



Technical Details for user

SEA LED®



certificate no. 05/00047



certificate no. 05-GE103823-PDA

Cantalupi Lighting s.r.l.

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Cantalupi Lighting congratulates you for purchasing SEA LED[®].

SEA LED[®] Through Hull Underwater Light supplies the best performances among underwater systems with Led fittings.

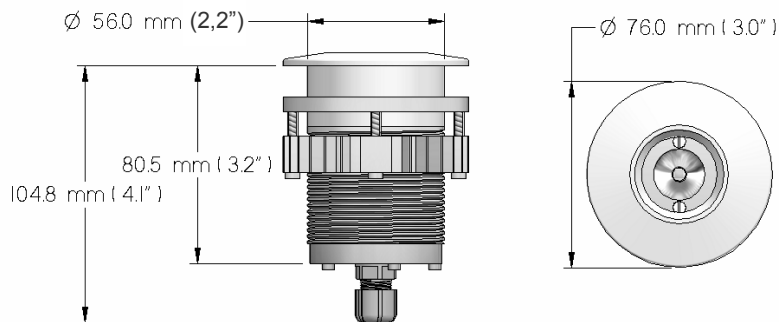
Advantages of SEA LED[®]

- **Power Led Technology** the highest technology LED specifically designed for boats
- **Powered by a circuit** board that perfectly works in the marine electrical environment
- **Low power consumption**
- **Long life** average life expected 30,000 hours
- **Multivoltage** 10/30V AC/DC
- **Internal switching** automatic current regulation through thermic protection for a correct and long lasting functioning
- **Serviced for emergencies** from inside the hull
- **Low operating temperature**
- **8000°K light** colour temperature for a pure white in water
- **Light beam visible up to 12 meters (40 ft)** for the 8 LED version
- **IP68 water-tight housing, front and back**
- **Tempered Glass** impact resistant
- **ABS Register type approved**
- **LLOYD'S Register type approved**

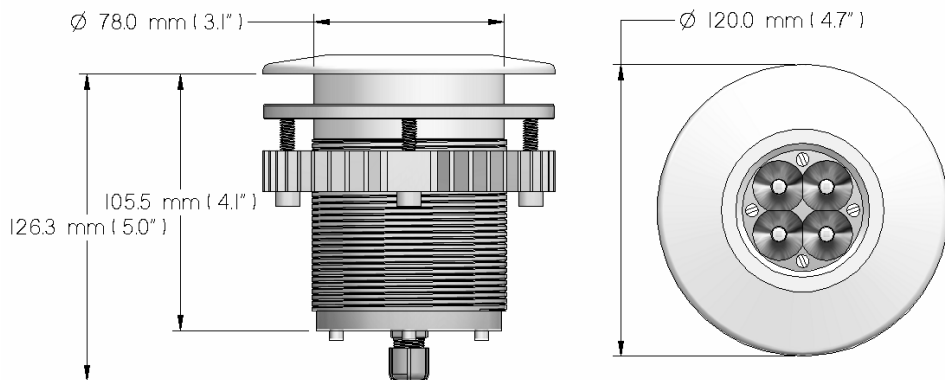
Perfect use for

- **Night manoeuvres**
- **Fishing**
- **Night scenic water view**

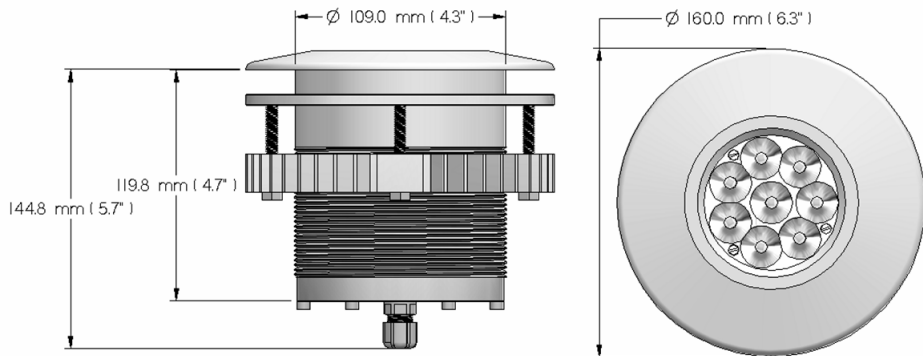
SEA LED® 75



SEA LED® 120



SEA LED® 160



GENERAL DESCRIPTION

SEA LED[®] is a through hull light to be fitted on the bottom/bilge shell of classed yachts, below the water line, in order to obtain a scenic sea view around the vessel.

As SEA LED[®] is a hull fitting, it is intended to grant the same watertightness of the vessel's shell. Each detail, each component of this product, is specifically designed to accomplish this task.

The SEA LED[®] is designed to be IP 68 (CEI-EN 60529), and tested to be watertight, fully submerged, up to 1.6 bar pressure.

SEA LED[®] can be installed up to 10 metres (33 ft) under the water line.

SEA LED[®] can be applied on every kind of vessel as it is released in four different materials: aluminium 5083, for aluminium hulls, bronze or stainless steel (AISI 316) for steel or non-metallic vessels. A special version of SEA LED[®] fits a special engineering thermoplastic (PPS) frame that grants an extreme mechanical resistance and avoids any need of corrosion protection for the external part of the lamp.

The glass is tempered and impact resistant.

The use of LED technology and a special care in designing heatsinking components make the SEA LED[®] "luminaire class F" marked (CEI-EN 60598).

SEA LED[®] can normally operate in open air with an environmental temperature up to 50°C, thus there is no need to implement measures to prevent overheating even when the lamp is not fully submerged in water.

SEA LED[®] is designed in three sizes:

SEA LED[®] 75: 1 POWER LED

SEA LED[®] 120: 4 POWER LED

SEA LED[®] 160: 8 POWER LED

POWER LED SPECIFICATIONS

INPUT VOLTAGE	10/30V (AC/DC)
COLOUR TEMPERATURE	8.000 °K
AVERAGE LIFE	30.000 hours
MINIMUM OPERATING TEMPERATURE	- 10 °C

1 POWER LED	5 W
4 POWER LED	20 W
8 POWER LED	40 W

SAFETY INFORMATION

SEA LED[®] should be installed on a flat portion of the hull, thus the SEA LED[®] flange should completely adhere to the mating hull surface (see page 9). The hull thickness should not be less than 12.5 mm (0.5 in).

The maximum hull thickness should be:

45.0 mm (1.8 in)	SEA LED [®] 75
65.0 mm (2.6 in)	SEA LED [®] 120
75.0 mm (3.0 in)	SEA LED [®] 160

SEA LED[®] should only be installed by qualified technicians.

Connection must be done according to the safety regulations for electrical protection (see electrical drawing on page 11).

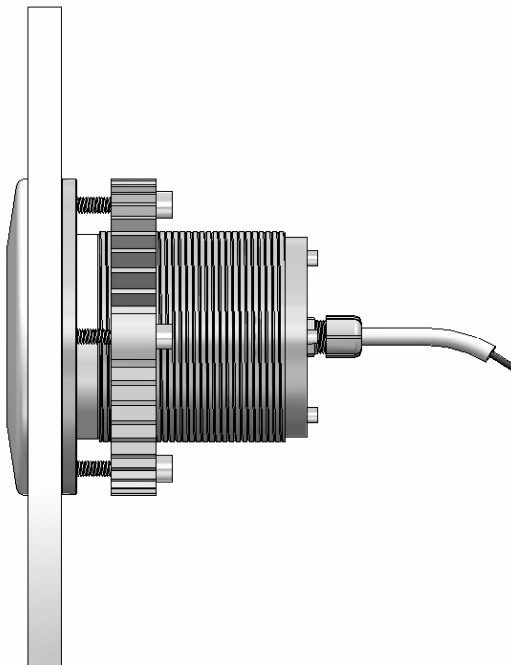
Connection must be done through the screw on SEA LED[®] back cap (see figure on page 11, point 4).

Cathodic protection of the SEA LED[®] must also be guaranteed.

An end-of-line short circuit protection disposal should be installed by a qualified vessel's electrician.

Once the fixtures have been installed on the vessel they should be periodically inspected for:

- corrosion and damage: any fixture showing signs of corrosion or other mechanical damage must be serviced according to safety measures.
- signs of leakage and water entry: any fixture showing signs of leakage or water entry must be serviced according to safety measures.

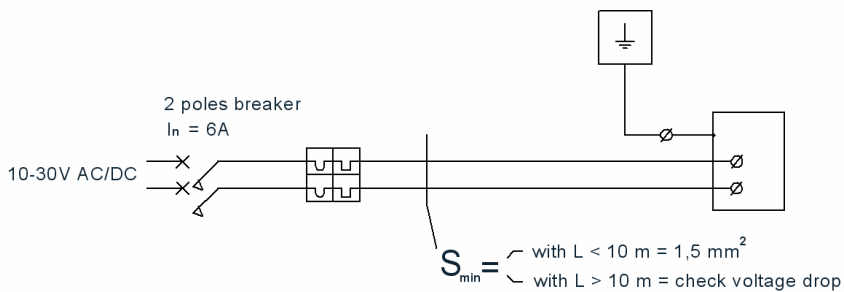
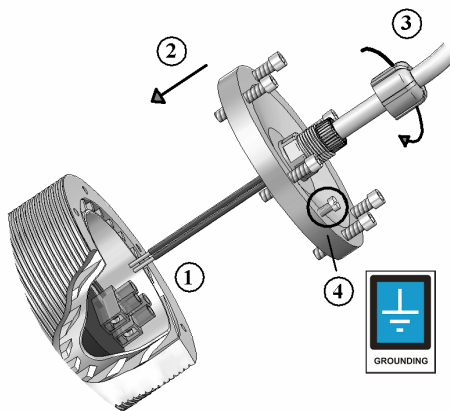


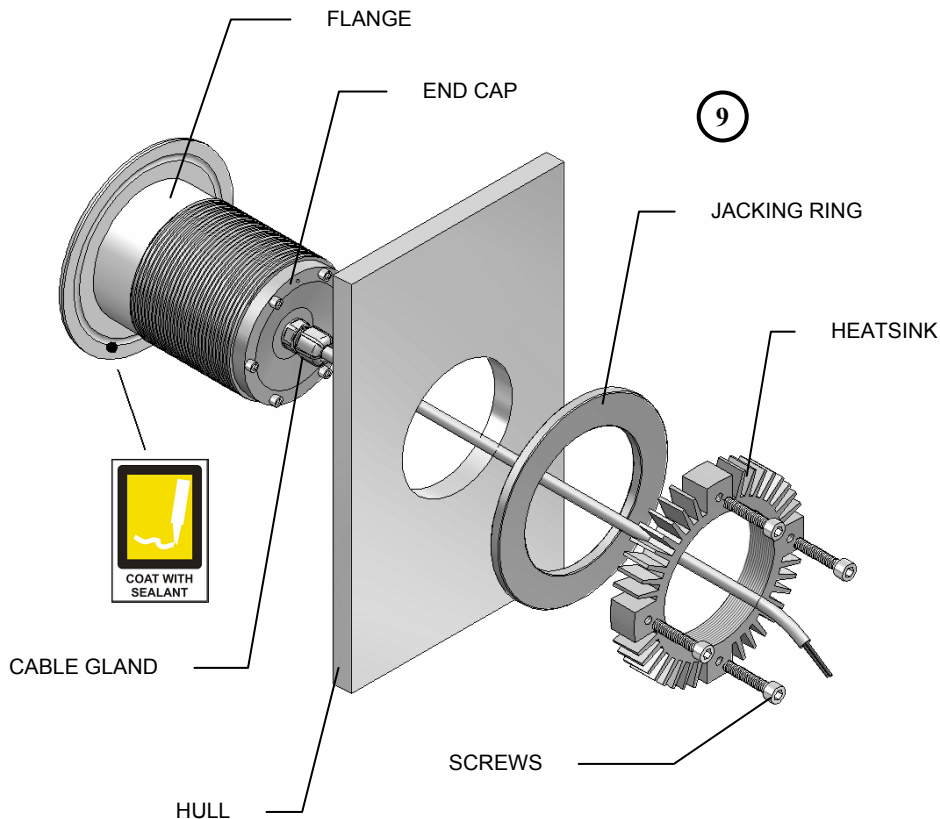
INSTALLATION

SEA LED® must be installed according to the classification rules of the boat Naval Register.

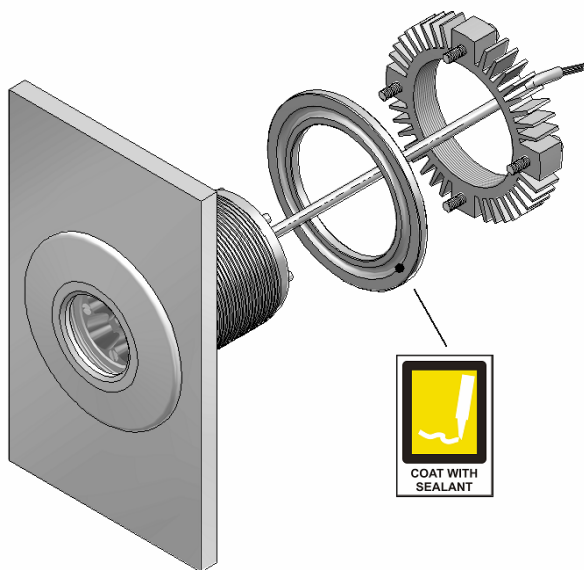
Please follow the steps below and the pictures in the next pages:

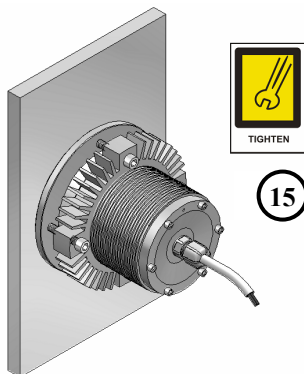
1. Remove the end cap and carry out the electrical connection between the cable and the terminal block placed inside the body lamp.
2. Tighten the end cap.
3. Tighten the cable gland in order to grant watertightness.
4. Carry out the electrical connection to the vessel's grounding and cathodic protection system. Connection must be done according to the safety regulations for electrical protection (see electrical drawing on page no.11). Cathodic protection of the SEA LED® must also be guaranteed.
5. Cut a hole in the hull of body lamp diameter.
6. For cored hulls: the exposed surface of the core must be protected in order to form a solid surface through it.
7. Choose a proper sealant compatible with the hull material. This sealant should be sea-water resistant and paintable in order to realize a watertight connection between the flange and the hull.
8. Clean from dust, oil both the SEA LED® flange and the hull surfaces. Use a cleaner compatible with the sealant. Do not use alcohol.
9. Coat the flange and the portion of the body that will extend through the hole with the sealant.
10. Slide the fixture into the hole.
11. Coat the area around the hole with the sealant.
12. Coat the Jacking ring with the sealant.
13. From the inside of the hull mate the jacking ring to the hull.
14. Screw the heatsink on the body lamp till the screws on the heatsink are flush to the jacking ring and the sealant has flowed completely around the flange and hull.
15. Tighten the screws on the heatsink in order to realize a nut and lock nut connection (see table on page no.15).
16. Allow the sealant to dry and then remove any excess.





12





MAX TIGHTENING VALUES

Material	Description	Nm	Lb-ft
PPS	SEALED 75 1X3	1.5 Nm max	1.1 lb-ft max
	SEALED 120 4X3	4 Nm max	3.0 lb-ft max
	SEALED 160 8X3	5 Nm max	3.7 lb-ft max
ALUMINIUM	SEALED 75 1X3	3 Nm max	2.2 lb-ft max
	SEALED 120 4X3	6 Nm max	4.5 lb-ft max
	SEALED 160 8X3	6 Nm max	4.5 lb-ft max
STAINLESS STEEL	SEALED 75 1X3	3 Nm max	2.2 lb-ft max
	SEALED 120 4X3	6 Nm max	4.5 lb-ft max
	SEALED 160 8X3	6 Nm max	4.5 lb-ft max
BRONZE	SEALED 75 1X3	3 Nm max	2.2 lb-ft max
	SEALED 120 4X3	6 Nm max	4.5 lb-ft max
	SEALED 160 8X3	6 Nm max	4.5 lb-ft max

SEA LED[®] LUX

SEA LED [®] 75	(1 powerLED, 10/30V Multivoltage)	
	1 mt (3,3'):	680 lux
	3.5 mt (11,5'):	42 lux
SEA LED [®] 120	(4 powerLED, 10/30V Multivoltage)	
	1 mt (3,3'):	3000 lux
	8 mt (26,2'):	47 lux
SEA LED [®] 160	(8 powerLED, 10/30V Multivoltage)	
	1 mt (3,3'):	6800 lux
	12 mt (39,4'):	47 lux

The above values may change according to water conditions.

SEA LED[®] CODES

SEA LED [®] 75	90 SEALE	75	1X3	AL	Aluminium 5083
	90 SEALE	75	1X3	SS	Stainless Steel AISI 316
	90 SEALE	75	1X3	BRZ	Bronze
	90 SEALE	75	1X3	PPS	PPS Flange
SEA LED [®] 120	90 SEALE	120	4X3	AL	Aluminium 5083
	90 SEALE	120	4X3	SS	Stainless Steel AISI 316
	90 SEALE	120	4X3	BRZ	Bronze
	90 SEALE	120	4X3	PPS	PPS Flange
SEA LED [®] 160	90 SEALE	160	8X3	AL	Aluminium 5083
	90 SEALE	160	8X3	SS	Stainless Steel AISI 316
	90 SEALE	160	8X3	BRZ	Bronze
	90 SEALE	160	8X3	PPS	PPS Flange

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