

# OPTICAL SMOKE DETECTOR XPERT CARD ADDRESSED



Part Number 55000-600IMC

## DEVICE RESPONSE

Type: Overheating/thermal combustion  
Response: Very good

Type: Smouldering/glowing combustion  
Response: Good

Type: Flaming combustion  
Response: Good

Type: Flaming with high heat output  
Response: Good

Type: Flaming - clean burning  
Response: Very poor

## Optical Smoke Detector, XPERT style, 55000-600IMC

The Context Plus XP95 optical detector uses the same outer case as the ionisation smoke detector and is distinguished by the indicator LED which is clear in standby and red in alarm.

Within the case is a printed circuit board which, on one side, has the light proof labyrinth chamber with integral gauze surrounding the optical measuring system and, on the other, the address capture, signal processing and communications electronics.

An infrared light emitting diode within its collimator is arranged at an obtuse angle to the photo-diode. The photo-diode has an integral daylight-blocking filter.

The IR LED emits a burst of collimated light every second. In clear air the photo-diode receives no light directly from the IR LED because of the angular arrangement and the dual mask. When smoke enters the chamber it scatters photons from the emitter IR LED onto the photo-diode in an amount related to the smoke characteristics and density.



## Technical Data

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

**Communication protocol:** Apollo XP95 pulse 5-9V

**Detector Type:** Products of combustion (smoke) detector

**Detection Principles:** Photo-electric detection of light scattered in a forward direction by smoke particles

**Chamber Configuration:** Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light

**Sensor:** Silicon PIN photo-diode

**Emitter:** GaAs Infra-red light emitting diode

**Sampling Frequency:** 1 second

**Supply Wiring:** Two wire supply, polarity insensitive

**Terminal Functions:**

L1&L2 supply in and out connections (polarity insensitive)

+R remote indicator positive connection (internal 2.2kΩ resistance to supply +ve)

-R remote indicator negative connection (internal 2.2kΩ resistance to supply - ve)

**Supply Voltage:** 17 to 28 Volts dc

**Quiescent Current:** 340µA average, 600µA peak

**Power-up Surge Current:** 1mA

**Duration of Power-up Surge Current:** 0.3 seconds

**Maximum Power-up Time:**

4 seconds for communications (measured from application of power and protocol) 10 seconds to exceed 10 counts 35 seconds for stable clean air value

**Storage Temp:** -30°C to +80°C

**Operating Temp:** -20°C to +60°C

**Alarm Level Analogue Value:** 55

**Clean Air Analogue Value:** 25±7 counts

**Alarm Indicator:** Clear light emitting diode (LED) emitting red light

**Alarm LED Current:** 4mA

**Remote LED Current:** 4mA at 5V (measured across remote load)

**Type Code:** (210 43) 101 00

**Sensitivity:** Nominal threshold of 2.4% light grey smoke obscuration per metre

**Guaranteed Temperature Range (No condensation or icing):** -20°C to +60°C

**Humidity (No condensation or icing):** 0% to 95% relative humidity

**Wind Speed:** Unaffected by wind

**Atmospheric Pressure:** Unaffected

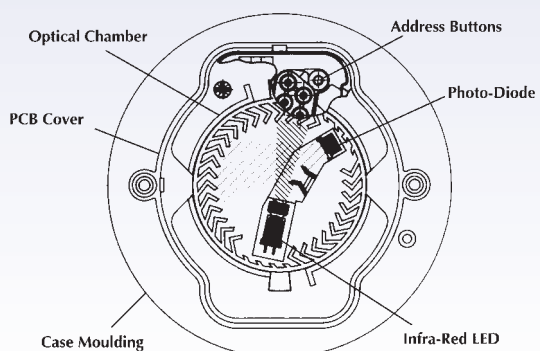
**Vibration, Impact & Shock:** To EN54 Pt 7 2001 (BS5445 Pt 7 2001)

**IP Rating:** 43

**Dimensions:** (diameter x height)  
Detector: 100mm x 42mm  
Detector in Base:  
100mm x 50mm

**Weights:** Detector: 105g  
Detector in Base: 157g

**Materials:** Detector Housing: White polycarbonate V-0 rated to UL 94  
Terminals: Stainless Steel



Top section view - Optical Smoke Detector