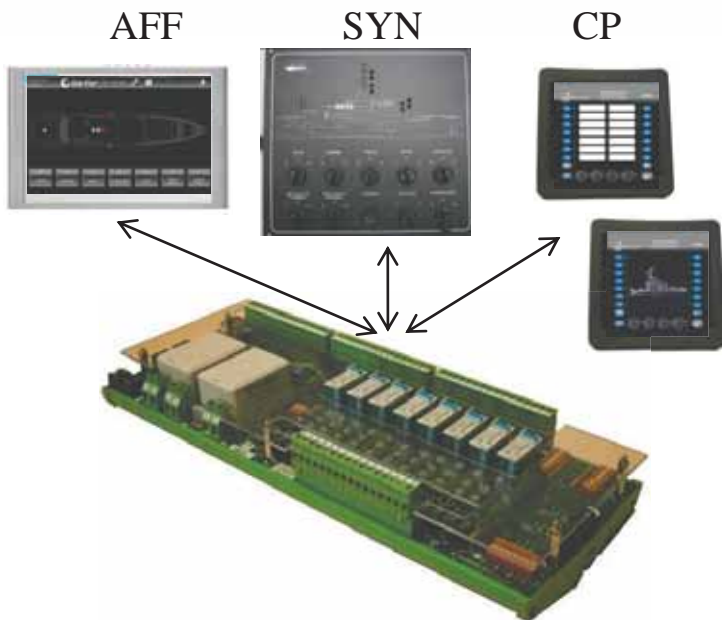


NORMA NAVIGATION LIGHTS MONITORING AND CONTROL SYSTEM

The NORMA is a navigation lights control & alarm system. It allows monitoring and controlling up to 48 navigation lights 24VDC/230VAC rated 0.5W to 65W. Navigation lights can be controlled from our standard remote control panel (NORMA_CP), a customized mimic panel (SYN), a touch screen (AFF) or an alarm & monitoring system.

PG 3 PRODUCT SPECIFICATIONS



1. NORMA_CPU

DESCRIPTION

Application

The NORMA_CPU is a board that allows to control and monitor 8 navigation lights. It prevents the crew upon failure of any navigation light. This product needs to be associated with a control panel which can be one the following product: NORMA_CP standard control panel, NORMA_SYN customized mimic panel, touch screen or alarm and monitoring system.

Functional characteristics

Functions

- Dual power supply input: main and emergency, manual or automatic switchover with alarm.
- Separation of power/control power supply sources.
- Bipolar protection and control of navigation lights. (No common wire)
- Remote control and monitoring.
- Filament (24VDC/24VAC/115VAC/230VAC – up to 65W) or LEDs navigation lights (24VDC).
- Counting time and lifetime alarm for LEDs navigation lights
- Possibility to blink each navigation light individually
- Detection of navigation lights failures: filament breakage, short-circuit, power supply failure and fuse failure.
- Acknowledgment of audible alarms.
- Panel light brightness attenuation with integrated dimmer.
- Serial connections to VDR, remote front face, AMS.
- Bus network to ensure communication between different NORMA_CPU
- Up to 48 navigation lights (up to 6 NORMA_CPU)
- Emergency controls switches directly on the card
- Selection of the navigation lights control mode (local/remote) by a switch

Inputs

- 2 power supply inputs (main + emergency; 24VDC, 110VAC or 230 VAC) for navigation lights.
- 1 control power supply (24VDC)
- 1 acknowledgement input (N.O. Push Button)
- 1 dimming input (N.O. Push Button)
- 1 test input (N.O. Push Button)
- 1 local/remote switch input
- 1 ON/OFF switch input
- 1 main/emergency switch input
- 8 navigation lights control inputs

Outputs

- 8 navigation lights outputs
- 8 navigation light status indication outputs
- 3 relay outputs (buzzer, navigation lights fault, power supply fault) (N.O. 24VDC/1A)
- 1 relay output system fault (N.C. 24VDC/1A)
- 4 signalling outputs (power supplies + lifetime alarm)

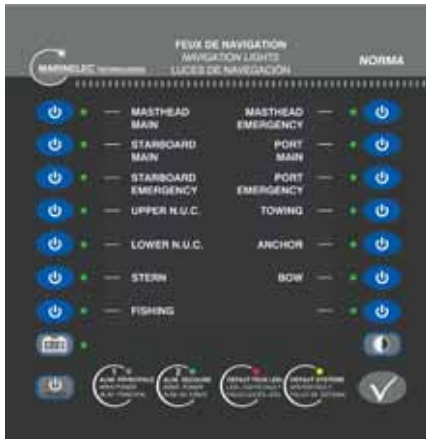
Outputs

- 3 serial ports RS485
 - CP output (“CONTROL PANEL”): RS485 bus to the NORMA_CP (9600 bauds, 8 bits, 1 stop bit ; Modbus RTU protocol)
 - VDR output: RS485 bus to a VDR (Voyage Data Recorder), (4800 bauds, 8 bits, 1 stop bit ; NMEA0183 protocol IEC61162-1)
 - NET output (“NETWORK”): RS485 bus to other remote NORMA_CPU or PC connection (requires RS485 to USB converter)

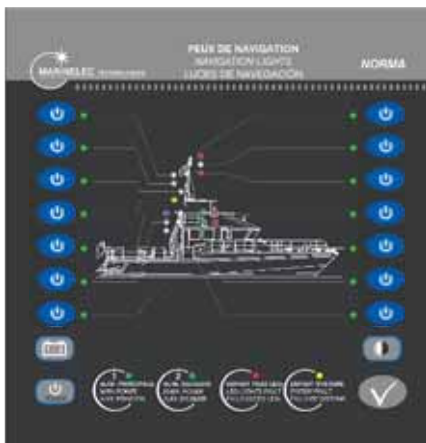
2. NORMA_CP

NORMA_CP is our standard remote front face used for controlling and monitoring navigation lights. During installation, the fitter can decide to customize the front face in 2 ways using a simple LASER printer:

- Navigation lights names
- Mimic panel



NORMA_CP with nav. Lights names

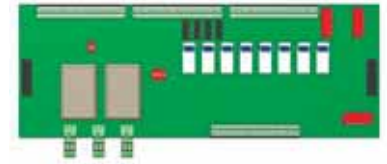


NORMA_CP with mimic panel

Mechanical Characteristics

Dimensions (LxdxH) of NORMA CPU:

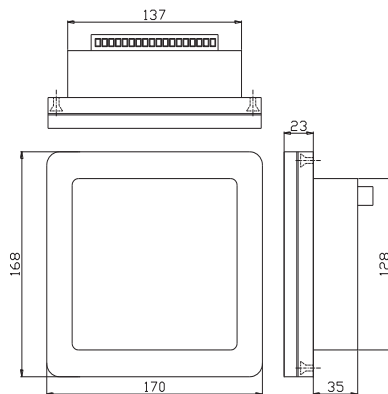
- Mounted on DIN rail



- Dimensions: 330x133mm

Dimensions (LxdxH) of remote front face NORMA CP:

- Enclosure : 170x168x58 mm
- Front face: 170x168x23 mm
- Flush mounting cut : 138x130 mm



Weight: 1Kg

Material: ABS

Ingress protection: IP44

Electrical characteristics

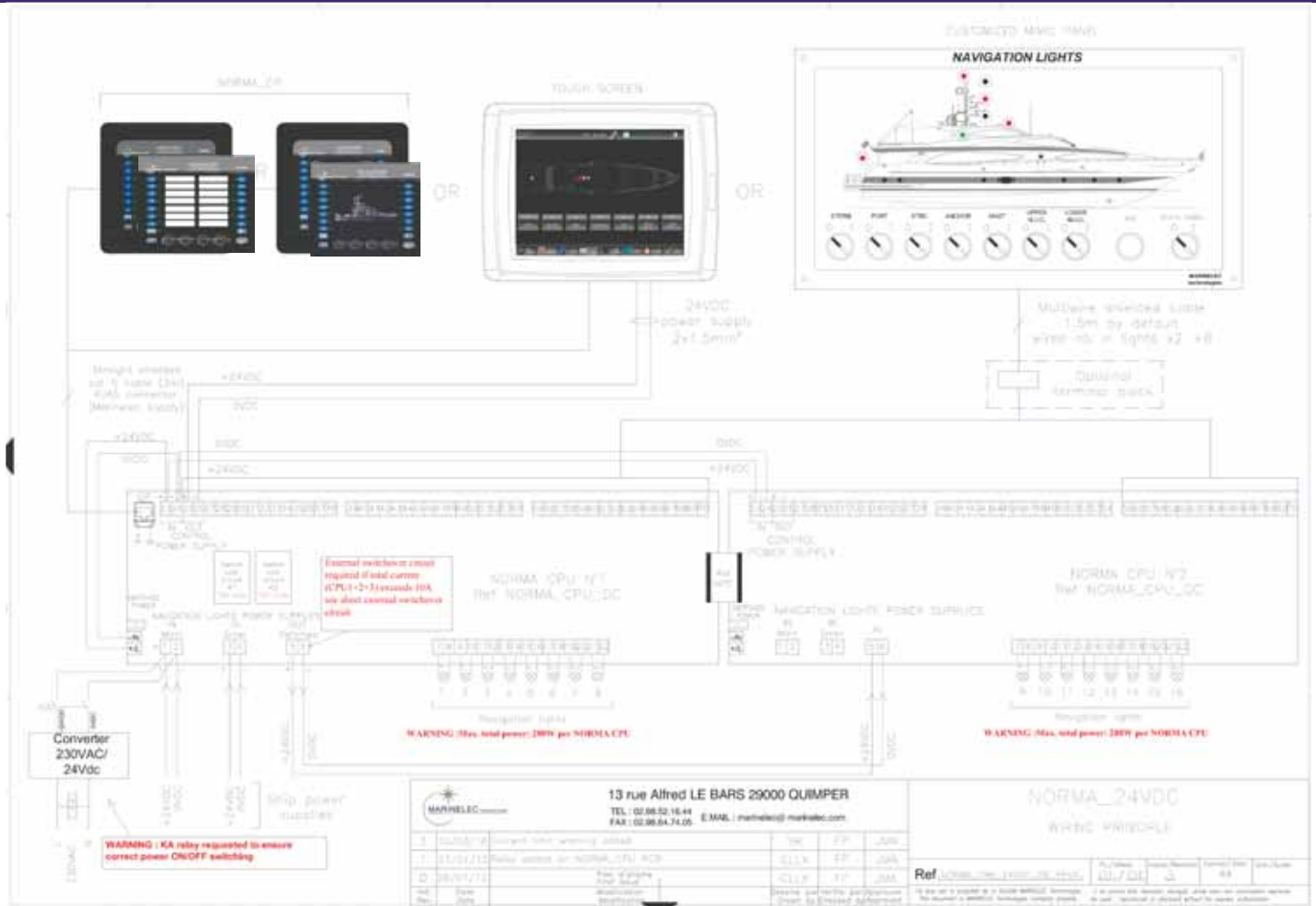
- NORMA_CPU:
 - Control supply voltage : 24VDC -25/+30%
 - Control supply current consumption : 1 A/24VDC
 - Power supply voltage : 24VDC -25/+30% / 230VAC
 - Power supply current consumption :
 - 10A if switching directly on NORMA (including the switching output)
 - > 10A if switching made by an external contactor
 - **Limitation of 200W by NORMA_CPU (e.g. 5 lights of 40W or 8 lights of 25W)**
- Remote front face panel:
 - Power supply : 24VDC -25/+30% (toward NORMA_CPU)
 - Consumption : 0.5A
 - Easy connection to NORMA_CPU using a simple standard CAT5 STP Ethernet cable (3m cable delivered)

Regulation

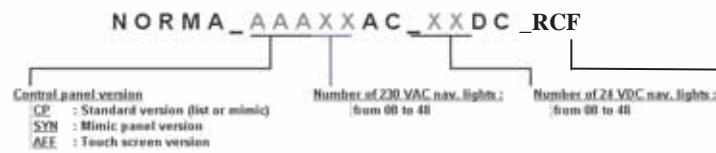
Regulation:

- MSC.253 (83) Adoption of the performance standards for navigation lights, navigation light controllers and associated equipments.

Wiring principle



Versions



Example :

NORMA_SYN05DC : Panel for 5 navigation lights with mimic panel

NORMA_CP08AC : Panel for 8 navigation lights with remote front face

NORMA_CP08AC_06DC : Panel for 14 navigation lights with remote front face, main power supply in 230VAC (8 navigation lights) and emergency power supply in 24VDC (6 navigation lights)

Are delivered with each navigation lights panel NORMA (CP, SYN et AFF) : A long ribbon cable of 50cm length "NORMA_NPL" and a short ribbon cable of 10cm.

Are delivered with each remote front face (NORMA_CP) : Two white polyester sheets "FEUILLE_POLY_A4BL" and a blank list "NORMA_ETI_LISTE".

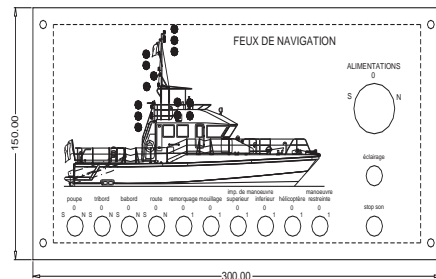
Each NORMA_CPU card contains a spare of four 3.15A pluggable fuses.

MARINELEC associated products

Remote front face: NORMA_CP



Mimic panel: SYN



Alarm and monitoring system / touch screen: AFF



Accessories

NORMA_NPL:



Ribbon cable – length: 50cm

CONV_USB_RS485 :



USB/RS485 converter using for terminal option

FUSE_3.15A/230VAC :



3.15A pluggable fuses.
(same reference for 24VDC/230VAC navigation lights)

FEUILLE_POLY_A4_BL :

Sheet of polyester paper for printing navigation
Lights labels or vessel mimic panel

NORMA_ETI_NOM:



Navigation lights list on specifications
for NORMA_CP

NORMA_ETI_LISTE:



Blank list for
NORMA_CP

NORMA_ETI_SYN:



Mimic panel on specifications
for NORMA_CP