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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] UK-Type Examination Certificate No.: **UL21UKEX2136X Rev. 1**

[4] Product: **GNEx range of Signalling Beacons, GNExH1 Heat Detectors and
GNExJ2 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 **US/UL/ExTR15.0005/04**.

[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 IEC 60079-7:2015/A1:2018
EN 60079-11:2012	EN 60079-31:2014	IEC 60079-31, Edition 3.0 (2022-01)

Except in respect of those requirements listed at section 19 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 the 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 1 G **Ex ia IIC T6 Ga** (Heat Detectors – GNExH1-I)  II 1 G **Ex ia IIC T4 Ga** (Heat Detectors – GNExH1-IR)
 II 2 G **Ex db IIC T6...T4 Gb** (GNExB, GNExJ2)  II 2 G **Ex eb IIC T6...T5 Gb** (GNExJ2-E)
  II 2 G **Ex db eb IIC T6...T5 Gb** (GNExH1-E/H)
 II 2 D **Ex tb IIIC T80°C...T138°C Db** (GNExB2, GNExJ, GNExH1)

Certification Officer
Andrew Moffat

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 UKEx 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: 2021-07-26

Re-issued: 2024-05-31

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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Description of Product

The GNExB1, GNExB2 series are a range of Electronic Strobe or LED Beacons housed in a Flameproof / Dust protected GRP enclosure that are 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 range is supplemented by a GNExJ2 Junction Box and a GNExH1 Heat Detector which are based on the GNExB2 Series enclosure, the junction box and heat detector are closed with a single-piece moulded threaded cover. The intrinsically safe heat detector consists of the GNEx enclosure, heat detector and wiring terminals. GNExH1-IR models may be fitted with optional EOL Series devices including optional LED module (except Ex eb models).

Small Strobe Beacons

GNExB1X05DC012, GNExB1X05DC024, GNExB1X05DC048, GNExB1X05AC115, GNExB1X05AC230.

Large Strobe Beacons

GNExB2X05DC012, GNExB2X05DC024, GNExB2X05DC024-SIL, GNExB2X05DC048, GNExB2X05AC115, GNExB2X05AC230, GNExB2X10DC024, GNExB2X10DC024-SIL, GNExB2X10DC048, GNExB2X10AC115, GNExB2X10AC230, GNExB2X15DC024, GNExB2X15DC024-SIL, GNExB2X15DC048, GNExB2X15AC115, GNExB2X15AC230, GNExB2X21DC024, GNExB2X21DC048, GNExB2X21AC115, GNExB2X21AC230.

Large LED Beacons

GNExB2LD2DC024, GNExB2LD2AC115, GNExB2LD2AC230

Junctions Box

GNExJ2-E

GNExJ2

Heat Detectors

GNExH1-E

GNExH1-H

GNExH1-I

GNExH1-IR

The optical radiation output of the LED indicator included in this product with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is covered in this certificate based on Exception 1 to the scope of EN 60079-28:2015.

The optical radiation output of the Heat Detector GNExH1-IR with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is covered in this certificate based on Exception 1 to the scope of EN 60079-28:2015.

The optical radiation output of the LED Beacons with respect to explosion protection, according to Schedule 1 clause 16 of the Regulation 2016 No. 1107 (as amended by UKSI 2019:696) is not covered in this certificate.

Temperature range and Electrical data

Small Strobe Beacons -

Type Designation	Description	Rated Voltage Range	Rated Current (mA)	IP Rating	Maximum Ambient / Temperature Code						
					(Dust)	(Gas)					
						70	40	45	55	60	65
GNExB1X05DC012	5J Xenon Strobe 12Vdc	10-14Vdc	587	IP66	T110°C	T6	-	T5	-	-	T4
GNExB1X05DC024	5J Xenon Strobe 24Vdc	20-28Vdc	266	IP66	T110°C	T6	-	T5	-	-	T4
GNExB1X05DC048	5J Xenon Strobe 48Vdc	42-54Vdc	175	IP66	T110°C	T6	-	T5	-	-	T4
GNExB1X05AC115	5J Xenon Strobe 115Vac, 50/60Hz	110-125Vac, 50/60Hz	121	IP66	T110°C	T6	-	T5	-	-	T4
GNExB1X05AC230	5J Xenon Strobe 230Vac, 50/60Hz	220-240Vac 50/60Hz	88	IP66	T110°C	T6	-	T5	-	-	T4

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Large Strobe Beacons -

Type Designation	Description	Rated Voltage Range	Rated Current (mA)	IP Rating	Maximum Ambient / Temperature Code						
					(Dust)	(Gas)					
						70	40	45	55	60	65
GNExB2X05DC012	5J Xenon Strobe 12Vdc	10-14Vdc	585	IP6X	T89°C	-	-	-	T6	-	T5
GNExB2X05DC024	5J Xenon Strobe 24Vdc	20-28Vdc	295	IP6X	T89°C	-	-	-	T6	-	T5
GNExB2X05DC024-SIL	5J Xenon Strobe 24Vdc	20-28Vdc	295	IP6X	T89°C	-	-	-	T6	-	T5
GNExB2X05DC048	5J Xenon Strobe 48Vdc	42-54Vdc	145	IP6X	T89°C	-	-	-	T6	-	T5
GNExB2X05AC115	5J Xenon Strobe 115Vac	110-120Vac 50/60Hz	140	IP6X	T110°C	T6	-	T5	-	-	T4
GNExB2X05AC230	5J Xenon Strobe 230Vac	220-240Vac 50/60Hz	70	IP6X	T110°C	T6	-	T5	-	-	T4
GNExB2X10DC024	10J Xenon Strobe 24Vdc	20-28Vdc	605	IP6X	T117°C	-	T5	-	-	-	T4
GNExB2X10DC024-SIL	10J Xenon Strobe 24Vdc	20-28Vdc	605	IP6X	T117°C	-	T5	-	-	-	T4
GNExB2X10DC048	10J Xenon Strobe 48Vdc	42-54Vdc	230	IP6X	T117°C	-	T5	-	-	-	T4
GNExB2X10AC115	10J Xenon Strobe 115Vac, 50/60Hz	110-120Vac 50/60Hz	220	IP6X	T122°C	T5	-	-	-	-	T4
GNExB2X10AC230	10J Xenon Strobe 230Vac, 50/60Hz	220-240Vac 50/60Hz	130	IP6X	T122°C	T5	-	-	-	-	T4
GNExB2X15DC024	15J Xenon Strobe 24Vdc	20-28Vdc	835	IP6X	T125°C	-	-	-	-	-	T4
GNExB2X15DC024-SIL	15J Xenon Strobe 24Vdc	20-28Vdc	835	IP6X	T125°C	-	-	-	-	-	T4
GNExB2X15DC048	15J Xenon Strobe 48Vdc	42-54Vdc	330	IP6X	T125°C	-	-	-	-	-	T4
GNExB2X15AC115	15J Xenon Strobe 115Vac, 50/60Hz	110-120Vac 50/60Hz	310	IP6X	T134°C	-	-	-	-	T4	T3
GNExB2X15AC230	15J Xenon Strobe 230Vac, 50/60Hz	220-240Vac 50/60Hz	170	IP6X	T134°C	-	-	-	-	T4	T3
GNExB2X21DC024	21J Xenon Strobe 24Vdc	20-28Vdc	1130	IP6X	T135°C (*60°C Amb)	-	-	T4	T3	-	-
GNExB2X21DC048	21J Xenon Strobe 48Vdc	42-54Vdc	530	IP6X	T135°C (*60°C Amb)	-	-	T4	T3	-	-
GNExB2X21AC115	21J Xenon Strobe 115Vac, 50/60Hz	110-120Vac 50/60Hz	500	IP6X	T138°C	-	-	-	T4	-	T3
GNExB2X21AC230	21J Xenon Strobe 230Vac, 50/60Hz	220-240Vac 50 Hz	195	IP6X	T138°C	-	-	-	T4	-	T3

Large LED Beacons –

Type Designation	Description	Rated Voltage Range	Rated Current (mA)	IP Rating	Maximum Ambient / Temperature Code		
					(Dust)	(Gas)	
						70	65
GNExB2LD2DC024	LED Beacon, 24Vdc	18-54Vdc	336	IP6X	T85°C	T6	T5
GNExB2LD2AC115	LED Beacon, 115ac, 50/60Hz	103.5-126.5Vac 50/60Hz	124	IP6X	T85°C	T6	T5
GNExB2LD2AC230	LED Beacon, 230ac, 50/60Hz	207-253Vac 50/60Hz	83	IP6X	T85°C	T6	T5

Junction Box -

Type Designation	Description	Rated Voltage Range	Rated Power (max)	IP Rating	Maximum Ambient / Temperature Code			
					(Dust)		(Gas)	
					70	80	60	70
GNExJ2	GNEx Junction Box (Ex db, Ex tb)	260Vac, 60V dc	5W	IP6X	T80°C	-	-	T6
GNExJ2-E	GNEx Junction Box (Ex eb, Ex tb)	260Vac, 60V dc	1.25W	IP6X	T75°C	-	T6	T5

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Heat Detector -

Type Designation	Description	Rated Voltage Range	Rated Current	IP Rating	Maximum Ambient / Temperature Code						
					(Dust)		(Gas)				
					70	105	60	70	75	90	105
GNExH1-I	Heat Detector – No EOL or Series Devices (Ex tb)	30Vac, 30Vdc	0.5A, 1.1W	IP6X	T80°C	-	-	-	-	-	-
	Heat Detector – No EOL or Series Devices (Ex ia)	See below for IS parameters			-	-	-	T6	-	-	-
GNExH1-IR	Heat Detector – Optional EOL, Series devices (Ex tb)	30Vac, 30Vdc	0.5A, 1.1W	IP6X	T80°C	-	-	-	-	-	-
	Heat Detector – Optional EOL, Series devices (Ex ia)	See below for IS parameters			-	-	-	T4	-	-	-
GNExH1-E	Heat Detector (Ex db eb, Ex tb)	32Vdc, 32Vac	1A, 1.25W 2A, 1.25W	IP64	T75°C	-	T6	T5	-	-	-
GNExH1-H	Heat Detector (Ex db eb, Ex tb)	32Vdc, 32Vac	1A, 1.25W 2A, 1.25W	IP64	T75°C	T110°C	-	-	T6	T5	T4

Ex ia Product - Heat Detectors

For Intrinsic Safety models GNExH1-I and GNExH1-IR:

All terminals:

U_i : 30 V
 I_i : 500 mA
 P_i : 1.1 W
 L_i : 0
 C_i : 0

Ambient temperature range: -50°C to +70°C.

Routine tests

Each GNExB1X enclosure shall be subjected to a routine overpressure test of at least 17.8 bar 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 GNExB2X, GNExB2LD2 and GNExJ2 enclosure shall be subjected to a routine overpressure test of at least 18.3 bar 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.

Heat Detector probe integrity of welds is to be verified by one of the inspection methods in accordance with Clause 16.3 of IEC 60079-1, 7th Edition.

All GNExH1-E and GNExH1-H shall be routinely dielectrically strength tested between live/neutral and earth/enclosure. The tests shall be performed as described in IEC 60079-7, clause 6.1, at 500V rms for at least 1 minute (or 600V rms for at least 100 ms).

[16] Test Report No. (associated with this certificate issue)

The test report no. is provided under item no. [8] on page 1 of this UK-Type Examination Certificate.

[17] Specific conditions of use:

- The enclosure is 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.
- Accessible metal parts are capable of retaining a stored capacitance of 10pF therefore the end user shall take the appropriate action to reduce the risks of ignition associated with discharging this capacitance.
- Repair of the flamepaths is not permitted.

GNExH1-I, GNExH1-IR:

- The equipment does not provide 500V isolation between the intrinsically safe circuit and parts which may be earthed. This shall be considered in the end-use application to ensure the possibility of an earth connection will not compromise intrinsic safety. Refer to EN/IEC 60079-14.
- End user shall adhere to the manufacturer's installation and instruction when performing housekeeping to avoid the potential for hazardous electrostatic charges during cleaning, by using a damp cloth.
- Accessible metal parts are capable of retaining a stored capacitance of 10pF therefore the end user shall take the appropriate action to reduce the risks of ignition associated with discharging this capacitance.

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- [18] Conditions of certification:
None
- [19] Essential Health and Safety Requirements (Regulations Schedule 1)
In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

Additional information

The GNExB1X05DC012, GNExB1X05DC024, GNExB1X05DC048, GNExB1X05AC115 and GNExB1X05AC230 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 UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1.

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[20] Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
ENCLOSURE GENERAL ASSEMBLIES			
GNEEx B1 BEACON	D155-00-001-SC	H	2015-09-30
GNEEx B2 BEACON	D156-00-001-SC	H	2020-10-22
GNEEx B2 LED BEACON	D156-00-401-SC	A	2016-01-22
GNEEx J2 JUNCTION BOX	D156-00-501-SC	E	2015-08-09
* LED Indicator Construction Drg.	D249-00-001-SC	B	2023-03-30
* GNEExH1-E Ex e HEAT DETECTOR	D255-00-231-SC	A	2024-04-12
* GNEExJ2-E Ex e JUNCTION BOX	D156-00-531-SC	A	2024-04-12
CIRCUIT DIAGRAMS			
CIRCUIT/BLOCK DIAGRAM GNEExB1 5J XENON DC BEACON	D155-25-001-CD-SC	A	2015-01-05
CIRCUIT/BLOCK DIAGRAM GNEExB1 5J XENON BEACON	D155-36-001-CD-SC	B	2015-02-16
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
CIRCUIT/ BLOCK DIAGRAM GNEExB2LD2 LED BEACONS	D156-00-401-CD-SC	A	2016-01-20
INSTRUCTIONS AND LABELS			
GNEExB1X05 INSTRUCTIONS - UKCA	D155-00-201-IS-UK	A	2021-07-05
GNEExB1 Ex d SMALL STROBE BEACON PRODUCT LABEL - UKCA	D155-99-001-SC-UK	A	2021-07-05
GNEExB2X10 & GNEExB2X15 INSTRUCTIONS - UKCA	D156-00-201-IS-SC-UK	A	2021-05-21
GNEExB2LD2 INSTRUCTIONS - UKCA	D156-00-401-IS-SC-UK	A	2021-06-28
GNEExJ2 INSTRUCTIONS - UKCA	D156-00-501-IS-SC-UK	A	2021-06-28
GNEExB2 Ex d LARGE BEACON PRODUCT LABEL - UKCA	D156-99-101-SC-UK	A	2021-05-21
GNEExB2 Ex d LARGE LED BEACON PRODUCT LABEL - UKCA	D156-99-401-SC-UK	A	2021-06-28
GNEExJ2 Ex d JUNCTION BOX PRODUCT LABEL - UKCA	D156-99-501-SC-UK	A	2021-06-28
GNEExH1 Ex ia HEAT DETECTOR	D255-00-251-SC	A	2024-01-05
GNEExH1-I & -IR HEAT DETECTOR PRODUCT LABEL ATEX/IECEX/UKEx	D255-99-251-SC	A	2024-01-05
GNEExH1-I & GNEExH1-IR HEAT DETECTOR INSTRUCTIONS ATEX/IECEX/UKEx	D255-00-251-IS-SC	A	2024-02-02
Instruction Manual GNEExH1-E Heat Detector ATEX / IECEX / UKEx Zone 1, 2, 21, 22	D255-00-231-IS-SC	A	2024-04-12
GNEEx H1-E Ex d e HEAT DETECTOR PRODUCT LABEL ATEX/IECEX/UKEx	D255-99-231-SC	A	2024-04-12
Instruction Manual GNEExJ2-E	D156-00-531-IS-SC	A	2024-04-12
GNEExJ2-E Ex 'e' JUNCTION BOX PRODUCT LABEL ATEX/IECEX/UKEx	D156-99-531-SC	A	2024-04-12