SHIELD®
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X+Series
Smoke Detector

Product Overview

Product	X+Series UL Smoke Detector
Part No.	S-A4011E
Digital Communication	XP95 protocol

Product information

The X+Series Smoke Detector uses new sensing technology, Purelight®, to detect smoke particles entering the chamber. This reduces the possibility of false alarms whilst increasing the reliability of detection of a real fire.

- Approved to UL268 7th edition
- Purelight® optical technology for enhanced smoke detection and false alarm management
- Internal drift compensation
- Easy installation
- Base locking mechanism (grub screw)
- Polarity insensitive wiring
- In-built self test
- XPERT card hard addressing

SIGNALING

LISTED

Product Overview

CAUTION: System compatibility
The X+Series UL Smoke Detector, Part No S-A4011E can only be used on existing systems operating with XP95 protocol.

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

Detection Principle	Photo-electric light scattering
Sensor configuration	Chamber with surface-mount infrared emitter and prism. Solid state integrated photo-diode and amplifier.
Digital communication protocol	XP95 protocol
Supply wiring	Two wire supply, polarity insensitive
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	340 µA
Switch-on surge current	1.0 mA
Alarm/Operated current, LED On	4.0 mA
Status indicator	Alarm (Red)
Additional Remote LED Current	5 mA 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 XPERT8 Intelligent Mounting Base)
Weight	2.93 ozs. (83 g)
Materials	Housing: White flame-retardant polycarbonate Terminals: Tin plated stainless steel

Electrical description

The X+series Smoke Detector is designed to be connected to a two-wire loop circuit carrying both data and a 17 V - 28 V dc supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator may be connected between the +R and -R terminals. A ground connection terminal is also provided.

Operation

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

At the heart of the smoke sensor of the X+Series Detector 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

This X+Series detector has been designed to operate with X+Series detectors and loops. This X+Series detector can operate on an approved XPERT intelligent mounting base, however, the eighth bit of the address will be ignored.

The device will compensate for drift internally and the fire panel will see this as an increase in analog value. When internal drift limits are reached a fault analog value will be generated.

Maintenance and service

Maintenance has to be done in accordance with all applicable standards. Clean the detector externally using a soft damp cloth.

Compatible Bases

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