



The Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020.

## DECLARATION OF PERFORMANCE

No. U0081

1. Unique identification code of the product-type:

**Model number and Description:**

58000-400 Discovery Analogue Addressable Class A1R Heat Detector  
58000-400SIL Discovery Analogue Addressable Class A1R Heat Detector

**Approved Accessories:**

45681-210 – XP95 Mounting Base  
45681-209 – XP95/Discovery Standard Deep Mounting Base

**Product Type(s):**

Heat Detectors – Point Detectors

2. Intended use/es:

Point detectors for use in fire detection and fire alarm systems installed in and around buildings

3. Manufacturer:

Apollo Fire Detectors Ltd,  
36 Brookside Road, Havant, Hampshire, PO9 1JR, United Kingdom

4. Authorised representative:

N/A

5. System of AVCP

System 1

6. Designated Standard(s)

EN 54-5:2017+ A1:2018

**UK Approved Body:**

DBI Certification-UK Ltd (Approved Body 8504)

A HALMA COMPANY



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## 7 Declared performance

**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		Upper 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

### Performance

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance
<b>Operational reliability:</b>		A1R	The heat sensitive element(s) or at least part of it, except elements with auxiliary functions (e.g.characteristic correctors), are a distance $\geq 15$ mm from the mounting surface of the point heat detector.
Position of heat sensitive element	4.2.1		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.
Individual alarm indication	4.2.2		Open or short circuit failures of connection to ancillary device do not prevent the correct operation of the detector
Connection of ancillary devices	4.2.3		A fault condition is signaled when the detector is removed from the mounting base.
Monitoring of detachable point heat detectors	4.2.4		



Manufacturer's adjustments	4.2.5		It is not possible to change the manufacturer's settings except by special means (e.g. a special code or tool, or by breaking or removing 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.			
<b>Nominal activation conditions/Sensitivity:</b>						
Directional dependence	4.3.1		The response time of the point detector 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 <sup>-1</sup> exceeds 7 min 13 s and the response time at 20 K min <sup>-1</sup> 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 temperatures. A1R 3 K min <sup>-1</sup> , Lower limit, 1 min 20s and upper limit 13 m 40 s. 20 K min <sup>-1</sup> , 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 and upper response time limits specified in Table 2 above.			
<b>Response delay (response time):</b>						
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.			
<b>Tolerance to supply voltage:</b>			<table border="1"> <tr> <td>Point heat detector category</td> <td>Initial conditioning temperature °C</td> </tr> <tr> <td>A1R</td> <td>5 ±2</td> </tr> </table>	Point heat detector category	Initial conditioning temperature °C	A1R
Point heat detector category	Initial conditioning temperature °C					
A1R	5 ±2					
Variation in supply parameters	4.5	The point heat detector does not unduly depend on variation in the supply parameters and lie between the				

			lower and upper response time limits specified in Table 2 above.
<b>Durability of nominal activation conditions/Sensitivity:</b>			
temperature resistance			
Cold (operational)	4.6.1.1		<p>No alarm or fault signal was given during the transition to the conditioning temperature or during the period at the condition temperature</p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Dry heat (endurance)	4.6.1.2		<p>No fault signal was given on reconnection attributable to the endurance conditioning</p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Humidity resistance			
Damp heat, cyclic (operational)	4.6.2.1		<p>No alarm or fault signal was given during the conditioning.</p> <p>Lower temperature: <math>(25 \pm 3) \text{ }^{\circ}\text{C}</math> Upper temperature: <math>(40 \pm 2) \text{ }^{\circ}\text{C}</math></p> <p>Relative humidity: At lower temperature <math>\geq 95 \%</math> At upper temperature: <math>(93 \pm 3) \%</math></p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Damp heat, steady-state (endurance)	4.6.2.2		<p>No fault signal was given on reconnection attributable to the endurance conditioning.</p> <p>Conditioning Temperature : <math>40 \pm 2 \text{ }^{\circ}\text{C}</math> Relative Humidity: <math>93 \pm 3 \%</math> Duration : 21 days</p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>



Corrosion resistance			
Sulphur dioxide (SO <sub>2</sub> ) corrosion (endurance)	4.6.3		<p>No fault signal was given on reconnection attributable to the endurance conditioning.</p> <p>Conditioning</p> <p>Temperature : 25 ±2 °C</p> <p>Relative Humidity: 93 ±3 %</p> <p>SO<sub>2</sub> concentration: 25 ±5 ppm (by volume)</p> <p>Duration : 21 days</p> <p>Response time at 3 K min<sup>-1</sup> 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.</p> <p>A1R: 20 K min<sup>-1</sup> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Vibration resistance			<p>No alarm or fault signal was given during the conditioning period or an additional 2 min.</p> <p>For specimen with a mass ≤ 4,75 kg :</p> <p>Shock pulse type: Half sine</p> <p>Pulse duration : 6 ms</p> <p>Peak acceleration: 10X (100-20M) ms<sup>-2</sup> (M is specimen mass in Kg)</p> <p>Number of directions: 6</p> <p>Pulses per direction: 3</p> <p>Response time at 3 K min<sup>-1</sup> 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.</p> <p>A1R: 20 K min<sup>-1</sup> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Impact (operational)	4.6.4.1		<p>No alarm or fault signal was given during the conditioning period or an additional 2 min.</p> <p>Conditioning:</p> <p>Impact energy: 1,9 ±0,1 J</p> <p>Hammer velocity: 1,5 ±0,13 ms<sup>-1</sup></p> <p>Number of impacts: 1</p> <p>Response time at 3 K min<sup>-1</sup> 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.</p> <p>A1R: 20 K min<sup>-1</sup> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Vibration, sinusoidal (operational)	4.6.4.3		<p>No fault signal was given during the conditioning</p> <p>Conditioning:</p> <p>Frequency range: 10 to 150 Hz</p> <p>Acceleration amplitude: 5 ms<sup>-2</sup>(≈0,5 g<sub>n</sub>)</p> <p>Number of axes : 3</p> <p>Sweep rate: 1 octave min<sup>-1</sup></p> <p>Number of sweep cycles: 1 per axis</p>

			<p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Vibration, sinusoidal (endurance)	4.6.4.4		<p>No fault signal was given on reconnection attributable to the endurance conditioning.</p> <p>Conditioning:            Frequency range: 10 to 150 Hz            Acceleration amplitude: <math>10 \text{ ms}^{-2} (\approx 1,0 \text{ g}_n)</math>            Number of axes : 3            Sweep rate: 1 octave <math>\text{min}^{-1}</math>            Number of sweep cycles: 20 per axis</p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>
Electrical stability EMC immunity (operational)	4.6.5		<p>Compliance in EN 50130-4:2011 and No fault signal was given during the conditioning.</p> <p>Response time at <math>3 \text{ K min}^{-1}</math> 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.</p> <p>A1R: <math>20 \text{ K min}^{-1}</math> was not less than 30 s and did not exceed 30 s compared with the time obtained in 4.3.6</p>

## 8 Online Display Location

This document can be viewed online at [www.apollo-fire.co.uk](http://www.apollo-fire.co.uk)

The performance of the product identified above is in conformity with the set of declared performance/s.  
 This declaration of performance is issued, in accordance with The Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020, under the sole responsibility of the manufacturer identified above

Signed for and on behalf of Apollo Fire Detectors Limited by:



Mr. David Robbins  
 Technical Director  
 Havant – 27.03.2025

(v2)

