Advanced Intelligent COPTIR (Photo-Thermal-CO-IR) Detector 2251CTLE

Overview

- Advanced intelligent detection functionality
- Fully digital adressing technology
- Includes Advanced ADEVA protocol
- Unique, true four sensor multi-criteria detector
- Fully integrated Infra Red sensing to support the fire alarm decision
- CO gas sensing for fastest response to slow developing and smouldering fires
- Highest possible immunity to unwanted alarms
- Wide operating voltage 15 to 32VDC
- Rotary decade address switches
- Automatic drift compensation of smoke sensor and CO cell
- Stable communication with high noise immunity
- Pure white colour to compliments modern buildings
- %100 mechanical and electrical backwards compatibility
- New base design to compliment the detector
- Tested and approved to EN54-5:2000+A1:2002
  EN54-7:2000+A1:2002+A2:2006
  LPS 1279 - 1.0:2006
  CEA 4021:2003

LPS 199 Issue No: 12
Cert: 199t/01

Description

The revolutionary Advanced Intelligent ADEVA range delivers a totally new detector platform that incorporates the new digital Advanced Intelligent ADEVA protocol.The new protocol delivers more devices on the loop and gives greater control, configurability and device management whilst enabling the overall system to be optimised to the location and use of the building with far greater flexibility than ever before.

This plug-in fire detector combinies 4 separate sensing elements to act as a single unit. CO sensing (using EC cell technology) for monitoring CO products from a smouldering fire, IR sensing for measuring ambient light levels and flame signatures, optical smoke detection and heat detection.

The integration of continual monitoring for all four major elements of a fire has enabled us to create a detector that responds far more quickly to an aactual fire and has the highest immunity to nuisances. The operating philosophy behind COP-TIR was to configure it so that it normally operates at a high immunity level, charging to become very sensitive to fires whrn fire characteristics are sensed. In this way transient nuisances are monitored and ignored, reducing the false alarm rate.

2251CTLE is managed by on-board intelligent running some very advanced algorithms, which dynamically adjust the detection profile of the device in response to the inputs from the sensor, enabling it to be re-characterised on the fly as the ambient conditions change. Based upon the sensor signals, the program is dynamically changing sensor thresholds,changing sensor gain, changing time delays, changing combination, changing sampling rates, changing averaging rates and, if any sensor fails, changing sensitivity of the remaining sensor as well as indication a fault condition. The IR light sensor helps the detector recognise specific situations such as welding and makes adjustments rapidly in order to further reduce the potential for false alarms caused by nuisances.

The thermal detection function fuses thermistor technology with a software corrected linear temperature response. In areas where the normal daytime activities are likely to create unwanted alarms, the detector can be programmed to operate in a “Heat only” mode, automatically reverting to optical-thermal operation during the unoccupied period. The 2251CTLE is thus able to offer exceptional flase alarm immunity and excellent fire detection.

The 2251CTLE has two integral RED LEDs which provide local visual indication of the sensor status. These LEDs provide a dual function. In the event of an alarm, they are switched ON continuously and can also be programmed to either blink when polled by the panel or remain off during normal conditions. In addition to its integral LEDs, the 2251CTLE can be connected to a Remote LED indicator.

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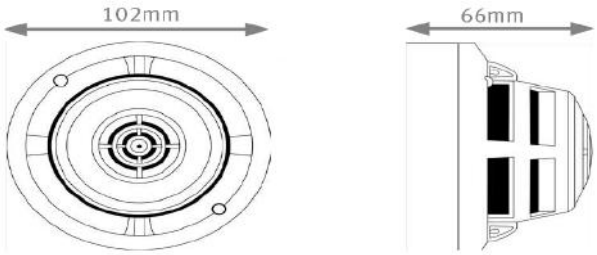
Architect / Engineer Specifications



All ADEVA products are covered by our extended 5 years monufacturer warranty.

Electrical Specifications

Operating Voltage Range	15 to 32VDC
Maximum Standby Current	200µA at 24VDC (no communications)
Maximum Alarm Current	7mA at 24VDC

Environmental Specifications

Temperature Range	-20^{0}C to +55^{0}C
Humidity	5 to 90% Relative Humidity (non condensing)

Mechanical Information

Height	66mm installed in B501 base
Diameter	102mm installed in B501 base
Weight	176g (inc base)
Max Wire Gauge for Terminals	2.5mm^2
Colour	Ivory
Meterial	Bayblend FR110

Range

IR Limits	0 - 450 uW/cm^2
CO Limits	0 - 500 PPM

Sensitivity Settings

Alarm Level 1 - COPTIR	Low false alarm resistance, high photoelectric only sensitivity
Alarm Level 2 - COPTIR	Medium false alarm resistance, medium photoelectric only sensitivity
Alarm Level 3 - COPTIR	Standard false alarm resistance, low photoelectric only sensitivity
Alarm Level 4 - COPTIR	High false alarm resistanc, low photoelectric only sensitivity
Alarm Level 5 - COPTIR	Very high false alarm resistance, photoelectric only sensitivity
Alarm Level 6 - COPTIR	Expected to be Class A1R (Subject to final testing)

Note The panel th resh old sh old be ch osen accord ing to th e specific environment. Th e following wou ld be ADEVA's recommend ations: Ultra-clean applications u se Level1 for pre alarm on alarm, clean applications u se Level 1 for pre alarm and Level 2&3 for alarm mod erate environments u se Level 1,2 or 3 for pre alarm and Level 4 for alarm Harsh environments u se Level 2 or 3 for pre alarm and Levels 5-6 for alarm.

Product Range

Compatible Bases	B500 Series (B501, B501DG, B524RTE, B524HTR, B524IEFT-1)			
	B501AP			
Other Devices in range	FCO731 / FCOI731	FCHR751 / FCHRI751	7251	2251EIS
	FCOT721 / FCOTI721	FCHF741 / FCHFI741	DNRE	6500
	FCOTI781 / FCOII781	FCHH761 / FCHHI761	FTX-P1	
Other Colours in Range	Ivory			

*Note * When installed in a B501AP base*
† Do not install d etectors in locations where normal ambient temperatu re exceed s 50°C

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