X+Series

Multi-Criteria Detector (Smoke/Heat)

Product Overview

Product	X+Series UL Multi-Criteria Detector (Smoke/Heat)
Part No.	S-A4014E
Digital Communication	XP95 protocol

Product information

The X+series Multi-Criteria Detector (Smoke/Heat) uses new photoelectric sensing technology, Purelight®, to detect smoke particles entering the chamber. It reduces the possibility of false alarms whilst increasing the reliability of detecting a real fire.

- Approved to UL 268 7th edition and UL 521
- Purelight® optical technology provides enhanced smoke detection and false alarm management
- Internal drift compensation
- Compatible with XP95A systems
- Easy installation
- Base locking mechanism (grub screw)
- Polarity insensitive loop wiring
- In-built self test
- Dual heat sensors

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Product Overview

CAUTION: System compatibility
The X+Series Multi-Criteria Detector (Smoke/Heat), Part No S-A4011E can only be used on 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	Smoke Heat	Smoke light scattering Thermistor
Sensor configuration	Smoke Heat	Chamber with surface mount infrared emitter and prism. Solid stateintegrated photo-diode and amplifier. Dual exposed heat sensing elements
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 1.50 in.(38mm) height (2 in. (50) mm height with XPERT 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 Multi-Criteria Detector (Smoke/Heat) 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 Multi-Criteria Detector (Smoke/Heat) is sleek and evolutionary, with a 360° LED indicator which illuminates red when in alarm.

At the heart of the photoelectric 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.

Signals from the photoelectric smoke chamber and temperature sensors are independent and represent the smoke level and air temperature respectively in the vicinity of the detector; the detectors micro-controller processes both signals. The temperature signal processing extracts only rate-of-rise information for combination with the smoke signal.

The optical sensor will trigger an alarm at 1.2 %/ft and the heat sensor at 69.8 °F (21 °C) rise. Minimum time to alarm is ten seconds.

The detector will not respond to slow increases in temperature, but a large, sudden change can cause an alarm without the presence of smoke.

The sensor will respond to smoke or heat, or a combination of both.

System compatibility

This X+Series detector has been designed to operate with XP95A detectors and loops. This XP95A 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 but will not report drift values to the fire alarm control panel. 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.

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

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