

# Series 65E CR Heat Detector with Flashing LED

IMC-131-DS-1

**Product code: 55000-131IMC**



## *Brand Information*

Series 65E incorporates well-proven sensing technologies. The Series 65E range has a wide operating voltage of 9–33V and consists of ionisation, integrating ionisation and optical smoke detectors, four grades of heat detector and a range of bases.

## *Brand Features*

Wide-operating voltage of 9–33 V DC Wide-operating and storage temperature of -20°C to +60°C Can be used on security systems Electrically and mechanically compatible with Series 60 Proven detection performance

## *Operation*

The detector has a moulded self-extinguishing white polycarbonate case. Nickel plated stainless steel wiper contacts connect the detector to the base. Inside the case a printed circuit board holds the signal processing electronics. A pair of matched negative temperature coefficient thermistors are mounted on the PCB in such a way that one thermistor is exposed to give good thermal contact with the surrounding air while the other thermistor is thermally insulated. Under stable conditions both thermistors are in thermal 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 a factory preset level. This feature determines the ‘rate of rise’ response of the detector. If air

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temperature increases slowly, no significant resistance difference develops between the thermistors, but at high temperatures a fixed value resistance connected in series with the insulated thermistor becomes significant. When the sum of the resistance of the insulated thermistor and the fixed resistor compared to the resistance of the exposed thermistor reaches a preset value, an alarm is initiated. The value of the fixed resistor is selected to set the detector into alarm state at a specified fixed temperature. The detector signals an alarm state by switching an alarm latch on, increasing the current drawn from the supply from about 50 $\mu$ A to a maximum of about 75mA. This fall in the impedance of the detector is recognised by the control panel as an alarm signal. The alarm current also illuminates the detector integral LED. A remote indicator connected between the L1 IN terminal and the -R terminal will have a voltage equal to the supply voltage less 1 volt across it and so will illuminate. To ensure correct operation of the detector the control panel must be arranged to supply a maximum of 33 volts DC and a minimum of 9 volts DC in normal operation. The supply may fall to 6 volts DC in alarm conditions if a supply current of at least 10mA is available at this voltage. To ensure effective illumination of the integral LED and any remote indicator, the supply to the detector should exceed 12 volts. To restore the detector to quiescent condition, it is necessary to restore a normal temperature level and interrupt the electrical supply to the detector for a minimum of one second.

### *Additional Information*

Response time European Standard EN54-5:2000 classifies heat detectors according to the alarm temperature and ambient operating temperature. Each heat detector classification has a static response (changing to alarm at a preset temperature) and may also have a rate of rise response (changing to alarm at or above a preset increase of temperature). The heat detector classes available in Series 65E are A1R, BR, CR, CS. The suffix R indicates that the detector has been tested and approved as a 'rate-of-rise' detector. The suffix 'S' indicates that the detector has been tested and approved as a 'static' detector.

### *Options*

1. Flashing LED: The integral LED flashes when the detector is in a quiescent state. 2. Magnetic test switch and Flashing LED: A magnetic test switch in the circuit of the detector can be magnetically activated from outside the case to initiate an alarm condition for test and commissioning purposes. A flashing LED, as outlined above, is also included.

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## Product Information

The Series 65E Heat Detector monitors temperature by using a dual thermistor network which provides a voltage output proportional to the external air temperature. There are 12 heat detectors in the Series 65E range designed to suit a wide variety of operating conditions.

## Key Features

Can be used for applications where smoke detectors are unsuitable Ideal for environments that are dirty or smoky under natural conditions Wide operating voltage Flashing LED and magnet operated test switch option

### General

Warranty 10 year

### Performance

Chamber Type Chevron

Heat Classification CR

### Electrical

Quiescent Current 250 $\mu$ A

Polarity L1 & L2 are-----

Holding Voltage (Min) 6V

Holding Voltage (Max) 6V

Holding Voltage 6 to 6V

Minimum Voltage To Light Alarm LED 12V

Alarm Load 420 $\Omega$  in series with 2V drop

### Environmental

Humidity (Min) 0% RH

Humidity (Max) 95% RH

Humidity Note no condensation or icing

Humidity 0% to 95% (no condensation or icing)

Operating Temperature (Min) -20 $^{\circ}$ C

Operating Temperature (Max) 90 $^{\circ}$ C

Operating Temperature -20 to 90 $^{\circ}$ C

IP Rating Value IP23D

Storage Temperature (Min) -30 $^{\circ}$ C

Storage Temperature (Max) 120 $^{\circ}$ C

Storage Temperature -30 to 120 $^{\circ}$ C

### Conformance

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Approvals

- EN54

Mechanical

Weight

80g

Colour

White

Materials Housing

Polycarbonate

Materials Terminals

Nickel plated stainless steel

Product Length

42mm

Product Diameter

100mm

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