

PX173

Rail DMDC Merger

Manual



CONTENTS

1. General description.....	1
2. Safety conditions.....	1
3. Rules of creating a DMX installation.....	2
4. View of the front panel.....	3
4.1. Button features.....	3
5. Programming.....	3
6. DMX signal connection characteristics.....	4
7. Connection scheme.....	6
8. Technical specification.....	6
9. Declaration of conformity.....	7

Manufacturer reserves the right to make modifications in order to improve device operation.

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1. GENERAL DESCRIPTION

The DMX-512 standard is a protocol that defines the serial control data transmission for 512 channels. Many of the produced controllers does not use the full packet of 512 addresses and sends out the data for a lesser number of channels. In some installations, where a few of such controllers operate, there is a need to "sum up" the outputs of the particular devices and send them out through the single DMX route.

DMX Merger is a device that allows to add up the DMX signals - receive the data from a few inputs, arrange them in a proper order and send them into a single 512-channels output.

PX173 DMX Merger is an adder of two 512-channels inputs. The device installation is confined to power supply connection and pinning the DMX control cables (with the standard 3-pin XLR-3 plugs and sockets). The facilities of the DMX installation control and maintenance are the LED indicators of the DMX signal presence in the particular input routes ("A" and "B") and the built-in special control system with the operation mode display, that allows to control entirely the receivers in the DMX route. The receivers must be connected in series forming the chain, on the output of the last device the terminator (110 Ohm resistor) must be installed.

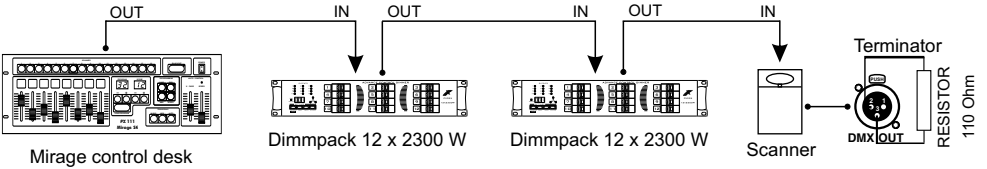
2. SAFETY CONDITIONS

PX173 DMX Merger is powered with safe voltage 12-24V; however, during its installation and use the following rules must be strictly observed:

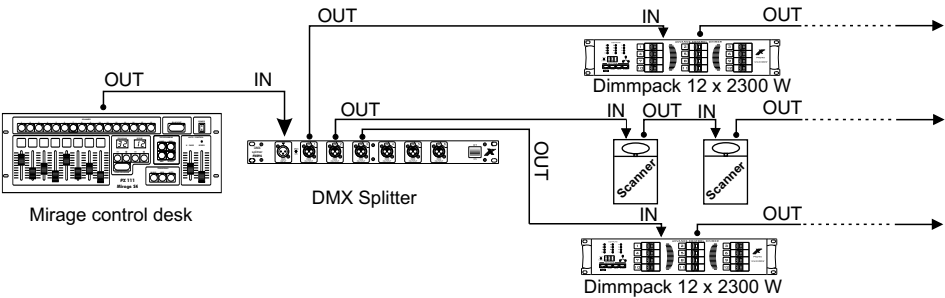
1. The device may only be connected to 12-24V DC current (stabilized voltage) with current-carrying capacity compatible with technical data.
2. Installation of the device have to be performed in accordance to description in this manual.
3. All the conductors should be protected against mechanical and thermal damage.
4. In the event of any conductor damaging, it should be replaced with the one of the same technical specification.
5. Connection of DMX signal should be made with shielded conductor.
6. All repairs and connections of outputs or DMX signal can only be made with power off.
7. PX173 should be strictly protected against contact with water and other liquids.
8. All sudden shocks - particularly dropping - should be avoided.
9. The device cannot be turned on in places with humidity exceeding 90%.
10. The device cannot be used in places with temperature lower than +2°C or higher than +40°C.
11. For cleaning use only a damp cloth.

3. RULES OF CREATING DMX INSTALLATION

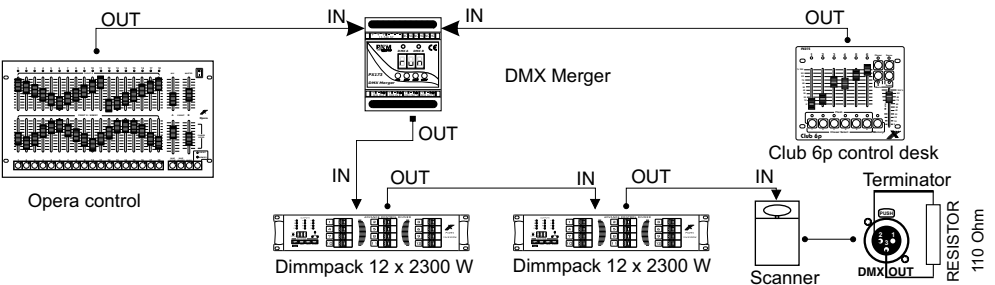
DMX-512 is a typical installation in series. That is why all the receiving devices (effects) are always equipped with two sockets for DMX connection: one input socket ("IN") and one output socket ("OUT"). The signal from the controller gets to the first device and then, from its output, to the second, etc. At the end of a line created in such way the terminator must be installed (see the illustration below).



There are some situations, when the DMX line must be splitted (eg. to save on the cables). In such case you need to apply a device called DMX Splitter.

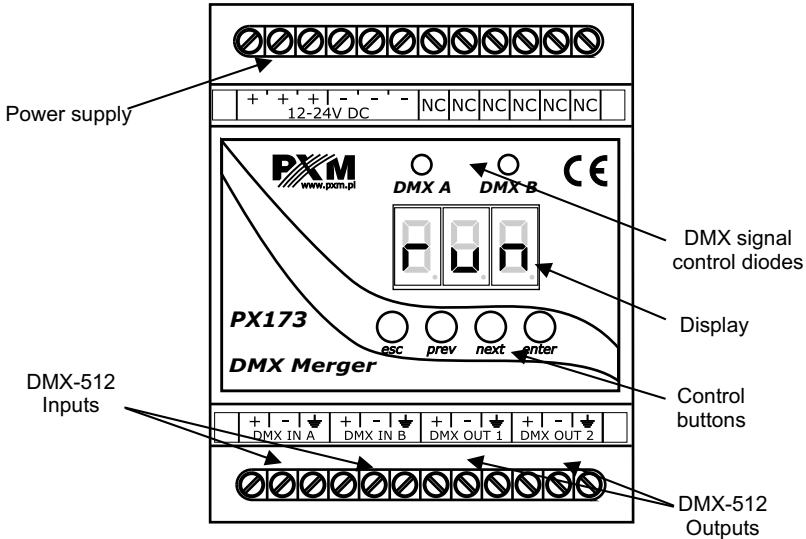


Sometimes you are faced with the opposite situation: two DMX signals going out from different controllers through the independent lines need to be summed up and sent further through one, common line. The typical example is the theatre, where the main console is used for lighting control during the performance. During the day this console is off and inaccessible. That is why the second, smaller console can be placed near the scene. Both these consoles control the same lights. In such case the DMX line adder, that is DMX Merger, must be applied.



Apart from two-lines summing, the Merger popularises the wide range of possibilities of defining the dependences between inputs. For the precise description see the further part of the manual.

4. VIEW OF THE FRONT PANEL



4.1. BUTTON FEATURES

- ENTER - enters the next MENU level and confirms changes made,
- CANCEL - goes back to the previous MENU level or discards changes made,
- NEXT - scrolls to the next feature on the same MENU level or increases the parameter's value,
- PREV - scrolls to the previous feature on the same MENU level or decreases the parameter's value

5. PROGRAMMING

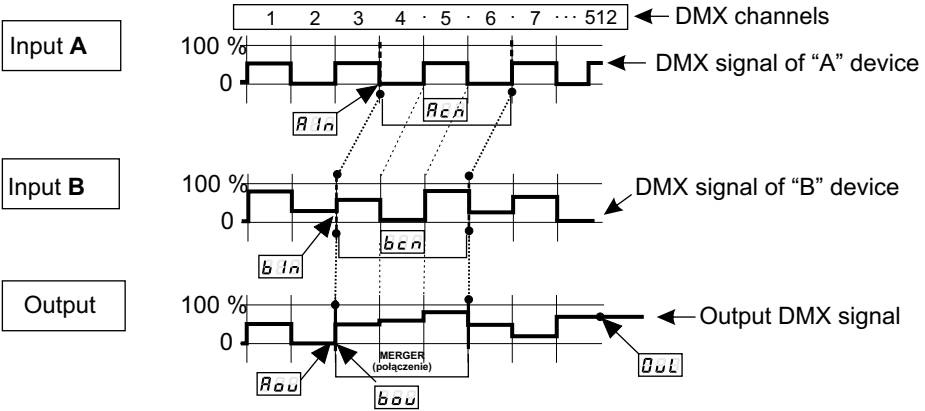
The point of merger programming is to define a number of DMX addresses and the number of data in the input lines, and determining the dependences that occur between them.

In a basic operation mode the **Fun** inscription is displayed.

To enter the programming mode, press the ENTER key.

6. DMX SIGNAL CONNECTION CHARACTERISTICS

The example of summing up of 2 channels with the comparison feature **H11**.



000 Merger basic operation mode.

ENTER
000 Output 1 programming.

ENTER
A00 Number of the first summed channel of the A input.

NEXT
A20 Number of the summed channels from the A input.

NEXT
A00 Number of channel on the output 1, where the first (selected in **A00**) channel is going to get.

NEXT
b00 Number of the first summed channel of the B input.

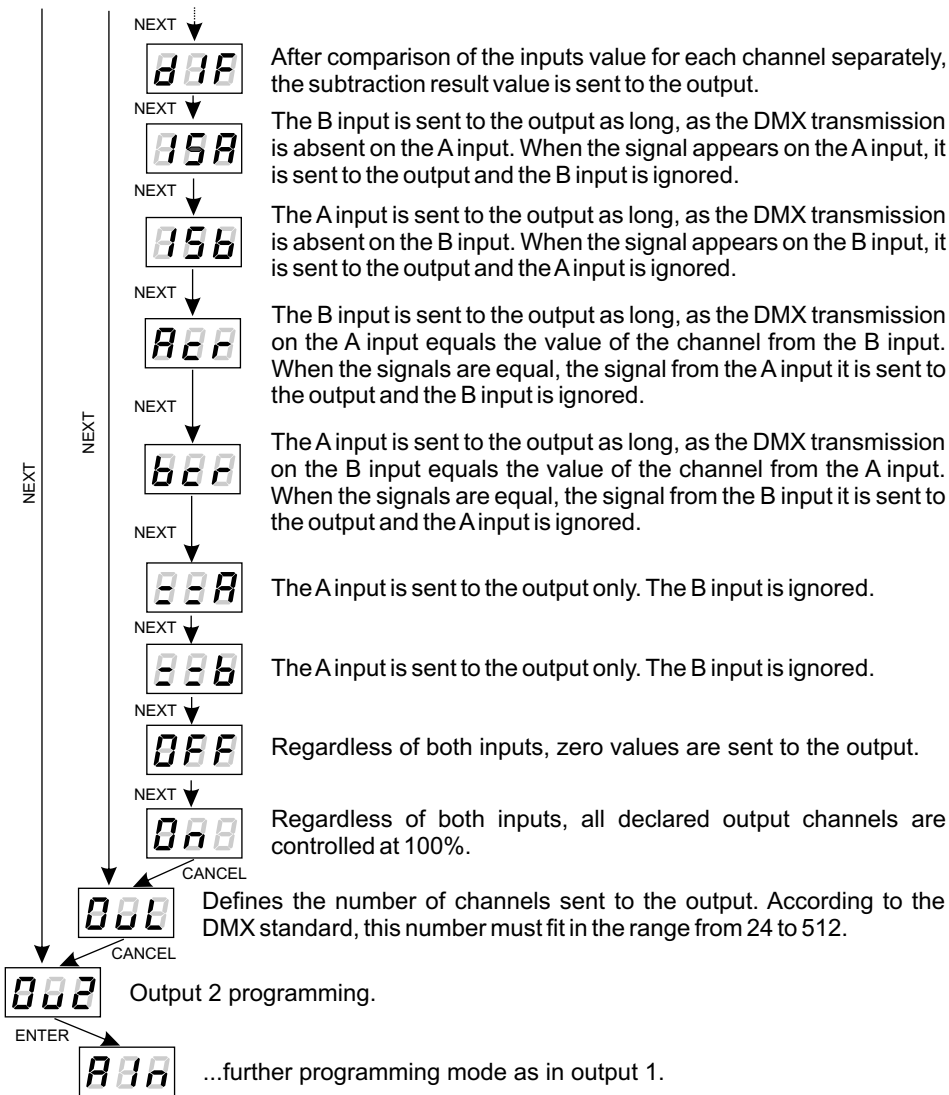
NEXT
b20 Number of the summed channels from the B input.

NEXT
b00 Number of channel on the output 1, where the first (selected in **b00**) channel is going to get.

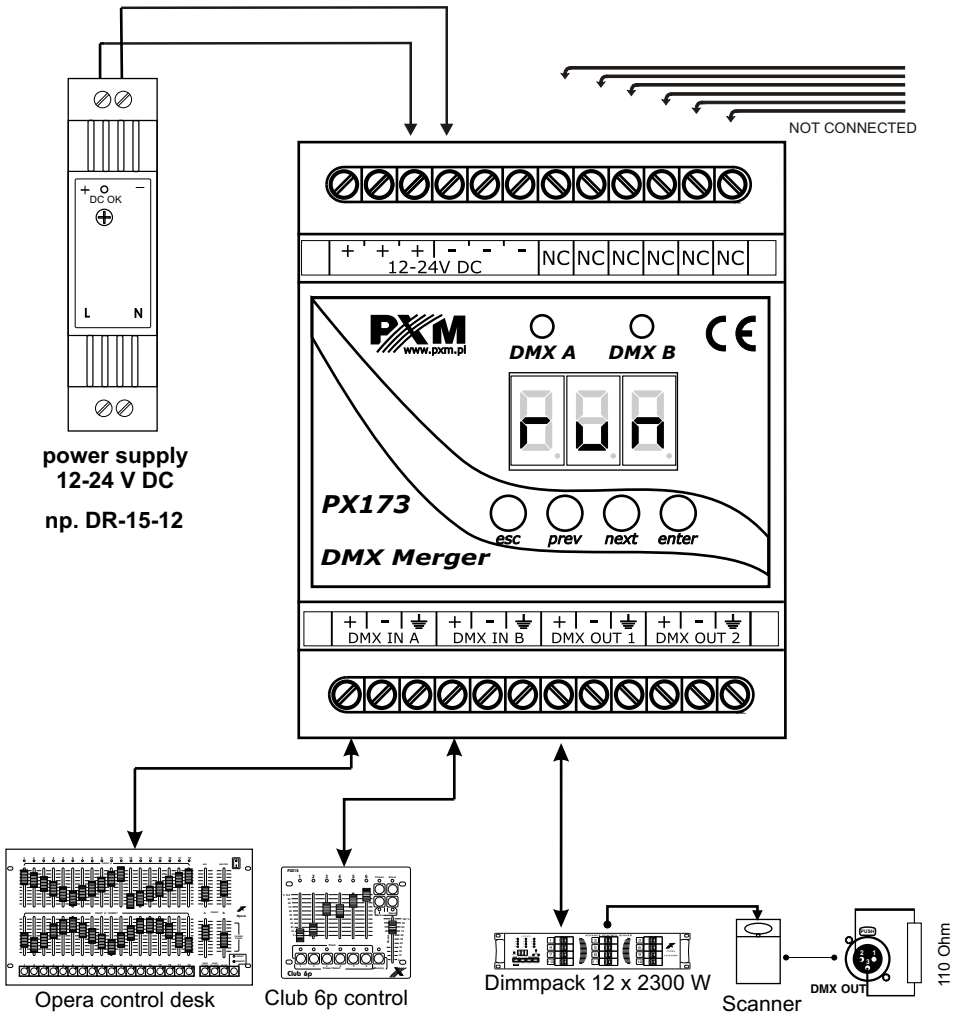
NEXT
F00 Mode of execution of the dependences between the corresponding channels.

ENTER
H00 After comparison of the inputs value for each channel separately, the greater value is sent to the output.

NEXT
000 After comparison of the inputs value for each channel separately, the smaller value is sent to the output.



7. CONNECTION SCHEME



8. TECHNICAL SPECIFICATION

- | | |
|-----------------------|-----------------|
| - DMX input | terminal blocks |
| - DMX output | terminal blocks |
| - Power supply | 12 - 24 V DC |
| - Current consumption | max. 4 W |
| - Dimensions: | |
| - width | 70 mm |
| - height | 86 mm |
| - depth | 60 mm |





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DECLARATION OF CONFORMITY according to guide lines 2004/108/WE

Name of producer: PXM s.c.

Address of producer: ul. Przemysłowa 12
30-701 Kraków, Poland

declares that the product:

Name of product: **Rail DMX Merger**

Type: **PX173**

answers the following product specifications:

PN-EN 55103-1
PN-EN 55103-2

Additional informations: DMX signal connection must be made with a shielded cable, connected to pin GND.

Kraków, 20.04.2010

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