

# X+Series UL Heat Detector



Product Overview	
Product	X+Series Heat Detector
Part No.	S-A4013E
Digital Communication	XP95 protocol

## Product information

The X+Series Heat Detector monitors temperature by using a single thermistor which provides a voltage output proportional to the external air temperature. It is classified as an ordinary detector by UL.

- Compatible with all devices from the latest UL268 7th Edition approved X+Series range
- Electronic temperature sensing
- Alarm flag for fast alarm responding
- Automatic addressing with the XPERT 7 card
- Electronic free 4" or 6" bases
- Easy installation
- Elegant design
- Ideal for environments that are dirty or smoky under normal circumstances
- Well suited for warehouses, loading docks and parking areas



## Product Overview



**CAUTION: System compatibility**  
The X+Series Heat detector, part no S-A4013E can be used on existing systems as replacement for heat detector part no S-A4013 (Certified to UL 6<sup>th</sup> edition standards) on all Shield UL range of 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.

Sensor	Single NTC thermistor
Sampling frequency	One second
Digital communication	XP95
Supply voltage	17 - 28 V dc
Modulation Voltage at Detector	5 V to 9 V peak to peak
Supervisory current	250 µA
Surge current	1 mA
Alarm current	3 mA max
Operating temperature range	32 °F to 151°F
Humidity	0% to 95% RH (no condensation or icing)
Standards & approvals	UL 521, S25420
Dimensions	3.93" diameter x 1.65" height
Weight	3.70 oz
Materials	Housing: White flame-retardant polycarbonate Terminals: Tin plated stainless steel
Test method	Hair dryer
Spacing	Smooth ceiling 60 ft to wall or partition 25 ft

## Operation

X+Series Heat Detector has a common profile with the ionisation and optical smoke detectors but has a low air flow resistance case made of white polycarbonate.

The device monitors heat using a single thermistor network which provides a voltage output proportional to the external air temperature.

## Electrical description

The X+Series Heat Detector is designed to be connected to a two wire loop circuit carrying both data and a 17 V to 28V 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 requiring not more than 1 mA may be connected between the +R and L2 terminals. An earth connection terminal is also provided. The detector is calibrated to give an analogue value of 25±5 counts at 70°F. This value increases with rising temperature. A count of 55 corresponds to the UL alarm sensitivity level of 135°F.

When the detector is energized the ASIC regulates the flow of power and controls the data processing. The thermistor provides an output over normal operating ranges that is proportional to the external air temperature. The voltage output is processed in the analogue to digital converter and stored by the communications ASIC. It is transmitted to the control equipment when the device is interrogated. When a count of 55 is exceeded the alarm flag is initiated and the device address is added to the data stream every 32 polling cycles from its last polling for the duration of the alarm level condition, except when an alarming device is being interrogated. This can provide a location identified alarm from any device on the loop in approximately two seconds.

## Environment characteristics

The X+Series Heat Detector range is unaffected by wind or atmospheric pressure. Standard detectors are rated at 200 °F.

Response characteristics of X+Series Heat Detector	
Type of fire	Heat Detector
OverHeating/Heat combustion	Very poor
Smouldering/glowing combustion	Very poor
Flaming combustion	Poor
Flaming with high Heat output	Moderate/Good
Flaming - clean burning	Moderate/Good

## Compatible Bases

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

	Smoke	Multi-Criteria	Heat
For existing X+Series UL and new installations choose:	S-A5011 X+Series UL Smoke Detector	S-A5014 X+Series Multi-Criteria Detector (Smoke/ Heat)	S-A5013 X+Series UL Heat Detector

X+Series Heat detector diagram

