

CERTIFICATE OF CONSTANCY OF PERFORMANCE

Issued by DBI Certification-UK, approved body No. 8504.

In compliance with UK STATUTORY INSTRUMENT 2020 No. 1359 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, this certificate applies to the construction product

TAU-OP-01, TAU-OP-01-BL

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:

**Hyfire Wireless Fire Solutions Ltd
Unit B12a Holly Farm Business Park
Honiley, Warwickshire, CV81NP
United Kingdom**

and produced in the manufacturing plant:

UKCPA10005

This attests that all provisions concerning the performance described in Annex ZA of the standard(s)

- 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**
- EN 54-25:2008+AC:2012** : **Fire detection and fire alarm systems — Part 25: Components using radio links**

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the

CONSTANCY OF PERFORMANCE OF THE CONSTRUCTION PRODUCT.

This certificate was first issued on 2022-08-10 and will remain valid as long as neither the harmonised 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

The attached annexes form part of this certificate.

Date of issue: **2022-08-10**.



Merete Poulsen
Responsible for evaluation



Steen Nilsson
Responsible for certification decision

Annex 1

EXTENT

Product description:

TAU-OP-01 Smoke detector using radio links
 TAU-OP-01-BL Smoke detector using radio links

Configuration:

The smoke detector model TAU-OP-01 consists of a plastic enclosure (dimensions: 110 (d) x 65 (h) mm) with IP40 degree of protection, containing:

- No. 1 Main board (PCB code B40-LB100-0004)
- No. 2 Battery allocable (CR123A Lithium, 3 V – 1.25Ah)

The smoke detector model TAU-OP-01-BL is identical to the model TAU-OP-01 but with a black enclosure.

Technical Characteristics:

Operating frequency band: 868 MHz ; 916 MHz
 Hardware identification of the microcontroller (U4) used on the main board: STMicroelectronics, STM32L051R8
 Firmware identification of the microcontroller (U4) used on the main board:

- 0_1_17 (U4), using the 868 MHz frequency band
- 0_1_18 (U4), using the 916 MHz frequency band

Performanc

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

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No. 23333

			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 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 $m_{max}:m_{min} \leq 1.6$

Threshold

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)		

Essential characteristics	Clauses in EN 54-25:2008+AC:2012	Performance
Performance parameters under fire conditions	4.1, 4.2.2, 5.2, 8.3.7	Pass
Response delay (response time to fire)	8.2.3, 8.2.6	Pass
Operational reliability	4.2.1, 4.2.3 to 4.2.7, 5.3, 5.4, 6, 7, 8.2.2, 8.2.4, 8.2.5, 8.2.7, 8.2.8, 8.2.9, 8.3.1, 8.3.2, 8.3.3, 8.3.4, 8.3.5, 8.3.6	Pass
Durability of operational reliability and response delay; temperature resistance	8.3.9, 8.3.10, 8.3.11	Pass
Durability of operational reliability; vibration resistance	8.3.16, 8.3.17 to 8.3.19	Pass
Durability of operational reliability; humidity resistance	8.3.13, 8.3.14	Pass
Durability of operational reliability; corrosion resistance	8.3.15	Pass
Durability of operational reliability; electrical stability	8.3.20	Pass

Annex 2

TEST DOCUMENTATION

Test documentation can be found in case no. UKCSP10080.

TECHNICAL BASIS

File Number	Title	Date
BOM-TWDOX-0005	TAURUS WIRELESS DETECTOR OPTICAL (TW-DO-01) - 868 / 916 MHz VARIANTS - Bill of Material	2021-12-27, Rev. D