



## INTERFACE CONTROL DOCUMENT

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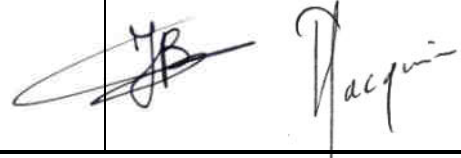

# LED POSITION LIGHT SYSTEM

RED POSITION LIGHT - P/N: 6491311 AMD(0)

GREEN POSITION LIGHT - P/N: 6491321 AMD(0)

WHITE POSITION LIGHT - P/N: 6491341 AMD(0)

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<b>Diffusion</b>	<b>Interne à JPC</b>			<b>Externe à JPC</b>		
	1 ex →			1 ex → EASA		
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## GLOSSARY

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## 1 General

### 1.1 Generalities

This document defines the electrical, mechanical, thermal interfaces and the installation procedure for “Led Position Light System”: Red Position Light P/N 6491311 amd(0) , Green Position Light P/N 6491321 amd(0) and White Position Light P/N 6491341 amd(0).

### 1.2 Destination

Aircraft Position light.

### 1.3 Description

The Led Position Light system aims to produce red, green & white light in accordance with CS-ETSO (ETSO-C30c). This system is a variant of our Position light System qualified on helicopters for AIRBUS HELICOPTERS, with the same design and same no complex electronic system and no EMC interferences. It offers an extremely high reliability, a high resistance to shocks and vibration.

Positive points of those new equipments:

- Electric interface and mechanics interface preserved
- 20.000 hours MTBF
- Low power: 2.3W for our Led Position Light, compares to 26W for incandescent lamp.
- Red position light
  - The light source use 4 power red/orange LED assembled on a SMI PC board, with a PWM electronic regulation (same configuration used in all our standard Position lights)
  - The lens is made in borosilicate glass.
  - Mechanical parts are made in aluminum with SURTEC 650 protection
- Green position light
  - The light source use 3 power green LED assembled on a SMI PC board, with a PWM electronic regulation (same configuration used in all our standard Position lights)
  - The lens is made in borosilicate glass.
  - Mechanical parts are made in aluminum with SURTEC 650 protection
- White position light
  - The light source use 3 power white LED assembled on a SMI PC board, with a PWM electronic regulation (same configuration used in all our standard Position lights)
  - The lens is made in borosilicate glass.
  - Mechanical parts are made in aluminum with SURTEC 650 protection.

## 2 Physical, electrical and optical features

### 2.1 Physical features

#### 2.1.1 Red Position Light

- Individual weight : 75 grs +/- 10 %
- Dimensions : see 2D drawing in annex
- Number of LEDs : 4 Red LED
- Envelope color : Aluminum with SURTEC 650 protection

#### 2.1.2 Green Position Light

- Individual weight : 75 grs +/- 10 %
- Dimensions : see 2D drawing in annex
- Number of LEDs : 3 Green LED
- Envelope color : Aluminum with SURTEC 650 protection

#### 2.1.3 White Position Light

- Individual weight : 67 grs +/- 10 %
- Dimensions : see 2D drawing in annex
- Number of LEDs : 3 white LED
- Envelope color : Aluminum with SURTEC 650 protection

### 2.2 Electrical features

- For Red, green & White Position Light:  
2 G22 free end wires length 10 cm
- Red wire : +V input
  - Black wire : 0V input

### 2.3 Electrical power supply

- Supply Voltage : 14 / 28 V DC (DO 160 D, cat A)  
Same performances from 12 to 32 V  
Performances and current In all situations (12, 14, 16, 24, 28 and 32 V):

#### 2.3.1 Red Position Light

Power supply level (in Volts )	Current	Performances
12 V	0.18 A	Preserved
14 V	0.15 A	Normal
16 V	0.14 A	Preserved
24 V	0.1 A	Preserved
28 V	0.09 A	Normal
32 V	0.08 A	Preserved

### 2.3.2 Green Position Light

Power supply level (in Volts )	Current	Performances
12 V	0.19 A	Preserved
14 V	0.16 A	Normal
16 V	0.15 A	Preserved
24 V	0.1 A	Preserved
28 V	0.09 A	Normal
32 V	0.08 A	Preserved

### 2.3.3 White Position Light

Power supply level (in Volts )	Current	Performances
12 V	0.19 A	Preserved
14 V	0.16 A	Normal
16 V	0.15 A	Preserved
24 V	0.1 A	Preserved
28 V	0.09 A	Normal
32 V	0.08 A	Preserved

## 2.4 Power dissipation

### 2.4.1 Red Position Light

Power dissipation	1.45 W
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### 2.4.2 Green & White Position Light

Power dissipation	1.55 W
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## 2.5 Optical features

### 2.5.1 Red Position Light

- 4 high power Red/Orange LED CREE XP-E2 in one serial strip.
- Led : Diffusion angle 120°
- Light energy and distribution in accordance with CS-ETSO requirements

### 2.5.2 Green Position Light

- 3 high power Green LED CREE XP-E2 in one serial strip.
- Led : Diffusion angle 120°
- Light energy and distribution in accordance with CS-ETSO requirements

### 2.5.3 White Position Light

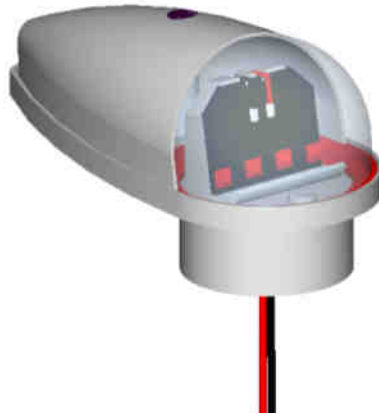
- 3 high power White LED CREE XT-E in one serial strip.
- Led : Diffusion angle 120°
- Light energy and distribution in accordance with CS-ETSO requirements

## 2.6 Operating temperature

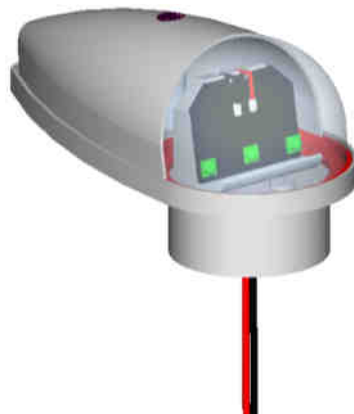
Positive temperature : +70°C  
Negative temperature : - 45°C

### 3 3D views

#### 3.1 Red Position Light



#### 3.2 Green Position Light

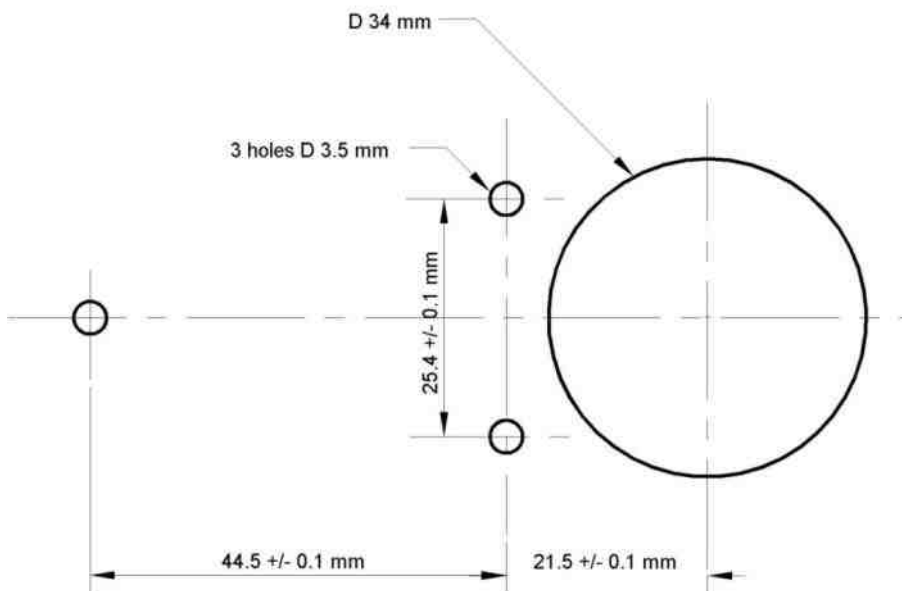


#### 3.3 White Position Light

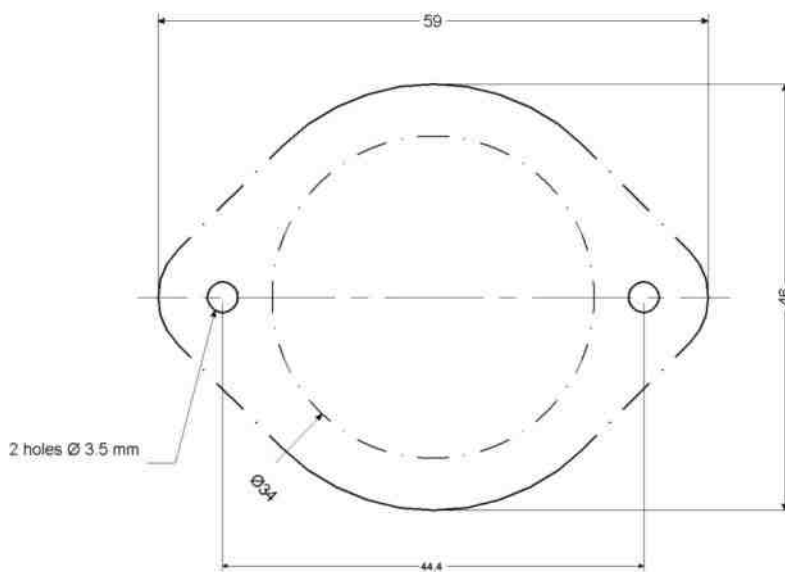


**3.4 Mechanical interface**

**3.4.1 Red & Green Position Light**



**3.4.2 White Position Light**



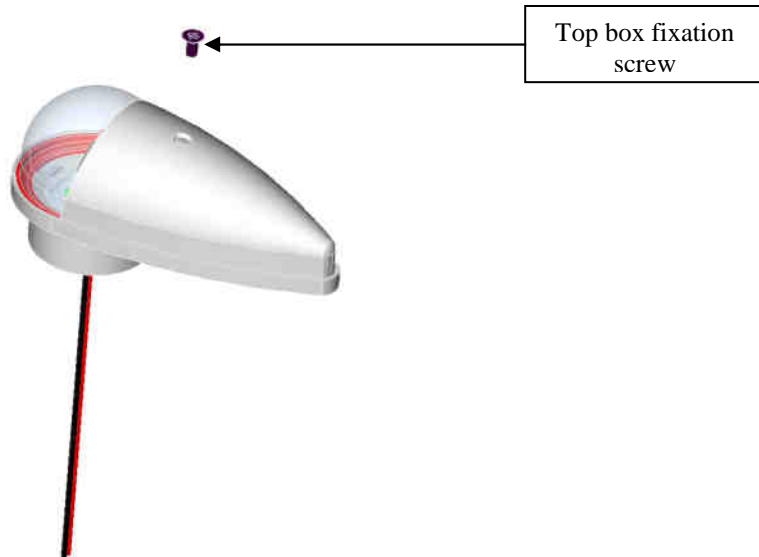


## 4 Installation procedure

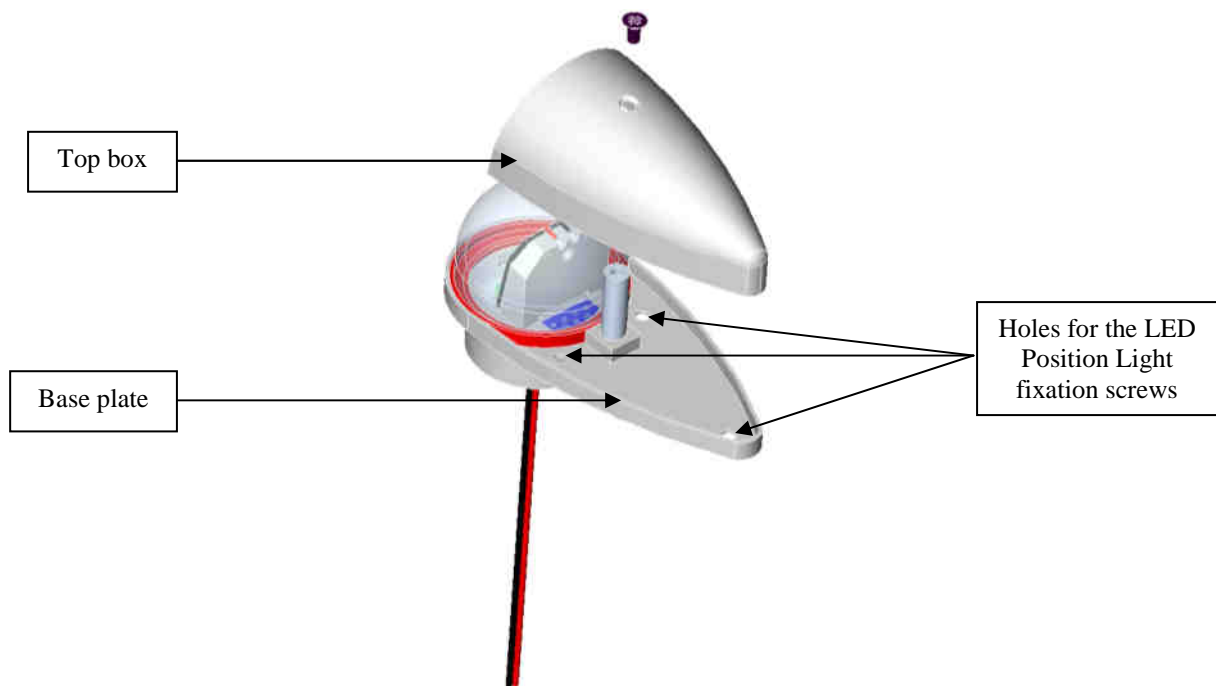
The following information provides guidelines for the installation of LED POSITION LIGHTS.  
Please refer to the OEM manual of the aircraft for specific removal and installation instructions.

### 4.1 Red & Green Position Light

- Connect the supply wires (see polarity in §2.2) of the equipment.
- Remove the Top box fixation screw with a screwdriver (see picture below).



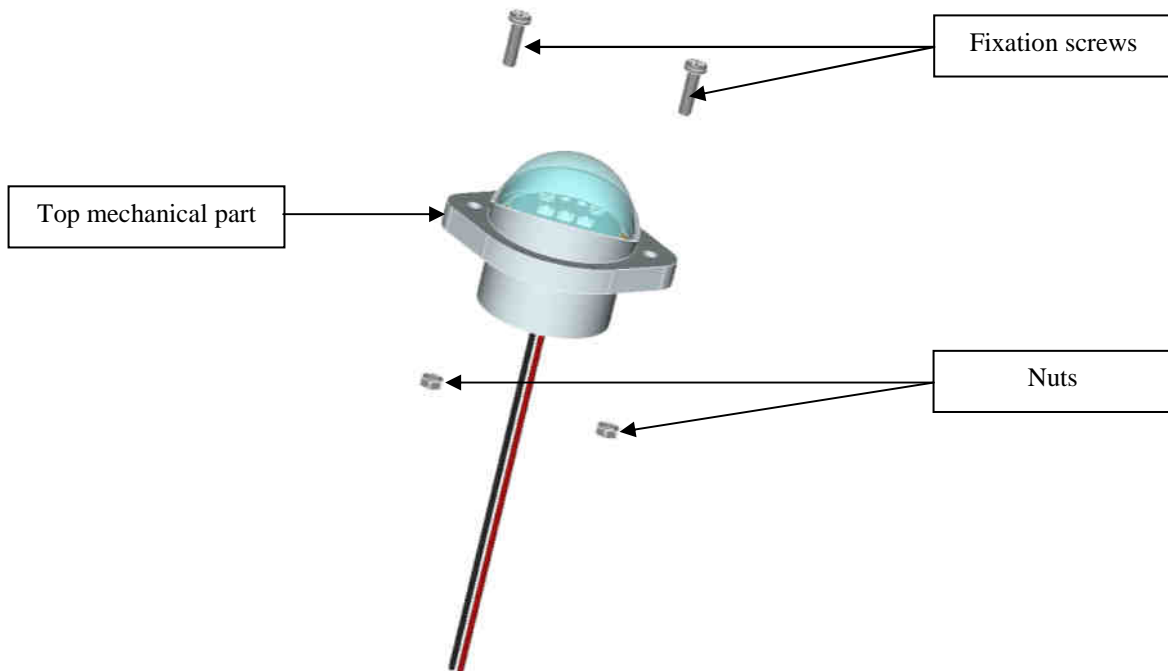
- Remove the Top box of its location (see picture below).



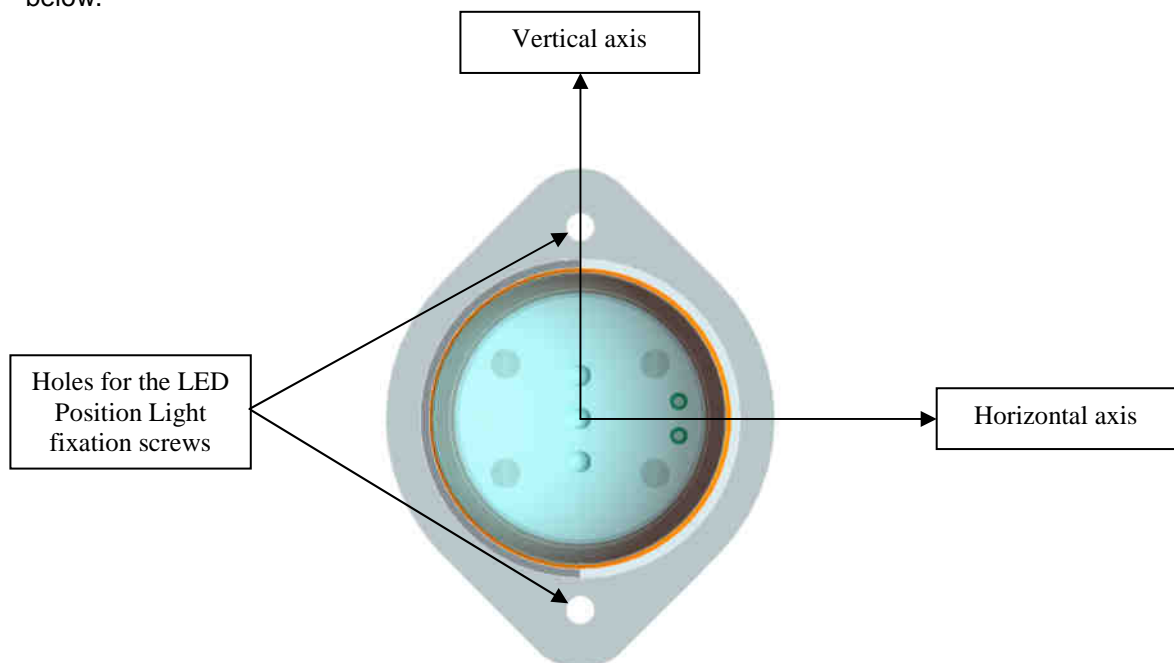
- Place the equipment in its aircraft location and tighten the 3 fixation screws (not furnished) to hold the equipment in position.
- When necessary, waterproof the Base plate to aircraft. Apply single part silicone (DC 799) or equivalent around any open area where water could get in.
- Place the TOP box in its location.
- Add a drop of threadlocker (example: LOCTITE 243) on the Top box fixation screw.
- Tighten the Top box fixation screw on the Top box with a screwdriver until it stops.

#### 4.2 White Position Light

- Connect the supply wires (see polarity in §2.2) of the equipment.
- Remove the fixation screws and the nuts (the fixation screws and the nut are for shipping purposes only) with a screwdriver and a spanner (see picture below). Be careful not to drop the Top mechanical part.



- Place the equipment in its aircraft location. The equipment must be oriented as described in the picture below.



- Tighten the 2 fixation screws (not furnished) to hold the equipment in position. For the assembly, use a vibration resistant threadlocker.
- When necessary, waterproof the Base plate to aircraft. Apply single part silicone (DC 799) or equivalent around any open area where water could get in.

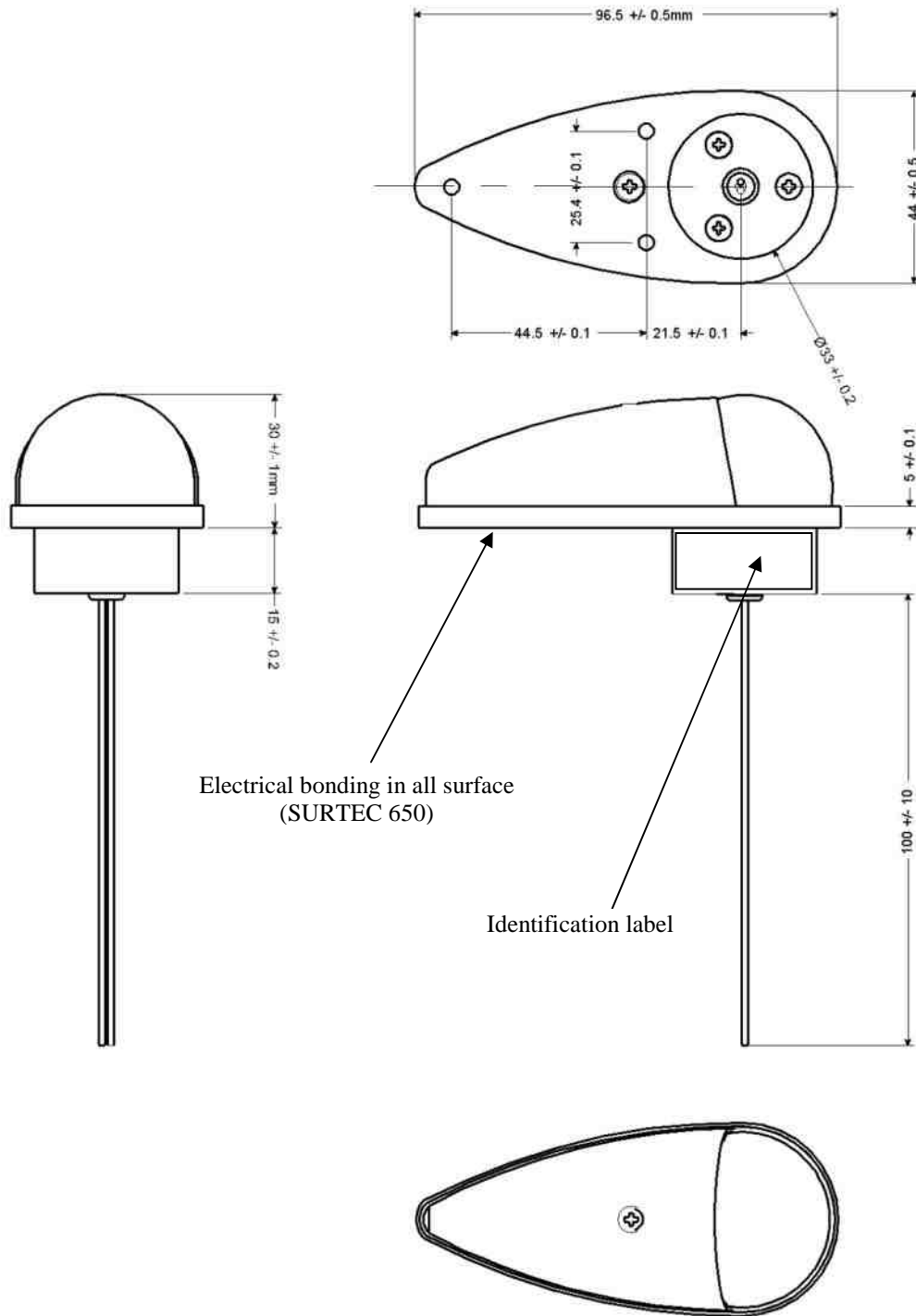
## 5 Periodic Inspections

Every 100 hours or annually:

- Check that all LEDs are illuminated.  
**WARNING:** Due to the high light intensity emitted by the equipment, it is recommended to wear eyes protection.
- Check the glass aspect (Absence of stripe or cracking).
- Check the good state of the mechanical assembly and the electrical connections.

6 2D drawing

6.1 Red & Green Position Light



6.2 White Position Light

