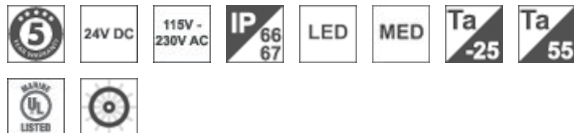




# Series 60 & 61 - LED

## 20 to 50 Meter Vessels and Above

Enduring LED navigation lights with integrated countdown system



### Description

Aqua Signal's Series 60 and Series 61 are LED navigation lights for vessels from 20 to 50 meters and above 50 meters in length. Long product lifetime has been an essential priority when designing the two single tier lanterns. A smart, tamper proof countdown system will also give the user a warning when it's time to replace the lanterns. Even at an ambient temperature at 45°C the lifetime is 100 000 hours.

Navigation lights are all about safety. Glamox has developed Series 60 and 61 to make worries about failing lanterns redundant.

#### Long product lifetime

The Series 60 and 61 are designed to last for 100.000 hours at an ambient temperature of 45 °C. That's twice the lifetime of most competing products. To achieve this kind of longevity the design must be sturdy and all components must be of high quality. This includes a high-quality LED driver and driver technology and the use of materials that can withstand rough weather and varying temperatures, such as seawater resistant aluminium, polycarbonate and hardened tempered glass.

The system lifetime of the LED light source and driver is 11 years given a continuous runtime, 24 hours a day at an ambient temperature of 45°C.

#### Integrated countdown system

Having a lantern come to end of life or fail while you're at sea is something you don't want to risk. This is why the Series 60 and 61 are equipped with a countdown system that will let you know when it's time to replace the navigation light. To make the system tamper proof the timer is integrated in each lantern while the message is communicated and displayed in the control panel. The system reflects the use of the lantern, whether it is exposed to cold temperatures and harsh weather or conditions with less wear and tear. This system provides added safety for the vessel.

#### Low EMC values

There are strict requirements for electromagnetic compatibility (EMC) for lanterns that should be installed close to VHF antenna. Our lanterns type 60 and 61 have a low emission level and were tested and comply with the emission and immunity requirements of the IEC 60945.



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[www.pacificmarine.net](http://www.pacificmarine.net)  
[info@pacificmarine.net](mailto:info@pacificmarine.net)

### A flexible choice

Series 60 and 61 are designed to work with the Aqua Signal Navigation light control panel, but they offer a lot of flexibility because they can be operated with third party panels (1). The products are easy to install, only four bolts to fasten and the internal connection box offers a lot of space for connection wires. It can be installed upside-down for all variants, with exception of Port, Starboard and Masthead due to visibility angles in COLREG requirements.

(1) Compatibility must be confirmed by control panel supplier. For vessels above 50 meters, using Series 61, a dual installation is required (for Masthead, starboard, port and stern). To be according to COLREG requirements.

## Technical specifications

### Basic facts

Lightsource: LED Protection class: IP66/IP67 Ambient Temperature:  $-25^{\circ}\text{C} \leq T \leq +55^{\circ}\text{C}$

### Voltage / Frequency

115V/230V AC or 24V DC 50/60 Hz

### Housing

Polycarbonate housing and housing cover. Borosilicate glass. Top: Seawater resistant aluminium  
Stainless screws and nuts (Hexagon nuts M6)

### Cable Gland

Cable gland M25 x 1.5 Polyamide, for outer cable  $\varnothing$  9,00-17,00 mm Up to 400 m cable run

### Quality

The products have gone through a series of tests including: Shock tests (up to 15g, 3-Axes)  
Vibration testing (2.3g for 2 hours) Climatic testing ( $-25^{\circ}\text{C}$  up to  $+55^{\circ}\text{C}$ ) Salt mist spray tests  
(level 6 at 1000 hours) EMC testing Tests for IP rating (Dust and water)

### Application

Series 60: vessels from 20 to 50 m in length. Series 61: vessels > 50 m in length.

### Dimensions

Dimension: 154 mm x 190 mm x 180 mm Weight of plastic luminaire 24V: 1,5 kg Weight of plastic luminaire 115V-230V: 1,9 kg

### Installation

Large junction box and easy access to terminals • Minimum cable cross-section: 1.5 mm<sup>2</sup> •  
Maximum cable cross-section: 2.5 mm<sup>2</sup> • Maximum cable length must not exceed 400 meters  
Operation • Can be operated by third party navigational light control panels • Supplier of control panel must confirm compliance with Series 60 / Series 61 • Able to measure low current draw  
Closing of housing • Hexagon nut M6 in all lateral slots • Torque max 2,0 Nm Easy to install to vessel structure • Only four bolts to fasten • Same dimensions as Series 55 • Can be installed up-side-down

### Certificate

Wheelmark MED UL RMRS (pending) 5-year-warranty

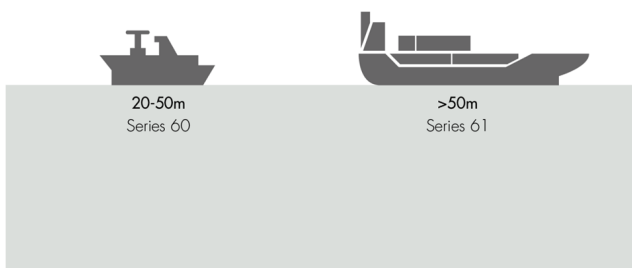


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## Approvals

EN 14744 (20015 – including AC 2006) Inland and Seagoing vessels - Navigational lights standards IEC 60945 Ed. 4.0, 2002 including Corr.1, 2008 Maritime navigation and radio equipment standards, including EMC COLREG 72, Annex I/14 International regulations for preventing collisions at sea MSC.253(83) Performance standards for navigational lights and control panels and associated equipment.IMANNA

## Illustrations



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