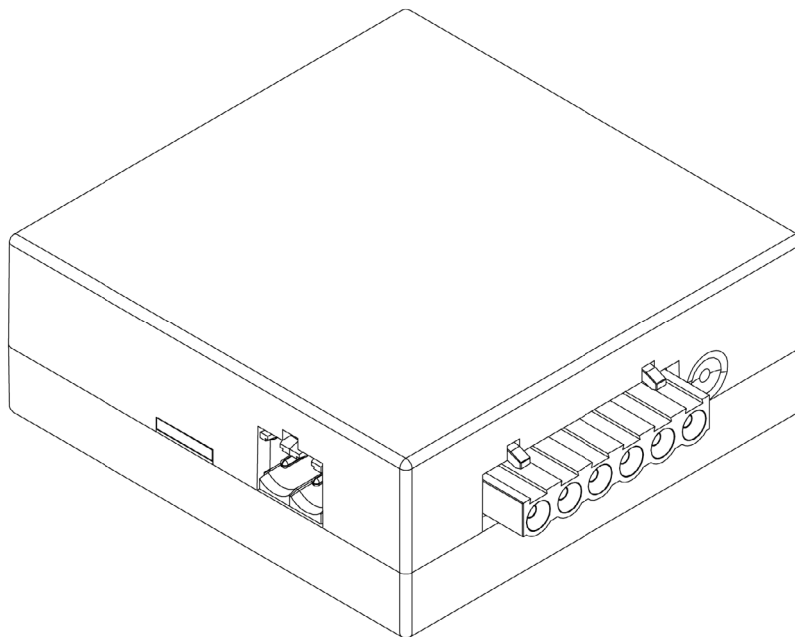


# PXLNET TRANSMITTER MANUAL



CTRLPIXELTRMR

 **RoHS** **SPI** **DMX** **IP40**

# THANK YOU FOR CHOOSING ACOLYTE AND DIGIDOT!

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Acolyte and DiGidot offer powerful products and solutions to control LED pixels. C4 controllers are the heart of our control system, offering great flexibility and simple infrastructures. To benefit from all our system advantages, we offer innovative accessories like range extending equipment. These products allow you to send PxLNet, which is a high speed, long-range SPI protocol. Install C4 controllers and PxLNet Transmitters in a central place for easy access and maintenance.

Have fun creating mesmerizing lighting installations!

**The Acolyte and DiGidot teams**

# INDEX

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Introduction	4
Contents	4
PxLNet Transmitter Features	4
Technical Drawings	5
Product Description	6
Technical Specifications	7
Before Installation	8
Installation & Wiring	9
Mounting	10
Power Supply	11
Connecting Power	11
Wiring Schemes	12
Operation	14
Tips & Troubleshooting	15
General Information	15
Compliances	16

# INTRODUCTION

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SPI protocols are sensitive to data distortion and often only work safely over up to 6.5 ft (2 m) of cable distance. The PxLNet Transmitter is a small extension module that can be connected to the C4 controller outputs. It converts SPI or DMX TTL signals to PxLNet to send them across large distances. It can convert any industry standard SPI protocol that can be output from an SPI controller. Output the same number of universes with this transmitter as sent from the SPI controllers output port(s). This product can not only convert SPI protocols but it also converts DMX TTL signals to standard DMX512. That means the PxLNet Transmitter can be used to connect four differential DMX signals up to 1640 ft (500 m) away. The onboard voltage regulator accepts voltages ranging from 12-24 VDC. Installation is easy thanks to the RJ45 outputs, which quickly connect to our PxLNet Transceiver modules.

## CONTENTS

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- One PxLNet Transmitter
- One 2 pin header, DC power terminal connector (already inserted)
- One quick start instruction card

NOTE: We take great care with our products and have a standard of quality control, but we advise you 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!

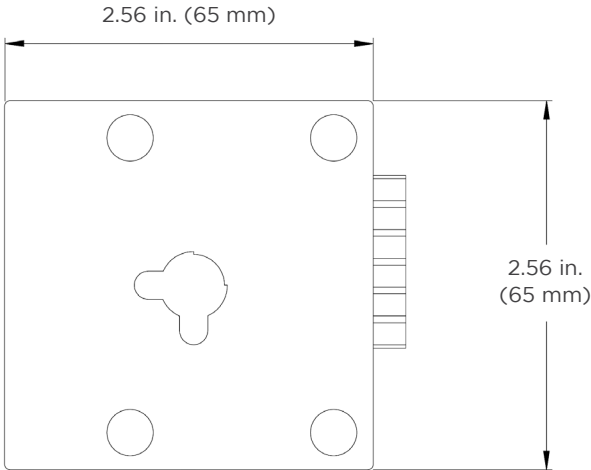
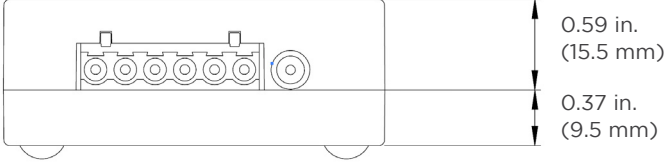
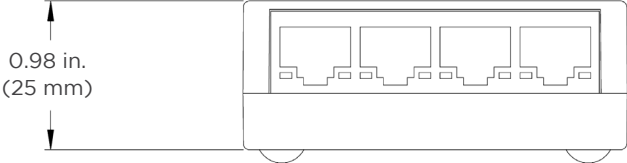
## PXLNET TRANSMITTER FEATURES

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- Connects directly to C4 controller IO port
- Converts SPI and DMX TTL to PxLNet and DMX respectively
- Flexible operating voltage from 12-24 VDC
- 4 isolated RJ45 bus ports for PxLNet
- Built-in power supply for C4 controller
- Can be used with any third-party SPI controller

# TECHNICAL DRAWINGS

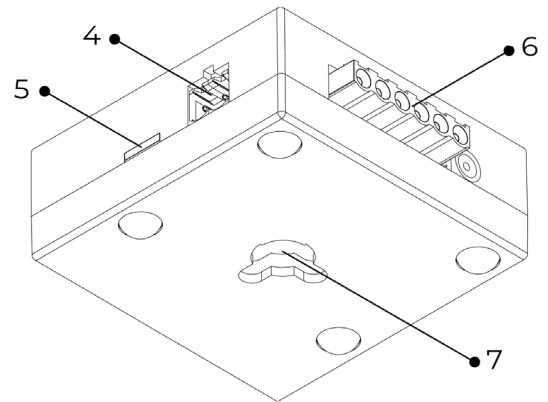
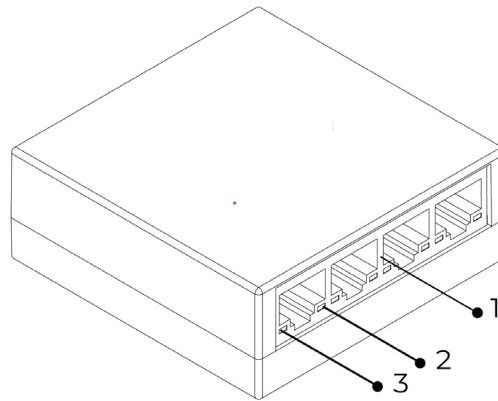
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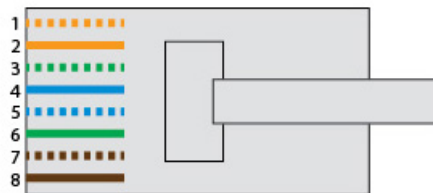
# PRODUCT DESCRIPTION

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1. 4 PxLNet RJ45 output ports
2. Status LED power on (green)
3. Status LED transmitting data (yellow)
4. Power input (Left = DC- (GND) Right = DC+)
5. Power indicator LED (blue)
6. I/O Connector to C4 controllers
7. Mounting hole



- Pin 1:** Orange/White = (DMX) Data +  
**Pin 2:** Orange = (DMX) Data -  
**Pin 3:** --  
**Pin 4:** --  
**Pin 5:** --  
**Pin 6:** --  
**Pin 7:** Brown/White = (DMX) GND/DC -  
**Pin 8:** Brown = (DMX) GND/DC



# TECHNICAL SPECIFICATIONS

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## Electrical

Input Voltage:	12-24 VDC
Max. power consumption:	1 W

## Mechanical

Dimensions:	2.56 x 2.56 x 0.98 in.   65 x 65 x 25 mm (L x W x H)
Net weight:	2.61oz (74gr)

## Environmental

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

## Protection

IP rating:	IP40 (indoor use only)
DC input:	Overvoltage protection (max. 24VDC)
Reverse polarity protection:	Yes

## Connectivity

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

Warranty:	5-year factory warranty
Components:	RU Certified
Compliances:	CE, RoHS, ETL pending
Applied standards:	EN60950-1:2006 +A11:2009 + A1:2010 + A12:2011 + A2:2013, IEC60950-1 / EN60950-1, EN61006-6-3, EN55032

# BEFORE INSTALLATION

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Before installing our products it's important to note the following safety and installation instructions.

## SAFETY INSTRUCTIONS

- Before installation and use of this product, read this manual carefully.
- Make sure these instructions are handed over to those responsible for installation, use and maintenance of this product.
- Local electrical and safety rules and guidelines always overrule this manual.
- Installation should only be carried out by professional certified installers that are qualified to work on electrical installations.
- Do not conduct any repairs of this device (there are no user serviceable parts inside). Any unapproved repairs and/or product modifications will void product warranty. Acolyte and DiGidot Technologies B.V. cannot be held liable for any consequences.
- Repairs of this product may only be carried out by DiGidot Technologies B.V.
- Repairs and maintenance of the installation may only be carried out by qualified technicians.
- Always disconnect the mains power when working on a high voltage electric installation. Failure to do so may result in product damage and/or personal injury.
- Do not connect or modify this product other than described in this manual.
- Never use a product that is visibly damaged or does not work correctly. Never use a product if it starts to smoke or if a crackling/sizzling noise is audible. If this is the case, disconnect the power to the device and contact Acolyte 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.

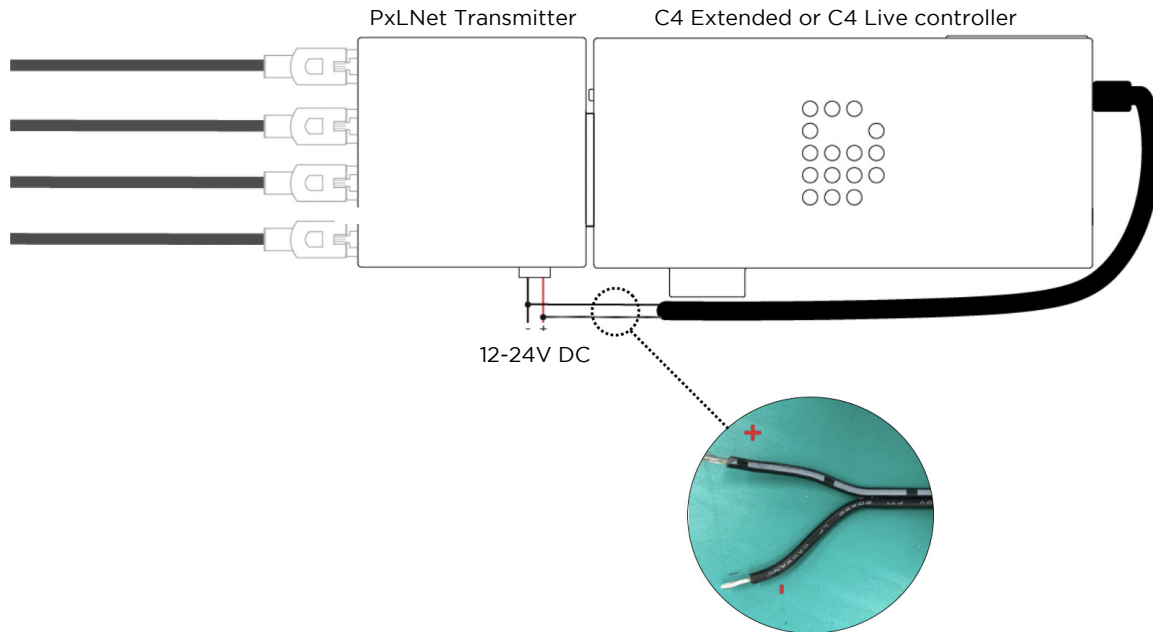


# INSTALLATION AND WIRING

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## WIRING

Please follow these instructions when connecting your controls system. Make sure to power the C4 controller and PxLNet Transmitter individually. Use the supplied Power Jack cable to power the C4 controller.

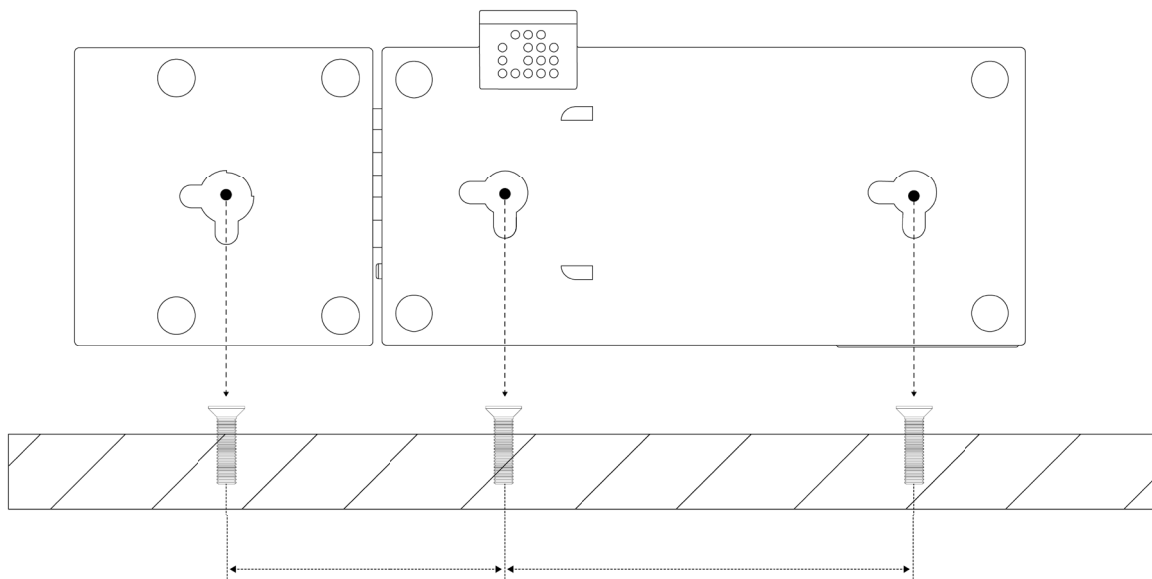


# MOUNTING

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

1. Disconnect power from the C4 controller.
2. Remove the terminal connector from the C4 controller I/O port.
3. Connect the I/O connector of the PxLNet Transmitter to the I/O port of the C4 controller in the upright position. Be sure the connector is straight and firmly inserted.
4. Install the C4 and PxLNet Transmitter by inserting flathead screws, spaced according to the drawing below, in the mounting surface. Leave about 0.2 in. (4-5 mm) between the surface and underside of the screw heads.



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

## WARNING!

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

## POWER SUPPLY

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To power this product, the DC+ and DC- (GND) of the terminal connector must be connected to a SELV rated power supply that provides appropriate power at the required supply voltage (12-24 VDC).

## CONNECTING POWER

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Connect the power supply, DC+ and DC- (GND) to the corresponding power inputs of the DiGidot PxLNet Transmitter terminal connector. When the Transmitter is powered and started up, the status light next to the power input will show a blue light.

### IMPORTANT:

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

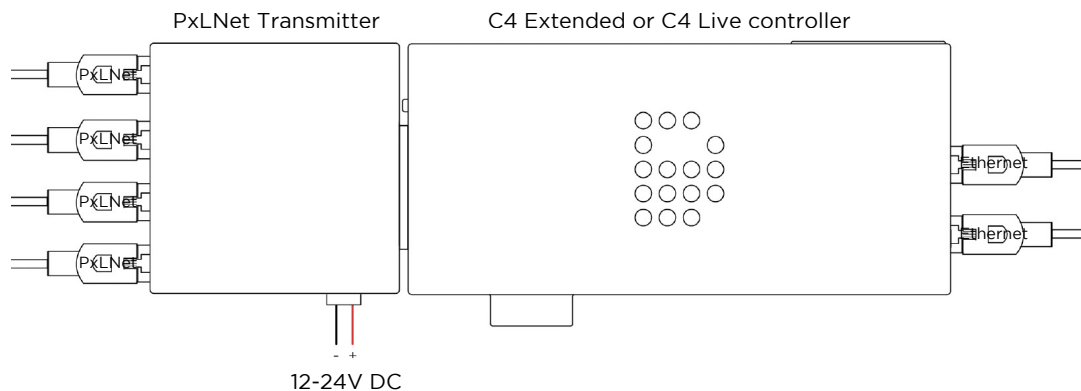
# WIRING SCHEMES

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The following wiring schemes show various options to connect the PxLNet Transmitter.

## WIRING SCHEME 1: CONNECT TRANSMITTER TO C4 CONTROLLER

The PxLNet Transmitter connects directly to the C4 controller. A PxLNet Transceiver Bus Adapter (sold separately) must be placed on the terminal connector when using third party SPI controllers.

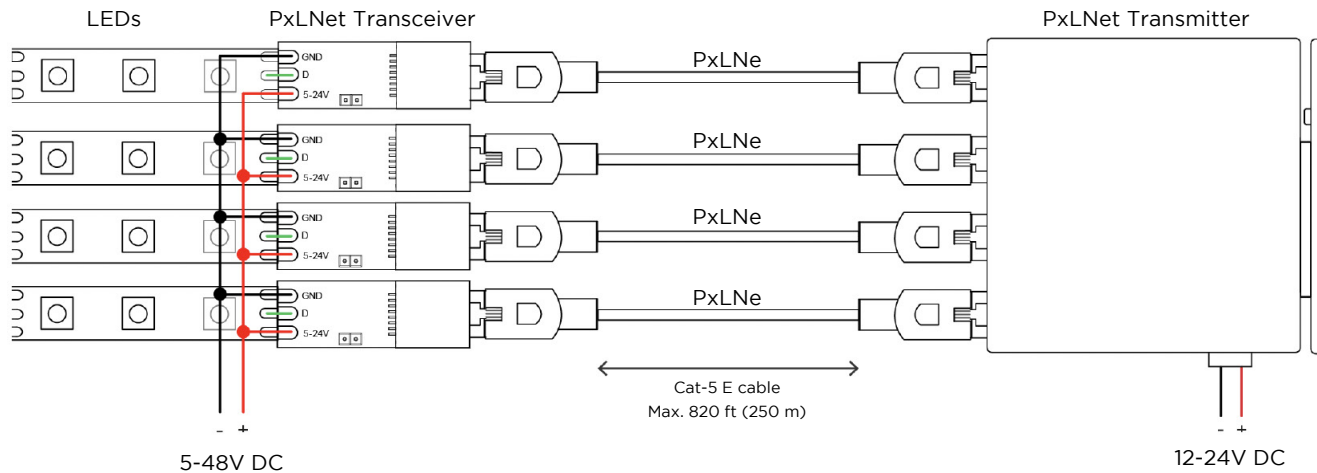


### IMPORTANT:

The C4 controller is powered separately. This is done with a separate DC-Jack power cable. See 'Installation & Wiring' section for more information about power distribution.

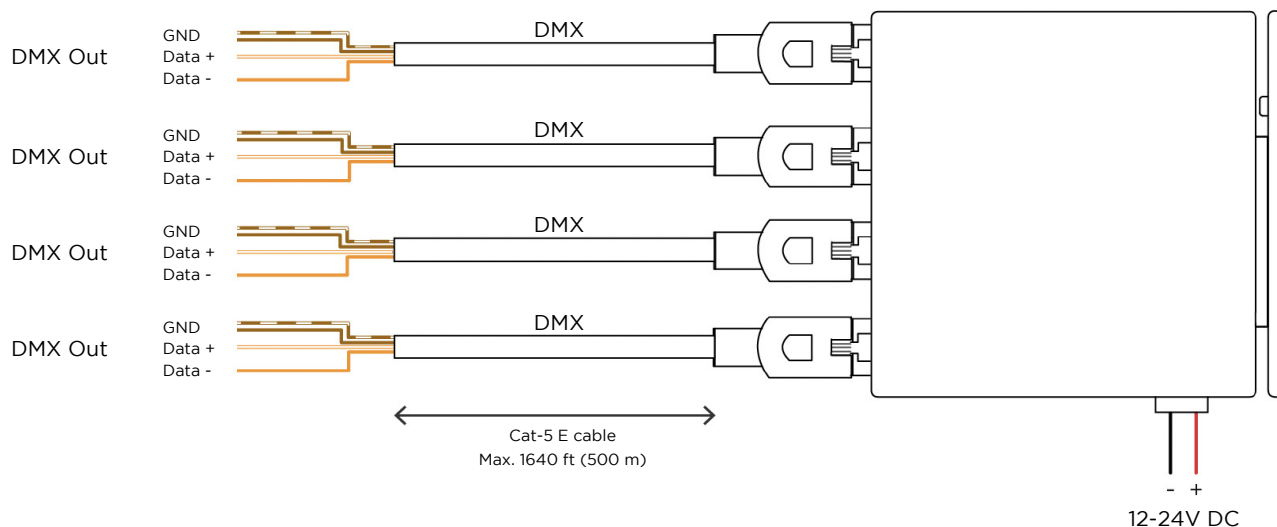
## WIRING SCHEME 2: CONNECTING TO PXLNET TRANSCEIVER

The PxLNet Transmitter can be connected to a PxLNet Transceiver to send signals across large distances. For more wiring options, please refer to the PxLNet Transceiver manual.



## WIRING SCHEME 3: CONNECTING TO DMX PRODUCTS

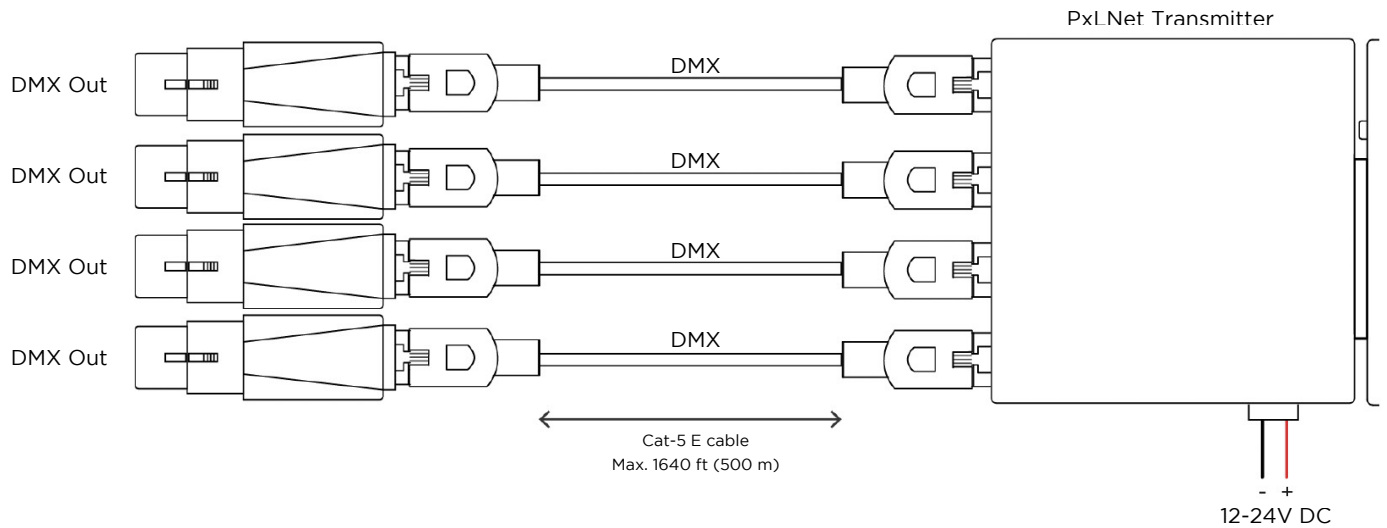
When connecting a DMX product where the wires need to be inserted in wire terminals or soldered, the network cable must be stripped and wires must be connected as shown below. (The indicated wire colors are according to the T-568B and ANSI ESTA E1-11 standard.)



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## WIRING SCHEME 4: CONNECTING TO DMX ADAPTERS

We offer RJ45 to XLR adapters to connect to any DMX controlled device with a 3-pin XLR connector. (The RJ45 pinout is according to the ANSI ESTA E1-11 standard and can also be inserted directly in any DMX device with RJ45 input.)



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## OPERATION

### SPI

A PxLNet Transmitter automatically converts any SPI output protocol to PxLNet and sends it up to 820 ft (250 m) away to a PxLNet Transceiver, where it is converted to the original protocol.

### DMX

To transmit the DMX protocol directly from the PxLNet Transmitter, select 'DMX TTL' as output protocol in the C4 controller interface. (The RJ45 pinout is according to ANSI ESTA E1-11 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

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1. If run into any trouble, please check your setup according to following checklist:
2. Double check all cables and connections.
3. Double check any soldered connections.
4. Double check the network cable pinout and crimped connectors.
5. Is the C4 controller powered correctly?
6. Are the LEDs powered correctly?
7. Are all power supplies connected correctly to your mains power supply?
8. Is your network setup done correctly?
  - Prevent IP Address conflicts
  - Make sure that the subnet mask is set correctly and that all IP addresses are set within the appropriate range.
  - Refer to further troubleshooting tips in the C4 Controller user manual.
9. Are the C4 controller inputs and outputs configured correctly?
  - Make sure that the IC/SPI protocol is configured correctly.
  - Make sure that input and output matches the system setup. Use the highlight option to test the outputs.
10. Double check that all grounds (DC-) from any power supplies for any lighting products controlled by one C4 controller 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 taken great care in writing this manual. However, if you encounter any discrepancies or something isn't clear, please contact us.

# COMPLIANCES & EU DECLARATION OF CONFORMITY

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



## CE MARKING

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



## WARRANTY

This product has a carry-in manufacturer's warranty of 5 years which covers any design faults, production faults and component failures. Warranty is void 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 must be issued by email to [support@digidot.eu](mailto:support@digidot.eu).



## DISPOSAL AND RECYCLING

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

## FEEDBACK

Tell us all about your experience with the PxLNet Controller! The continuous development of this 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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