

EU-TYPE EXAMINATION CERTIFICATE



[1]

[2]

**Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 2014/34/EU**

[3]

EU-Type Examination Certificate Number: **DEMKO 16 ATEX 1466X Rev. 1**

[4]

Product: **STEx range of Signalling Beacons, Loudspeakers, Sounders and STExJ2
Junction Box**

[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. **4787356916**

[9]

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013

EN 60079-1:2014

EN 60079-31:2014

[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 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 equipment or protective system shall include the following:



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



II 2 D Ex tb IIIC T85°C...T135°C Db

**Ta -50°C to +70°C
Or as specified in table below**

Certification Manager

Jan-Erik Storgaard

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Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

[13]

Schedule

[14]

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Description of Product

The STExS1, STExS2, STExL1 and STExL2 series products are a range of Sounders and Loudspeakers housed in the same Flameproof / Dust protected, stainless steel enclosure; that are intended to be used as audible warning / signalling devices. The enclosure is accessible via a threaded cover, the opposite end of the enclosure is fitted with pressed wire breathing element incorporating a cemented joint with enclosure. The STExS1 Sounders and STExL1 Loudspeaker models are fitted with a plastic horn that has a short flare whereas the STExS2 Sounders and STExL2 Loudspeaker models are fitted with plastic horn having a longer flare. Alternatively, all Sounders and Loudspeakers maybe fitted with a radial horn. The horns are secured to the end of the enclosure with fasteners.

The STExB2 series products are a range of Electronic Strobe, LED or Rotating Beacons housed in the same Flameproof / Dust protected, stainless steel enclosure; intended to be used as visual warning / signalling devices. The enclosure is accessible via a threaded cover which incorporates a glass dome, the glass dome is cemented into the cover. The glass dome is protected with a stainless steel wire guard which provides for a reduced risk of impact, a plastic lens cover can optionally be fitted over the glass dome without affecting the concept of protection.

The STExC1 series products are a range of combined Sounder with Strobe Beacon housed in the same Flameproof / Dust protected, stainless steel enclosure; intended to be used as audible and visual warning / signalling devices. The enclosure is accessible via a threaded cover which incorporates a glass dome, the glass dome is cemented into the cover. The glass dome is fitted with a stainless steel wire guard which provides for a reduced risk of impact, a plastic lens cover can optionally be fitted over the glass dome without affecting the concept of protection. The opposite end of the enclosure is fitted with pressed wire breathing element incorporating a cemented joint with enclosure, a two piece plastic cover (small horn or radial horn) is fitted over breathing element and secured to the enclosure with fasteners.

Model STExJ2 is a Junction Box which is based on the STExB2 Series Beacon enclosure, the junction box is closed with a single piece stainless steel threaded cover.

All four types of enclosure utilise threaded covers, the specified ingress protection rating is not reliant on the use of an elastomeric O-ring, although one may be fitted.

Loudspeakers and Sounders

STExL1R008, STExL1R016, STExL1V070, STExL1V100, STExL2R008, STExL2R016, STExL2V070, STExL2V100.
STExS1DC024, STExS1AC230, STExS2DC024, STExS2AC230.

Sounder Beacons

STExC1X05DC012, STExC1X05DC024, STExC1X05DC048, STExC1X05AC230.

Large Xenon Strobe Beacons and Rotating Halogen Beacons

STExB2X10DC024, STExB2X10DC048, STExB2X10AC115, STExB2X10AC230, STExB2X15DC024, STExB2X15DC048,
STExB2X15AC115, STExB2X15AC230, STExB2X21DC024, STExB2X21DC048, STExB2X21AC115, STExB21AC230
STExB2RT1DC012, STExB2RT1DC024, STExB2RT1AC115, STExB2RT1AC230

Large LED Beacons

STExB2LD2DC024, STExB2LD2AC115, STExB2LD2AC230

Large Junction Box

STExJ2

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.

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Temperature range

Type Designation	Description	Rated Voltage Range	Rated Current (mA)	IP Rating	T Class @ Ambient temperature °C (-50°C to +70°C Max.)							
					(Gas)							(Dust)
					40	45	50	55	60	65	70	70
STExS1DC024	15W Sounder (Small Horn)	10-30Vdc	217	IP66	-	-	-	-	-	T6	T5	T85
STExS1AC230	15W Sounder (Small Horn)	110-240Vac, 50/60Hz	77/53	IP66	-	-	-	-	-	T6	T5	T85
STExS2DC024	25W Sounder (Large Horn)	10-30Vdc	924	IP66	-	T6	-	-	T5	-	T4	T105
STExS2AC230	25W Sounder (Large Horn)	110-240Vac, 50/60Hz	268/159	IP66	-	T6	-	-	T5	-	T4	T105
STExL1R008	15W Loudspeaker (Small Horn)	10.95V	-	IP66	-	-	-	T6	-	-	T5	T95
STExL1R016	15W Loudspeaker (Small Horn)	15.49V	-	IP66	-	-	-	T6	-	-	T5	T95
STExL1V070	15W Loudspeaker (Small Horn)	70V	-	IP66	-	-	-	T6	-	-	T5	T95
STExL1V100	15W Loudspeaker (Small Horn)	100V	-	IP66	-	-	-	T6	-	-	T5	T95
STExL2R008	25W Loudspeaker (Large Horn)	14.14V	-	IP66	-	T6	-	-	T5	-	T4	T105
STExL2R016	25W Loudspeaker (Large Horn)	20.00V	-	IP66	-	T6	-	-	T5	-	T4	T105
STExL2V070	25W Loudspeaker (Large Horn)	70V	-	IP66	-	T6	-	-	T5	-	T4	T105
STExL2V100	25W Loudspeaker (Large Horn)	100V	-	IP66	-	T6	-	-	T5	-	T4	T105
STExC1X05DC012	Combined Sounder/ Xenon Strobe	10-14Vdc	944	IP66	T6	-	-	T5	-	-	T4	T110
STExC1X05DC024	Combined Sounder/ Xenon Strobe	20-28Vdc	540	IP66	T6	-	-	T5	-	-	T4	T110
STExC1X05DC048	Combined Sounder/ Xenon Strobe	42-54Vdc	332	IP66	T6	-	-	T5	-	-	T4	T110
STExC1X05AC230	Combined Sounder/ Xenon Strobe	220-240Vac 50/60Hz	132	IP66	T6	-	-	T5	-	-	T4	T110
STExB2X10DC024	10J Xenon Strobe 24Vdc	20-28Vdc	528	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X10DC048	10J Xenon Strobe 48Vdc	42-54Vdc	229	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X10AC115	10J Xenon Strobe 115Vac	110-125Vac 50/60Hz	276	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X10AC230	10J Xenon Strobe 230Vac	220-240Vac 50/60Hz	130	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X15DC024	15J Xenon Strobe 24Vdc	20-28Vdc	822	IP6X	-	-	-	-	-	-	T4	T130
STExB2X15DC048	15J Xenon Strobe 48Vdc	42-54Vdc	342	IP6X	-	-	-	-	-	-	T4	T130
STExB2X15AC115	15J Xenon Strobe 115Vac	110-125Vac 50/60Hz	328	IP6X	-	-	-	-	-	-	T4	T130
STExB2X15AC230	15J Xenon Strobe 230Vac	220-240Vac 50/60Hz	168	IP6X	-	-	-	-	-	-	T4	T130
STExB2X21DC024	21J Xenon Strobe 24Vdc	20-28Vdc	944	IP6X	-	-	-	-	-	T4	T3	T135
STExB2X21DC048	21J Xenon Strobe 48Vdc	42-54Vdc	428	IP6X	-	-	-	-	-	T4	T3	T135
STExB2X21AC115	21J Xenon Strobe 115Vac	115Vac 50/60Hz	464	IP6X	-	-	-	-	-	T4	T3	T135
STExB2X21AC230	21J Xenon Strobe 230Vac	230Vac 50Hz	250	IP6X	-	-	-	-	-	T4	T3	T135
STExB2RT1DC012	12Vdc Rotating Beacon	12Vdc	1730	IP6X	T5	-	-	-	-	-	T4	T125
STExB2RT1DC024	24Vdc Rotating Beacon	24Vdc	970	IP6X	T5	-	-	-	-	-	T4	T125
STExB2RT1AC115	115Vac Rotating Beacon	115-120Vac 50/60Hz	216	IP6X	T5	-	-	-	-	-	T4	T125
STExB2RT1AC230	230Vac Rotating Beacon	230Vac 50/60Hz	111	IP6X	T5	-	-	-	-	-	T4	T125
STExB2LD2DC024	LED Beacon, 24Vdc	18-54Vdc	240	IP6X	-	-	-	-	-	T6	T5	T85
STExB2LD2AC115	LED Beacon, 115ac, 50/60Hz	103.5-126.5Vac 50/60Hz	95	IP6X	-	-	-	-	-	T6	T5	T85
STExB2LD2AC230	LED Beacon, 230ac, 50/60Hz	207-253Vac 50/60Hz	48	IP6X	-	-	-	-	-	T6	T5	T85
STExJ2	STEx Junction Box	260Vac, 60Vdc	5W	IP6X	-	-	-	-	-	T6	T5	T85

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Schedule

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Installation instructions

Unused apertures shall be closed with suitably certified; IP66 or IP6X rated blanking elements, maintaining the type of protection of the equipment. Cable entry temperature may exceed +70°C / the cable branching point may exceed 80°C. Therefore suitable heat resisting cables and cable glands must be used, with a rated service temperature as stated in the installation instructions.

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

Mounting instructions

Refer to the manufactures instructions.

Routine tests

Each STExC1 enclosure shall be subjected to a routine overpressure test of at least that stated on scheduled drawing D199-00-601-SC Revision F for at least 10 s, as required by clause 16.1 of EN 60079-1: 2014. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.

Each STExB2 enclosure shall be subjected to a routine overpressure test of at least that stated on scheduled drawings D199-00-201-SC Revision E and D199-00-401-SC Revision B for at least 10 s, as required by clause 16.1 of EN 60079-1: 2014. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.

Each STExB2RT1 enclosure shall be subjected to a routine overpressure test of at least that stated on scheduled drawings D199-00-201-SC Revision E for at least 10 s, as required by clause 16.1 of EN 60079-1: 2014. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.

STExL1, STExL2, STExS1, STExS2 and STExJ2 enclosures are exempt from routine overpressure testing, since they comply with the overpressure test equal to four time reference pressure in accordance with clause 16.2 of EN 60079-1: 2014.

[16]

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.

[17]

Specific conditions of use:

- Parts of the enclosure are non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
- All entries must be fitted with a suitable seal at the interface with enclosure.
- Repair of the flamepaths is not permitted.
- STExB2X21 models shall not be mounted with the lamp down.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9. In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	Protection against other hazards
1.4	Hazards arising from external effects

Additional information

The STExL1R008, STExL1R016, STExL1V070, STExL1V100, STExL2R008, STExL2R016, STExL2V070, STExL2V100, STExS1DC024, STExS1AC230, STExS2DC024, STExS2AC230, STExC1X05DC012, STExC1X05DC024, STExC1X05DC048 and STExC1X05AC230 have in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.

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.