

# Intellia Optical Smoke Detector EDI-20

Instruction Sheet  
R10073GB0



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Document number: R10073GB0  
Published: 26.04.2019

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# 1 Intellia Optical Smoke Detector EDI-20

The Intellia optical smoke detector EDI-20 is suitable for slow burning or smouldering fires and should be positioned where these are most likely to occur. They can be set to a sensitivity mode best suited for the application.

An infra-red light emitting diode within its collimator is arranged at an obtuse angle to the photo-diode. The photo-diode has an integral daylight-blocking filter.

The photo-diode signal is processed to provide an analogue value for transmission when the detector is interrogated.

## 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-20 Optical Detector	FFS0672 0220
EBI-10 Standard Mounting Base	FFS0672 0010
EBI-20 Relay Base	FFS0672 0020