



Introduction

The Protec 3000Plus/OP is a conventional smoke detector which uses the principle of optical scattering to measure the density of smoke in a given environment. The microprocessor used in the detector processes the sampled smoke readings using specially developed algorithms which discriminate against false readings while still allowing a genuine alarm condition to trigger the device.

Technical Specification

Electrical Specification	
Operating Voltage range	16 to 30V DC on 2 wires (polarised)
Power up time	20 seconds
Average quiescent current	25µA at 24V DC
Peak current when sampling	200µA (reducing linearly to 22µA after 50ms) every 10 seconds at 24V DC
Surge current when switched on	70µA for 5 seconds
Current limit requirements	Detector supply must be current limited to a maximum of 50mA
Alarm load	270Ω in series with constant 2.5V
Minimum zone Voltage to light the indicator LED	5V
Alarm reset requirements	Less than 0.5V zone Voltage for at least 1 second
Remote indicator LED	Connects to zone negative via a 3.3kΩ resistor and series protection diode
Environmental Specification	
Operating / storage temperature range	-10 to 55 degrees C (no condensation or icing)
Humidity	0 to 95% relative humidity (no condensation)
IP rating	IP21C
Mechanical Specification	
Dimensions	95mm diameter x 48mm height excluding base, 62mm height including base
Alarm indication	Integral red LED indicator, plus provision for a remote LED connection
Material	Casing made from white ABS to UL94-V0 flammability rating
Weight	98 grams (including dust cover, but not base)
Compatible Bases	
3000PLUS/BASE	Low profile common mounting base
3000PLUS/FFBASE	Fast fixing semi recessed base
Approval Details	
 201v/02	<div style="text-align: center;">  0832 </div> <p style="text-align: center;">Protec Fire Detection plc, Nelson, Lancashire, England BB9 6RT 13 PFD-CPR-0051</p> <p style="text-align: center;">BS EN 54-7:2000 + A1:2002 + A2:2006</p> <p style="text-align: center;">3000PLUS/OP Conventional Optical Smoke Detector</p> <p>Nominal activation conditions/sensitivity. Response delay (response time) and performance under fire conditions: Pass Operational reliability: Pass Tolerance to supply voltage: Pass Durability of operational reliability and response delay, temperature resistance: Pass Durability of operational reliability, vibration resistance: Pass Durability of operational reliability, humidity resistance: Pass Durability of operational reliability, corrosion resistance: Pass Durability of operational reliability, electrical stability: Pass</p>

Installation and commissioning procedure

1. Using BS5839 part 1 for guidance plan how the detectors and Manual Call Points will be sited, noting in particular spacing between detectors and proximity to light fittings.
2. Using the appropriate 3000Plus base connect the incoming positive zone supply to base terminal X, the outgoing zone positive supply to terminal Y and the common zone negative supply to terminal W.

If a remote LED is required this must be connected between terminal Y (positive of the LED) and terminal Z (negative of the LED).

Always ensure cable screen continuity is preserved by using the screen terminal provided.

3. Ensure all wiring is sound and will not foul the detector when it is fitted. Check the wiring screw terminals in the base are tightened and trap the wire securely.

Insert the detector into the base and rotate in a clockwise direction until the detector drops into position, turn a further quarter turn until the detector is fully engaged into the base. Ensure the dust cover is removed prior to testing.

4. When testing ensure that, when each detector is removed from its base, the remaining detectors and Manual Call Points connected to the zone put the panel into alarm when triggered.

Maintenance Requirements

1. Regular scheduled testing of the device must be undertaken in line with the requirements set out in BS5839 part 1.
2. The device is not designed to be internally cleaned, or serviced. If the device is found to be faulty, the device must be disposed of and a new device of the same type fitted and tested.

Figure 1. 3000PLUS/OP base connections

