



SERIES 65

SMOKE AND HEAT DETECTORS

Designed to comply with EN54 parts 5 and 7, our new Series 65 range of smoke and heat detectors supercedes our popular Series C60 range.

The range comprises four grades of heat detector, an ionisation smoke detector, an integrating ionisation smoke detector, an optical smoke detector and a range of bases - all available at a very competitive price.



- Wide 9-33V operating voltage.
- Easy to install and maintain - the BF308Z smooth action, one-way fit base has no electronic parts virtually eliminating the risk of damage during installation.
- Advanced electronic technology.
- Attractive common design - all Series 65 detectors have the same sleek external dimensions and are housed in a robust white polycarbonate moulding.
- Proven detection performance.
- Low current draw - quiescent current draw is only 28uA on optical, 40uA on ionisation and 45uA on heat detectors.
- Designed to meet approvals worldwide.
- Polarity insensitive - identification of +Ve and -Ve lines is only required when connecting detectors to remote LEDs.
- Interchangeable design - Any Series 65 detector can be replaced with another. For example, a smoke detector unsuitable for use in a particular application can be easily replaced with a heat detector.
- Highly visible alarm indication - provided via a protruding LED on all detector heads.
- Tested and approved to EN54-7:2000 (optical and ionisation smoke detectors) and EN54-5:2000 (heat detectors).
- Compliant with the essential requirements of the EMC Directive 98/336/EEC and the Construction Products Directive 89/106/EEC.

SERIES 65 SMOKE & HEAT DETECTORS

BF317ZH (55000-217) SERIES 65 IONISATION SMOKE DETECTOR

The sensing part of our Series 65 ionisation detector consists of two chambers - an open, outer chamber and a semi-sealed reference chamber within. Mounted in the reference chamber is a low activity radioactive foil of Americium 241 which enables current to flow between the inner and outer chambers when the detector is powered up. As smoke enters the detector, it causes a reduction of the current flow in the outer chamber and hence an increase in voltage measured at the junction between the two chambers. The voltage increase is monitored by the electronic circuitry which triggers the detector into the alarm state at a preset threshold. An externally visible red LED lights up when the detector changes to alarm state.



Also available is the **BF317ZH1 (55000-220) SERIES 65 INTEGRATING IONISATION SMOKE DETECTOR** which is suitable for use in areas where transient levels of smoke may be expected.

The data below is common to both of the above detectors

Supply voltage: 9 to 33V

Average quiescent current at 24V: 28uA;

Average quiescent current at 9V: 16uA

Alarm current at 24V: 52mA; **Alarm current at 9V:** 17mA

Alarm indication: Red LED

Normal operating temperature (no condensation or icing): -20 to +60°C

Max wind continuous: 10m/s

Remote output (R-) characteristics: Current sink to -ve line, limited to 17mA. Note: when using a remote indicator a current-limiting series resistor may be required.

Dimensions: 100mm x 50mm (head in base).

BF316ZH (55000-317) SERIES 65 OPTICAL SMOKE DETECTOR

Optical smoke detectors incorporate a pulsing LED located in a chamber within the housing of the detector. The chamber is designed to exclude light from any external source. At an angle to the LED is a photo-diode which normally does not register the column of light emitted by the LED. In the event of smoke from a fire entering the chamber, the light pulse from the LED will be scattered and hence registered by the photo-diode. If the photo-diode "sees" smoke on the two following pulses, the detector changes into the alarm state and the indicator LED lights up. The detector housing is identical to that of the ionisation detector but has an indicator LED which is clear in quiescent state but produces red light in alarm.



Supply voltage: 9 to 33V

Average quiescent current at 24V: 40uA;

Average quiescent current at 9V: 35uA

Alarm current at 24V: 52mA; **Alarm current at 9V:** 17mA

Alarm indication: Clear LED, Red in alarm

Normal operating temperature (no condensation or icing): -20 to +60°C

Max wind continuous: not affected

Remote output (R-) characteristics: Current sink to -ve line, limited to 17mA. Note: when using a remote indicator a current-limiting series resistor may be required.

Dimensions: 100mm x 50mm (head in base).

BF302Z1H (55000-122) SERIES 65 CLASS A1R HEAT DETECTOR

BF302Z2H (55000-127) SERIES 65 CLASS BR HEAT DETECTOR

BF303Z1H (55000-132) SERIES 65 CLASS CR HEAT DETECTOR

BF303Z2H (55000-137) SERIES 65 CLASS CS HEAT DETECTOR

Our A1R, BR and CR (rate-of-rise) heat detectors operate by using a matched pair of thermistors to sense heat. One thermistor is exposed to the ambient temperature, the other is sealed. In normal conditions the two thermistors register similar temperatures, but, on the development of a fire, the temperature recorded by the exposed thermistor will increase rapidly, resulting in an imbalance, causing the detector to change into the alarm state. Rate-of-rise detectors are designed to detect a fire as the temperature increases, but they also have a fixed upper limit at which the detector will go into alarm if the rate of temperature increase has been too slow to trigger the detector earlier.



The CS (static response) heat detector has only one thermistor and changes to the alarm state at a preset temperature.

Externally, the heat detectors are distinguishable from the smoke detectors by having wide openings to the surrounding atmosphere to allow good movement of air around the external thermistor.

	A1R	BR	CR	CS
Application temp. °C min/max:	25/50	40/65	55/80	55/80
Static response temp. °C min/max:	54/65	69/85	84/100	84/100

Supply voltage: 9 to 33V

Average quiescent current at 24V: 45uA;

Average quiescent current at 9V: 40uA

Alarm current at 24V: 52mA; **Alarm current at 9V:** 17mA

Alarm indication: Red LED

Normal operating temperature (no condensation or icing): -20 to +90°C

Max wind continuous: not affected

Remote output (R-) characteristics: Current sink to -ve line, limited to 17mA. Note: when using a remote indicator a current-limiting series resistor may be required.

Dimensions: 100mm x 50mm (head in base).

SERIES 65 BASES

Series 65 bases have been designed to enable detectors to be plugged in without any need for force - particularly useful when fitting to suspended ceilings. All Series 65 bases are lockable.

Our standard Series 65 base, the BF308Z (45681-200), is identical to our Series C60 base and as such uses the same part number. It contains no electronic parts which could be damaged during installation.

For conventional systems designed to operate when one or more detector heads have been removed, a base fitted with a Schottky diode is also available (part no. BF308ZD (45681-201)).

Our Series 65 relay base, the BF308ZR (45681-245), provides one set of volt-free, changeover (form C) contacts that change state when the detector signals an alarm. It is primarily intended for use with control units using 4-wire detector supply and alarm initiating circuits. Where local codes allow, they may also be used in 2- and 4-wire circuits to provide volt-free control signals to an auxiliary system such as an automatic door closer. They are not suitable for use in systems where it is specified or required that operation of the auxiliary system shall be fail-safe. Series 65 relay bases must not be used with any other type of detector.

BF318 REMOTE INDICATOR

Our BF318 Remote LED Indicator can be optionally connected to Series 65 bases to indicate an alarm condition at detectors which are out of sight (in lift shafts, hotel bedrooms, etc). 84mm square x 13mm deep, the BF318 can be mounted on a standard UK single gang back box.

