for details

DEMKO 01 ATEX 132195X
Increased Safety Model
CE 0539 Ex II 2 G
II 2 D
Ex db eb IIC T6...T5 Gb
Ex tb IIIC T80°C Db
T6 (Tamb = –50°C to +60°C)
T5 (Tamb = –50°C to +75°C)
IP66/IP67

Flameproof Model
CE 0539 Ex II 2 G
II 2 D
Ex db IIC T6...T5 Gb
Ex tb IIIC T85°C Db
T6 (Tamb = –55°C to +60°C)
T5 (Tamb = –55°C to +75°C)
IP66/IP67

IECEx Certificate of Conformity
IECEx ULD 06.0018X
Ex db eb IIC T6...T5 Gb
Ex tb IIIC T85°C Db
T6 (Tamb = –50°C to +60°C)
T5 (Tamb = –50°C to +75°C)
IP66/IP67
– OR –
Ex db IIC T6...T5 Gb
Ex tb IIIC T85°C Db
T6 (Tamb = –55°C to +60°C)
T5 (Tamb = –55°C to +75°C)
IP66/IP67

UL-BR 17.0216X
Ex db eb IIC T6...T5
Ex tb IIIC T80°C
T6 (Tamb = –50°C to +60°C)
T5 (Tamb = –50°C to +75°C)
IP66/IP67
– OR –
Ex db IIC T6…T5
Ex tb IIIC T80°C
T6 (Tamb = –55°C to +60°C)
T5 (Tamb = –55°C to +75°C)
IP66/IP67

Specifications subject to change without notice.

Det-Tronics manufacturing system is certified to ISO 9001—the world's most recognized quality management standard.

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