

SOTERIA™ 

THE
UL 268 7TH EDITION
SOLUTION



**KEEPING YOU SAFE
FROM FIRE. ALWAYS.**

Agenda

Introduction to Apollo's UL detector range

- An Introduction to Apollo's UL range
- What is UL 268 7th Edition?
- Our experts behind the range
- Soteria UL vs. XP95A
- Product features & benefits

Technical overview of Apollo's detector range

- Product features & benefits
- Installation, maintenance and testing



Introducing Apollo's UL detector range

In response to the advanced requirements of the latest UL standards, Apollo is proud to introduce its latest generation of fire detection technology:

- Specifically developed for the advanced requirements of the UL market
- Fully compliant with the toughest, most advanced and challenging UL requirements for fire detection
- Fast detection of real fires
- Resilience to false alarm stimuli
- Suitable for new installations and retrofits



Soteria UL
Multi-Criteria Detector
(Smoke/Heat)



XP95A
Smoke Detector

What is UL 268 7th Edition?

UL 268 7th Edition is the latest version of legislation for UL smoke detectors.
Two major changes...



UL 268 Clause 41.1.5:
Cooking Nuisance Smoke
Test (“Burger Test”)



UL 268 Clause 41.1.5:
Smouldering Polyurethane &
Flaming Polyurethane Foam Tests

As of 30th June 2024, newly manufactured
6th Edition detectors will no longer be
compliant with the latest UL regulations

We're ready. Are you?

Introducing Apollo's UL detector range



SA5150-650
Soteria UL
Smoke Detector

SA5150-750
Soteria UL
Multi-Criteria Detector
(Smoke/Heat)

Soteria UL

Advanced detector range with built-in isolators for optimal performance and experience. Compatible with existing Discovery protocol installations and fully supports Apollo's "CoreProtocol".



SA5050-250
XP95A
Smoke Detector

SA5050-350
XP95A
Multi-Criteria Detector
(Smoke/Heat)

XP95A

Simple and straight-forward. Compatible with XP95 protocol and can be retrofitted in existing XP95A installations.

Introducing Apollo's UL detector range

Fast : Accurate : Effective

- Fully compliant with the latest UL268 7th edition standard
- Accurate fire detection
- High resistance to false alarms
- Easy installation
- Backward compatibility with existing panels
- Complete peace of mind



Soteria UL

Key features and benefits

Advanced fire detection

- Next generation Sensing Technology (PureLight)
 - High sensitivity towards real fires
 - Fewer false alarms
- Three modes of sensitivity

Quick & easy installation

- Backwardly compatible
- Fully compatible with existing Discovery UL installations

Integrated SMART isolator

- Quick and easy location of faults
- Controllable*
- Status reporting*

Advanced detector features

- In-built drift compensation
- Soft addressing*
- FasTest for quicker testing of detectors
- Wide operating temperature of 0-55°C
- Tri-colour LEDs
- Contemporary, modern, low-profile design
- Discovery and CoreProtocol compatible

*CoreProtocol only

Soteria UL

Key features & benefits



SA5150-650
Soteria UL
Smoke Detector



SA5150-750
Soteria UL
Multi-Criteria Detector
(Smoke/Heat)

Features	Protocol	
	Discovery	CoreProtocol
Address availability	1 - 126	1 - 254
Drift compensation value	✓	✓
Rapid update	✓	✓
Sensitivity modes	✓	✓
Flashing polling LED	✓	✓
Conventional alarm	✓	✓
Integrated isolator	✓	✓
Controllable isolator		✓
Soft addressing		✓
Flashing polling remote		✓
Tamper		✓
Auto-addressing		✓
FasTest		✓
Live sensor values		✓
Group control of remote output		✓
Restore to factory default		✓

XP95A

Key features & benefits



SA5050-250
XP95A
Smoke Detector



SA5050-350
XP95A
Multi-Criteria Detector
(Smoke/Heat)

Quick and easy maintenance of existing XP95A installations

- Backwardly compatible with existing XP95A installations
- No need for panel updates or panel re-configurations
- No cause & effect changes required
- Polarity insensitive wiring
- XP95 protocol only compatible

The XP95A range offers:







- Easy maintenance
- Easy installation
- Complete peace of mind for all XP95A users

Choosing the right UL 268 7th Edition detector and base

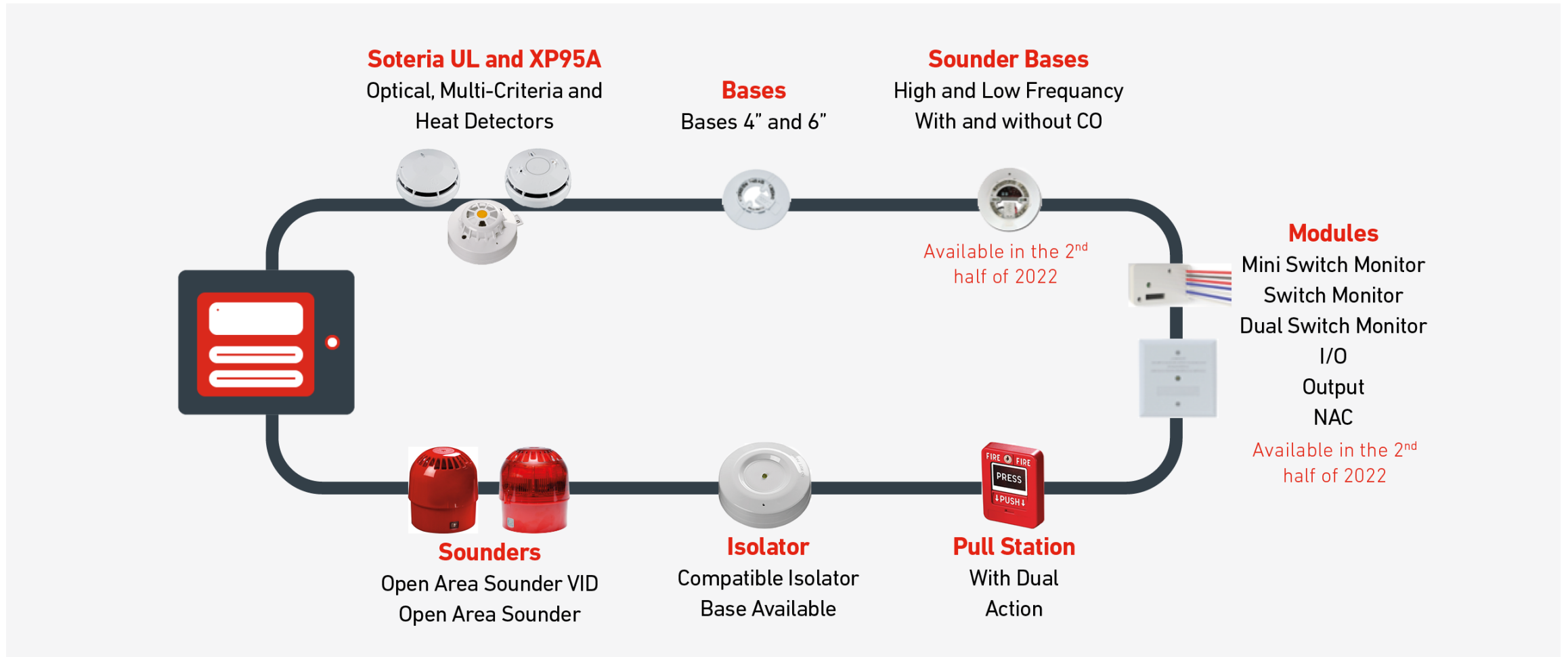
- Both **Soteria UL** and **XP95A** meet the UL268 7th Edition and FM standards
- Adopting Apollo's latest UL268 7th detector range now gives you
 - the highest level of fire protection
 - the highest level of false alarm management
 - compliance with the latest UL standards ahead of competition

Please note: Panel updates are not required when replacing detectors on existing systems. Check with panel partners for compatibility of bases.

Please ensure detectors are installed with their compatible bases. If unsure, check with panel partners for compatibility of bases.

Protocol Communication	Smoke	Multi-Criteria	Heat
Existing Discovery Installations	 Soteria UL Smoke Detector SA5150-650	 Soteria UL Multi-Criteria Detector (Smoke/Heat) SA5150-750	 Discovery/Soteria UL Heat Detector SA5800-450
Existing XP95 Installations	 XP95A Smoke Detector SA5050-250	 XP95A Multi-Criteria Detector (Smoke/Heat) SA5050-350	 XP95A Heat Detector SA5500-450
Compatible Bases	Soteria UL Base - 4" - SA5000-210 Soteria UL Base - 6" - SA5000-230 Soteria UL Sounder Base High Frequency - 6" - SA5300-802 Soteria UL Sounder Base Low Frequency - 6" - SA5300-806 Soteria UL CO Sounder Base High Frequency - 6" - SA5300-800 Soteria UL CO Sounder Base Low Frequency - 6" - SA5300-805		

What's next?



What's next?

Timeline



Today

**Soteria UL &
XP95A**

Fully UL and FM approved



June 2022

**6th Edition detector
ranges last order
date**



2nd Half of 2022

**New Sounder
Bases and
Modules**



June 2024

UL 268 7th Edition

Apollo's System Offering

*Detectors with built-in isolators
 **Bases that do not support isolation wiring

Detector and base range	
Item code	Item description
SA5150-650	Soteria UL Smoke Detector *
SA5150-750	Soteria UL Multi-Criteria Detector (Photoelectric/Heat) *
SA5800-450	Discovery/ Soteria UL Heat Detector
SA5050-250	XP95A Photoelectric Smoke Detector
SA5050-350	XP95A Multi-Criteria Detector (Photoelectric/Heat)
SA5500-450	XP95A Heat Detector
SA5000-210	Soteria UL Base - 4"
SA5000-230	Soteria UL Base - 6"
SA5300-802	Soteria UL Sounder Base High Frequency - 6"
SA5300-806	Soteria UL Sounder Base Low Frequency - 6" **
SA5300-800	Soteria UL CO Sounder Base High Frequency – 6" **
SA5300-805	Soteria UL CO Sounder Base Low Frequency – 6" **

Modules and other system devices	
Item code	Item description
SA4705-600	Mini Switch Monitor Module
SA4705-700	Switch Monitor Module
SA4705-701	Output Module (240V AC)
SA4705-703	Input/Output Module (240V AC)
SA4705-706	NAC Module
SA4705-720	Dual Switch Monitor Module
58000-011	Discovery UL Open Area Sounder VID – Red Body
58000-012	Discovery UL Open Area Sounder VID – White Body
55000-041	XP95A Intelligent Open-Area Sounder Red Body - Iso
56000-005	Discovery UL Manual Pull Station – Dual Action
56000-006	Discovery UL Manual Pull Station Backbox
55000-750	XP95A Isolator
45681-211	Isolator Base

Please note: Panel updates are not required when replacing detectors on existing systems. Please ensure detectors are installed with their compatible bases. If unsure, check with panel partners for compatibility of bases.



Technical Overview

Agenda

Technical overview of Apollo's detector range

- Product features & benefits
 - Protocol compatibility
 - New patented technology
 - Improved system features
- Installation, maintenance and testing









Full UL detector range offering

Use Soteria UL detectors to:

- Gain access to advanced feature set (e.g., built-in isolators)
- Installation on Discovery and CoreProtocol compatible panels
- Replace Discovery UL detectors

Use XP95A detectors to:

- Install on XP95 compatible panels
- Replace existing UL268 6th Edition XP95A detectors

Protocol Communication	Smoke	Multi-Criteria	Heat
Discovery and CoreProtocol	 Soteria UL Smoke Detector SA5150-650	 Soteria UL Multi-Criteria Detector (Smoke/Heat) SA5150-750	 Discovery/Soteria UL Heat Detector SA5800-450
XP95 Protocol	 XP95A Smoke Detector SA5050-250	 XP95A Multi-Criteria Detector (Smoke/Heat) SA5050-350	 XP95A Heat Detector SA5500-450
Compatible bases	Soteria UL Base - 4" - SA5000-210 Soteria UL Base - 6" - SA5000-230 Soteria UL Sounder Base High Frequency - 6" - SA5300-802 Soteria UL Sounder Base Low Frequency - 6" - SA5300-806 Soteria UL CO Sounder Base High Frequency - 6" - SA5300-800 Soteria UL CO Sounder Base Low Frequency - 6" - SA5300-805		

Please note: Panel updates are not required when replacing detectors on existing systems. Please ensure detectors are installed with their compatible bases. If unsure, check with panel partners for compatibility of bases.

Key features and benefits

Fewer false alarms

- PureLight™ technology
- Advanced sensor for improved performance
- Advanced chip sensor
- Better insect immunity

Improved system features

- Smart built-in isolator*
- Drift compensation
- Tri-colour LEDs
- Wide temperature range
- FasTest*

Simple installation and easy retrofits

- First fix base
- Backward compatibility, meaning
 - No panel updates or configurations
 - No cause-and-effect changes required

Smart and stylish

- Low profile
- XP95A detectors compatible with XP95 protocol
- Soteria UL detectors compatible with Discovery and CoreProtocol*

*Soteria UL only

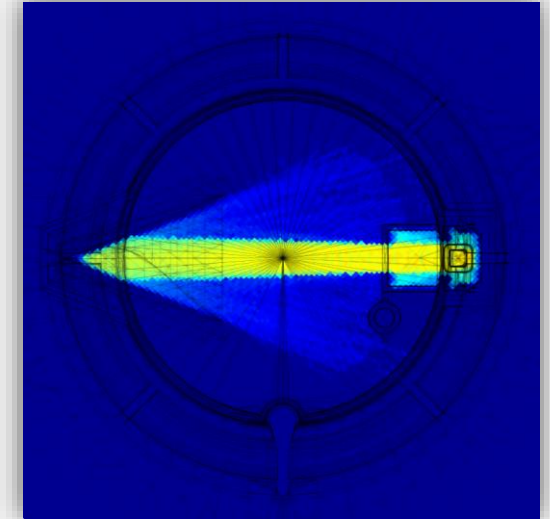
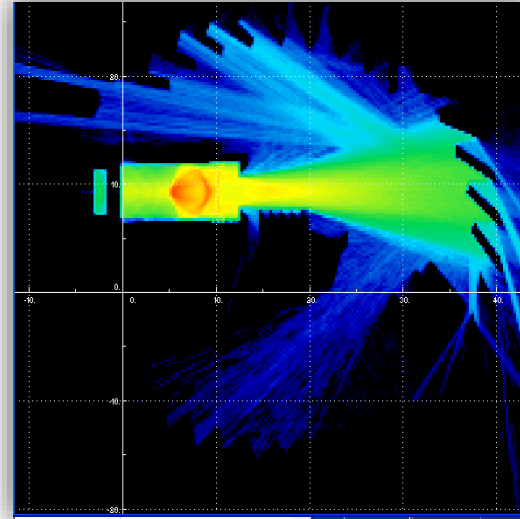
**Fewer false alarms
+
improved reliability**

Purelight™ technology explained

Cone technology

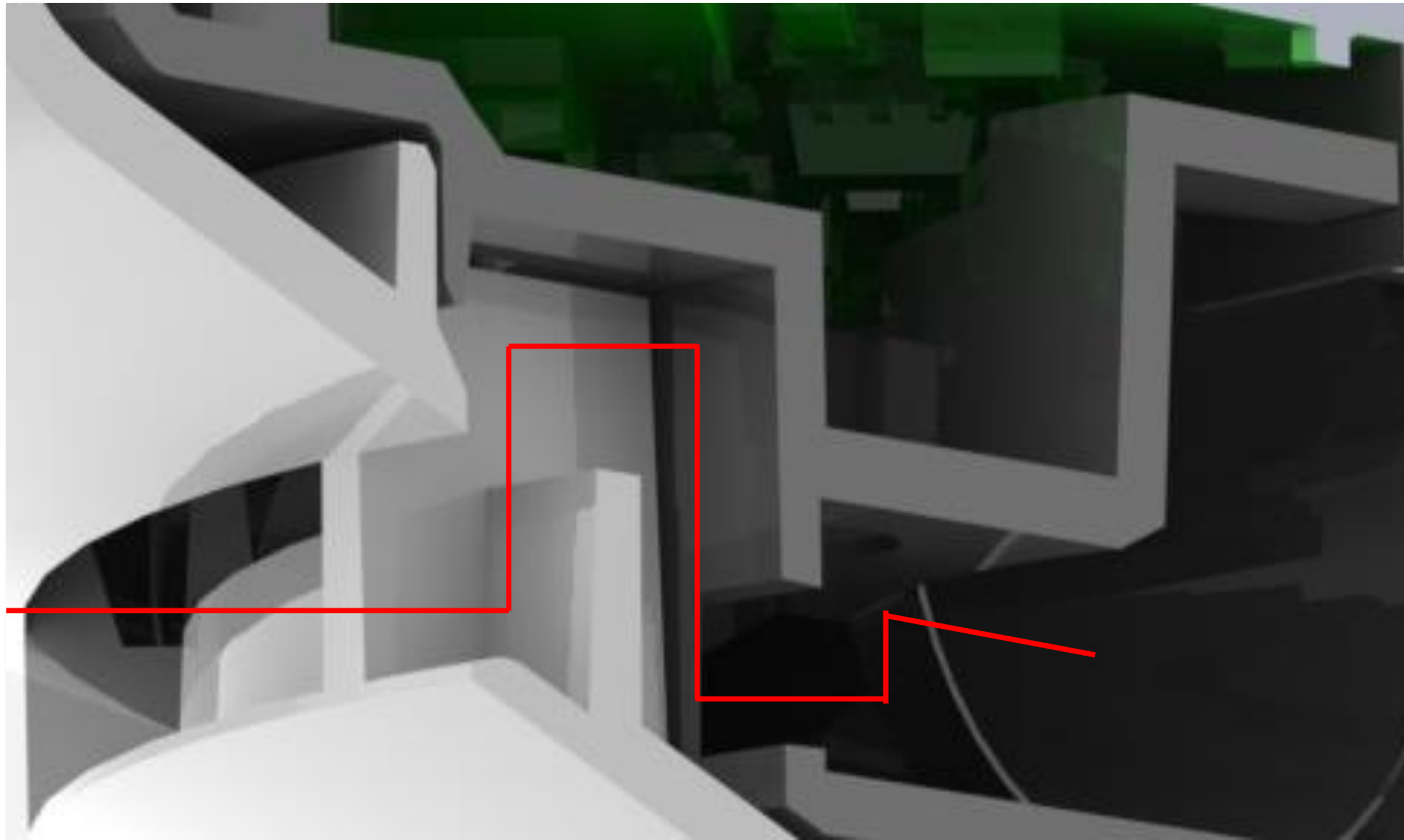
Patented cone technology for fewer false alarms

- Traditional chevron designs illuminate the sensing chamber
- Foreign objects inside the chamber can be seen as smoke
- Cone technology in combination with a narrow high intensity IR LED beam results in an ultra dark chamber



Purelight™ technology explained

Serpentine design



Patented Serpentine chamber design for fewer false alarms

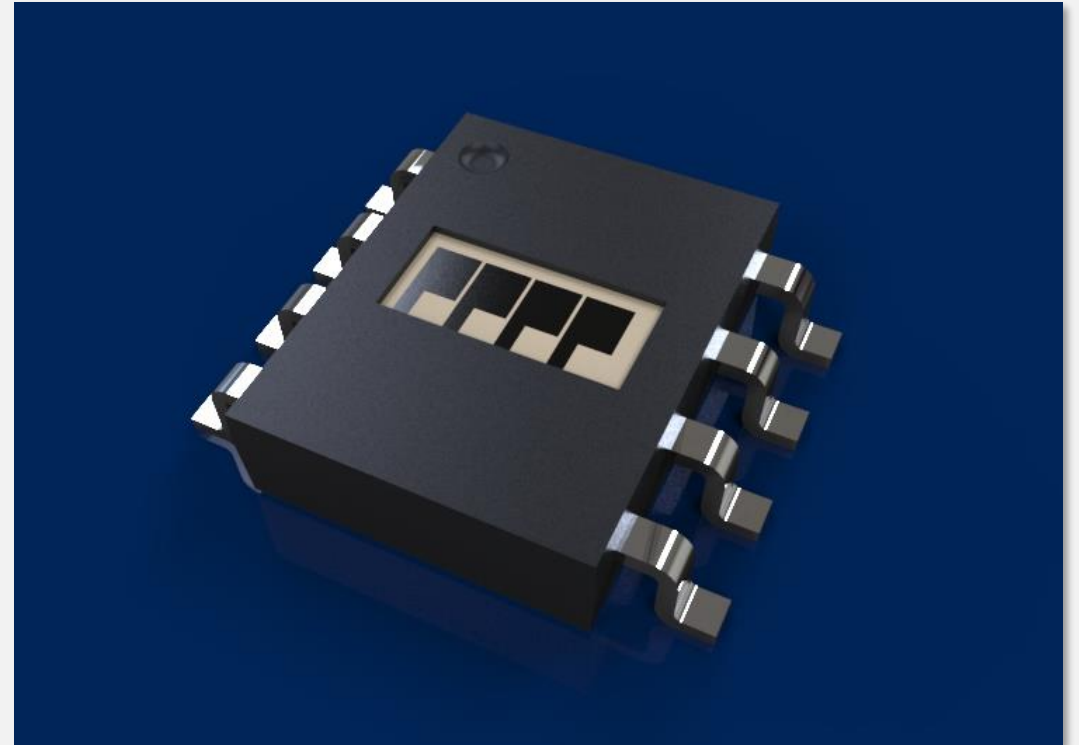
- Provides multiple dust traps towards entry to sensing chamber
- Allows smoke to pass freely
- Eliminates external light interference

Purelight™ technology explained

Advanced chip sensor

Advanced chip design offering superior immunity to electro-magnetic interference

- Photo-receiver integrated with sophisticated electronics
- Designed and used exclusively by Apollo
- Chip sensor developed specifically for fire detection
- Excellent immunity to electro-magnetic interference



**Smart and stylish
devices suitable for all
applications**

Smart devices

Smart built-in isolators (Soteria UL Optical and Multi-Criteria detectors)

What is a Short Circuit Isolator?

- A device that protects addressable devices from wiring faults on the loop

Why is it important?

- If no Isolators were fitted, then a single short circuit fault could disable an entire loop of addressable devices

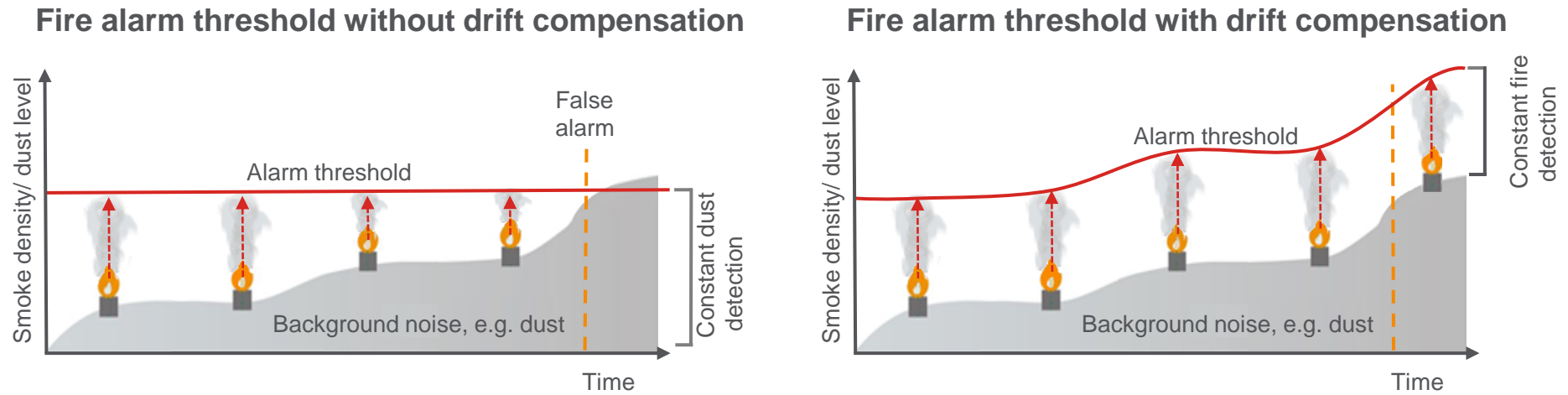
What do they offer?

- Bi-directional voltage sensing device
- Exact location of wiring faults at the Fire Control Panel
- Sections of the loop can be electrically disabled



Drift compensation

Drift compensation automatically adjusts the device sensitivity as it becomes dusty or dirty.



Benefits		
 <p>Installation & Commissioning</p>	 <p>Service & Maintenance</p>	 <p>End User</p>
	<ul style="list-style-type: none"> • Indicates drift levels & need for cleaning • Allows for targeted maintenance 	<ul style="list-style-type: none"> • Minimization of false alarms • Longer lifetime of the devices

Other features

Tri-Colour LED for Clear Status Reporting

- **Green polling LED**
 - normal operation (option)
- **Steady state yellow LED**
 - isolator operated
- **Flashing yellow LED**
 - fault condition
- **Steady state red LED**
 - alarm condition (panel controlled)



Other features

Environmental operating conditions

A UL-approved detector range suitable for the toughest of environments:

- Operating temperature **0°C – 55°C**
- IP rating of optical detector – **IP44**
- Humidity – **95% RH**
(no condensation or icing)
- Vibration, impact and shock tested to latest standards

Protocol features

Focus on Soteria UL and CoreProtocol

CoreProtocol

Evolution

.....> Increasing capability



S90
1986

XP95
1992

Discovery
1998

CoreProtocol
2015

The foundation for all subsequent addressable ranges – tried, tested, robust and reliable.

Flexible and adaptable to most environments including larger properties. Aids false alarm management.

Advanced protection through integrated isolation and Purelight® technology to increase loop integrity and reduce false alarms.



Soteria UL

Protocol features



SA5150-650
Soteria UL
Smoke Detector



SA5150-750
Soteria UL
Multi-Criteria Detector
(Smoke/Heat)

Features	Protocol	
	Discovery	CoreProtocol
Address availability	1 - 126	1 - 254
Drift compensation value	✓	✓
Rapid update	✓	✓
Sensitivity modes	✓	✓
Flashing polling LED	✓	✓
Conventional alarm	✓	✓
Integrated isolator	✓	✓
Controllable isolator		✓
Soft addressing		✓
Flashing polling remote		✓
Tamper		✓
Auto-addressing		✓
FasTest		✓
Live sensor values		✓
Group control of remote output		✓
Restore to factory default		✓

CoreProtocol

Higher addressing

CoreProtocol® supports 2048 addresses

- 508 SOTERIA® device addresses
- 16 addresses used for internal system control
- 1524 addresses for future technologies

508 addresses offered by Soteria UL and CoreProtocol® installations

- Up from 126 to 254 hard addressing (detectors, MCP & interfaces)

CoreProtocol

Higher addressing

Retrofit systems containing a combination of SOTERIA® UL and Discovery UL devices should be limited to 126 addresses

New installations using CoreProtocol, containing a mix of Soteria UL and Discovery UL detectors could still take advantage of using higher addressing. In these circumstances:

- Soteria UL detectors take on one address
- Discovery UL detectors take on two addresses







Easy installation

Soteria UL and XP95A

New Installations

Full UL detector range offering

- Please ensure detectors are installed with their compatible bases as described in the matrix
- All new SA5XXX-XXX bases fit both the Soteria UL and XP95A detector ranges
- Consult with your panel manufacturer if unsure which protocol you are using

Protocol Communication	Smoke	Multi-Criteria	Heat
Discovery and CoreProtocol	 Soteria UL* Smoke Detector SA5150-650	 Soteria UL* Multi-Criteria Detector (Smoke/Heat) SA5150-750	 Discovery/Soteria UL Heat Detector SA5800-450
XP95 Protocol	 XP95A Smoke Detector SA5050-250	 XP95A Multi-Criteria Detector (Smoke/Heat) SA5050-350	 XP95A Heat Detector SA5500-450
Compatible bases	Soteria UL Base - 4" - SA5000-210** Soteria UL Base - 6" - SA5000-230** Soteria UL Sounder Base High Frequency- 6" - SA5300-802** Soteria UL Sounder Base Low Frequency - 6" - SA5300-806 Soteria UL CO Sounder Base High Frequency - 6" - SA5300-800 Soteria UL CO Sounder Base Low Frequency - 6" - SA5300-805		

Please note: Panel updates are not required when replacing detectors on existing systems.













*Soteria UL Smoke and Soteria UL Multi-Criteria contain built-in isolators.

**These bases support isolation wiring.

Retrofits

Replace these detectors and bases...

...with these detectors and bases

Protocol Communication	Smoke	Multi-Criteria	Heat	Protocol Communication	Smoke	Multi-Criteria	Heat
Discovery Protocol	 Discovery UL Optical Smoke Detector 58000-650	 Discovery UL Multi-Sensor Detector (Smoke/Heat) 58000-750	 Discovery UL Heat Detector 58000-450AP0	Existing Discovery Installations	 Soteria UL Smoke Detector SA5150-650	 Soteria UL Multi-Criteria Detector (Smoke/Heat) SA5150-750	 Discovery/Soteria UL Heat Detector SA5800-450
XP95 Protocol	 XP95A Optical Smoke Detector 55000-650	 XP95A Multi-Sensor Detector (Smoke/Heat) 55000-886	 XP95A Heat Detector SA5500-450	Existing XP95 Installations	 XP95A Smoke Detector SA5050-250	 XP95A Multi-Criteria Detector (Smoke/Heat) SA5050-350	 XP95A Heat Detector SA5500-450
Compatible Bases	XP95A Base (XPERT 7) - 4" - 45681-210 XP95A Base (XPERT 7) - 6" - 45681-225 E-Z Fit Base - 45681-250			Compatible Bases	Soteria UL Base - 4" - SA5000-210 Soteria UL Base - 6" - SA5000-230		

Please note: Panel updates are not required when replacing detectors on existing systems. Please ensure detectors are installed with their compatible bases. If unsure, check with panel partners for compatibility of bases.



Easy installation

XPERT Intelligent Mounting Base

One base, suitable for both XP95A and Soteria UL

- Single base that supports isolated Soteria UL and non-isolated XP95A detectors, lowering costs and stockholding
- Designed to replace shallow and deep bases
- Easy Fit Base, easy to install and saving time

XPERT card

- 8 Bit for additional address support when used with CoreProtocol and Soteria UL
- Address remains locked into the base, simplifying and speeding up maintenance



SA5000-210 Base

Improved wiring

New installations

Figure 1 provides guidance on how to install the new Soteria UL and XP95A detectors in new installations:

Soteria UL is polarity sensitive due to its built-in isolator

- Wire Soteria UL as per Figure 1 to enable the isolator operation

All XP95A and Discovery/ Soteria UL Heat detectors are polarity insensitive

- Wire devices without built-in isolators as per Figure 1 in all new and retrofit installations (XP95A and Heat detectors)

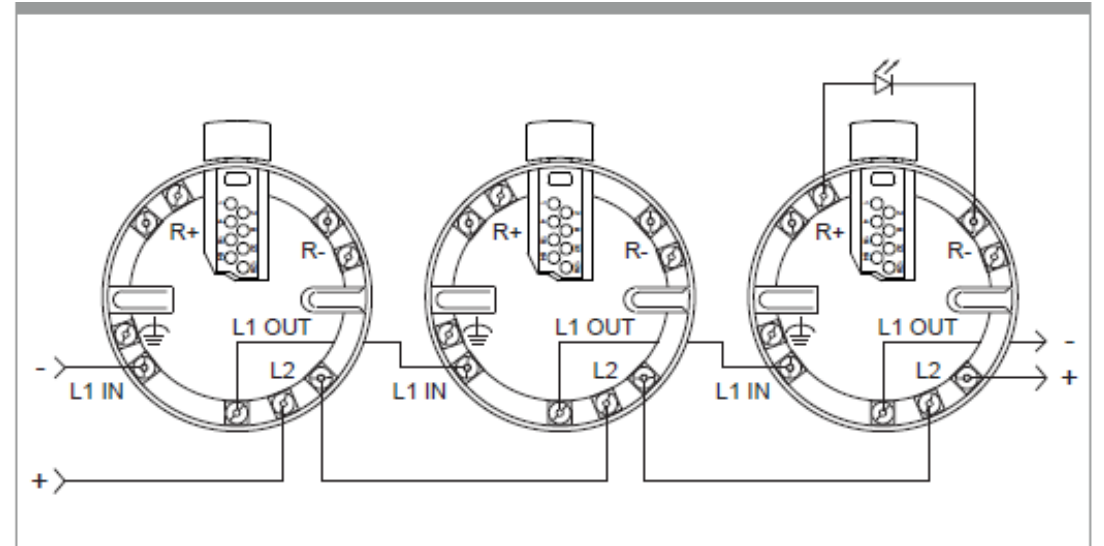


Figure 1: Wiring diagram for polarity sensitive Soteria UL detectors with built-in isolators (isolators enabled) and polarity insensitive XP95A detectors

Improved wiring

Retrofit Installation

Figure 2 provides guidance on how to install the new Soteria UL as a retrofit:

Soteria UL is a direct replacement to Discovery UL detectors

- Follow the instructions in Figure 2 to bypass the Soteria UL built-in isolator in retrofits and in new installations, if needed

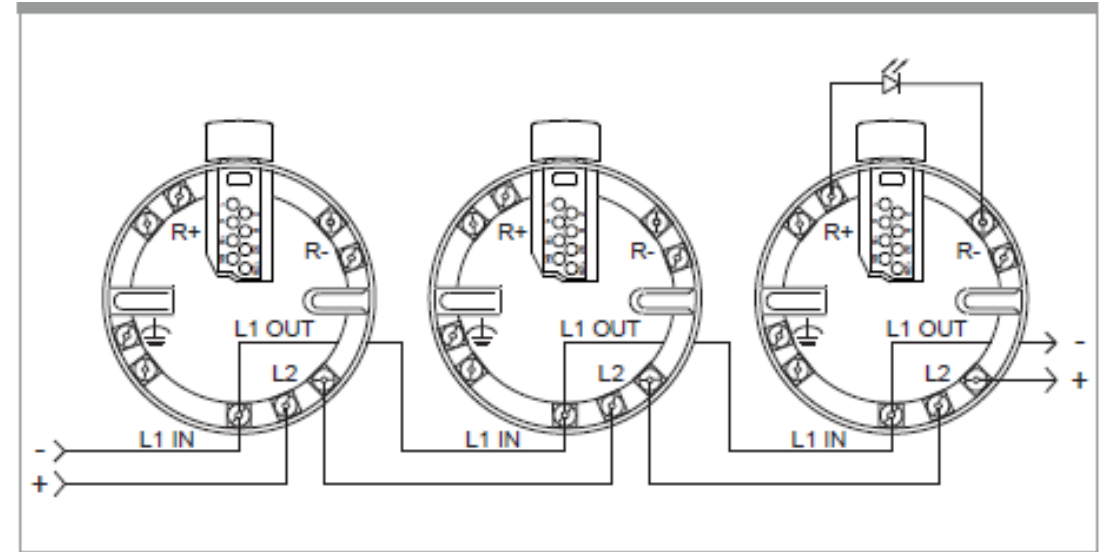


Figure 2: Wiring diagram for Soteria UL retrofits and for bypassing Soteria UL built-in isolators

Easy installation

Wiring summary







	Smoke	Multi-Criteria	Heat
Discovery and CoreProtocol	 <p>Soteria UL Smoke Detector SA5150-650</p>	 <p>Soteria UL Multi-Criteria Detector (Smoke/Heat) SA5150-750</p>	 <p>Discovery/Soteria UL Heat Detector SA5800-450</p>
XP95 Protocol	 <p>XP95A Smoke Detector SA5050-250</p>	 <p>XP95A Multi-Criteria Detector (Smoke/Heat) SA5050-350</p>	 <p>XP95A Heat Detector SA5500-450</p>
Soteria UL new installations and XP95A - new and retrofit installations wiring: figure 1			
Soteria UL retrofit installations and new installations (if isolator by-pass required): figure 2			

Figure 1: Wiring diagram for polarity sensitive Soteria UL detectors with built-in isolators (isolators enabled) and polarity insensitive XP95A detectors

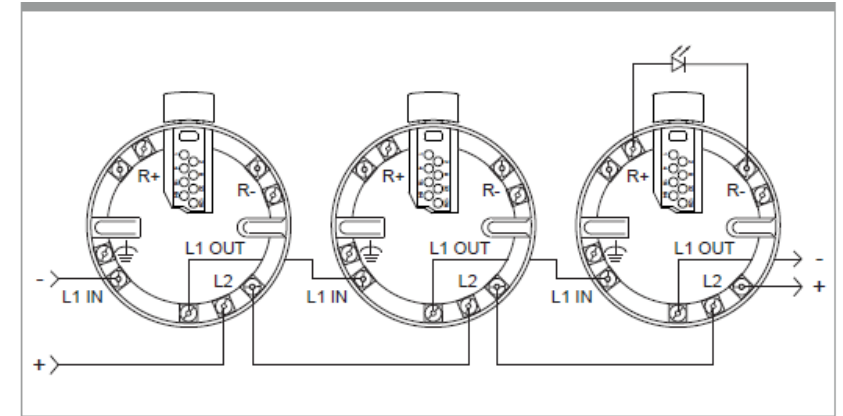
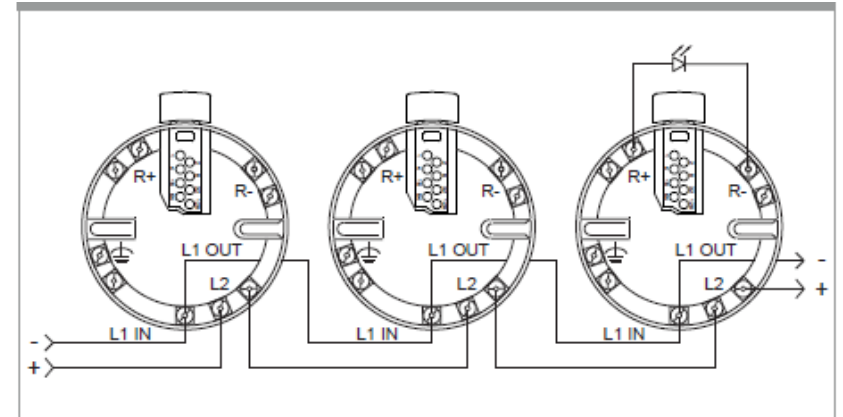


Figure 2: Wiring diagram for Soteria UL retrofits and for bypassing Soteria UL built-in isolators



Easy installation

Wiring summary

- * Detectors with built-in isolators
- ** Bases that do not support isolation wiring

Existing 6th edition codes	
Item code	Item description
58000-650	Discovery UL Photoelectric Smoke Detector
58000-750	Discovery UL Multisensor Detector (Photoelectric/Heat)
58000-450	Discovery UL Heat Detector
55000-650	XP95A Photoelectric Smoke Detector
55000-886	XP95A Multisensor Detector (Photoelectric/Heat)
55000-450	XP95A Heat Detector
45681-200	XP95A Base (XPERT 7) - 4"
45681-225	XP95A Base (XPERT 7) - 6"
45681-250	E-Z Fit base
45681-526	XP95A Sounder VI Base (Red LED)
45681-806	6" Sounder Base
45681-800	CO Sounder Base
45681-805	Low Frequency CO Sounder Base

Replacement 7th edition codes	
Item code	Item description
SA5150-650	Soteria UL Smoke Detector *
SA5150-750	Soteria UL Multi-Criteria Detector (Photoelectric/Heat) *
SA5800-450	Discovery/ Soteria UL Heat Detector
SA5050-250	XP95A Photoelectric Smoke Detector
SA5050-350	XP95A Multi-Criteria Detector (Photoelectric/Heat)
SA5500-450	XP95A Heat Detector
SA5000-210	Soteria UL Base - 4"
SA5000-230	Soteria UL Base - 6"
SA5000-230	Soteria UL Base - 6"
SA5300-802	Soteria UL Sounder Base 6" - High Frequency
SA5300-806	Soteria UL Sounder Base - 6" - Low Frequency **
SA5300-800	Soteria UL CO Sounder Base 6" - High Frequency **
SA5300-805	Soteria UL CO Sounder Base 6" - Low Frequency **

Please note: Panel updates are not required when replacing detectors on existing systems. Please ensure detectors are installed with their compatible bases. If unsure, check with panel partners for compatibility of bases.



Maintenance & testing

Maintenance and testing

General

Test the optical and multi-sensor detectors using one of the following smoke products:

- Solo Detectortesters Solo A10
- Smoke Sabre Smoke Detector Tester
- Solo Detectortesters Solo 365
- Solo Detectortesters Testfire

Test the heat detectors using a hair dryer.



Key features and benefits

Soteria UL Optical and Multi-Criteria detectors

FasTest function

- Turns off drift compensation
- Turns off transient signal rejection for faster response to test smoke

Installation & commissioning



- Reduces testing time
- X10 times faster
- From 40 to 4 seconds (vs Discovery)

Service & maintenance



For the end user



- Reduced maintenance costs
- Minimizes disruption for the business

Apollo Fire Detectors

We're here to help

Contact our technical support team

techsales@apollo-fire.com

or dial +44 (0)23 9244 2706

Available from

8:30am to 4:45pm

from Monday to Thursday

8:30am to 4pm on Fridays



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Like and follow the Apollo social channels and, if we haven't done so already, we'll do the same by return.



Q&A