Overview

The Protec 6000*PLUS*/OPHTCO/S is a loop powered Fire sensor which reports Smoke, Thermal and Carbon Monoxide levels in its installed location to the fire alarm control panel. The sensor is also equipped with an integrated loop powered sounder.

Technical Specification

Loop protocol	Protec Algo-tec™ 6000*PLUS*		
Loop isolator fitted	Yes		
Loop voltage range	18 to 27V Algo-tec™ loop		
Loop average quiescent current (24V loop)	0.45 mA		
Loop average alarm current (24V loop)	5mA		
Analogue values	Smoke	Thermal	Carbon Monoxide
	Normal 40 to 60 bits Fault Low <35 bits Fault low High>90 bits	Normal 80 to 180 bits Fault Low <25 bits Fault High>250 bits	Normal 30 to 100 bits Fault Low <20 bits Fault High>150 bits
Indications	On-board red indicating LED		
Environmental operational limits	-10 to 50 degrees C (95% RH no condensation or icing)		
Sounder Frequencies	Continuous 990Hz, Warble 730Hz to 990Hz, Pip 990Hz		
Sounder synchronisation	Sounder synchronisation is achieved by panel control		
IP rating	IP21C		
Isolator Specification	Please see Protec DEL2110 for details		

Installation

1. Base options: 6000PLUS/BASE — LPCB Approved as part of product approval
   6000PLUS/FFBASE — LPCB Approved as part of product approval
   28-075-01 (Plug and Play Fast Fix) — LPCB Approved as part of product approval
   28-075-02 (Plug and Play Surface) — LPCB Approved as part of product approval
   Note: See individual information sheets for base wiring details.
2. Install the detector in the base, turn firmly clockwise.

Commissioning

1. Each 6000*PLUS*/ detector has a unique serial number which will be used as part of the commissioning of the fire alarm system. It is necessary to remove one of the 'peelable' bar code labels present on the product and place it in the commissioning booklet supplied with each Protec addressable control panel. The bar code sticker should be placed at the relevant loop and address position intended. It is important that serial numbers are not mixed otherwise the addressing of the 6000PLUS/OPHTCO/S will be incorrect when commissioned.

2. Commission the device onto the system as detailed in the installation and commissioning manual for the fire alarm panel being used.

6000*PLUS*/OPHTCO/S Certification Details

EN Standards Compliance/ Approvals table			
CE 0 8 3 2			
Protec Fire Detection plc, Nelson, Lancashire, England, BB9 6RT 10 **0832-CPD-1177**			
EN 54 - 5 Point type heat detector Class A2 6000*PLUS*/OPHTCO/S	EN 54 - 7 Point type smoke detector 6000*PLUS*/OPHTCO/S	EN 54 - 3: 2001 + A1 + A2 Alarm devices – Sounder Type A: For indoor use 6000*PLUS*/OPHTCO/S	EN 54 - 17:2005 Short-circuit isolator 6000*PLUS*/OPHTCO/S
Technical Data included in this datasheet DEL2104 Issue 4			

High Sensitivity	**Med Sensitivity**	**Low Sensitivity**	**Isolator/sounder**
No Approval	Approved to: EN 54-7: 2000 + A1: 2002 + A2: 2006 EN 54-5: 2000 + A1: 2002, Class A2 CEA 4021:2003-07	Approved to: EN 54-7: 2000 + A1: 2002 + A2: 2006 EN 54-5: 2000 + A1: 2002, Class A2 CEA 4021:2003-07	Approved to: EN 54-17: 2005 EN 54-3: 2001 + A1: 2002 + A2: 2006

6000*PLUS* Locking Mechanism

The 6000*PLUS* detector range has a break off locking tab shown in diagram one. Removing the small plastic cross bar will enable the locking mechanism, and when the detector is fitted on a base, it will lock the detector. See diagram 1.

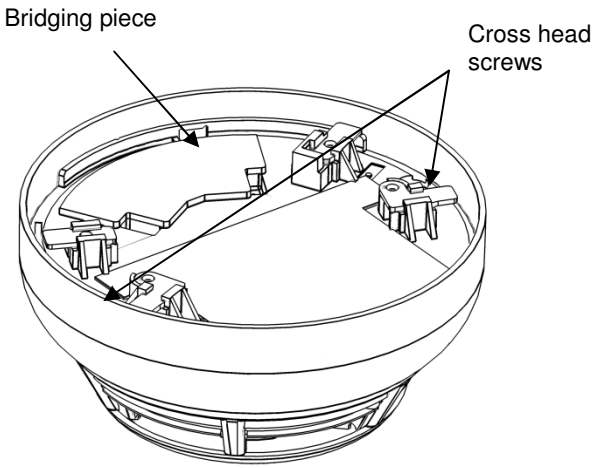

Diagram1 - Locking bridging piece and cross head screw position

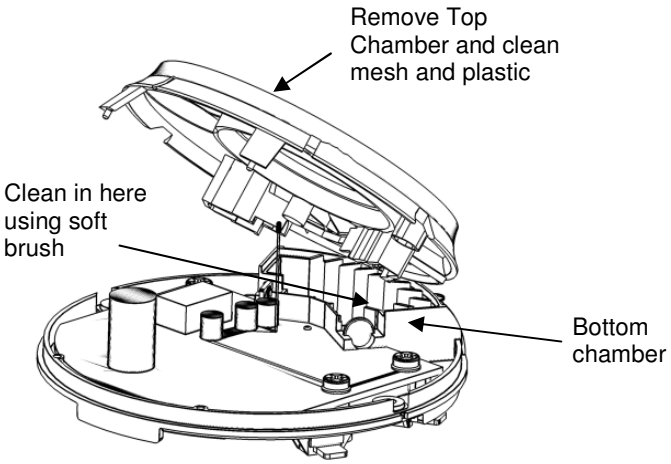

Diagram 2 - Outer case removed exposing optical chamber

6000*PLUS*/OPHTCO/S Service and Maintenance details

- Remove Detector from its base, check panel for Zone fault.
- Remove two cross head screws shown in diagram 1.
- Remove detector outer case. Note the position of thermistor, and remove mouldings with care so as not to damage thermistor.
- Remove Deflector and top chamber moulding, keeping mesh in place on top chamber. Ensure light pipe does not get lost, and be careful of sounder connection.
- Clean all mouldings and mesh with a soft brush, clean inside the bottom chamber with soft brush (see Diagram 2).
- Clean thermistor and deflector with soft brush
- Clean detector outer case with a cloth.
- To rebuild, first fit deflector to top chamber noting arrow position to centre of optical chamber. Ensure mesh is flat to top chamber moulding. Ensure Light pipe is in place.
- Ensure both lenses are in place on bottom chamber moulding.
- Fit top chamber/deflector assembly to bottom chamber, placing assembly over CO cell. Note: Be aware, small bead thermistor should be carefully inserted through central hole.
- Once top chamber/deflector is in place ensure thermistor is vertical and straight. The thermistor bead should be vertical, see diagram 3.
- Fit detector outer case, using light pipe as orientation guide.
- Fit the two cross head fixing screws, tighten sufficiently to compress mouldings, but be aware over tightening may strip the thread on the outer case. Visually inspect to ensure thermistor is visible in correct position.
- Fit back onto base.
- Once detector logged back onto panel, wait for confirmation LED flash, then apply smoke and CO to the detector in turn ensuring activation of control panel. Confirm A/D value of thermal channel is correct. Apply heat if setting on control panel allows activation.
- Check the operation of the integrated sounder
- Remove old service label and fit new label to detector.
- The maximum life expectancy of the CO element of the OPHTCO detector is seven years; we recommend that the detector is completely replaced when reaching this age or when the detector fails to operate during system maintenance, whichever comes first. The date of manufacture is printed on the back of each detector.

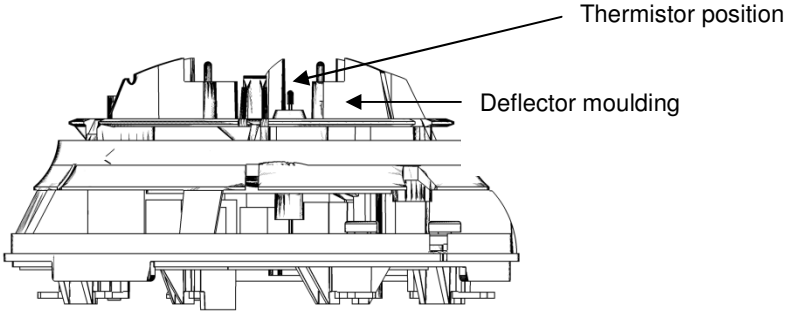

Diagram 3 Re Assembly showing correct thermistor position

Polar outputs and profiles (sounder)