Certificate No.: 2531-CPR-CSP10959

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

Orbis Class A2S Conventional Heat Detectors

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
Havant, Hampshire, GB-P09 1JR
United Kingdom

and produced in the manufacturing plant:

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

This attests that all provisions concerning the performance described in Annex ZA of the standard(s)

EN 54-5:2017/A1:2018 : Fire detection and fire alarm systems - Part 5: Heat detectors - point heat detectors

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the

CONSTANCY OF PERFORMANCE OF THE CONSTRUCTION PRODUCT.

This certificate was first issued on 2019-10-09 and will remain valid as long as neither the harmonised 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

The attached annexes form part of this certificate.

Date of issue: **2022-06-30**

(This certificate supersedes the previous version of this certificate issued 2019-10-09)

Merete Poulsen
Responsible for evaluation

Steen Nilsson
Responsible for certification decision

DANAK
Prod. Reg. Nr. 7023

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Annex 1

EXTENT

Model Reference:
Orbis Class A2S Conventional Heat Detectors

Variants:
ORB-HT-11002-APO Orbis Class A2S Heat Detector with SensAlert and FasTest
ORB-HT-11014-APO Orbis Class A2S Heat Detector with Flashing LED, SensAlert and FasTest
OEX-HT-11038-APO Orbis Class A2S Heat Detector with Flashing LED and SensAlert
OEX-HT-11090-APO Orbis Class A2S Heat Detector with SensAlert

Bases:
OB: ORB-MB-00001-APO TimeSaver base
OL: ORB-MB-00002-APO TimeSaver base LX (without continuity checking link)
OD: ORB-DB-00003-APO TimeSaver diode base
OR: ORB-RB-10004-APO TimeSaver relay base
XL: ORB-MB-00012-APO & OEX-MB-00016-APO LX bases
EB: ORB-MB-00019-APO TimeSaver deep base

Ancillary:
ORB-BA-10008-APO Adaptor Base (to be used in conjunction with the following bases only: 45681-200 & 45681-201)

Description:
Class A2S Adressable Heat Detector intend for use in fire detection and fire alarm systems intalled in and around buldings. With additional test for Suffix S detectors.

Operating Voltage:
8.5 to 33 V DC

Heat Response Catergory:
*For detector categories with the suffix S or R, additional requirements are needed see 4.4.1 or 4.4.2

Table 1

Detector Category (Heat Class):	Typical Application Temperature	Maximum Application Temperature °C	Minimum Static Response Temperature °C	Maximum Static Response Temperature °C
A2S	25	50	54	70

Table 2- Response time limits

Rate of rise of air temperature K min-1	Cat A2S			
	Lower limit		Uper limit	
	Min	S	Min	S
1	29	0	46	0
3	7	13	16	0
5	4	9	10	0
10	2	0	5	30
20	1	30	3	13
30		40	2	25

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Performance

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance
Operational reliability:		A2S	
Position of heat sensitive element	4.2.1		The heat sensitive element(s) or at least part of it, except elements with auxiliary functions (e.g.characteristic correctors), are a distance ≥15mm from the mounting surface of the point heat detector.
Individual alarm indication	4.2.2		Category A2S The heat detector is provided with an integral red visual indicator and can remain identified until the alarm is reset. The visual indicator is visible from a distance of 6 m directly below the point heat detector,in an ambient light intensity up to 500 lx.
Connection of ancillary devices	4.2.3		Open or short circuit failures of connection to ancillary device do not prevent the correct operation of the detector
Monitoring of detachable point heat detectors	4.2.4		A fault condition is signaled when the detector is removed from the mounting base.
Manufacturer's adjustments	4.2.5		It is not possible to change the maufacture´s settings expept by special means (e.g. a special code or tool, or by breaking or remove a seal).
Onsite adjustments of response behavior	4.2.6		N/A
Software controlled detectors (when provided)	4.2.7		The software documentation and the software design complies supplied by the manufacturer with the requirements of this standard.
Nominal activation conditions/Sensitivity:			
Directional dependence	4.3.1		The response time of the point dectetor do not unduly depend on the direction of airflow around the point heat detector.
Static response temperature	4.3.2		The response temperatures of the point heat detectors lie between the minimum and maximum static response temperatures, according to the category of the point heat detector in Table 1 above.
Response times from typical application temperature	4.3.3		The response times of the point heat detector lie between the lower and upper response time limits for the appropriate point heat detector category in Table 2 above.
Response times from 25 °C	4.3.4		The response time at 3 K min^{-1} exceeds 7 min 13 s and the response time at 20 K min^{-1} exceeds 1 min 0 s.
Response times from high ambient temperature	4.3.5		No alarm or fault signal was given at high ambient temperatures appropriate to the anticipated service temepratures.

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<table>
<tr><td></td><td></td><td></td><td>A2S
3 K min^{-1}, Lower limit, 1 min 20 s and upper limit 16 m.
20 K min^{-1}, Lower limit, 12 s and upper limit 3 m 13 s.</td></tr>
<tr><td>Reproducibility</td><td>4.3.6</td><td></td><td>The response times of the point heat detectors lie between the lower ad upper response time limits specified in Table 2 above.</td></tr>
<tr><td>Response delay (response time):</td><td></td><td></td><td></td></tr>
<tr><td>Additional test for suffix S point heat detectors</td><td>4.4.1</td><td></td><td>Suffix S point heat detector did not exceed the lower limits of response time during the transer period or during the 10 min exposure below.

<table>
<tr><td>Point heat detector category</td><td>Conditioning Temperature °C</td><td>Airflow Temperature °C</td></tr>
<tr><td>A2S</td><td>5 ±2</td><td>50 ±2</td></tr>
</table>

<table>
<tr><td rowspan="2">Rate of rise of air temperature K min^{-1}</td><td colspan="2">Lower Limit response time</td></tr>
<tr><td>Min</td><td>S</td></tr>
<tr><td>3</td><td>9</td><td>40</td></tr>
<tr><td>5</td><td>5</td><td>48</td></tr>
<tr><td>10</td><td>2</td><td>54</td></tr>
<tr><td>20</td><td>1</td><td>27</td></tr>
<tr><td>30</td><td></td><td>58</td></tr>
</table>
</td></tr>
<tr><td>Additional test for suffix R point heat detectors</td><td>4.4.2</td><td></td><td>N/A</td></tr>
<tr><td>Tolerance to supply voltage:</td><td></td><td></td><td></td></tr>
<tr><td>Variation in supply parameters</td><td>4.5</td><td></td><td>The point heat detector does not unduly depent on variation in the supply parameters and lie between the lower and upper response time limits specified in Table 2 above.</td></tr>
<tr><td>Durability of nominal activation conditions/Sensitivity:</td><td></td><td></td><td></td></tr>
<tr><td>temperature resistance</td><td></td><td></td><td></td></tr>
<tr><td>Cold (operational)</td><td>4.6.1.1</td><td></td><td>No alarm or fault signal was given during the transition to the conditioning temperature or during the period at the condition temperature

Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6.

A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6</td></tr>
<tr><td>Dry heat (endurance)</td><td>4.6.1.2</td><td></td><td>No fault signal was given on reconnection attributable to the endurance conditioning</td></tr>
</table>

			Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Humidity resistance			
Damp heat, cyclic (operational)	4.6.2.1		No alarm or fault signal was given during the conditioning. Lower temperature: (25±3) °C Upper temperature: (40±2) °C Relative humidity: At lower temperature :≥ 95 % At upper temperature : (93 ±3) % Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Damp heat, steady-state (endurance)	4.6.2.2		No fault signal was given on reconnection attributable to the endurance conditioning. Conditioning Temperature : 40 ±2 °C Relative Humidity: 93 ±3 % Duration : 21 days Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Corrosion resistance			
Sulphur dioxide (SO_2) corrosion (endurance)	4.6.3		No fault signal was given on reconnection attributable to the endurance conditioning. Conditioning Temperature : 25 ±2 °C Relative Humidity: 93 ±3 % SO2 concentration: 25 ±5 ppm (by volume) Duration : 21 days Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6

Vibration resistance			
Shock (operational)	4.6.4.1		No alarm or fault signal was given during the conditioning period or an additional 2 min. For specimen with a mass ≤ 4,75 kg : Shock pulse type: Half sine Pulse duration : 6 ms Peak acceleration: 10X (100-20M) ms-2 (M is specimen mass in Kg) Number of directions: 6 Pulses per direction: 3 Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Impact (operational)	4.6.4.2		No alarm or fault signal was given during the conditioning period or an additional 2 min. Conditioning: Impact energy: 1,9 ±0,1 J Hammer velocity: 1,5 ±0,13 ms^{-1} Number of impacts: 1 Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Vibration, sinusoidal (operational)	4.6.4.3		No fault signal was given during the conditioning Conditioning: Frequency range: 10 to 150 Hz Acceleration amplitude: 5 ms^{-2}(≈0,5 g_n) Number of axes : 3 Sweep rate: 1 octave min^{-1} Number of sweep cycles: 1 per axis Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Vibration, sinusoidal (endurance)	4.6.4.4		No fault signal was given on reconnection attributable to the endurance conditioning. Conditioning: Frequency range: 10 to 150 Hz Acceleration amplitude: 10 ms^{-2}(≈1,0 g_n) Number of axes : 3 Sweep rate: 1 octave min^{-1}

			Number of sweep cycles: 20 per axis Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6
Electrical stability EMC immunity (operational)	4.6.5		Compliance in EN 50130-4:2011 and No fault signal was given during the conditioning. Response time at 3 K min^{-1} was not less than 7 min 13 s and did not exceed 2 min 40 s compared with the time obtained in 4.3.6. A2S: 20 K min^{-1} was not less than 1 min and did not exceed 30 s compared with the time obtained in 4.3.6

Annex 2

TEST DOCUMENTATION

Accredited Laboratory	**Report no.**	**Date**
BRE	TE210363SW	2003-05-01
BRE	211499	2004-01-05
BRE	211499SW/B	2004-03-29
BRE	211499SW/A	2004-12-22
BRE	TE P105641-1001 Issue: 1	2018-10-31

TECHNICAL BASIS

File Number	Title
400-HT-00001	Build Standard
400-HT-00002	Build Standard
ORB-MB-00001	Build Standard no. 300-MA-00003
ORB-MB-00002	Build Standard no. 300-MA-00006
ORB-DB-00003	Build Standard
ORB-RB-10004	Build Standard 400-RB-00007
ORB-MB-00012	Build Standard
ORB-MB-00019	Build Standard 300-MA-00012