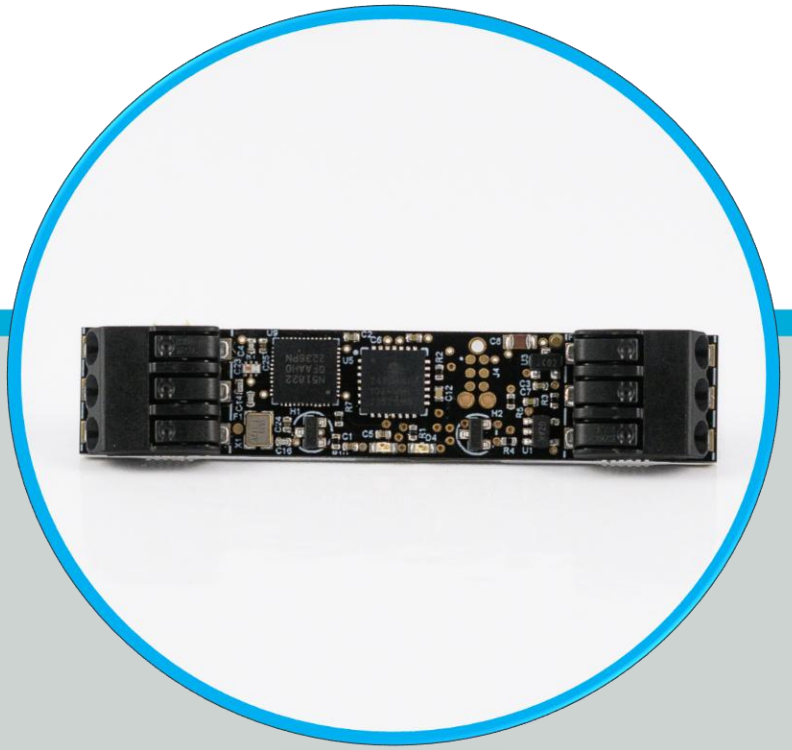
emp designs

PX-1 User Guide



DATE
23/1/25

PREPARED BY
Kate Stanton

Contents

IMPORTANT SAFETY NOTICE

Read this user guide in full before you attempt to use the PX-1.

On receipt of the PX-1, check no damage has occurred whilst in transit. If you suspect any damage, do not use the controller until you have discussed the issue with EMP Designs Ltd.

If you do not fully understand anything contained in the user guide contact the manufacturer by email before use (info@empdesigns.co.uk).

Ensure that all electrical connections and interconnections between external LED's are properly made in accordance with the manufacturers' instructions and no short circuits between channels are made.

All external wiring remains the responsibility of the user.

Whilst EMP Designs Ltd. has made every effort to ensure the PX-1 is safe to use and meets the client's specification, the client, prior to each application, should always complete on-site testing.

All external connections should only be made while the power is turned off.

Do not attempt to disassemble the controller in any way. Please return the controller to EMP Designs Ltd. if any servicing is required.

Damage may occur if the controller outputs are continually overloaded or short circuited.

Damage may occur if the power in polarity is incorrect.

Ensure a fuse is fitted to the input supply of the controller.

Avoid places subject to extremely high temperatures or humidity.

EMP Designs Ltd
PX-1 User Guide 23/01/2025

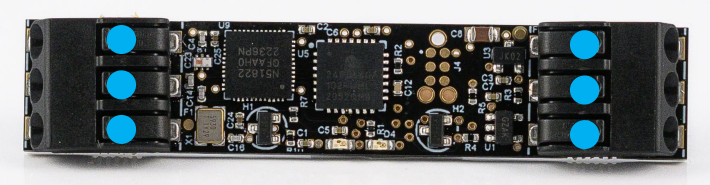
Power Specification

Specification	
Max input voltage	12Vdc
Voltage Input	5-12Vdc (according to LED strip voltage)
Operates	170 RGB Pixels or 128 RGBW pixels. 512 channels, 1 universe.

PX-1 Wiring Diagram

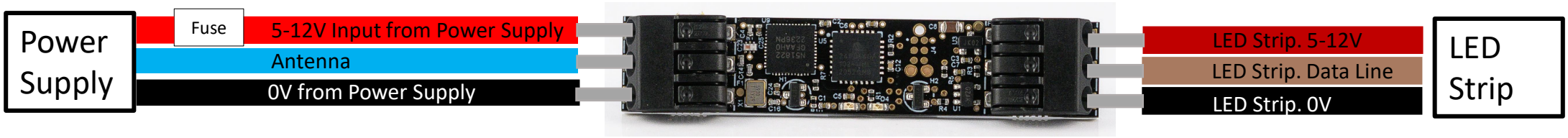
When connecting wires to the PX-1, ensure that the insulation is stripped back sufficiently, leaving no exposed wire visible outside the connector.

Press down on this section (●) of the connector to open the terminal clamp prior to inserting the wires. Please use the tool pictured below to open the terminal clamps.



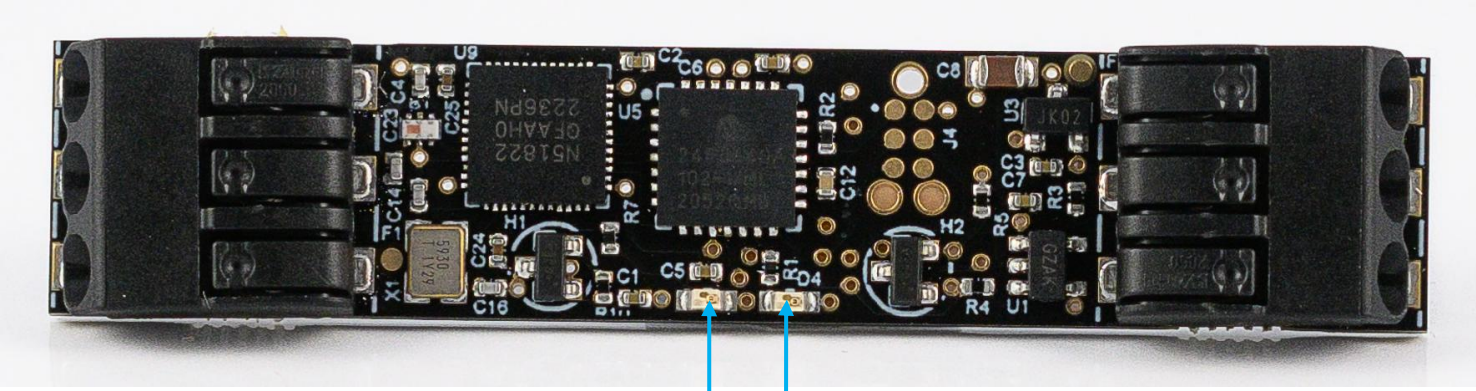
WAGO operating tool (also known as a WAGO lever or splicing tool)

The underside of the PX-1 is labelled so it is clear which wires need to be connected where but, if you are unsure the diagram below shows where the different wires need to be connected.



Please note that an antenna should be used. A 100mm piece of insulated 0.5mm^2 wire is sufficient for the task.

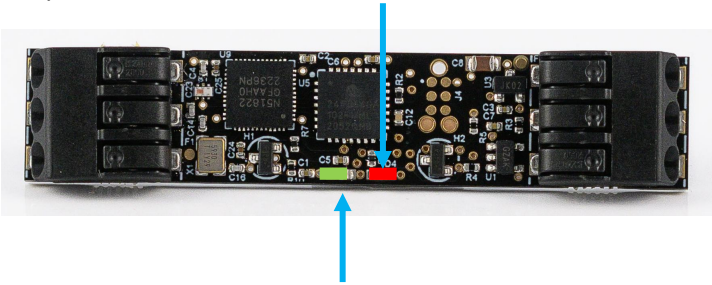
Please check that your power supply is set according to the voltage of the LED strip. For the PX-1, this can be anywhere between 5 – 12V. Using the wrong voltage could damage the board beyond economical repair. Make sure that the voltage matches the strip requirement and **does not exceed 12Vdc**.



PX-1 Instructions

Setting up the PX-1

1. Check the power supply is set to the correct voltage according to the LED strip. This must be between 5-12 Vdc.
2. Make sure the power supply is switched off when connecting the PX-1.
3. Connect the LED strip, the antenna and power to the PX-1 according to the wiring diagram on page 5. Ensure there is no exposed wire protruding from the connector.
4. Now switch the power supply on. The red power connections indicator should come on.



Synchronising the PX-1

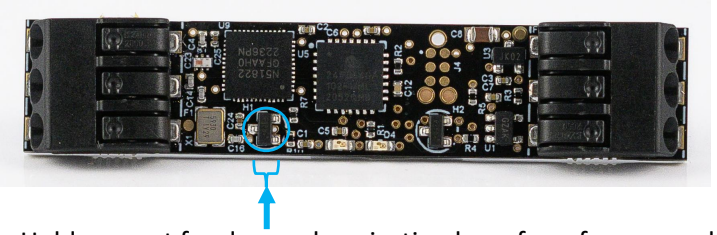
5.Press sync on your chosen DMX transmitter, the green sync connection indicator should start to flash. The LED will stop flashing and remain on once the PX-1 has synchronized to the DMX transmitter.

6. Now it is possible to use the DMX transmitter to stream patterns and sequences to the PX-1 and you will see the LED strip light up according to the pattern that is being streamed.

PX-1 Instructions

De-Synchronising the PX-1

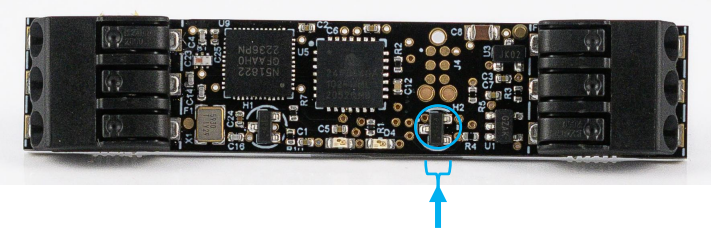
8. The PX-1 can be de-synchronised from the interface by holding a magnet over the component circled in the photo below for a few seconds. If it has successfully de-synchronized, the green LED will go out.



Hold magnet for de-synchronization here for a few seconds, over the component circled.

Initiating the One-Touch Addressing System

9. To initiate the one-touch addressing system, hold the magnet alongside the magnetic sensor indicated on the image below. When it is initiated, the LED will stop flashing and stay on. Then on the radio transmitter flash the channel that you want to set as the new start address, the controller will shift this channel to the be the start address and store the new DMX address in memory.



Hold magnet here for a few seconds to initiate one-touch addressing system

YouTube Support

We have a YouTube channel where there is a video demonstrating how to use the PX-1. The QR below will take you directly to the PX-1 Instructional video.

Alternatively, visit our YouTube channel, https://www.youtube.com/watch?v=2XL9fCCNdEY

Get in Touch

If you require further support, don't hesitate to get touch.

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https://www.youtube.com/channel/UCWgFEywgZkPVL0zmKIg6NtA