

# Series 65A

## Heat Detector



### Product overview

Part No	Detector type
55000-140USA <sup>1</sup>	Heat Detector - 135°F
55000-139APO <sup>2</sup>	Heat Detector - 135°F with flashing LED
55000-138APO <sup>3</sup>	Heat Detector - 135°F with flashing LED and magnetic test
55000-143APO <sup>4</sup>	Heat Detector - 170°F
55000-142USA <sup>2</sup>	Heat Detector - 170°F with flashing LED
55000-141APO <sup>3</sup>	Heat Detector - 170°F with flashing LED and magnetic test
55000-146APO <sup>2</sup>	Heat Detector - 200°F
55000-145APO <sup>2</sup>	Heat Detector - 200°F with flashing LED
55000-144APO <sup>3</sup>	Heat Detector - 200°F with flashing LED and magnetic test

### Compliance



### Product information

The Series 65A Heat Detector monitors temperature by using a dual thermistor network providing a voltage output proportional to the external air temperature. The nine detectors in the Series 65A range are designed to suit a wide variety of operating conditions.

- Ideal in environments that are dirty or smoky under normal conditions
- Wide operating voltage
- Flashing LED option
- Flashing LED and magnetic test switch option

### Technical data

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

<b>Detection principle</b>	Two matched NTC thermistors
<b>Sampling frequency</b>	Continuous
<b>Supply voltage</b>	9 - 33 V dc
<b>Supervisory current (dependent on model)</b>	40 µA to 50 µA at 9 V 45 µA to 55 µA at 24 V
<b>Surge current</b>	0 mA
<b>Alarm current</b>	17 mA at 9 V, 52 mA at 24 V
<b>Installation temperature</b>	Min 32 °F, Max at least 20 °F below rating
<b>Humidity</b>	0% to 95% RH (no condensation or icing)
<b>Standards and approvals</b>	UL, FM, SII, CSFM
<b>Dimensions</b>	3.93 in. dia. x 1.65 in. height
<b>Weight</b>	2.80 oz
<b>Materials</b>	Housing: White flame-retardant polycarbonate Terminals: Nickel plated stainless steel
<b>Test method</b>	Magnet or hair dryer
<b>Spacing</b>	Smooth ceiling 50 ft to wall or partition 25 ft

### Part Numbers and Approvals

1. CSFM only
2. UL, FM and CSFM only
3. UL and CSFM only
4. UL, FM, SII and CSFM

**Function**

The Series 65A Heat Detector works by monitoring heat using a dual thermistor network which provides a voltage output proportional to the external air temperature.

**Operation**

The Heat Detector has a common profile with the Series 65A ionization and photoelectric detectors but has a low air flow resistance case made of white self-extinguishing polycarbonate.

A pair of matched negative temperature co-efficient (NTC) thermistors are mounted on the internal PCB in such a way that one thermistor is exposed to give good heat contact with the surrounding air while the other thermistor is heat insulated.

Under normal conditions both thermistors are in heat equilibrium and have the same value of resistance. If air temperature increases rapidly the resistance of the exposed thermistor becomes less than that of the insulated thermistor. The ratio of the resistance of the thermistors is monitored electronically and an alarm is initiated if the ratio exceeds the factory pre-set level. This determines the 'rate-of-rise' response of the detector.

**Environmental characteristics**

The Series 65A Heat Detector is unaffected by wind or atmospheric pressure and operates over the temperature range -4°F to +140°F.

**Electrical description**

The Series 65A Heat Detector is designed to be connected to a two wire loop circuit carrying both data and a 9 V to 33 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 requiring not more than 4 mA at 5 V may be connected between the +L1 IN and -R terminals. An earth connection terminal is also provided.

Response characteristics of Series 65A Heat Detectors	
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 for the Series 65A Heat Detector	
Part No.	Description
45681-200	Series 65A mounting base
45681-220	4" Series 65A standard mounting base
45681-232	6" Low profile base
45681-251	6" E-Z fit base
45681-255	4" Standard relay base
45681-256	4" Auxiliary relay base
45681-257	4" 12 V End-of-Line relay base
45681-258	4" 24 V End-of-Line relay base