



C4416 Optical Smoke Detector



Manufactured in the UK by C-TEC, our ActiV optical smoke detector offers outstanding detection performance at a very competitive price.

Suitable for use with virtually all known conventional fire alarm panels including C-TEC's market-leading CFP, FP, MFP and EP203 ranges, the C4416 is third-party certified to EN54 part 7 by leading independent certification body, Intertek, and also carries the prestigious pan-European recognised 'CertAlarm' System 5 mark.

Stylishly designed and easy-to-install, the IP42 rated detector has a wide 6-33V DC operating voltage, dual LED alarm indicating strips offering unrivalled 360° visibility and drift compensation to help reduce false alarms.

The detector is fully compatible with our C4408 range of ActiV bases, all of which include an integrated detector/base locking mechanism to prevent tampering. A plastic ID tag is also supplied with all C4408 range bases allowing engineers to identify which zone the detector has been connected to.

Illustration shows a C4416 ActiV optical smoke detector mounted on a C4408D base



Intertek



0359-CPD-0183

No. 000150

Key features

- ▶ Third-party certified to EN54-7 by leading notified approval body Intertek
- ▶ Carries the prestigious 'CertAlarm' System 5 mark
- ▶ Outstanding detection performance and durability
- ▶ Wide 6-33V DC operating voltage
- ▶ Two 8mm x 2mm ultra-bright red LED indicating strips offering unrivalled 360° visibility when illuminated
- ▶ IP42 rated
- ▶ Suitable for use with virtually all known conventional fire alarm panels (see over for required alarm currents) and many 12V security systems
- ▶ Sophisticated onboard detection algorithms help reduce false alarms by rejecting momentary abnormal readings
- ▶ Low current draw - just 30µA quiescent at 24V
- ▶ Drift compensation functionality ensures detector sensitivity is automatically calibrated to suit prevailing conditions and/or increased contamination levels
- ▶ Stylishly manufactured from white polycarbonate
- ▶ Compatible with our ActiV C4408D diode base or C4408 non-diode base (all bases include an integrated detector/base locking mechanism and ID tag)
- ▶ Simple 'click and twist' design and easy-fit base ensures reduced installation time and inspection costs
- ▶ Manufactured at C-TEC's Intertek, LPCB, VdS and BSI inspected headquarters in the north west of England
- ▶ Fixed heat, rate-of-rise and multi-sensor variants also available (see our separate datasheets for details)
- ▶ Excellent discounts for quantity orders



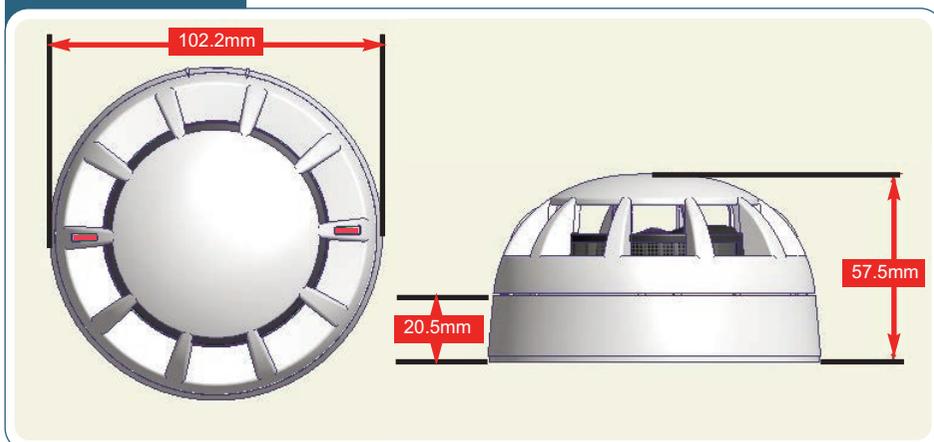
Application / Operation

Optical detectors use an infrared light source and a photodiode to detect smoke. In the absence of smoke, light passes in front of the photodiode in a straight line. When smoke enters the optical chamber across the path of the infrared beam, light is scattered by particles of smoke in all directions, some of which falls on the photodiode thus triggering the alarm. Optical detectors are typically used in escape routes, living areas, bedrooms and enclosed spaces to give an early indication of fire. They are particularly effective at detecting slow burning fires (such as those caused by overheated electrical wiring or smouldering materials) which tend to generate larger particles of visible smoke.

Technical Data

Part number:	C4416	Temperature range:	-20° to +70°C
Description:	Optical Smoke Detector	Humidity:	0% to 95% relative humidity
Sampling frequency:	Once per second	Atmospheric pressure:	Insensitive to atmospheric pressure
Supply wiring:	2-wire monitored, polarity sensitive	IP Rating:	IP42
Supply/operating voltage:	9 to 33V DC	Dimensions (detector only):	102.2mm diameter, 37mm deep
Quiescent current:	30µA at 24V DC	Dimensions (detector in base):	102.2mm diameter, 57.5mm deep
Switch on surge current:	120µA for three seconds	Weight:	Detector: 99g. Base: 55g.
Alarm voltage:	6 to 33V DC	Detector materials:	White polycarbonate outer casing rated to UL94 V-2 with nylon internal parts
Alarm current:	19mA @ 12-33V DC 11mA @ 9V DC 2.5mA @ 6V DC	Base materials:	White polycarbonate rated to UL94 V-2 with bright tin plated steel terminals fitted with nickel plated steel screws/washers
Min. holding voltage:	6V DC	Compliance:	EN 54-7:2000 + A1: 2002 + A2: 2006 (Fire detection and fire alarm systems. Smoke detectors - Point detector using scattered light, transmitted light or ionization)
Min. alarm holding current:	2.5mA	Certifications & approvals:	Third-party certified to EN54-7 by notified approval body Intertek. The C4416 also carries the pan-European CertAlarm System 5 mark. The approval certificate can be viewed at www.c-tec.co.uk
Alarm indicators:	Two 8 x 2mm LEDs (illuminate red)	Compatible Bases:	C4408D Diode Base; C4408 Non-Diode Base
Voltage req. to light LED:	6V DC min		
Alarm reset voltage:	<1V DC		
Alarm reset time:	>0.5 seconds		
Remote output:	Current source to the negative line, short-circuit protected (available via a C4408D or C4408 base). Max voltage 2.7V DC (the alarm current flows in the remote LED circuit)		
Sensitivity:	Nominal alarm threshold of 0.16dB/m obscuration measured in accordance with EN54-7:2000.		

Dimensions



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You're safe with C-TEC

