## **EU-TYPE EXAMINATION CERTIFICATE**



Equipment or Protective System intended for use in Potentially Explosive Atmospheres

Directive 2014/34/EU

- [3] EU-Type Examination Certificate Number: **DEMKO 19 ATEX 2009X Rev. 1**
- [4] Product: D1xB2 range of signalling Strobe and LED Beacons and D1xJ2 Junction Boxes
- [5] Manufacturer: European Safety Systems Limited

[1]

[2]

- [6] Address: Impress House, Units 18 & 20, Mansell Rd., Acton, London W3 7QH GB UK
- [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 Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

  The examination and test results are recorded in confidential report no. 4788165584.5.1
- [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

- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.
- [12] The marking of the product shall include the following:



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

Certification Manager
Jan-Erik Storgaard

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 ATEX 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 Directives. 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: 2019-05-03 Re-issued: 2019-06-14

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**Notified Body** 

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

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## **Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2009X** Rev. 1

#### [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 but closed with a single piece moulded threaded cover instead of the beacon lens.

Model	Beacon energy (Joules)	Voltage	Suffixes
		DC012	
		DC024	
D1xB2X	05	DC048	
		AC115	
8 1		AC230	
:		DC024	
D1xB2X	10	DC048	
DIXDZA	10	AC115	Lin to 4 alpha
12 27		AC230	Up to 4 alpha
	15	DC024	numeric characters, not associated with
D1xB2X		DC048	equipment
DIXDZA	15	AC115	certification
		AC230	Certification
		DC024	
D1xB2X	21	DC048	
DIXDZA	21	AC115	
		AC230	
D1xB2LD2	-	DC024	
(LED beacon)	-	AC115	
(LLD 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
		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	EX do 110	T5	-55°C to +50°C
D IXBZXU5ACZ30	Ex tb IIIC	T116°C	-55°C to +70°C
D1xB2X10DC024	Ex db IIC	T4	-55°C to +80°C
D4D2V40DC040	LX db 110	T5	-55°C to +45°C
D1xB2X10DC048	Ex tb IIIC	T135°C	-55°C to +80°C
D1xB2X10AC115	Ex db IIC	Т3	-55°C to +70°C
D4D2V404-0220	EX db 110	T4	-55°C to +65°C
D1xB2X10AC230	Ex tb IIIC	T139°C	-55°C to +70°C
D1xB2X15DC024	Ex db IIC	Т3	-55°C to +80°C
D4.:P3V4ED0040	EX db 110	T4	-55°C to +65°C
D1xB2X15DC048	Ex tb IIIC	T146°C	-55°C to +80°C
D1 D0V1510115	F. # #0	T3	-55°C to +70°C
D1xB2X15AC115	Ex db IIC	T4	-55°C to +65°C
D1xB2X15AC230	Ex tb IIIC	T139°C	-55°C to +70°C
D1xB2X21DC024	F., db IIC	T3	-55°C to +80°C
D1xB2X21DC048	Ex db IIC	T4	-55°C to +45°C

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## **Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2009X** Rev. 1

4	Ex tb IIIC	T169°C	-55°C to +80°C
D1xB2X21AC115	Ex db IIC	Т3	-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
> <sub>11</sub>	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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# Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2009X Rev. 1

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.

[16] <u>Descriptive Documents</u>

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-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.

[18] Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

#### Additional information



The trademark

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

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

Accredited by DANAK under registration number 7011 to certification of products.

## **EU-TYPE EXAMINATION CERTIFICATE**



Equipment or Protective System intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU

- [3] EU-Type Examination Certificate Number: **DEMKO 19 ATEX 2141X Rev. 2**
- [4] Product: Loudspeakers (D1xL\*), Sounders (D1xS\*) and Combined Sounder Beacons (D1xC\*)
- [5] Manufacturer: European Safety Systems Limited

[1]

[2]

- [6] Address: Units 18 & 20, 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 Demko A/S, notified body number 0539 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in confidential report no. 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 60079-31:2014 EN 60079-1:2014 IEC 60079-31, Edition 3.0 (2022-01)

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.
- [11] This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.
- [12] The marking of the product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

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

Ex tb IIIC T82°C ...T145°C Db

Certification Manager

Thomas Wilson

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 ATEX 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 Directives. 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: 2019-04-30 Re-issued: 2023-09-06

**Notified Body** 

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### Schedule **EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2141X Rev. 2**

[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	
D1xS1 – low power	AC230	-A – Standard Unit	
D1x31 = low power	DC024		
D1xS2 – medium and high power	AC230		
D1x32 = Medidin and high power	DC024	, ,	

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	
D1vC2V modium and high nower sounder	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

Model	
D1xL1FV725-A	15W, 25V to 70V loudspeaker, standard unit
D1xL2FV725-A	25W, loudspeaker, small flare
D1xL2HV725-A	25W, loudspeaker, large flare
D1xL1FV070	15W 70V loudspeaker
D1xL1FV070-A	15W 70V loudspeaker, standard unit
D1xL2FV070	25W 70V loudspeaker, small flare
D1xL2HV070	25W 70V loudspeaker, large flare
D1xL2FV070-A	25W 70V loudspeaker, standard unit, small flare
D1xL2HV070-A	25W 70V loudspeaker, standard unit, large flare
D1xL1FV100-A	15W 100V loudspeaker, standard unit
D1xL2FV100-A	25W 100V loudspeaker, standard unit, small flare
D1xL2HV100-A	25W 100V loudspeaker, standard unit, large flare
D1xL1FR008-A	15W, 8 ohm resistance loudspeaker, standard unit
D1xL1FR016-A	15W, 16 ohm resistance loudspeaker, standard unit
D1xL2FR008-A	25W 8 ohm resistance loudspeaker, standard unit, small flare
D1xL2FR016-A	25W 16 ohm resistance loudspeaker, standard unit, small flare
D1xL2HR008-A	25W 8 ohm resistance loudspeaker, standard unit, large flare
D1xL2HR016-A	25W 16 ohm resistance loudspeaker, standard unit, large flare
D1xL1-AXIS-A	12.95W PoE input, loudspeaker, small flare
D1xL2-AXIS-A	12.95W PoE input, loudspeaker, large flare

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

#### 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 covered in this certificate based on Exception 2 to the scope of EN 60079-28:2015.

#### Temperature range:

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



## Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2141X Rev. 2

#### Loudspeaker:

Models	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient 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	Temperature	Associated Maximum Ambient
	Class (Gas)	Class (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
	T6	-	-55°C to +60°C
D1xS2-DC024-S	T5	T95°C	-55°C to +75°C
	T6	-	-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	Temperature	Associated Maximum
	Class (Gas)	Class (Dust)	Ambient 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
D1xC2X10-DC024-A	T3	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



#### [14]

## Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2141X Rev. 2

#### 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)	

<sup>&#</sup>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		

<sup>&#</sup>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		11
D1xC2X10-AC230-A			

<sup>&#</sup>x27;-' Horn Type

#### 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>Descriptive Documents</u>

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.



[13] [14]

**Schedule EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 19 ATEX 2141X Rev. 2** 

- [17]
- Specific conditions of use:
- No repair to the flameproof joints is permitted.
- [18]

<u>Essential Health and Safety Requirements</u>
The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information



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

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

