Intertek LSS Scheme
Tick Mark Certificate
21LHK0415-01

This is to certify that:

Product Type:	Aspirating Smoke Detectors
Standards:	EN54-17:2005+AC:2007 and EN54-20:2006
Issued to:	Protec Fire Detection plc
Address:	Protec House, Churchill way, Nelson, Lancashire, UK, BB8 6RT
LSS Reference:	**LSS 1127**

The mentioned product complies with the mentioned test requirement

0010

This certificate only relates to those products detailed in the following Test Reports:

Report Number: BSI Test Report 3159127; Intertek Test Report: 104700683LHD-021, 104700683LHD-022, 104700683LHD-031

Certificate Issue date:
26-SEP- 2023

Certificate Expiry date:
25-SEP-2027

This Certificate is issued in accordance with the Certification Regulations governing its use and in reliance on the undertaking given by the Licensee and only extends to the use in respect of the goods produced to an acceptable degree of compliance with the Approval Standard. This Certificate is not transferable and remains the property of Intertek Testing and Certification Ltd.

Limitations:

See ANNEX No.2

Signed on behalf of Intertek, located at Leatherhead, United Kingdom

S Yathunanthan

Certification Officer

Intertek Testing and Certification Ltd, Intertek House, Cleeve Road, Leatherhead, Surrey, England. KT22 7SA.
Tel: +44 (0) 1372 370900; Fax: +44 (0)1372 370943; Email: certificates@intertek.com; Web: www.intertek.com

Authentication of this Certificate can be confirmed at www.intertekukcertification.co.uk

Intertek LSS Scheme
Tick Mark Certificate

21LHK0415-01

PRODUCT DESCRIPTION

ANNEX No. 1

EN54-17:2005+AC:2007 and EN54-20:2006

Brand and Type/Model	Description	Factory Code
61-986-H1	Cirrus Hybrid NonScanner-1 Pipe	PROTECUK.01
61-986-H2	Cirrus Hybrid NonScanner-2 Pipe	PROTECUK.01
61-986-H3	Cirrus Hybrid NonScanner-3 Pipe	PROTECUK.01
61-986-H4	Cirrus Hybrid NonScanner-4 Pipe	PROTECUK.01
61-986-H2S	Cirrus Hybrid Scanner-2 Pipe	PROTECUK.01
61-986-H3S	Cirrus Hybrid Scanner-3 Pipe	PROTECUK.01
61-986-H4S	Cirrus Hybrid Scanner-4 Pipe	PROTECUK.01
61-986-H1ND	Cirrus Hybrid NonScanner-1 Pipe-No Display	PROTECUK.01
61-986-H2ND	Cirrus Hybrid NonScanner-2 Pipe-No Display	PROTECUK.01
61-986-H3ND	Cirrus Hybrid NonScanner-3 Pipe-No Display	PROTECUK.01
61-986-H4ND	Cirrus Hybrid NonScanner-4 Pipe-No Display	PROTECUK.01
61-986-H2SND	Cirrus Hybrid Scanner-2 Pipe-No Display	PROTECUK.01
61-986-H3SND	Cirrus Hybrid Scanner-3 Pipe-No Display	PROTECUK.01
61-986-H4SND	Cirrus Hybrid Scanner-4 Pipe-No Display	PROTECUK.01

Intertek LSS Scheme
Tick Mark Certificate

21LHK0415-01

ANNEX No. 1

EN54-17:2005+AC:2007 and EN54-20:2006

Brand and Type/Model	Description	Factory Code
61-986-C1	Cirrus CCD NonScanner-1 Pipe	PROTECUK.01
61-986-C2S	Cirrus CCD Scanner-2 Pipe	PROTECUK.01
61-986-C3S	Cirrus CCD Scanner-3 Pipe	PROTECUK.01
61-986-C4S	Cirrus CCD Scanner-4 Pipe	PROTECUK.01
61-986-C1ND	Cirrus CCD NonScanner-1 Pipe-No Display	PROTECUK.01
61-986-C2SND	Cirrus CCD Scanner-2 Pipe-No Display	PROTECUK.01
61-986-C3SND	Cirrus CCD Scanner-3 Pipe-No Display	PROTECUK.01
61-986-C4SND	Cirrus CCD Scanner-4 Pipe-No Display	PROTECUK.01
61-986-106	ProPointPlus-1 Pipe ‘2 stage alarm’ (Optical & CO)	PROTECUK.01
61-986-103	ProPointPlus-2 Pipe ‘2 stage alarm’ (Optical & CO)	PROTECUK.01
61-986-105	ProPointPlus-3 Pipe ‘2 stage alarm’ (Optical & CO)	PROTECUK.01
61-986-104	ProPointPlus-4 Pipe ‘2 stage alarm’ (Optical & CO)	PROTECUK.01
61-986-106-OP	ProPointPlus-1 Pipe ‘2 stage alarm’ (OP)	PROTECUK.01
61-986-103-OP	ProPointPlus-2 Pipe ‘2 stage alarm’ (OP)	PROTECUK.01
61-986-105-OP	ProPointPlus-3 Pipe ‘2 stage alarm’ (OP)	PROTECUK.01
61-986-104-OP	ProPointPlus-4 Pipe ‘2 stage alarm’ (OP)	PROTECUK.01
61-986-106-OP4S	ProPointPlus-1 Pipe ‘4 stage alarm’ (OP)	PROTECUK.01
61-986-103-OP4S	ProPointPlus-2 Pipe ‘4 stage alarm’ (OP)	PROTECUK.01
61-986-105-OP4S	ProPointPlus-3 Pipe ‘4 stage alarm’ (OP)	PROTECUK.01
61-986-104-OP4S	ProPointPlus-4 Pipe ‘4 stage alarm’ (OP)	PROTECUK.01

ANNEX No. 2

Conditions of Use:

Suitable for indoor applications only.

Approved settings:

Cirrus Hybrid Non-Scanner-x Pipe and Cirrus Hybrid Non-Scanner-x Pipe-No Display:

Fire Class	Maximum Number of Holes	Maximum Alarm Level [CFS Value]
A	34 per detector	130
B	44 per detector	422
C	44 per detector	1000

Cirrus Hybrid Scanner-x Pipe and Cirrus Hybrid Scanner-x Pipe-No Display:

Fire Class	Maximum Number of Holes	Maximum Alarm Level [CFS Value]
A	44 per detector (max. 11 per pipe)	549
B	88 per detector (max. 22 per pipe)	599
C	176 per detector (max. 44 per pipe)	1000

Cirrus CCD-1 Pipe, Cirrus CCD-1 Pipe-No Display, Cirrus CCD Scanner-x Pipe, and Cirrus CCD Scanner-x Pipe-No Display:

Fire Class	Maximum Number Of Holes	Maximum Alarm Level [CFS Value]
A	32 per detector (max. 8 per pipe)	117
B	56 per detector (max. 14 per pipe)	147
C	64 total detector (max. 16 per pipe)	752

ProPointPlus-x Pipe 2 stage alarm (OP & CO):

Fire Class	Maximum Number of holes	Sensitivity Setting	Comment
A	12 per detector (max. 3 per pipe)	A1, to A3	
B	20 per detector (max. 5 per pipe)	B1, to B5	
C	32 per detector (max. 8 per pipe)	C1, to C8	
C	32 per detector (max. 8 per pipe)	ESC1, to ESC8	Escalator mode
C	Prison Sample Head (Part no. 61-988-00)	PR2	Prison mode

ProPointPlus-x Pipe 2 stage alarm (OP):

Fire Class	Number of holes	Sensitivity Setting
A	24 per detector (max. 6 per pipe)	A1, to A6
B	48 per detector (max. 12 per pipe)	B1, to B12
C	80 per detector (max. 20 per pipe)	C1, to C20

ProPointPlus-x Pipe 4 stage alarm (OP):

Fire Class	Number of holes	Maximum Alarm Level
A	15 holes per pipe (60 per detector)	1.1%/m
B		3.2%/m
C		11.5%/m

The approved settings were recorded during the EN54 part 20 fire tests using a fully populated model variant (4 pipe) and a worst case pipe configuration, designed by the manufacturer. A design in the field must comply to the limits in the approved settings, however where a reduced model variant is used (i.e., 1, 2 or 3 pipe variant), the maximum detector pipe length and hole qualities can be shared between pipes to maximize coverage. Ensuring the transport times do not exceed the EN54 part 20 requirements. All designs must be verified using the manufacturer's Pipe Configuration Design Tool.

Quantity	Value
V max	28 V dc
V min	16 V dc
I_C max	1.2 V dc
I_S max	1.2 V dc
I_L max	14mA
Z_C max	150mΩ
Parameters for each stimulus (closed → open)	3.2-1.2V dc
Parameters for each stimulus (open → close)	2.0-3.85V dc

ANNEX No. 2

Part Accessories:

Part accessories incorporated in the electromagnetic compatibility tests, clause 6.14:

61-986-RDP	Aspirating Detector Remote Display Programmer
61-986-EXP	ASD I/O Expansion Interface Unit
CIE	Protec Fire Alarm Control and Indicator – Loop Protocol: 6000/6000PLUS

Part accessories incorporated in the fire tests, clause 6.15:

61-986-F01	3 Stage 25mm Inline Sampling Pipe Filter
37-550-68	25mm 3m Red Sampling Pipe
37-552-70	25mm Red 90° Bend
37-551-69	25mm Red 'Tee' Piece
37-553-71	25mm Red End Cap
37-559-77	25mm Red Socket Union
37-558-76	Red Pipe Clips
37-551-69	25mm Red Jointing Socket
37-560-70	Conical Head Capillary Sampling Point c/w 2m of 10mm Sampling Tube & Tee
37-563-73	Red Tee Piece for 10mm Sampling Tubes
37-564-74	30m Red 10mm Sampling Tube
37-556-74	250ml Tin Solvent Cement
23-039-37	100x Sample Hole Warning Labels.
45-028-08	3 Stage Replacement Filter Mesh

Full accessories details referenced in manufacture control document: RDM0065.

Pipe Options:

- 25mm red ABS Pipe
- 25mm white ABS Pipe
- 25mm grey ABS Pipe
- 27mm red ABS Pipe

General notes:

1. Evaluated under Intertek project number G104700683
2. No CE or other type approval is made or inferred outside of the Assessment and Verification of Constancy of Performance as stipulated on this certificate.

ANNEX No. 3

EN54-17:2005+AC:2007

Table ZA.1 — Relevant clauses

Essential characteristics	Clauses in this European Standard	Mandated level(s)	Notes
Performance under fire conditions	5.2	None	1)
Operational reliability	4		
Durability of operational reliability: temperature resistance	5.4, 5.5		
Durability of operational reliability; vibration resistance	5.9 to 5.12		
Durability of operational reliability; humidity resistance	5.6, 5.7		
Durability of operational reliability; corrosion resistance	5.8		
Durability of operational reliability; electrical stability	5.3, 5.13		
1) This is assuming that the effect of the fire is to cause a short circuit in the transmission path that is protected by these devices.			

EN54-20:2006

Table ZA.1 — Relevant clauses

Essential characteristics	Clauses in this European Standard	Mandated level(s)	Notes
Nominal activation conditions/sensitivity, response delay (response time) and performance under fire conditions	5.6, 6.2, 6.3, 6.15	None	a)
Operational reliability	5.2 to 5.5, 5.7 to 5.12		
Tolerance to supply voltage	6.4		
Durability of operational reliability, Temperature resistance	6.5, 6.6		
Durability of operational reliability, Vibration resistance	6.10, 6.11, 6.12, 6.13		
Durability of operational reliability, Electrical stability	6.14		
Durability of operational reliability, Humidity resistance	6.7, 6.8		
Durability of operational reliability, Corrosion resistance	6.9		
a) The products covered by this standard are assumed to enter the alarm condition, in an event of fire, before the fire becomes so large as to affect their functioning. There is therefore no requirement to function when exposed to direct attack from fire.			