

Series 65 Heat Detector

Features

- ✓ Ideal for environments that are dirty or smoky under normal circumstances
- ✓ Can be used for applications where smoke detectors are unsuitable
- ✓ Wide operating voltage

Product Overview

The Series 65 Heat Detectors monitor temperature by using either a dual thermistor network or a single thermistor network (CS versions) which provides a voltage output proportional to the external air temperature.



Specifications

Supply Wiring	Two wire monitored supply, polarity insensitive	
Terminal functions (Note: With reference to Figures 1,2 & 3, L1 & L2 are polarity sensitive when used with a Soteria detector)	L1 IN and L2	Supply in connections
	L1 OUT and L2	Supply out connections
	-L1 out	Loop (isolated) negative
	-R	Remote indicator negative connection
Supply voltage	9 V to 33 V	
Ripple voltage	2 V peak to peak maximum at 0.1 Hz to 100 kHz	
Quiescent current	See Table 1	
Power-up surge current	as per Quiescent current	
Alarm voltage	6 V to 28 V dc	
Alarm current	See Table1	
Alarm indicator	Red light emitting diode	
Design alarm load	420 Ω in series with a 2 V drop	
Holding voltage	6 V	
Holding current	10 mA	
Minimum voltage required to light alarm indicator	12 V	
Remote output characteristics	Remote is a current sink to the negative line limited to 17 mA	

All data is supplied subject to change without notice. Specifications are typical at 24 V, 25°C and 50% RH unless otherwise stated.

Specifications

Storage temperature	-30°C to +80°C
Operating temperature	A1R: -20°C to +50°C BR: -20°C to +65°C CS/CR: -20°C to +80°C
Humidity (no condensation or icing)	0% to 95% RH
Effect of atmospheric pressure	None
Designed to IP Rating	IP54
Standards and approvals	CPR, LPCB, VdS, FG, BOSEC
Dimensions	100mm diameter x 42mm height
Weight	80 g
Materials	Housing: White flame retardant polycarbonate Terminals: Nickel plated stainless steel

Item Numbers

International	
Heat Detector A1R standard	55000-122AMP
Heat Detector BR standard	55000-127AMP
Heat Detector CR standard	55000-132AMP
Heat Detector CS standard	55000-127AMP
Australia	
Heat Detector A1R standard	4106-1004
Heat Detector BR standard	4106-1005
Heat Detector CR standard	4106-1006
Heat Detector CS standard	4106-1007

Operation

The Series 65 Heat Detector has a moulded self-extinguishing white polycarbonate case. Inside the case a printed circuit board (PCB) holds the signal processing electronics.

In the A1R, BR and CR variants a pair of matched negative temperature co-efficient (NTC) 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 pre-set level. This feature determines the 'rate of rise' response of the detector.

CS variants use a single NTC thermistor network which as in dual versions provides a voltage output proportional to the external air temperature.

EMC Directive 2014/30/EU

The Series 65 Heat Detector complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this data sheet.

Conformity of the Series 65 Heat Detector with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Series 65 Heat Detector complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

Series 65 Heat Detector temperatures		
Class	Max application temperature °C	Max static response temperature °C
A1R	50	65
BR	65	85
CR	80	100
CS	80	100

Table 1: Series 65 Heat Detector typical current against voltage characteristics for quiescent and alarm state

Supply voltage (V)	A1R Standard		A1R flashing LED		A1R flashing LED/magnetic test switch	
	Quiescent	Alarm	Quiescent	Alarm	Quiescent	Alarm
24	45µA	52mA	55µA	52mA	55µA	52mA
9	40µA	17mA	50µA	17mA	50µA	17mA

Choosing the correct heat detector

