

PX796-IP

# Wireless DMX IP

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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PX796-IP, depending on the configuration, can be a transmitter or a receiver of a wireless DMX signal.

Wireless DMX is a device that allows you to connect easily, without using wires, installations based on the DMX512 control system. In order to create an installation using wireless DMX signal transmission, two devices of this type should be used, set in transmitting and receiving mode (works with PX795 and PX796).

Configuration is very simple and is carried out at the touch of a button. The 2.4GHz band in which communication occurs ensures long range and unnoticeable delays.

The PX796-IP has a plastic housing suitable for wall mounting, with a protection class of IP65. It is powered by 230V AC mains voltage. The set includes an external directional antenna with a 1m long cable ended with a male SMA/RP plug. By default, the device is programmed in the transmitter mode.

**NOTE!** Attach the antenna towards the other antenna. Make sure the antennas are visible. Trees and other obstacles will greatly dampen the 2.4GHz signal.

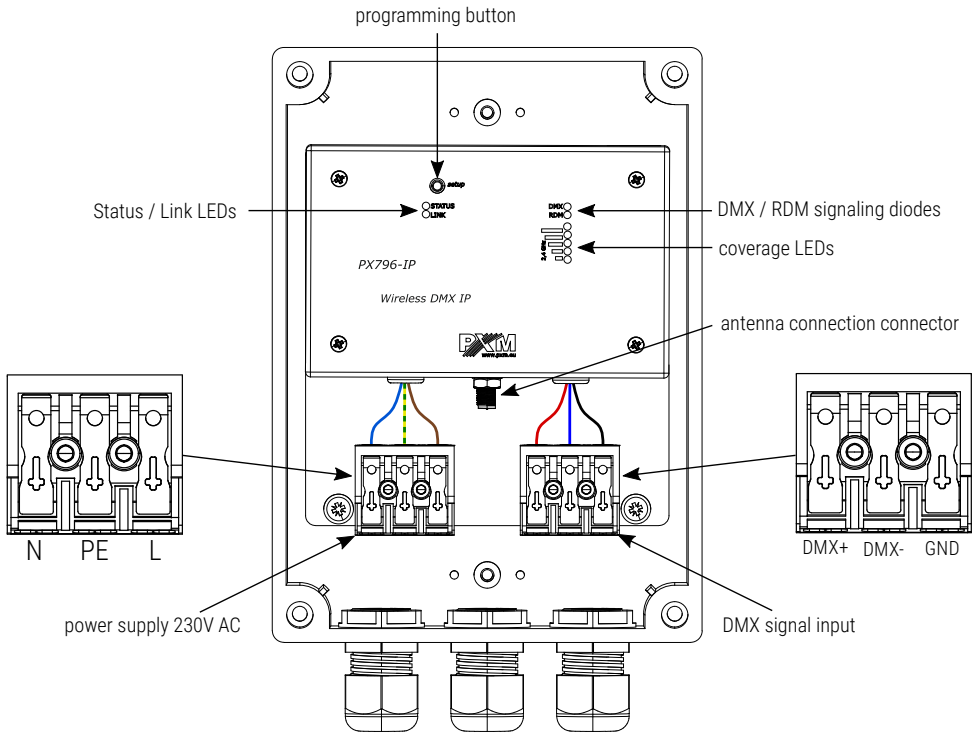
## 2 Safety conditions

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The PX796-IP device is powered directly from standard 230V AC grid what can cause electric shock when safety rules are not observed. Therefore it is necessary to observe the following:

1. Installation, particularly power connection, should be performed by a person holding the appropriate qualifications, according to instruction manual.
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. Only a shielded cable should be use to connect the DMX signal.
5. Device with visible mechanical damage cannot be connected to the mains.
6. All repairs and connection of the DMX signal can only be carried out with the power off.
7. All sudden shocks, particularly dropping, should be avoided.
8. Use only a slightly damp cloth for cleaning – the device must be completely disconnected from the power supply at this time.

# 3 Connectors and control elements



## 4 Operating mode

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The PX796-IP device can operate in two modes: transmitter and receiver. The user can pair more than one receiver with the transmitter. The operating mode can be changed by using the *programming button* and the *Status* diode signaling.

**NOTE!** The description of the change of operating mode will use the words *short press* and *long press*. *Short* lasts from 10 – 500ms, *long* while over 3s.

To change the operating mode:

1. Five (5) times briefly press the programming button and then one (1) once for a long time.
2. The *Status* LED will flash to indicate the selected operating mode.

**Transmitter** (*Status* LED blinking every 500ms)



**Receiver** (*Status* LED blinking every 50ms)



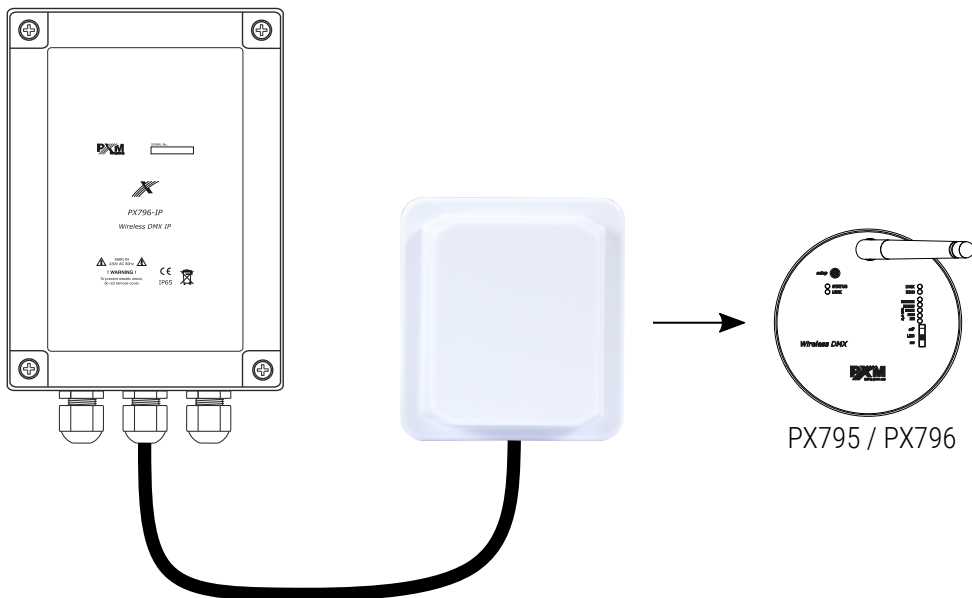
3. Each short press will change the operating mode.
4. To save the selection, press the button longer. The operating mode will be saved and the device will restart.

## 5 Pairing devices

In order to connect the transmitter with the receiver, set them in the appropriate operating modes as described in section 4. Operating mode. The devices can be connected in several ways:

- transmitter → receiver,
- transmitter → several receivers,
- several transmitters → several receivers.

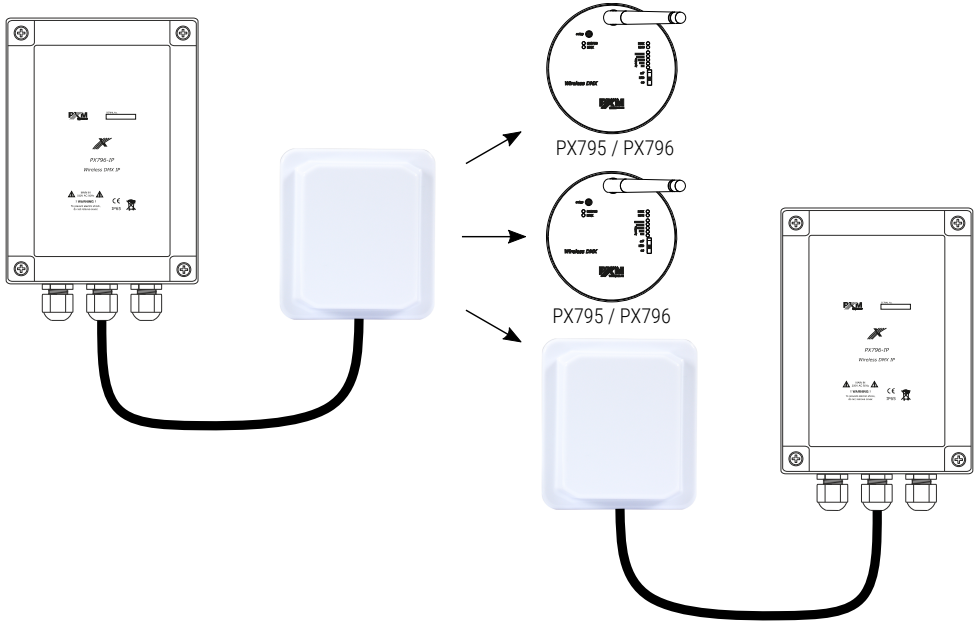
### 5.1 Transmitter → receiver



Pairing with a receiver that is not assigned to another transmitter is only possible if the devices are within range. In the transmitter, press the programming key for 0.1 – 1s. Pairing will occur automatically.

## 5.2 Transmitter → several receivers

Pairing with receivers that are not assigned to another transmitter is only possible if the devices are within range. In the transmitter, press the programming key for 0.1 – 1s. Pairing with all receivers within range of the transmitter will occur automatically.

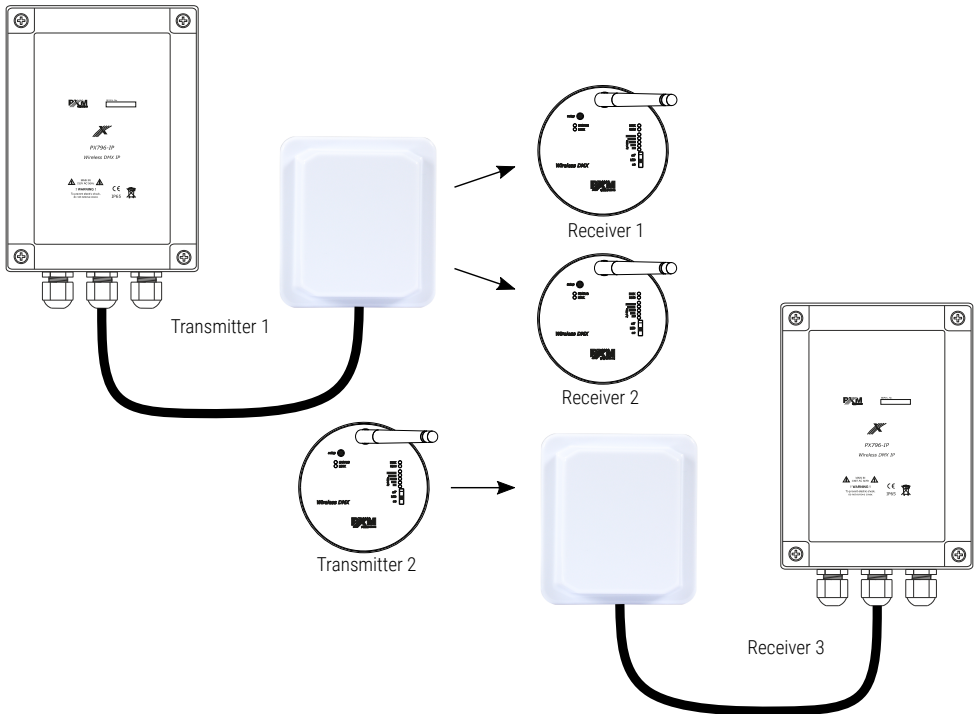


**NOTE!** You can pair an infinite number of receivers to one transmitter.



## 5.3 Several transmitters → several receivers

Pairing with receivers that are not assigned to another transmitter is only possible if the devices are within range. If there are several transmitters and several receivers in the installation (sample configuration), and all of them are within range:



1. Switch on only those receivers (1 and 2) to be assigned to *Transmitter 1*
2. In *Transmitter 1* press the programming key for 0.1 – 1s (connecting with transmitters that are within its range and not assigned another transmitter, it will occur automatically).

3. Switch on the receivers (3) to be assigned to *Transmitter 2* (there is no need to switch off the receivers assigned to *Transmitter 1* – they are already assigned).
4. In *Transmitter 2*, press the programming key for 0.1 – 1s (connecting with transmitters that are within its range and not assigned another transmitter, it will occur automatically).

There is also another possibility for such pairing:

1. Switch all receivers on.
2. In *Transmitter 1*, press the programming key for 0.1 – 1s (connecting with transmitters that are within its range and not assigned another transmitter, it will occur automatically).
3. Disconnect the *Receiver 3* (hold the programming key in it for more than 3s in it – more information in point 5.4. Disconnecting devices) *with Transmitter 1*.
4. In *Transmitter 2*, press the programming key for 0.1 – 1s (connecting with transmitters that are within its range and not assigned another transmitter, it will occur automatically).












## 5.4 Disconnecting devices









Each receiver can be disconnected from the transmitter by pressing the programming button on the receiver for more than 3s. This option allows to disconnect a single receiver from the transmitter.

The transmitter can be disconnected from all receivers connected to it simultaneously. To do this, hold down the programming key on the transmitter for more than 3s. This option allows to disconnect all receivers from the transmitter.

## 6 Indicator lights

PX796-IP device is equipped with 4 lights and a range indicator:

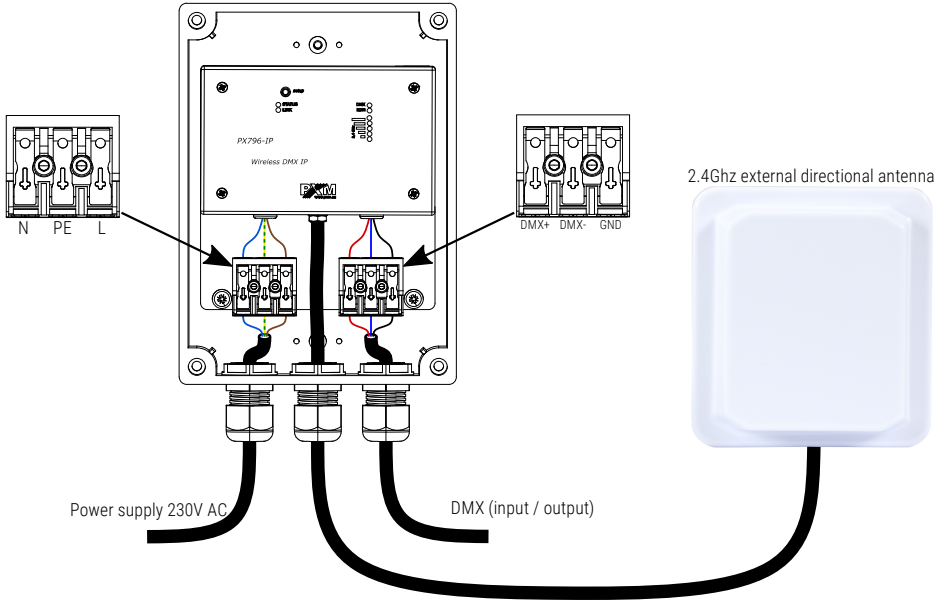
Light	Mode	Action	Function
green Status 	transmitter	 flashes every 900ms	active radio link, no DMX present
		 constant on	active radio link, DMX data present
		 flashes every 100ms	linking receivers
		 flashes every 200ms	unlinking receivers
	receiver	 constant off	not linked to any transmitter
		 flashes every 100ms	linked to a transmitter, but no active radio link
		 flashes every 900ms	active radio link, no DMX present
		 constant on	active radio link, DMX data present
	programming	 flashes every 500ms	transmitter mode
		 flashes every 50ms	receiver mode

green Link 	transmitter	constant off	no radio link activity
		constant on	active radio link
	receiver	constant off	no connection to the transmitter
		constant on	connected to the transmitter
yellow DMX 	transmitter / receiver	constant off	no DMX transmission
		constant on	DMX transmission
blue RDM 	transmitter* / receiver	constant off	no RDM transmission
		constant on	RDM transmission
signal level (2.4GHz)	receiver		signal below 10%
			signal above 20%
			signal above 40%
			signal above 60%
			signal above 80%

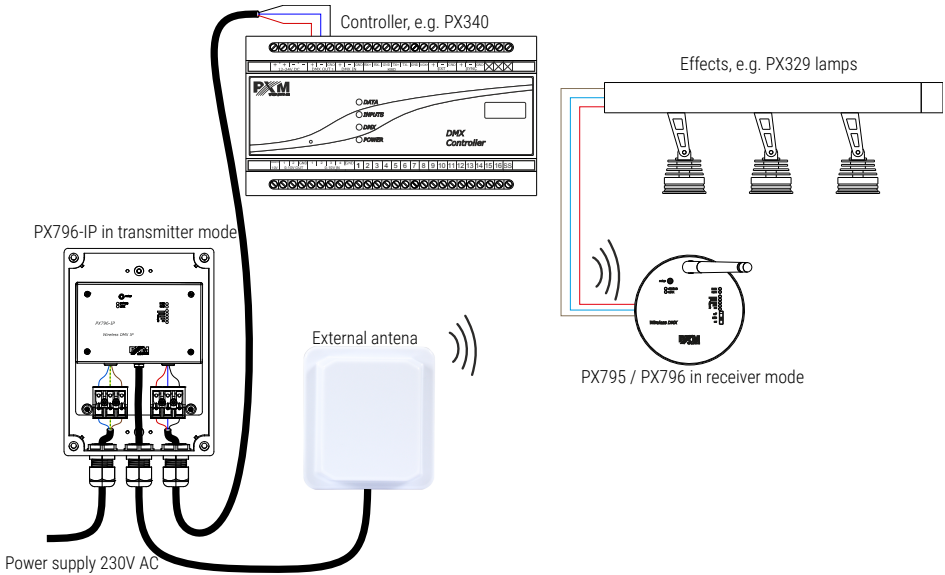
\* - only an LumenRadio device can be used as an RDM transmitter

# 7 Connection scheme

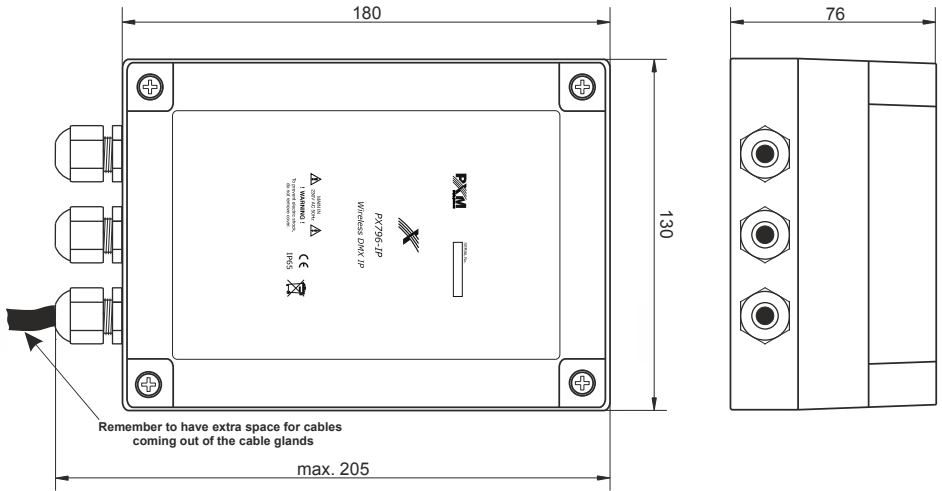
a) device connection diagram



b) device operation diagram



# 8 Dimensions



## 9 Technical data

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type	PX796-IP
power supply	230V AC
number of DMX channels	512
RDM protocol support	yes
transmission speed	0.8 – 830 fps
output power	5 – 20 dBm
frequency	2.4GHz
range (receiver – transmitter)*	max. 1km
operating mode	transmitter / receiver
IP rate	IP65
power consumption	max. 1W
antenna	polarization: vertical / horizontal beam width: vertical 35° / horizontal 32° maximum gain (without cable attenuation): 12dBi output impedance: 50Ω connector: SMA/RP cable length: 1m
weight	0.6kg
dimensions	width: 130mm height: 180mm depth: 76mm

\* - in open space and in favorable weather conditions, without any obstacles between devices



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## DECLARATION OF CONFORMITY

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

we declare that our product:

*Product name:* Wireless DMX IP

*Product code:* PX796-IP

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

PN-EN IEC 63000:2019-01	EN IEC 63000:2018
PN-EN 60529:2003	EN 60529:1991
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
PN-ETSI EN 300 328 V2.2.2:2020-03	ETSI EN 300 328 V2.2.2:2019

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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