



By Appointment to
Her Majesty The Queen
Manufacturers of Fire Detection & Alarm Products
Apollo Fire Detectors Limited
Hampshire



**Construction Products Regulation:
EU (No) 305/2011**

This Declaration has been drawn-up in accordance with Commission Delegated Regulation (EU) No. 574/2014 which amends Annex III of Regulation (EU) No 305/2011.

DECLARATION OF PERFORMANCE

No. E0181

1. Unique identification code of the product-type:

Model number and Description:

58000-700 Discovery Analogue Addressable Multisensor Detector
58000-700SIL Discovery Analogue Addressable Multisensor Detector

Approved Accessories:

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

Harmonised Product Type(s):

Heat Detectors – Point Detectors
Smoke Detectors – Point Detectors

2. Intended use/es:

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:

Apollo Gesellschaft für Meldetechnologie mbH
Am Anger 31
33332 Gütersloh
Deutschland

5. System(s) of AVCP

System 1

6 Harmonised Standard(s)

EN 54-5:2017 + A1:2018
EN 54-7:2018

Notified Body/ies:

DBI Certification A/S (Notified Body 2531)

A HALMA COMPANY



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Registered Office: 36 Brookside Road, Havant, Hampshire, PO9 1JR VAT Registration No. GB 339 0553 54

7. Declared performance

Table 1

Detector Category (Heat Class)	Type 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

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance	
Operational reliability:				
Position of heat sensitive element	4.2.1	A1R	The heat sensitive element(s) or at least part of it, except elements with auxiliary functions (e.g. Characteristics correctors), are a distance $\geq 15\text{mm}$ 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 manufacturer's settings except 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 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 ⁻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 temperatures. A1R 3 K min ⁻¹ , Lower limit, 1 min 20 s 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 and 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. <table border="1" data-bbox="847 535 1442 669"> <tr> <th>Point heat detector category</th> <th>Initial conditioning temperature °C</th> </tr> <tr> <td>A1R</td> <td>5 ±2</td> </tr> </table>	Point heat detector category	Initial conditioning temperature °C	A1R	5 ±2
Point heat detector category	Initial conditioning temperature °C					
A1R	5 ±2					
Tolerance to supply voltage:						
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.				
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 <u>For resettable point heat detector</u> 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. <u>A1R</u> : 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 <u>For resettable point heat detector</u> 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. <u>A1R</u> : 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) % For resettable point heat detector				

		<p>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.</p> <p><u>A1R</u>: 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</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: 40 ±2 °C Relative Humidity: 93 ±3 % Duration: 21 days</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</p>
Corrosion resistance		
Sulphur dioxide (SO ₂) corrosion (endurance)	4.6.3	<p>No fault signal was given on reconnection attributable to the endurance conditioning.</p> <p>Conditioning Temperature: 25 ±2 °C Relative Humidity: 93 ±3 % SO₂ concentration: 25 ±5 ppm (by volume) Duration: 21 days</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</p>
Vibration resistance		
Shock (operational)	4.6.4.1	<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 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</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</p>
Impact (operational)	4.6.4.2	<p>No alarm or fault signal was given during the conditioning period or an additional 2 min.</p>

		<p>Conditioning: Impact energy: 1,9 ±0,1 J Hammer velocity: 1,5 ±0,13 ms⁻¹ Number of impacts: 1</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</p>
Vibration, sinusoidal (operational)	4.6.4.3	<p>No fault signal was given during the conditioning</p> <p>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</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</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: 10 ms⁻²(≈1,0 g_n) Number of axes: 3 Sweep rate: 1 octave min⁻¹ Number of sweep cycles: 20 per axis</p> <p><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</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><u>For resettable point heat detector</u> 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.</p> <p><u>A1R</u>: 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</p>

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.
Nominal activation conditions/sensitivity:			
Repeatability	4.3.1	Threshold	Ratio of response values $m_{max}:m_{min} \leq 1.6$ Lower response value, $m_{max}:m_{min} \geq 0.05$ dB m ⁻¹
Directional dependence	4.3.2		Ratio of response values $m_{max}:m_{min} \leq 1.6$ Lower response value, $m_{max}:m_{min} \geq 0.05$ 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, $m_{min} \geq 0.05$ 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, $m_{min} \geq 0.05$ 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		
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)	4.7.5	No alarm or fault signal given during the conditioning and Ratio of response values $m_{max}:m_{min} \leq 1.6$
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)		

8. Online Display Location

This document can be viewed online at 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 Regulation (EU) No. 305/2011, 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 – 12.12.2022

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