

Industrial automation – h/w & s/w development

Tecnonautica genuine spare parts.

Via Nostra Signora 20/B

55041 Capezzano Pianore

ITALY

VAT: I 00473190460

Tel./fax: +39 (0)584 915 638

Mobile: +39 335 521 1017

Web: [www.elver.it](http://www.elver.it)

Mail: [info@elver.it](mailto:info@elver.it)

### Scope.

The purpose of this document is to illustrate the main features of our supervision and control software for the electrical system.

This is not intended to be an electrical system guide.

The screenshots present in those pages are general and not referred to your custom software, but are useful to describe how the software works.

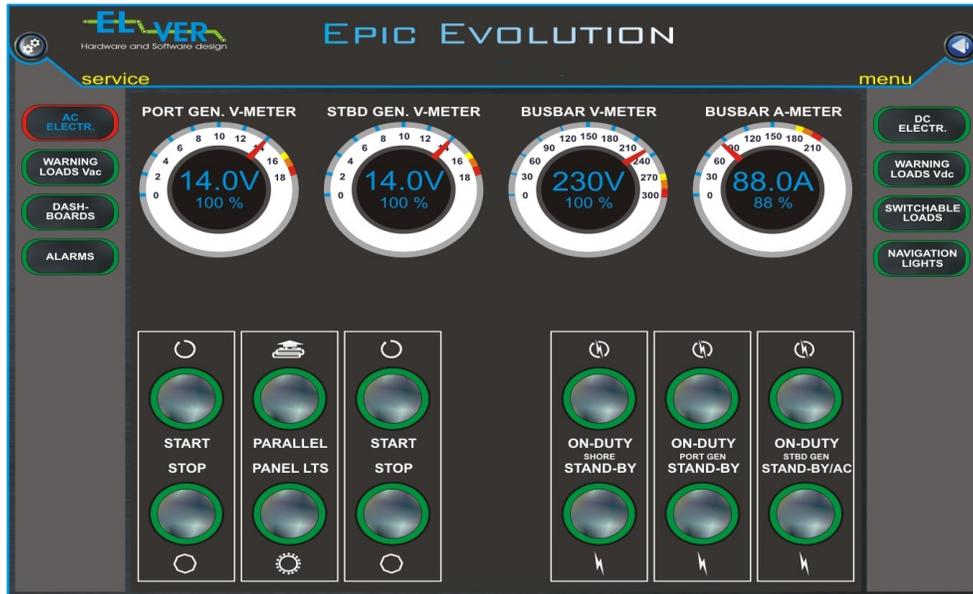
The user interacts with the software by mean of a touch screen.

Our software “Epic Evolution” can control and supervise the following components of the electrical system:

- INSTRUMENT PANELS
- SWITCH PANELS
- WARNING PANELS
- DASHBOARDS
- ALARMS
- NAVIGATION LIGHTS

To navigate inside the “Epic Evolution” software there are two side menu bars, one on the left and the other on the right of the screen.

## INSTRUMENT PANELS



This page shows the boat generators system.

The four instruments are (from left to right): alternators, busbar of the shore power or alternators (depends on which is on duty).

For each instrument there is an analogue representation of the value (meter), a digital value and the percentage that represents the ratio between the nominal value of the instrument and its value at the moment.

There are also twelve buttons whose function is self explaining.

Every button have a label and a graphical representation that describes the function.

When one button is pressed or released the button changes state.

An idle button is green, when activated changes to red.

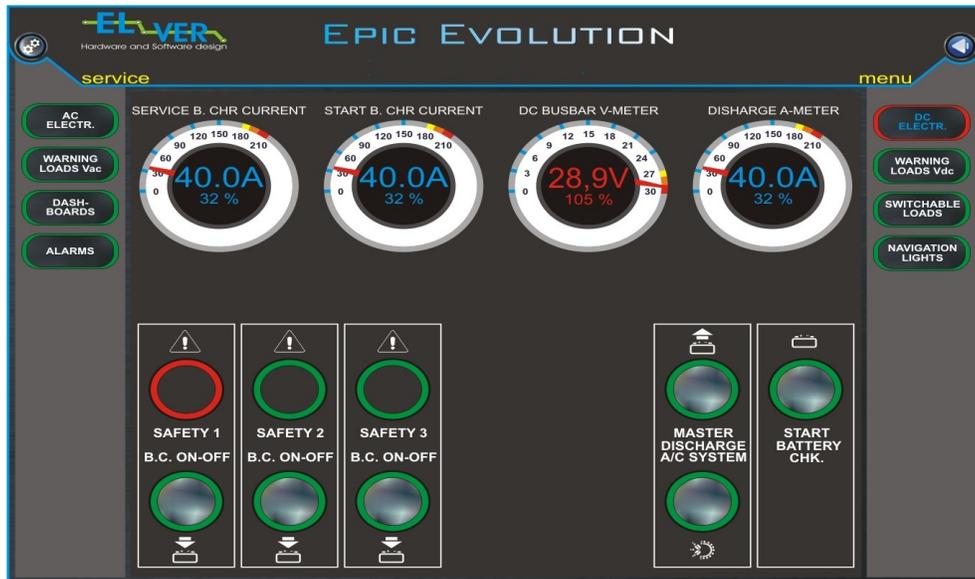
In the left upper corner there is an icon "Service" .

Pressing this icon bring to a diagnostic and log page.

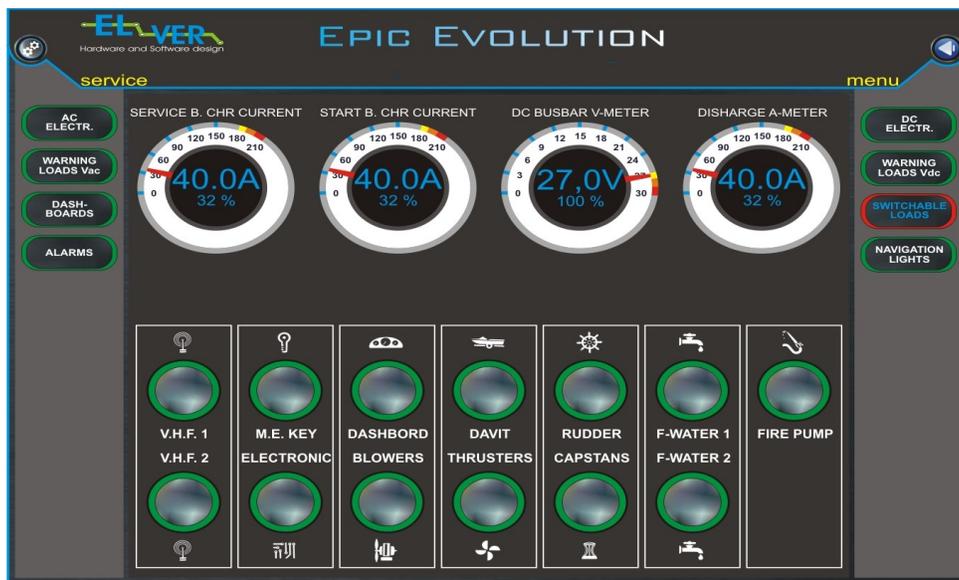
The following page shows the DC section.

There are ammeters for battery chargers, voltmeter, and an ammeter for monitoring the batteries discharge.

It is possible to implement an automation for the chargers in order to have a separate control for each unit.  
 This allows the user to have one or more chargers in service, depending on the voltage of the batteries.



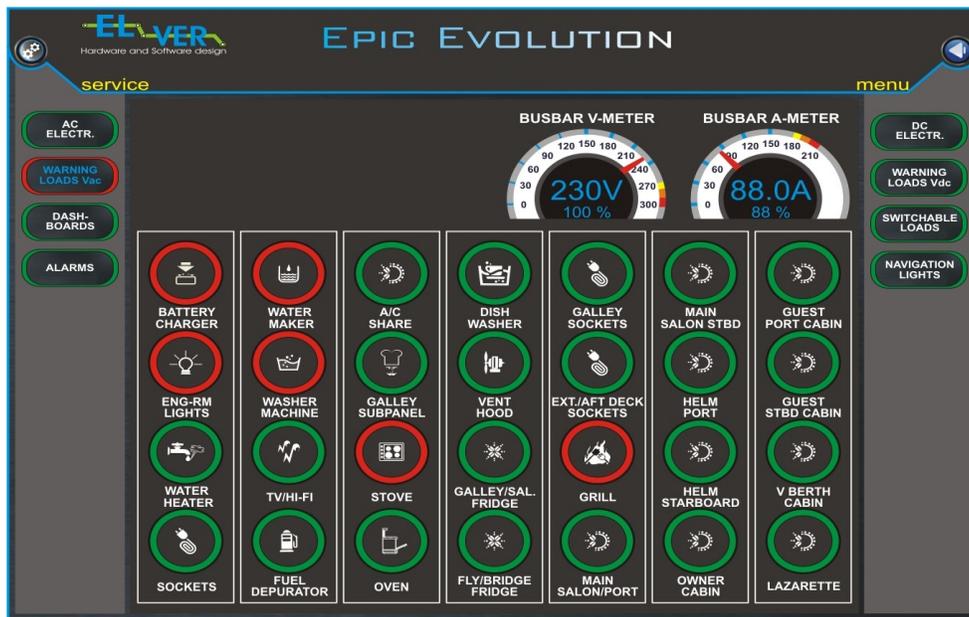
### SWITCH SYSTEM



Every switch in the software has a corresponding physical push button in the Remote Control panel.

The switch panel is composed by several buttons.  
When one button is pressed or released it changes state.  
An idle button is green, when activated changes to red.  
Every button has a label and a graphical representation that describes the function of the button.

### WARNING

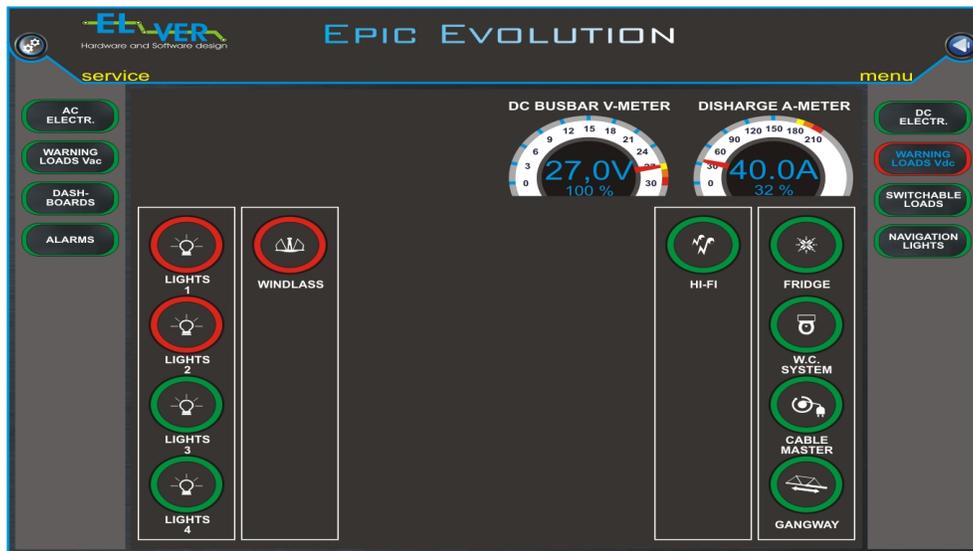


Every warning in the software has a corresponding physical one in the remote control panel.

Is composed by several indicators.

Every indicator has a label and a graphical representation that describes the indicator.

When a warning is idle the colour is green, when active is red.



This is the page of DC warnings.  
Functions same as above.

## DASHBOARDS

**N.B. - This function is possible if the dashboard cards have the communications port and a bus line has been run. If those conditions have not been met is still possible to implement them at the condition to replace the cards and run the bus line.**

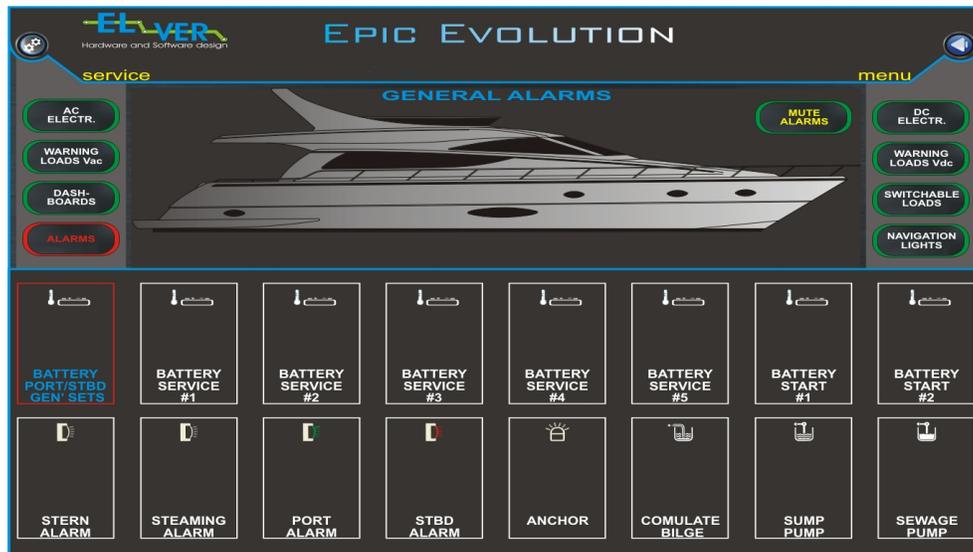
The dashboards page is the same as the switch page.

The dashboard page reproduces the hardware and is composed by the present dashboard cards.

Every button has a graphical representation that describes the its function.

An idle button is green, when activated changes to red.

## ALARMS SYSTEM



The alarm section is composed by one or more pages, depending on how many alarm panels there are in the Remote Control.

Each page represent a set of alarms of the same type.

When an alarm arises in all the software's pages appear an "ALARMS" red button.

When the user press this button automatically the software switches to the page of the alarm itself. Alarm pages are composed of indicators with a label that describe the relative function.

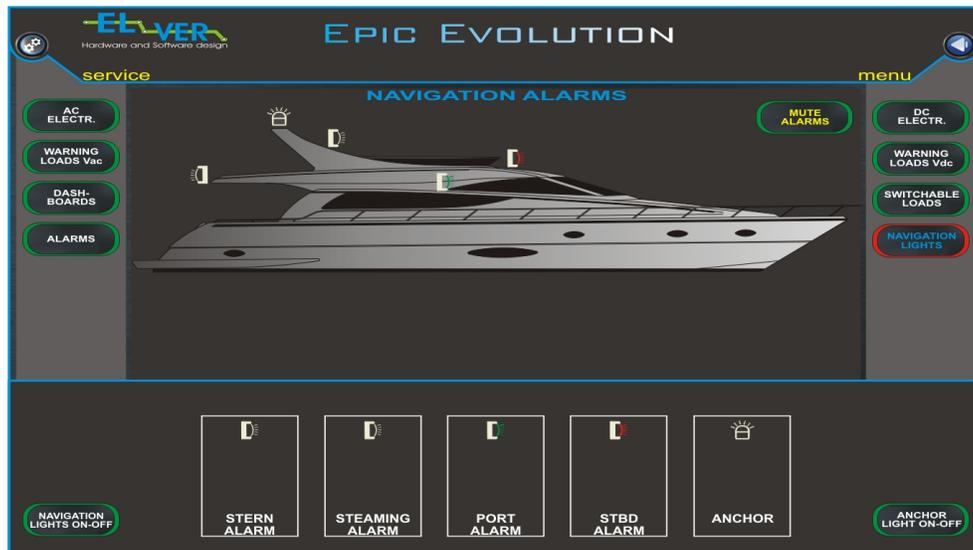
The possible state of indicators are:

- no alarm : the indicator colour is green;
- alarm running : the indicator colour is red with fast flashing;
- alarm acknowledged : the indicator colour is fixed red.

All alarm pages have a MUTE button to acknowledge the alarm.

By clicking the service icon  the software shows the "LOG/ALARMS" page where are recorded all the events of the past two years (approximately).

## NAVIGATION LIGHTS SYSTEM



In this page there are the buttons to turn on and off the ANCHOR and NAVIGATION lights. The indicator shows the fault light.

### Utilities normally supplied with the software.

A desktop utility is normally installed to control all the pages remotely (Internet connection required).

### Expandability.

The main feature of our software is composed by several modules. This means that other modules can be added easily at any time.

Some examples are:

- levels monitoring;
- engines;
- air conditioning system;
- lighting system;
- etc.

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