RESINEX

SINCE 1961 MARINE TECHNOLOGY

LAND BEACONS AND MARINE LANTERNS

Entrance of ports: stainless steel land beacons

Resinex has completed the supply of marine signalling for the **Italian ports of Vasto, Rimini and Porto Garibaldi.**

In the port of Vasto, province of Chieti, 2 stainless steel land beacons were installed, equipped with an access base, a man guard and a walkable turret. Focal plane height is 7 m and its weight is 1100 kg. They are provided with marine lanterns with a nominal range up to 10 NM.

The port of Rimini required a yellow stainless steel land beacon, with an access base of 1400 mm of diameter, a focal plane height of 4.5 m and a weight of 1150 kg. The lantern has a range of 3 NM.

For Porto Garibaldi, an important fishing and leisure port on the coast of the Adriatic Sea, Resinex manufactured 2 red land beacons; the first one is 5 m high, has a lantern with 3 NM of range and is equipped with instruments located at the top. It has a ladder, a man guard and a focal plane of 3 m. Also the second beacon is in stainless steel, with an access base of 1400 mm of diameter, man guard and walkable turret. Focal plane is 6,5 m.

Porto Garibaldi *Rimini* *Vasto*

Safety on the “motorways of the sea”: beacons, racons and lanterns

Resinex produces and installs safe turn-key systems for the access to ports even for the **signalling of shallow water** or **obstacles to navigation**.

Resinex’s experience in the ports in all the world is demonstrated by the hundreds of installations carried out over the years.

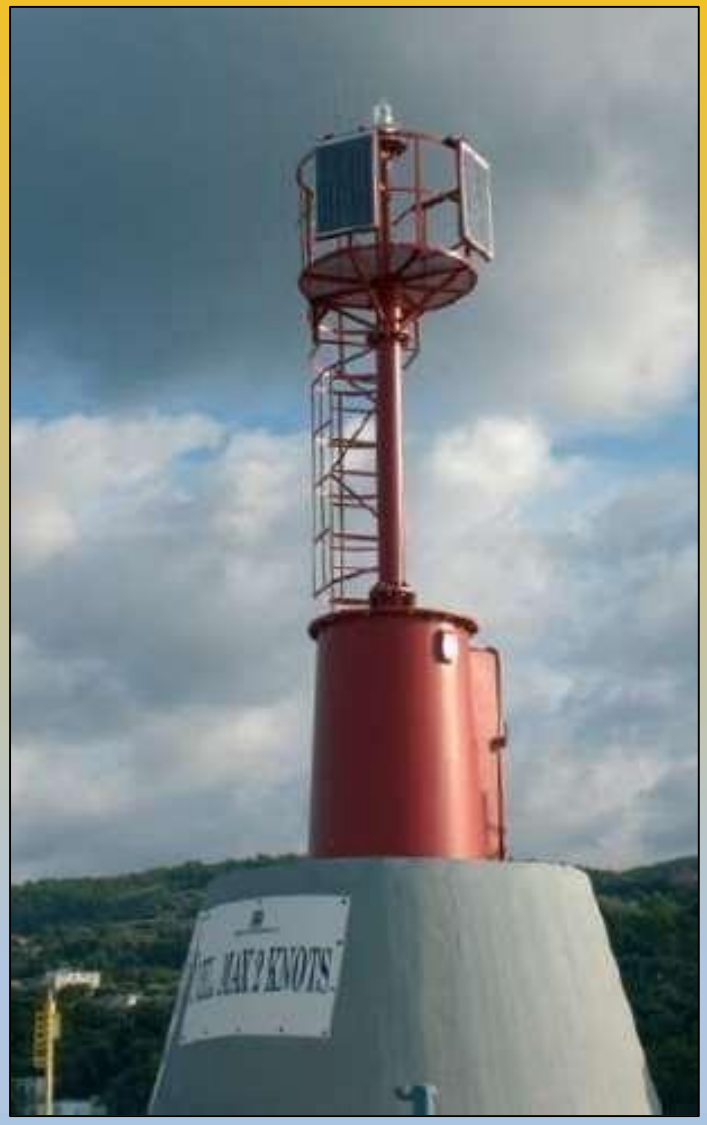
The **Anzio Port Authority** required a green solid fixed Resinex beacon to be used for the signalization of the port entrance.

Moreover, three new land beacons were positioned by Resinex on the wharf in the **port of Portoferraio** on the **Elba Island** where vessels can dock on both sides. They are fitted with fixed coupled vertical led red/green lights with a **backup battery**, if the primary source of power is unavailable.

Kuryk: a turnkey port in Kazakhistan

Kuryk, Kazakhstan, is one of **Saipem's operating bases** on the North-East Caspian Sea Coast. Ersai requested Resinex to manufacture the complete signalling system in the new port under construction. We designed, manufactured and consigned the complete signalling systems also **giving assistance in assembling and setting up**. The products required were 8 elastic beacons and 2 land beacons with the complete system for **optic alignment** of the ships to ensure their **safe passage** into the port canal. The construction of the port in Kuryk was approved by the Kazakhstan government on the proposal of Kazmunai Gas, the national oil company.

Stainless steel beacons in Apulia



Even the tourist port of **Rodi Garganico**, on the Apulia Adriatic coast (Southern Italy), utilizes Resinex signalling. The Cidonio company, that realised the infrastructure, was supplied with a **fixed pole** and two land beacons, all made in **stainless steel**. The two land beacons, one red and one green, were placed at the port entrance. They have a focal plane of 6,5 m and are fitted with a led light which has a range of 6 nautical miles. The yellow fixed pole signals the ferry landing area.

The port of Senigallia is safer thanks to Resinex

Resinex carried out the supply of marine signals to guarantee the safety of the port in **Senigallia**, province of Ancona (Central Italy).

The port has over 300 berths; 30 of them are **reserved for transit vessels**. The port itself contains internal marinas and is placed at the estuary of **Misa river**.

At the port entrance, two stainless steel land beacons were placed, each being fitted with marine lanterns with an 8 NM range as well as **automated directional fog horns** and **anti-fog devices** which were provided by our company.

On the outer port a stainless steel tower was positioned with a fixed red beacon, visible at 180°. Other two fixed beacon towers were assembled in order to give a 4 NM optical vision.

New signalization for night navigation in the canal of Aussa Corno

Resinex projected and manufactured an innovative signalling system for **night navigation** in the **river canal of Aussa Corno** and in the canal of the **Marano Lagoon**, that links to the open sea Port of Nogaro, northern **Venice**. The system is composed of 48 light signals placed on wooden pipes and of a signalling beacon positioned in open sea and equipped with a racon and 6 NM lanterns. The Consortium for the Industrial Development of Aussa Corno is the client. The signals are composed of a telescopic steel structure with an adjustable base.

In the preliminary stages, a **deep analysis of the environmental impact** has been necessary.

Land beacon in Ravenna

A body of **stainless steel** is the support of a big marine onshore signalization mounted on the pier of the cruise terminal of the **Port of Ravenna**, on the Adriatic Coast. The yellow signal is mounted on a lantern with a range of 5 nautical miles and a focal plane of 10 m above sea level.

Moreover, to define the dock reserved for large tourist ships, two buoys (one red and one green) have been placed together with two land beacons of delimitation.

On the Malamocco dam in Venice

Two large Resinex beacons were installed for the signalling of the **Malamocco outer dam**, built by Mantovani constructions for the New Venice Consortium as part of the **Mose Project** for the **protection of the Lagoon**. Given the continuous flux of large cargo and passenger vessels, a signalling system was tha priority to guarantee **navigational safety** and to **protect the delicate lagoon ecosystem** from dangerous accidents. On the east side of the dam there is a 18 m high light tower; on its summit Resinex placed a 1,1 m x 1,5 m stainless steel octagonal lantern with a red light. On the west side of the dam Resinex placed its own light tower structure that has an height of 11,5 m, built entirely in stainless steel and hosting another light. Both installations are fed by **batteries powered by solar panels.**

Marine protected areas rely on Resinex

Resinex continuously cooperates with **marine protected areas** all over Italy, with the main aim to **preserve the landscape and flora and faunal elements**, natural treasures of inestimable value.
Just to make few examples, some of the marine areas that required Resinex land beacons are the Marine Protected Area of **Cape Gallo** (Sicily), where two land beacons were positioned; the **Pelagie Isle Park** (Sicily), where four land beacons were delivered; and the Marine Protected Area of **Cape Caccia**, in Sardinia.

Innovation and safety at Port of Salerno

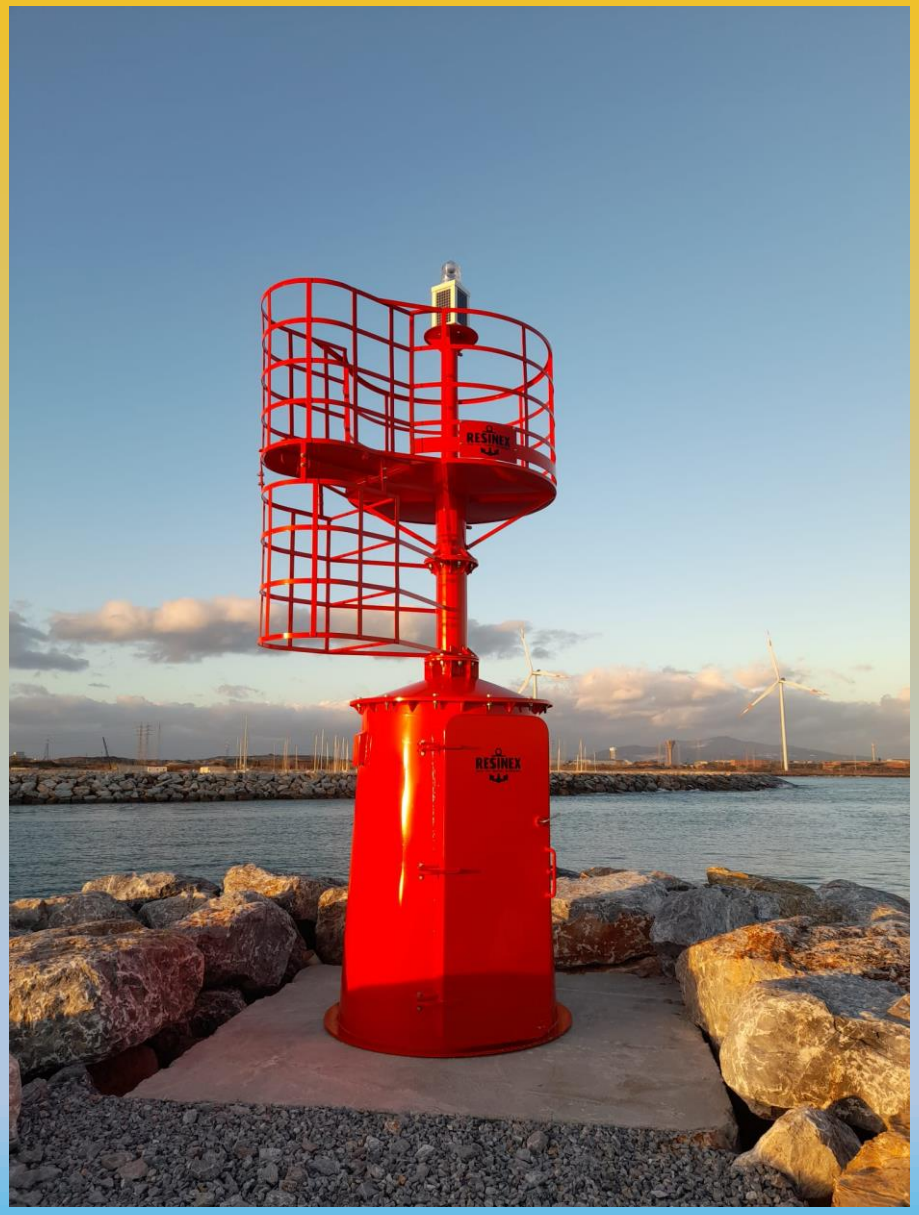
Two big Navigational Aids were installed to **raise the safety level**. On the breakwater quay, a new red stainless steel land beacon has been installed, which has a focal plane of 6.5 meters and a range of 8.2 nautical miles. On the opposite side, there is the other land beacon in stainless steel coloured green and white. It is the **first land beacon in Italy to have a double focus**, with the dual function of landing beacon and lateral signalling. The lower structure has a focal plane of 4.5 meters and a range of 9.2 nautical miles. Whereas the upper part has a focal plane of 6 meters and a range of 12.8 nautical miles. A special precaution has been adopted for the **synchronization of the three lights**, they never light up at the same time, in order to optimize the perception even from a great distance.

At the entrance of the port of Fano

Resinex has successfully completed an important contract for the renewal of maritime signals at the entrance of the port of Fano (PU). The supply included two stainless steel land beacons, one red and one green, in compliance with IALA regulations. These land beacons, with a focal plane height of 5 meters, were designed and manufactured to ensure maximum efficiency and safety. Each beacon is equipped with a small storage compartment, a guardrail, and a small tower with a walkway.
Additionally, the installed marine lights have a nautical range of eight miles, ensuring clear and reliable signalling for all vessels approaching the port.

A lend beacon for the port of Piombino

Resinex recently completed a supply for the installation of a red stainless steel land beacon at the port of Piombino (Tuscany). The project was commissioned by the Northern Tyrrhenian Sea Port System Authority. The land beacon, manufactured by Resinex, has a focal plane of 5 meters and is designed to provide 360° visibility. Its nominal range of 3 nautical miles allows for clear and reliable signalling for ships approaching the port of Piombino.



New Products:
Resinex Co.Se.Ma. New Marine Lanterns
CL 301 and CL 401

TECHNICAL SPECIFICATIONS

- **Integrated Fresnel Lens:** Compliant with IALA regulations, the Fresnel lens ensures optimal LED emission for superior visibility at sea compared to more common lenses. The maximum luminous range for the new CL 301 is 6 nautical miles, while for the CL 401, it is 8 nautical miles.
- **Wide Coverage:** the lanterns are equipped with two new internal lenses for adjusting vertical divergence (FWHM): a narrow divergence, optimized for achieving greater distances, and a wider divergence designed to ensure maximum visibility even when the lantern is installed on buoys or elastic beacons. This flexibility allows for precise adaptation to the specific needs of the marine environment where the lanterns are deployed.
- **Satellite Synchronization:** Through the satellite connectivity, it will be possible to program multiple lanterns for synchronized flashing (UNIFLASH).

- **Advanced Protection:** The IP68 classification guarantees a complete protection of the marine lantern from dust (level 6) and allows the resistance to continuous immersion in water (level 8). This ensures high reliability of the device even in extreme marine environments or adverse weather conditions.
- **Optimized Design:** The metal structure with a handle lets an easy handling.
- **Electromagnetic Compatibility:** The lantern emits no interference, enabling radio communications even near the signal in total safety.
- **Infrared Programmer for Advanced Control:** The CR01 electronic circuit features an integrated remote control that allows for the adjustment of flashing characteristics and luminous range of the lantern remotely, without the need for any manual intervention.

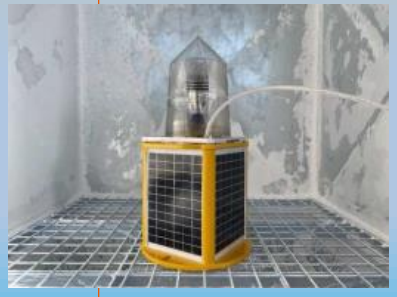
The new remote control.

QUALITIY TEST

The Resinex-CoSeMa marine lanterns, after being tested in the black room set up at our Co.Se.Ma center in Pesaro, have passed the following international tests at the certification institute “Istituto Giordano” in Rimini:

Electromagnetic compatibility

Photometric and Colorimetric test



Degree of protection IP68

MARINE LANTERNS - OVERVIEW

Resinex – CoSeMa Pesaro

SELF CONTAINED LED LANTERN MODEL CL 299

This lantern has a nominal range which goes up to 6 N.M. It is made of 9 high intensity LEDs with a life expectancy of 100.000 hours. The lantern's body is made of enamelled stainless steel. Singal colours are compliant to IALA R0201 (E200-1) and quality is assured by ISO 9001:2015.

MODEL	N.M.	LED COLOUR	NUMBER OF LEDS	MINIMUM SUNLIGHT	LENS, SOLAR PANEL, BATTERIES
CL 299	6	Red, green, clear, amber, blue	9	3 hours	Replaceable

TECHNICAL DATA

Horizontal output: 360 degrees

Light colour: clear, red, green, amber, blue

Lens: 155 mm. clear (optional: coloured lens)

Daylight control: on/off 70/100 lux

Flashing characteristics: all IALA flash patterns (others on demand)

Minimum sunlight: 3 hours

Charge regulator: included

On/off switch: included

Solar panels: crystalline 14% efficiency

Battery: sealed lead battery 12 volt

Lens and battery: replaceable

Temperature range: - 40° / + 60° C

Waterproof: IP 67

Battery protective vent: included

Assembly flange: 4 holes 16 mm. diameter on 200 mm PCD

Weight: Kg. 13

Dimensions: cm 25 x 25 x 65h

SELF CONTAINED LED LANTERN MODEL CL 301

This lantern has a nominal range which goes up to 6 N.M. It is made of 9 high intensity LEDs with a life expectancy of 100.000 hours. The lantern's body is made of enamelled aluminium. Singal colours are compliant to IALA R0201 (E200-1) and quality is assured by ISO 9001:2015.

MODEL	N.M.	LED COLOUR	NUMBER OF LEDS	MINIMUM SUNLIGHT	LENS, SOLAR PANEL, BATTERIES
CL 301	6	White red, green, yello w blue	9	3 hours	Replaceable

TESTING AND CERTIFICATION

Ce: approved according to 2014/30/UE

IALA: signal colours to IALA R0201

Quality asurance: ISO 9001:2015

TECHNICAL DATA:

Nominal range (20% duty cycle): up to 6 n.m.

Horizontal output: 360 degrees

LEDs life expectancy: 100.000 hours
Light colour: white, red, green, yellow, blue

Lens: 155 mm. clear

Daylight control on/off: 70/100 lux

Flashing characteristics: all IALA flash patterns (others on demand)
Minimum sunlight: 3 hours

Charge regulator: included

On/off switch: included

Solar panels: crystalline high efficiency

Lantern body: enamelled aluminium

Number of LEDs: 9 high intensity LEDS

Battery: sealed lead battery 12 volt

Lens and battery: replaceable

Temperature range: - 30° / + 50° C

Waterproof: IP 68

Battery protective vent: included at the top of the lantern body

Assembly flange: 4 holes 12 mm. Diameter 200 mm PCD

Weight: Kg. 11

Dimensions: 265 x 265 x 560 h mm

Carger regulator: included

On/off switch: with remote control

SELF CONTAINED LED LANTERN MODEL CL 401

This lantern has a nominal range which goes up to 6 N.M. It is made of 9 high intensity LEDs with a life expectancy of 100.000 hours. The lantern's body is made of enamelled aluminium. Singal colours are compliant to IALA R0201 (E200-1) and quality is assured by ISO 9001:2015.

MODEL	N.M.	LED COLOUR	NUMBER OF LEDS	MINIMUM SUNLIGHT	LENS, SOLAR PANEL, BATTERIES
CL 401	8	White red, green, yellow blue	9	3 hours	Replaceable

TESTING AND CERTIFICATION

Ce: approved according to 2014/30/UE

IALA: signal colours to IALA R0201

Quality asurance: ISO 9001:2015

TECHNICAL DATA:

Nominal range (20% duty cycle): up to 8 n.m.

Horizontal output: 360 degrees

LEDs life expectancy: 100.000 hours
Light colour: white, red, green, yellow, blue

Lens: 155 mm. clear

Daylight control on/off: 70/100 lux

Flashing characteristics: all IALA flash patterns (others on demand)
Minimum sunlight: 3 hours

Charge regulator: included

On/off switch: included

Solar panels: crystalline high efficiency

Lantern body: enamelled aluminium

Number of LEDs: 9 high intensity LEDS

Battery: sealed lead battery 12 volt

Lens and battery: replaceable

Temperature range: - 30° / + 50° C

Waterproof: IP 68

Battery protective vent: included at the top of the lantern body

Assembly flange: 4 holes 12 mm. Diameter 200 mm PCD

Weight: Kg. 11

Dimensions: 265 x 265 x 560 h mm

Carger regulator: included

On/off switch: with remote control

CS 155 MARINE LANTERN

Designed for medium ranges; it is rugged, compact and lightweight. It can be used either for temporary signals or for permanent installations on a larger scale.

LENS: Methacrylate lens of 155 mm diameter, in one whole body in the colours red, clear, amber or green; visibility 360°.

FLASHER: 6 to 24V nominal, solid state, any flashing characteristic or steady burn.

LAMPCHANGER: 6 to 24V, 4 or 6 lamps and final disconnection. Rotation consumption 0,2A; no consumption while at stop.

DOUBLE FILAMENT LAMPHOLDER: Solid state circuit for immediate switchover and automatic reset; a small LED flashes in unison with the secondary filament only.

LAMPS
C8S8 Single filament (P30s).
C8S11 Double filament (P30d).
C8 Halogen (P30s).

ASSEMBLY FLANGE: n.4 holes 16 mm diameter on 200 mm PCD.

WEIGHT
Net weight : Kg. 3,8
Shipping weight : Kg. 5,3
Shipping dimensions : cm. 30x30x(h)60

CS 250 MARINE LANTERN

A lantern for medium and long ranges. It has a high luminous intensity and therefore is suitable for installations of primary importance although its weight and dimensions are limited.

LENS
STANDARD: Methacrylate lens of 250mm diameter; red, clear, amber and green; visibility 360°.
OPTIONAL: Methacrylate lens of 250mm diameter being in three parts, colour is given by the cover, visibility 360°.

FLASHER: 6 to 24V nominal, solid state, any flashing characteristic or steady burn.

LAMPCHANGER: 6 to 24V, 4 or 6 lamps and final disconnection. Rotation consumption 0,2A; no consumption while at stop.

DOUBLE FILAMENT LAMPHOLDER: Solid state circuit for immediate switchover and automatic reset; a small LED flashes in unison with the secondary filament only.

LAMPS
C8S8 Single filament (P30s)
CC8S11 Single filament (P30s)
C8S11 Double filament (P30d)
C8 Halogen (P30s)

ASSEMBLY FLANGE: n.4 slots 17x28 mm on 200 mm. PCD.

WEIGHT
Net weight : Kg. 11,6
Shipping weight : Kg. 13,7
Shipping dimensions : cm. 45 x 45 x (h) 80

SOLAR ENERGY SYSTEMS

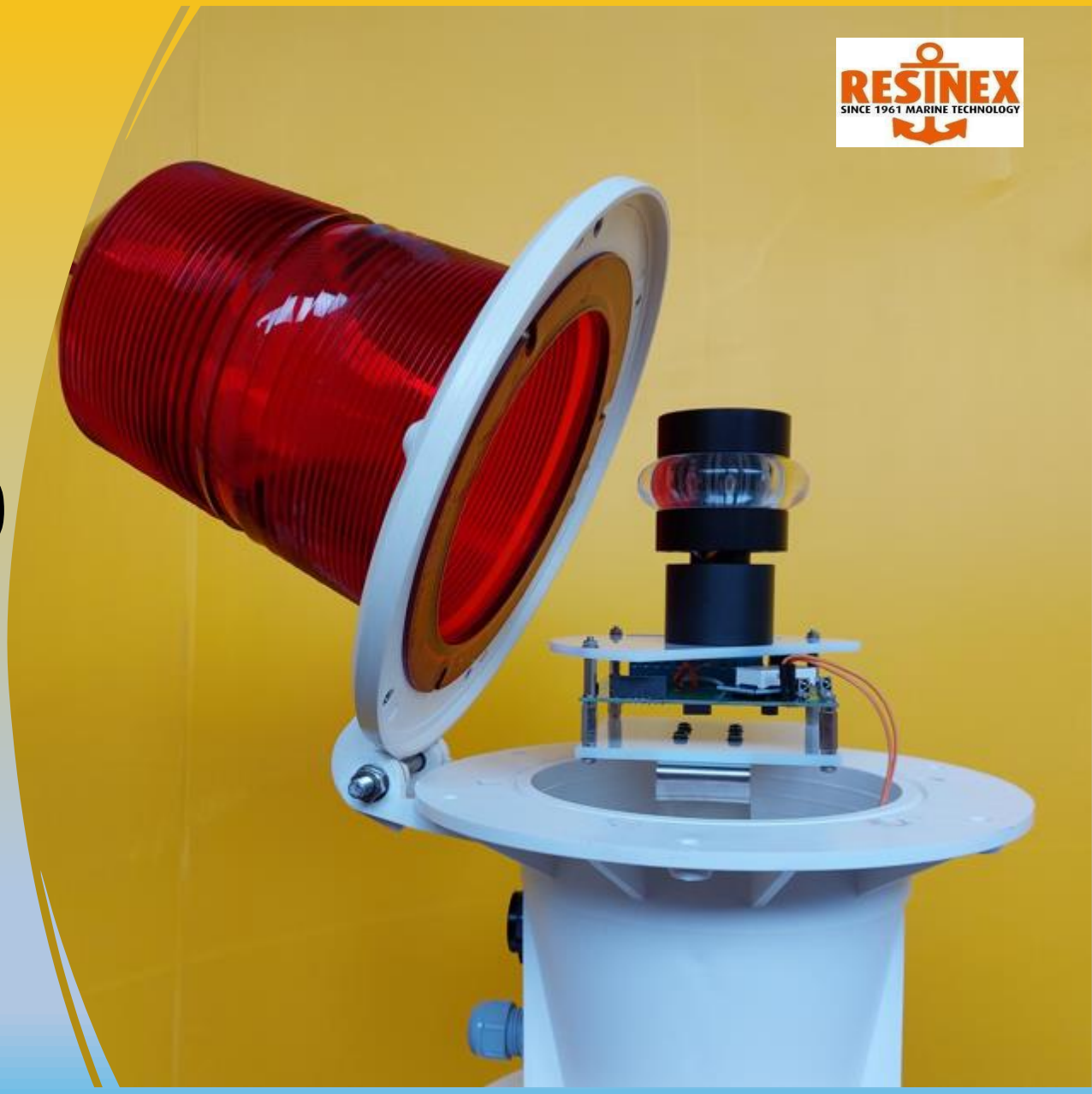
They **convert sunshine directly to electrical energy** and store this energy in a storage battery, to be used as the load requires.
Panels of various sizes are available, they are made of monocrystalline silicon cells, enclosed and protected by tempered glass. This product is durable and specifically designed to **withstand the corrosive environment** in which navigational aids are installed.

Batteries store the energy accumulated during the day and provide it at night. Two main types of battery can be used:

- completely sealed, of gelatinous electrolyte;
- semi-sealed, of liquid type electrolyte.

This product is equipped with a **charge regulator**, in order to regulate the charging and the discharging of the battery.

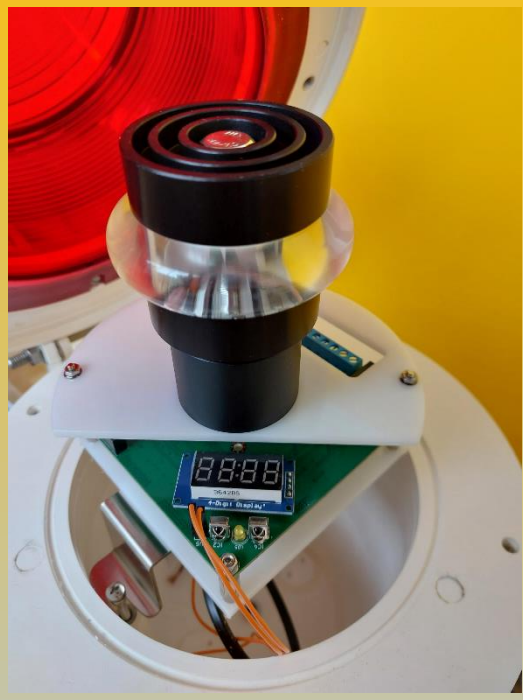
RESINEX-
Co.Se.Ma.
NEW CLR70
EMITTER



Following the new LED technology, the CS155 and CS250 Marine Lanterns, already part of Cosema's production line, now feature the new CLR 70 emitter, introducing **the new CS155LED and CS250LED Marine Lanterns**.

The new CLR 70 emitter features a tier of 9 high-intensity LEDs placed at the center of a focusing lens. This design ensures excellent light distribution on the horizontal plane, making it highly suitable for use with Fresnel lenses, which are well-known for their advantages in optical ranges. The CLR 70 emitter can replace traditional lamp changers equipped with lamps, offering much lower consumption and maintenance costs.

The new circuit is designed to optimize the current on the LEDs, adjusting the light intensity according to the range required by the customer. The light intensity and flashing characteristics can be modified by the customer using the provided remote control.



For photovoltaic installations, the lanterns can be equipped with a charge regulator. Additionally, the lanterns can be configured to operate directly with a 220VAC mains voltage.

The CS155LED and the CS250LED Marine Lanterns incorporate a protective vent that allows for rapid temperature equalization. This vent lets air pass freely through its membrane, reducing stress on sealing devices and preventing condensation formation. The result is reduced maintenance costs and increased reliability and lifespan.

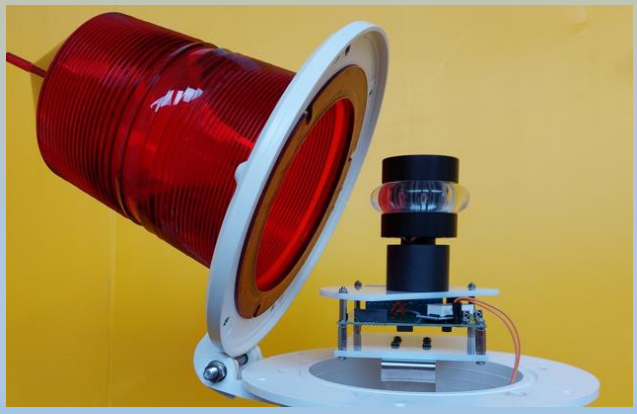
The included sun switch ensures operation only when necessary.

CS 155 MARINE LED LANTERN
consumption Ma

Range N.M.	Wite	Red	Green	Amber
2	18	18	18	18
2,5	20,4	21,6	19,2	21,6
3	22,8	27,6	20,4	45,6
3,5	27,6	33,6	22,8	55,2
4	46,8	55,2	37,2	92,4
4,5	78	92,4	62,4	128,4
5	109,2	128,4	87,6	165,6
5,5	140,4	165,6	111,6	238,8
6	202,8	238,8	162	331,2

CS 250 MARINE LED LANTERN
consumption Ma

Range N.M.	Wite	Red	Green	Amber
5	78	92	63	118
5,5	100	118	80	171
6	145	171	116	236
6,5	200	236	160	341
7	266	315	213	551
7,5	356	420	284	721
8	467	551	373	958
8,5	612	721	488	
9	811	958	649	



CHARGE REGULATOR

CSR CHARGE REGULATOR

It carries out two main functions:

- it protects the batteries from overcharging thus preventing the electrolyte from boiling;
- it protects the battery from overdischarging thus avoiding irreversible damage.

The CSR charge regulator is housed in a IP55 polycarbonate box that assures its correct functioning in the most hostile environment.

CCR CHARGE REGULATOR

Its main characteristics are:

- Working thresholds: each battery has its own working current;
- Temperature compensation: the regulator holds a thermal probe that regulates automatically the thresholds according to the environment temperature thus getting the best from the batteries and considerably increasing the efficiency of the system.

It is protected against reverse polarity on the battery by means of diodes.

It is housed in a IP65 marine grade alluminium box that assures its right functioning in the most hostile environment.

For more information, please contact us:

marketing@resinextrad.com

+39 030.745 7245

RESINEX
SINCE 1961 MARINE TECHNOLOGY