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Certificate No:
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AQ-AUS-JAS-ANZ

Product Overview

The analogue addressable **COPTIR Multi-Criteria Smoke Detector (2251CTLE 34-IV)** combines four sensing elements in a single unit:

- » **CO** sensor: For monitoring carbon monoxide products from a fire
- » **Photoelectric** sensor: For monitoring smoke
- » **Thermal** sensor: For measuring temperature
- » **IR** sensor: For measuring ambient light levels and flame signatures

The detector incorporates intelligent detection algorithms which measure and process individual sensor outputs. The COPTIR detector is highly immune to nuisance sources which may be incorrectly identified as a fire by a single sensing element. However, it is very sensitive to real fires.

Alarm thresholds are configurable in the fire alarm control panel. The detector continuously monitors the amount of carbon monoxide, smoke, heat, and infra-red. If a potential alarm condition is detected, the detector reports a sensor level between 1 and 6 to the fire alarm control panel. The panel can be configured to respond as appropriate to the sensor level.

The loop address is configured with rotary address switches on the detector base. The loop address allows the panel to identify each detector's location, in the event of a fire, or for maintenance when chamber contamination reaches an unacceptable level.

Two LEDs on the detector housing provide 360° visual indication of system operation. An optional remote LED indicator is available.



2251CTLE-34-IV

Features:

- ▶ Highest nuisance alarm immunity
- ▶ Highly sensitive to real fires
- ▶ Four-sensor multi-criteria fire detector incorporating CO (carbon monoxide), Photoelectric, Thermal and IR (infra-red) sensing elements
- ▶ Advanced detection algorithms interpret and respond to the sensor signals
- ▶ Six sensitivity levels
- ▶ CO sensing for fastest response to slow-developing, smouldering fires
- ▶ Fully integrated infrared sensing to support the fire alarm decision
- ▶ Automatic drift compensation of smoke sensor and CO cell
- ▶ Rotary Decade Address Switches, 1 to 99 (see note, page 2)
- ▶ Dual red indicator LED
- ▶ Magnet test function bypasses inbuilt delays
- ▶ Optional remote LED indicator

Specifications:

▶ Dimensions	102 x 68 mm	Diameter x Depth in B501 base
	102 x 75 mm	Diameter x Depth in B524IEFT-1 base
▶ Weight	134 g (excl. base)	
▶ Operating Temperature Range	- 20 °C to 55 °C	
▶ Sensitivity	Refer to Sensor Levels table (below)	
▶ Operating Humidity Range	15 % to 90 %, RH, non-condensing	
▶ Operating Voltage Range	15 Vdc to 32 Vdc	
▶ Standby Current	200 µA	No communication
▶ Standby Current	300 µA	LED blink enabled, once every 5 s.
▶ LED Current	7 mA @ 24 Vdc	

Sensor Levels:

Level 1	3.3 %/m of smoke or greater than 45 ppm CO. No time delay on smoke sensor.
Level 2	6.6 %/m of smoke. No time delay on smoke sensor.
Level 3	9.8 %/m of smoke. No time delay on smoke sensor.
Level 4	9.8 %/m of smoke. Up to 10 minute delay on smoke sensor.
Level 5	13.1 %/m of smoke. Up to 10 minute delay on smoke sensor.
Level 6	Heat only mode: Rate of temperature rise with static threshold at 60 °C

Life Expectancy:

The COPTIR detector's CO cell has a six-year life expectancy. An internal timer monitors the detector's operating time. When the timer records six operating years the detector signals a life-expired LOW FAULT message at the analogue addressable fire alarm control panel. The detector's internal algorithms automatically switch to using only properly-weighted inputs from the photoelectric, thermal and IR sensors. The detector continues to monitor these sensors and signals any potential alarm condition to the fire alarm control panel. However, if no alarm is present the COPTIR detector continues to signal a fault condition.

The CO cell is not replaceable. The detector needs replacing when the six year operating life has expired.

Ordering Information:		
Product Code	Description	NZFPA Listing No:
2251CTLE-34-IV	AA CO-Photo-Thermal-IR Multi Sensor excl Base	PI/337
B501	AA Base	N/A
B524IEFT-1	AA Base with Isolator	PI/621

Note: Although the COPTIR detector's "tens" address switch has 16 positions, only positions 0 to 9 can be used. Pertronic analogue addressable fire alarm control panels must not be configured with COPTIR detectors at addresses 100 to 159.

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