



A Bosch Company

- **Multiple Technology Sensor**
- **Combined Smoke, Heat and Carbon Monoxide Sensors**
- **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**
- **Unprecedented False Alarm Rejection**
- **VAD Classification Adjustable from 3m to 7.5m Room Coverage Volume**

6000PLUS/OPHTCO/VAD - Optical Smoke Heat and CO 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/OPHTCO/VAD Interactive addressable high performance optical smoke, heat and carbon monoxide multi-sensor.

The ultimate in multi-sensor technology, providing a formidable weapon in the pursuit of reliable fire detection and the avoidance of unwanted or false alarms. The sensor provides total confidence that when initiated, there really is a fire threat.

The sensor incorporates infra-red light scattering for smoke detection, with thermal enhancement of the optical sensitivity, temperature detection equivalent to grade A2, and a third channel incorporating a carbon monoxide (CO) sensing element.

The combination of optical smoke, heat and carbon monoxide gas sensing technology within one fire detector head provides the ideal solution. The sensor can now detect free burning chemical fires, fires producing

smoke and low levels of CO and heat, to deep seated smouldering fires, which produce little heat and smoke but large amounts of CO.

Combining the results from all sensing channels enables rapid fire detection with rejection of false alarms and increased sensor reliability.

Sensor VAD - Compliance with DDA legislation is assisted by the addition of the Protec visual alarm device (VAD) to the 6000PLUS sensor, 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.

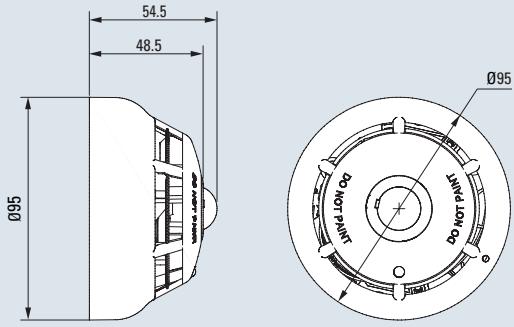
The maximum mounting height is 3m with a coverage diameter of 7.5m.

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

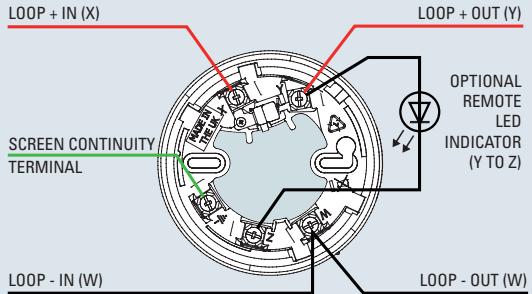
Technical Specification



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) | 105g |
| 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 to 0.5Hz white flash |
| Isolator | Yes |
| Device Protocol | Algo-Tec™ 6000PLUS |
| Relevant Standard | 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)

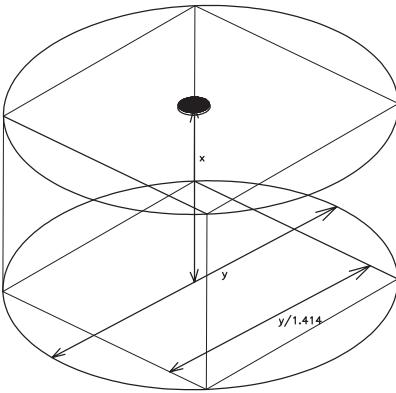


Table A: Direct Viewing

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 |

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