

# X+Series UL Heat Detector



## 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, FM Approved   |
| Dimensions                     | 3.93" diameter x 1.65" height   |
| Weight                         | 3.70 oz   |
| Materials                      | Housing: White flame-retardant polycarbonate<br>Terminals: Tin plated stainless steel |
| Test method                    | Hair dryer  |
| Coverage                       | 600sq ft  |

| 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



## 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  $25 \pm 5$  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 |                             |
|-------------|-----------------------------|
| S-A5001     | X+Series Detector Base-4"   |
| S-A4001     | Detector Base-4" (Obsolete) |

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

X+Series Heat detector diagram

