PX329

PxSpotBar

User manual

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

PXM Marek Żupnik sp.k.
Podłęże 654
32-003 Podłęże
BDO register number 000005972

tel. +48 12 385 83 06
mail: info@pxm.pl
www.pxm.pl

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1 Description

The PxSpotBar lamp is designed for illumination of museums exhibitions or displays. Thanks to the use of advanced control electronics, a high-quality illuminator was created, meeting the high requirements for museum and exhibition lighting. Its most important advantages include a complete lack of ultraviolet radiation emission, trace amounts of infrared radiation, a very high factor of CRI color capturing, large brightness and small energy consumption.

The lamp can be configured using the PxArt+ Settings Controller or using the RDM protocol, which has been implemented in the device. The PX329 can be controlled by a DMX signal or it can operate independently in the event of loss or absence of a DMX signal.

Each spot (depending on version: 2, 3 or 4) can be freely set, thanks to the possibility of changing the lighting direction in two axes.

2 Safety conditions

Caution! Before installing, connecting and using the lamp you have to absolutely read this document.

The following symbols are used to underline important information on security conditions on the product and in this manual.

Danger!
Risk of loss of life and health.

Warning!
Fire hazard.

Warning!
LED light emission. The risk of eye damage.

Warning!
The risk of burns.

Warning!
Read the instruction manual.

Caution!

Do not look at the LEDs, LEDs can cause damage or eye irritation. Do not look at the light source with any optical devices that focus the light rays.

Light is harmful to unprotected eyes, can cause irritation, eye damage or even loss of eyesight.

While working outdoors in normal conditions, the housing unit can heat up to +65°C. Make sure that accidental contact with the device during use is impossible.

In case of improper usage of the product it may cause a risk of serious injury or death because of the threat of fire.

PX329 is powered directly from standard 230V grid, what can cause electric shock when safety rules are not observed. Therefore it is necessary to observe the following:

1. Installation should be performed by a person holding the appropriate qualifications, according to the instruction manual.
2. The electrical installation to which the lamp is to be connected must meet the safety requirements (the installation must be 3-wire and equipped with a residual current device).
3. All the conductors should be protected against mechanical and thermal damage.
4. In the event of damaging any conductor, it should be replaced with a conductor of the same technical data and attestation.
5. All repairs and connections of outputs can only be made with cut off power supply.
6. Do not connect to the power supply to device with visible damage.
7. All sudden shocks, particularly dropping, should be avoided.
8. The device cannot be used in places with temperature lower than +2°C or higher than +40°C.
9. Clean with damp duster only.

3 Information on version

Below there is a description of designation of the PX329 models and their explanation:

PX329-UU-WW-YYY-Z

UU – version:
X2 – double spot
X3 – triple spot
X4 – quadruple spot

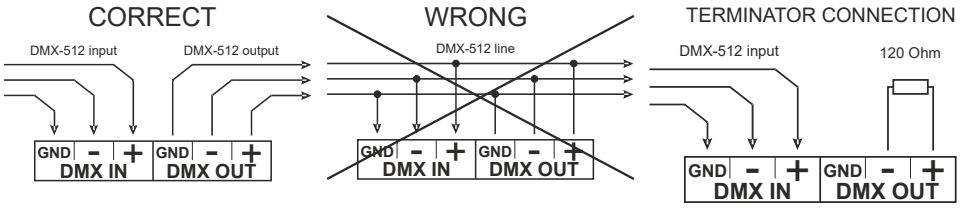
WW – beam angle:
25 – 25°
40 – 40°

Z – housing colors:
1 – gray
2 – black
3 – white

YYY – CRI and color temperature:
927 – CRI 90, 2700K
930 – CRI 90, 3000K
940 – CRI 90, 4000K
950 – CRI 90, 5000K
965 – CRI 90, 6500K

4 DMX signal connecting

PX329 have to be connected to DMX line in serial mode, with no branches on DMX control cable. That means that DMX line, from the signal source, must be connected to ***DMX input*** pins of PX329 and later, directly from ***DMX output*** pins to the next device in DMX chain. If the PX329 is the last DMX chain receiver there should be terminator (resistor 120 Ohm) mounted between ***DMX+*** and ***DMX-*** pins of ***DMX output*** section.



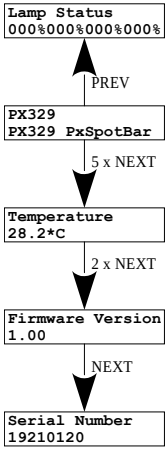
5 Device programming

The PxSpotBar settings can be changed by connecting to the PX277 (PxArt+ Settings Controller). It allows in connection with PX329 to define following parameters: the start DMX address of the lamp, device behavior in the absence of DMX signal, *Smooth* parameter and refresh rate.

When the configurator is connected to the lamp, the PX329 will restart.

5.1 Description of information parameters

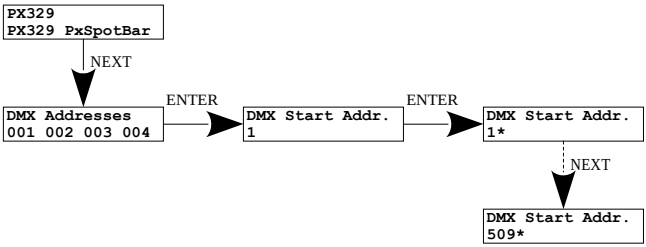
The PX277 configurator allows to read important information about the lamp to which it is connected. These are: the level of control of each spot, presented separately as a percentage, device temperature, model, version of installed software in PX329 and serial number.



5.2 Setting the DMX address

PX277 allows to change the start DMX address. The DMX channel can be set in the range from 1 to 509 / 510 / 511 (depending on the number of sports). The user gives the address of the first spot, subsequent spots will be addressed automatically – with subsequent DMX addresses.

The following diagram shows the setting of the DMX address for a lamp



with four spots.

5.3 No DMX signal response

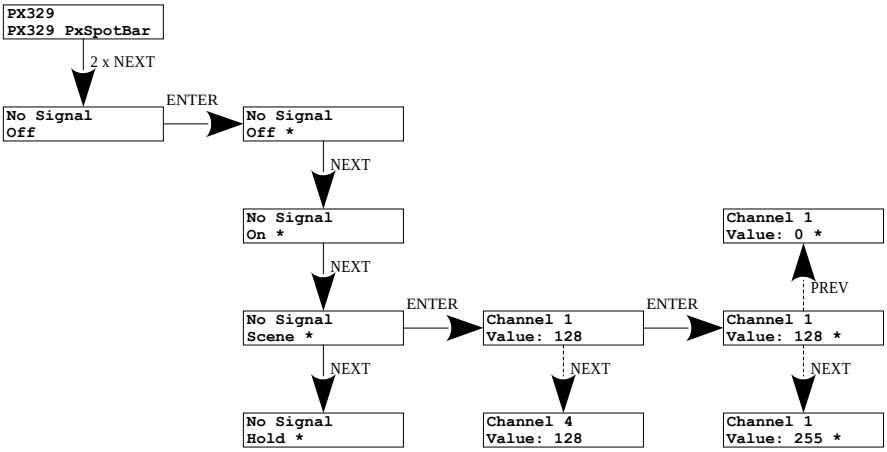
In the [No Signal] menu, it is possible to set the device response to DMX signal loss.

Available options to choose from:

- Off – turning off the lamp completely
- On – activation of all outputs at 100%
- Scene – programmable by the user – each spot can have a separately set power in the range of 0 – 255
- Hold – maintaining the last value of the DMX signal

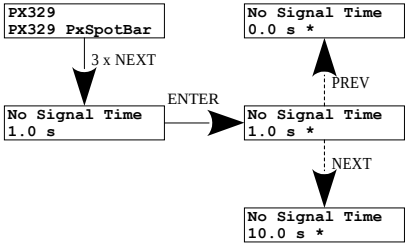
Reconnecting the DMX signal will automatically break the realized function and the module will once again follow the commands transmitted via the DMX line.

The diagram below shows the setting of the response to the lack of DMX signal for a lamp with four spots.



An additional parameter is **[No Signal Time]**, which defines the entry time of the selected option in the **[No Signal]** menu. This parameter is set in the range of 1 to 10 seconds.

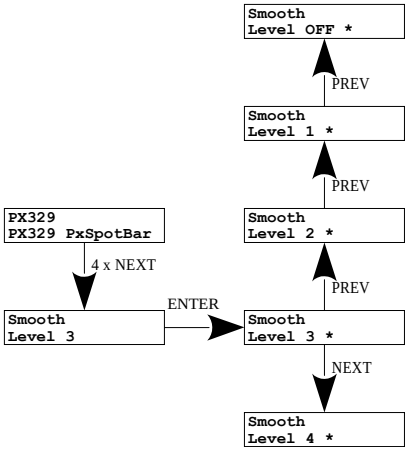
For example, if the time is set to 10 seconds, the reaction to the fading of the signal is the scene programmed by the user, it means that after the disappearance of the DMX signal, the scene will smoothly “enter” for 10 seconds.



5.4 Smooth

The device is equipped with a smooth option. Smoothing allows for smooth changes of brightness, without visible jerks, which prevents the effects of “vibration” of light from lighting installations. Be default, this option is enabled on level 3 – **[Level 3]**, to change the smoothing level or to completely turn it off, use the program selector to select **[Smooth]**. The options are:

- **Off** – smoothing off
- **Level 1 – 4** – level of smoothing adjustable in the range from 1 to 4 (1 – fast, 4 – very fluent)

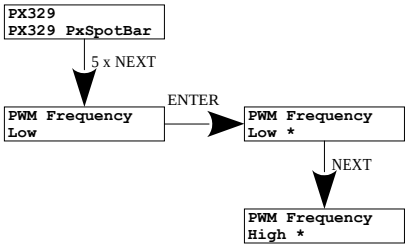


5.5 Light control frequency

The ***PWM Frequency*** function allows to set the basic LED control frequency in the LED lamp. This function is extremely useful in applications for the television industry. By applying the “flicker free” technology, it is possible to avoid the unpleasant flickering effect which is caused by improper

signal synchronization that controls the LEDs. The user can choose two frequencies: **Low** and **High**, which correspond to the following frequencies: 366Hz and 1.4kHz.

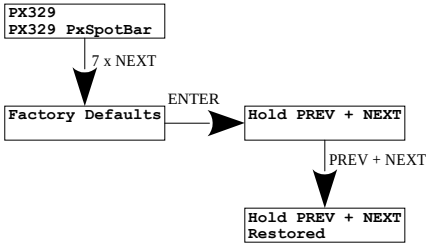
The **High** frequency value allows to avoid the flickering effect visible in the cameras.



5.6 Restoring factory settings

There is also the option allowing to restore default settings. In order to use this option, select the **[Factory Defaults]** menu and press "*enter*" button in PX277.

A window will be displayed prompting you to press the "*prev*" and "*next*" keys at the same time and keep them depressed for two seconds. The device then displays the message "*Restored*", which means that the default settings have been restored.

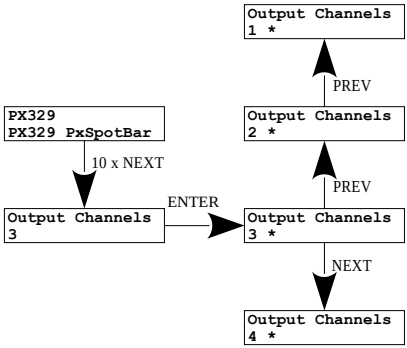


PX329 default settings:

- **DMX Start Address**: 1
- **No signal**: Off
- **No Signal Time**: 0.1 s
- **Smooth**: Level 3
- **PWM Frequency**: Low

5.7 Number of sports

The PX329 has a menu for selecting the number of spots in the lamp. By selecting the [Output channels] option in the menu, you can select the number of spots in the range from 1 to 4. Incorrect setting of the number of spots in the lamp may cause incorrect operation of the lamp.



NOTE! Changing this parameter restores factory settings on the device.

6 RDM – available parameters

PX329 supports the DMX-RDM protocol. DMX protocol in its assumption enables one-way data flow while its extension, the RDM protocol, can transmit information in two ways. This makes the simultaneously receiving and sending of information possible and allows for monitoring the operation of device compatible with the RDM protocol as well as gives the possibility of changing the configuration of their parameters.

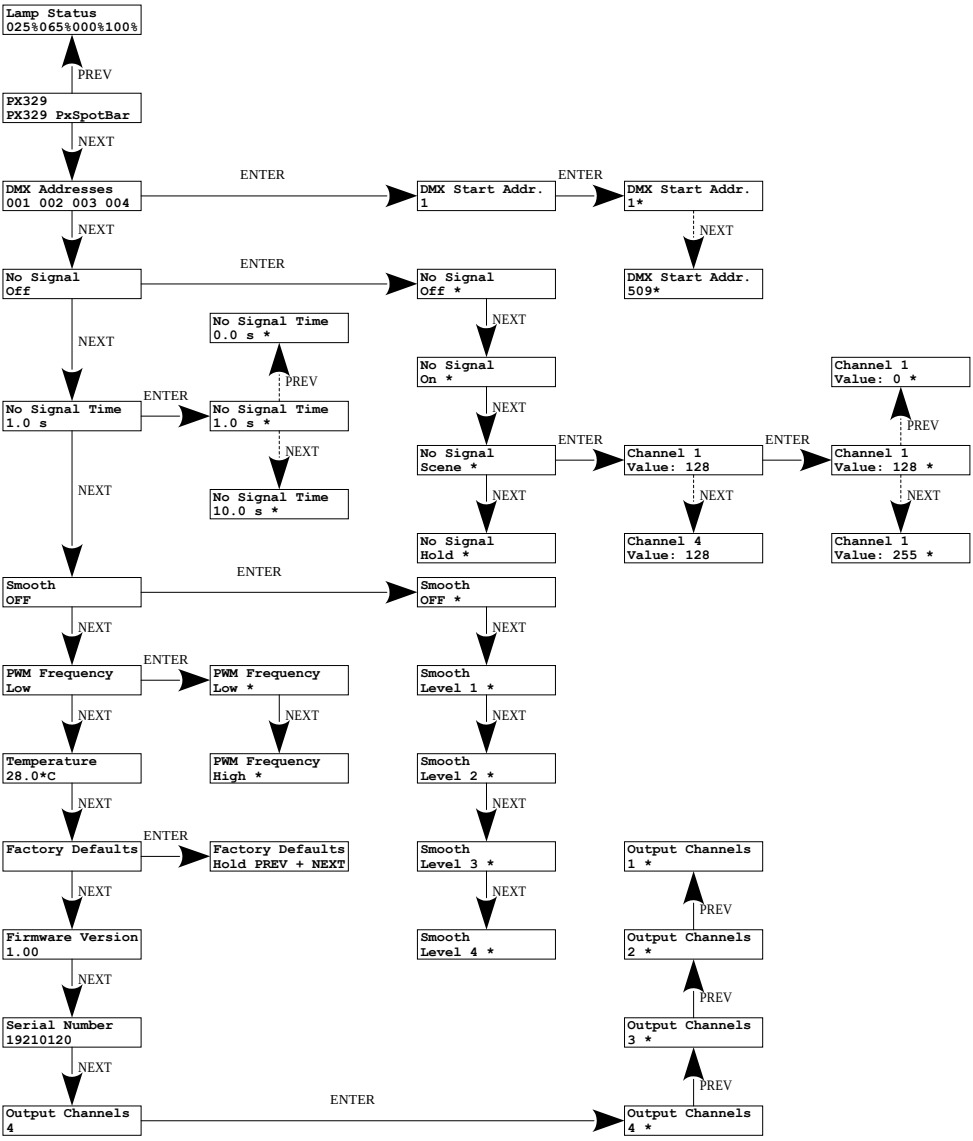
List of the supported RDM parameters by PX329:

Parameter name	PiD	Description
SUPPORTED_PARAMETERS	0x0050	all supported parameters
PARAMETER_DESCRIPTION	0x0051	description of additional parameters
DEVICE_INFO	0x0060	information concerning the device
SOFTWARE_VERSION_LABEL	0x00C0	firmware version of the device
DMX_ADDRESS *	0x00F0	DMX starting address of the device; Range 1 – 509 / 510 / 511
IDENTIFY *	0x1000	device identification; Two states are possible: identification is off (0x00 value) and identification is on (0x01 value)
DEVICE_MODEL_ DESCRIPTION	0x0080	device description, e.g. name
MANUFACTURER_LABEL	0x0081	manufacturer description, e.g. name
DEVICE_LABEL *	0x0082	additional device description; It is possible to enter an additional device description using up to 32 ASCII characters
FACTORY_DEFAULTS *	0x0090	device default settings
DMX_PERSONALITY	0x00E0	DMX operation mode
DMX_PERSONALITY_ DESCRIPTION	0x00E1	description of individual operational modes
SENSOR_DEFINITION	0x0200	information concerning the selected temperature sensor
SENSOR_VALUE	0x0201	information concerning sensors
SMOOTH_OFF/1/2/3/4 *	0x801A	selection of the *Smooth* option

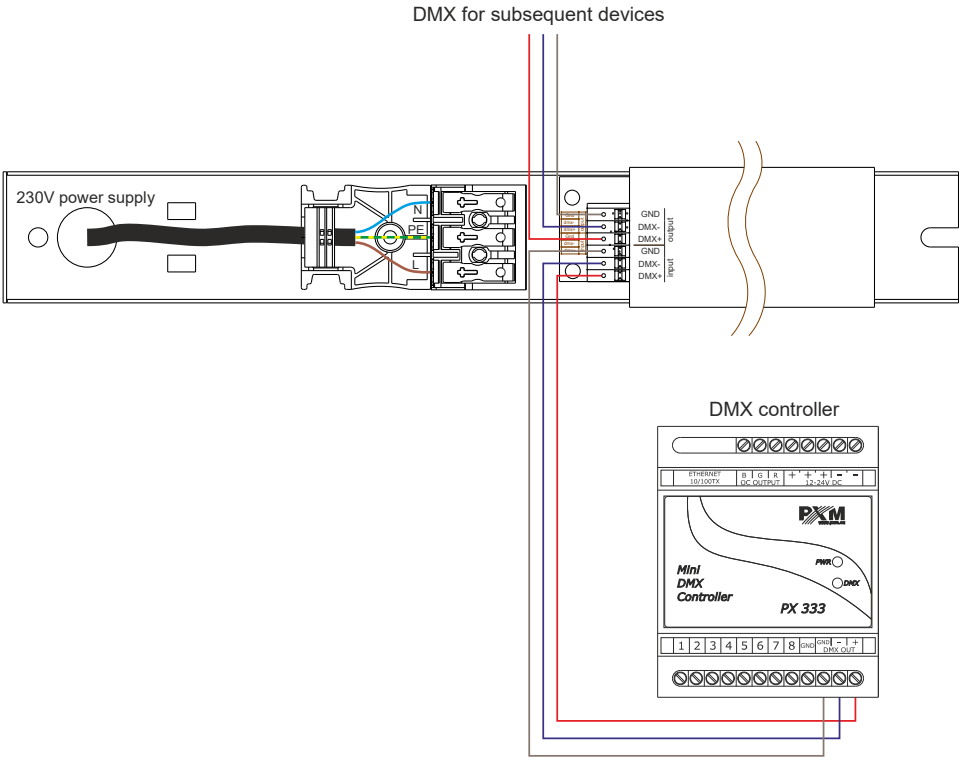
Parameter name	PiD	Description
NO_SIGNAL_OFF_0/ON_1/ SC_2/HLD_3 *	0x801C	selection of operating mode if no DMX signal is available
NOS_TIME *	0x804D	time of entry of selected reaction after DMX signal loss, 0 – 10 seconds
NO_SCENE *	0x8022	the value of the scene after DMX signal decay in the range of 0 – 255
PWM_FREQ_0/1 *	0x8028	LED refresh rate (366Hz or 1.4kHz)
SERIAL_NUMBER *	0x8030	device serial number

* - editable parameter

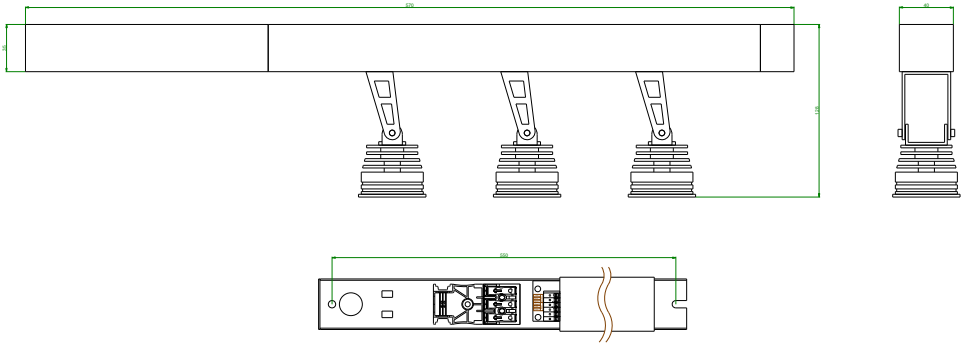
7 Diagram of the PX329 menu in PX277



8 Connection scheme



9 Dimensions



10 Technical data

type	PX329
number of sport	2 / 3 / 4*
beam angle	25°, 40°
power supply	230V AC
color temperature version	2700K, 3000K, 4000K, 5000K, 6500K
CRI index	min. 90
control	DMX, RDM, PX277
housing material	aluminum / stainless steel
available housing colors	gray, black, white
dimensions	length: 570mm width: 40mm depth: 128mm

* - depending on the version

Podłęże, 21.05.2019

DECLARATION OF CONFORMITY

PXM Marek Żupnik spółka komandytowa
Podłęże 654, 32-003 Podłęże

we declare that our product:

Product name:	PxSpotBar
Product code:	PX329

meets the requirements of the following standards, as well as harmonised standards:

PN-EN 60598-1:2015	EN 60598-1:2015
PN-EN 62471:2010	EN 62471:2008
PN-EN 61000-4-2:2011	EN 61000-4-2:2009
PN-EN IEC 61000-6-1:2019-03	EN IEC 61000-6-1:2019
PN-EN 61000-6-3:2008	EN 61000-6-3:2007

and meets the essential requirements of the following directives:

2011/65/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
Text with EEA relevance.

2014/30/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
Text with EEA relevance.

2014/35/UE DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits

PXM
Marek Żupnik spółka komandytowa
32-003 Podłęże, Podłęże 654
NIP 677-002-54-53

mgr inż. Marek Żupnik.