

TYPE EXAMINATION CERTIFICATE



[1]

[2]

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

[3]

Type Examination Certificate Number: **DEMKO 14 ATEX 4786493904X Rev. 4**

[4]

Product: **D2xS1 Sounder, D2xC1 Beacon Sounder, D2xB1 Beacon, D2xC2 Beacon Sounder and D2xJ1 Junction Box**

[5]

Manufacturer: **European Safety Systems Limited**

[6]

Address: **Units 18 & 20, Impress House, Mansell Road, Acton, London W3 7QH, United Kingdom**

[7]

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **4788564230.5.1**

[9]

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

EN 60079-0:2012+A11:2013

EN 60079-15:2010

EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

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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 Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12]

The marking of the product shall include the following:



II 3 G Ex nA IIC T6/T4/T3/T2/T1 Gc



II 3 D Ex tc IIIC T55/75/80/85/90/95/105/110°C Dc

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: 2015-03-03

Re-issued: 2019-11-25



Certification Body

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Schedule

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[15] Description of Product:

D2xS1 (sounder) comprises an aluminium enclosure housing components to generate selectable tones. The enclosure is sealed with o-rings to prevent ingress of dust or water. Up to two M20 threaded entries may be provided for installation of appropriately certified cable entry devices by the end user. t

D2xC1X05 (sounder beacon) is the same aluminium housing as the D2xS1, except on one end the beacon assembly is mounted. The lamp is protected by a lens and wire guard. The lens and retaining ring screws are sealed with o-rings to prevent ingress of dust or water. Additional electrical components associated with the operation of the 5 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xC1X10 (sounder beacon) is the same aluminium housing as the D2xS1, except on one end the beacon assembly is mounted. The lamp is protected by a lens and wire guard. The lens and retaining ring screws are sealed with o-rings to prevent ingress of dust or water. Additional electrical components associated with the operation of the 10 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xB1X05 (beacon) comprises an aluminium enclosure housing components to generate visual outputs. The enclosure is sealed with o-rings to prevent ingress of dust and water. Up to 7 M20, ½ NPT or ¾ NPT threaded entries may be provided for installation of appropriately certified cable entry devices by the end user. The lamp is protected by a lens and an optional wire guard. Additional electrical components associated with the operation of the 5 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xB1X10 (beacon) is the same aluminium housing enclosure as the D2xB1X05. The lamp is protected by a lens and an optional wire guard. Additional electrical components associated with the operation of the 10 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xB1LD2 (beacon) is the same aluminium housing enclosure as the D2xB1X05. The lamp is protected by a lens and an optional wire guard. Additional electrical components associated with the operation of the LED beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xB1LD3 (beacon) is the same aluminium housing enclosure as the D2xB1X05. The lamp is protected by a lens and an optional wire guard. Additional electrical components associated with the operation of the LED beacon, are installed within the housing and reflected by the nomenclature with "DC" followed by the voltage.

D2xC2X05 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. Additional electrical components associated with the operation of the 5 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xC2X10 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. Additional electrical components associated with the operation of the 10 Joule beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xC2LD2 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. Additional electrical components associated with the operation of the LED beacon, are installed within the housing and reflected by the nomenclature with "AC or DC" followed by the voltage.

D2xC2LD3 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. Additional electrical components associated with the operation of the LED beacon, are installed within the housing and reflected by the nomenclature with "DC" followed by the voltage.

D2xJ1T(Junction Box) is the same aluminium housing as the D2xB1X05 with the junction box lid replacing the lens assembly lid. The enclosure is provided with a 12 Way Terminal Block.

D2xJ1D(Junction Box) is the same aluminium housing as the D2xB1X05 with the junction box lid replacing the lens assembly lid. The enclosure is provided with a DIN rail for installation for up to 12 AKZ 2.5 terminal blocks, and 4 AKE 2.5 Terminal blocks.

D2xB1XH1DC024 (beacon) is the same aluminium housing enclosure as the D2xB1X05. The lamp is protected by a lens and an optional wire guard. The electronics are similar to that of D2xB1X05DC024, with the addition of a low voltage sub board to control flash rate timing.

D2xB1XH2DC024 (beacon) is the same aluminium housing enclosure as the D2xB1X05. The lamp is protected by a lens and an optional wire guard. The electronics are similar to that of D2xB1X10DC024, with the addition of a low voltage sub board to control flash rate timing.

D2xC2XH1DC024 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. The model utilizes the D2xB1XH1DC024 beacon coupled with D2xS1DC024.

D2xC2XH2DC024 (sounder beacon) is the same aluminium housing as the D2xB1X05, coupled with the D2xS1 aluminium enclosure. Two brass connectors with locknuts secure the two housings together with a neoprene foam seal providing the ingress protection. The model utilizes the D2xB1XH2DC024 beacon coupled with D2xS1DC024.

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Nomenclature:

Model	Beacon energy (Joules)	Voltage	Suffixes
D2xS1 (Sounder)		AC115	Up to 4 alpha numeric characters, not associated with equipment certification
		AC230	
		DC024	
		DC048	
D2xC1X (sounder beacon)	05, 10	AC115	
		AC230	
		DC024	
		DC048	
D2xB1X (beacon)	05	DC024	
		DC048	
		AC115	
		AC230	
D2xB1X (beacon)	10	DC024	
		DC048	
		AC115	
		AC230	
D2xB1LD2 (LED beacon)	-	DC024	
	-	AC115	
D2xB1LD3 (LED beacon)	-	AC230	
	-	DC024	
D2xC2X	05	DC024	
		DC048	
		AC115	
		AC230	
D2xC2X	10	DC024	
		DC048	
		AC115	
		AC230	
D2xC2LD2	-	DC024	
	-	DC048	
	-	AC115	
	-	AC230	
D2xC2LD3 (LED beacon)	-	DC024	
D2xJ1T	-	-	
D2xJ1D	-	-	
D2xB1XH1	-	DC024	
D2xB1XH2	-	DC024	
D2xC2XH1	-	DC024	
D2xC2XH2	-	DC024	

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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:

Equipment Group	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D2xS1	Ex nA IIC	T4 (<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T90°C	-40°C ≤ Tamb ≤ +50°C
D2xC1X05	Ex nA IIC	T2 (<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T90°C	-40°C ≤ Tamb ≤ +50°C
D2xC1X10	Ex nA IIC	T2 (<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T1 (<450°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T110°C	-40°C ≤ Tamb ≤ +50°C
D2xB1LD2	Ex nA IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xB1LD3	Ex nA IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X05DC024	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T80°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X05DC048 D2xB1X05AC115 D2xB1X05AC230	Ex nA IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T1(<450°C)	-40°C ≤ Tamb ≤ +50°C
D2xB1X10DC024	Ex tc IIIC	T105°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2xB1X10DC048 D2xB1X10AC115 D2xB1X10AC230	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2X05DC024	Ex nA IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
D2xC2X05DC048 D2xC2X05AC115 D2xC2X05AC230	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T85°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2xC2X10DC024	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2xC2X10DC048 D2xC2X10AC115 D2xC2X10AC230	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
	Ex nA IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2LD2	Ex nA IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2LD3	Ex nA IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xJ1T	Ex nA IIC	T6(<85°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T55°C	-40°C ≤ Tamb ≤ +50°C
D2xJ1D	Ex nA IIC	T6(<85°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T55°C	-40°C ≤ Tamb ≤ +50°C
D2xB1XH1	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T80°C	-40°C ≤ Tamb ≤ +50°C
D2xB1XH2	Ex nA IIC	T1 (<450°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T105°C	-40°C ≤ Tamb ≤ +50°C
D2xC2XH1	Ex nA IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2XH2	Ex nA IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T85°C	-40°C ≤ Tamb ≤ +50°C

Electrical data

Model	Electrical Ratings			
	DC	AC	Hz	Max. Amps, mA
D2xS1DC024	10-30	-	-	313
D2xS1DC048	38-58	-	-	218
D2xS1AC115	-	103.5-126.5	60	91
D2xS1AC230	-	207-253	50	72
D2xC1X05DC024	20-28	-	-	521
D2xC1X05DC048	42-58	-	-	328
D2xC1X05AC115	-	115-125	60	183
D2xC1X05AC230	-	215-250	50	77
D2xC1X10DC024	20-28	-	-	876
D2xC1X10DC048	42-58	-	-	475
D2xC1X10AC115	-	115-125	60	343

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Model	Electrical Ratings			
	DC	AC	Hz	Max. Amps, mA
D2xC1X10AC230	-	215-250	50	115
D2xB1X05DC024	20-28	-	-	296
D2xB1X05DC048	48	-	-	145
D2xB1X05AC115	-	115-120	50/60	80
D2xB1X05AC230	-	220-230	50/60	30
D2xB1X10DC024	20-28	-	-	609
D2xB1X10DC048	48	-	-	260
D2xB1X10AC115	-	115-120	50/60	185
D2xB1X10AC230	-	220-230	50/60	107
D2xB1LD2DC024	18-54	-	-	346
D2xB1LD2AC115	-	115-120	50/60	102.4
D2xB1LD2AC230	-	220-230	50/60	75
D2xB1LD3DC024	16-33	-	-	528
D2xC2X05DC024	20-28	-	-	296+303
D2xC2X05DC048	48	-	-	145+218
D2xC2X05AC115	-	115-120	50/60	80+91
D2xC2X05AC230	-	220-230	50/60	30+72
D2xC2X10DC024	20-28	-	-	609+313
D2xC2X10DC048	48	-	-	260+218
D2xC2X10AC115	-	115-120	50/60	185+91
D2xC2X10AC230	-	220-230	50/60	107+72
D2xC2LD2DC024	24	-	-	346+313
D2xC2LD2DC048	48	-	-	115+218
D2xC2LD2AC115	-	115-120	50/60	102.4+91
D2xC2LD2AC230	-	220-230	50/60	75+72
D2xC1LD3DC024	16-33	-	-	528+250
D2xJ1T	54 Max	230 Max	50/60	10A Max
D2xJ1D	54 Max	230 Max	50/60	10A Max
D2xB1XH1DC024	20-28	-	-	296
D2xB1XH2DC024	20-28	-	-	609
D2xC2XH1DC024	20-28	-	-	449
D2xC2XH2DC024	20-28	-	-	785

Routine tests:

The xenon lamp assembly shall be routinely dielectrically strength tested. Tests shall be performed as described in EN 60079-15 clause 6.5.1.

The D2xJ1 assembly shall be routinely dielectrically strength tested.

The tests shall be performed as described in EN 60079-15 clause 6.5.1.

[16] **Descriptive Documents**

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

[17] **Special Conditions of Use:**

- 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.
- Not to be mounted with the horn facing upwards. Refer to Manufacturer's Instructions.
- The equipment shall only be used in end use with appropriately certified cable entry devices and blanking plugs.

[18] **Essential Health and Safety Requirements**

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

Additional information

The D2xC1 sounder beacon, D2xB1 Beacon, D2xC2 sounder beacon, D2xJ1 Junction Box and D2xS1 sounder has in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.



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