apollo

SOTERIA® DIMENSION

Optical Detector Installation Guide

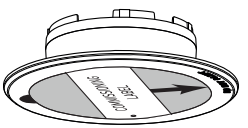| Part No	Product Name
FL5100-600APO	Soteria Dimension Optical Detector
FL5100-660APO	Soteria Dimension Optical Detector - Black
FL5000-200APO	Soteria Dimension Backbox

For all technical information please refer to the documents that follow, which are available from www.apollo-fire.co.uk:

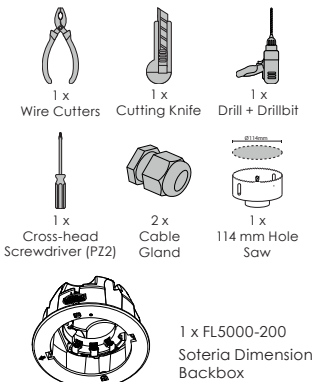PP2550 - Soteria Dimension Optical Detector - Datasheet
PP2090 - Short-Circuit Isolator - Datasheet

What's in the Box:

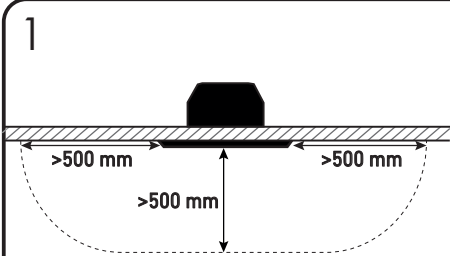1 x FL5100-600 Soteria Dimension Optical Detector
or
1 x FL5100-660 Soteria Dimension Optical Detector - Black

Equipment Required:

1 x Wire Cutters

1 x Cutting Knife

1 x Drill + Drillbit

1 x Cross-head Screwdriver (PZ2)

2 x Cable Gland

1 x 114 mm Hole Saw
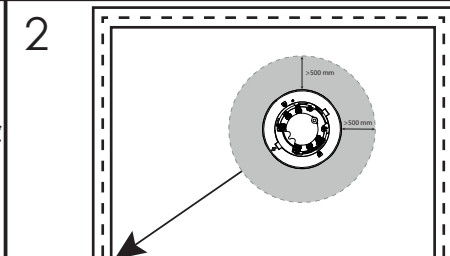
1 x FL5000-200 Soteria Dimension Backbox
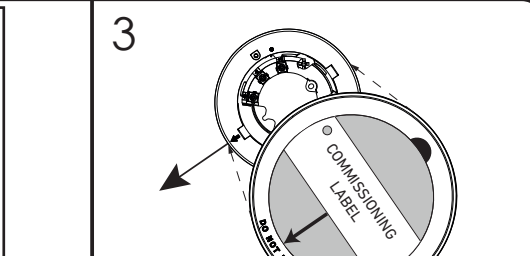
Correct Siting Requirements:

1

>500 mm >500 mm >500 mm

⚠ Ensure that there are no objects within 500mm of this clearance (e.g. tops of doors, aircon vents, light fittings etc)
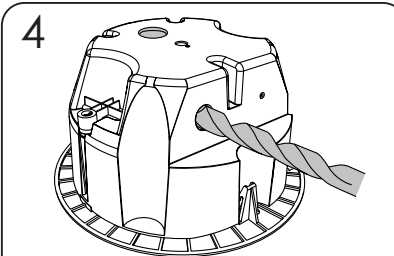
2

>500 mm >500 mm

⚠ Position backbox arrow towards the longest clear line of sight which is free from any ceiling obstructions

3

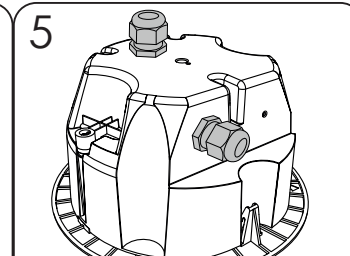COMMISSIONING LABEL DO NOT PAINT

4

⚠ Take care not to damage the connector ring or rest of the backbox when making holes

5
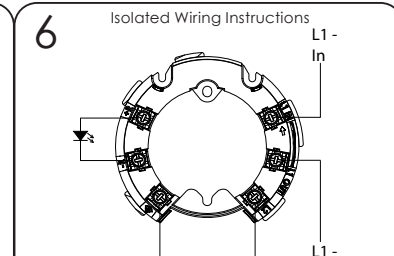
ℹ Example of top and side entry

6 Isolated Wiring Instructions

L1 - In
L1 - Out
Screen   L2+
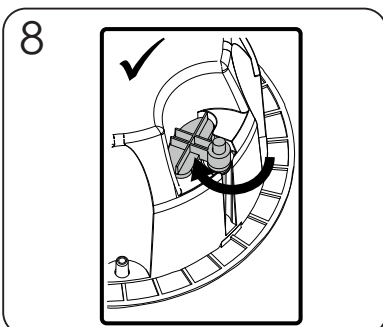
⚠ For non-isolated wiring, connect both L1- together in either In/Out terminals

7

✓

ℹ Make sure continuity link is in the correct position

8

✓

9

10
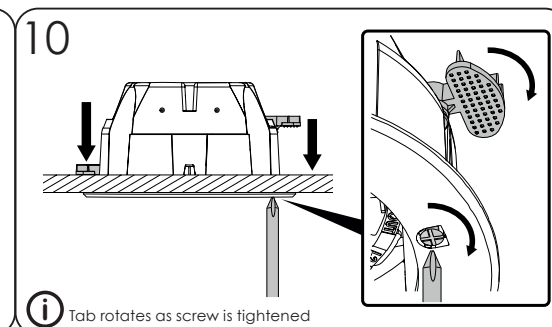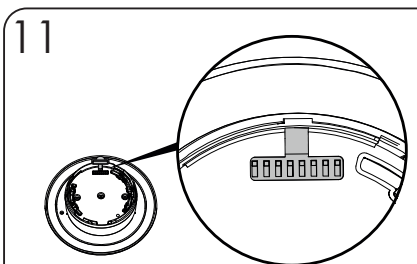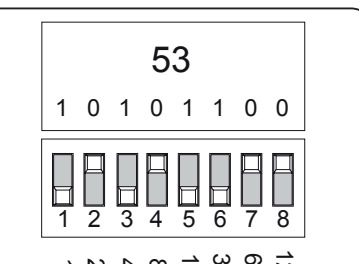
ℹ Tab rotates as screw is tightened

11

53
1 0 1 0 1 1 0 0
1 2 3 4 5 6 7 8
1 2 4 8 16 32 64 128
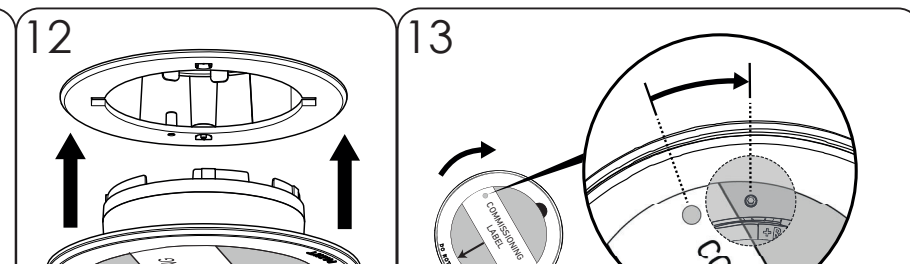
ℹ Make sure rubber flap is secured properly before installation

⚠ The 8th segment must be in set to '0' for Discovery or XP95 operation

12

13

COMMISSIONING LABEL DO NOT PAINT COMM

14

COMMISSIONING LABEL DO NOT PAINT COMMISS LAB
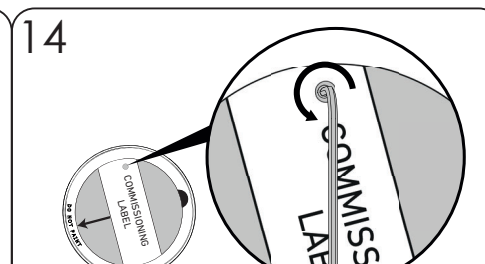
⚠ Ensure the grub screw is flush with the face

Detector Location

Correct alignment of the detector can be done by positioning the arrow marked on the backbox with the longest clear line of sight which is free from any ceiling mounted obstructions. The commissioning label present on the faceplate of the detector should line up with the backbox arrow when fitted.

Refer to steps 1 - 3 for best practice.

Necessary Requirements:

- Always maintain the minimum clearance of 500 mm in all directions (Step 1)
- Position backbox arrow towards the longest clear line of sight which is free from any ceiling obstructions (Step 2)
- Only remove commissioning label, on commissioning the system (Step 3)
- For internal use only

The commissioning label is used to aid installation, to shield from dust and to protect the lenses from fingerprints. It must only be removed upon commisioning of the system, as leaving the label on will report a fault to the panel.

Commissioning

The installation must conform to BS5839–1 (or applicable local codes). Because of the way Soteria Dimension works, it is imperative that the windows are kept free from damage, scratches, dirt and fingerprints. The commissioning label present on the faceplate of the detector must not be removed before any installation work is carried out. Before commissioning please remove the label and ensure the windows are free from fingerprints, residue and dirt.

Maintenance & Cleaning

Maintenance should be performed in accordance with applicable local codes. Clean the detector with a dry, lint-free cloth. Ensure the fire system is suitably isolated before cleaning detectors.

Testing

The preferred method of testing the detector is with a Solo 365 using a special Solo 367 adapter, the process is described in the test equipment's installation guide. We recommend cleaning detectors after testing using a dry lint-free cloth. For more information visit www.apollo-fire.co.uk

The new FasTest® mode (*CoreProtocol® only*) facility on Soteria Dimension Optical Detector, which can be enabled on a compatible fire control panel, facilitates quicker testing of detectors with appropriate test equipment. The FasTest disables both a portion of the signal processing algorithm and proximity sensing to allow for a faster detector response, whilst ensuring that the detectors absolute sensitivity remains identical to that of mode 3 (refer to Operating Modes Table). This helps to reduce commissioning time.

Troubleshooting

Before investigating individual units for faults, it is important to check that the system wiring is fault free. Earth faults on data loops may cause communication errors. Many fault conditions are the result of simple wiring errors. Check all connections to the unit.

Problem	Possible Cause
No response or missing address	Incorrect address setting Incorrect loop wiring Check detector is fully engaged in backbox
Fault condition reported	Object blocking windows Proximity fault Commissioning label left on
Drift warning or fault	Contaminated windows Incorrect detector orientation
Analogue value unstable	Dual address Loop data fault, data corruption
Constant alarm or pre-alarm	Contamination build-up on windows Obscuration of windows
Isolator LED on	Short-circuit on loop wiring Wiring reverse polarity Too many devices between isolators

NOTE: IF THE CAUSE OF A FAULT IS NOT OBVIOUS OR EASY TO RECTIFY, PLEASE IMMEDIATELY CONTACT YOUR FIRE MAINTENANCE SERVICE PROVIDER OR THE APOLLO TECHNICAL SUPPORT TEAM.

Addressing Table

		XP95 & Discovery Systems	Soteria Systems
Segment	1	Sets the address	Sets the address
	2		
	3		
	4		
	5		
	6		
	7		
	8	Set to '0' (Fault value is returned if set to '1')	

Note: On mixed systems addresses 127 and 128 are reserved. Refer to system's panel manufacturer for further information.

Address Setting Example


```
      1  2  3  4  5  6  7  8      0
                                  1
=     1  2  4  8  16 32 64 128
```

```
101
1 0 1 0 0 1 1 0

1 2 3 4 5 6 7 8    0
                   1
```

Operating Mode Table

Mode	Response Value		Minimum Time to Alarm	Minimum Time to Proximity Fault
	%/m*	dB/m**	Seconds	Seconds
1	4.8	0.27	15	5
2	4.8	0.27	30	5
3	4.8	0.27	15	10
4	4.8	0.27	30	10
5	4.8	0.27	30	15

* Tested in grey smoke
** Tested in oil mist to EN 54-7 standard

All modes for Soteria Dimension have the same smoke sensitivity.

Modes 2, 4 and 5 have a slower minimum time to alarm, this offers a slower response to smoke but better transient signal rejection.

Some modes have differing times to proximity faults, for instance, Mode 5 has a slower time whilst Modes 1 & 2 are faster. This gives the ability to change the threshold at which the detector will indicate a fault to the panel.

LED Status Indicator

Continuous Red	Alarm
Continuous Yellow	Isolated
Flashing Yellow	Fault
Flashing Green	Device Polled

Note: Not all LEDs can be on simultaneously.
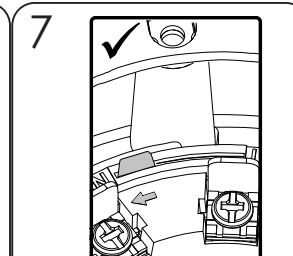
Backbox Dimensions (with fitted Optical Detector)

Isolated Wiring Instructions

⚠ For non-isolated wiring, connect both L1- together in either In/Out terminals

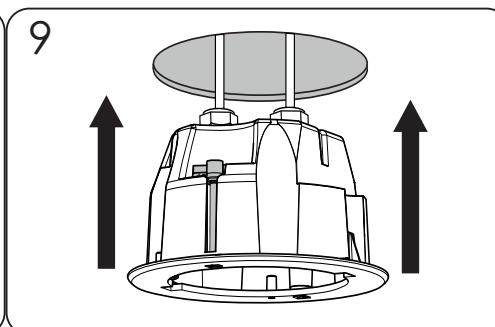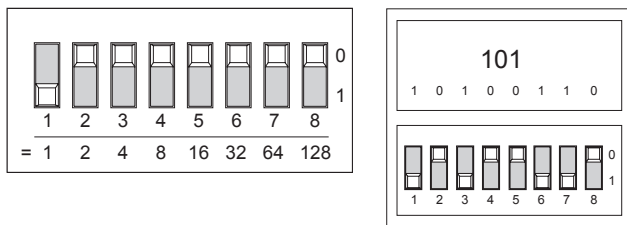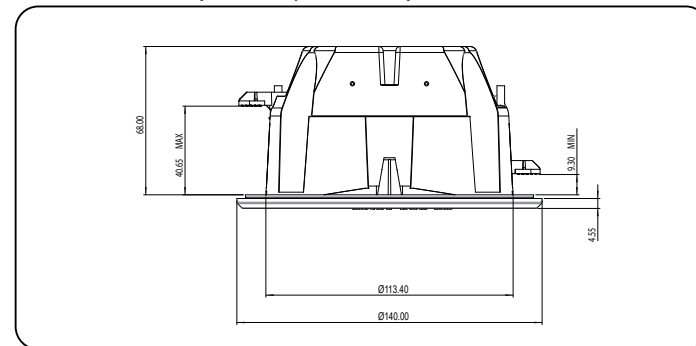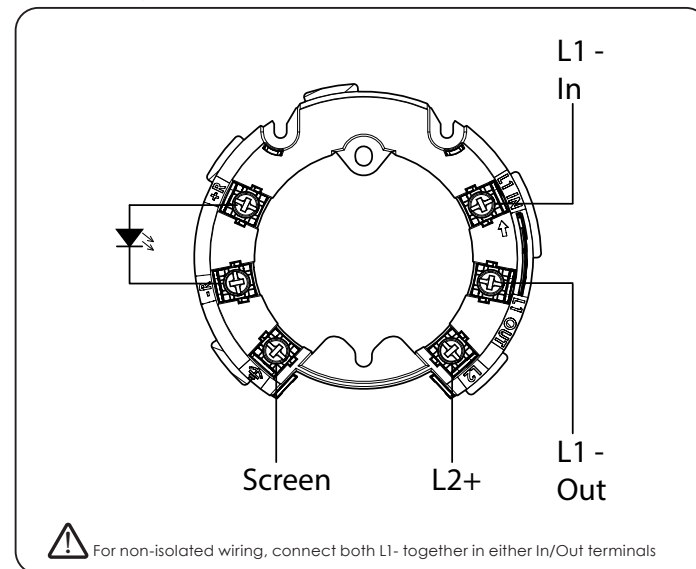## Alignment in Corridor

⚠ Position backbox arrow towards the longest clear line of sight which is free from any ceiling obstructions