


# TYPE EXAMINATION CERTIFICATE



- [2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**
- [3] Type Examination Certificate Number: **DEMKO 06 ATEX 0421554X Rev. 1**
- [4] Equipment: **Audible and/or Visual Signalling Devices Type E2xB05\*, E2xB10\*, E2xBL\*, E2xS1\*, E2xS2\*, E2xC1\*, E2xL15\*, E2xL25\***
- [5] Manufacturer: **European Safety Systems Limited**
- [6] Address: **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 equipment or protective systems 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. **4787572456**
- [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.
- [10] 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 T4...T2 Gc**

 **II 3 D      Ex tc IIIC T85°C...T120°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:** 2006-04-21

**Re-issued:** 2017-06-23



**Certification Body**

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark  
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## Schedule

### TYPE EXAMINATION CERTIFICATE No.

**DEMKO 06 ATEX 0421554X Rev. 1**

[13]

[14]

[15] Description of Equipment:

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...).

Electrical data

**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

[13]

[14]

## Schedule TYPE EXAMINATION CERTIFICATE No. DEMKO 06 ATEX 0421554X Rev. 1

### 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	-

### Temperature rating

The maximum ambient temperature range is  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ , refer to the table below for specific details of Temperature Code and Temperature Marking.

### Xenon Beacons

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xB05DC012	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ -- T3	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ -- T85 °C
E2xB05DC024		
E2xB05DC048		
E2xB05AC115		
E2xB05AC230	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ -- T2	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ -- T100 °C
E2xB10DC024	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ -- T2	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ -- T105 °C
E2xB10DC048		
E2xB10AC115		
E2xB10AC230		
		$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$ -- T120 °C

[13]

[14]

**Schedule**  
**TYPE EXAMINATION CERTIFICATE No.**  
**DEMKO 06 ATEX 0421554X Rev. 1**

**LED Beacons**

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xBL2DC024	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T4}$	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T85 }^{\circ}\text{C}$
E2xBL2AC115		
E2xBL2AC230		

**Sounders**

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xS1FDC024 E2xS1RDC024	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T4}$	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T85 }^{\circ}\text{C}$
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	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C} \text{ -- T3}$	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C} \text{ -- T85 }^{\circ}\text{C}$
E2xC1X05FDC048 E2xC1X05RDC048		
E2xC1X05FAC115 E2xC1X05RAC115	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T2}$	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T100 }^{\circ}\text{C}$
E2xC1X05FAC230 E2xC1X05RAC230		

**Combined Sounder Beacons (LED)**

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xC1LD2FDC024 E2xC1LD2RDC024	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C} \text{ -- T3}$	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C} \text{ -- T90 }^{\circ}\text{C}$
E2xC1LD2FDC048 E2xC1LD2RDC048		
E2xC1LD2FAC115 E2xC1LD2RAC115		
E2xC1LD2FAC230 E2xC1LD2RAC230		
E2xC1LD2FAC230 E2xC1LD2RAC230		

[13]

[14]

## Schedule TYPE EXAMINATION CERTIFICATE No. DEMKO 06 ATEX 0421554X Rev. 1

### Loudspeakers

Model Number	Group II (Gases and vapours)	Group III (Dust)
E2xL15FR008 E2xL15RR008	-20°C ≤ T <sub>amb</sub> ≤ +55°C -- T4	-20°C ≤ T <sub>amb</sub> ≤ +55°C -- T85 °C
E2xL15FR016 E2xL15RR016		
E2xL15FV070 E2xL15RV070		
E2xL15FV100 E2xL15RV100		
E2xL25FR008 E2xL25RR008		
E2xL25FR016 E2xL25RR016	-20°C ≤ T <sub>amb</sub> ≤ +55°C -- T2	-20°C ≤ T <sub>amb</sub> ≤ +40°C -- T85 °C
E2xL25FV070 E2xL25RV070		-20°C ≤ T <sub>amb</sub> ≤ +55°C -- T100 °C
E2xL25FV100 E2xL25RV100		

### 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.

### 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.

[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:

- 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 <~40% 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 EN TR50404 and IEC TR60079-32-1.
- 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.

[18]

### Essential Health and Safety Requirements

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

### Additional information

The Equipment has in addition passed the tests for Ingress Protection to IP64 in accordance with EN60529:1991+A1:2000+A2:2013.



The trademark **e2S** warning signals will be used as the company identifier on the marking label.