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INTERNATIONAL ELECTROTECHNICAL COMMISSION **IEC Certification System for Explosive Atmospheres**

for rules and details of the IECEx Scheme visit www.iecex.com

IECEX ULD 14.0004X Certificate history: Certificate No.: Page 1 of 6

Issue 4 (2019-11-25) Issue No: 5 Status: Current Issue 3 (2018-06-11)

Issue 2 (2017-09-29) Date of Issue: 2022-03-28 Issue 1 (2015-05-11)

Applicant: **European Safety Systems Limited**

> Impress House Mansell Road London W3 7QH **United Kingdom**

Equipment: D2xS1 (sounder) D2xC1 (sounder beacon) D2xB1 (beacon) D2xC2 (sounder beacon) D2xJ1 (junction box)

Optional accessory:

Type of Protection: Increased Safety "ec" and Dust Ignition Protection by Enclosure "tc"

Marking: Ex ec IIC T6/T4/T3/T2/T1 Gc

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

Please see Annex for additional temperature range information.

Approved for issue on behalf of the IECEx

Certification Body:

Position: Senior Staff Engineer

Signature:

(for printed version)

(for printed version)

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Issue 0 (2015-03-03)

Certificate issued by:

UL International DEMKO A/S Borupvang 5A DK-2750 Ballerup **Denmark**





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European Safety Systems Limited Manufacturer:

Impress House Mansell Road Acton London

United Kingdom

Manufacturing **European Safety Systems Limited**

Impress House locations: Mansell Road

> Acton London **W3 7QH**

W3 7QH

United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS:

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements

Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

Edition:2

Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

IEC 60079-7:2017

Edition:5.1

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DK/ULD/ExTR14.0009/02 DK/ULD/ExTR14.0009/00 DK/ULD/ExTR14.0009/01 DK/ULD/ExTR14.0009/03 DK/ULD/ExTR14.0009/04 DK/ULD/ExTR14.0009/05

Quality Assessment Report:

GB/SIR/QAR06.0020/09



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

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, $\frac{1}{2}$ NPT or $\frac{3}{4}$ 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.

(see Equipment Continued section)

SPECIFIC CONDITIONS OF USE: YES as shown below:

- 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.

Specific Conditions of Use for D2xB1LD***** and D2xC2LD******, D2xB1XH1DC024, D2xB1XH2DC024, D2xC2XH1DC024 and D2xC2XH2DC024:

The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664.



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Equipment (continued):

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. The D2xJ1T is approved as an accessory to the D2x product range.

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 to12 AKZ 2.5 terminal blocks, and 4 AKE 2.5 Terminal blocks. The D2xJ1D is approved as an accessory to the D2x product range.

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.

Please see Annex for additional information.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Correction of the Nomenclature voltage detail to include AC or DC0 as applicable.

Correction of the Conditions of Certification to match installation instructions.,

Issue 2: Addition of D2xB1 beacons, D2xC2 sounder beacon combinations and D2xJ1 Junction boxes.

Issue 3: Adds new models and sub board assembly.

Issue 4: Adds two new models (new LED driver boards), D2XB1LD3-DC024 and D2XC2LD3-DC024 and updates some of the existing models

Issue 5: Change of protection concept for all models from "nA" to "ec".



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Additional information:

See Annex for additional Nomenclature details.

Annex:

Annex to IECEx ULD 14.0004X Issue 5.pdf



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TYPE DESIGNATION

Nomenclature

Model	Beacon energy (Joules)	Rated Voltage	Suffix
	, ()	AC115	
D2xS1		AC230	
(Sounder)		DC024	
,		DC048	
D2xC1X		AC115	
	05, 10	AC230	
(sounder beacon)		DC024	
,		DC048	
		DC024	
	0.5	DC048	
	05	AC115	
		AC230	
D2xB1X (beacon)		DC024	7
, ,	40	DC048	7
	10	AC115	7
		AC230	
	-	DC024	Up to 4 alpha
D2xB1LD2 (LED	-	AC115	numeric
beacon)	-	AC230	characters, not
D2xB1LD3 (LED beacon)	-	DC024	associated with equipment
	05	DC024	certification
D2xC2X		DC048	
BENGEN		AC115	
		AC230	
		DC024	
	10	DC048	
D2xC2X		AC115	
		AC230	7
	-	DC024	7
		DC048	
D2xC2LD2		AC115	
		AC230	
D2xC2LD3 (LED beacon)	-	DC024	
D2xJ1T	-	-	
D2xJ1D	-	-	7
D2xB1XH1	-	DC024	Up to 4 alpha
D2xB1XH2	-	DC024	numeric
D2xC2XH1	-	DC024	characters, not
D2xC2XH2	-	DC024	associated with equipment certification



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Electrical Ratings:

Model	Electrical Ratings				
l l l l l l l l l l l l l l l l l l l	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	
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+313	
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	
D2xC2LD3DC024	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	



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Temperature range and class for each Model Series:

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D2XS1	Ex ec IIC	T4 (<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T90°C	-40°C ≤ Tamb ≤ +50°C
D2XC1X05	Ex ec IIC	T2 (<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T90°C	-40°C ≤ Tamb ≤ +50°C
	Ex ec IIC	T2 (<300°C)	-40°C ≤ Tamb ≤ +40°C
D2XC1X10	Ex ec IIC	T1 (<450°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T110°C	-40°C ≤ Tamb ≤ +50°C
DOVEM DO	Ex ec IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
D2xB1LD2	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xB1LD3	Ex ec IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
DZXBILDS	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X05DC024	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2XB1X05DC024	Ex tc IIIC	T80°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X05DC048	Ex ec IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
D2xB1X05AC115 D2xB1X05AC230	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X10DC024	Ex ec IIC	T1(<450°C)	-40°C ≤ Tamb ≤ +50°C
D2XB1X10DC024	Ex tc IIIC	T105°C	-40°C ≤ Tamb ≤ +50°C
D2xB1X10DC048	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2xB1X10AC115 D2xB1X10AC230	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
D000V05D0004	Ex ec IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
D2xC2X05DC024	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2X05DC048 D2xC2X05AC115 D2xC2X05AC230	Ex ec IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C
D2xC2X10DC024	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T85°C	-40°C ≤ Tamb ≤ +50°C
D2xC2X10DC048	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
D2xC2X10AC115 D2xC2X10AC230	Ex tc IIIC	T95°C	-40°C ≤ Tamb ≤ +50°C



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Temperature range and class for each Model Series (Cond.):

Model	Type of protection	Temperature Class	Associated Maximum Ambient Temperature
D2xC2LD2	Ex ec IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2LD3	Ex ec IIC	T4(<135°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xJ1T	Ex ec IIC	T6(<85°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T55°C	-40°C ≤ Tamb ≤ +50°C
D2xJ1D	Ex ec IIC	T6(<85°C)	-40°C ≤ Tamb ≤ +50°C
DZXJTD	Ex tc IIIC	T55°C	-40°C ≤ Tamb ≤ +50°C
D2xB1XH1DC024	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T80°C	-40°C ≤ Tamb ≤ +50°C
D2xB1XH2DC024	Ex ec IIC	T1 (<450°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T105°C	-40°C ≤ Tamb ≤ +50°C
D2xC2XH1DC024	Ex ec IIC	T3(<200°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T75°C	-40°C ≤ Tamb ≤ +50°C
D2xC2XH2DC024	Ex ec IIC	T2(<300°C)	-40°C ≤ Tamb ≤ +50°C
	Ex tc IIIC	T85°C	-40°C ≤ Tamb ≤ +50°C



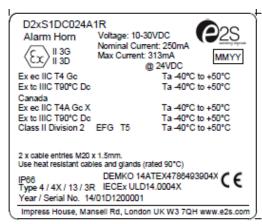
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MARKING

Marking has to be readable and indelible; it has to include the following indications:

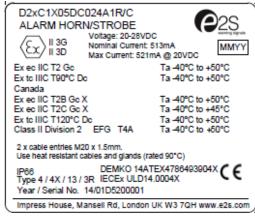
Note: Label 1 & 2 are both applied to the appropriate equipment incorporating relevant protection concept information, warning and cautionary markings.



D2xS1 ALAR	M HOR	RN		
USA / Canada				
Class I Division 2	ABCD	T3C	Ta -40°C to	+70°C
Class I Division 2	ABCD	T4	Ta -40°C to	+65°C
Class I Division 2	ABCD	T4A	Ta -40°C to	+50°C
Class II Division 2	FG	T5	Ta -40°C to	+50°C
Class II Division 2	FG	T6	Ta -40°C to	+45°C
Class III Division 1	8.2		Ta -40°C to	+50°C
USA				
Class I Zone 2 Al	Ex ec II0	T4 Gc	Ta -40°C t	o +50°C
Zone 22 AF	x to IIIC	T90°C	Do Tal-40°C to	o +50°C
WARNING - POTENTIA				
HAZARD - CLEAN ONL				
WARNING - DO NOT				
ATMOSPHERE IS PRE		ILIA MARI	EXPEDDIVE	
AVERTISSEMENT - NE		VEIR UN	PRÉSENCE D'AT	MOSSHESS
EXPLOSIVE		vicare one	T RESERVE DA	MOOI HERE
AVERTISSEMENT - DA				
- NETTOYER UNIQUE				INUSTATIQUE
Audible Signalling Ap				
Augure Signalling Abi	Diance F	ur use ir	1 ⊟aza⊩u0US LOCa	SHOURS

D2xS1 PRODUCT LABEL 1

D2xS1 PRODUCT LABEL 2



D2xC1X05 PRODUCT LABEL 1

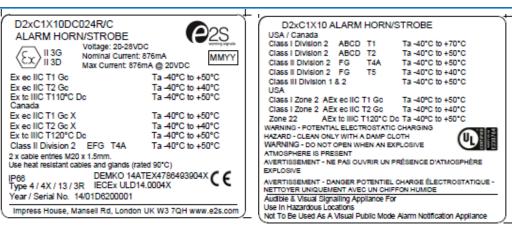
D2xC1X05 ALARM HORN/STROBE USA / Canada ABCD T2B Class I Division 2 Tai-40°C to +70°C Class I Division 2 ABCD T2C Ta -40°C to +50°C Class I Division 2 ABCD T2D Class II Division 2 FG T5 Ta -40°C to +40°C Ta -40°C to +50°C Class III Division 1 & 2 USA Ta -40°C to +50°C 2 AEx ec IIC T2 Gc Ta -40°C to +50°C AEx tc IIIC T120°C Dc Ta -40°C to +50°C Class I Zone 2 AEx ec IIC T2 Gc WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - CLEAN ONLY WITH A DAMP CLOTH WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT AVERTISSEMENT - NE PAS OUVRIR UN PRÉSENCE D'ATMOSPHÈRE AVERTISSEMENT - DANGER POTENTIEL CHARGE ÉLECTROSTATIQUE NETTOYER UNIQUEMENT AVEC UN CHIFFON HUMIDE Audible & Visual Signalling Appliance For Not To Be Used As A Visual Public Mode Alarm Notification Appliance

D2xC1X05 PRODUCT LABEL 2



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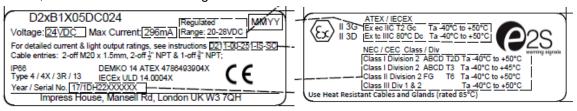


D2xC1X10 PRODUCT LABEL 1

D2xC1X10 PRODUCT LABEL 2



D2xB1, D2xC2 and D2xJ1 Warning label



D2xB1 PRODUCT LABEL 1

D2xB1 PRODUCT LABEL 3

ROUTINE EXAMINATIONS AND TESTS

The xenon lamp assembly shall be routinely dielectrically strength tested. Tests shall be performed as described in IEC 60079-7 clause 6.1.

The D2xJ1 assembly shall be routinely dielectrically strength tested. The tests shall be performed as described in IEC 60079-7 clause 6.1.