

- Dual Technology Sensor
- Combined Smoke and Heat Sensor
- Ideal Multi-Application Sensor
- Integrated EN54-23 Visual Alarm Device
- Loop Powered
- Low Current
- Integral Short Circuit Isolator
- Protec Algo-Tec™ 6000PLUS Protocol
- Devices Display Address Number
- FAST™ Addressing
- Reduced False Alarms
- VAD Classification Adjustable from 3m to 7.5m Room Coverage Volume

## 6000PLUS/OPHT/VAD - Optical Smoke & Heat Sensor Plus Visual Alarm Device



The Protec Algo-Tec™ 6000PLUS sensor range has been developed to incorporate advanced fire sensing technology, electronic sounders, high intensity LED visual alarm devices (VAD) and speech enhanced talking sounder capability, all integrated within the sensor head and powered from the loop.

**6000PLUS/OPHT/VAD** Interactive addressable high performance optical smoke and heat multi-sensor.

The dual technology multi-criteria fire detector uses detection of smoke by scattering of infra-red within the optical chamber coupled with thermal enhancement of the optical sensitivity, as well as providing temperature detection equivalent to grade A2. The smoke and heat channels can be controlled independently for day/night operation with intelligent data being evaluated by the Protec Algo-Tec™ 6000 interactive programmable algorithms.

These sensors react across the range of fire products from large visible particles from smouldering fires to open flaming fires producing very hot smaller particles and are therefore suitable for use in all smoke

detection applications. The environmental conditioning algorithms can be selected to filter unwanted alarms and enhance performance.

**Sensor VAD** - Compliance with DDA legislation is assisted by the addition of the Protec visual alarm device (VAD) to the 6000PLUSensor, to warn those with hearing impairments or in noisy environments. The VAD utilises a high intensity LED with lower power consumption and increased reliability when compared to alternative indicators.

The VAD is located in the centre of the sensor, so can be viewed from all angles. Suitable for ceiling mounting the VAD distributes light in a cylindrical pattern to achieve the required minimum illumination of 0.4lux over the entire coverage area in accordance with EN54-23.

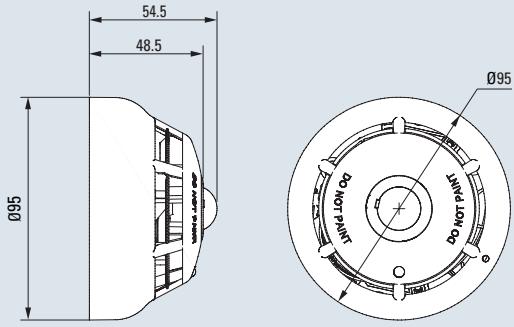
The maximum mounting height is 3m with a coverage diameter of 7.5m.

For smaller areas the device can be programmed on-site for coverage diameter of 3m or 5m at reduced power.

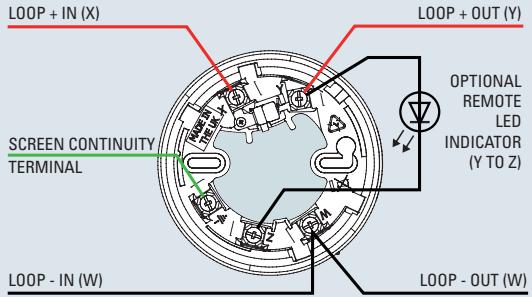
# Technical Specification



## Dimensions (mm)



## Typical Wiring using 6000PLUS/BASE



## Technical Specification:

Environment	-10°C to +50°C (95% R.H. non condensing)
Ingress Protection	IP21C
Weight (excluding base)	103.35g
Loop Powered	Yes
Loop Voltage	18 - 28V
Loop Standby Load	0.55mA
Peak Alarm Load	16.5mA
Mounting Height	3m
Coverage	7.5m, 5m or 3m cylindrical diameter
VAD Flash Rate	1Hz or 0.5Hz white flash
Isolator	Yes
Device Protocol	Algo-Tec™ 6000PLUS
Relevant Standards	EN54 Part 5, 7, 17 & 23

## Design Guidance

Protec VAD's have been approved to BS EN 54-23 and use the rating codes below:

**C-x-y** (eg C-3-7.5)

Where:

**C** is ceiling mounted

**x** is the maximum height (M)

**y** is the illumination diameter for the cylindrical volume (M)

BS EN 54-23 approved VAD's are approved as ceiling mounted and must provide a minimum illumination level of 0.4 lux for the stated volume

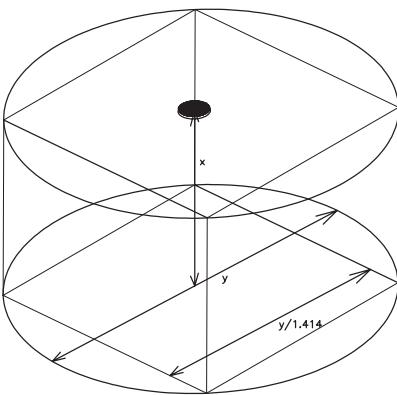
## Table B: Indirect Viewing

Coverage volumes for various ambient light levels (lux)

BS EN54-23 Rating	C-3-7.5
Mounting Position	Ceiling
Less than 100 lux	9.8dia
100 - 200 lux	9dia
200 - 300 lux	7.5dia
300 - 400 lux	6dia
400 - 500 lux	4.5dia
500 - 600 lux	3.8dia
600 - 700 lux	*
700 - 800 lux	*

Coverage volumes height, diameter, length and width dimensions are in metres.

\* Where ambient light levels may, at any time, exceed 600 lux, direct viewing is preferred (CoP 001 clause 4.6.9.4)



## Table A: Direct Viewing

Coverage volumes for various ambient light levels (lux)

BS EN54-23 Rating	C-3-7.5
Mounting Position	Ceiling
Less than 100 lux	21dia
100 - 200 lux	18dia
200 - 300 lux	14.3dia
300 - 400 lux	10.5dia
400 - 500 lux	8.3dia
500 - 600 lux	6.8dia
600 - 700 lux	5.3dia
700 - 800 lux	3.8dia

**Protec**  
A Bosch Company