Certificate No.: 2531-CPR-CSP10936

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

58000-400 Discovery Analogue Addressable Class A1R Heat Detector

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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.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: **2022-06-10**.

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

Merete Poulsen
Responsible for evaluation

Steen Nilsson
Responsible for certification decision

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Annex 1

EXTENT

Model Reference:
58000-400 Discorvery Analogue Addressable Class A1R Heat Detector

Variant:
58000-400SIL Discorvery Analogue Addressable Class A1R Heat Detector

Bases:
45681-210 XP95 Mounting Base
45681-209 XP95/Discovery Standard Deep Mounting Base

Notes:
1. Meets the requirements of EN54: Part 5 at the following modes:
   - Class A1R in Mode 1 and in Conventional Alarm Mode
   - Class A2 in Mode 2 and in Conventional Alarm Mode
   - Class A2S in Mode 3 and in Conventional Alarm Mode
   - Class CR in Mode 4 and in Conventional Alarm Mode
   - Class CS in Mode 5 and in Conventional Alarm Mode

Description:
Class A1 Adressable Heat Detector intend for use in fire detection and fire alarm systems intalled in and around buldings. With additional test for Suffix R detectors.

Operating Voltage:
17 to 28 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
A1R	25	50	54	65

Table 2- Response time limits

Rate of rise of air temperature K min-1	Cat A1R			
	Lower limit		Uper limit	
	Min	S	Min	S
1	29	0	40	20
3	7	13	13	40
5	4	9	8	20
10	1	0	4	20
20		30	2	20
30		20	1	40

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Performance

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance
Operational reliability:		A1R	
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 A1R 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 manufacture´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		The sensitivity of the detector is set by the control and indicating equipment
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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			A1R 3 K min^{-1}, Lower limit, 1 min 20s and upper limit 13 m 40 s. 20 K min^{-1} , Lower limit, 12 s and upper limit 2 m 20 s.
Reproducibility	4.3.6		The response times of the point heat detectors lie between the lower ad upper response time limits specified in Table 2 above.
Response delay (response time):			
Additional test for suffix S point heat detectors	4.4.1		N/A
Additional test for suffix R point heat detectors	4.4.2		Suffix R, the point heat detector maintains the response requirements of its category, in table 2 above, for high rates of rise of temperature from an initial temperature below the typical application temperature applicable to the category marked on it. Point heat detector category: A1R Initial conditioning temperature °C: 5 ±2
Tolerance to supply voltage:			
Variation in supply parameters	4.5		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.
Durability of nominal activation conditions/Sensitivity:			
temperature resistance			
Cold (operational)	4.6.1.1		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. A1R: 20 K min^{-1} was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6
Dry heat (endurance)	4.6.1.2		No fault signal was given on reconnection attributable to the endurance 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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

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			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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s 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. A1R: 20 K min^{-1} was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6

Annex 2

TEST DOCUMENTATION

Accredited Laboratory	**Report no.**	**Date**
LPC	TE 90372	1999-04-16
BRE	TE 236307 Revision 1	2007-11-16
BRE	TE 236307-SW	2007-11-28
BRE	TE P105642-1001 Issue: 1	2019-03-21

TECHNICAL BASIS

File Number	Title
58000-400	Build Standard
45681-209	Build Standard
45681-210	Build Standard