



[1]

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.: **UL21UKEX2130X Rev. 2**

[4] Product: **D1xB2 range of signalling Strobe, and LED Beacons, and D1xJ2 Junction Boxes, D2x Heat Detectors and D1x Heat Detectors**

[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/ExTR19.0006/03**

[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 IEC 60079-7:2015/A1:2018  
EN 60079-11:2012                      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 1 G    **Ex ia IIC T6 Ga** (Heat Detectors – D2xH1-I)  
 II 1 G    **Ex ia IIC T4 Ga** (Heat Detectors – D2xH1-IR)  
 II 2 G    **Ex db IIC T6....T3 Gb** (D1xB2, D1xJ2, D1xH1-A/H)  
 II 2 G    **Ex eb IIC T6...T5 Gb** (D1xJ2-E)  
 II 2 G    **Ex db eb IIC T6...T5 Gb** (D1xH1-E)  
 II 2 D    **Ex tb IIIC T85°C ...T169°C Db** (D1xB2, D1xJ2, D1xH1, D2xH1)

**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:** 2021-08-25

**Re-issued:** 2024-08-05

**Approved Body**

UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK  
Phone : +44 (0)1256 312100



[13]

[14]

## Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2130X Rev. 2

[15] Description of Product

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, D1xH Heat Detector and D2xH Heat Detector.. The Junction Box and Heat Detector are closed with a single piece moulded threaded cover instead of the beacon lens and may be fitted with optional indicator LED module (except for Ex eb models).

The intrinsically safe heat detector consists of the D2xJ1 enclosure, heat detector and wiring terminals. D2xH1-IR models may also be fitted with optional EOL Series devices including optional LED module.

Nomenclature (Beacons):

Model	Beacon energy (Joules)	Voltage	Suffixes
D1xB2X	05	DC012	Up to 4 alpha numeric characters, not associated with equipment certification
		DC024	
		DC048	
		AC115	
		AC230	
D1xB2X	10	DC024	
		DC048	
		AC115	
		AC230	
D1xB2X	15	DC024	
		DC048	
		AC115	
		AC230	
D1xB2X	21	DC024	
		DC048	
		AC115	
		AC230	
D1xB2LD2 (LED beacon)	-	DC024	
	-	AC115	
	-	AC230	

[13]

[14]

## Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2130X Rev. 2

Nomenclature (Junction boxes):

Model	Suffix
D1xJ2	T01 = Terminal block
	D01 = Din Rail AKZ
	M01 = Module mounted on internal bracket
	-E = Increased safety

Nomenclature (Heat Detectors):

Model	Suffix
D1xH1-	A = Ex db / Ex tb model
	H = Ex db / Ex tb high temperature model
	E = Ex eb / Ex tb model
D2xH1-	I = Ex ia model / Ex tb model
	IR = Ex ia, with resistor model / Ex tb with resistor model

Performance testing

The optical radiation output of the Beacon 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 not covered in this certificate.

The optical radiation output of the LED indicator included in this 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 ratings (Beacons):

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D1xB2X05DC012	Ex db IIC	T4	-55°C to +80°C
D1xB2X05DC024		T5	-55°C to +75°C
D1xB2X05DC048		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 +80°C
D1xB2X05AC230		T5	-55°C to +50°C
D1xB2X05AC230	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
D1xB2X10DC048	Ex tb IIIC	T135°C	-55°C to +80°C
D1xB2X10AC115	Ex db IIC	T3	-55°C to +70°C
D1xB2X10AC230		T4	-55°C to +65°C
D1xB2X10AC230	Ex tb IIIC	T139°C	-55°C to +70°C
D1xB2X15DC024	Ex db IIC	T3	-55°C to +80°C
D1xB2X15DC048		T4	-55°C to +65°C
D1xB2X15DC048	Ex tb IIIC	T146°C	-55°C to +80°C
D1xB2X15AC115	Ex db IIC	T3	-55°C to +70°C
D1xB2X15AC230		T4	-55°C to +65°C
D1xB2X15AC230	Ex tb IIIC	T139°C	-55°C to +70°C
D1xB2X21DC024	Ex db IIC	T3	-55°C to +80°C
D1xB2X21DC024		T4	-55°C to +45°C

[13]

[14]

## Schedule

### UK-TYPE EXAMINATION CERTIFICATE No.

#### UL21UKEX2130X Rev. 2

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D1xB2X21DC048	Ex tb IIIC	T169°C	-55°C to +80°C
D1xB2X21AC115	Ex db IIC	T3	-55°C to +60°C
		T4	-55°C to +50°C
D1xB2X21AC230	Ex tb IIIC	T141°C	-55°C to +60°C
D1xB2LD2	Ex db IIC	T5	-55°C to +80°C
		T6	-55°C to +70°C
	Ex tb IIIC	T95°C	-55°C to +80°C

Temperature ratings (Junction Boxes):

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D1xJ2***	Ex db IIC	T4	-55°C to +80°C
		T5	-55°C to +70°C
		T6	-55°C to +55°C
	Ex tb IIIC	T106°C	-55°C to +80°C
D1xJ2-E	Ex eb IIC	T5	-55°C to +80°C
		T6	-55°C to +75°C
	Ex tb IIIC	T85°C	-55°C to +80°C

Temperature ratings (Heat Detectors):

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D1xH1-A	Ex db IIC	T4	-55°C to +80°C
		T5	-55°C to +70°C
		T6	-55°C to +55°C
	Ex tb IIIC	T106 °C	-55°C to +80°C
D1xH1-H	Ex db IIC	T4	-55°C to +125°C
		T5	-55°C to +90°C
		T6	-55°C to +75°C
	Ex tb IIIC	T130 °C	-55°C to +125°C
T85 °C		-55°C to +80°C	
D1xH1-E	Ex db eb IIC	T5	-55°C to +80°C
		T6	-55°C to +75°C
		T85°C	-55°C to +80°C
D2xH1-I	Ex ia IIC	T6	-40°C to +50°C
	Ex tb IIIC	T75°C	-40°C to +50°C
D2xH1-IR	Ex ia IIC	T4	-40°C to +50°C
	Ex tb IIIC	T75°C	-40°C to +50°C

[13]

[14]

## Schedule

### UK-TYPE EXAMINATION CERTIFICATE No.

#### UL21UKEX2130X Rev. 2

Electrical Data (Beacons):

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

Electrical Data (Junction Boxes):

Model	Voltage DC	Voltage AC	Freq. Hz	Maximum power Watts	Maximum Current Amps
D1xJ2***	60VDC Max	260VAC Max	50/60	10 Watts	-
D1xJ2-E	60VDC Max	260VAC Max	50/60	-	5A

Electrical Data (Heat Detectors):

Model	Voltage DC	Voltage AC	Freq. Hz	Maximum power Watts	Maximum Current Amps
D1xH1-A	125Vdc	125Vac	50/60	10 Watts	-
D1xH1-H				1.25 Watts	-
D1xH1-E	24Vdc	-	--	-	2A
	32Vdc	-	-	-	1A
	-	32Vac	50/60	-	5A

For Intrinsic Safety models D2xH1-I and D2xH1-IR:

$U_i = 30V$   
 $I_i = 500mA$   
 $P_i = 1100mW$   
 $C_i = 0$   
 $L_i = 0$

[13]

[14]

## Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2130X Rev. 2

### 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.

The cemented lead seal of the LED modules shall be subjected to a batch overpressure test of at least 363 psi / 25.02 bar for at least 10 s in accordance with Clause 16.6 of IEC 60079-1, 7th Edition.

Heat Detector probe integrity of welds are to be verified by one of the inspection methods in accordance with Clause 16.3 of IEC 60079-1, 7th Edition.

All D1xH1-E shall be routinely dielectrically strength tested. The tests shall be performed as described in IEC 60079-7, clause 6.1, at 500V rms for at least 1 minute (or 600V rms for at least 100 ms).

[16]

### Test Report No. (associated with this certificate issue)

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

[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.
- End of line monitoring diode or an end of line monitoring resistor can be connected across the +ve and –ve terminals. These must maintain creepage and clearance distances to bare conductive parts at different potentials, of at least 1.8mm for voltages up to 60Vdc or ac, and at least 5.0mm for voltages up to 250Vdc or ac. (Specific to D1xJ2-E, only).
- End of line monitoring diode or an end of line monitoring resistor can be connected across the +ve and –ve terminals. These must maintain creepage and clearance distances to bare conductive parts at different potentials, of at least 1.8mm. (Specific to D1xH1-E, only)

For Ex ia Intrinsically Safe installation of models D2xH1-I and D2xH1-IR:

- End user shall adhere to the manufacturer's installation and instruction when performing housekeeping to avoid the potential for hazardous electrostatic charges during cleaning, by using a damp cloth.
- The equipment does not provide 500V isolation between the intrinsically safe circuit and parts which may be earthed. This shall be considered in the end-use application to ensure the possibility of an earth connection will not compromise intrinsic safety. Refer to EN/IEC 60079-14.
- Avoid impact or friction with the equipment.

[18]

### Conditions of certification:

None


[19]

### 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



The trademark  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.

[13]

[14]

## Schedule UK-TYPE EXAMINATION CERTIFICATE No. UL21UKEX2130X Rev. 2

[20] Drawings and Documents

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
<b>ENCLOSURE GENERAL ASSEMBLIES</b>			
D1xB2X05, X10, X15, X21 Xenon Beacon Scheduled Drawing	D191-00-201-SC	E	2024-04-22
D1xJ2 Junction Box Scheduled Drawing	D191-00-501-SC	F	2023-11-27
D1xH1-E Ex e Heat Detector	D255-00-031-SC	A	2024-04-12
D1xH1-A & D1xH1-H Ex d Heat Detector	D255-00-001-SC	A	2024-04-12
D2xH1 Ex ia Heat Detector	D255-00-351-SC	A	2024-01-05
D2x Junction Box Scheduled Drawing	D211-00-501-SC	B	2017-04-18
LED Indicator Construction Drg.	D249-00-001-SC	B	2023-03-30
D1xJ2 Ex e Junction Box Scheduled Drawing	D191-00-531-SC	A	2024-04-12
<b>CIRCUIT DIAGRAMS</b>			
D1xB2X05, 10 & 15 DC Xenon Beacon	D212-25-205-CD-SC	A	2018-02-06
D1xB2X 115, 230 Vac 5J, 10J & 15J Xenon Beacon	D212-36-205-CD-SC	C	2018-10-03
D1xB2XH2 21J 24VDC UL1971	D212-26-251-CD-SC	C	2018-02-05
D1xB2X21 AC 115, 230 VAC 21J Xenon Beacon	D212-36-221-CD-SC	B	2018-10-04
D2x B1XH1, XH2, 5J & 10J – UL1971 24VDC Circuit Diagram	D211-26-251-CD-SC	B	2017-06-05
D1x LD2 LED Beacon Scheduled Circuit Diagram	D212-28-401-CD-SC	B	2018-10-03
SIL2 Beacon Monitor Scheduled Circuit Diagram	D212-26-291-CD-SC	A	2018-02-19
<b>COMPONENT LISTS</b>			
D1xB2 12VDC 5J Xenon PCBA	D212-25-205-CL-SC	A	2018-02-02
D1xB2 24VDC 5J Xenon PCBA	D212-26-205-CL-SC	A	2018-02-02
D1xB2 48VDC 5J Xenon PCBA	D212-27-205-CL-SC	B	2018-10-03
D1xB2 24VDC 10J Xenon PCBA	D212-26-210-CL-SC	A	2018-02-02
D1xB2 48VDC 10J Xenon PCBA	D212-27-210-CL-SC	B	2018-10-03
D1xB2 24VDC 15J Xenon PCBA	D212-26-215-CL-SC	A	2018-02-02
D1xB2 48VDC 10J Xenon PCBA	D212-27-215-CL-SC	B	2018-10-03
D1xB2X05 115VAC 5J Xenon	D212-36-205-CL-SC	C	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	B	2018-07-17
D1xB2X10 230VAC 10J Xenon	D212-37-210-CL-SC	C	2018-12-05
D1xB2X15 115VAC 15J Xenon	D212-36-215-CL-SC	B	2018-07-17
D1xB2X15 230VAC 15J Xenon	D212-37-215-CL-SC	C	2018-12-05
D1xB2 Xenon Surface Mount DC	D212-28-201-CL-SC	A	2018-02-02
D1xB2XH2 21J Xenon UL1971 PCBA	D212-26-251-CL-SC	B	2018-01-30
D1xB2X21 21J Xenon 48Vdc PCBA	D212-27-221-CL-SC	B	2018-10-03
D1xB2X21 115VAC 21J Xenon	D212-36-221-CL-SC	C	2018-12-05
D1xB2X21 230VAC 21J Xenon	D212-37-221-CL-SC	C	2018-12-05
D1x – D2x Beacon Control Board – UL1971	D211-26-261-CL-SC	B	2017-06-15
D1x LED Beacon 115VAC	D212-36-401-CL-SC	A	2018-02-13
D1x LED Beacon 230VAC	D212-37-401-CL-SC	A	2018-02-13
D1x DC LED Beacon	D212-28-401-CL-SC	A	2018-02-13
SIL2 Beacon 24Vdc PCBA	D212-26-291-CL-SC	A	2018-02-19

[13]

[14]

**Schedule**  
**UK-TYPE EXAMINATION CERTIFICATE No.**  
**UL21UKEX2130X Rev. 2**

<b>Technical Documents</b>			
Title:	Drawing No.:	Rev. Level:	Date:
<b>INSTRUCTION MANUALS AND LABELS</b>			
Instruction Manual D1xB2X Xenon Beacons for use in Hazardous Locations	D191-00-201-IS-SC	F	2024-02-23
Instruction Manual D1xB2LD2 LED Beacons for use in Hazardous Locations	D191-00-401-IS-SC	F	2024-02-23
Instruction Manual D1xJ2 Junction Box for use in Hazardous Locations	D191-00-501-IS-SC	E	2024-04-12
D1xB2 Beacon Product Label	D191-99-201- SC	J	2024-04-12
D2xH1-1 & -IR Heat Detector Product Label ATEX/IECEX/UKEx	D255-99-351-SC	A	2024-02-02
D2xH1-I & D2xH1-IR Heat Detector Instructions ATEX/IECEX/UKEx	D255-00-351-IS-SC	A	2024-02-02
Instruction Manual D1xH1 Heat Detector For use in hazardous Locations	D255-00-001-IS-SC	A	2024-04-12
Instruction Manual D1xH1-E Heat Detector ATEX / IECEX / UKEx Zone 1, 2, 21, 22	D255-00-031-IS-SC	A	2024-04-12
*D1xH1-E Ex d e Heat Detector product label ATEX/IECEX/UKEX	D255-99-031-SC	B	2024-06-28
Instruction Manual D1xJ2-E Junction box for use in Hazardous Locations	D191-00-531-IS-SC	A	2024-04-12
D1xJ2 Ex e Junction Box Scheduled Drawing	D191-99-531-SC	A	2024-04-12
*D1xH1-A & -H Ex d Heat Detector Product Label ATEX/IECEX/UKEx	D255-99-001-SC	B	2024-06-28