PX159

8 Relay Module

INSTRUCTION MANUAL

PXM®

CONTENTS

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

1. GENERAL DESCRIPTION

PX159 8 Relay Module is a device that allows to switch the stage effects or architectural illuminators through the DMX-512 signal. The module contains 8 relays, that control the on / off type outputs.
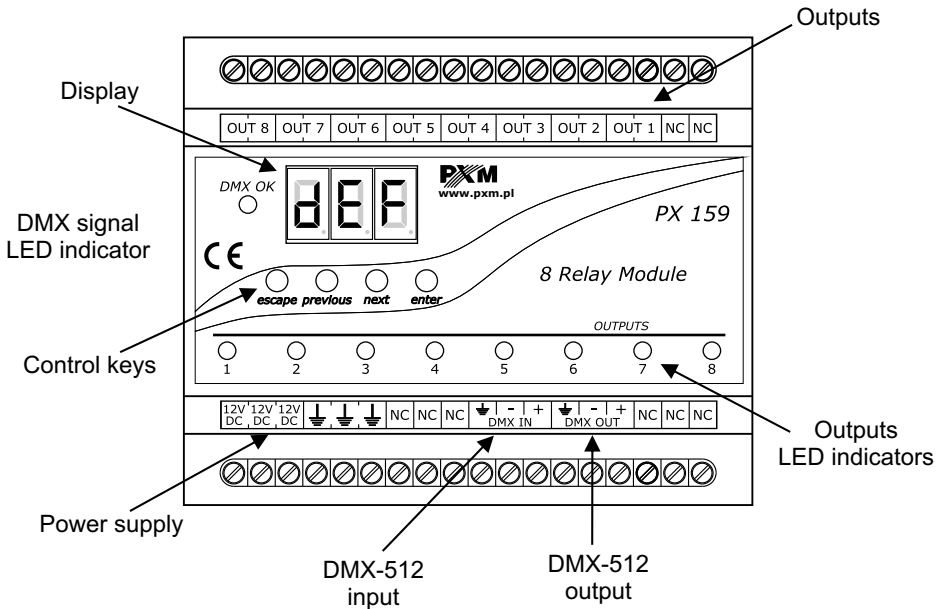
The device menu allows to program the DMX address for all the output channels, set the characteristics for electric motor control, select a device reaction to DMX signal absence or interruption and to define four scenes and two programs, composed of ten steps maximum each.

The device is equipped with the DMX-512 signal input and output. It is manufactured in a casing adapted for 35 mm DIN rails mounting.

2. SAFETY CONDITIONS

PX159 is a device powered with safe voltage 12 V; however, during its installation and use the following rules must be strictly observed:

1. The device may only be connected to 12 V DC current (stabilized voltage) with current-carrying capacity compatible with technical data.
2. All the conductors should be protected against mechanical and thermal damage.
3. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data and attestations.
4. Connection of DMX signal can only be made with shielded conductor.
5. All repairs and connections of outputs or DMX signal can only be made with power off.
6. In case of connection to the output relays the 230 V voltage the particular precautionary measures must be strictly observed because of electrick shock danger.
7. PX159 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. Clean with damp duster only.

3. COUPLINGS AND CONTROL ELEMENTS DESCRIPTION

Outputs

Display

| OUT 8 | OUT 7 | OUT 6 | OUT 5 | OUT 4 | OUT 3 | OUT 2 | OUT 1 | NC | NC |

DMX OK

PXM
www.pxm.pl

PX 159

DMX signal
LED indicator

CE

escape previous next enter

8 Relay Module

OUTPUTS

1   2   3   4   5   6   7   8

Control keys

| 12V DC | 12V DC | 12V DC | | | | NC | NC | NC | - + DMX IN | - + DMX OUT | NC | NC | NC |

Outputs
LED indicators

Power supply

DMX-512
input

DMX-512
output

4. PROGRAMMING

After turning the device on, software version is displayed on the screen. During the device normal operation the screen displays only one dot signalling operation of the device. Press ENTER to switch to the main menu, the display will show ALL . Press PREVIOUS or NEXT to select programming menu (ALL , Ind , dEF), and then press ENTER to confirm your selection.

4.1. MOVING AROUND THE MENU

escape - exits the currently programmed parameter without saving changes or returns to the previous menu level
in addition, by pressing the ESCAPE key in the basic operation mode you can perform the test of the display and DMX signal LED indicator
previous - scrolls the menu backwards or decreases the values set
next - scrolls the menu forwards and increases the values set
enter - enters the programming mode or next submenu and confirms the values set

4.2. MENU SCHEME

4.2.1. ALL menu
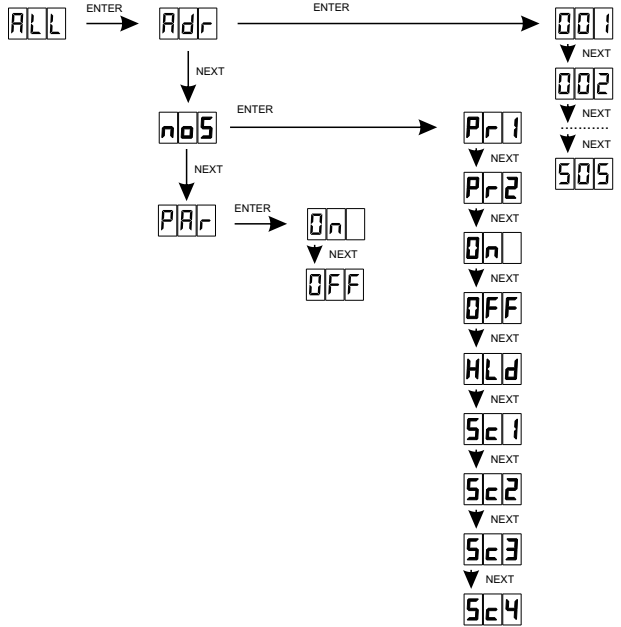
4.2.2. Ind menu
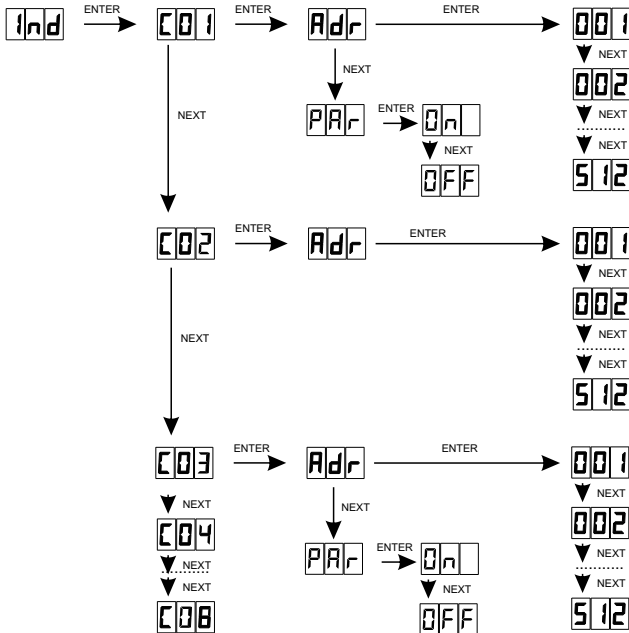
4.2.3. dEF menu
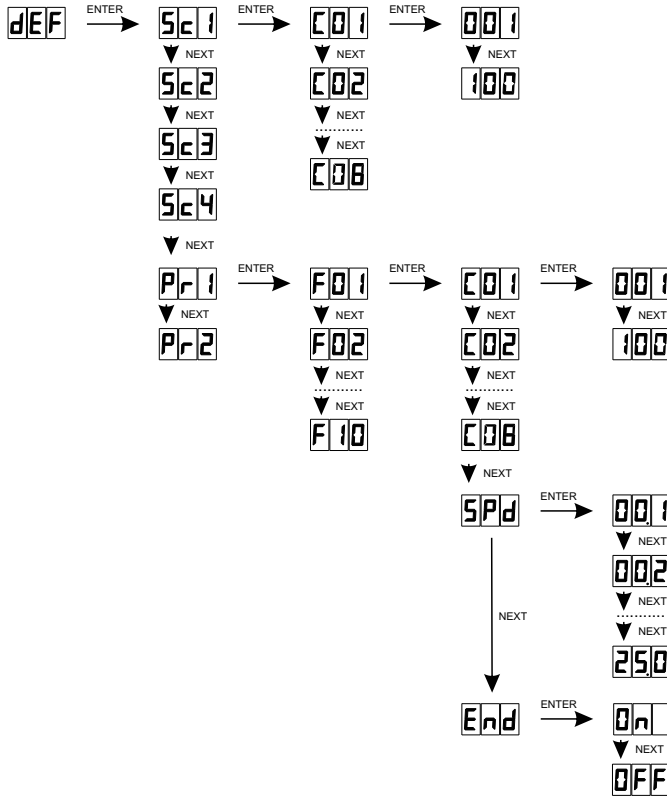
4.3. GROUP RARAMETERS PROGRAMMING (ALL MENU)

Programming in this menu is common for all channels. After selecting `ALL` in the main menu confirm your selection by pressing ENTER and then, using the keys NEXT or PREVIOUS, select the parameters to be set:

`Adr` - DMX address,

`noS` - device's response to fading of DMX signal,

`PAr` - special characteristics for electric motor control

and confirm your selection by pressing ENTER.

4

4.3.1. DMX address

After selecting `Adr` in `ALL` menu confirm your selection by pressing ENTER. Use the keys PREVIOUS or NEXT to set the required DMX address by selecting the value from 1 to 505 and press ENTER. The address set will be awarded to channel 1; other channels will be awarded subsequent DMX addresses. When setting address 1, channel 8 will have address 8. Select another parameter to set or press ESCAPE to return to the main menu.

Programming the DMX address in this menu deletes the previously programmed individual addresses settings.

4.3.2. Device reaction to DMX signal interruption

After selecting `noS` in `ALL` menu confirm your selection by pressing ENTER. Use the keys PREVIOUS or NEXT to select the required option and press ENTER.

> `Pr1`, `Pr2` - programmes which can be defined in `dEF` menu
>
> `Sc1`, `Sc2`, `Sc3`, `Sc4` - scenes which can be programmed in `dEF` menu
>
> `On` - turning all outputs on at 100%
>
> `OFF` - turning all outputs off
>
> `Hld` - outputs remain with such control values as at the time of DMX signal fading.

Select another parameter to set or press ESCAPE to return to the main menu.

When the characteristics for electric motor control (`PAr`)is set `On` the `noS` parameter is always automatically turned off. It is possible to change this parameter's value, but one must remember, that only one output in pair will be active (refer to p. 4.3.3).

4.3.3. Characteristics for electric motor control

After selecting `PAr` in `ALL` menu confirm your selection by pressing ENTER. Use the keys PREVIOUS or NEXT to select the required characteristics and press ENTER.

> `OFF` - does not affect the module operation
>
> `On` - links the output in pairs - 1st and 2nd, 3rd and 4th, 5th and 6th, 7th and 8th. When one output in pair is DMX controlled, the second one remains inactive, even if DMX signal is put. After the first output is turned off, the signal can appear on the second one. Also a tiny delay (approx. 1 second) is implemented between switching the outputs in pair on / off.

Select another parameter to set or press ESCAPE to return to the main menu.

ATTENTION! When the motor is connected to the relay module, it always has to be plugged to a pair of outputs (eg. 1st and 2nd, 3rd and 4th, etc.) to avoid short circuit when the motor phases are switched!

4.4. INDIVIDUAL PARAMETERS PROGRAMMING (Ind MENU)

This menu allows for setting the DMX address individually for all 8 channels and set characteristics for electric motor control for every second output (1st, 3rd, 5th and 7th) individually.

When the characteristics is set the pairs of outputs are created and operate according to the algorithm described in p. 4.3.3. After selecting `Lnd` in the main menu confirm your selection by pressing ENTER.

1. Use the keys PREVIOUS or NEXT to select the channel to be set (`C01` ... `C08`) and press ENTER.
2. The display will show `Adr` . Press ENTER to set the address of the channel edited. Using the keys PREVIOUS or NEXT select the value from 1 to 512 and press ENTER.
3. Press NEXT to set characteristics (odd outputs only). `PAr` will be displayed. With PREV and NEXT keys set the characteristics to `On` or `OFF` . Press ENTER to confirm.
4. Press ESCAPE to return to `Lnd` menu and set the other channels according to the procedure from sections 1, 2 and 3 if needed.
5. Press ESCAPE to return to the main menu.

4.5. SCENES AND PROGRAMS DEFINING (dEF MENU)

In this menu you can set programmes and scenes which can be reproduced later in the event of lack of DMX signal (see section 4.3.2.). After selecting `dEF` in the main menu confirm your selection by pressing ENTER. Then use the keys PREVIOUS or NEXT to select one of the programmes (`Pr1`, `Pr2`) or one of the scenes (`Sc1`, `Sc2`, `Sc3`, `Sc4`) and press ENTER. In the programmes, you can set the brightness of each channel for each step, step duration time, and, if necessary, the number of steps can be limited (maximum number of steps is 10). In the scenes, you can set the brightness of each channel. All scenes and programmes are preset; however, they can be adjusted for your needs in line with the procedure described in sections 4.5.1 and 4.5.2.

4.5.1. Scenes

1. In `dEF` menu select the scene to be set and press ENTER. The display will show `C01` (channel one). Press ENTER to edit this channel.
2. Using the keys PREVIOUS or NEXT select if you want the edited channel to be switched on (100 value) or off (0 value) and confirm your selection by pressing ENTER.
3. Using the keys PREVIOUS or NEXT select other channels to edit and repeat the procedure from section two.
4. Press ESCAPE to return to `dEF` menu and repeat the procedure from sections 1, 2 and 3 for other scenes.
5. Press ESCAPE to return to the main menu.

4.5.2. Programs

1. In `dEF` menu select the programme to be set and press ENTER.
2. The display will show `F01` - this is step 1 of the programme. Press ENTER to edit this step or use NEXT to pass to the next step and press ENTER.
3. The display shows `C01` - channel 1. Press ENTER to edit this channel or use NEXT to pass to the next channel. Set the value of channel control with keys PREVIOUS or NEXT and confirm

your selection by pressing ENTER.

4. Set the value of other channels control level by following the procedure from section 3.

5. By pressing NEXT select ⎡SPd⎤ and press ENTER to set the duration of the step edited. Using the keys PREVIOUS or NEXT select the value from 0.1 second (⎡00.1⎤) to 25 seconds (⎡25.0⎤) and confirm your selection by pressing ENTER.

6. Press NEXT. The display will show ⎡End⎤. Press ENTER, and then use the keys PREVIOUS or NEXT to select ⎡On⎤ and press ENTER if you want the step edited to be the last in the programme. If not, select ⎡OFF⎤.
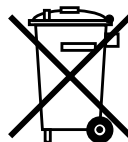
7. Press ESCAPE to leave step editing.

8. Set the remaining steps by following the procedure from sections 2 to 7.

9. Press ESCAPE to leave programme editing.

10. Select another programme to edit and repeat the procedure from sections 2 to 9 or press ESCAPE to return to the main menu.

5. TECHNICAL SPECIFICATION

- DMX channels   512
- power supply   +12 V DC
- current consumption   320 mA max.
- output channels number   8
- outputs load capacity   2 A, 250 V AC / channel max.
- output sockets   clamping screws

- dimensions:
  - width   105 mm
  - heigth   53 mm
  - length   85 mm

6. CONNECTION DIAGRAM

np. halogens

230 V AC

N

L

OUT 8 | OUT 7 | OUT 6 | OUT 5 | OUT 4 | OUT 3 | OUT 2 | OUT 1 | NC | NC

DMX OK

dEF

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8 Relay Module

CE

escape previous next enter

OUTPUTS

1   2   3   4   5   6   7   8

12V 12V 12V
DC DC DC | NC NC | DMX IN | DMX OUT | NC NC NC

power supply
12 V DC

DMX driver

effect (ex. lamp)

MEAN WELL

Club 6p

PX015

8

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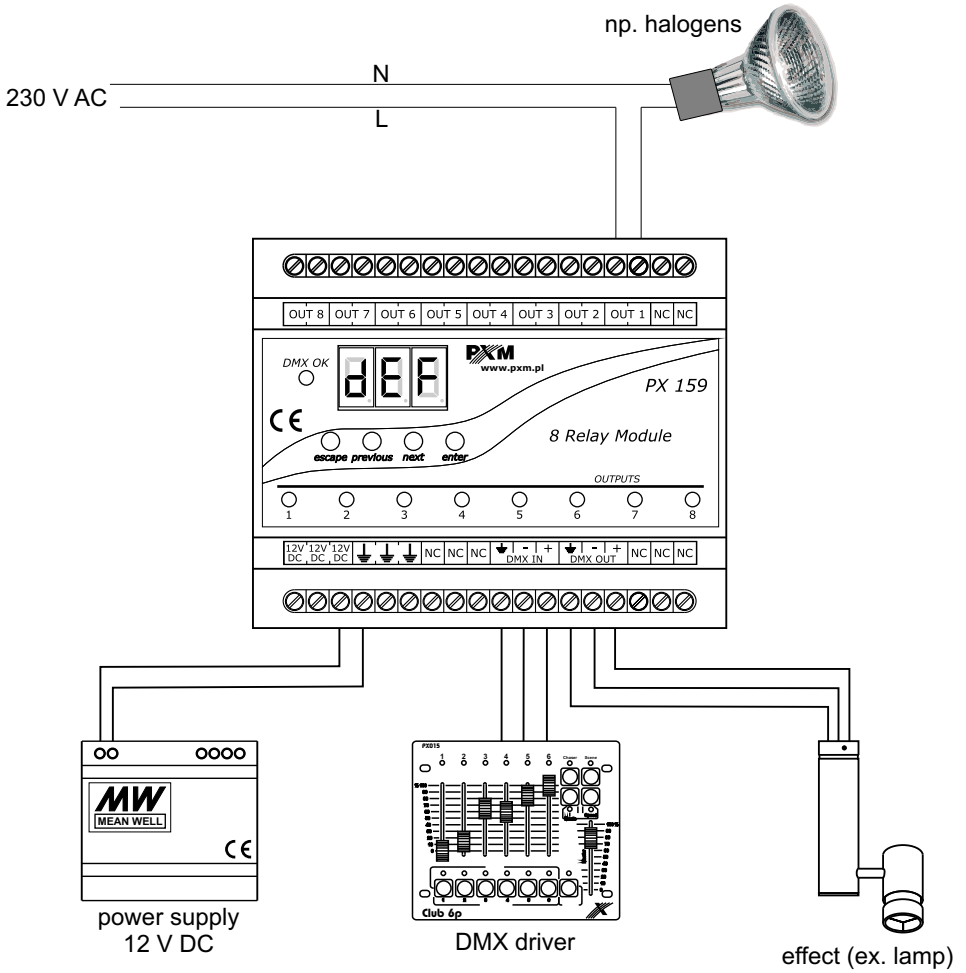
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DECLARATION OF CONFORMITY
according to guide lines 89/336/EWG

Name of producer: PXM s.c.

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

declares that the product:

Name of product: **8 Relay Module**

Type: **PX159**

answers the following product specifications:

EMC: **PN-EN 55103-1**
                                PN-EN 55103-2

Additional informations: DMX signal connection must be shielded and the
                                shielding must be connected to pin 1 of the DMX plug.

PXM S.C.
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Kraków, 01.04.2008

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