ORBIS MULTISENSOR SMOKE DETECTOR

Part Number ORB-OH-13001-APO

WHERE TO USE MULTISENSOR SMOKE DETECTORS

Multisensor smoke detectors are recognised as good detectors for general use but are additionally more sensitive to fast burning, flaming fires–including liquid fires–than optical detectors.

They can be readily used instead of optical smoke detectors but should be used as the detector of choice for areas where the fire risk is likely to include heat at an early stage in the development of the fire.

As with Orbis optical smoke detectors the increased reliability of detection is combined with high immunity to false alarms.

The multisensor smoke detector has two sensors, one for smoke, one for heat and the alarm decision is derived from either sensor or a combination of both. The multisensor is a development of the Orbis optical detector described in the previous chapter and goes further in its capabilities of fire detection.

The optical sensor is identical to the one in the Orbis optical detector. Its sensitivity is, however, influenced by a heat sensing element which makes the detector more responsive to fast-burning, flaming fires.

ENVIRONMENTAL PERFORMANCE

The environmental performance of the multisensor detector is the same as that of the Orbis optical smoke detector.

TECHNICAL DATA

All data is supplied subject to change without notice.
Specifications are given at 23°C and 50% relative humidity unless otherwise stated.

DETECTOR OPERATING PRINCIPLES		
Principle of detection:	Photo-electric detection of light scattered by smoke particles over a wide range of angles. The optical arrangement comprises an infra-red emitter with a prism and a photo-diode at 90° to the light beam with a wide field of view. The detector's microprocessor uses algorithms to process the sensor readings. The heat sensing element increases the sensitivity of the detector as the temperature rises.	
Sampling frequency:	Once every 4 seconds	
ELECTRICAL		
Supply voltage:	8.5—33V DC	
Supply wiring:	2 wires, polarity sensitive	
Maximum polarity reversal:	200ms	
Power-up time:	<20 seconds	
Minimum 'detector active' voltage:	6V	
Switch-on surge current at 24V:	95µA	
Average quiescent current at 24V:	95µA	
Alarm current:	At 12 volts At 24 volts	20mA 40mA
Alarm load:	600Ω	
Holding voltage:	5–33V	
Minimum holding current:	8mA	
Minimum voltage to light alarm LED:	5V	
Alarm reset voltage:	<1V	
Alarm reset time:	1 second	
Remote output LED (–) characteristic:	1.2kΩ connected to negative supply	
MECHANICAL		
Material:	Detector and base moulded in white polycarbonate.	
Alarm Indicator:	Integral indicator with 360° visibility (See Table 3 on page 13)	
Dimensions:	97mm diameter x 42mm height 100mm diameter x 57mm height (in base)	
Weight:	Detector Detector in base	80g 140g
ENVIRONMENTAL		
Temperature:	Operating and storage temperature (no condensation or icing)	–40°C to +70°C
Humidity:	0% to 98% relative humidity (no condensation)	
Wind speed:	Unaffected by wind	
Atmospheric pressure:	Insensitive to pressure	
IP rating to EN 60529: 1992:*	23D	
Electromagnetic Compatibility:	The detector meets the requirements of EN 61 000-6-3 for emissions and BS EN50 130-4 for susceptibility.	

*The IP rating is not a requirement of EN 54 since smoke detectors have to be open in order to function. An IP rating is therefore not as significant as with other electrical products.

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