



PTIR Multi-Criteria Smoke Detector

Product Overview:

The analogue addressable **PTIR Multi-Criteria** smoke detector (**22051TLE-34-IV**) combines three sensing elements into one unit:

- » **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 PTIR 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 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.



22051TLE-34-IV

Features:

- » High nuisance alarm immunity
- » Three-sensor multi-criteria fire detector incorporating photo, thermal and IR (infra-red) sensing elements
- » Advanced detection algorithms interpret and respond to the sensor signals
- » Viable performance replacement for ionising detectors
- » Six sensitivity levels
- » Fully integrated infrared sensing to support the fire alarm decision
- » Automatic drift compensation of smoke sensor
- » Rotary decade address switches, 1 to 99 (see note, page 2)
- » Dual Red indicating LEDs for 360° visibility
- » Remote indicator LED accessory
- » Magnet test function bypasses inbuilt delays

Specifications:

» Dimensions	102 x 60 mm (Diameter x Depth in B501AUS base)
	102 x 67 mm (Diameter x Depth in B524IEFT-1 base)
» Weight	105 g (excl. base)
» Operating Temperature Range	- 30 °C to 70 °C
» Sensitivity	Refer to Sensitivity Settings below
» Humidity	10 % to 93 % RH, non-condensing
» Operating Voltage Range	15 Vdc to 32 Vdc
» Max. Standby Current	200 µA @ 24 Vdc (no communication)
	300 µA @ 24 Vdc (LED blink enabled, once every 5 seconds)
» Alarm Current (LED on)	3.5 mA @ 24 Vdc

Sensitivity Settings:

Level 1	3.3 %/m of smoke. 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. Up to 45 seconds delay on smoke sensor
Level 4	9.8 %/m of smoke. Between 45 seconds and 1 minute and 30 seconds delay on smoke sensor
Level 5	9.8 %/m of smoke. Greater than 1 minute and 30 seconds delay on smoke sensor
Level 6	Heat only mode. Rate of temperature rise with static threshold at 60 °C



B501AUS Base



B524IEFT-1 Base

Listings and Approvals:

ActivFire: AFP – 2839

Ordering Information:

Product Code	Description
22051TLE-34-IV	PTIR Multi-Criteria Analogue Smoke Detector
B501AUS	AA Detector Base
B524IEFT-1	AA Detector Base with Isolator

Note: Although the PTIR sensor's "tens" address switch has 16 positions, only positions 0 to 99 can be used. Analogue addressable Pertronic fire alarm control panels must not be configured with PTIR sensors at addresses 100 to 159.

PTIR Multi-Criteria Analogue Addressable Smoke Detector Iss 1.7 20190403