SHIELD®
T R U S T E D   W O R L D W I D E

X-Series UL
Smoke Detector

⚠️ CAUTION: System compatibility
The X-Series UL Smoke Detector, Part No S-A5011 should only be used with compatible fire control panels.

All data is supplied subject to change without notice. Specifications are typical at 24 V, 73 °F and 50 % RH unless otherwise stated.

Product Overview

Product	X-Series UL Smoke Detector
Part No.	S-A5011
Digital Communication	Discovery and CoreProtocol®

Product information

The X-Series UL Smoke Detector is Shield's most advanced detector offering suitable for a wide range of applications. It utilizes Purelight® high-tech sensing technology that detects smoke particles entering the chamber and substantially reduces the possibility of false alarms.

- Approved to UL268 7th edition
- Built-in isolator
- Purelight® optical technology for enhanced smoke detection and false alarm management
- Drift compensation
- Base locking mechanism (grub screw)
- In-built self test
- XPERT card hard addressing
- FasTest® for quicker testing of detectors

SIGNALING
UL LISTED

Digital communication protocol	Discovery and CoreProtocol	
Supply wiring	Two wire supply, polarity sensitive	
Sensitivity	1.2 - 2.1 %/ft	
Supply voltage (Vmin-Vmax)	17 V – 28 V dc	
Sampling frequency	Once per second	
Modulation voltage	5 V - 9 V peak to peak	
Supervisory current	500 µA	
Switch-on surge current	1.0 mA	
Alarm/Operated current, LED On	4.0 mA	
Status indicator	Alarm	Red
	Fault	Flashing yellow
	Isolate	Yellow
	Poll	Flashing Green
Additional Remote LED Current	5 A maximum	
Product operating temperature	32 °F to 131 °F (0°C to 55°C)	
Effect of atmospheric pressure	None	
Air velocity	0 - 300 fpm	
Humidity	0% to 95% RH (no condensation or icing)	
IP rating	IP44	
Standards and Approvals	UL268 7th Edition, S25422	
Dimensions	4 in.(100 mm) diameter x 1.41 in. (36mm) height (1.88 in. (48) mm height with XPERT Intelligent Mounting Base)	
Weight	2.93 ozs. (83 g)	
Materials	Housing: White flame-retardant polycarbonate Terminals: Tin plated stainless steel	

Table 1: X-Series detector feature availability

	Protocol	
	Discovery	CoreProtocol
Drift compensation value	✓	✓
Rapid compensation	✓	✓
Sensitivity modes	✓	✓
Conventional alarm	✓	✓
Integrated isolator	✓	✓
Controllable isolator*	✕	✓
Flashing polling remote	✕	✓
Tamper	✕	✓
Auto-addressing	✕	✓
FasTest®	✕	✓
Live sensor values	✕	✓
Group control of remote output	✕	✓

Notes:

1. *Only available when device is mounted on an Intelligent Base, Part No.S-A5001

Device addressing

A Universal XPERT card is supplied with all Intelligent Mounting Bases.

Table 2: Address ranges

	XPERT 7 card	Universal XPERT card
Discovery protocol	1 - 126	1 - 126
CoreProtocol	129 - 254	1 - 254

When X-Series UL devices are used with CoreProtocol, device auto-addressing can be enabled by fire control panels that have been designed to incorporate this feature.

Table 3: Isolated detector data

Maximum loop current (I c max; L1 in/out)	1 A
Maximum series resistance (Z c max; L1 in/out)	100 mΩ

Operation

The low profile design of the X-Series UL Smoke Detector is sleek and evolutionary, with a 360º LED indicator which illuminates red when in alarm.

At the heart of the smoke sensor is Purelight® Sensing Technology which incorporates:

- Cone technology combined with a high-intensity infrared LED to provide stability and accurate sensitivity to smoke.

- A sophisticated dynamic algorithm, providing transient rejection and compensation for drift whilst maintaining accurate sensitivity.

The smoke chamber of the detector is a unique cone shape which serves to reduce any stray reflection. This ultra dark internal light chamber also contains a high-intensity infra-red LED that is highly sensitive to smoke particles.

When smoke enters the chamber, infra-red light is scattered and registered by the photodiode and amplifier that are included in an application-specific integrated circuit (ASIC). This circuit ensures long term reliability, even in extreme conditions.

System compatibility

X-Series detectors have been designed to operate on Discovery and CoreProtocol loops. This allows for X-Series detectors and bases to operate on existing systems.

Maintenance and service

X-Series detectors have been designed with a comprehensive set of features to support maintenance and service, from self test capabilities to drift compensation warnings on dirty detectors.
Maintenance has to be done in accordance with all applicable standards. Clean the detector externally using a soft damp cloth.

Part Number	Product Name
S-A5001	X-Series Detector Base-4"

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