

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. 1**
- [4] Product: **D1xL* Loudspeakers, D1xS* Sounders and D1xC* Sounder Beacons**
- [5] Manufacturer: **European Safety Systems Limited**
- [6] Address: **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 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. **DK/ULD/ExTR19.0008/01.**
- [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:

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

 **II 2 D Ex tb IIIC T82°C ...T145°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: 2019-04-30

Re-issued: 2021-12-01

Notified Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[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.

Loudspeaker Model Nomenclature:

D1xL1-R008-A
I II III

I – Model Type

D1xL1 – 15 Watt Loudspeaker

D1xL2 – 25 Watt Loudspeaker

II – Input Type

R008 – 8 Ohm

R0016 – 16 Ohm

V070 – 70V Line

V100 – 100V Line

AXIS – Power Over Ethernet

III – Unit Type

-A – Standard Unit

Sounder Model Nomenclature:

D1xS1-AC230-A
I II III

I – Model Type

D1xS1 – Sounder Low Power Mode

D1xS2 – Sounder Medium or High Power Mode

II – Voltage

DC024 – 24Vdc

AC230 – 230Vac

III. – Unit Type

-A – Standard Unit

-S – SIL Unit

Sounder Beacon Model Nomenclature:

D1xC1X05-AC230-A
I II III IV

I – Model Type

D1xC1 – Sounder Beacon Low Power Mode

D1xC2 – Sounder Beacon Medium or High Power Mode

II – Beacon Energy

X05 – 5 Joule

X10 – 10 Joule

III – Voltage

DC024 – 24Vdc

AC115 – 115Vac

AC230 – 230Vac

IV. – Unit Type

-A – Standard Unit

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



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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

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

Loudspeaker Temperature Range:

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

Sounder Temperature Range:

Model	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
D1xS1-DC024-A Low Power	T5	T84°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS1-DC024-S Low Power	T5	T84°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS1-AC230-A Low Power	T5	T82°C	-55°C to +75°C
	T6	-	-55°C to +70°C
D1xS2-DC024-A Medium and High Power	T5	T95°C	-55°C to +75°C
	T6	-	-55°C to +60°C
D1xS2-DC024-S Medium and High Power	T5	T95°C	-55°C to +75°C
	T6	-	-55°C to +60°C
D1xS2-AC230-A Medium and High Power	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 Low Power	T4	T115°C	-55°C to +75°C
	T5	-	-55°C to +55°C
	T6	-	-55°C to +40°C
D1xC1X05-AC115-A Low Power	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC1X05-AC230-A Low Power	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC2X05-DC024-A Medium and High Power	T4	T115°C	-55°C to +75°C
	T5	-	-55°C to +55°C
	T6	-	-55°C to +40°C
D1xC2X05-AC115-A Medium and High Power	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC2X05-AC230-A Medium and High Power	T4	T122°C	-55°C to +75°C
	T5	-	-55°C to +45°C
D1xC1X10-DC024-A Low Power	T3	T137°C	-55°C to +75°C
	T4	-	-55°C to +65°C
D1xC1X10-AC115-A Low Power	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C
D1xC1X10-AC230-A Low Power	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C



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Model	Temperature Class (Gas)	Temperature Class (Dust)	Associated Maximum Ambient Temperature
D1xC2X10-DC024-A Medium and High Power	T3	T137°C	-55°C to +75°C
	T4	-	-55°C to +65°C
D1xC2X10-AC115-A Medium and High Power	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C
D1xC2X10-AC230-A Medium and High Power	T3	T145°C	-55°C to +75°C
	T4	-	-55°C to +60°C

Electrical data

Loudspeakers:

Model	Voltage Range	Frequency
D1xL1-V070	70V Line	N/A
D1xL1-R008	10.95V Max. I/P	N/A
D1xL1-R016	15.49V Max. I/P	N/A
D1xL2-V070	70V Line	N/A
D1xL2-R008	14.14V Max. I/P	N/A
D1xL2-R016	20.00V Max. I/P	N/A
D1xL1-V070-A & D1xL2-V070-A	70V Line	N/A
D1xL1-V100-A & D1xL2-V100-A	100V Line	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
D1xL1-R008-A	10.95V Max. I/P	N/A
D1xL1-R016-A	15.49V Max. I/P	N/A
D1xL2-R008-A	14.14V Max. I/P	N/A
D1xL2-R016-A	20.00V Max. I/P	N/A

‘-’ Horn Type

Sounders:

Model	Sounder PCBA Power Mode	Voltage Range	Frequency
D1xS1-DC024-A	Low	11.5-54VDC	-
D1xS1-DC024-S	Low	20-28VDC	-
D1xS1-AC230-A	Low	100-240VAC	50/60Hz
D1xS2-DC024-A	Medium & High	11.5-54VDC	-
D1xS2-DC024-S	Medium & High	20-28VDC	-
D1xS2-AC230-A	Medium & High	100-240VAC	50/60Hz

‘-’ Horn Type

Sounder Beacons:

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

‘-’ 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.



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Descriptive Documents

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

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Specific conditions of use:


- No repair to the flameproof joints are permitted.

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Essential Health and Safety Requirements

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

Additional information

The trademark  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.