

# 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: Presafe 18 ATEX 10374X Issue 0
- [4] Product: 1E4 Beacon Light
- [5] Manufacturer: Alphino Pte Ltd
- [6] Address: 18 Boon Lay Way, #03-110 Tradehub 21,  
Singapore 609966
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Presafe AS, notified body number 2460, in accordance with Article 17 of 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 reports listed in section 16.
- [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 60079-28:2015 & EN 60079-31:2014.
- [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 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 this certificate.
- [12] The marking of the product shall include the following:



II 2 G D Refer Page 3 for Ex marking.

Date of issue:  
2018-12-21



*This certificate may only be reproduced in its entirety and without any change, schedule included.*

Bjørn Spongsveen  
For DNV GL Presafe AS  
The Certificate has been digitally signed.  
See [www.presafe.com/digital\\_signatures](http://www.presafe.com/digital_signatures) for more info

[13]

## Schedule

[14] EU-TYPE EXAMINATION CERTIFICATE No.: Presafe 18 ATEX 10374X Issue 0

## [15] Description of Product

1E4 Beacon Series made of glass reinforced polyester (GRP) material and it is a light transmitting device consists of "LED lamps" and "Xenon lamps" protected with flameproof enclosure. It consists of glass dome, top & bottom housing which are fixed together by threaded joint and dome guard fixed, which is optional. Silicone sealant is used to cement the flame path joint between "glass" and "top enclosure". Silicone gasket & silicone O-ring are used for the ingress protection of the enclosure. The enclosure is made from glass reinforced polyester (GRP) material and it includes 8 variants, which consists two openings for 4 variants and three opening for other 4 variants to connect the cable entries of sizes M20 x 1.5, M25 x 1.5, ½" NPT & ¾" NPT, which is intended to mount in any direction. The glass dome is made of borosilicate material with following colors; Red, Green, Blue, Yellow, Amber, Violet & Clear as standard colors and any customized color as optional. Xenon lamps are available with variety of energy level from 5 to 30 Joules. 1E4 Beacon Series can either be powered directly by AC or DC sources or be initiated by telephone lines (Optional section as with/ without telephone ring interface).

The light produced from LED diodes, which are located inside the flameproof enclosure and emits optical radiation to surrounding environments which may be an explosive atmosphere, through the glass dome. LED's have 3-in-1 function (steady, flash and running/rotating) and interval by setting switch combinations which are provided on circuit board. The optical radiation from the LED Light has been evaluated and found compliant with inherently safe optical radiation, Ex op is.

### Type designation

- 1E4 (Xenon lamps)
- 1E4 (LED lamps)

### Electrical Data

- 1E4 (Xenon lamps) : 230VAC/110VAC/24VDC/48VDC
- 1E4 (LED lamps): 100~240VAC/12 ~ 48VDC

### Degrees of protection (IP Code)

IP 66 & IP 67

### Ambient temperature:

- 40°C ≤ Tamb ≤ +40°C.
- 40°C ≤ Tamb ≤ +55°C.
- 40°C ≤ Tamb ≤ +60°C.
- 40°C ≤ Tamb ≤ +65°C.
- 40°C ≤ Tamb ≤ +70°C.

## Ex Marking

Lamp type	Marking	Description
Xenon Lamp	Ex db IICT6-T3 Gb, IP 66 & IP67.	Without dust Protection
	Ex db IICT6-T3 Gb Ex tb IIICT85-T139 Db, IP 66 & IP67.	With dust protection
LED Lamp	Ex db op is IICT6 Gb, IP 66 & IP67.	Without dust Protection
	Ex db op is IICT6 Gb Ex tb op is IIICT85 Db, IP 66 & IP67.	With dust protection

## Routine tests

The enclosure is subjected to routine over pressure test of the 17.55 bar (1.5 times the reference pressure of 11.7 bar) according to cl.16 of IEC/EN 60079-1:2014.

## Model / Variants & Temperature classification

Model	Lamp Output	Rated input voltage	T rating & T ambient
1E4-5E6	30J	230VAC	T3 for -40°C to + 70° C T4 for -40°C to + 65° C
1E4-5E5 / 1E4-5E4	25J, 21J	230VAC	T4 for -40°C to + 70° C
1E4-5E3	15J	230VAC	T4 for -40°C to + 70° C T5 for -40°C to + 40° C
1E4-5E2/1E4-5E1	10J, 5J	230VAC	T4 for -40°C to + 70° C T5 for -40°C to + 55° C T6 for -40°C to + 40° C
1E4-4E6/1E4-4E5/ 1E4-4E4	30J, 25J, 21J	110VAC	T4 for -40°C to + 70° C
1E4-4E3 / 1E4-4E2/ 1E4-4E1	15J, 10J, 5J	110VAC	T4 for -40°C to + 70° C T5 for -40°C to + 55° C T6 for -40°C to + 40° C
1E4-3E6 / 1E4-3E5 / 1E4-3E4 (48 VDC) 1E4-2E6 / 1E4-2E5 / 1E4-2E4 (24 VDC)	30J, 25J, 21J	24/48 VDC	T4 for -40°C to + 70° C
1E4-3E3 / 1E4-3E2 / 1E4-3E1 (48 VDC) 1E4-2E3 / 1E4-2E2 / 1E4-2E1 (24 VDC)	15J, 10J, 5J	24/48 VDC	T5 for -40°C to + 70° C  T6 for -40°C to + 60° C
1E4-5LS 1E4-3LS	2700K (Warm white) 5600K (Cool white)	110~230 VAC / 12~48 VDC	T6 for -40°C to + 70° C

As a result from the above temperature, the temperature class varies from T6-T3 with respect to the models.

[16] Report No.: D0003104

[17] Specific Conditions of Use

- 1) The cable gland used is only suitable for fixed installations. Cables must be effectively clamped to prevent, pulling or twisting.
- 2) Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 1 and 2 of EN/IEC 60079-1.
- 3) According to material type of intended surface at where the beacon to be mounted, use proper length of screw to withhold the beacon safely at the surface.
- 4) Cable gland shall be used with additional earth tag.
- 5) Property class of the nut is A4-70. Minimum yield stress of the nut is 450 Mpa

[18] Essential Health and Safety Requirements

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] Drawings and documents

Number	Title	Rev	Date
16-0036-EGA1	GA Drawing for 1E4 Beacon (2 sheets)	1.0	2018-12-10
16-0043-EGA1	Detail Drawing for 1E4 Beacon (2 sheets)	1.0	2018-12-10
17-0063-EG08	Certification drawing for M1E4 Beacon Product label	1.0	2018-12-12
17-0061-EGA7	M1E4 Earth Stud Assembly	1.0	2018-12-04
17-5070-M1E4	Wiring Diagram for IE4 (AC/DC Xenon Beacon) (2 sheet)	1.0	2017-02-16
17-0065-EGA1	Creepage distance between live/ bare parts to wall of enclos	1.0	2018-12-10
15-0081-BX38	BX38_Dome Guard for single colour Beacon	1.0	2016-11-03

[20] Certificate History

Issue	Description	Issue date	Report no.
0	Original issue	2018-12-21	D0003104

END OF CERTIFICATE