

PX862

# PxTech RGBW 24V

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

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The PX862 lamp is an advanced lighting solution with specially arranged RGBW LEDs, which ensure even color mixing and homogeneous light without shadowing.

It has a maximum power of 85W and is controlled via DMX.

The housing is made of aluminum and glass, and its design meets the IP65 standard and provides resistance to dust and water, making the lamp an ideal solution for use in humid rooms.

PxTech RGBW is available with lens angles: 20°, 30° or 40°.

## 2 Information on version

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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.

During its installation and use PX862 the following rules must be strictly observed:

1. Installation of the module should be performed by a person holding the appropriate qualifications, according to the instruction manual
2. Lamp may only be connected to stabilized voltage with current-carrying capacity compatible with technical data.
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.
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. Do not plug the device into the installation if you suspect that the casing is leaking.

### 3 Information on version

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Below is a description of the PX862 model designations with their explanation:

PX862 – WW – YYYY

WW – beam angle:

20 – 20°

30 – 30°

40 – 40°

YYYY – LED color:

RGBW – RGBW

## 4 Control – DMX

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The lamp can be controlled via a DMX signal (depending on the control mode):

- **Group (1ch)** (the user sets one DMX channel that will control all outputs):
  - 1 channel – brightness,
- **Individual (4ch):**
  - 1 channel – red (brightness),
  - 2 channel – green (brightness),
  - 3 channel – blue (brightness),
  - 4 channel – white (brightness),
- **Individual + Dimmer (5ch):**
  - 1 channel – red (brightness),
  - 2 channel – green (brightness),
  - 3 channel – blue (brightness),
  - 4 channel – white (brightness),
  - 5 channel – brightness of the entire lamp (dimmer),
- **Advanced (4ch)** – each channel can be addressed individually.

# 5 RDM parameters

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## 5.1 DMX address

The device occupies 1, 4 or 5 DMX addresses. Using the RDM protocol, you can set the starting DMX address between 1 and 508. The remaining channels will be assigned automatically, one after another. For example, if you set the start address to 100, the fixture will use DMX channels 100 to 103 (in *Individual (4ch)* mode).

## 5.2 DMX signal loss

In the event of a DMX signal failure, the lamp can continue to operate autonomously, according to previously defined settings:

- **Nos** – how the device behaves after losing the DMX signal:
  - *OFF* – turning off all outputs,
  - *ON* – turning on all outputs at 100%,
  - *HLD* – maintaining the last DMX value,
  - *SC* – launching a scene set by the user,
  - *EF* – effect – the lamp turns on and off gradually,
- **Nos scene** – scene configuration (RGBW channel values) that will be activated if SC is selected as Nos mode.

## 5.3 White balance

In the PX862 this is an emergency function when there are problems with achieving white color on the LEDs. For this reason, the lamp is equipped with a white balance function. Using this option, you can select the appropriate color temperature for full control of all outputs (white color).

The parameter is set in the range 0 – 128, and the default values are maximum (128 128 128 128).

## 5.4 Smooth

The device is equipped with a smoothing function that allows for smooth brightness transitions without visible jumps. This eliminates the flickering effect often found in lighting installations.

By default, smoothing is enabled and set to level 3. Available options:

- **Off** – disabled,
- **1 – 5** – smoothing levels:
  - **1** – fastest response (less smooth),
  - **5** – the smoothest brightness changes.

## 5.5 Brightness control frequency

This function allows you to set the base control frequency for the LEDs. This feature is extremely useful in television industry applications. Using "*flicker-free*" technology, it allows you to avoid the unpleasant effect of image flickering caused by the lack of proper synchronization of the signal controlling the LEDs. The user can select frequencies from 1.5kHz to 24kHz. A frequency value in the upper range (e.g. 1.50 = 1.5kHz) helps avoid the flickering effect visible in cameras.

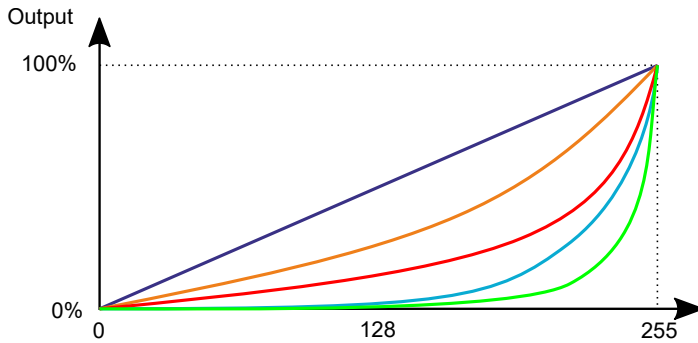
### Values:

- **0** – 1.5kHz
- **1** – 3kHz
- **2** – 6kHz
- **3** – 12kHz
- **4** – 24kHz

## 5.6 Control curve selection

The lamp has been implemented with the option of selecting one of four control curves:

- E1 – exponential with exponent 1,
- E2 – exponential with exponent 2,
- E3 – exponential with exponent 3,
- DALI,
- Linear.



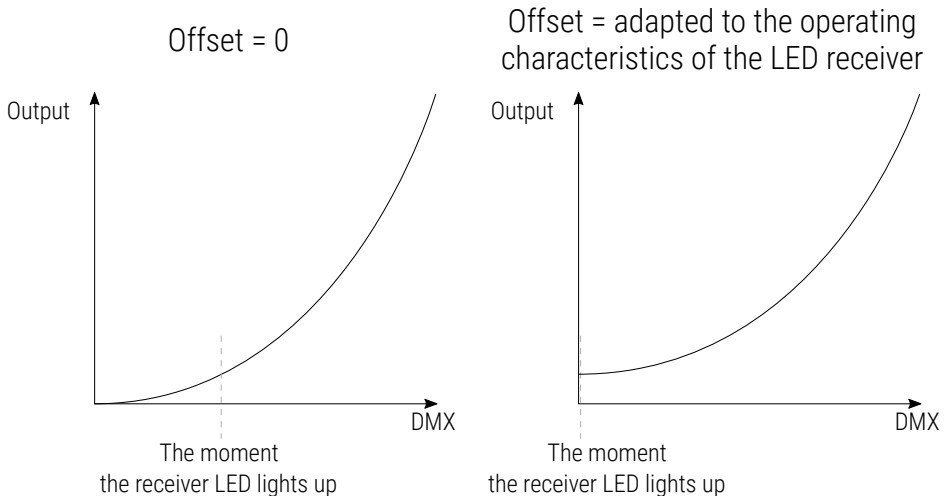
Curves:

- *E1*
- *E2*
- *E3*
- *DALI*
- *linear*

## 5.7 Offset parameter

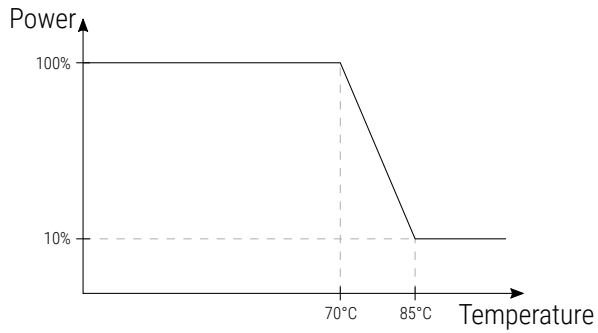
This parameter has been implemented in the device so that the LED receiver can light up at a DMX value of 1. This setting is useful when the LED characteristics allow it to light up at a DMX value, e.g. 40.

This parameter allows you to map the effective range of DMX values for a given receiver to the full range of DMX values 0 – 255.



## 5.8 Temperature limitation

A temperature sensor is installed in the lamp driver. After exceeding the temperature of  $+70^{\circ}\text{C}$ , the lamp begins to gradually reduce its output power. When the temperature exceeds  $+85^{\circ}\text{C}$ , the device goes into protection mode and operates at a maximum of 10% power.



**NOTE!** When the upper temperature limit is exceeded, the driver is not completely switched off, but the power is reduced to 10%.

## 5.9 Factory settings

The device has the ability to restore default settings via RDM.

PX862 default settings:

- **DMX Addresses:** 1
- **No signal:** OFF
- **Nos scene [R, G, B, W]:** 128 128 128 128
- **White Balance:** 128 128 128 128
- **Smooth:** 3
- **Freq:** 2 (6kHz)
- **Curve:** E1
- **Output Offset:** 0

## 6 Connection scheme

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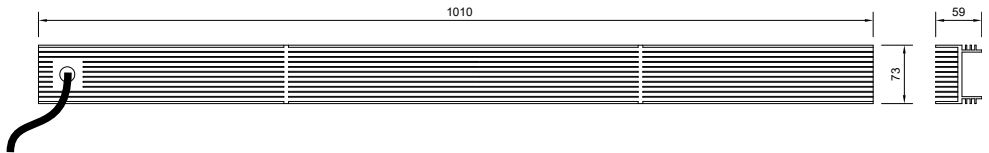


### Weipu SP13 Series M pins:

- Pin 1 – +24V DC
- Pin 2 – GND
- Pin 3 – DMX–
- Pin 4 – DMX+

## 7 Dimensions

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## 8 Technical data

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type	PX862
number of diodes	21 x RGBW
beam angle	20° / 30° / 40°
diodes	RGBW
control	DMX
RDM protocol support	yes
power consumption	up to 86W
connecting the lamp	<i>Weipu SP13 Series connector (male 4 pin)</i>
cable length	determined individually
power supply	24V DC
tightness class	IP65
housing	aluminum / glass
weight	4kg (with 7m cable)
dimensions	height: 73mm width: 1010mm depth: 59mm

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## DECLARATION OF CONFORMITY

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

we declare that our product:

*Product name:* PxTech RGBW 24V

*Product code:* PX862

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

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

  
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