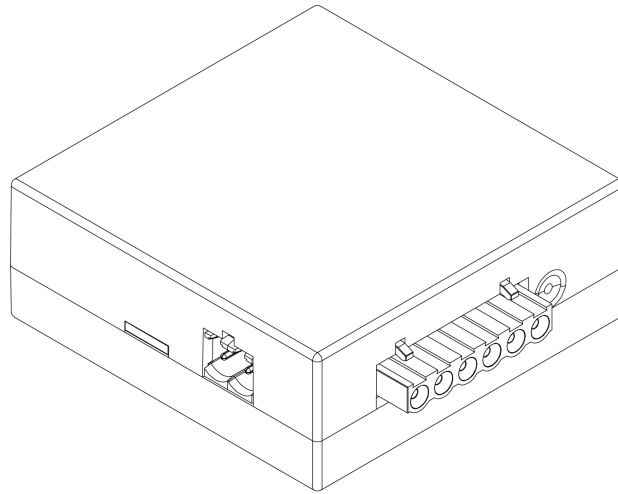




# PXLNET TRANSMITTER MANUAL



# THANK YOU FOR CHOOSING DIGIDOT!

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DiGidot offers powerful products and solutions to control LED pixels. The DiGidot C4 is the heart of our control system and offers great flexibility and easy infrastructures. In order to benefit from all our system advantages, we offer some innovative accessories like range extending equipment.

These products allow you to send PxLNet, which is a high speed and long range SPI protocol. This allows you to install the DiGidot C4 controllers in a central place, which can drastically decrease the amount of hardware and simplifies your infrastructure.

Have fun creating mesmerizing lighting installations!

**Your DiGidot team**

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## INTRODUCTION

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SPI protocols are sensitive to data distortion and often only work safely up to 2 meters (6.5 ft) of cable distance. The DiGidot PxLNet Transmitter is a small extension module that can be connected to the DiGidot C4 outputs. It converts SPI signals to our own protocol called PxLNet in order to send sensitive SPI protocols over huge distances, up to 250 meters. Any single wire SPI protocol (Data only) that can be outputted from a DiGidot C4 can be converted.

You can output the same amount of universes with this transmitter as from the DiGidot C4 output ports. This product can not only convert SPI protocols but it also converts DMX TTL signals to standard DMX 512. The PxLNet Transmitter can therefore be used to connect four balanced DMX out signals to one DiGidot C4 controller and send them up to 500 meters away.

The onboard voltage regulator accepts voltages ranging from 5Vdc up to Vdc and also powers the DiGidot C4 for easier infrastructure.

Installation is easy thanks to the RJ45 outputs, which can be connected conveniently to our DiGidot Receiver modules.

# PRODUCT INFORMATION

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## Contents

- ▶ 1 x DiGidot PxLNet transmitter
- ▶ 1 x Power terminal connector (pre-inserted in the power input)

**NOTE:** We put great care in our products and have a high quality control standard. Nonetheless we advise to double check for missing or damaged items.

In case of any missing or damaged items, please contact your supplier immediately. Never use damaged products!

## TECHNICAL SPECIFICATIONS

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### Electrical

Input Voltage:	5-48VDC
Max. power consumption:	1W (excluding DiGidot C4 power consumption)

### Mechanical

Dimensions:	43.8 x 15.8 x 15.3 mm   1.72 x 0.62 x 0.6" (L x W x H)
Net weight:	74gr   2.61oz

### Environmental

Operation Temperature (Tc):	0 to 50°C   32 to 122°F
Max. ambient Temp. (Ta <sup>max</sup> ):	40°C   104°F
Storage temperature:	-20 to 50°C   -4 to 122°F
Max. operating relative humidity:	90% (indoor use only)

### Protection

IP rating:	IP40 (indoor use only)
Voltage input:	Overvoltage protection (max. 52VDC)
Reverse polarity protection:	Yes

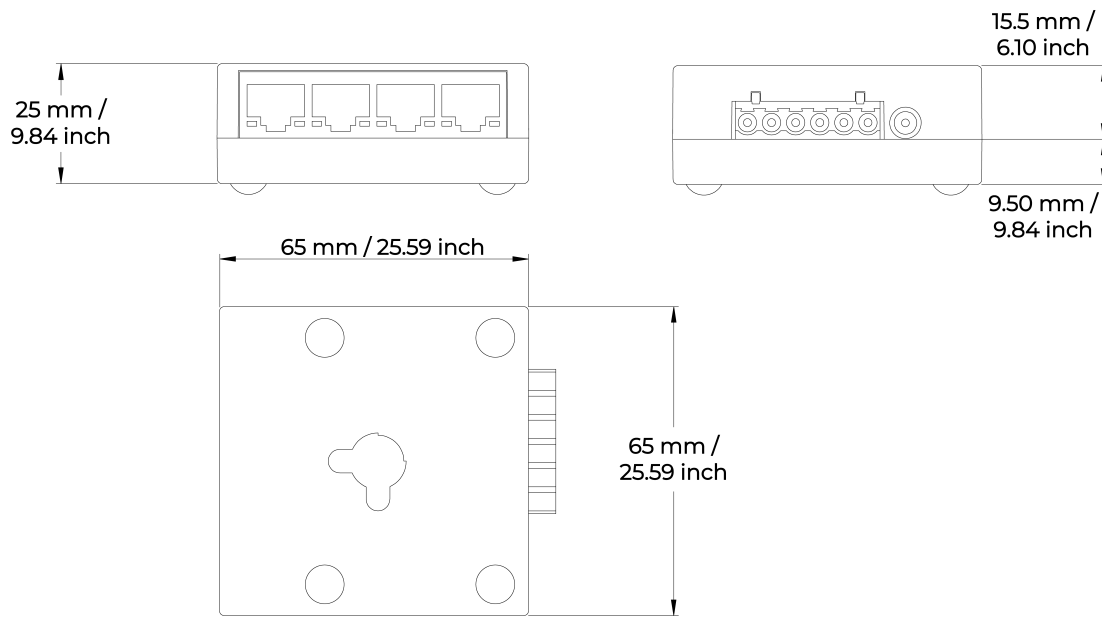
### Connectivity

Terminal wiring:	Recommended: max. 2,5 mm <sup>2</sup>   14 AWG
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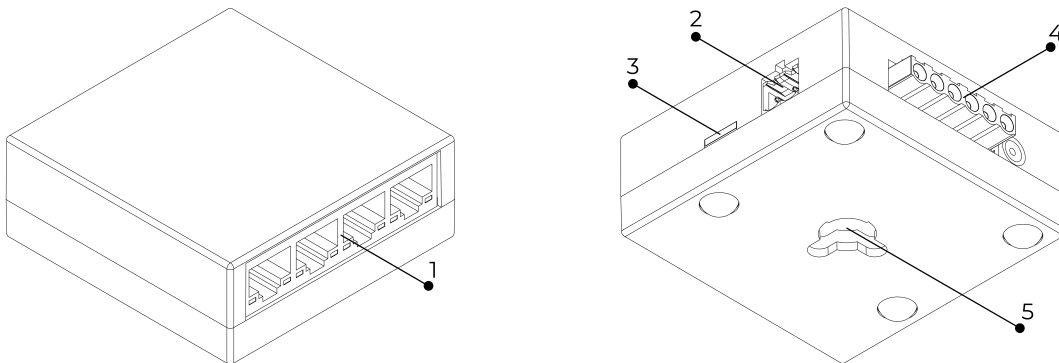
### Quality

Warranty:	2 years carry in factory warranty
Components:	RU Certified
Compliances:	CE, RoHs
Applied standards:	EN60950-1:2006 +A11:2009 + A1:2010 + A12:2011 + A2:2013, IEC60950-1 / EN60950-1, EN61006-6-3, EN55032

## Product drawings



## Product description



No.	Description
1	PXLNet RJ45 output ports 1-4
Pin 1	orange/white = (DMX) Data +
Pin 2	orange = (DMX) Data -
Pin 7	brown/white = (DMX) GND/DC-
Pin 8	brown = (DMX) GND/DC-
2	Power input   Left: DC- (GND)   Right: DC+
3	Power indicator LED
4	I/O Connector
5	Mounting hole

# BEFORE INSTALLATION

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Before installing DiGidot products it's important to take notice of following safety and installation instructions.

## Safety instructions

- ▶ Before installation and use of this product, read this manual carefully.
- ▶ Make sure that these instructions are handed over to the end-user and those responsible for installation and usage.
- ▶ Local electrical and safety rules and guidelines always overrule this manual.
- ▶ Installation should only be carried out by a professional and certified installer that is qualified to work on the electric installation.
- ▶ Do not conduct any repairs of the device (there are no user serviceable parts inside). Any unapproved repairs and/or product modifications will void product warranty. DiGidot Technologies B.V. cannot be held liable for any consequences.
- ▶ Repairs of this product may only be carried out by the manufacturer DiGidot Technologies B.V.
- ▶ Repairs and maintenance on the installation may only be carried out by qualified technicians.
- ▶ Always disconnect the mains power when working on a high voltage electric installation, not doing so may result in product damage and/or personal injuries.
- ▶ Do not connect or modify this product other than described in this manual.
- ▶ Never use a product that is damaged or does not work correctly or when the product starts to smoke, or when a crackling/sizzling noise is audible. If this is the case in any way, disconnect power and please contact your supplier immediately.
- ▶ The only way to power off this product is to disconnect it from the power source.
- ▶ The product is designed for indoor use (dry locations) only. Exposure to rain or moisture may cause fatal damage.

# INSTALLATION & WIRING

## Mounting

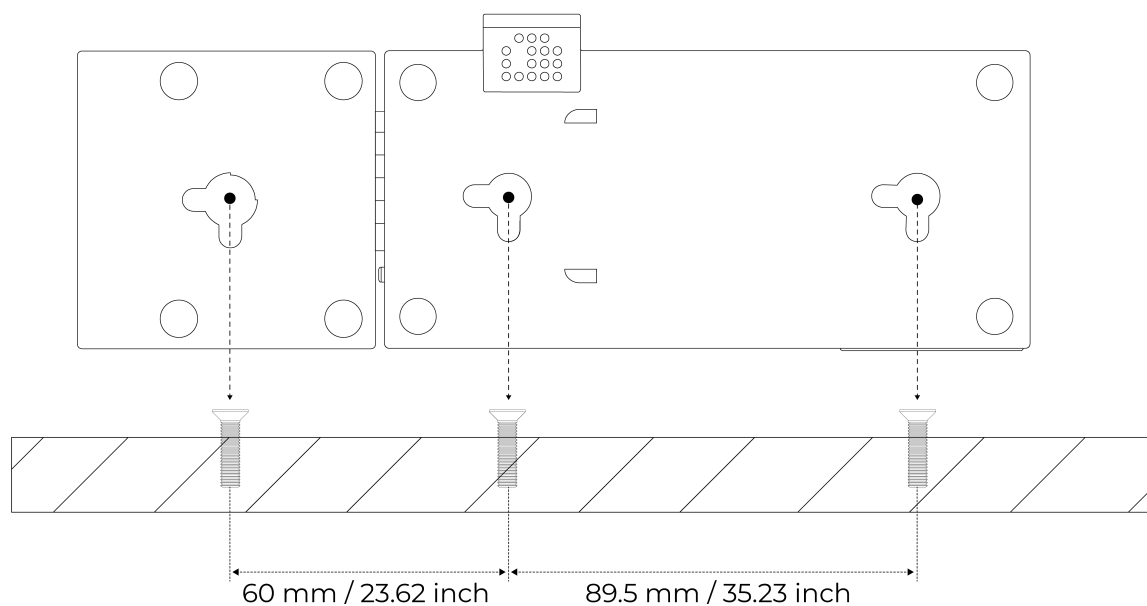
### Preparation

Before mounting and connecting power to the PxLNet Transmitter, make sure to follow these steps:

1. Disconnect power from the DiGidot C4
2. Remove the terminal connector from the DiGidot C4 I/O port

### Mounting instructions

1. Connect the I/O connector of the DiGidot PxLNet Transmitter to the I/O port of the DiGidot C4 controller in upright position and push the connector in straight and firmly.
2. Install the DiGidot C4 and PxLNet Transmitter by inserting flat hat screws, spaced according to the drawing down below, in the mounting surface. Leave 4-5 mm between the surface and underside of the screw heads.



3. Position the mounting holes of both devices over the screws and slide them in place.

### WARNING!

- ▶ This product should not be subjected to higher temperatures than their specification range (risk of fatal damage)!
- ▶ Keep this product away from direct sunlight, rain or other moisture (short circuit risk).
- ▶ Do not use this product outdoors or in humid environments (short circuit risk).

# Power supply

To power this product, the DC+ and DC- (GND) must be connected to a SELV rated power supply that provides appropriate power at the required supply voltage; 5-48 VDC.

# Connecting power

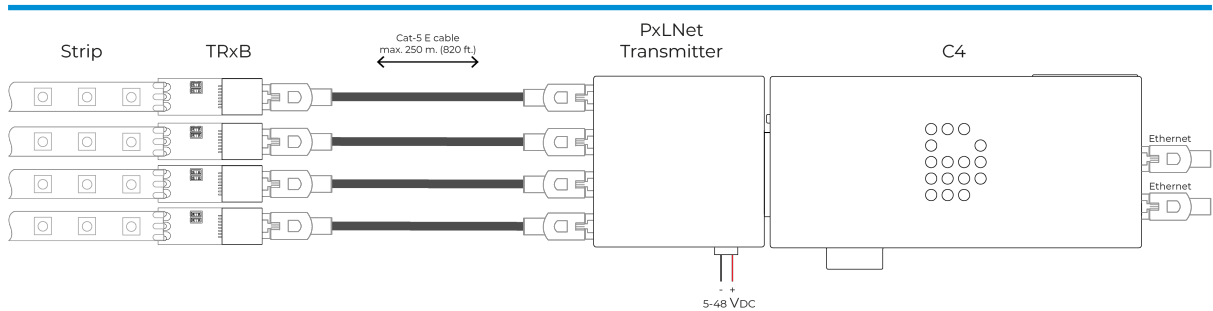
Connect the power supply, DC+ and DC- (GND) to the corresponding power inputs of the DiGidot PxLNet Transmitter terminal connector.

**IMPORTANT:** Make sure to equalize ground potentials. Always connect ground (DC-) of DiGidot C4 controller/PxLNet Transmitter to every power supply, connected to every product that is controlled by a single DiGidot C4 controller. If the grounds are not connected, this may cause malfunctioning.

# Wiring schemes

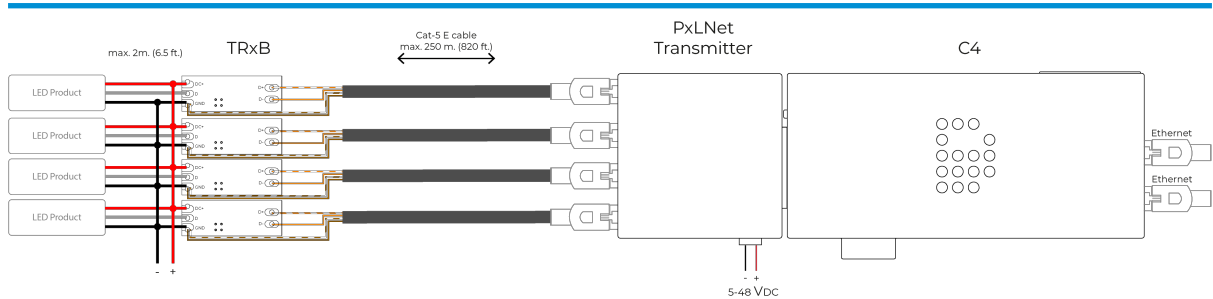
Following wiring schemes show various options to connect this product.

## Wiring scheme 1 | Connecting LED strips



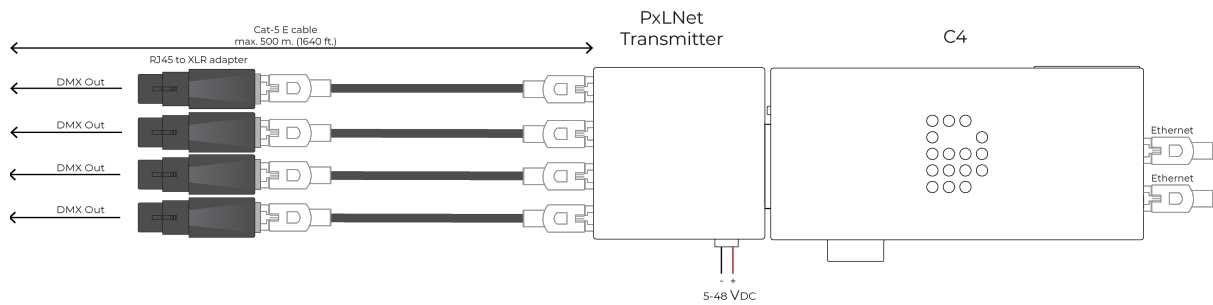
DiGidot C4 with PxLNet Transmitter connected to Rx48 receivers by Cat-5E network cables that are plugged into the receivers RJ45 busing that are soldered directly to pixel controlled LED strips.

## Wiring scheme 2 | Soldering LED Products



Transmitter connected to Rx48 receivers by Cat-5E network cables that are soldered to the receivers, which in turn have wires soldered to them that go to the LED products.

## Wiring scheme 3 | Connecting DMX XLR adapters



Transmitter connected to DiGidot DMX adapters, by Cat-5E network cables, to get four balanced DMX outputs.

**IMPORTANT:** Make sure to disconnect any power source from the DiGidot C4 power jack since the C4 controller will be powered from the PxLNet Transmitter. It is not possible to power the PxLNet Transmitter from the DiGidot C4.

## OPERATION

### SPI

The DiGidot PxLNet Transmitter automatically converts any SPI output protocol to PxLNet and sends it up to 250 meters (820 ft) away to a PxLNet Receiver, where it will be converted to the original protocol.

### DMX

In order to get the DMX protocol directly out of the PxLNet Transmitter, select 'DMX TTL' as output protocol in the DiGidot C4 interface.

The RJ45 pinout is according to USITT DMX standard, which means the RJ45 connector can be plugged in directly into DMX device inputs or use a DMX XLR adapter. For the exact pinout, check product description above.

## TIPS & TROUBLESHOOTING

In case you run into any trouble, please check your setup according to following checklist.

### Standard troubleshooting checklist

1. Double check all cables and connections.
2. Double check any soldered connections
3. Double check Network cable pinout and crimped connectors
4. Is the DiGidot C4 powered correctly?

5. Are the LEDs powered correctly?
6. Are all power supplies connected correctly to your mains power supply?
7. Is your network setup done correctly?
  - ▶ Prevent IP Address conflicts
  - ▶ Make sure that the subnet mask range is set correctly and that all IP Address are set within the appropriate range.
8. Are the inputs and outputs configured correctly in the DiGidot C4?
  - ▶ Make sure that the correct output protocol is configured.
  - ▶ Make sure that input and output matches the system setup.
9. Double check if all grounds (DC-) from all power supplies that are connected to all lighting products which are controlled from one DiGidot C4 and PxLNet Transmitter, are connected.

## GENERAL INFORMATION

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### Online resources

For technical specifications, latest documentation, manuals, product information and further support please visit [www.digidot.eu](http://www.digidot.eu).

### Remarks

We've put great care in writing this manual. However in case you encounter any errors or unclarities, please contact us.

### Compliances & EU declaration of Conformity



This product is designed and produced by DiGidot Technologies B.V., Amsterdam, The Netherlands.

Hereby, DiGidot Technologies BV declares that this product complies with and was tested according to essential requirements of all relevant CE directives.

### Warranty



This product is covered by a carry-in manufacturer's warranty of 2 years which covers any design faults, production faults and component failures.

Warranty voids if the product was installed or used incorrectly or not in accordance with this manual, and/or if the product was damaged due to external factors, modified or electrically overloaded. Warranty conditions of DiGidot Technologies B.V. apply. Warranty claims have to be issued by email: [support@digidot.eu](mailto:support@digidot.eu).

### Disposal and recycling



This product should not be disposed with other household waste. When you decide to dispose this product and/or its battery, do so in accordance with local environmental and recycling regulations.

## Feedback

Tell us all about your experience with DiGidot!

The continuous development of the DiGidot control platform is only possible thanks to feedback from our users. If you have any suggestions, please contact us by email: [info@digidot.eu](mailto:info@digidot.eu).

## Imprint

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