

PX229

PxAqua 3  
SH/SP

Manual



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

# 1. GENERAL DESCRIPTION

Underwater lamp LED LAMP PX229 with an adjustable handle has built-in 3 LEDs.

The PX229 lamp is designed for both underwater and open air installations, which require high brightness lighting. In underwater solutions the lamp can be powered with 700 mA current and reach 3x3 W of power (in open air solutions it has to work with 350 mA power supply and reach 3x1 W).

When connected to an external controller it allows to obtain a full spectrum of 16 million colors (in theory). Use of high-quality Luxeon® Rebel LEDs provide bright light with low power consumption. When purchasing lamps customer can choose the appropriate scattering angle lenses and color LEDs to be installed. This allows to adapt the device to the specific conditions.

The casing is made of stainless steel, which protects against harmful external conditions. A specially made adjustable handle simplifies installation. For underwater installations we provide with product stainless steel tube for flush-mounting.

# 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.



**ESD Protection!**  
Read the instruction manual.

**Caution!**



**Do not look at the LEDs at a shorter distance than 1.8 m from the front surface of the tube without proper eye protection. LEDs can cause damage or eye irritation. Do not look at the light source directly through any optical instruments, which focus the light rays.**



**Keep ESD protection because the module and installed LEDs may be damaged by static electricity generated in equipment, people, tools and other insulators or semiconductors.**



**While working at an ambient temperature of 25°C housing unit can heat up to 65°C. Because of the danger of burns, avoid direct contact with the casing.**



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



The PX229 LED lamp is powered with 3x350 or 3x700 mA current and safe voltage up to 48 V, but during the installation and use the following rules must be strictly observed:

1. Installation, particularly power connection, should be performed by a person holding the appropriate qualifications, according to this manual.
2. The lamp can be connected only to a current source of a magnitude 3x350 or 3x700 mA (3x700 mA only in underwater installations) according to described in paragraph 5 conditions.
3. All wires must be protected against mechanical and thermal damage.
4. In case of damaging any conductor, it should be replaced with a conductor of the same technical parameters.
5. All repairs can be performed only with power supply disconnected.
6. Wait 20 minutes after turning the lamp off before attempting to do any maintenance.
7. Prior to any maintenance of the module inside of the lamp, discharge any static electricity that may damage the LEDs, by touching the grounded elements. Also remember not to use nearby the LED module any soldering transformer.
8. All flammable materials (e.g. textiles, wood, paper, etc.) should be kept in a safe distance of at least 0.3 m from the outer surface of the housing.
9. Do not connect the power supply to a lamp with visible damage.
10. It is essential to protect the module located in the lamp PX229 from contact with water and other fluids.
11. All sudden shocks, particularly dropping, should be avoided.
12. Do not use in open air with temperatures higher than + 40°C.
13. The device can be installed and used in accordance with the conditions contained in this manual, as well as applicable standards and regulations not listed in this document.

### 3. INFORMATION ABOUT THE LAMP VERSION

The PX229 lamp is available in several versions differing in angle of used lenses.

Below is a description of the PX229 models designations and their explanation.

#### **PX229 - XX - YYY - ZZ**

**XX** - lens angle

10 - 10°

25 - 25°

45 - 45°

**YYY** - LEDs colors

W - warm white

N - neutral white

C - cold white

R - red

G - green

B - blue

A - amber

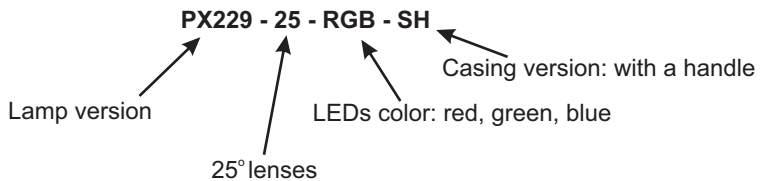
**ZZ** - casing version

SH - with a handle

SP - with steel pipe

When ordering, select the lamp LEDs color and beam angle of lenses to be placed in the device

Example of lamp marking:

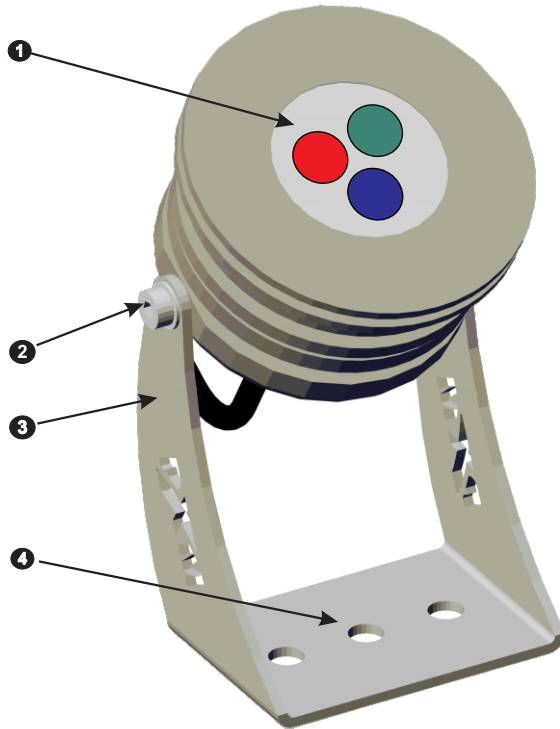


Casing version:

Waterproof IP68.

Casing is in accordance with IP68 standard, allows to use the device underwater in applications such as fountains, pools, and in places exposed to adverse weather conditions.

## 4. DESCRIPTION

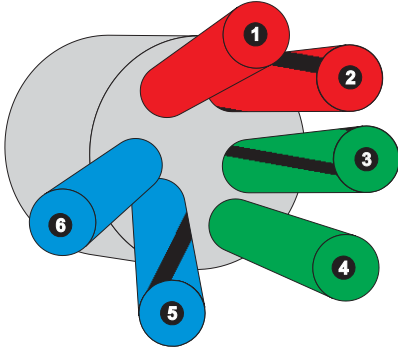


- ❶ 3 LEDs
- ❷ 2 screws with washer fastening the holder and casing together (allows you to adjust the angle the lamp in the vertical plane)
- ❸ Handle
- ❹ 3 holes for fastening screws

# 5. CONNECTIONS SCHEME

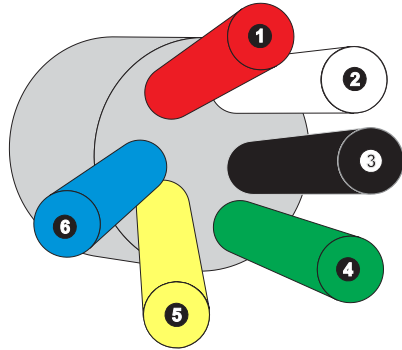
## a) RGB lamp connection

The RGB version of lamp is connected via 6-strand cable, e.g. shown in the figures below.



- ❶ RED + (red)
- ❷ RED - (red with black stripe)
- ❸ GREEN - (green with black stripe)
- ❹ GREEN + (green)
- ❺ BLUE - (blue with black stripe)
- ❻ BLUE + (blue)

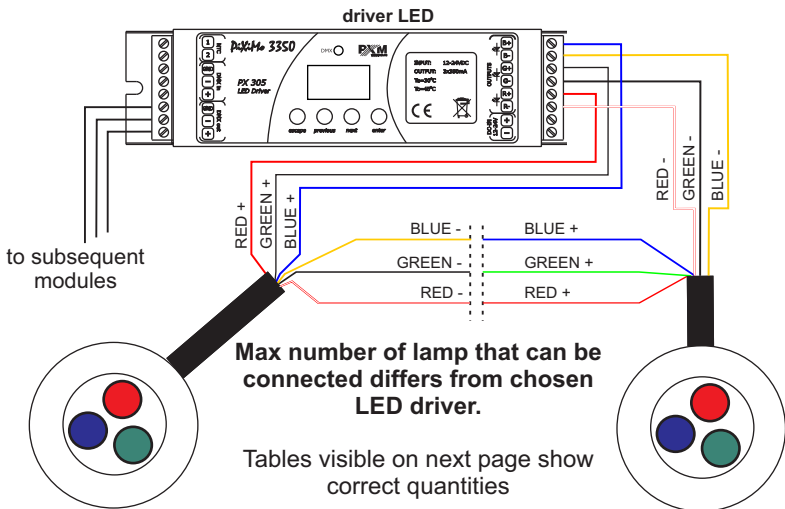
- ❶ RED + (red)
- ❷ RED - (white)
- ❸ GREEN - (black)
- ❹ GREEN + (green)
- ❺ BLUE - (yellow)
- ❻ BLUE + (blue)



Example of connection the PX229 lamp to the LED driver PX 305.

Wires should be connected with an appropriate sequence of colors.

**!!! Lamps have to be connected only in series !!!**



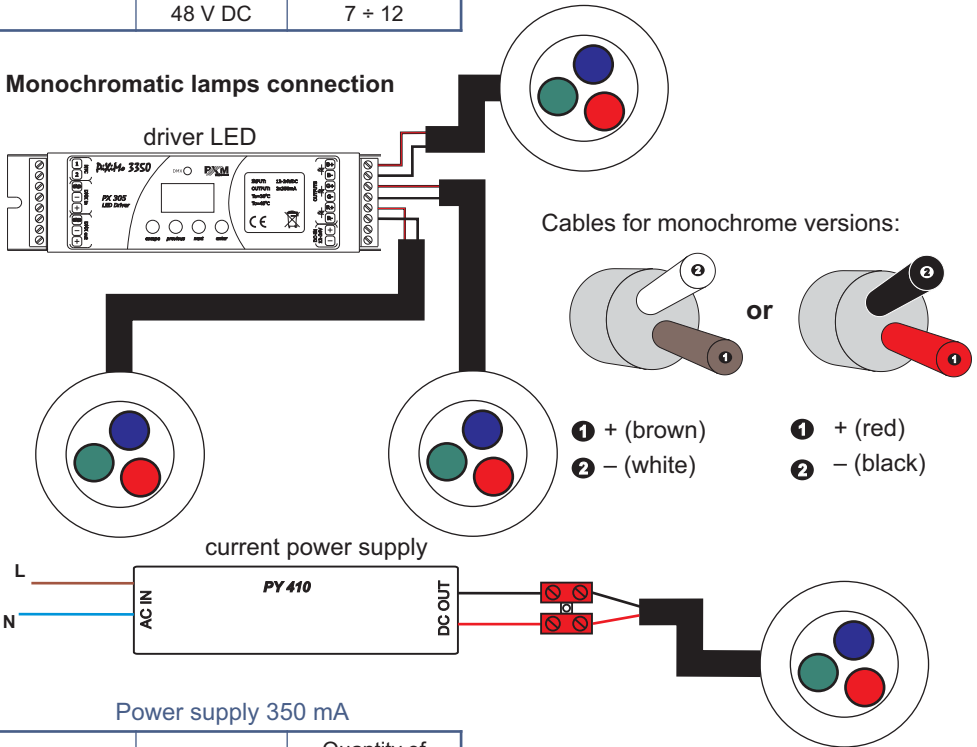
### Power supply 350 mA

Driver LED	Power supply	Quantity of powered lamps
PX305	12 V DC	1 + 3
	24 V DC	4 + 6
PX308	12 V DC	1 + 3
	24 V DC	4 + 6
	48 V DC	7 + 12
PX215	12 V DC	1 + 3
	24 V DC	4 + 6
	48 V DC	7 + 12

### Power supply 700 mA

Driver LED	Power supply	Quantity of powered lamps
PX307	12 V DC	1 + 3
	24 V DC	4 + 6
PX184	12 V DC	1 + 3
	24 V DC	4 + 6
	48 V DC	7 + 12

### b) Monochromatic lamps connection



### Power supply 350 mA

Driver LED	Power supply	Quantity of powered lamps
PX305	12 V DC	3
	24 V DC	6
PX308	12 V DC	3
	24 V DC	6
	48 V DC	12
PX215	12 V DC	3
	24 V DC	6
	48 V DC	12
-	PY410	1 + 4

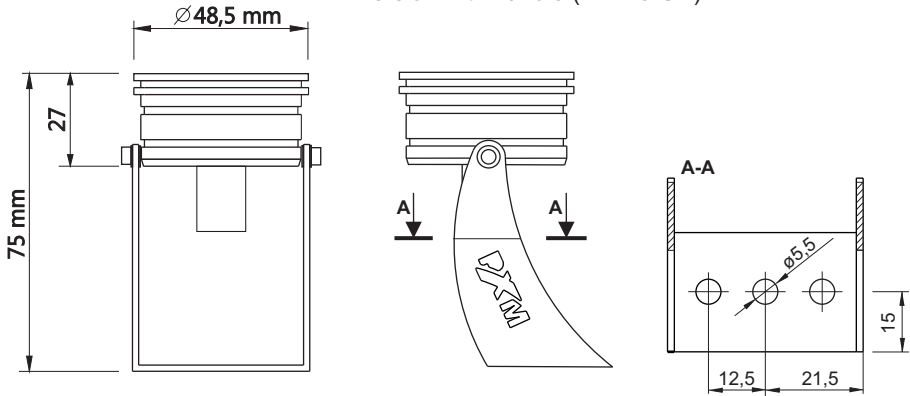
### Power supply 700 mA

Driver LED	Power supply	Quantity of powered lamps
PX307	12 V DC	3
	24 V DC	6
PX184	12 V DC	3
	24 V DC	6
	48 V DC	12
-	PY412	1 + 4

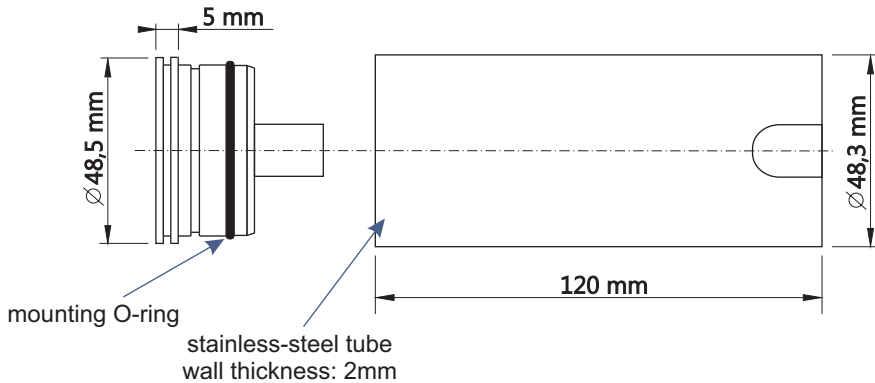


## 6. DIMENSIONS

Version with handle (PX229-SH)

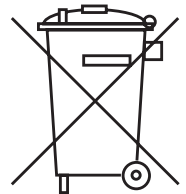


Version for flush mount (PX229-SP)



## 7. TECHNICAL DATA

Type:	PX 229 PX 229-H - a handle version PX 229-P - a flush mounting version
Power supply:	3 x 350 mA
IP Rating:	IP68
Beam angles:	25° (typical), 10° / 45° (on request)
Brightness (for 25° lens in 1 meter dist.):	approx. 1100 lux
The number of possible colors:	16 million (in theory)
Weight:	0,32 kg
Dimensions:	Diameter: 48,5 mm Height: 80 mm





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## DECLARATION OF CONFORMITY

**PXM Marek Żupnik spółka komandytowa**  
**Podłężę 654, 32-003 Podłężę**

*declares under our sole responsibility that the product:*

Name of product: **PxAqua 3 S**  
Type: **PX 229**

*compiles with the following standards and harmonized standards:*

PN-EN 50581:2013,	EN 50581:2012
PN-EN 60598-1:2015,	EN 60598-1:2015
PN-EN 62471:2010,	EN 62471:2008

*and is in conformity with the provisions of the following EC 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.



**Marek Żupnik spółka komandytowa**  
**32-003 Podłężę, Podłężę 654**  
**NIP 677-002-54-53**

Podłężę, 27.10.2016

mgr inż. Marek Żupnik.