

[1]

UNITED KINGDOM CONFORMITY ASSESSMENT

UK-TYPE EXAMINATION CERTIFICATE

[2]

[9]

Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended by UKSI 2019:696) - Schedule 3A, Part 1

Type Examination Certificate No.: [3]

UL21UKEX2130X

Product: [4]

D1xB2 range of signalling Strobe and LED Beacons and D1xJ2

Junction Boxes

Manufacturer: [5]

European Safety Systems Limited

Address: [6]

Impress House, Mansell Road, Acton, London W3 7QH United

Kingdom

This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents [7] therein referred to.

UL International (UK) Ltd. Approved Body number 0843, in accordance with Regulation 44 of the Equipment and [8] Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations. The examination and test results are recorded in the confidential report 4789853393.6.1.

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use [10] specified in the schedule to this certificate.

This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. [11] Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following: [12]

II 2 G Ex db IIC T6...T3 Gb

⟨Ex⟩ II 2 D Ex tb IIIC T95°C...T169°C Db

Certification Manager

David Lloyd

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated rnis is to certify that the sample(s) of the Product described neren (Certificate in accordance with the Ex UK Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Pollow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2021-08-25

Approved Body

UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade

Road, Basingstoke RG24 8AH, UK

Phone: +44 (0)1256 312100

[14]

Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2130X Rev. 0

[15] <u>Description of Product</u>

D1xB2 series are a range of Electronic Strobe Beacons housed in a flameproof / dust protected aluminium enclosure that are intended to be used as visual warning / signalling devices. The enclosure is accessible via the threaded cover which incorporates a glass dome, the glass dome is cemented into the cover. A stainless steel lens guard and non-metallic lens diffuser are optional. Additionally the 5J, 10J and 15J 24VDC models may be fitted with an additional PCB for SIL monitoring. The range is supplemented by a D1xJ2 Junction Box which is based on the D1xB2 Series enclosure but closed with a single piece moulded threaded cover instead of the beacon lens.

Model	Beacon energy (Joules)	Voltage	Suffixes
		DC012	, i
		DC024	
D1xB2X	05	DC048	
		AC115	
		AC230	
		DC024	
D1vB2V	10	DC048	
D1xB2X	10	AC115	I la ta A alaba
		AC230	Up to 4 alpha
		DC024	numeric characters, not associated with
D1xB2X	15	DC048	equipment
DIXBZA	15	AC115	certification
		AC230	Certification
		DC024	
D1xB2X	21	DC048	
DIXBZA	21	AC115	
		AC230	
D4vD3LD3	-	DC024	
D1xB2LD2	-	AC115	
(LED beacon)	-	AC230	
D1xJ2T01	-	-	-
D1xJ2D01	-	-	-
D1xJ2M01	-	-	-

Performance testing

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is not covered in this certificate.

Temperature range

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D1xB2X05DC012		T4	-55°C to +80°C
D1xB2X05DC024	Ex db IIC	T5	-55°C to +75°C
D DOV/05D0040		T6	-55°C to +60°C
D1xB2X05DC048	Ex tb IIIC	T104°C	-55°C to +80°C
D1xB2X05AC115	Ex db IIC	T4	-55°C to +70°C
D1xB2X05AC230	NO. 100 Sec.	T5	-55°C to +50°C
D1XB2A05AC230	Ex tb IIIC	T116°C	-55°C to +70°C
D1xB2X10DC024	Ex db IIC	T4	-55°C to +80°C
D1xB2X10DC048		T5	-55°C to +45°C
	Ex tb IIIC	T135°C	-55°C to +80°C
D1xB2X10AC115	Ex db IIC	Т3	-55°C to +70°C
D1xB2X10AC230		T4	-55°C to +65°C
D 18B2A 10AC230	Ex tb IIIC	T139°C	-55°C to +70°C
D1xB2X15DC024	Ex db IIC	Т3	-55°C to +80°C
D1xB2X15DC048		T4	-55°C to +65°C
D1XB2X13D0040	Ex tb IIIC	T146°C	-55°C to +80°C
D1xB2X15AC115	Ex db IIC	Т3	-55°C to +70°C
	LA GD IIO	T4	-55°C to +65°C
D1xB2X15AC230	Ex tb IIIC	T139°C	-55°C to +70°C

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D1xB2X21DC024	Ex db IIC	T3	-55°C to +80°C
D1xB2X21DC048		T4	-55°C to +45°C
	Ex tb IIIC	T169°C	-55°C to +80°C
D1xB2X21AC115	Ex db IIC	T3	-55°C to +60°C
D1xB2X21AC230		T4	-55°C to +50°C
	Ex tb IIIC	T141°C	-55°C to +60°C
	Ex db IIC	T5	-55°C to +80°C
D1xB2LD2		T6	-55°C to +70°C
	Ex tb IIIC	T95°C	-55°C to +80°C
		T4	-55°C to +80°C
D1xJ2***	Ex db IIC	T5	-55°C to +70°C
		T6	-55°C to +55°C
	Ex tb IIIC	T106°C	-55°C to +80°C

Electrical data

Model	Voltage DC	Voltage AC	Freq. Hz	Maximum Current mAmps
D1xB2X05DC012	10-14	-	-	600
D1xB2X05DC024	20-28	-	-	350
D1xB2X05DC048	42-54	-	-	150
D1xB2X05AC115	-	110-120	50/60	200
D1xB2X05AC230	-	220-240	50/60	100
D1xB2X10DC024	20-28	-	-	710
D1xB2X10DC048	42-54	-	-	250
D1xB2X10AC115	-	110-120	50/60	300
D1xB2X10AC230	-	220-240	50/60	180
D1xB2X15DC024	20-28	-	-	920
D1xB2X15DC048	42-54	-	-	360
D1xB2X15AC115	-	110-120	50/60	420
D1xB2X15AC230	-	220-240	50/60	230
D1xB2X21DC024	20-28	-	-	1240
D1xB2X21DC048	42-54	-	-	560
D1xB2X21AC115	-	110-120	50/60	530
D1xB2X21AC230	-	220-240	50/60	270
D1xB2LD2DC024	18-54	-	-	500
D1xB2LD2AC115	-	110-120	50/60	180
D1xB2LD2AC230	-	220-240	50/60	100
D1xJ2***	60VDC Max	260VAC Max	50/60	10 Watts

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Routine tests

Routine tests according to EN 60079-1, cl. 16 are not required, as the enclosures have been successfully tested at four times the reference pressure.

Test report No. (associated with this certificate issue) DK/ULD/ExTR19.0006/01 [16]

[17] Specific conditions of use:

- The enclosure coating is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
- Repair of the flamepaths is not permitted.
- [18]

Essential Health and Safety Requirements (Regulations Schedule 1)
In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information



signals will be used as the company identifier on the marking label.

[19] **Drawings and Documents**

Technical Documents	Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:	
ENCLOSURE GENERAL ASSE	MBLIES			
D1xB2X05, X10, X15, X21 Xenon Beacon Scheduled Drawing	D191-00-201-SC	D	2019-05-02	
D1xJ2 Junction Box Scheduled Drawing	D191-00-501-SC	Е	2019-05-07	
CIRCUIT DIAGRAMS				
D1xB2X05, 10 & 15 DC Xenon Beacon	D212-25-205-CD-SC	А	2018-02-06	
D1xB2X 115, 230 Vac 5J, 10J & 15J Xenon Beacon	D212-36-205-CD-SC	С	2018-10-03	
D1xB2XH2 21J 24VDC UL1971	D212-26-251-CD-SC	С	2018-02-05	
D1xB2X21 AC 115, 230 VAC 21J Xenon Beacon	D212-36-221-CD-SC	В	2018-10-04	
D2x B1XH1, XH2, 5J & 10J – UL1971 24VDC Circuit Diagram	D211-26-251-CD-SC	В	2017-06-05	
D1x LD2 LED Beacon Scheduled Circuit Diagram	D212-28-401-CD-SC	В	2018-10-03	
SIL2 Beacon Monitor Scheduled Circuit Diagram	D212-26-291-CD-SC	A	2018-02-19	

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Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
COMPONENT LISTS			
D1xB2 12VDC 5J Xenon PCBA	D212-25-205-CL-SC	A	2018-02-02
D1xB2 24VDC 5J Xenon PCBA	D212-26-205-CL-SC	А	2018-02-02
D1xB2 48VDC 5J Xenon PCBA	D212-27-205-CL-SC	В	2018-10-03
D1xB2 24VDC 10J Xenon PCBA	D212-26-210-CL-SC	А	2018-02-02
D1xB2 48VDC 10J Xenon PCBA	D212-27-210-CL-SC	В	2018-10-03
D1xB2 24VDC 15J Xenon PCBA	D212-26-215-CL-SC	А	2018-02-02
D1xB2 48VDC 15J Xenon PCBA	D212-27-215-CL-SC	В	2018-10-03
D1xB2X05 115VAC 5J Xenon	D212-36-205-CL-SC	С	2018-10-03
D1xB2X05 230VAC 5J Xenon	D212-37-205-CL-SC	D	2018-12-05
D1xB2X10 115VAC 10J Xenon	D212-36-210-CL-SC	В	2018-07-17
D1xB2X10 230VAC 10J Xenon	D212-37-210-CL-SC	С	2018-12-05
D1xB2X15 115VAC 15J Xenon	D212-36-215-CL-SC	В	2018-07-17
D1xB2X15 230VAC 15J Xenon	D212-37-215-CL-SC	С	2018-12-05
D1xB2 Xenon Surface Mount DC	D212-28-201-CL-SC	А	2018-02-02
D1xB2XH2 21J Xenon UL1971 PCBA	D212-26-251-CL-SC	В	2018-01-30
D1xB2X21 21J Xenon 48Vdc PCBA	D212-27-221-CL-SC	В	2018-10-03
D1xB2X21 115VAC 21J Xenon	D212-36-221-CL-SC	С	2018-12-05
D1xB2X21 230VAC 21J Xenon	D212-37-221-CL-SC	С	2018-12-05
D1x - D2x Beacon Control Board - UL1971	D211-26-261-CL-SC	В	2017-06-15
D1x LED Beacon 115VAC	D212-36-401-CL-SC	А	2018-02-13

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Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
D1x LED Beacon 230VAC	D212-37-401-CL-SC	Α	2018-02-13
D1x DC LED Beacon	D212-28-401-CL-SC	Α	2018-02-13
SIL2 Beacon 24Vdc PCBA	D212-26-291-CL-SC	А	2018-02-19
Instruction Manual D1xB2X Xenon Beacons for use in Hazardous Locations	D191-00-201-IS-SC-UK	A	22-07-2021
Instruction Manual D1xB2LD2 LED Beacons for use in Hazardous Locations	D191-00-401-IS-SC-UK	A	22-07-2021
Instruction Manual D1xJ2 Junction Box for use in Hazardous Locations	D191-00-501-IS-SC-UK	A	22-07-2021
D1xB2 Beacon Product Label	D191-99-201-SC-UK	А	22-07-2021





UNITED KINGDOM CONFORMITY ASSESSMENT

UK-TYPE EXAMINATION CERTIFICATE

[2] Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1

[3] UK-Type Examination Certificate No.: UL21UKEX2132X Rev. 1

[1]

[4] Product: Loudspeakers (D1xL*), Sounders (D1xS*) and

Combined Sounder Beacons (D1xC*)

[5] Manufacturer: European Safety Systems Limited

[6] Address: Impress House, Mansell Road, Acton, London W3 7QH United Kingdom

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] UL International (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential report DK/ULD/ExTR19.0008/02

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014 IEC 60079-31, Edition 3.0 (2022-01)

Except in respect of those requirements listed at section 19 of the schedule to this certificate.

- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the Schedule to this certificate.
- [11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:

II 2 G Ex db IIC T6 ...T3 Gb

Ex II 2 D Ex th IIIC T82°C ...T145°C Db

Certification Officer

Andrew Moffat

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UKEx Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Regulations. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2021-12-14 Re-issued: 2023-09-14

Approved Body UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade

Road, Basingstoke RG24 8AH, UK Phone: +44 (0)1256 312100



[14]

Schedule **UK-TYPE EXAMINATION CERTIFICATE No.** UL21UKEX2132X Rev. 1

[15]

Description of Product
D1xS* (sounder) comprises an Aluminium enclosure housing components to generate selectable tones. Up to three M20 threaded entries may be provided for installation of appropriately certified cable entry devices by the end user.

The D1xL* (loudspeaker) utilizes the same enclosures and houses components to amplify sound.

D1xC* (sounder beacon) is the same housing as the D1xS* except on one end the beacon assembly is mounted. The lamp is protected by a glass lens and a stainless steel wire guard. Additional electrical components associated with the operation of the 5 and 10 Joule beacon are installed within the housing and reflected by the nomenclature with "AC" or "DC" followed by the voltage.

Model Nomenclature:

Sounder:

Example - D1xS1-DC024-A

Model	Model Voltage (refer to electrical tables below)	Suffix
D4vC4	AC230	
D1xS1 – low power	DC024	-A – Standard Unit
D4C2	AC230	-S - SIL Unit (DC024 only)
D1xS2 – medium and high power	DC024	ì

All models detailed are permitted to use any radial or flare horn.

Sounder Beacon:

Example - D1xC1X05-DC024-A

Model	Beacon Energy	Model Voltage (refer to electrical input tables)	Suffix
D1xC1X – low power sounder	05	AC115	
D1xC2V madium and high news sounder	05- 10-	AC230	-A – Standard Unit
D1xC2X – medium and high power sounder	10-	DC024	

All models detailed are permitted to use any radial or flare horn.

Loudspeaker:

Example - D1xL1FV070-A

ModelD1xL1FV725-A15W, 25V to 70V loudspeaker, standard unitD1xL2FV725-A25W, loudspeaker, small flareD1xL2HV725-A25W, loudspeaker, large flareD1xL1FV07015W 70V loudspeaker, standard unitD1xL2FV07025W 70V loudspeaker, small flareD1xL2FV07025W 70V loudspeaker, small flareD1xL2FV070-A25W 70V loudspeaker, large flareD1xL2FV070-A25W 70V loudspeaker, standard unit, small flareD1xL2FV070-A25W 70V loudspeaker, standard unit, large flareD1xL1FV100-A15W 100V loudspeaker, standard unit, small flareD1xL2FV100-A25W 100V loudspeaker, standard unit, large flareD1xL2HV100-A25W 100V loudspeaker, standard unit, large flareD1xL1FR008-A15W, 8 ohm resistance loudspeaker, standard unitD1xL1FR016-A15W, 16 ohm resistance loudspeaker, standard unit, small flareD1xL2FR008-A25W 8 ohm resistance loudspeaker, standard unit, small flareD1xL2FR016-A25W 8 ohm resistance loudspeaker, standard unit, small flareD1xL2HR008-A25W 8 ohm resistance loudspeaker, standard unit, large flareD1xL2HR016-A25W 16 ohm resistance loudspeaker, standard unit, large flareD1xL2HR016-A25W 16 ohm resistance loudspeaker, standard unit, large flare		
D1xL2FV725-A D1xL2HV725-A D1xL1FV070 D1xL1FV070 D1xL1FV070-A D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2HV070 D1xL2FV070 D1xL2FV070-A D1xL2FV100-A		
D1xL2HV725-A D1xL1FV070 D1xL1FV070 D1xL1FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2HV070 D1xL2FV070 D1xL2FV070 D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2HV070-A D1xL2HV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL1FV100-A D1xL2FV100-A D		
D1xL1FV070 D1xL1FV070-A D1xL2FV070 D1xL2FV070 D1xL2FV070 D1xL2HV070 D1xL2HV070 D1xL2HV070 D1xL2FV070 D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2HV070-A D1xL2HV070-A D1xL2HV070-A D1xL2FV070-A D1xL1FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2HV100-A D1xL2FV100-A D1xL1FR008-A D1xL1FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR0	D1xL2FV725-A	25W, loudspeaker, small flare
D1xL1FV070-A D1xL2FV070 D1xL2HV070 D1xL2HV070 D1xL2FV070 D1xL2FV070-A D1xL1FV100-A D1xL1FV100-A D1xL2FV100-A	D1xL2HV725-A	25W, loudspeaker, large flare
D1xL2FV070 D1xL2HV070 D1xL2HV070 D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL2HV070-A D1xL2HV070-A D1xL2HV070-A D1xL2HV070-A D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2HV100-A D1xL2HV100-A D1xL2HV100-A D1xL2FV100-A D1xL2FV100-	D1xL1FV070	15W 70V loudspeaker
D1xL2HV070 D1xL2FV070-A D1xL2FV070-A D1xL2HV070-A D1xL2HV070-A D1xL2HV070-A D1xL1FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2HV100-A D1xL2FR008-A D1xL1FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR016-A	D1xL1FV070-A	15W 70V loudspeaker, standard unit
D1xL2FV070-A D1xL2FV070-A D1xL2FV070-A D1xL1FV100-A D1xL2FV100-A D1xL2FR008-A D1xL1FR008-A D1xL1FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2	D1xL2FV070	25W 70V loudspeaker, small flare
D1xL2HV070-A D1xL1FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2HV100-A D1xL2HV100-A D1xL2HV100-A D1xL2HV100-A D1xL2HV100-A D1xL1FR008-A D1xL1FR008-A D1xL1FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR016-A	D1xL2HV070	25W 70V loudspeaker, large flare
D1xL1FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2HV100-A D1xL2HV100-A D1xL2HV100-A D1xL1FR008-A D1xL1FR008-A D1xL1FR016-A D1xL2FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR016-A	D1xL2FV070-A	25W 70V loudspeaker, standard unit, small flare
D1xL2FV100-A D1xL2FV100-A D1xL2FV100-A D1xL2FR008-A D1xL1FR008-A D1xL1FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A	D1xL2HV070-A	25W 70V loudspeaker, standard unit, large flare
D1xL1FR008-A D1xL1FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR016-A D1xL2HR016-A	D1xL1FV100-A	15W 100V loudspeaker, standard unit
D1xL1FR008-A D1xL1FR016-A D1xL2FR008-A D1xL2FR008-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR016-A D1xL2HR016-A	D1xL2FV100-A	25W 100V loudspeaker, standard unit, small flare
D1xL1FR016-A D1xL2FR008-A D1xL2FR016-A 25W 8 ohm resistance loudspeaker, standard unit, small flare D1xL2FR016-A D1xL2FR016-A D1xL2HR008-A D1xL2HR008-A D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, small flare D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, large flare D1xL2HR016-A	D1xL2HV100-A	25W 100V loudspeaker, standard unit, large flare
D1xL1FR016-A D1xL2FR008-A D1xL2FR016-A 25W 8 ohm resistance loudspeaker, standard unit, small flare D1xL2FR016-A D1xL2HR008-A D1xL2HR008-A D1xL2HR008-A D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, small flare D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, large flare D1xL2HR016-A	D1xL1FR008-A	15W, 8 ohm resistance loudspeaker, standard unit
D1xL2FR016-A D1xL2HR008-A D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, small flare 25W 8 ohm resistance loudspeaker, standard unit, large flare 25W 16 ohm resistance loudspeaker, standard unit, large flare	D1xL1FR016-A	
D1xL2FR016-A D1xL2HR008-A D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, small flare 25W 8 ohm resistance loudspeaker, standard unit, large flare 25W 16 ohm resistance loudspeaker, standard unit, large flare	D1xL2FR008-A	25W 8 ohm resistance loudspeaker, standard unit, small flare
D1xL2HR016-A 25W 16 ohm resistance loudspeaker, standard unit, large flare	D1xL2FR016-A	
	D1xL2HR008-A	25W 8 ohm resistance loudspeaker, standard unit, large flare
	D1xL2HR016-A	1
D1xL1-AXIS-A 12.95W PoE input, loudspeaker, small flare	D1xL1-AXIS-A	12.95W PoE input, loudspeaker, small flare
D1xL2-AXIS-A 12.95W PoE input, loudspeaker, large flare	D1xL2-AXIS-A	

All models detailed are permitted to use any radial or flare horn.

The optical radiation output of the product with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015 .

Temperature range

The relation between ambient temperature and the assigned temperature class is as follows:

Loudspeaker:



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Models	Temperature Class	Temperature Class	Associated Maximum Ambient
	(Gas)	(Dust)	Temperature
D1xL1-V070 (-A)	T5	T86°C	-55°C to +75°C
D1xL1-R008 (-A)	T6	-	-55°C to +60°C
D1xL1-R016 (-A)			
D1xL1-AXIS-A			
D1xL2-V070 (-A)	T5	T91°C	-55°C to +75°C
D1xL2-R008 (-A)	T6	-	-55°C to +55°C
D1xL2-R016 (-A)			
D1xL2-AXIS-A			
D1xL1-V100-A	T5	T92°C	-55°C to +75°C
	T6	-	-55°C to +60°C
D1xL2-V100-A	T4	T98°C	-55°C to +75°C
	T5	-	-55°C to +70°C
	T6	-	-55°C to +55°C
D1xL1-V725-A	T6	-	-55°C to +60°C
	T5	T91°C	-55°C to +75°C
D1xL2-V725-A	T6	-	-55°C to +55°C
	T5	-	-55°C to +70°C
	T4	T97°C	-55°C to +75°C

Sounder Temperature Range:

Model	Temperature Class	Temperature Class	Associated Maximum Ambient
	(Gas)	(Dust)	Temperature
D1xS1-DC024-A	T5	T84°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS1-DC024-S	T5	T84°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS1-AC230-A	T5	T82°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS2-DC024-A	T5	T95°C	-55°C to +75°C
	Т6	-	-55°C to +60°C
D1xS2-DC024-S	T5	T95°C	-55°C to +75°C
	Т6	-	-55°C to +60°C
D1xS2-AC230-A	T5	T93°C	-55°C to +75°C
	T6	-	-55°C to +60°C

Sounder Beacon Temperature Range:

Model	Temperature Class	Temperature Class	Associated Maximum Ambient
	(Gas)	(Dust)	Temperature
D1xC1X05-DC024-A	T4	T115°C	-55°C to +75°C
	T5	-	-55°C to +55°C
	T6	-	-55°C to +40°C
D1xC1X05-AC115-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC1X05-AC230-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC2X05-DC024-A	T4	T115°C	-55°C to +75°C
	T5	-	-55°C to +55°C
	T6	-	-55°C to +40°C
D1xC2X05-AC115-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC2X05-AC230-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC1X10-DC024-A	T3	T137°C	-55°C to +75°C
	T4	-	-55°C to +65°C
D1xC1X10-AC115-A	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C
D1xC1X10-AC230-A	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C



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D1xC2X10-DC024-A	Т3	T137°C	-55°C to +75°C
	T4	-	-55°C to +65°C
D1xC2X10-AC115-A	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C
D1xC2X10-AC230-A	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C

Electrical data

Loudspeakers:

Model	Voltage Range	Frequency
D1xL1-V725,	70V Line / 25V Line	N/A
D1xL2-V725,		
D1xL1-V725-A,		
D1xL2-V725-A		
D1xL1-V070,	70V Line	N/A
D1xL2-V070,		
D1xL1-V070-A,		
D1xL2-V070-A		
D1xL1-V100-A,	100V Line	N/A
D1xL2-V100-A		
D1xL1-R008,	10.95V Max. I/P	N/A
D1xL1-R008-A		
D1xL1-R016,	15.49V Max. I/P	N/A
D1xL1-R016-A		
D1xL2-R008,	14.14V Max. I/P	N/A
D1xL2-R008-A		
D1xL2-R016,	20.00V Max. I/P	N/A
D1xL2-R016-A		
D1xL1-AXIS-A,	Power over Ethernet (PoE)	N/A
D1xL2-AXIS-A	IEEE 802.3af/802.3at Type 1 Class 3 (Max. 12.95 W)	

^{&#}x27;-' Horn Type

Sounders:

Model	Sounder PCBA Power Mode	Voltage Range	Frequency
D1xS1-DC024-A	Low	11.5-54VDC	-
D1xS2-DC024-A	Medium & High		
D1xS1-DC024-S	Low	20-28VDC	-
D1xS2-DC024-S	Medium & High		
D1xS1-AC230-A	Low	100-240VAC	50/60Hz
D1xS2-AC230-A	Medium & High		

^{&#}x27;-' Horn Type

Sounder Beacons:

Model	Sounder PCBA Power Mode	Voltage Range	Frequency
D1xC1X05-DC024-A,	Low	20-28VDC	-
D1xC1X10-DC024-A			
D1xC2X05-DC024-A,	Medium & High		
D1xC2X10-DC024-A			
D1xC1X05-AC115-A,	Low	110-120VAC	50/60Hz
D1xC1X10-AC115-A,			
D1xC2X05-AC115-A,	Medium & High		
D1xC2X10-AC115-A			
D1xC1X05-AC230-A	Low	220-240VAC	50/60Hz
D1xC1X10-AC230-A			
D1xC2X05-AC230-A,	Medium & High		
D1xC2X10-AC230-A	1		

^{&#}x27;-' Horn Type



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Routine tests

D1xC* Units only:

Routine overpressure tests in accordance with EN 60079-1:2014 shall be conducted on a number of units (detailed below) in accordance with clause 16.6, at a pressure of 222 psi / 15.3 bar for a duration of not less than 10 seconds. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection. The cement joint is not permitted to leak. If there are any non-compliant results, all remaining samples in the batch and future batches shall be tested at 1.5 times the reference pressure until confidence is established to reconsider batch testing.

- For a production batch up to 100, a sampling of 8 needs to be tested at 1.5 times the reference pressure with no failure.
- For a production batch from 101-1000, a sampling of 32 needs to be tested at 1.5 times the reference pressure with no failures.
- For a production batch from 1001 up to 10,000, a sampling of 80 needs to be tested at 1.5 times the reference pressure with no failures.
- Batches above 10,000 must be subdivided into smaller batches.
- [16] <u>Test Report No. (associated with this certificate issue)</u>

The test report no. is provided under item no. [8] on page 1 of this UK-Type Examination Certificate.

- [17] Specific conditions of use:
 - No repair to the flameproof joints is permitted.
- [18] <u>Conditions of certification:</u>

None

[19] <u>Essential Health and Safety Requirements (Regulations Schedule 1)</u>

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information



The trademark

hals will be used as the company identifier on the marking label.

The manufacturer shall inform the approved body concerning all modifications to the technical documentation as described in UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.



[14]

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[20] <u>Drawings and Documents</u>

Title:	Drawing No.:	Rev. Level:	Date:
D1x Combined Sounder Beacon GA Scheduled Drawing	D190-00-301-SC	G	2023-09-04
D1x Sounder GA Scheduled Drawing	D190-00-001-SC	Н	2023-09-04
D1xC1/D1xC2 24V DC 5J Driver Board	D190-26-581-CL-SC	С	2015-02-13
D1xC1/D1xC2 24V DC 5J Tube Board	D190-28-581-CL-SC	С	2015-02-13
D1xC1/D1xC2 5J 115VAC Driver Board	D190-36-581-CL-SC	С	2015-02-13
D1xC1/D1xC2 5J 230VAC Driver Board	D190-37-581-CL-SC	С	2015-02-13
D1xC1/D1xC2 5J 230VAC Tube Board	D190-38-581-CL-SC	С	2015-02-13
Global SIL2 Sounder monitor Circuit Diagram	D221-26-251-CD-SC	А	2019-09-15
Global A112N/A121 DC Sounder Circuit Diagram	D221-28-001-CD-SC	С	2021-02-24
D1xC1/D1xC2 5J & 10J DC Beacon Driver UL Approved Diagram	D190-26-581-CD-SC	В	2014-10-16
D1xC1 / D1xC2 5J & 10J DC Beacon Tube UL Approved Diagram	D190-28-581-CD-SC	С	2015-02-13
D1xC1 / D1xC2 115V & 230V 5J & 10J AC Beacon Driver UL Approved Diagram	D190-36-581-CD-SC	С	2015-02-13
D1xC1/D1xC2 5J & 10J AC Beacon Tube UL Approved Diagram	D190-38-581-CD-SC	С	2015-02-10
D1xS1 10-30 VDC UL Approved Circuit Diagram	D190-28-101-CD-SC	В	2015-06-02
D1xS1 115/230 VAC UL Approved Circuit Diagram	D190-38-101-CD-SC	В	2015-06-02
D1xS1 Sounder Labels ATEX/IECEx Gas Approved	D190-99-001-SC	Е	2023-09-04
D1xC1 Combined Labels UL Gas Approved ATEX/IECEx	D190-99-301-SC	D	2021-11-29
Global A112n/A121 Class D	D221-28-051-CD-SC	В	2020-07-09
Power amplifier circuit diagram			
Global A112N/A121 AC Sounder Circuit Diagram	D221-38-001-CD-SC	В	2020-02-18
SIL2 Global Sounder PCBA	D221-26-251-CL-SC	Α	2020-01-07
Global A112N/A121 DC 10-60V	D221-28-001-CL-SC	В	2021-04-20
Class D Amplifier	D221-28-051-CL-SC	В	2020-06-22
Global A112N/A121 AC PCBA Assy	D221-38-001-CL-SC	В	2021-04-21
D1xL1/D1xL2 Loudspeaker Labels ATEX/IECEx Approval	D190-99-201-SC	В	2023-08-16
D1xL1 & D1xL2 Loudspeaker Range GA	D190-00-201-SC	F	2023-09-04
D1x L1 LOUDSPEAKER UL CIRCUIT DIAGRAM	D190-45-201-CD-SC	В	2021-11-23
D1x L2 LOUDSPEAKER UL CIRCUIT DIAGRAM	D190-45-251-CD-SC	В	2021-11-23
D1xS1 Installation Instructions	D190-00-001-IS-SC-ATEX	А	2021-11-29
D1xS2 Installation Instructions	D190-00-101-IS-SC-ATEX	А	2021-11-29
D1xL1 & L2 Installation Instructions	D190-00-201-IS-SC-ATEX	В	2023-08-16
D1xC1 & C2 Installation Instructions	D190-00-301-IS-SC-ATEX	А	2021-11-29
D1xL1 & D1xL2 line in & low impedance loudspeaker wiring diagrams	D190-06-201	2	2023-02-08
70V line audio matching transformer 25W	D 24104	А	2003-04-24
70V line audio matching transformer 15W	D 24105	А	2003-04-24
100V line audio matching transformer 25W	D 2418	В	2001-09-04
100V line audio matching transformer 15W	D 2419	В	2001-09-04
D1xL Line Transformer 15W 70/25V Line	D243-80-175	1	2023-06-20
D1xL Line Transformer 25W 70/25V Line	D243-80-275	1	2023-06-20
D1xS1/D2xS2 Sounder Labels UKCA Approval	D190-99-001-SC-UK	В	2023-09-04
D1xC1/D1xC2 COMBINED LABELS UKCA APPROVAL	D190-99-301-SC-UK	А	2021-12-10



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Title:	Drawing No.:	Rev. Level:	Date:
D1xS1 Installation Instructions	D190-00-001-IS-SC-UK	А	2021-12-10
D1xS2 Installation Instructions	D190-00-101-IS-SC-UK	А	2021-12-10
D1xL1 & D1xL2 Installation Instructions	D190-00-201-IS-SC-UK	А	2021-12-10
D1xC1 & D1xC2 Installation Instructions	D190-00-301-IS-SC-UK	А	2021-12-10

