[1] # EU-TYPE EXAMINATION CERTIFICATE

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

[3] EU-Type Examination Certificate Number: **DEMKO 15 ATEX 1448X Rev. 5**

[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 Demko A/S, notified body number 0539 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in confidential report no. **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)**

Where additional criteria beyond those given here have been used, they are listed at item 18 in 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” listed under item 17 of this certificate.

[11] This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. 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 product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

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** (GNExB, GNExJ2, GNExH1)

Certification Manager
Thomas Wilson

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: 2015-11-24
Re-issued: 2024-05-30

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

This certificate may only be reproduced in its entirety and without any change.

[13] [14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
DEMKO 15 ATEX 1448X Rev. 5

[15] 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

Performance testing

The optical radiation output of the LED Beacons 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.

The optical radiation output of the LED indicator included in this product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU 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 Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exceptions 1) to the scope of EN 60079-28:2015.

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	70
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

[13]

[14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
DEMKO 15 ATEX 1448X Rev. 5

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	70
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	70
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

[13]

[14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
DEMKO 15 ATEX 1448X Rev. 5

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, 60Vdc	5W	IP6X	T80°C	-	-	T6
GNExJ2-E	GNEx Junction Box (Ex eb, Ex tb)	260Vac, 60Vdc	1.25W	IP6X	T75°C	-	T6	T5

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.

Installation instructions
Unused apertures shall be closed with certified; IP66 or IP6X rated blanking elements, maintaining the type of protection of the equipment. Cable entry temperature may exceed +70ºC / the cable branching point may exceed 80ºC. 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.

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.

[13] [14]

Schedule
EU-TYPE EXAMINATION CERTIFICATE No.
DEMKO 15 ATEX 1448X Rev. 5

Heat Detector probe integrity of welds is to be verified by one of the inspection methods in accordance with Clause 16.3 of EN 60079-1: 2014.

All GNExH1-E shall be routinely dielectrically strength tested between live/neautral and earth/enclosure. The tests shall be performed as described in EN IEC 60079-7:2015/A1:2018, clause 6.1, at 500V rms for at least 1 minute (or 600V rms for at least 100 ms).

[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:

- 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.

For Ex ia Intrinsically Safe models - 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 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.

[18] 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 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 e2S 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.

This certificate may only be reproduced in its entirety and without any change.