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UNITED KINGDOM CONFORMITY ASSESSMENT
UK-TYPE EXAMINATION CERTIFICATE

[2]

**Product or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

[3] Type Examination Certificate No.: **UL21UKEX2019X**
[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 (UK) Ltd, Approved Body number 0843, in accordance with Regulation 44 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations. The examination and test results are recorded in the confidential report **4789853593.5.1**.

[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

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

[11] This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this 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 T85°C...T137°C Db

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

Certification Manager
David Lloyd

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 Ex UK 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 Regulations. 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: 2021-07-05

Approved Body UL International (UK) Ltd Unit 1-3 Horizon Kingsland Business Park Wade Road, Basingstoke RG24 8AH, UK
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Schedule

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[15] 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

STExB2X05DC012, STExB2X05DC024, STExB2X05DC024-SIL, STExB2X05DC048, STExB2X05AC115, STExB2X05AC230, STExB2X10DC024, STExB2X10DC024-SIL, STExB2X10DC048, STExB2X10AC115, STExB2X10AC230, STExB2X15DC024, STExB2X15DC024-SIL, 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.

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	100V	-	IP66	-	-	-	T6	-	-	T5	T95



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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
	(Small Horn)											
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
STExB2X05DC012	5J Xenon Strobe 12Vdc	10-14Vdc	585	IP6X	-	-	-	T6	-	-	T5	T92
STExB2X05DC024	5J Xenon Strobe 24Vdc	20-28Vdc	295	IP6X	-	-	-	T6	-	-	T5	T92
STExB2X05DC024-SIL	5J Xenon Strobe 24Vdc	20-28Vdc	295	IP6X	-	-	-	T6	-	-	T5	T92
STExB2X05DC048	5J Xenon Strobe 48Vdc	42-54Vdc	145	IP6X	-	-	-	T6	-	-	T5	T92
STExB2X05AC115	5J Xenon Strobe 115Vac	110-120Vac 50/60Hz	140	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X05AC230	5J Xenon Strobe 230Vac	220-240Vac 50/60Hz	70	IP6X	T6	-	-	T5	-	-	T4	T110
STExB2X10DC024	10J Xenon Strobe 24Vdc	20-28Vdc	605	IP6X	-	T5	-	-	-	-	T4	T118
STExB2X10DC024-SIL	10J Xenon Strobe 24Vdc	20-28Vdc	605	IP6X	-	T5	-	-	-	-	T4	T118
STExB2X10DC048	10J Xenon Strobe 48Vdc	42-54Vdc	230	IP6X	-	T5	-	-	-	-	T4	T118
STExB2X10AC115	10J Xenon Strobe 115Vac	110-120Vac 50/60Hz	220	IP6X	-	-	-	-	-	-	T4	T128
STExB2X10AC230	10J Xenon Strobe 230Vac	220-240Vac 50/60Hz	130	IP6X	-	-	-	-	-	-	T4	T128
STExB2X15DC024	15J Xenon Strobe 24Vdc	20-28Vdc	835	IP6X	-	-	-	-	-	-	T4	T127
STExB2X15DC024-SIL	15J Xenon Strobe 24Vdc	20-28Vdc	835	IP6X	-	-	-	-	-	-	T4	T127
STExB2X15DC048	15J Xenon Strobe 48Vdc	42-54Vdc	330	IP6X	-	-	-	-	-	-	T4	T127
STExB2X15AC115	15J Xenon Strobe 115Vac	110-120Vac 50/60Hz	310	IP6X	-	-	-	-	-	T4	T3	T131
STExB2X15AC230	15J Xenon Strobe 230Vac	220-240Vac 50/60Hz	170	IP6X	-	-	-	-	-	T4	T3	T131
STExB2X21DC024	21J Xenon Strobe 24Vdc	20-28Vdc	1130	IP6X	-	-	-	-	-	T4	T3	T131
STExB2X21DC048	21J Xenon Strobe 48Vdc	42-54Vdc	530	IP6X	-	-	-	-	-	T4	T3	T131
STExB2X21AC115	21J Xenon Strobe 115Vac	110-120Vac 50/60Hz	500	IP6X	-	-	-	T4	-	T3	-	-T137 (65°C Amb)
STExB2X21AC230	21J Xenon Strobe 230Vac	220-240Vac 50Hz	195	IP6X	-	-	-	T4	-	T3	-	-T137 (65°C Amb)
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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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.

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Test Report No. (Associated with this Certificate issue):
DK/ULD/ExTR16.0017/02

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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.

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Essential Health and Safety Requirements (Regulations Schedule 1)

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
13	Protection against other hazards
21	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 approved body concerning all modifications to the technical documentation as described in Part 2, Chapter 6 of UKSI 2016 no. 1107

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Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
STExS1 & S2 Sounder	D199-00-001-SC (2 pages)	F	2016-05-19
STEx L1 & L2 Loudspeaker Circuit Diagram	D199-45-151-CD-SC	A	2015-02-16
Circuit Diagram/Block Diagram STExS1 & S2 DC Sounder	D199-26-001-CD-SC	C	2016-06-14
Circuit Diagram/Block Diagram STExS1 & S2 AC Sounder	D199-38-001-CD-SC	B	2015-08-20
STExL1 & L2 Ex 'd' Loudspeaker product label	D199-99-051-SC	C	2021-05-21
*STExS1&S2 Ex 'd' Sounder and Loudspeaker product label.	D199-99-001-SC	D	2021-05-21
Pressed Wire Element 56% Free Volume	D199-67-001-SC	A	2015-05-28
STExL1, STExL2 User Instructions	D199-00-051-IS-SC	C	2021-05-21



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Title:	Drawing No.:	Rev. Level:	Date:
STExS1, STExS2 User Instructions	D199-00-001-IS-SC	C	2021-05-21
STEx B2 Beacon	D199-00-201-SC (2 pages)	F	2020-10-09
Circuit/Block Diagram STEx B2 RT1 Rotating DC/AC Beacon	D199-25-301-CD- SC	A	2015-02-05
*D1xB2X05, 10 & 15 DC Xenon Beacon	D212-25-205-CD-SC	A	2018-02-06
*D1xB2X 115, 230 Vac 5J, 10J & 15J Xenon Beacon	D212-36-205-CD-SC	C	2018-10-03
*D1xB2XH2 21J 24VDC UL1971	D212-26-251-CD-SC	C	2018-02-05
*D1xB2X21 AC 115, 230 VAC 21J XENON BEACON	D212-36-221-CD-SC	B	2018-10-04
STExB2RT1 Ex 'd' Rotating Beacon Product Label	D199-99-301-SC	D	2021-05-21
STExB2 Ex 'd' Large Xenon Beacon Product Label	D199-99-201-SC	E	2021-05-14
STExRT1 User Instructions	D199-00-301-IS-SC	C	2021-05-21
Instruction Manual STExB2X Xenon Beacons for use in Hazardous Locations	D199-00-201-IS-SC	C	2021-05-14
STEx B2 LED Beacon	D199-00-401-SC	B	2016-05-19
Circuit/Block Diagram STEx B2 LD2 LED Beacon	D199-00-401-CD-SC	A	2016-01-20
STExB2 Ex 'd' LED Beacon Product Label	D199-99-401-SC	C	2021-05-21
STExLD2 User Instructions	D199-00-401-IS-SC	B	2021-05-21
STExC1 Combined Sounder/ Beacon	D199-00-601-SC (2 pages)	F	2016-05-19
Circuit/ Block Diagram STExC105 DC Sounder/Beacon	D199-25-601-CD-SC	B	2016-06-14
Circuit/ Block Diagram STExC105 AC Sounder/Beacon	D199-36-601-CD-SC	B	2016-06-14
STExC1 Ex 'd' Combined Sounder and Beacon Product Label.	D199-99-601-SC	D	2021-05-21
STExC1X05 User Instructions	D199-00-601-IS-SC	C	2021-05-21
STEx J2 Junction Box	D199-00-501-SC	D	2016-05-19
STEx J2 Ex 'd' Junction Box Product Label	D199-99-501-SC	D	2021-05-21
STExJ2 User Instructions	D199-00-501-IS-SC	C	2021-05-21
Dow Corning Q3-6611 Silicon heat cure adhesive	11-1758	-	2009-10-19
Huntsman Araldite 2014-1 two part epoxy	Araldite® 2014-1	-	May 2013
Instruction Manual STExB2 Xenon Beacons for use in Hazardous Locations	D199-00-201-IS-SC-UK	A	2021-05-21
STExB2 Ex 'd' Large Xenon Beacon Product Label UKCA	D199-99-201-SC-UK	A	2021-05-21
STEx S1 and S2 Ex d Sounder Product Label UKCA	D199-99-001-SC-UK	A	2021-06-28

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Title:	Drawing No.:	Rev. Level:	Date:
STExS1, STExS2 User Instructions - UKCA	D199-00-001-IS-SC-UK	A	2021-06-28
STExL1 and L2 Ex d Loudspeaker Product Label UKCA	D199-99-051-SC-UK	A	2021-06-28
STExL1, STExL2 User Instructions - UKCA	D199-00-051-IS-SC-UK	A	2021-06-28
STExB2RT1 Ex d Rotating Beacon Product Label UKCA	D199-99-301-SC-UK	A	2021-06-28
STExRT1 User Instructions - UKCA	D199-00-301-IS-SC-UK	A	2021-06-28
STExB2 Ex d LED Beacon Product Label UKCA	D199-99-401-SC-UK	A	2021-06-28
STExLD2 User Instructions - UKCA	D199-00-401-IS-SC-UK	A	2021-06-28
STEx J2 Ex d Junction Box Product Label UKCA	D199-99-501-SC-UK	A	2021-06-28
STExJ2 User Instructions - UKCA	D199-00-501-IS-SC-UK	A	2021-06-28
STExC1 Ex d Combined Sounder and Beacon Product Label UKCA	D199-99-601-SC-UK	A	2021-06-28
STExC1X05 User Instructions - UKCA	D199-00-601-IS-SC-UK	A	2021-06-28