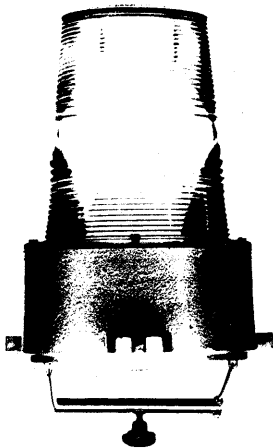




W.J. KEATING LIMITED

NAVIGATION LIGHTS



Navigation lights have the most important task to secure life and values. Thus very stringent demands are directed to working reliability.

Long experience including more than 13,000 units delivered, enable us to guarantee that AUTRONICA NAVIGATION LIGHTS are very reliable.

The design is made to meet the IALA (International Association of Lighthouse Authorities) buoyage system A character requirements.

By means of the electronic pulse generator in LE-5 the characteristic - light and dark period - can be adjusted according to customer's specifications. An electromechanical bulb-changer including 6 bulbs, each with an operating life time exceeding 500 hours, helps to secure reliable working conditions. LE-5 can be delivered for light effect giving up to 10 nautical miles visibility. By means of the electronic voltage stabilizer a very high grade of battery utilization is obtained.

Replacement of bulbs is easily carried out, and interchangeable modules facilitate possible service.

LE-5 is equipped with a lens of UV-stabilized polycarbonate having a high resistance to shock and good optical quality within the ambient temperature range of -40°C to $+120^{\circ}\text{C}$.

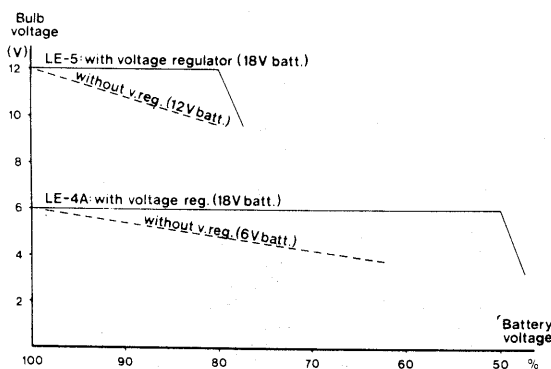
The armature material is cast iron and is surface treated with grey baked enamel lacquer. The armature is designed to fit several mounting units intended for various applications.

NAVIGATION LIGHT LE-4A has basically the same electronic design as LE-5. However, LE-4A is equipped with lower light effect giving max. 5 nautical miles visibility. LE-4A is equipped with bulb-changer including 4 bulbs and glass lens protected by a polycarbonate dome.

A photo-cell switches the light automatically at approx. 15 lux.

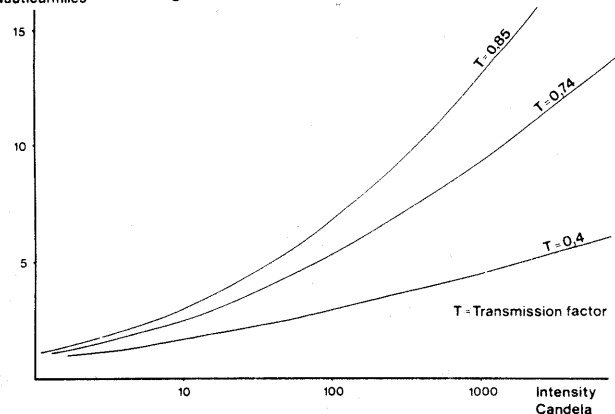
Lenses or lens filters in red, yellow or green colours can be supplied.

Bulb voltage as a function of battery voltage



Range Nautical miles

Range as a function of intensity



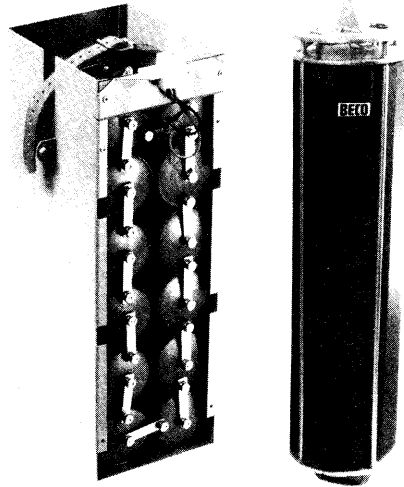


POWER SUPPLY

The necessary power supply is determined by light effect, bulb and characteristic.— Also application and mounting site will influence.

Autronica can supply batteries with various capacities.

Standard working voltage is 18 V dc, however, both types of navigation lights can be delivered for 220 V ac supply on request.



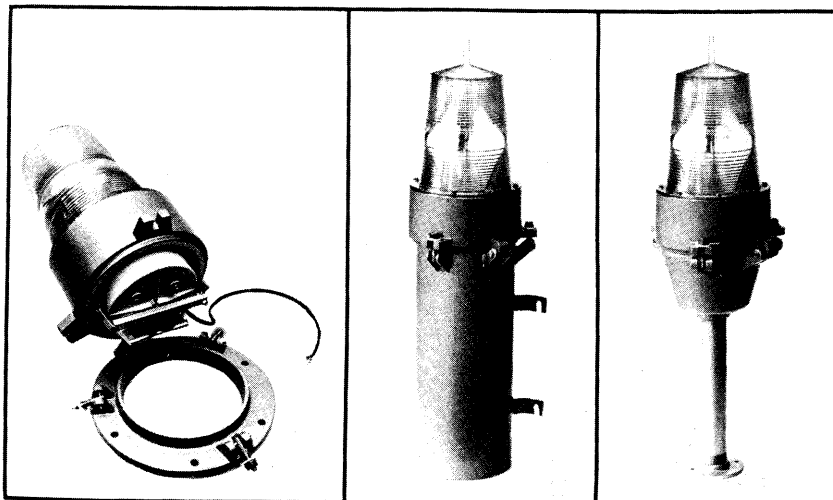
MOUNTING

Both LE-4A and LE-5 are hinged to mounting units which are designed according to application.

Buoy ring type LEV-1 to be mounted on spar buoy and battery box.

Battery-container type LEB-1 equipped with fastening armature to be mounted on vertical surfaces. Power fed from internal batteries.

Armature type LEW-1 including rod, intended for mounting on horizontal surface. Power fed from external batteries or 220 V ac.



Max. diameter of LE-4A and LE-5 = 335 mm. On request, Autronica can supply other mounting units.



W.J. KEATING LIMITED

AUTRONICA BUOY LIGHT — an effective warning

★ ROBUST

★ DEPENDABLE

★ ECONOMIC

BUOY LIGHT TYPE LC-1 for mounting on buoy with bar. The battery container and the light unit are connected by means of a 5 meter long cable.

LC-1 is approved by the Norwegian Directorate of Fisheries for marking of fishing equipment at sea.

BUOY LIGHT TYPE LC-2 for mounting on net-float with through-going holes.

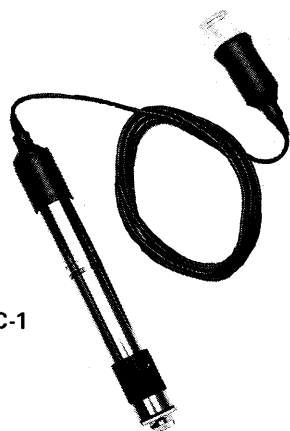
TECHNICAL DATA:

- approx. 80 flashes per minute
- lighting range more than 2 nautical miles
- yellow light according to international requirements
- more than 48 hours lighting time at 0°C
- standard 1,5 V bar-cells
- stands pressure down to 320 meters deep

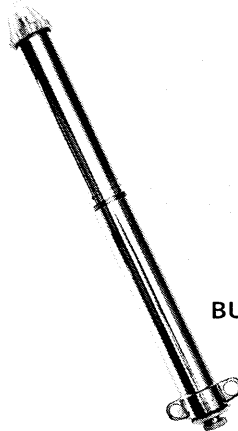
| Type | Diameter | Length | Weight | | Working voltage | Number of batt. 1,5 V cells | Number of flash. | Type of lamp |
|------------|----------|--------|----------------|-------------------|-----------------|-----------------------------|------------------|--|
| | | | with batteries | without batteries | | | | |
| LC-1 | | | | | | | | |
| Light unit | 50 mm | 140 mm | 1,4 kg | 0,8 kg | 6 V | 4 | 80 ± 5 % | Philips 8041D 4 V — 0,1 A or similar |
| Container | 50 mm | 320 mm | | | | | | |
| LC-2 | | | | | | | | |
| Complete | 50 mm | 510 mm | 1,5 kg | | 9 V | 6 | | Philips 8073 6 V — 0,1 A or similar |

Battery durability more than 48 hours at 0°C, lighting range more than 2 nautical miles.
 Battery durability more than 72 hours at 20°C, lighting range more than 2 nautical miles.
 Lighting time 96 hours.

Requirements to lighting range: more than 2 nautical miles for 24 hours.



BUOY LIGHT TYPE LC-1



BUOY LIGHT TYPE LC-2