

CERTIFICATE OF CONSTANCY OF PERFORMANCE

Issued by DBI Certification, notified body No. 2531.

In compliance with *Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011* (the Construction Products Regulation or CPR), this certificate applies to the construction product

SA5100-600 Soteria Analogue Addressable Optical Smoke Detector with Short Circuit Isolator

The product fulfils the essential characteristic:

See Annex 1

Intended use: Applications related to automatic fire alarm systems

Placed on the market under the name or trade mark of:

**Apollo Fire Detectors Ltd.,
36 Brookside Road, GB-P09 1JR, Havant, Hampshire, UK**

Authorised Representative Address

**Apollo Gesellschaft für Meldetechnologie MbH
Am Anger 31, 33332 Gütersloh, Germany**

and produced in the manufacturing plant:

**Apollo Fire Detectors Ltd.,
36 Brookside Road, GB-P09 1JR Havant, Hampshire, UK**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standards

EN 54-7:2018 : **Fire detection and fire alarm systems - part 7: Smoke detectors - Point smoke detectors that operate using scattered light, transmitted light or ionization**
EN 54-17:2005 : **Fire detection and fire alarm systems - Part 17: Short-circuit isolators**

under system 1 for the performance set out in this certificate are applied and that the performance of the construction product is assessed to remain constant.

The attached annexes form part of this certificate.

Date of issue: **2022-01-20**.

This certificate will remain valid as long as neither the harmonized standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly unless suspended or withdrawn by the notified product certification body.

(This certificate supersedes the previous version of this certificate issued 2019-10-21)

This certificate was first issued 2019-10-21.



Allan Laursen
Responsible for evaluation



Merete Poulsen
Responsible for certification decision

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Annex 1

EXTENT

Type: SA5100-600 Soteria Analogue Addressable Optical Smoke Detector with Short Circuit Isolator			
Variant: SA5100-600LIM Optical Smoke Detector with Short Circuit Isolator			
Bases: SA5000-200 Addressable XPERT 8 Mounting Base 45681-210 XP95 Mounting Base			
Notes: <i>Certified at the following Settings:</i> Mode 1: High sensitivity smoke detector with fast response time Mode 2: High sensitivity smoke detector with standard response time Mode 3: Standard smoke sensitivity with fast response time Mode 4: Standard smoke sensitivity with standard response time Mode 5: Medium-Low sensitivity smoke detector with fast response time			
Performance			
Essential characteristics	Clauses in EN 54-7:2018	Regulatory classes	Performance
Operational reliability:			
Individual alarm indication	4.2.1	None	The visual indicator(s) are visible from a distance of 6 m in an ambient light intensity up to 500 lx.
Connection of ancillary devices	4.2.2		Open or short circuit failures of connection to ancillary device did not prevent the correct operation of the detector
Monitoring of detachable detectors	4.2.3		A fault condition is signaled when the detector is removed from the mounting base.
Manufacturer's adjustments	4.2.4		It is not possible to adjust the detector settings without the use of a special tool to access into the detector or use of a code to enabling entry into the panel programming software.
On site adjustment of response behavior	4.2.5		The mode(s) of operation are adjustable from the Control and Indicating Equipment by use of a loop communication protocol. Access to enable mode changes is by software control of the protocol communication.
Protection against the ingress of foreign bodies	4.2.6		The chamber is designed so that a sphere of diameter (1,3±0,05) mm cannot pass into the sensor chamber.
Response to slowly developing fires	4.2.7		The provision of "drift compensation" (e.g. to compensate for sensor drift due to the build-up of dirt in the detector), does not lead to a significant reduction in the detectors sensitivity to slowly developing fires.
Software controlled detectors (when provided)	4.2.8		The software documentation and the software design complies with the requirements of EN 54-7:2018.

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Nominal activation conditions/sensitivity:		Threshold	
Repeatability	4.3.1		Ratio of response values $m_{max}:m_{min} \leq 1.6$ Lower response value, $m_{max}:m_{min} \geq 0.05 \text{ dB m}^{-1}$
Directional dependence	4.3.2		Ratio of response values $m_{max}:m_{min} \leq 1.6$ Lower response value, $m_{max}:m_{min} \geq 0.05 \text{ dB m}^{-1}$
Reproducibility	4.3.3		Ratio of response values $m_{max}:\bar{m} \leq 1.33$ Ratio of the response values $\bar{m}:m_{min} \leq 1.5$ Lower response value, $m_{min} \geq 0.05 \text{ dB m}^{-1}$
Response delay (response time):			
Air movement	4.4.1		Ratio is > 0.0625 and < 1.60 and the point smoke detector did not emit a fault nor alarm signal during the test with aerosol-free air
Dazzling	4.4.2		The specimen did not emit neither an alarm nor a fault signal and Ratio of response thresholds $m_{max}:m_{min} \leq 1.6$
Tolerance to supply voltage:			
Variation in supply parameters	4.5		Ratio of response values $m_{max}:m_{min} < 1.6$ Lower response value, $m_{min} \geq 0.05 \text{ dB m}^{-1}$
Performance parameters under fire conditions:			
Fire sensitivity	4.6		Evaluated as meeting the requirements of TF2 to TF5
Durability of nominal activation conditions/Sensitivity:			
temperature resistance			
Cold (operational)	4.7.1.1		The specimen did not emit neither an alarm nor a fault signal and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Dry heat (operational)	4.7.1.2		The specimen did not emit neither an alarm nor a fault signal and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Humidity resistance			
Damp heat, steady-state (operational)	4.7.2.1		The specimen did not emit neither an alarm nor a fault signal and ratio of response values $m_{max}:m_{min} \leq 1.6$
Damp heat, steady-state (endurance)	4.7.2.2		No fault signal, attributable to the endurance conditioning was given on reconnection of the specimen and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Corrosion resistance			
Sulphur dioxide (SO ₂) corrosion (endurance)	4.7.3		No fault signal, attributable to the endurance conditioning was given on reconnection of the specimen and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Vibration resistance			

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Shock (operational)	4.7.4.1	No fault signal given from the specimen during the conditioning period or the additional 2 min. and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Impact (operational)	4.7.4.2	No fault signal given from the specimen during the conditioning period or the additional 2 min. and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Vibration, sinusoidal (operational)	4.7.4.3	No fault signal given from the specimen during the conditioning and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Vibration, sinusoidal (endurance)	4.7.4.4	No fault signal, attributable to the endurance conditioning was given on reconnection of the specimen and Ratio of response values $m_{max}:m_{min} \leq 1.6$
Electrical stability EMC immunity (operational) a) Electrostatic discharge (operational) b) Radiated electromagnetic fields (operational) c) Conducted disturbances(operational) d) Fast transient bursts (operational) e) Slow high energy voltage surge (operational)	4.7.5	No alarm or fault signal given during the conditioning and Ratio of response values $m_{max}:m_{min} \leq 1.6$

Essential characteristics	Clauses in EN 54-17:2005	Performance
Performance under fire conditions	5.2 1)	Pass
Operational reliability	4	Pass
Durability of operational reliability; temperature resistance	5.4, 5.5	Pass
Durability of operational reliability; vibration resistance	5.9 to 5.12	Pass
Durability of operational reliability; humidity resistance	5.6, 5.7	Pass
Durability of operational reliability; corrosion resistance	5.8	Pass
Durability of operational reliability; electrical stability	5.3, 5.13	Pass
1) This is assuming that the effect of the fire is to cause a short circuit in the transmission path that is protected by these devices		

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Annex 2

TEST DOCUMENTATION

Accredited Laboratory	Report no.	Date
BRE BRE BRE BRE	P101798 Issue: 1 TE 295788-SW TE295788-1 TE-P120605-1000	23 October 2015 15 October 2014 30 April 2015 14 December 2021

Annex 3

TECHNICAL BASIS

File Number	Title
SA5100-600 SA5000-200 45681-210	Build Standard Build Standard Build Standard

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