



CA414 Multisensor Fire Detector

Product Datasheet CAST Compatible



Illustration shows a CA414 CAST multisensor detector mounted on a CA408 base. The multisensor has a blue colour coded ring.

Product Description

The CA414 CAST multisensor fire detector offers optical fire sensitivity with heat enhancement. The detector is compatible with C-TEC's XFP and ZFP range of 'CAST' protocol analogue addressable fire panels and is fully compliant with EN 54-5, EN 54-7, EN 54-17 and CEA 4021.

The detector must be fitted to either a CA408 CAST detector base (which has an integrated locking mechanism to prevent tampering), or a CAST Base Mount device (Part Nos. CA431A/W, CA432A/W, CA456A/W, CA459A/W, CA460A/W). Refer to CA408 Document No. DFU0002408 for detector wiring and fitting details.

Part Number	Description
CA414	CAST Multisensor Fire Detector
CA408	CAST Detector Base

Key Features

- Third-party certified to EN54-5, EN 54-7 & EN 54-17
- Compatible with C-TEC's XFP and ZFP range of 'CAST' protocol fire panels
- Can be set to various modes of optical sensitivities and heat settings using the fire panel's PC programming tools
- 22-40 Vdc operating voltage
- Onboard short-circuit loop isolator
- Two ultra-bright red LED indicating strips
- Manufactured from white polycarbonate
- Simple 'click and twist' design and easy-fit base ensures reduced installation time
- Compatible with C-TEC's CA408 CAST base and CAST Base Mount devices
- Programmable heat and optical smoke variants are also available (see separate datasheets for details)

Operation/Application

Multisensor fire detectors incorporate two sensors, one for smoke and one for heat. As well as operating independently, the signals from the two sensors combine to produce a more sensitive response to freely burning fires. For example, when the detector's heat sensor detects an increase in temperature, it reduces the level at which its smoke sensor will respond. This smoke + heat analysis means that the detector not only provides excellent detection across the widest range of fire types, but also provides very effective false alarm reduction.

As a result, the multisensor is the most effective all round detector. It is particularly useful in accommodation areas such as student premises, HMOs, sheltered housing blocks, etc., which are much more susceptible to nuisance alarms.

Technical Specification

Part Number:	CA414
Description:	Multisensor Fire Detector
Certifications:	EN54-5:2017 + A1:2018, EN54-7:2018, EN54-17:2005, CEA 4021:2003. The approval certificate can be viewed at www.c-tec.com
LPCB Certificate No.:	176m/01
CPR Certificate No.:	2831-CPR-F2270
UKCA Certificate No.:	0832-UKCA-CPR-F0797
DoP:	DoP0000044
Comm Protocol:	CAST (C-TEC)
Compatible Panels:	XFP or ZFP (CAST versions)
Compatible Bases:	CA408 CAST detector base and CAST Base Mount devices (Part Nos. CA431A/W, CA432A/W, CA456A/W, CA459A/W, CA460A/W)
Operation Modes (Modes programmed via XFP/ZFP PC Tools):	Mode 1 = High Optical + Class A2 Heat Mode 2 = Standard Optical Mode 3 = Standard Optical + Class A2 Heat Mode 4 = Low Optical + Class A2 Heat Mode 5 = Class A1R Heat * (Default is Mode 3)
Optical Triggers:	Mode 1 = 0.1 dB/m Modes 2 & 3 = 0.2 dB/m Mode 4 = 0.3 dB/m Mode 5 = Off
Heat Triggers:	Mode 1 = 62°C Mode 2 = Off Modes 3 & 4 = 62°C Mode 5 = 56°C

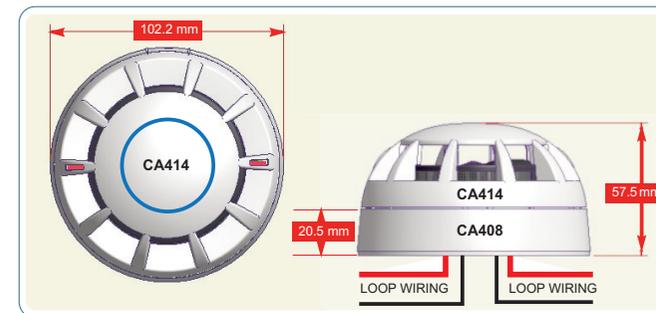
Sampling Frequency:	Once per second
Operating Voltage:	22 to 40 Vdc
Quiescent Current:	370 µA at 40 Vdc
Alarm Current:	5 mA (LEDs illuminated)
LED Indicators:	Two red LED indicator strips offering 360° visibility
Wiring & Connections:	Via CA408 CAST base (see Document No. DFU0002408)
Detector Materials:	Robust white polycarbonate outer casing rated to UL94 V-2 with nylon internal parts
Dimensions (detector only):	102.2 mm diameter; 37 mm deep.
Dimensions (detector & base):	102.2 mm diameter; 57.5 mm deep.
Weight:	Detector 99 g; CA408 Base 55 g.
Atmospheric Pressure:	Insensitive to atmospheric pressure
Operating Temp.:	-10°C to +55°C
Humidity:	0% to 95% relative humidity

* Mode Not Approved

EN 54-17 SC-Isolator Specification (Controllable Isolator)

Maximum Loop Voltage (V max):	40 Vdc
Nominal Loop Voltage (V nom):	40 Vdc
Minimum Loop Voltage (V min):	22 Vdc
Maximum Current Device Isolates, switches from closed to open (Iso max):	55 mA
Minimum Current Device Isolates, switches from closed to open (Iso min):	15 mA
Maximum Rated Continuous Current with switch closed (Ic max):	1 A
Maximum Rated Switching Current under short circuit conditions (Is max):	1.6 A
Maximum Leakage Current with switch open (IL max):	20 µA
Maximum Series Impedance with switch closed (Zc max):	100 mohms

Dimensions (CA414 Head & CA408 Base)



Manufacturer: Comptonics Limited (C-TEC), Challenge Way, Martland Park, Wigan, Lancashire WN5 0LD. www.c-tec.com
E&OE. No responsibility can be accepted by the manufacturer or distributors of these devices for any misinterpretation of this instruction, or for the compliance of the system as a whole. The manufacturers policy is one of continuous improvement and we reserve the right to make changes to product specifications at our discretion and without prior notice.