



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. E0101

1. Unique identification code of the product-type:

Model number and Description:

55000-190 AlarmSense Class A1R Heat Detector
55000-193 AlarmSense Class CS Heat Detector
55000-193CSS AlarmSense Class CS Heat Detector

Approved Accessories:

45681-244 AlarmSense Base

Harmonised 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:

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

Notified Body/ies:

DBI Certification A/S (Notified Body 2531)

A HALMA COMPANY



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www.apollo-fire.co.uk

Apollo Fire Detectors Ltd. Registered in England No. 1483208
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):	Typical Application Temperature	Maximum Application Temperature °C	Minimum Static Response Temperature °C	Maximum Static Response Temperature °C
55000-190 AlarmSense A1	25	50	54	65
55000-193 AlarmSense C	55	80	84	100

Table 2 – Response time limits

Rate of rise of air temperature K min ⁻¹	55000-190 AlarmSense			
	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

Rate of rise of air temperature K min ⁻¹	55000-193 AlarmSense			
	Cat CS			
	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

Performance

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance	
Operational reliability:				
Position of heat sensitive element	4.2.1	55000-190 AlarmSense A1R 55000-193 AlarmSense CS	The heat sensitive element(s) or at least part of it, except elements with auxiliary functions (e.g. characteristic correctors), are a distance $\geq 15\text{mm}$ from the mounting surface of the point heat detector.	
Individual alarm indication	4.2.2		Category A1R, CS 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 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		N/A	
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. 55000-190 AlarmSense A1R 3 K min ⁻¹ , Lower limit, 1 min 20 s and upper limit 13m 40s 20 K min ⁻¹ , Lower limit, 12 s and upper limit 2 m 20 s. 55000-193 AlarmSense CS 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.	
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	55000-193 AlarmSense CS 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 border="1"> <tr> <td>Point heat detector category</td> <td>Conditioning Temperature °C</td> <td>Airflow Temperature °C</td> </tr> <tr> <td>CS</td> <td>35 ±2</td> <td>80 ±2</td> </tr> </table>	Point heat detector category	Conditioning Temperature °C	Airflow Temperature °C	CS	35 ±2	80 ±2														
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			<table border="1"> <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>	Rate of rise of air temperature K min ⁻¹	Lower Limit response time		Min	S	3	9	40	5	5	48	10	2	54	20	1	27	30		58
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Additional test for suffix R point heat detectors	4.4.2		<p>55000-190 AlarmSense A1R 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.</p> <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	5 ±2																
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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		<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 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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</p>																				
Dry heat (endurance)	4.6.1.2		<p>No fault signal was given on reconnection attributable to the endurance conditioning</p> <table border="1"> <tr> <td>Point heat detector category</td> <td>Conditioning Temperature °C</td> </tr> <tr> <td>CS</td> <td>80 ±2</td> </tr> </table> <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>	Point heat detector category	Conditioning Temperature °C	CS	80 ±2																
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		<p>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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: (25±3) °C Upper temperature: (40±2) °C</p> <p>Relative humidity: At lower temperature : ≥ 95 % At upper temperature : (93 ±3) %</p> <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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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>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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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>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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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</p>

		<p>Peak acceleration: 10X (100-20M) ms⁻² (M is specimen mass in Kg) Number of directions: 6 Pulses per direction: 3</p> <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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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>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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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>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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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>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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</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 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>55000-190 AlarmSense 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</p> <p>55000-193 AlarmSense CS 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</p>
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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 – 13.10.2022

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