Intellia Heat Detector

EDI-50

Instruction Sheet

R10075GB0

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1 Intellia Heat Detector EDI-50

The Intellia heat detector EDI-50, distinguishable by the low airflow resistant case, uses a single thermistor to sense the air temperature around the detector. This type of detector is particularly useful where the environment is dirty or smoky under normal conditions. For more information on the application of these detectors, please see the chart below.

The design of the resistor network, together with the processing algorithm in the microcontroller, gives an approximately linear characteristic from 10°C to 80°C. This linearised signal is further processed, depending on the response mode selected.

The five modes correspond to five “classes” as defined in EN54–5:2000.

Table 1 EDI-50 Heat Detector response modes

		Application Temperature °C		Static Response Temperature °C		
Mode	Class EN 54-5	Typical	Max	Min	Typ	Max
1	A1R	25	50	54	57	65
2	A2R	25	50	54	61	70
3	A2S	25	50	54	61	70
4	CR	55	80	84	90	100
5	CS	55	80	84	90	100

For air temperatures in the range 15°C to 55°C, the analogue value for a detector in mode 1 will correspond approximately to the air temperature.

1.1 Intellia Fire Detectors

Intellia is a range of high-specification, intelligent fire detectors developed to meet the requirements of sophisticated systems. Intellia gives you total reassurance in installations where adaptability to changing conditions and protection against unwanted alarms are paramount. Intellia uses a digital communications protocol.

The Intellia series of products are all compatible with the ALC-board of Esmi Sense FDP and FX panel.

1.2 Features

1.2.1 Response setting

Each detector in the Intellia range can operate in one of five response modes, any of which can be selected from the Esmi Sense FDP and FX control panel. Each mode corresponds to a unique response behaviour, which can be broadly related to sensitivity to fire.

For ionisation and optical smoke detectors, the modes relate to different combinations of smoke response threshold and response time. For the heat detector, the mode relates to the fixed temperature setting and the sensitivity to rate-of-rise of temperature. For the multisensor, the mode relates to the levels of smoke and heat sensitivity and to the way in which the responses of the two sensors are combined.

The response characteristics of the detectors have been carefully set so that detectors will comply with the requirements of the relevant part of EN54 in all response modes. The mathematical algorithms embedded in the detectors are used to carry out changes in characteristics between modes.

1.2.2 Rejection of transient signals

All Intellia detector algorithms are designed to give low sensitivity to very rapid changes in the sensor output, since these are unlikely to be caused by real fire conditions. This is achieved by digital low-pass filtering of the sensor values which optimises the rejection of false alarm sources while maintaining the response to fire.

1.2.3 Drift compensation

All Intellia smoke detectors include compensation for sensor drift as part of the internal signal-processing algorithm. The algorithm will compensate for changes in sensor output caused, for example, by dust in the chamber, and will therefore hold the sensitivity at a constant level even with severe chamber contamination. This increased stability is achieved without significantly affecting the detector's sensitivity to fire.

1.3 Product Codes

Product	Product codes
EDI-50 Heat Detector	FFS0672 0250
EBI-10 Standard Mounting Base	FFS0672 0010
EBI-20 Relay Base	FFS0672 0020