Certificate No.: 2531-CPR-232.1195

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

6298 Enclosed heat detector, class ES, IP67

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:

Panasonic Corporation Tsu factory
1668, Fujikata,Tsu-shi,Mie-ken
514-8555 Japan

and produced in the manufacturing plant:

CPA10005

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**

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: **2022-02-04**.

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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly unless suspended or withdrawn by the notified product certification body.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 2014-08-01)

This certificate was first issued 2014-08-01.

Allan Laursen
Responsible for evaluation

Merete Poulsen
Responsible for certification decision

Prod. Reg. Nr. 7023

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Annex 1

EXTENT

Model Reference:
6298 Enclosed heat detector, class ES, IP67

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

Operating Voltage:
12 to 30 V DC

Heat Response Catergory:

Table 1

Detector Category (Heat Class):	Typical Application Temperature	Maximum Application Temperature °C	Minimum Static Response Temperature °C	Maximum Static Response Temperature °C
E	85	110	114	130

Choose relevant
Table 2- Response time limits

Rate of rise of air temperature K min-1	Cat ES			
	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

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Performance

Essential characteristics	Clauses in EN 54-5:2017/ A1:2018	Regulatory classes	Performance
Operational reliability:		ES	
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 ES The heat detector is provided with either an integral red indicator, or with another means for locally indicating the alarm status of the point heat detector.
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 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 detector is provided with a provision for an onsite adjustment of the response behavior and the manufacturer declares a corresponding class and adjustment setting: There are adjustable setting(s) which the manufacturer is not stating a corresponding category in accordance to this standard and are only accessible by the use of a code or special tool, and it is clearly marked on the point heat detector or in the associated data.
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.

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<table>
<tr><td>Reproducibility</td><td>4.3.6</td><td></td><td>The response times of the point heat detectors lie between the lower ad upper response time limits specified in Table 2 above.</td></tr>
<tr><td>Response delay (response time):</td><td></td><td></td><td></td></tr>
<tr><td>Additional test for suffix S point heat detectors</td><td>4.4.1</td><td></td><td>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>
<tr><td>Point heat detector category</td><td>Conditioning Temperature °C</td><td>Airflow Temperature °C</td></tr>
<tr><td>ES</td><td>65 ±2</td><td>110 ±2</td></tr>
</table>

<table>
<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>
</td></tr>
<tr><td>Additional test for suffix R point heat detectors</td><td>4.4.2</td><td></td><td>N/A</td></tr>
<tr><td>Tolerance to supply voltage:</td><td></td><td></td><td></td></tr>
<tr><td>Variation in supply parameters</td><td>4.5</td><td></td><td>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.</td></tr>
<tr><td>Durability of nominal activation conditions/Sensitivity:</td><td></td><td></td><td></td></tr>
<tr><td>temperature resistance</td><td></td><td></td><td></td></tr>
<tr><td>Cold (operational)</td><td>4.6.1.1</td><td></td><td>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.</td></tr>
<tr><td>Dry heat (endurance)</td><td>4.6.1.2</td><td></td><td>No fault signal was given on reconnection attributable to the endurance conditioning

<table>
<tr><td>Point heat detector category</td><td>Conditioning Temperature °C</td></tr>
<tr><td>E</td><td>110 ±2</td></tr>
</table>
<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.</td></tr>
</table>

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) % <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.
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 <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.
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 <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.
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 Peak acceleration: 10X (100-20M) ms-2 (M is specimen mass in Kg) Number of directions: 6 Pulses per direction: 3 <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.

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 <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.
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 <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.
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 <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. .
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.

Annex 2

TEST DOCUMENTATION

Accredited Laboratory	Report no.	Date
DELTA	DANAK-195970, projekt K280131-2	2002-02-01
DELTA	Assessment of test report	2005-07-04
Telefication	P000048609-001-V 2.00	2022-01-11

Annex 3

TECHNICAL BASIS

File Number	Title	Date
Product leaflet	Fire alarm solutions technical describtion Enclosed heat detectors 6295-6298 MEW01946	2021-10-20
Hardware Specifications	PLSH001 Heat detector 6298	2021-02-02
Label design	BV4144913 Rating label Type 6298	2021-02-02