



# NORMA.AFF

Navigation lights monitoring and control system

## PRESENTATION



► NORMA is a navigation lights alarm system. It allows the monitoring and control of up to 48 24VDC/230VAC navigation lights with a power ranging from 0.5W to 65W\*.

► The navigation lights are controlled by a NORMA.AFF touchscreen which must be associated with NORMA.CPU and NORMA.PWR.

► NORMA.CPU enables the control and monitoring of 8 navigation lights.

► NORMA.PWR provides power management from 2 different sources, with associated alarms, automatic and manual switchover.

► NORMA.AFF has an integrated software allowing you to customize your interface (ship silhouette, control buttons, status lights, etc.).

(\*65W max. at 230VAC, 40W max. at 24VDC)

## FUNCTIONAL CHARACTERISTICS

### Functions

- Power supply: manual or automatic switchover with alarm.
- Bipolar protection and control of navigation lights. (No common wire authorized).
- Compatible with filament (24VDC/24VAC/115VAC 230VAC – 65W max.) or LEDs navigation lights (24VDC).
- Lifetime alarm for LEDs navigation lights.
- Detection of navigation lights failures: filament breakage, short-circuit, power supply failure and fuse failure.
- Day/ night mode
- Serial connections to control panel, AMS, VDR.
- Up to 48 navigation lights (up to 6 NORMA.CPU)
- Emergency control switches directly on the board.

### NORMA CPU inputs

- 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.

### NORMA CPU outputs

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

### NORMA CPU serial outputs

- NORMA.CP control panel output (RJ45): RS485, 9600 bauds, 8 bits, 1 stop bit; Modbus RTU
- VDR (Voyage Data Recorder) output : RS485, 4800 bauds, 8 bits, 1 stop bit; IEC61162-1
- AMS(Alarm Monitoring System) output: RS485, 9600 bauds, 8 bits, 1 stop bit; Modbus RTU

### Software tool NORMA AFF

- Creation of your lights (mode of operation, color, size, location)
- Creation of up to 8 grouped controls of 8 lights
- Creation of your ship silhouette (import image, size, location)
- Library of predefined silhouettes
- Import your silhouette via USB key
- Export/Import of the panel configuration for sistership duplication



## APPROBATIONS

- Bureau Veritas





## MECHANICAL CHARACTERISTICS



	Dimensions	weight	Mounting
NORMA.AFF (touchscreen)	10" (282x197x35 mm)	1 kg	built-in
	15" (422x267x64 mm)	4,1 kg	
	21" (552x347x65 mm)	6,1 kg	
NORMA.CPU	331x127x67 mm	1 kg	DIN rail
NORMA.PWR	111x128x57 mm (DC)	0,5 kg	DIN rail
	146x128x57 mm (AC)	0,5 kg	

## ELECTRICAL CHARACTERISTICS

### NORMA.PWR

- ▶ Control supply voltage: 24VDC -25%/+30% (1A max.)
- ▶ Power supply voltage : 24VDC -25%/+ 30%  
230VAC + -10%, 50-60Hz (\*other voltage, contact us)
- ▶ Power supply current consumption :
  - ▶ 30A maximum if switching directly to the NORMA.CPU\_DC card
  - ▶ 10A maximum if switching directly to the NORMA.CPU\_AC card

### NORMA.CPU DC

- ▶ Limitation of 200W by NORMA.CPU (e.g. 5 lights of 40W or 8 lights of 25W)

### NORMA.AFF

Consumption :

- ▶ 10" : 24 VDC 0,38 A
- ▶ 15" : 24VDC 1,2 A
- ▶ 21" : 24VDC 1,7 A (via NORMA.CPU card)

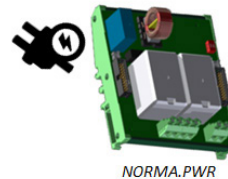
## CONNECTION OVERVIEW



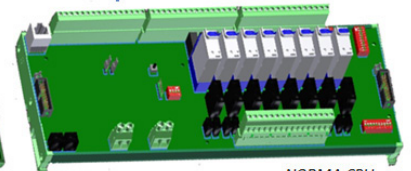
customized page for touchscreen « AFF »

Power  
24Vdc or 230Vac  
main+ emer.

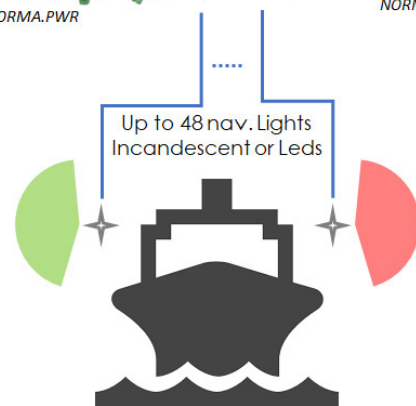
serial port  
RS485



NORMA.PWR



NORMA.CPU



## ENVIRONMENTAL CONDITIONS



### Temperature limits

- ▶ 0°C to 55°C (functioning)
- ▶ 0°C to 70°C (storage)



### Humidity

- ▶ 95% Humidity max.



### Ingress protection rating

- ▶ IP 65 (touchscreen front)



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sail safely

