PX319

PX319-HV

Driver LED C.C. 1 x 2A

Driver LED C.C. 1 x 1,5A/hv

User manual

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

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1 Description

The PX319 driver is designed to control LEDs. Can be powered with voltage 12 – 48V DC (version PX319) or 12 – 60V DC (version PX319-HV) and a maximum current-carrying of 2A (PX319) or 1,5A (PX319-HV). It is possible to set the driver output current according to the parameters of receivers LED.

PX319 can be controlled by the DMX signal (the device has a built-in DMX-512 receiver) or it can work independently. DMX address is set manually via a DIP switch on the housing. The user also has the ability to set one of the eight levels of brightness with which the LEDs will be triggered in the absence of a DMX signal.

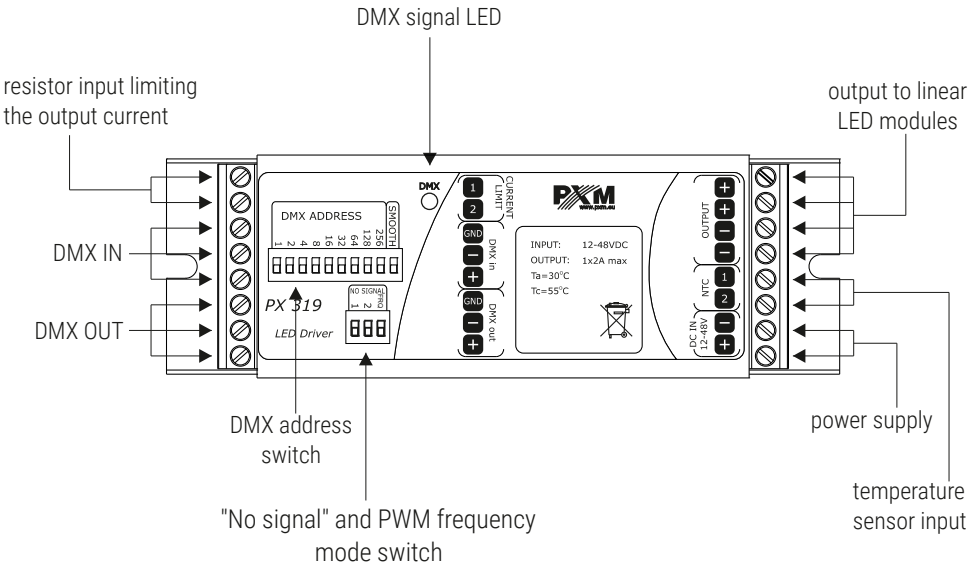
2 Safety conditions

PX319 is a device powered with safe voltage of 12 – 48V DC (version PX319-HV 12 – 60V DC); however, during its installation and use the following rules must be strictly observed:

1. The device may only be connected to 12 – 48V DC (version PX319-HV 12 – 60V DC) 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.
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 cut off power supply.
6. The PX319 should be strictly protected against contact with water and other liquids.
7. All sudden shocks, particularly dropping, should be avoided.
8. The device cannot be turned on in places with humidity exceeding 90%.
9. The device cannot be used in places with temperature lower than +2°C or higher than +40°C.
10. Clean with damp duster only.

3 Connectors and control elements



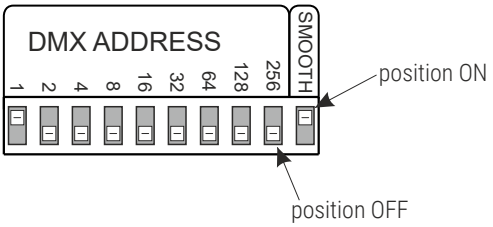
4 DMX indicator light meanings

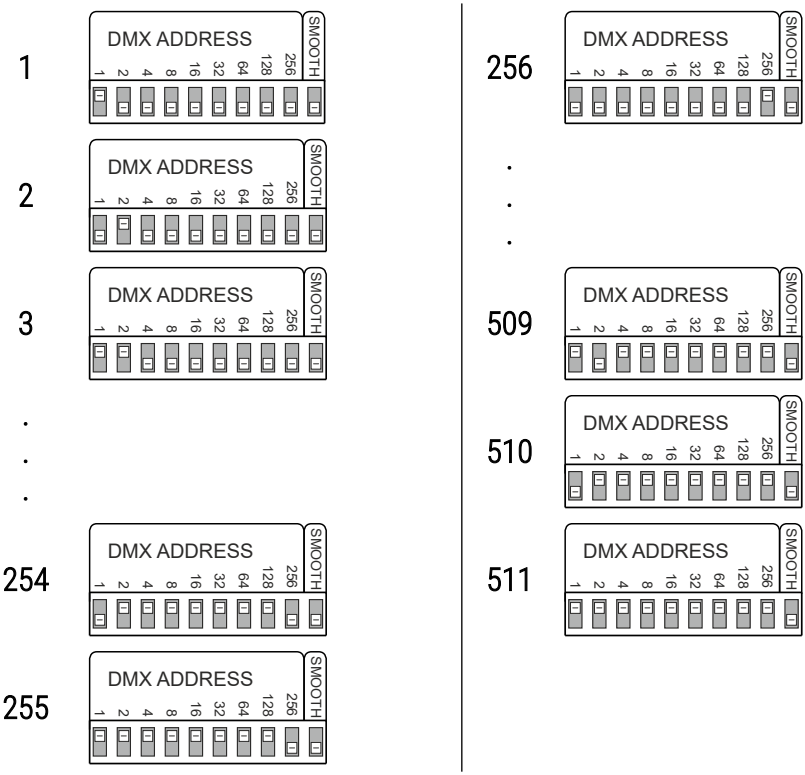
The driver is equipped with one indicator light:

Status	Function
The diode is emitting constant light	“No Signal” operation mode, the driver is not receiving any DMX signal
The diode is blinking	A DMX signal is being received

5 DMX address setting

PX319 allows for setting the address DMX. The address is set in a binary code using the DIP Switch. Below are some examples of setting the DMX address. Nine first DIP Switches are responsible for the address; the tenth switch is responsible for activating the "*smooth*" function.





5.1 Smooth function settings



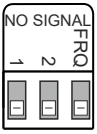
The "*smooth*" function active and DMX address set to 1.

With the *smooth* function enabled, transition between successive control signal values are smoothed, allowing for smooth changes in the brightness of the connected LEDs. This prevents the light "vibration" effect that usually occurs in lighting systems when light intensity is being changed.

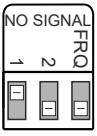
5.2 No Signal function settings

The PX319 driver is equipped with an additional DIP Switch which allows to set the No Signal function, responding to the driver action when it does not receive the DMX signal.

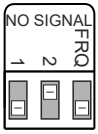
With this switch, it is possible to set one of 4 brightness levels. The brightness increases from the smallest (zero) to the maximum one, in accordance with the binary markings on the DIP Switch. Below are brightness levels and the corresponding switch settings.

0 

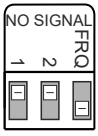
Zero brightness level

1 

1 brightness level – 25%

2 

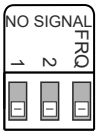
2 brightness level – 50%

3 

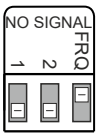
3 brightness level – 100%

5.3 PWM frequency settings

It is possible to set PWM frequencies using individual switch position no. 3 on the small DIP Switch:



Zero brightness level and PWM frequency of 366Hz



Zero brightness level and PWM frequency >20kHz

6 Driver output current setting

The PX319 driver is equipped with a function to set the output current controlling linear LED modules. Depending on the number of modules connected to the device, it is necessary to select the control current by choosing a resistor with the appropriate resistance. The table on the next page shows the correct selection of resistors.

Current limit	Resistor
250mA	100R
300mA	270R
350mA	470R
400mA	690R
500mA	910R
600mA	1k2
700mA	1k5
750mA	1k8
800mA	2k2
900mA	2k4
1000mA	3k
1050mA	3k3
1100mA	3k9
1250mA	4k7
1300mA	5k1
1400mA	6k2
1500mA	7k5
1600mA	8k2
1750mA	10k
1800mA	12k
2000mA*	15k

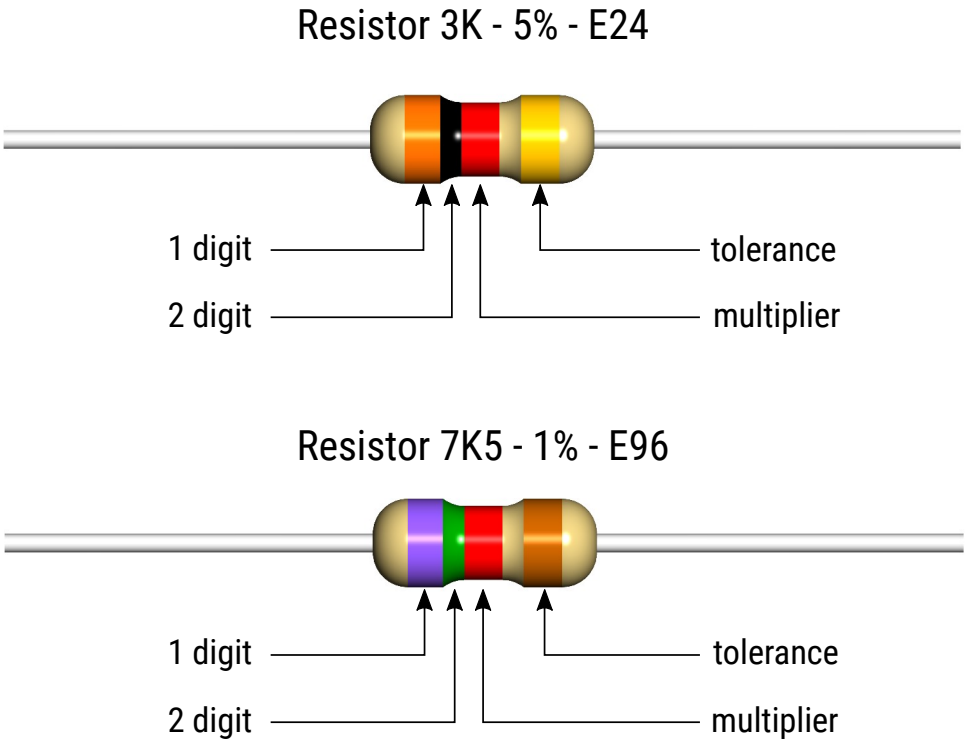
* - not applicable to the PX319-HV version driver

In the absence of any connection between resistor and PX319 driver, it will operate with adjusted 250mA output current (as for 100 Ω resistor connection).

Below is the table allowing for the selection of resistor bar-codes:

Color	Significant figures	Multiplier	Tolerance	Temperature coefficient
None	-	-	20%	Irrelevant
Silver	-	x0,01	10%	
Gold	-	x0,1	5%	
Black	0	x1	-	
Brown	1	x10	1%	
Red	2	x100	2%	
Orange	3	x1.000	-	
Yellow	4	x10.000	-	
Green	5	x100.000	0,5%	
Blue	6	x1.000.000	0,25%	
Purple	7	x10.000.000	0,1%	
Gray	8	x100.000.000	-	
White	9	x1.000.000.000	-	

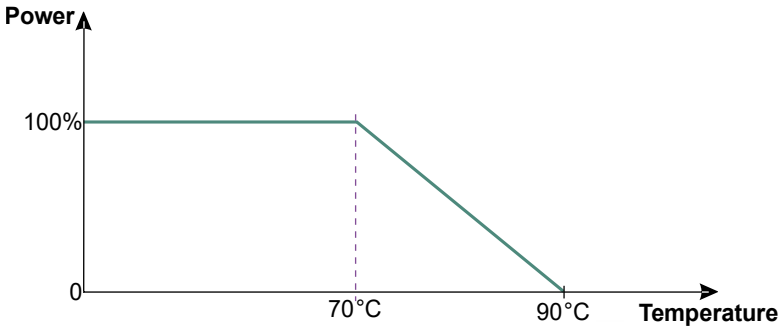
Example of the resistor identification:



6.1 Temperature control

You can connect an external 4K7 thermistor to the driver. As the temperature exceeds 70°C, the driver starts to limit output power. Once a 90°C threshold is exceeded, complete shut off is carried out.

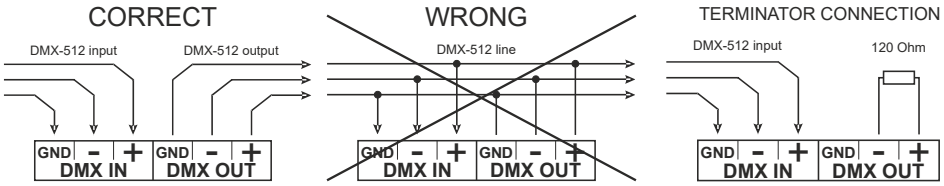
- if no NTC thermistor has been connected– 100% of power avcailable at the output
- if NTC thermistor short circuit – 0% of power available at the output



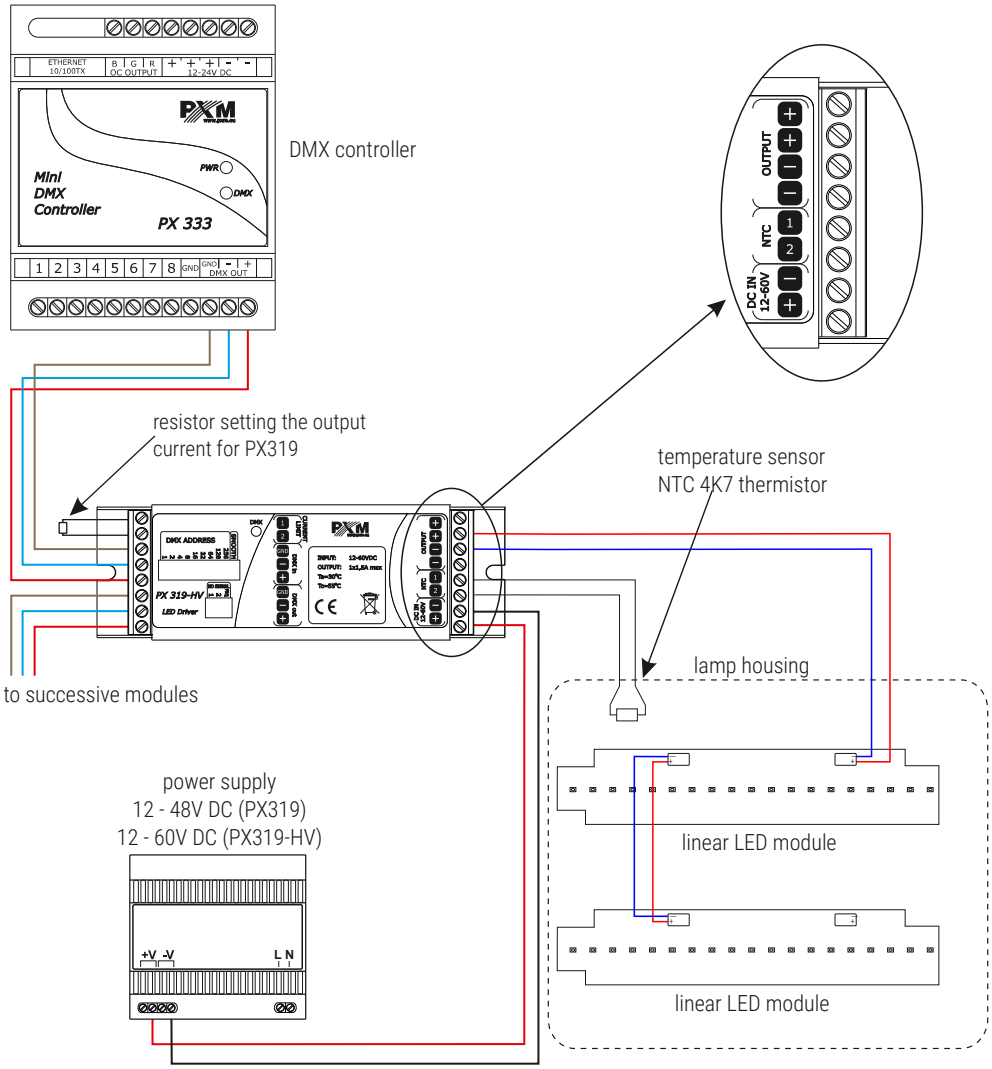
7 DMX signal connecting

PX319 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 in*** pins of PX319 and later, directly from ***DMX out*** pins to the next device in DMX chain.

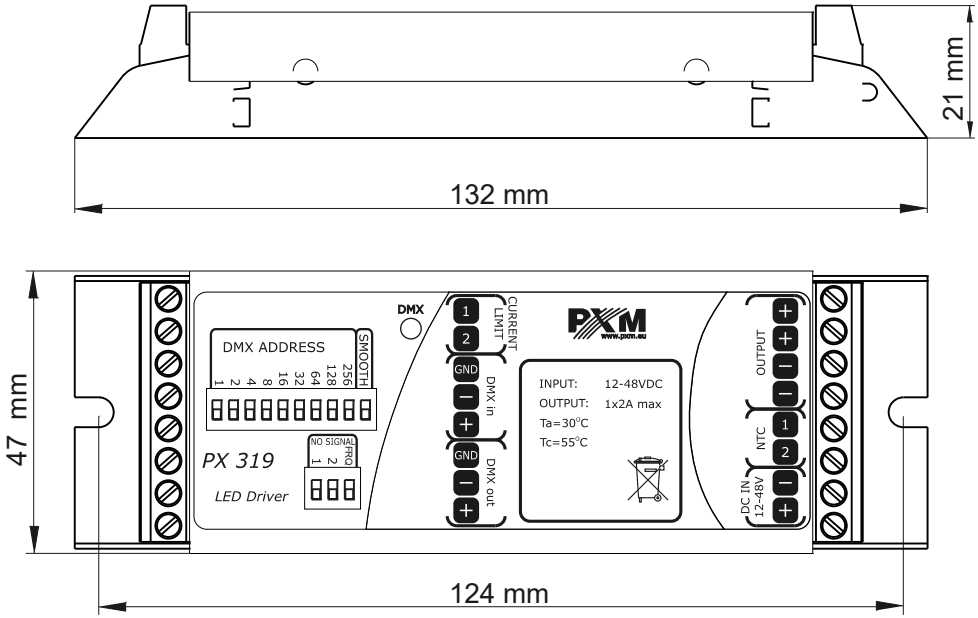
If the PX319 is the last DMX chain receiver there should be terminator (resistor 120 Ohm) mounted between "***+***" and "***-***" pins of ***DMX out*** section.



8 Connection scheme



9 Dimensions



10 Technical data

type	PX319
DMX channels	511
power supply	12 – 48V DC (PX319) 12 – 60V DC (PX319-HV)
max. power consumption	2A (PX319) / 1,5A (PX319-HV)
no-load power consumption	0,5W
number of output channels	1
brightness levels of the scene	8
output load	250 – 2000mA (PX319) 250 – 1500mA (PX319-HV)
output sockets	screw terminals
weight	0.15kg
dimensions	width: 132mm height: 47mm depth: 21mm

Podłęże, 25.11.2019

DECLARATION OF CONFORMITY

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

we declare that our product:

Product name:	Driver LED C.C. 1 x 2A Driver LED C.C. 1 x 1,5A/hv
Product code:	PX319 PX319-HV

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

PN-EN IEC 63000:2019-01	EN IEC 63000:2018
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.

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