

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

Nittan Model	Alternative Model	Part number	Labelled	Unit Description
EV-DPH-A2R		F14_82106	Nittan	Analogue Addressable Dual Optical Smoke and Heat Detector.
EV-DPH-CS		F14_82107	Nittan	
	CN-DPH-A2R	023117	Consilium	
	CN-DPH-CS	023118	Consilium	
	EV-DPH-A2R	040050	Consilium	
	EV-DPH-CS	040051	Consilium	

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:

**Nittan Europe Limited
Hiple Street Old Woking
GU22 9LQ Surrey
United Kingdom**

and produced in the manufacturing plant:

CPA10024

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standards

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

EN 54-7:2018 : **Fire detection and fire alarm systems - part 7: Smoke detectors - Point smoke detectors that operate using scattered light, transmitted light or ionization**

under system 1 for the performance set out in this certificate are applied and that the performance of the construction product is assessed to remain constant.

The attached annexes form part of this certificate.

Date of issue: **2022-02-21**.

This certificate will remain valid as long as neither the harmonized 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly unless suspended or withdrawn by the notified product certification body.

(This certificate supersedes the previous version of this certificate issued 2016-11-28)

This certificate was first issued 2014-08-01.



Allan Laursen
Responsible for evaluation

Annex 1



Merete Poulsen
Responsible for certification decision

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 **DANAK**
Prod. Reg. Nr. 7023

Version 2019-10-02
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EXTENT

Additional Economic Operator (Distributor)

Consilium Marine & Safety AB, P.O. Box 8763, SE-402 76, Gothenburg, Sweden.

Model Reference:

EV-DPH-A2R Analogue Addressable Dual Optical Smoke and Heat Detector,
EVDPH-CS A2R Analogue Addressable Dual Optical Smoke and Heat Detector

Description:

Class A2R and class CS Addressable dual smoke and Heat Detector intend for use in fire detection and fire alarm systems installed in and around buildings. With additional test for Suffix S detectors.

Alternative Model

CN-DPH-A2R Analogue Addressable Dual Optical Smoke and Heat Detector
CN-DPH-CS Analogue Addressable Dual Optical Smoke and Heat Detector
EV-DPH-A2R Analogue Addressable Dual Optical Smoke and Heat Detector
EV-DPH-CS Analogue Addressable Dual Optical Smoke and Heat Detector

Operating Voltage:

20 to 38 V DC

Heat Response Category:

Table 1

Detector Category (Heat Class):	Typical Application Temperature	Maximum Application Temperature °C	Minimum Static Response Temperature °C	Maximum Static Response Temperature °C
A2	25	50	54	70
C	55	80	84	100

Choose relevant

Table 2- Response time limits

Rate of rise of air temperature K min ⁻¹	Cat A2R, CS			
	Lower limit		Upper 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

Bases:

UB-6 – Standard Base
UB-6-EV – Standard Base
UB-6-SCI – Isolator Base
STB-4SE – Standard Deep Base

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Performance			
Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance
Operational reliability:		A2R,CS	
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 A2R,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 maufacture's settings exept 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. All others 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.

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Response delay (response time):		
Additional test for suffix S point heat detectors	4.4.1	
Suffix S point heat detector did not exceed the lower limits of response time during the transfer period or during the 10 min exposure below.		
Point heat detector category	Conditioning Temperature °C	Airflow Temperature °C
CS	35 ±2	80 ±2
GS	95 ±2	140 ±2
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
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	Initial conditioning temperature °C	
A2R	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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.		

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Dry heat (endurance)	4.6.1.2	<p>No fault signal was given on reconnection attributable to the endurance conditioning</p> <table><tr><td>Point heat detector category</td><td>Conditioning Temperature °C</td></tr><tr><td>C</td><td>80 ±2</td></tr></table> <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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</p>	Point heat detector category	Conditioning Temperature °C	C	80 ±2
Point heat detector category	Conditioning Temperature °C					
C	80 ±2					
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><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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</p>				

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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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.</p>

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Vibration, sinusoidal (operational)	4.6.4.3	No fault signal was given during the conditioning Conditioning: Frequency range: 10 to 150 Hz Acceleration amplitude: $5 \text{ ms}^{-2} (\approx 0,5 g_n)$ Number of axes : 3 Sweep rate: 1 octave min^{-1} Number of sweep cycles: 1 per axis <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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.
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: $10 \text{ ms}^{-2} (\approx 1,0 g_n)$ Number of axes : 3 Sweep rate: 1 octave min^{-1} Number of sweep cycles: 20 per axis <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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.
Electrical stability EMC immunity (operational)	4.6.5	Compliance in EN 50130-4:2011 and No fault signal was given during the 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>For non-resettable point heat detector</u> Response times lie between the lower and upper response time limits specified in Table 2 above.

Essential characteristics	Clauses in EN 54-7:2018	Regulatory classes	Performance
Operational reliability:		None	
Individual alarm indication	4.2.1		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

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Monitoring of detachable detectors	4.2.3	Threshold	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		Ratio of response values $m_{\max}:m_{\min} \leq 1.6$ Lower response value, $m_{\max}:m_{\min} \geq 0.05 \text{ dB m}^{-1}$
Directional dependence	4.3.2		Ratio of response values $m_{\max}:m_{\min} \leq 1.6$ Lower response value, $m_{\max}:m_{\min} \geq 0.05 \text{ dB m}^{-1}$
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, $m_{\min} \geq 0.05 \text{ dB m}^{-1}$
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, $m_{\min} \geq 0.05 \text{ dB m}^{-1}$	
Performance parameters under fire conditions:			
Fire sensitivity	4.6	Evaluated as meeting the requirements of TF2 toTF5	

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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)			

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Annex 2

TEST DOCUMENTATION

Accredited Laboratory	Report no.	Date
DELTA	DANAK-1910836 Rev. A	2010-06-09
Intertek	102299795LHD-001 Issue 1	2016-11-02
Intertek	103437765LHD-001a	2018-06-22

Annex 3

TECHNICAL BASIS

File Number	Title	Date
	EV-DPH Document Register NACL	

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