

# TYPE EXAMINATION CERTIFICATE

[1]  
[2]

Equipment or Protective System intended for use  
in Potentially explosive atmospheres  
Directive 94/9/EC



[3] Type Examination Certificate Number: DEMKO 06 ATEX 0421554  
[4] Equipment: AUDIBLE AND/OR VISUAL SIGNALING DEVICES, Type E2x  
[5] Manufacturer: European Safety Systems Ltd

[6] Address: Impress House 18 & 20 Mansell Rd  
Acton, London, United Kingdom

[7] This equipment and any acceptable variation there to is specified in the schedule to this certificate and the documents therein referred to.

[8] UL International Demko A/S certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential report number 06 ATEX 0421554  
**Report**

[9] Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to Standards:  
EN50021 April 1999

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This Type examination certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

[12] The marking of the equipment or protective system shall include the following:

II 3G EEx nA nL IIC T2-4, or II 3G EEx nA II T4

On behalf of UL International Demko A/S

Herlev, 2006-04-21

  
Karina Christiansen  
Certification Manager

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**UL International Demko A/S**

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## Schedule

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### TYPE EXAMINATION CERTIFICATE No.

DEMKO 06 ATEX 0421554

[15]

#### Description of Equipment:




Audible and/or Visual Signaling Devices, Type E2x followed by suffixes as detailed below

Temperature range -20 to + 55 deg C

#### Electrical data


#### Visual Signaling Devices, Beacons:



Model Number	Volts / Hertz	Current / Joules
E2xB05EG12DC	12 / DC	520 mA / 5
E2xB05EG24DC	24 / DC	275 mA / 5
E2xB05EG48DC	48 / DC	145 mA / 5
E2xB05EG120AC	120 / 50/60	80 mA / 5
E2xB05EG230AC	230 / 50/60	30 mA / 5
E2xB10EG24DC	24 / DC	560 mA / 10
E2xB10EG48DC	48 / DC	260 mA / 10
E2xB10EG120AC	120 / 50/60	185 mA / 10
E2xB10EG230AC	230 / 50/60	107 mA / 10

5 joule rated devices are marked  II 3G EEx nA nL IIC T3 at 40 °C maximum ambient and  II 3G EEx nA nL IIC T2 at 55 °C maximum ambient. 10 joule devices are marked  II 3G EEx nA nL IIC T2.

#### Audible Signaling Devices, Sounder Horns or Combined Sounder Horn / Beacons:

Model Number	Volts / Hz	Current
E2xS112EG24DC	24 / DC	284 mA
E2xS112EG48DC	48 / DC	146 mA
E2xS112EG120AC	120 / 50/60 / AC	104 mA
E2xS112EG230AC	230 / 50/60 / AC	54 mA
E2xS121EG24DC	24 / DC	280 mA
E2xS121EG48DC	48 / DC	215 mA
E2xS121EG120AC	120 / 50/60 / AC	142 mA
E2xS121EG230AC	230 / 50/60 / AC	76 mA
E2xCS1125EG24DC	24 / DC	275 mA / 284 mA
E2xCS1125EG48DC	48 / DC	145 mA / 146 mA
E2xCS1125EG120AC	120 / 50/60 / AC	80 mA / 104 mA
E2xCS1125EG230AC	230 / 50/60 / AC	30 mA / 54 mA

Model No. E2xS devices (sounder horns) are marked  II 3G EEx nA nL IIC T4.

Model No. E2xCS devices (combination sounder / beacons) are marked  II 3G EEx nA nL IIC T2 at 55 °C maximum ambient, or  II 3G EEx nA nL IIC T3 at 40 °C maximum ambient.

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### Audible Signaling Devices, Loudspeakers:

Model Number	Input Voltage	Wattage	Input Impedance
E2xL15EG 8 Ohm	--	15	8 ohms
E2xL15EG 16 Ohm	--	15	16 ohms
E2xL15EG70 V Line	70 V / DC	15	--
E2xL15EG100 V Line	100 V / DC	15	--

The E2xL Series Loudspeakers are marked  II 3G EEx nA II T4

All devices have the additional rating designation: IP 54

#### Installation instructions

Unused apertures shall be closed with suitable blanking elements.

For ambient temperatures below -10°C and above +60°C use field wiring suitable for both minimum and maximum ambient temperature.

#### Mounting instructions

Mounting instruction is given in the Installation Instructions.

#### Routine tests

Routine Dielectric Voltage Withstand Tests per Clause 27.2.1 of EN 50021 are required on each Production sample.

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Drawings:

Number	Date or Rev.	Details
D4220EG	Issue C	E2xS121EG Sounder Marking
D4221EG	Issue C	E2xS112EG Sounder Marking
D4222EG	Issue B	E2xL15EG Loudspeaker Marking
D4223EG	Issue C	E2xB05EG Beacon Marking
D4224EG	Issue C	E2xB10EG Beacon Marking
D4225EG	Issue C	E2xS1125EG Combined Sounder / Beacon Marking
IS4203	Issue C	E2xS112EG Sounder Installation Instructions
IS4204	Issue C	E2xS121EG Sounder Installation Instructions
IS4207	Issue C	E2xB05EG Beacon Installation Instructions
IS4208	Issue C	E2xB10EG Beacon Installation Instructions
IS4210	Issue C	E2xS1125EG Combined Sounder / Beacon Installation Instructions
IS24212	Issue B	E2xL15EG Loudspeaker Installation Instructions
PL 4211-112EG	Issue B	E2xS112EG Sounder Parts List

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PL 4211-121EG	Issue B	E2xS121EG Sounder Parts List
PL 4213EG	Issue B	E2xB05/10EG Beacon Parts List
PL 4215EG	Issue B	E2x112-05EG Combined Sounder/Beacon Parts List
PL 4217EG	Issue B	E2xL15EG Loudspeaker Parts List
D 4211EG	Issue B	E2x121/112EG Sounder External Assembly Drawing
D 4212EG	Issue B	E2x121/112EG Sounder Internal Assembly Drawing
D 4213EG	Issue B	E2xB05/10EG Beacon External Assembly Drawing
D 4214EG	Issue B	E2xB05/10EG Beacon Internal Assembly Drawing
D 4215EG, 1 & 2	Issue B	E2x112-05EG Combined Sounder / Beacon External Assembly Drawing
D 4216EG	Issue B	E2x112-05EG Combined Sounder / Beacon Internal Assembly Drawing
D 4217EG	Issue B	E2xL15EG Loudspeaker External Assembly Drawing
D 4218EG	Issue B	E2xL15EG Loudspeaker Internal Assembly Drawing
CD 4201	Issue B	E2xS121EG Sounder Circuit Diagram, DC Ratings
CD 4202	Issue B	E2xS121EG Sounder Circuit Diagram, AC Ratings
CD 4203	Issue B	E2xS112EG Sounder Circuit Diagram, DC Ratings
CD 4204	Issue B	E2xS112EG Sounder Circuit Diagram, AC Ratings
CD 4205	Issue A	E2xB05EG Beacon Circuit Diagram, DC Ratings
CD 4206-120	Issue C	E2xB05EG Beacon Circuit Diagram, 120 V AC Ratings
CD 4206-230	Issue C	E2xB05EG Beacon Circuit Diagram, 230 V AC Ratings
CD 4207	Issue A	E2xB10EG Beacon Circuit Diagram, DC Ratings
CD 4208-120	Issue B	E2xB10EG Beacon Circuit Diagram, 120 V AC Ratings
CD 4208-230	Issue C	E2xB10EG Beacon Circuit Diagram, 230 V AC Ratings
D 4205	Issue A	E2xB Beacon Flash Tube Assembly
CD 4209	Issue A	Loudspeaker Circuit Diagram, all ratings
CL 4203-05-12	Issue A	E2xB05EG Beacon Component List, 12 V DC
CL 4203-05-24	Issue A	E2xB05EG Beacon Component List, 24 V DC
CL 4203-05-48	Issue A	E2xB05EG Beacon Component List, 48 V DC
CL 4203-10-24	Issue A	E2xB10EG Beacon Component List, 24 V DC
CL 4203-10-48	Issue A	E2xB10EG Beacon Component List, 48 V DC
CL 4205	Issue A	E2xB Beacon Flash Tube Assembly Component List
CL 4204-05-120	Issue C	E2xB05EG Beacon Component List, 120 V AC
CL 4204-05-230	Issue C	E2xB05EG Beacon Component List, 230 V AC
CL 4204-10-120	Issue B	E2xB10EG Beacon Component List, 120 V AC
CL 4204-10-230	Issue C	E2xB10EG Beacon Component List, 230 V AC
CL 4201-112-24	Issue B	E2xS112EG Sounder Component List, 24 V DC
CL 4201-112-48	Issue B	E2xS112EG Sounder Component List, 48 V DC
CL 4202-112-120	Issue C	E2xS112EG Sounder Component List, 120 V AC
CL 4202-112-230	Issue C	E2xS112EG Sounder Component List, 230 V AC
CL 4201-121-24	Issue B	E2xS121EG Sounder Component List, 24 V DC
CL 4201-121-48	Issue B	E2xS121EG Sounder Component List, 48 V DC
CL 4202-121-120	Issue C	E2xS121EG Sounder Component List, 120 V AC
CL 4202-121-230	Issue C	E2xS121EG Sounder Component List, 230 V AC
CL 4206-70-A	Issue A	E2xL15EG Loudspeaker Component List, 70 V Line
CL 4206-100-A	Issue A	E2xL15EG Loudspeaker Component List, 100 V Line
CL 4206-8-16-A	Issue A	E2xL15EG Loudspeaker Component List, 8 & 16 Ohm

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D 4203-05	Issue A	E2xB05EG Beacon Printed Wiring Board, 12, 24, 48 V DC
D 4203-10	Issue A	E2xB10EG Beacon Printed Wiring Board, 24, 48 V DC
D 4204-05-120	Issue C	E2xB05EG Beacon Printed Wiring Board, 120 V AC
D 4204-05-230	Issue C	E2xB05EG Beacon Printed Wiring Board, 230 V AC
D 4204-10-120	Issue B	E2xB10EG Beacon Printed Wiring Board, 120 V AC
D 4204-10-230	Issue C	E2xB10EG Beacon Printed Wiring Board, 230 V AC
D 4201-112-24	Issue B	E2xS112EG Sounder Printed Wiring Board, 12 & 24 V DC
D 4201-112-48	Issue B	E2xS112EG Sounder Printed Wiring Board, 48 V DC
D 4202-112	Issue B	E2xS112EG Sounder Printed Wiring Board, 120, 230 V AC
D 4201-121	Issue B	E2xS121EG Sounder Printed Wiring Board, 24 & 48 V DC
D 4202-121	Issue B	E2xS121EG Sounder Printed Wiring Board, 120, 230 V AC
D 4206-100-70	Issue A	E2xL15EG Loudspeaker Printed Wiring Board, 70, 100 V
D 4206-8-16	Issue A	E2xL15EG Loudspeaker Printed Wiring Board, 8, 16 Ohm
D 4226	Issue A	Loudspeaker 70 V and 100V Matching Line Transformer
D 4227	Issue A	Pressure unit for loudspeakers and sounders
SATEP 0352	Issue D	Driver assembly for loudspeakers and sounders
D 4202-PCB	Issue A	Sounder circuit track diagram for creepage, clearance
D 4203-PCB	Issue A	Beacon circuit track diagram for creepage, clearance; DC units
D 4204-PCB	Issue A	Beacon circuit track diagram for creepage, clearance; AC units
D 4206-PCB	Issue A	Loudspeaker circuit track diagram, creepage and clearance, 70 V & 100 V Line Ratings

[17] Special conditions for safe use:

None

[18] Essential Health and Safety Requirements:

Concerning EHSR that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. 04CA21554

[19] Additional Information

None

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

On behalf of UL International Demko A/S

Herlev, 2006-05-29

Karina Christiansen  
Certification Manager

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