IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx ULD 14.0012X**

Certificate history:
Issue 1 (2017-06-23)
Issue 0 (2015-02-05)

Status: **Current**

Issue No: 2

Date of Issue: 2022-02-25

Applicant: **European Safety Systems Limited**
Impress House
Mansell Road
Acton
London W3 7QH
United Kingdom

Equipment: **Audible and/or Visual Signaling Devices, Type E2xB05*, E2xB10*, E2xBL*, E2xS1*, E2xS2*, E2xC1*, E2xL15*, E2xL25***

Optional accessory:

Type of Protection: **Increased Safety "ec", Enclosure "tc"**

Marking: Ex ec IIC T4…T2 Gc
Ex tc IIIC T85°C…T120°C Dc

See temperature range in Annex.

Approved for issue on behalf of the IECEx Certification Body: **Lucy Frieders**

Position: **Staff Engineer**

Signature: (for printed version)

Date: (for printed version) 2022-02-25

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

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

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Manufacturer: **European Safety Systems Limited**
Impress House
Mansell Road
Acton
London W3 7QH
United Kingdom

Manufacturing locations:

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

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
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/ExTR14.0013/00 DK/ULD/ExTR14.0013/01 DK/ULD/ExTR14.0013/02

Quality Assessment Report:

GB/SIR/QAR06.0020/09

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Audible and/or Visual Signalling Devices, Type E2x followed by suffixes as detailed in the annex, covering Xenon Beacons, LED Beacons, Combined Sounder Beacons and Loudspeakers.

The E2xC1* Combined Sounder Beacon units employ a combined Sounder Beacon housing, incorporating components of the E2xS1* Sounder and components of the E2xB* Beacon.

The E2xS* Sounders or E2xC1* Combined Sounder Beacon assemblies are suitable for miscellaneous type general signalling functions.

The devices are to be mounted using the rotating bracket attached to the device only.

The Beacon and combined Sounder Beacon devices employ a glass lens, and have a stainless steel cage installed around it for use as a guard. There may be a non-metallic lens cover / diffuser provided between the lens and the guard.

The Beacon light source is a xenon flash tube or LED stack.

The E2xL* loudspeakers are intended for general signalling, commercial, and professional (non-fire) use only. The external housings with screwed cover are made of plastic suitable of outdoor use.

The horns available for Sounders, Combined Sounder Beacons and loudspeakers are either Flare (E2x…F…) or Radial (E2x…R…).

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- When used for a Group III application, the surface of the enclosure may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the surface is relatively free of surface contamination such as dirt, dust, or oil.
- Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32.
- Cleaning of the surface should only be done with a damp cloth.
- The equipment incorporates metal parts isolated from earth, having capacitance values exceeding the limits permitted in the standards of certification. Mounting bracket – 10.33pF; Lens guard – 12.33pF.

Specific Conditions of Use for E2xB2L2*** and E2xC1LD2******

- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Addition of new products E2x LED beacon and combined beacon/sounder including the variation of existing products .

Issue 2: All models change of protection concept from “nA” to “ec”.

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Additional information:
For additional information see Annex.

Annex:

Annex to IECEx ULD 14.0012X Issue 2.pdf

PARAMETERS RELATING TO THE SAFETY

Electrical Ratings :

Xenon Beacons

Model Number	Voltage (Volts)	Frequency (Hz)	Current (mA)	Energy
E2xB05DC012	12	DC	520	5J
E2xB05DC024	24	DC	275	5J
E2xB05DC048	48	DC	145	5J
E2xB05AC115	115 – 120	50 / 60	80	5J
E2xB05AC230	220 – 230	50 / 60	30	5J
E2xB10DC024	24	DC	560	10J
E2xB10DC048	48	DC	260	10J
E2xB10AC115	115 – 120	50 / 60	185	10J
E2xB10AC230	220 – 230	50 / 60	107	10J

LED Beacons

Model Number	Voltage (Volts)	Frequency (Hz)	Current (mA)	Power (Watts)
E2xBL2DC024	18 – 54	DC	346	6.21
E2xBL2AC115	115 – 120	50 / 60	102.4	7.95
E2xBL2AC230	220 – 230	50 / 60	49.4	8.19

Sounders

Model Number	Voltage (Volts)	Frequency (Hz)	Current (mA)
E2xS1FDC024 E2xS1RDC024	24	DC	284
E2xS1FDC048 E2xS1RDC048	48	DC	146
E2xS1FAC115 E2xS1RAC115	115 – 120	50 / 60	104
E2xS1FAC230 E2xS1RAC230	220 – 230	50 / 60	54
E2xS2FDC024 E2xS2RDC024	24	DC	280
E2xS2FDC048 E2xS2RDC048	48	DC	215
E2xS2FAC115 E2xS2RAC115	115 – 120	50 / 60	142
E2xS2FAC230 E2xS2RAC230	220 – 230	50 / 60	76

Combined Sounder Beacons (Xenon)

Model Number	Voltage (Volts)	Frequency (Hz)	Current (mA)	
			Beacon	Sounder
E2xC1X05FDC024 E2xC1X05RDC024	24	DC	275	284
E2xC1X05FDC048 E2xC1X05RDC048	48	DC	145	146
E2xC1X05FAC115 E2xC1X05RAC115	115 – 120	50 / 60	80	104
E2xC1X05FAC230 E2xC1X05RAC230	220 – 230	50 / 60	30	54

Combined Sounder Beacons (LED)

Model Number	Voltage (Volts)	Frequency (Hz)	Current (mA)	
			Beacon	Sounder
E2xC1LD2FDC024 E2xC1LD2RDC024	18 – 30	DC	346	284
E2xC1LD2FDC048 E2xC1LD2RDC048	48	DC	115	146
E2xC1LD2FAC115 E2xC1LD2RAC115	115 – 120	50 / 60	102.4	104
E2xC1LD2FAC230 E2xC1LD2RAC230	220 – 230	50 / 60	49.4	54

Loudspeakers

Model Number	Voltage (Volts)	Power (Watts)	Input Impedance (Ohms)
E2xL15FR008 E2xL15RR008	-	15	8
E2xL15FR016 E2xL15RR016	-	15	16
E2xL15FV070 E2xL15RV070	70	15	-
E2xL15FV100 E2xL15RV100	100	15	-
E2xL25FR008 E2xL25RR008	-	25	8
E2xL25FR016 E2xL25RR016	-	25	16
E2xL25FV070 E2xL25RV070	70	25	-
E2xL25FV100 E2xL25RV100	100	25	-

Ambient temperature and assigned Surface Temperature class :

Xenon Beacons

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xB05DC012	-20°C ≤ T_{amb} ≤ +40°C -- T3	-20°C ≤ T_{amb} ≤ +40°C -- T85 °C
E2xB05DC024		
E2xB05DC048		
E2xB05AC115	-20°C ≤ T_{amb} ≤ +55°C -- T2	-20°C ≤ T_{amb} ≤ +55°C -- T100 °C
E2xB05AC230		

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xB10DC024 E2xB10DC048 E2xB10AC115 E2xB10AC230	-20°C ≤ T_{amb} ≤ +55°C -- T2	-20°C ≤ T_{amb} ≤ +40°C -- T105 °C -20°C ≤ T_{amb} ≤ +55°C -- T120 °C

LED Beacons

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xBL2DC024 E2xBL2AC115 E2xBL2AC230	-20°C ≤ T_{amb} ≤ +55°C -- T4	-20°C ≤ T_{amb} ≤ +55°C -- T85 °C

Sounders

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xS1FDC024 E2xS1RDC024	-20°C ≤ T_{amb} ≤ +55°C -- T4	-20°C ≤ T_{amb} ≤ +55°C -- T85 °C
E2xS1FDC048 E2xS1RDC048		
E2xS1FAC115 E2xS1RAC115		
E2xS1FAC230 E2xS1RAC230		
E2xS2FDC024 E2xS2RDC024		
E2xS2FDC048 E2xS2RDC048		
E2xS2FAC115 E2xS2RAC115		
E2xS2FAC230 E2xS2RAC230		

Combined Sounder Beacons (Xenon)

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xC1X05FDC024 E2xC1X05RDC024	-20°C ≤ T_{amb} ≤ +40°C -- T3 -20°C ≤ T_{amb} ≤ +55°C -- T2	-20°C ≤ T_{amb} ≤ +40°C -- T85 °C -20°C ≤ T_{amb} ≤ +55°C -- T100 °C
E2xC1X05FDC048 E2xC1X05RDC048		
E2xC1X05FAC115 E2xC1X05RAC115		
E2xC1X05FAC230 E2xC1X05RAC230		

Combined Sounder Beacons (LED)

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xC1LD2FDC024 E2xC1LD2RDC024	-20°C ≤ T_{amb} ≤ +55°C -- T3	-20°C ≤ T_{amb} ≤ +40°C -- T90 °C -20°C ≤ T_{amb} ≤ +55°C -- T105 °C
E2xC1LD2FDC048 E2xC1LD2RDC048		
E2xC1LD2FAC115 E2xC1LD2RAC115		
E2xC1LD2FAC230 E2xC1LD2RAC230		

Loudspeakers

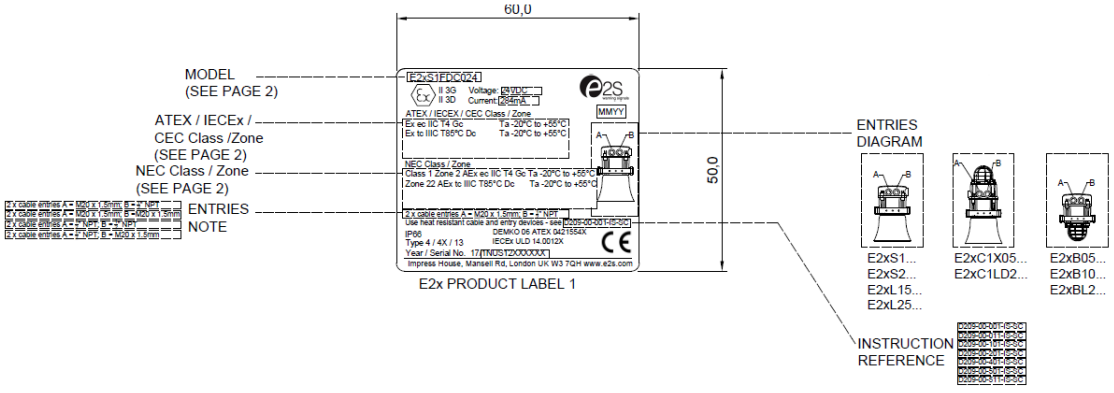
Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xL15FR008 E2xL15RR008	-20°C ≤ T_{amb} ≤ +55°C -- T4	-20°C ≤ T_{amb} ≤ +55°C -- T85 °C
E2xL15FR016 E2xL15RR016		

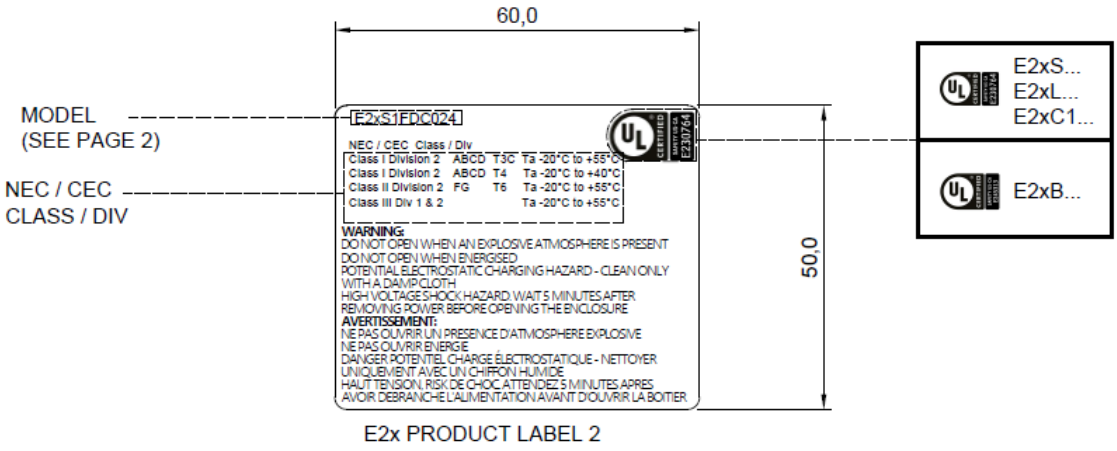
Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xL15FV070 E2xL15RV070		
E2xL15FV100 E2xL15RV100		
E2xL25FR008 E2xL25RR008	-20°C ≤ T_{amb} ≤ +55°C -- T2	-20°C ≤ T_{amb} ≤ +40°C -- T85 °C -20°C ≤ T_{amb} ≤ +55°C -- T100 °C
E2xL25FR016 E2xL25RR016		
E2xL25FV070 E2xL25RV070		
E2xL25FV100 E2xL25RV100		

MARKING

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

Example marking plate layout





E2x PRODUCT LABEL 2

Page 2" extract -

Model	Voltage	Current	Serial No.	Rating (ATEX/IECEx)
E2xS1[X]DC024	24Vdc	284mA	1NUS12	II 3G Ex ec IIC T4 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 85°C Dc Ta -20°C to +55°C
E2xS1[X]DC048	48Vdc	146mA	1NUS16	
E2xS1[X]AC115	115-120Vac	104mA	1NUS15	
E2xS1[X]AC230	220-230Vac	54mA	1NUS13	
E2xS2[X]DC024	24Vdc	280mA	1NUS22	
E2xS2[X]DC048	48Vdc	215mA	1NUS26	
E2xS2[X]AC115	115-120Vac	142mA	1NUS25	
E2xS2[X]AC230	220-230Vac	76mA	1NUS23	
Model	**Power**	**Impedence or max. I/P Voltage**	**Serial No.**	**Rating (ATEX/IECEx)**
E2xL15[X]R008	15W	8 Ohm	1NUL1	II 3G Ex ec IIC T4 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 85°C Dc Ta -20°C to +55°C
E2xL15[X]R016	15W	16 Ohm	1NUL2	
E2xL15[X]V070	15W	70V Line	1NUL4	
E2xL15[X]V100	15W	100V Line	1NUL3	
E2xL25[X]R008	25W	8 Ohm	1NUL71	II 3G Ex ec IIC T2 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 85°C Dc Ta -20°C to +40°C II 3D Ex tc IIIC 100°C Dc Ta -20°C to +55°C
E2xL25[X]R016	25W	16 Ohm	1NUL72	
E2xL25[X]V070	25W	70V Line	1NUL74	
E2xL25[X]V100	25W	100V Line	1NUL73	
Model	**Voltage**	**Current**	**Serial No.**	**Rating (ATEX/IECEx)**
E2xB05DC012	12Vdc	520mA	1NUB11	II 3G Ex ec IIC T3 Gc Ta -20°C to +40°C II 3G Ex ec IIC T2 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 85°C Dc Ta -20°C to +40°C II 3D Ex tc IIIC 100°C Dc Ta -20°C to +55°C
E2xB05DC024	24Vdc	275mA	1NUB12	
E2xB05DC048	48Vdc	145mA	1NUB16	
E2xB05AC115	115-120Vac	80mA	1NUB15	
E2xB05AC230	220-230Vac	30mA	1NUB13	
E2xB10DC024	24Vdc	560mA	1NUB22	II 3G Ex ec IIC T2 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 105°C Dc Ta -20°C to +40°C II 3D Ex tc IIIC 120°C Dc Ta -20°C to +55°C
E2xB10DC048	48Vdc	260mA	1NUB26	
E2xB10AC115	115-120Vac	185mA	1NUB25	
E2xB10AC230	220-230Vac	107mA	1NUB23	
E2xBL2DC024	18-54Vdc	346mA	1NUB32	II 3G Ex ec IIC Gc T4 Ta -20°C to +55°C II 3D Ex tb IIIC Dc T85°C Ta -20°C to +55°C
E2xBL2AC115	115-120Vac	102.4mA	1NUB35	
E2xBL2AC230	220-230Vac	49.4mA	1NUB33	
Model	**Voltage**	**Current**	**Serial No.**	**Rating (ATEX/IECEx)**
E2xC1X05[X]DC024	24Vdc	559mA	1NUC12	II 3G Ex ec IIC T3 Gc Ta -20°C to +40°C II 3G Ex ec IIC T2 Gc Ta -20°C to +55°C II 3D Ex tc IIIC 85°C Dc Ta -20°C to +40°C II 3D Ex tc IIIC 100°C Dc Ta -20°C to +55°C
E2xC1X05[X]DC048	48Vdc	291mA	1NUC16	
E2xC1X05[X]AC115	115-120Vac	184mA	1NUC15	
E2xC1X05[X]AC230	220-230Vac	84mA	1NUC13	
E2xC1LD2[X]DC024	24Vdc	630mA	1NUC22	II 3G Ex ec IIC Gc T3 Ta -20°C to +55°C II 3D Ex tc IIIC Dc T105°C Ta -20°C to +55°C II 3D Ex tc IIIC Dc T90°C Ta -20°C to +40C
E2xC1LD2[X]DC048	48Vdc	219mA	1NUC26	
E2xC1LD2[X]AC115	115-120Vac	206.4mA	1NUC25	
E2xC1LD2[X]AC230	220-230Vac	103.4mA	1NUC23	

Where Model No & Type '[X]' represents F or R (for horn type).

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.