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 19.0008X**

Page 1 of 4

Certificate history:
Issue 3 (2024-12-17)
Issue 2 (2023-09-06)
Issue 1 (2021-12-01)
Issue 0 (2019-04-30)

Status: **Current**

Issue No: 4

Date of Issue: 2025-03-28

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

Equipment: **Loudspeaker, Sounder and Sounder beacon combination, D1xL* (loudspeaker), D1xS* (sounder), D1xC* (sounder beacon)**

Optional accessory:

Type of Protection: **Flameproof "db", Dust ignition protection by enclosure "tb"**

Marking: Ex db IIC T6 …T3 Gb

Ex tb IIIC T82°C …T145°C Db

-55ºC to +75ºC

See Annex to CoC for additional information.

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

Position: **Staff Engineer**

Signature: (for printed version)

Date: (for printed version) 2025-03-28

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

UL Solutions (Demko)
Borupvang 5A
Ballerup DK-2750
Denmark

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Certificate No.: **IECEx ULD 19.0008X**

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Manufacturer: **European Safety Systems Limited**
Impress House
Mansell Road
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Manufacturing locations: **European Safety Systems Limited**
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Mansell Road
Acton
London 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 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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/ExTR19.0008/00 DK/ULD/ExTR19.0008/01 DK/ULD/ExTR19.0008/02
DK/ULD/ExTR19.0008/03 DK/ULD/ExTR19.0008/04

Quality Assessment Report:

GB/SIR/QAR06.0020/12

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

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.

D1xL* (loudspeakers) utilise the same enclosure 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 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.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- No repair to the flameproof joints is permitted.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Updated Sounder PCBA for all models; added new D1xL*, D1xS2 and D1xC2 models; extended ambient temperature range -55ºC to +85ºC and all models have been evaluated for Type of Protection “tb”.

Issue 2: Addition of D1xL* loudspeakers models suffixed V725; Update to IEC 60079-31 3rd Edition; Correction to scheduled documents.

Issue 3: Correction of O-ring service temperature detail and correction of label drawing to match existing certification details.

Issue 4: Typographical changes to drawing, no technical changes that impact certification.

Annex:

Annex to IECEx ULD 19.0008X Issue 4.pdf

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TYPE DESIGNATION

Model Nomenclature:

Sounder:

Example - D1xS1-DC024-A

Model	**Model Voltage** (refer to electrical tables below)	**Suffix**
D1xS1 – low power	AC230	-A – Standard Unit -S – SIL Unit (DC024 only)
	DC024	
D1xS2 – medium and high power	AC230	
	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- 10-	AC115	-A – Standard Unit
D1xC2X – medium and high power sounder		AC230	
		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

Model	
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.

PARAMETERS RELATING TO THE SAFETY

Electrical Ratings –

Loudspeakers:

Model	Voltage Range	Frequency
D1xL1-V725, D1xL2-V725, D1xL1-V725-A, D1xL2-V725-A	70V Line / 25V Line	N/A
D1xL1-V070, D1xL2-V070, D1xL1-V070-A, D1xL2-V070-A	70V Line	N/A
D1xL1-V100-A, D1xL2-V100-A	100V Line	N/A
D1xL1-R008, D1xL1-R008-A	10.95V Max. I/P	N/A
D1xL1-R016, D1xL1-R016-A	15.49V Max. I/P	N/A
D1xL2-R008, D1xL2-R008-A	14.14V Max. I/P	N/A
D1xL2-R016, D1xL2-R016-A	20.00V Max. I/P	N/A
D1xL1-AXIS-A, D1xL2-AXIS-A	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3 (Max. 12.95 W)	N/A

'-' 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		

'-' Horn Type

Sounder Beacons:

Model	Sounder PCBA Power Mode	Voltage Range	Frequency
D1xC1X05-DC024-A, D1xC1X10-DC024-A	Low	20-28VDC	-
D1xC2X05-DC024-A, D1xC2X10-DC024-A	Medium & High		
D1xC1X05-AC115-A, D1xC1X10-AC115-A,	Low	110-120VAC	50/60Hz
D1xC2X05-AC115-A, D1xC2X10-AC115-A	Medium & High		
D1xC1X05-AC230-A D1xC1X10-AC230-A	Low	220-240VAC	50/60Hz
D1xC2X05-AC230-A, D1xC2X10-AC230-A	Medium & High		

'-' Horn Type

Temperature Range –

Loudspeaker:

Models	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
D1xL1-V070 (-A) D1xL1-R008 (-A) D1xL1-R016 (-A) D1xL1-AXIS-A	T5	T86°C	-55°C to +75°C
	T6	-	-55°C to +60°C
D1xL2-V070 (-A) D1xL2-R008 (-A) D1xL2-R016 (-A) D1xL2-AXIS-A	T5	T91°C	-55°C to +75°C
	T6	-	-55°C to +55°C
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 Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient 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

Model	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
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:

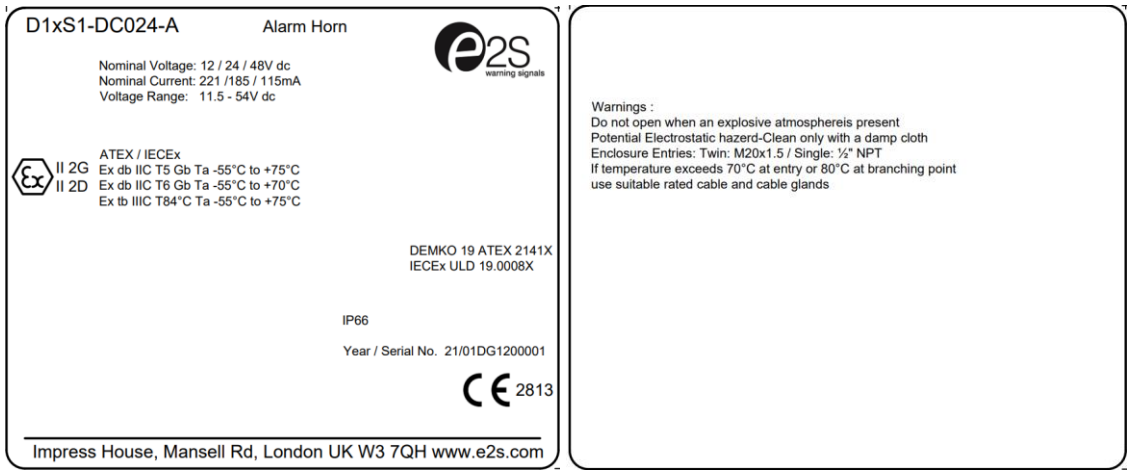
Model	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
D1xC1X05-DC024-A	T4	T115°C	-55°C to +75°C
	T5	-	-55°C to +55°C
	T6	-	-55°C to +40°C
D1xC1X05-AC115-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC1X05-AC230-A	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
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

Model	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
D1xC2X10-AC230-A	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C

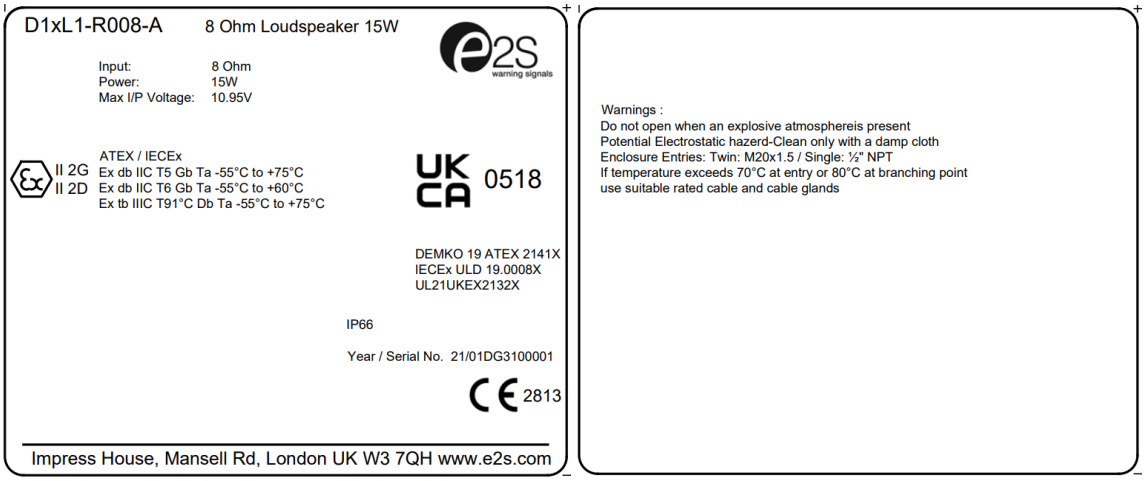
MARKING

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

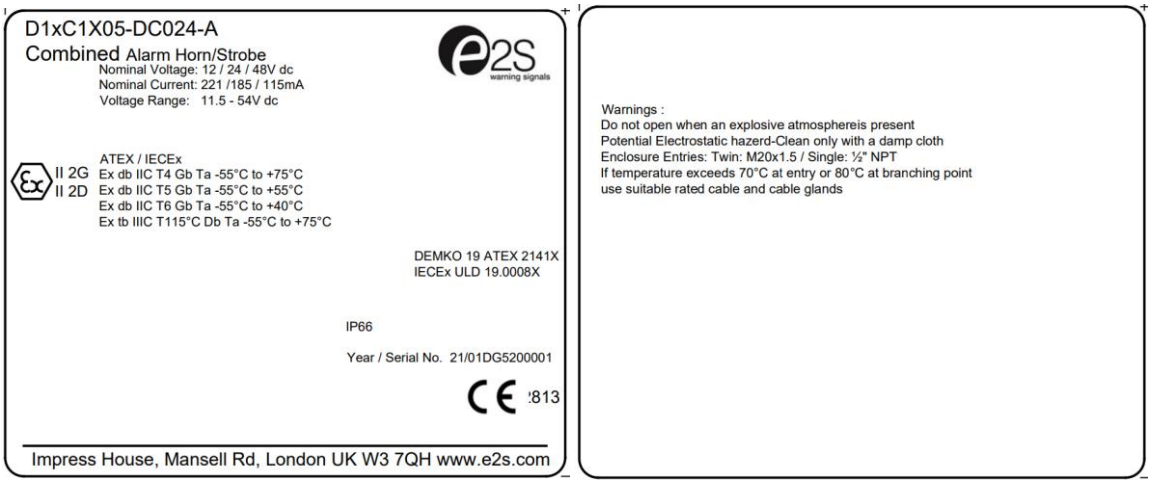
Example of D1xS*



Example of D1xL*



Example of D1xC*



ROUTINE EXAMINATIONS AND TESTS

D1xC* Units only:

Routine overpressure tests in accordance with IEC 60079-1: Edition 7 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 cemented 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.