

24V DC PROGRAMMABLE MARINE DIMMER DXM 24P / DXM 24P-F

USER AND INSTALLATION MANUAL



Description

The Yachtica Marine Dimmers DXM 24P and DXM24P-F can manage up to four 12/24V DC lighting lines in dimming modality and up to four programmable scenarios.

The modules allow the control of the light intensity of the single lines and the activation of scenarios. The intensity of light lines in each scenario is completely programmable by the user.

The 8 inputs, 4 for the separate control of the lines and 4 for the activation of scenarios, can be connected to any typology of push-buttons, sensors or dry contacts.

On the DXM 24P-F there are also 4 optoisolated outputs from which it is possible to read the logical status (ON-OFF) of the main outputs and report them within any monitoring systems.



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Important information

- This installation manual has been written from the manufacturer and is an integrating part of this product.
- The informational message is addressed to the operating experts who execute the installation and the extraordinary maintenance of this product.
- The experts technicians must possess specific competences and particular abilities in order to carry out correctly and safely their work.
- The constant observance of the information included in this manual guarantees safety of men, energy serving and a longer duration of product operative-life.
- In order to avoid wrong handling and the consequent risk of incidents, it is important to read this manual carefully, keeping scrupulously to guidelines according to the supplied information.

Safety Measures

- Carry out any intervention as specified by the manufacturer.
- The installer must verify the correct installation and operation of the product.
- It is prohibited to use the product for improper purposes or purposes different from those provided.
- It is prohibited to tamper or to modify the product.
- Delimitate the work area in order to avoid the access of unauthorized persons.
- Don't leave the work area unattended.

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The product specifications are subject to modifications without forewarning.
Therefore the present document may not correspond exactly to the characteristics of the product.



Before starting

Place the module inside a switch board and follow carefully the wiring diagram.

Always interrupt the electronics and outputs power supply before carrying out any type of electric connection on the module according to the following specifications.

Cabling

There are 4 connectors, 2 on the upper side used for the power IN and OUT and 2 on the bottom side used for the inputs and for the electronics power supply of the module.

Please refer to the next pages for a detailed description of the connectors and for the wiring diagrams. It is advisable to feed the outputs (CON3) before feeding the electronics (CON1).

Operating

After completing the connections as shown in the diagrams, check carefully the electrical connections and reactivate the electronics power supply. After switching ON the module, the following status must be present on the LEDs:

Ready LED: On

Power In LED: On

Fuse Protection LED: Off

Warning: if the Power In LED is OFF means that the power feeding is not supplied.

Functionality

The Yachtica Dimmer can manage 4 independent lighting lines in dimming modality. The module uses always a soft switching On and Off (in 3 seconds) to ensure a comfortable and pleasant feeling.

Single Controls

Inputs from 1 to 4: Switch On / Switch Off / Dimming

A short impulse turns on and off the lights as a traditional switch.

A long impulse allows you to change the intensity of the light and stores its intensity level till the next operation. New levels will be stored by a new manual change or by a scenario activation that comprises a different level of luminosity.

Scenarios

Inputs from 5 to 8:

Allows to program and activate 4 scenarios in which the light intensity can be programmed by the user.



Programming Scenarios

Introduction:

Dimmer programmable has 4 default scenarios, programmed as follows :

Input 5: All Off - Lights turn off, dimming, in 4 second .

Input 6: All 30% - Lights reach 30% of intensity, dimming, in 4 seconds.

Input 7: All 60% - Lights reach 60% of intensity, dimming, in 8 seconds.

Input 8: All 100% - Lights reach 100% of intensity, dimming in 8 seconds.

Executing time of scenarios

In the scenarios activated by Input 5 and 6 lights will reach their programmed intensity in 4 seconds.

In the scenarios activated by Input 7 and 8 lights will reach their programmed intensity in 8 seconds.

This different executing time provides the user with more choices for the creation of different atmospheres.

How to choose the desired intensity:

Press an input contact until the light reaches the desired intensity. Repeat this operation for all the lights you want to program.

Leave turned off the lines that you want to be off in your scenario.

How to save a scenario:

Once the lights intensity of the lines has been selected, close an input contact from 5 to 8 for 5 seconds. The saving of the scenario will take place after the lighting lines and/or the module status LEDs have blinked once.

Restore the default scenarios:

Close the input contact of the scenario you want to restore for 10 seconds. The restoring of the default scenario will take place after two blinks of the lighting lines and/or of the module status LEDs.



DXM 24P/DXM 24P-F Connectors description

CON1 Power Supply For Electronics Connector

Feed the electronic of the module with a tension of 18 - 32 V DC through clamps + and C.

CON2 Inputs Connector

Connect inputs from 1 to 4 to the push-buttons of the respective four inputs. Inputs from 5 to 8 are dedicated to the activation of scenarios:

Default Scenarios:

Input 5: All Off - Lights turn off, dimming, in 4 second .

Input 6: All 30% - Lights reach 30% of intensity, dimming, in 4 seconds.

Input 7: All 60% - Lights reach 60% of intensity, dimming, in 8 seconds.

Input 8: All 100% - Lights reach 100% of intensity, dimming in 8 seconds.

CON3 Power Feeding Supply Connector

To Feed the power part of the module through the multiple + and - clamps with a voltage from 12 to 24 V DC. Choose opportunely the size of the cables (**Max 2.5 mm² x 4**) in function of the current absorbed by the managed loads.

In case of a connection with the positives directly connected to the lamps (see diagram 2) it is necessary to connect the positive rail for reference to this clamp.

In this configuration it is possible to manage each of the 4 outputs with its own power supply source, connecting all the negatives together and to the negative clamp of the connector while it is sufficient to bring one of the positives of the power supply sources to the positive clamp (see the wiring diagram n° 3)

CON4 Output Power Connector

To connect the four lines of the dimmable lighting system to the respective four outputs.

Carefully calculate the current absorbed by the outputs since it is necessary to carry out the most suitable connection according to the type of installations:

-Diagram 1: If the current absorbed by loads is **lower than 6A per line** it is possible to connect the outputs directly to the module

-Diagram 2: If the current absorbed by loads is **higher than 6A per line (max 10A per line)** connect only the negative cables to the outputs of the module and carry long positives directly to the 24V power source.

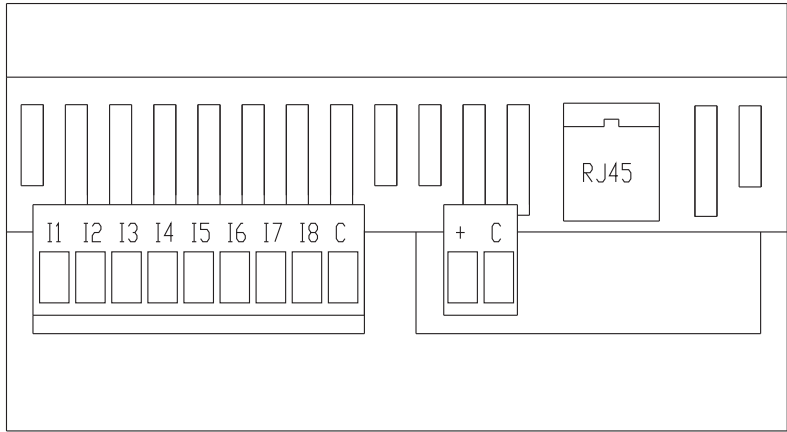
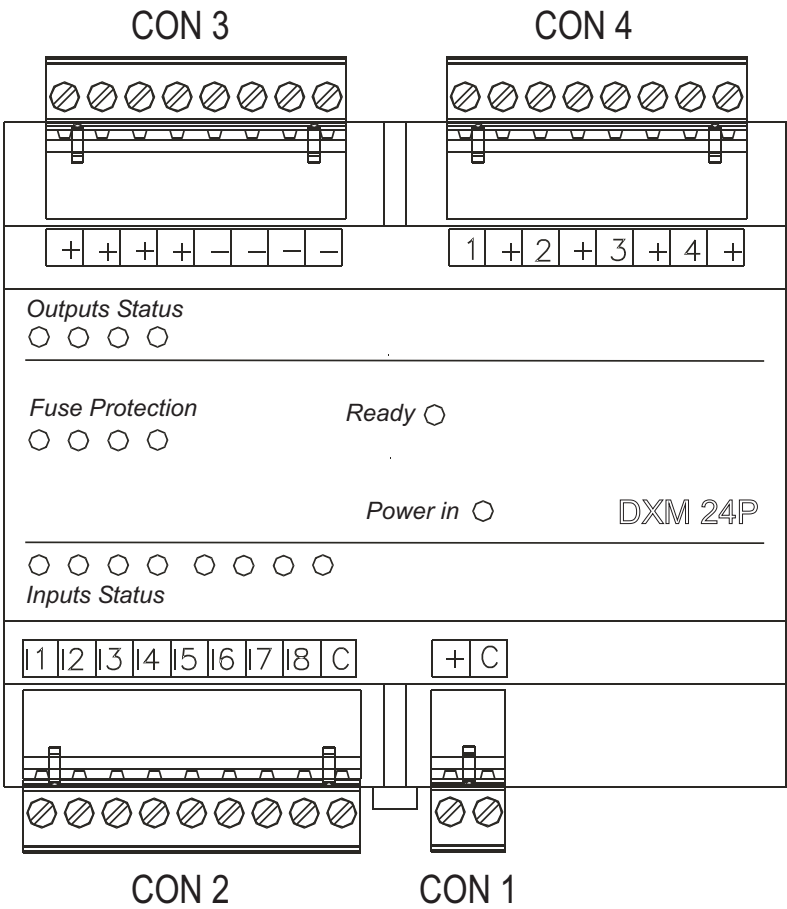
RJ45 Connector for the feedback output (only DXM 24P-F)

RJ 45 plug for the connection to a generic acquisition devices .

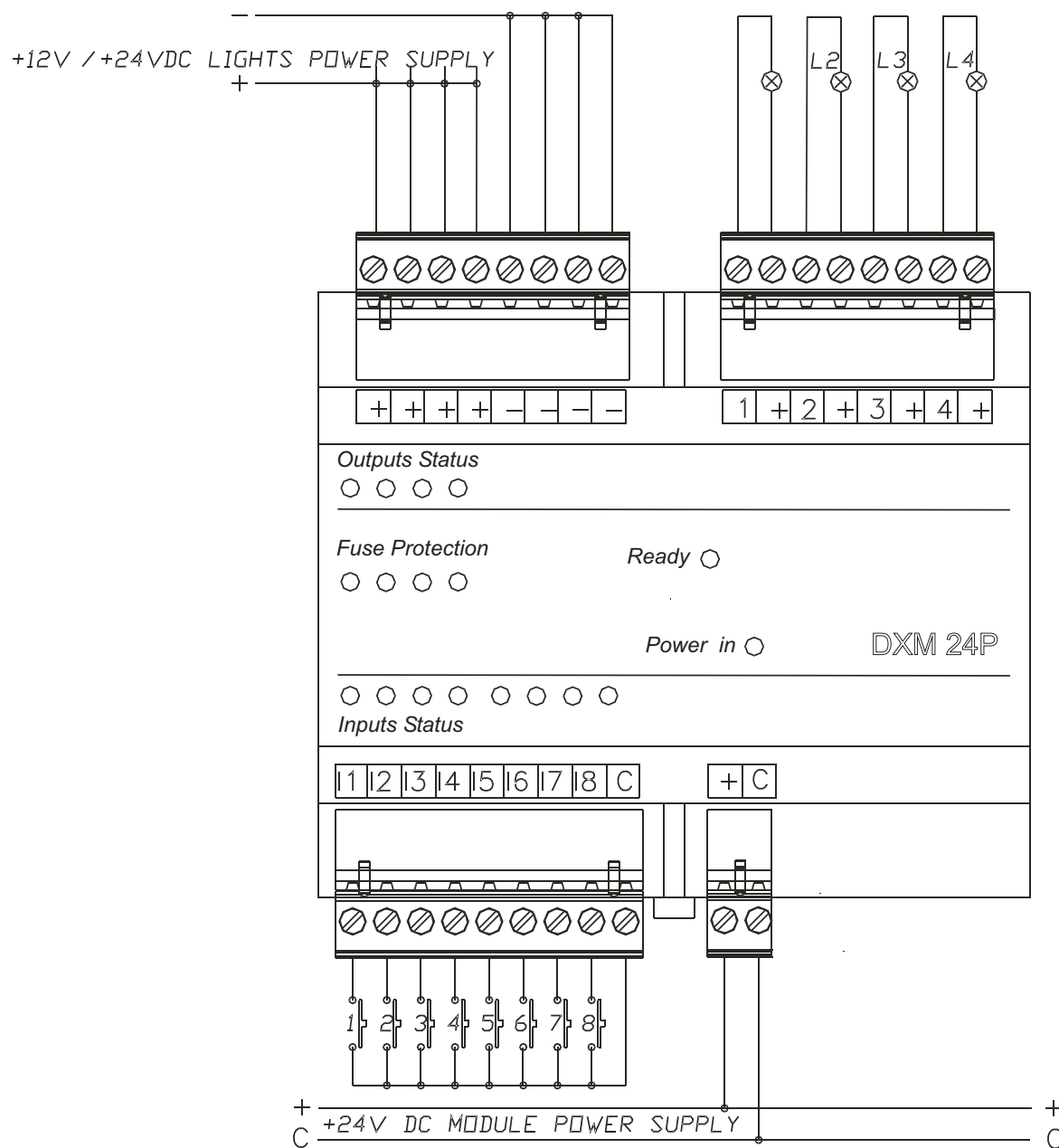
For a detailed explanations, please refer to the chapter: "Feedback Function" at page 10.



DXM 24P/DXM 24P-F Module Layout



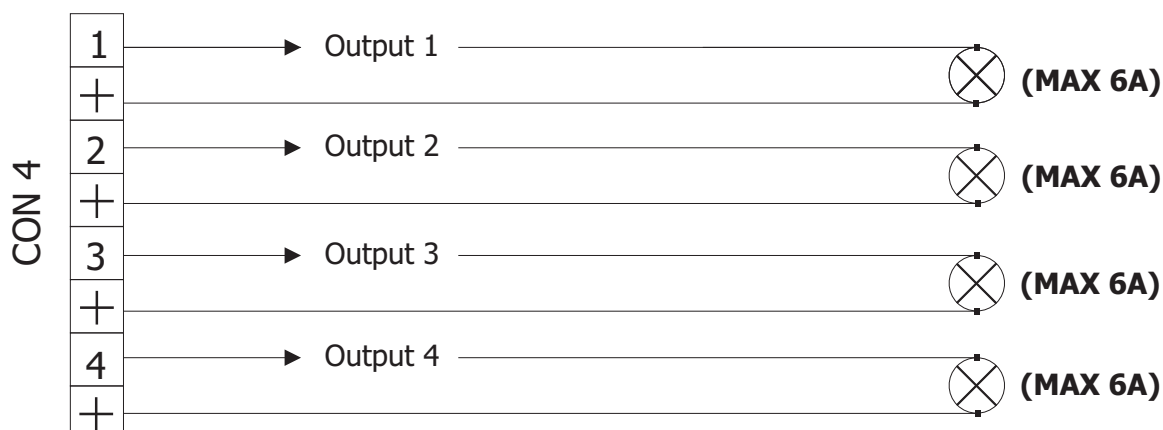
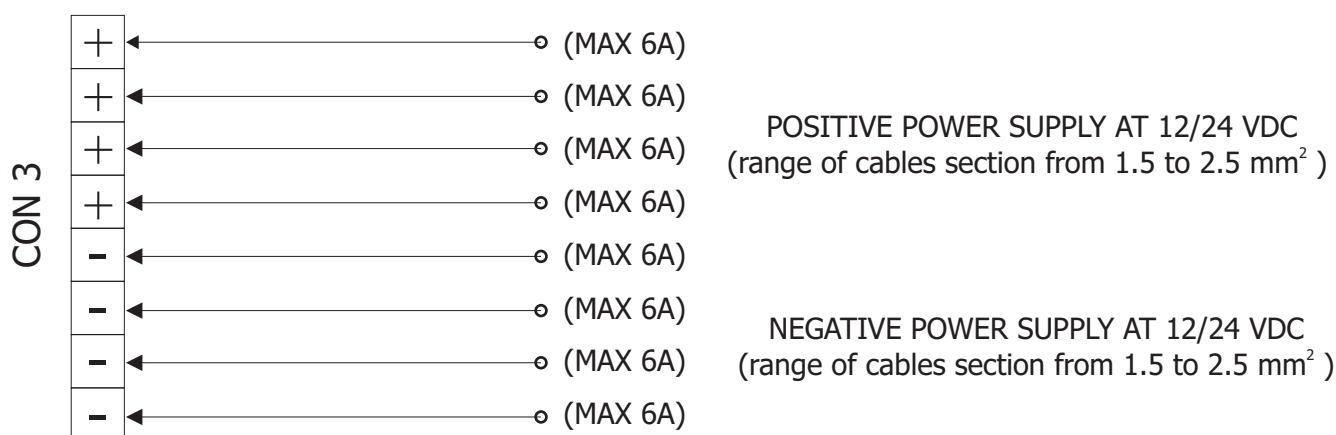
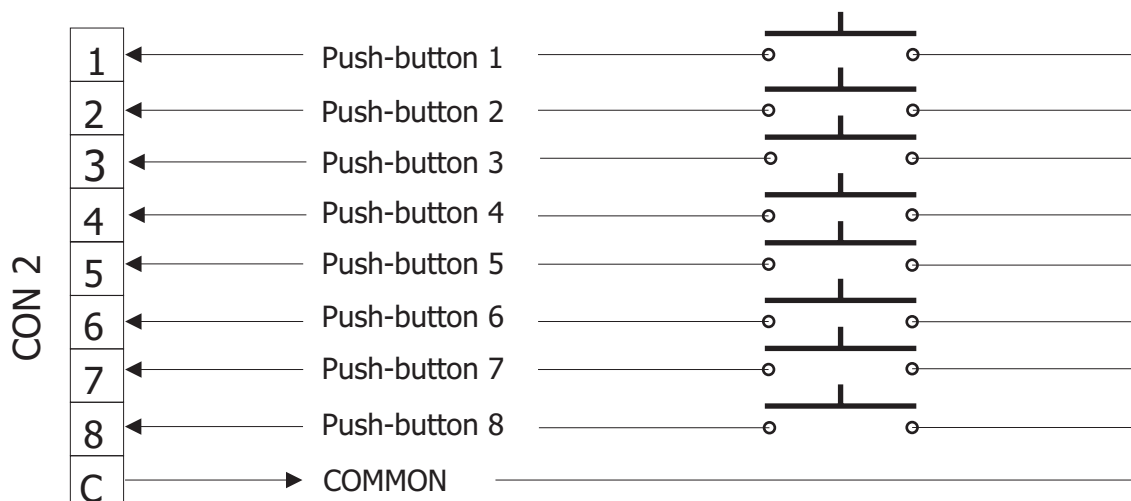
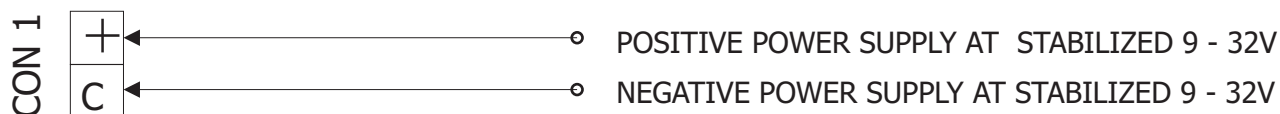
DXM 24P/DXM 24P-F Wiring Diagram 1 (max 6 A for line)



The installation of this product must only be carried out by qualified technicians assistance and/or assembling service

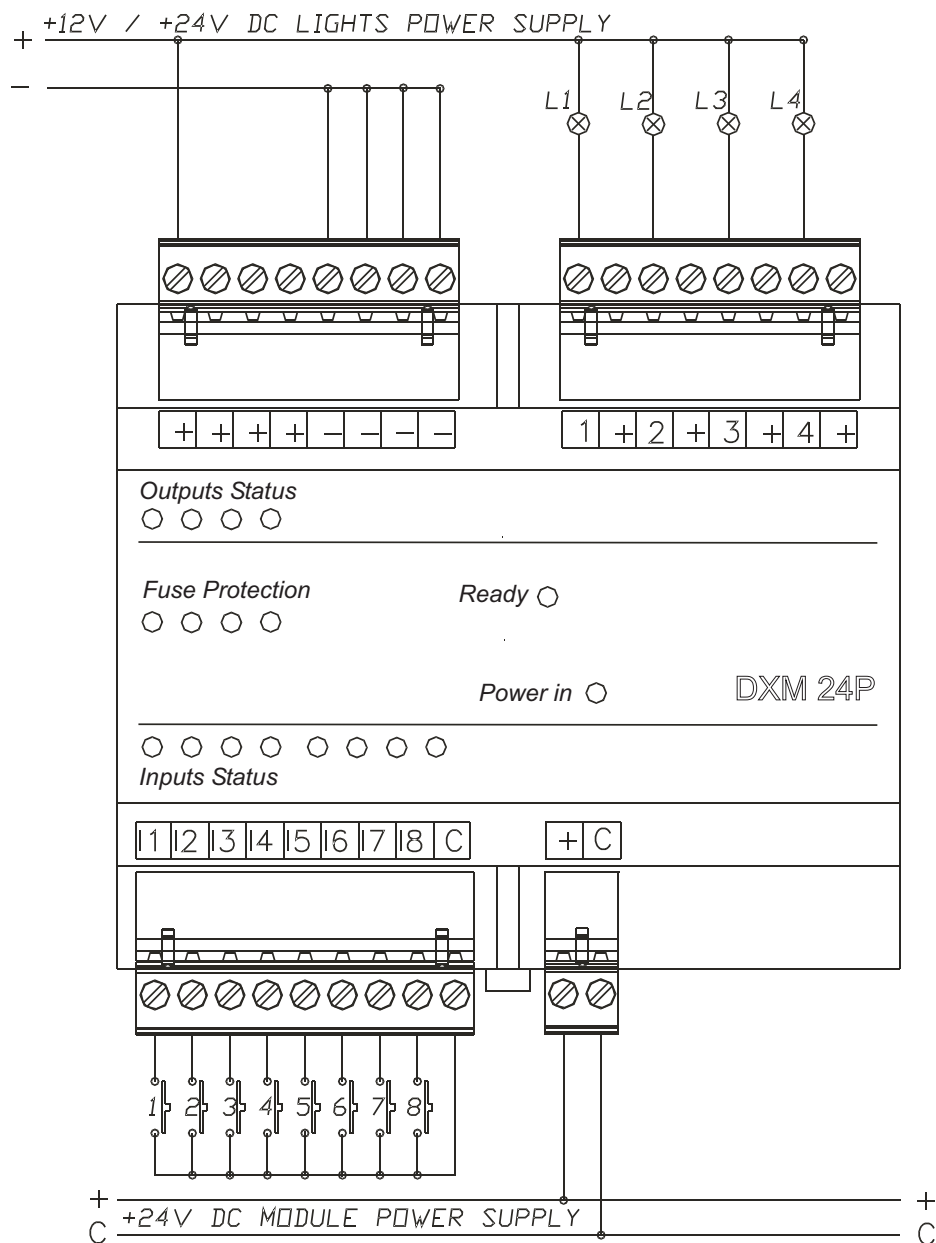


DXM 24P/DXM 24P-F Wiring Diagram 1 (max 6 A for line)





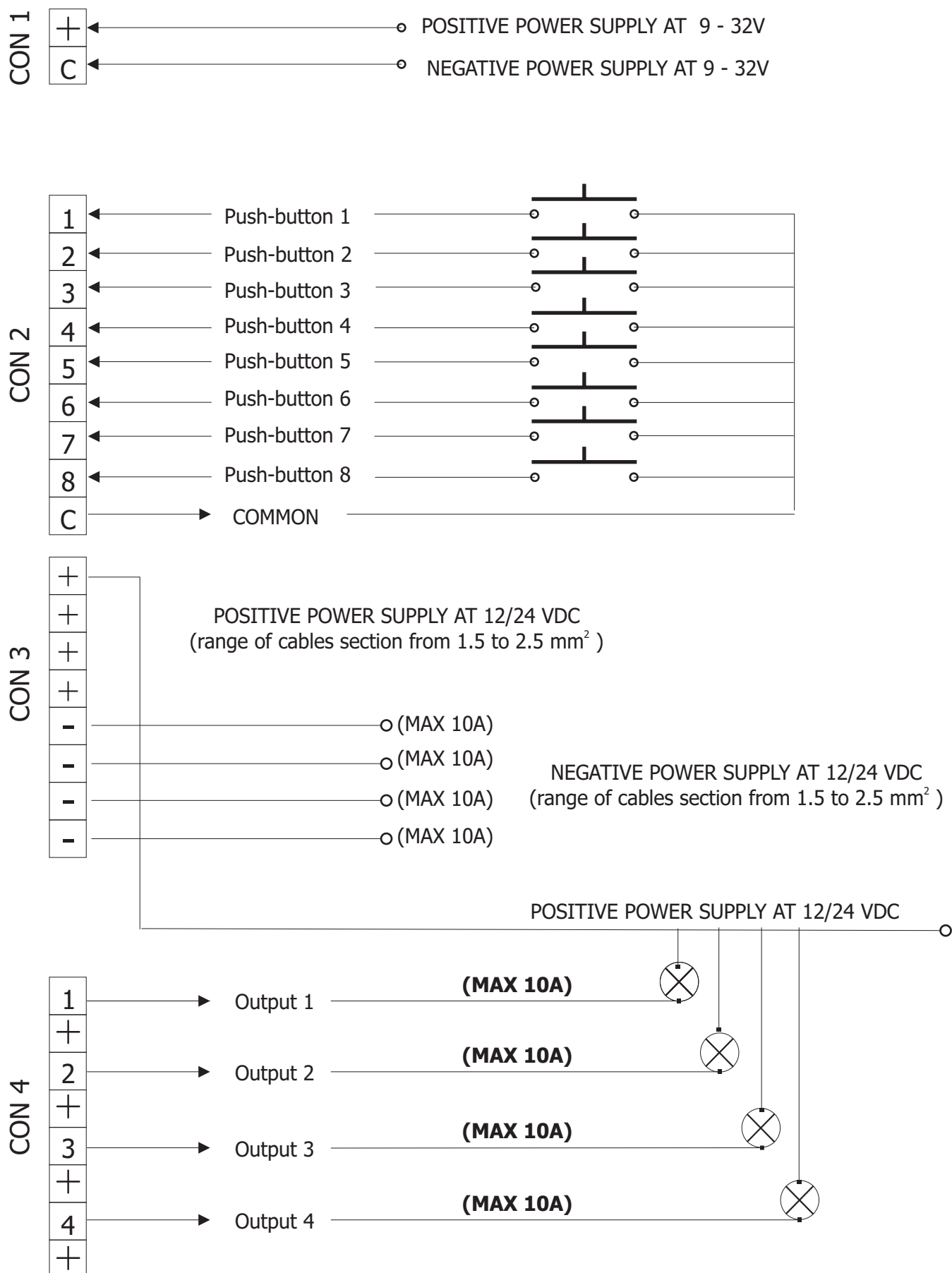
DXM 24P/DXM 24P-F Wiring Diagram 2 (max 10 A for line)



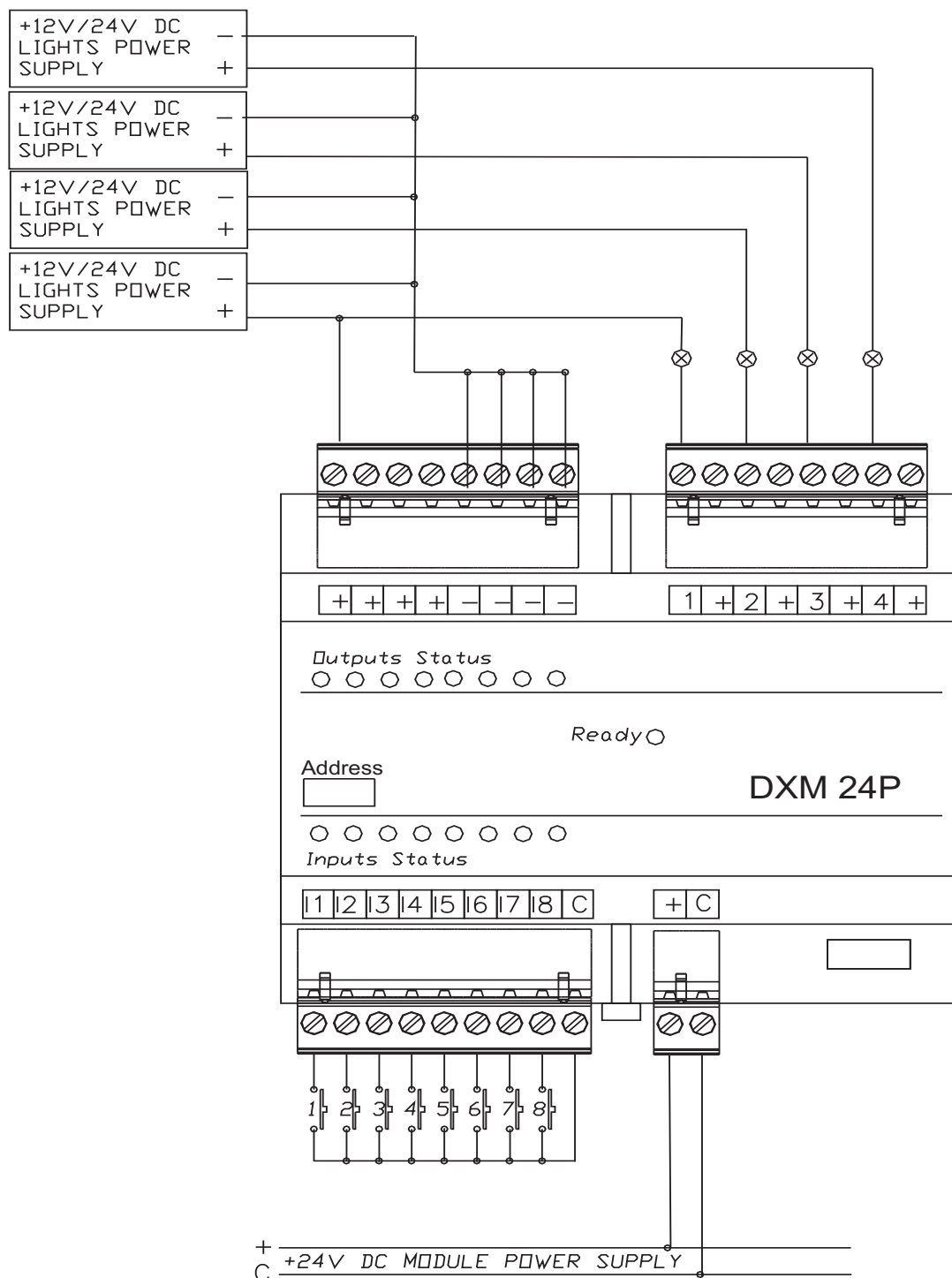
The installation of this product must only be carried out by qualified technicians assistance and/or assembling service



DXM 24P/DXM 24P-F Wiring Diagram 2 (max 10 A for line)



DXM 24P/DXM 24P-F Wiring Diagram 3 (max 10 A for line)



The installation of this product must only be carried out by qualified technicians assistance and/or assembling service

Feedback Function (DXM 24P-F only)

Description

The version with feedback is provided with 4 universal optoisolated outputs useable to receive the logical status (ON-OFF) of each dimmerable channel.

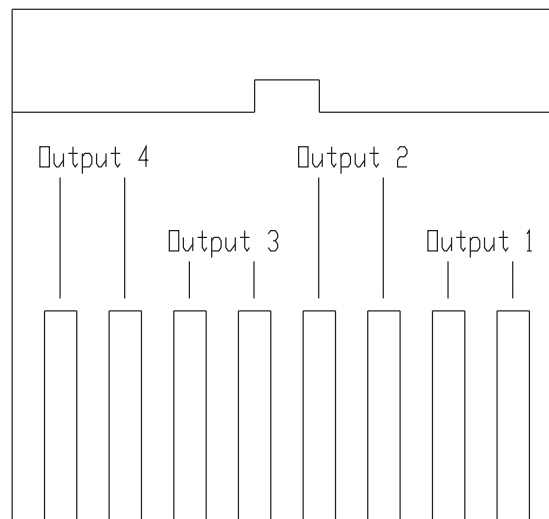
The optocoupler can work in a extended range of voltage , from 5 to 60 V DC with a maximum load of 6mA for each channel.

They can be connecteted to any kind of acquisition module , with positive input (see diagram 1, pag 11) or with negative input (see diagram 2, pag 11) to obtain the maximum installation flexibility.

The output connection are provided with a normal RJ 45 plug. (Standard plug for Ethernet network).

Connection

RJ 45 schematic of the module side connection, with the draw of the 4 couple of pin referred to the 4 output



Feedback Wiring Diagram (DXM 24P-F only)

Diagram 1 : Connection for Positive Output

To connect the 4 common contacts to a positive (5-60V) and to take the positive signal from the 4 outputs signed as Out 1, Out 2, Out 3, Out 4.

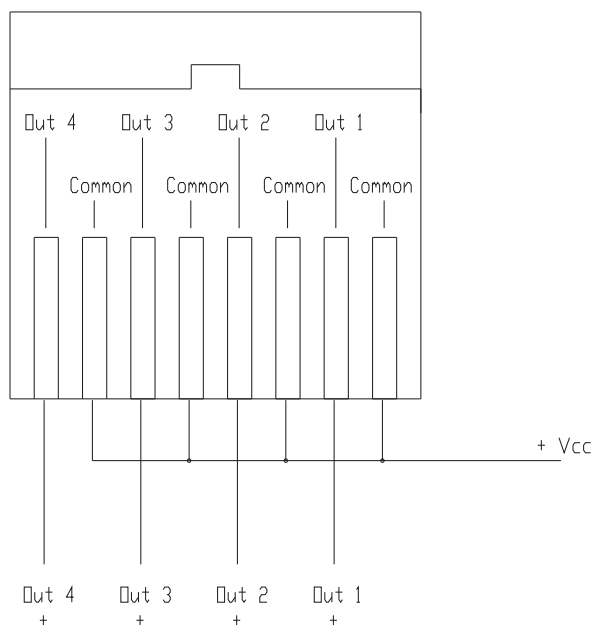
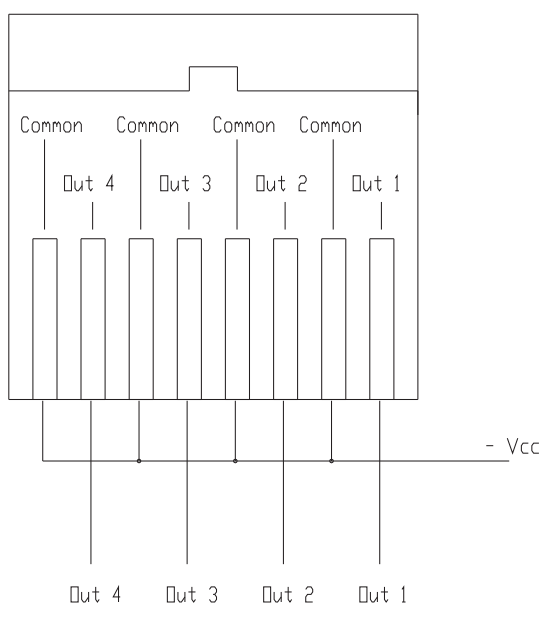


Diagram 2 : Connection for Negative Output

Connect the 4 common contacts to a negative (5-60V) and take the negative signal from the 4 outputs signed as Out 1, Out 2, Out 3, Out 4.





Technical Specifications

Features

- 4 dimmer outputs
- 4 universal feedback outputs (max 6mA) (Only DXM 24P-F)
- 4 programmable scenarios
- 8 dry contact inputs
- Memory of the output status in case of blackout
- Electronics protection against short-circuit and power line overload
- Automatic management of output power against overheating
- Led for the status monitoring
- DIN-rail mounting
- Removable connectors
- Completely tropicalized electronics

Technical data

Power Supply for Electronics	9 - 32 V DC
Maximum absorption for Electronics	40 mA
Power Supply for Dimmer Outputs	12/24 V DC
Maximum output load	10 A each
Feedback outputs (Only DIM 24P-F)	Optoisolated 5-60V, max 6mA each
Operating Temperature	+5 +50 °C
Storage Temperature	-40 +70 °C
Relative Humidity	15% 90% non condensing
Protection	IP 20
Dimensions	W 106mm x H 90mm x D 58mm (6 DIN)
Casing Material	Self-extinguish Noryl
Colour	Grey RAL 7035
Certification	CE marked

[illegible]



Usage warning

Electrical tension may cause electric shock and severe burns. Be sure to turn off the electrical supply before carrying out any type of work on the connectors. Omission of observation of these safety measures may cause death or severe lesions to people as well as great material damage.

The appliances of the YACHTICA System must be installed and used exclusively by adequately trained and qualified personnel.

Before proceeding with the use of the appliances, make sure to have correctly carried out the installation procedures indicated in this installation manual.

Before proceeding with the use of the appliances, make sure that the electric installation, carried out by a qualified technician in conformity with the Technical Norms, corresponding to the class of homologation of the vessel, in vigour, is provided with the devices prescribed for the protection against direct and indirect contacts and electrical surcharges.

The appliances of the YACHTICA System must be exclusively used in connection with appliances and external components which are conformed to the Norms comparative to the product.

The appliances of the YACHTICA System must be exclusively used in marine environment.

Do not use the appliance if, upon visual inspection, it shows deterioration of the enclosing box or if the screening wraps of the feeding cables show any wear and tear or damage.

The YACHTICA System may not be used to carry out safety and accident prevention functions since it does not have the redundancy requirements lawfully requested.

VIAREGGIO YACHTING CORPORATION S.r.l. shall only be held responsible for products repaired or eventually modified by Technicians of its Technical Assistance Team or by persons/companies expressly authorized by VIAREGGIO YACHTING CORPORATION S.r.l. to carry out such operations and only if such product/s is/are connected to an electrical installation realized in conformity with the Technical Norms in vigour and is/are used by qualified personnel solely in conformity with the Instructions of Use.

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Conformity declarations

All the devices of the Yachtica System is designed and tested with the requirements of the European EMC Directive 89/336 and in accordance with the Low Voltage Directive 93/68



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