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.

MARINE LANTERNS

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

CS 60 MARINE LANTERN

A lightweight, compact lantern, suitable for temporary signals and even for very small buoys.

LENS: Methacrylate lens of 60 mm diameter, available in the colours red, clear, amber or green; visibility 360°

FLASHER: 6 to 12 V. nominal, solid state, for simple flash characteristic or steady burn

LAMPHOLDER: For single or double filament lamps.

CABLE ENTRY: Watertight cable gland underneath the lantern base.

ASSEMBLY FLANGE: n. 3 6 mm holes on 75 mm PCD.

WEIGHT:
Net weight : Kg. 0,3
Shipping weight : Kg. 1,5
Shipping dimensions: cm. 30 x 30 x (h) 30

CS 128 LED MARINE LANTERN

A highly efficient lantern for medium ranges having all the advantages of being rugged, compact and unique in its characteristics.

Model 128/1	Model 128/3	Model 128/4
Range: red light 3.2 mg.	Range: red light 4.2 mg.	Range: red light 4.5 mg.
Range: green light 3 mg.	Range: green light 4 mg.	Range: green light 4.3 mg.
Consumption: 140 mA.	Consumption: 320 mA.	Consumption: 410 mA.
Quiescent current: 15 mA.	Quiescent current: 15 mA.	Quiescent current: 15 mA.

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

CL 70 EMITTER

The CS155 and CS250 Marine Lanterns, equipped with the new CL70 emitter, have introduced the new CS155LED and CS155LED Marine Lanterns. The CL70 emitter features a tier LEDs placed at the center of a focusing lens; it has an excellent distribution of the light on the horizontal plane and therefore suitable for its usage with Fresnel lenses with many advantages in optical ranges. It can substitute the traditional lampchangers equipped with lamps, having lower consumptions and maintenance costs.

LENS: methacrylate lens of 155 mm. diameter, in one whole body.
VISIBILITY: 360°, omnidirectional.
CL70 EMITTER: n.9 high intensity LEDs, operating life 100.000 hours, in the colours white, amber, red, green and blue.
FLASHER: 12 to 16V., solid state, any flashing characteristics or steady burn.
ASSEMBLY FLANGE: 4 holes 16 mm. diameter on 200 mm PCD.

WEIGHT CS 155LED: Net weight Kg. 3,8 / Shipping weight Kg. 5,3
Shipping dimensions : cm 30 x 30 x (h) 60
WEIGHT CS 250LED:
Net weight : Kg. 11,6
Shipping weight : Kg. 13,7
Shipping dimensions : cm 45 x 45 x (h) 80

CS 155LED MARINE LANTERN
consumption mA

RANGE N.M.	WHITE	RED	GREEN	AMBER
3	24	80	30	92
4	36	120	62	141
5	132	282	183	335*
6	293	585**	425**	699**

CS 250LED MARINE LANTERN
consumption mA

RANGE N.M.	WHITE	RED	GREEN	AMBER
5	75	242	150	244
6	150	384*	222	393*
7	272	611**	366*	663**
8	505*	1046**	642**	1180**

* Light proportion not to exceed 1:2

** Light proportion not to exceen 1:3

FE 155 MARINE LANTERN

This type of lantern is mainly used for signaling in ports of minor importance, where a guarantee of continuity is not required. They have two main advantages: the coloured acrylic lens that avoids the use of filters that fade, and the solid state sunswitch incorporated into the lantern that eliminates external photocell systems.

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

FLASHER:
CSF 220Vac- input 220Vac output 12Vcc for lamps upto 10W.
FE 220 Vac- input 220Vac output 220Vac for lamps up to 100W.

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

LAMPHOLDER: Ceramic E27 for 220 volts lamps.

LAMPS
- 12Vcc
C8S8 single filament (P30s).
C8 halogen (P30s)
- 220Vac
Longlife (E27)

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

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.

CSF 256 P SOLID STATE FLASHER

Input Voltage: 6 to 24 Volt DC

Output Voltage: Selectable at 6, 10.3, 12 o 24Volt RMS

Output Power: 2 to 100 Watts

Daylight control: Adjustable lux level

Connections: Seven 3mm screws, coded terminals

Outputs: Lampchanger or double filament lampholder

Characteristic: Any up to 655 seconds duration, minimum time interval 0.01 seconds

Synchronization: Any quantity of timers using two wire system

Accuracy: Better than 0.1%

Change of Character: Rotate the two hexadecimal switches

Temperature: -40° + 60°

Materials: Moulded nylon body and housing with silicon gasket

Weight: 0.3 Kg.

Dimensions: mm. 104 x (h) 68

FLASHER CSF M/R

Input Voltage: 11 to 20 Volt DC

Output Voltage: Selectable at 6, 10.3, or 12 Volt RMS

Output Power: 2 to 100 Watts

Connections: Eight 3 mm screws, coded terminals

Outputs: Lampchanger or double filament lampholder

Characteristic: Up to 655 seconds duration, minimum time interval 0.01 seconds

Synchronization: Any quantity of flashers using two wire system

Accuracy: Better than 0.1%

Change of Character: Rotate the two hexadecimal switches

Temperature: -40° + 60°

Materials: Moulded nylon body and housing with silicon gasket

Weight: 0.5 Kg.

Dimensions: mm. 104 x (h) 68

AUTOMATIC LAMPCHANGERS CSL 227

They are standard accessories for all Cosema lanterns and may also be employed in other types of lanterns having an internal lens diameter greater than 155 mm.

Voltage: 6 to 24 Volt DC

Consumption: 5 mA during flash, 220 mA when changing lamps

Capacity: 4 or 6 S8 or S11 single contact pre focused base lamps

Application: For use in lenses having an internal diameter greater than 155 mm

Temperature: -40° + 60°

Materials: Moulded nylon frame and cover

Connections:
b F1 (Lamp -)
c + (Lamp +)

Lamp contacts: Gold plated

Focal height: 146 mm. (Internationally accepted standard))

Net weight: 0.3 Kg.

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.

CSB DRY CELL BATTERIES

The CSB batteries are composed of **dry cells**, connected together in series-parallel, to obtain required voltage and capacity. The cell pack is wrapped in insulating material and then in tin plate or pvc container, giving an **easy to handle product.** Furthermore, having **no need for aeration**, they can be installed in watertight boxes (CSC or CSM) that grant functioning during any kind of weather condition. The CSB batteries and respective boxes find their best use in all types of temporary installations. The CSC and CSM **boxes** are made in hot galvanized steel of a thickness that is extremely **rugged and long lasting.** The lid assures a very high degree of protection against waves and brief immersions. On the lid any type of **CoSeMa lantern** can be assembled, directly or by a small pole to higher the focal plane.

POWER SUPPLY/BATTERY-CHARGER SERIES CPS

The power supply/battery chargers series CPS transform electricity from 220 Vac to 12 Vdc, correctly supply the lanterns and maintain one or more batteries always at full charge so that they can **work even in case of mains failure.** These instruments incorporate a voltage probe that disconnects the lantern from the batteries if, due to a persistant lack of electricity, their voltage drops below 11 Volts thus avoiding irreversible damage; the connection will be automatically resumed as the voltage is restored. The circuit operates a double function: power supply and battery charger. The series CPS include the following **models:**

- CPS2: complete with a small internal floating battery;
- CPS3: able to feed an external floating battery with electricity up to 5 Amp;
- CPS5: able to feed an external floating battery with electricity up to 10 Amp.

Upon request models able to operate with electricity up to 30 Amp. can be supplied.

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