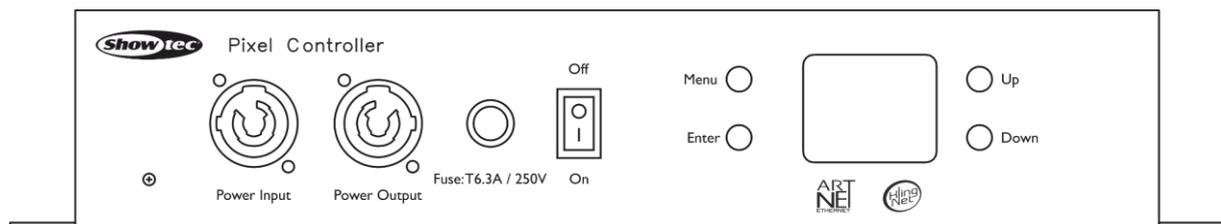




# MANUAL



ENGLISH

## Pixel Controller

V1

Order code: 44510

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## Warning



**For your own safety, please read this user manual carefully  
before your initial start-up!**

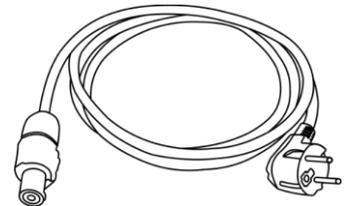
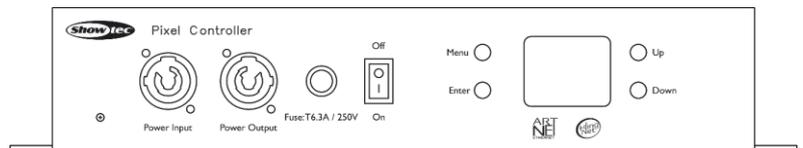


### Unpacking Instructions

Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all parts are present, and have been received in good condition. Notify the dealer immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture will be returned in the original factory box and packing.

### Your shipment includes:

- Showtec Pixel Controller
- Schuko to pro power cable (1,5 m)
- User manual



**CAUTION!**  
**Keep this device away from rain and moisture!**  
**Unplug mains lead before opening the housing!**



### Safety Instructions

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



**CAUTION! Be careful with your operations.**  
**With a dangerous voltage you can suffer  
a dangerous electric shock when touching the wires!**



Before the initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes contained in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

### IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

- Never let the power cord come into contact with other cables! Handle the power cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Never leave any cables lying around.
- Do not insert objects into air vents.
- Do not connect this device to a dimmer pack.
- Do not switch the device on and off in short intervals, as this will reduce the device's life.
- Do not touch the device's housing bare-handed during its operation. Allow the fixture to cool for at least 5 minutes before handling.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Only use the device indoors, avoid contact with water or other liquids.
- Only operate the fixture after having checked if the housing is firmly closed and all screws are tightly fastened.
- Only operate the device after having familiarized with its functions.
- Avoid flames and do not put close to flammable liquids or gases.
- Always keep the housing closed while operating.
- Always allow a free air space of at least 50 cm around the unit for ventilation.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power cord holding it by the plug. Never pull out the plug by tugging the power cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power cord is never crimped or damaged. Check the device and the power cord from time to time.
- If device was dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue the use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.
- For adult use only. The fixture must be installed beyond the reach of children. Never leave the unit running unattended.
- Never attempt to bypass the thermostatic switch or fuses.
- The user is responsible for correct positioning and operating of the Pixel Controller. The manufacturer will not accept liability for damages caused by the misuse or incorrect installation of this device.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

### Operating Determinations

- This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.
- The maximum ambient temperature  $t_a = 40\text{ °C}$  must never be exceeded.
- In order to eliminate wear and improve the device's lifespan, during periods of non-use, completely disconnect from power source via breaker or by unplugging.
- The relative humidity must not exceed 50 % with an ambient temperature of  $40\text{ °C}$ .
- If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
- Any other operation may lead to dangers like short-circuit, burns, electric shock, crash etc.

*You endanger your own safety and the safety of others!*

## Rigging

Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.

*Improper installation can cause serious injuries and/or damage of property!*

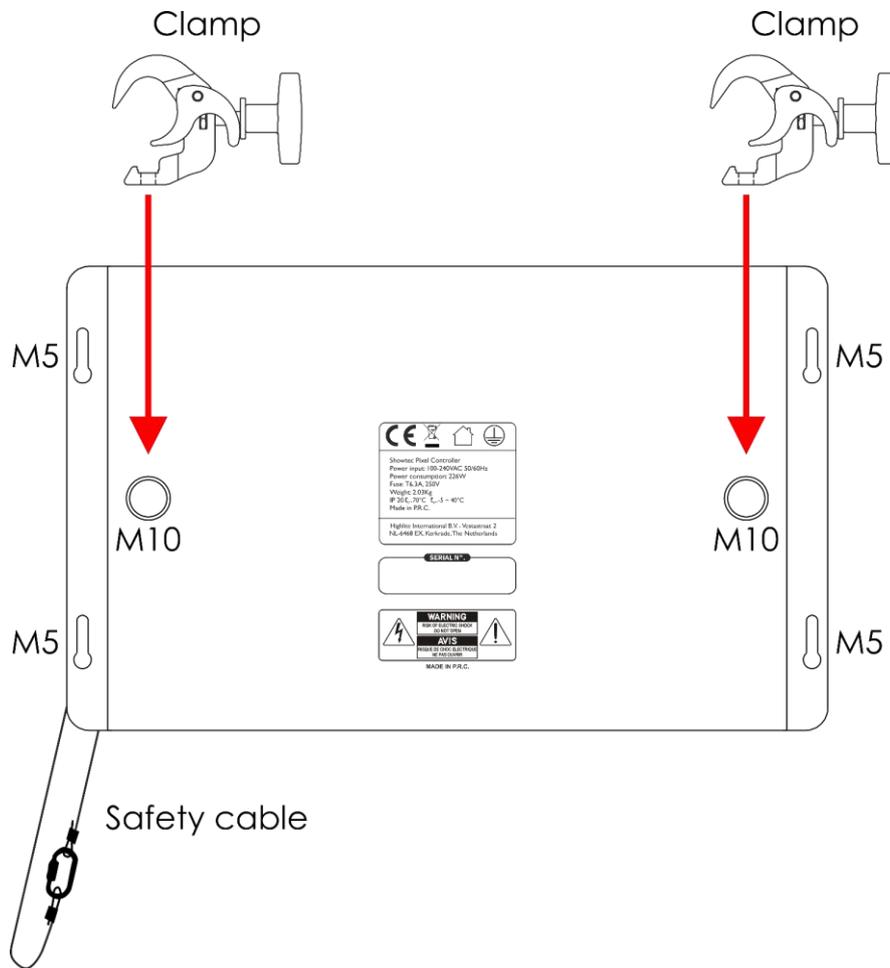


Fig. 01

The Pixel Controller can be placed on a flat surface or mounted to any kind of truss, with clamps and/or M8 screws for fixed installations.

## Connection with the Mains

Connect the device to the mains with the power-plug.

Always check if the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	PHASE
N	BLUE	BLACK	SILVER	NEUTRAL
⊕	YELLOW/GREEN	GREEN	GREEN	PROTECTIVE GROUND

*Make sure that the device is always properly connected to the earth!*

*Improper installation can cause serious injuries and/or damage of property!*



### **Return Procedure**

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Authorization Number (RMA number). Products returned without an RMA number will be refused. Highlite will not accept the returned goods or any responsibility. Call Highlite 0031-455667723 or mail [offersales@highlite.com](mailto:offersales@highlite.com) and request an RMA prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. Highlite reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

**Note: If you are given an RMA number, please include the following information on a piece of paper inside the box:**

- 01) Your name
- 02) Your address
- 03) Your phone number
- 04) A brief description of the symptoms

### **Claims**

The client has the obligation to check the delivered goods immediately upon delivery for any shortcomings and/or visible defects, or perform this check after our announcement that the goods are at their disposal. Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise.

It is the customer's responsibility to report and submit claims with the shipper in the event that a fixture is damaged due to shipping. Transportation damage has to be reported to us within one day after receipt of the delivery.

Any return shipment has to be made post-paid at all times. Return shipments must be accompanied with a letter defining the reason for return shipment. Non-prepaid return shipments will be refused, unless agreed otherwise in writing.

Complaints against us must be prepared in writing or sent by fax within 10 working days after receipt of the invoice. After this period complaints will not be handled anymore.

Complaints will only then be considered if the client has so far complied with all parts of the agreement, regardless of the agreement from which the obligation is resulting.

## Description of the Device

### Features

The Pixel Controller is designed to be operated with the Pixelstrips.

- Power supply: 100–240 V AC, 50/60 Hz
- Power consumption: 226 W
- DMX channels: 8, 480, 1920 channels
- Control modes: Auto, Manual, Master/Slave, DMX-512, Art-Net, Kling-Net
- Control protocol: DMX-512, Art-Net, Kling-Net
- Display: OLED display
- Housing: Metal
- Color: Black
- Maximum cable length: 10 m (CAT-5/CAT-6) from the Pixel Controller to the Pixelstrip
- Maximum output length: 4 m per output/16 m per Pixel Controller
- Connections: Pro power connectors IN/OUT, 3-pin/5-pin DMX connectors IN/OUT, 2 x Art-Net RJ45 connectors OUT, 4 x dedicated RJ45 Pixelstrip connectors OUT
- Cooling: Convection
- IP rating: IP20
- Operating temperature: From -5 °C to +40 °C
- Fuse: T6,3A/250 V
- Dimensions: 342 x 210 x 68 mm (LxWxH)
- Weight: 2,03 kg



The Pixel Controller is designed to be operated together with the Pixelstrip.



The maximum length of your setup must not exceed 16 meters per controller (max. 4 meters per output)!

It is possible to combine the Pixelstrip 20 (44501) and the Pixelstrip 40 (44502), if the 4-meter setup length limit is observed.

**Note:** The Pixel Controller is delivered without the Pixelstrip LED bars. You need to purchase these products separately.

44501 – Pixelstrip 20 (50 cm)

44502 – Pixelstrip 40 (100 cm)

### Front

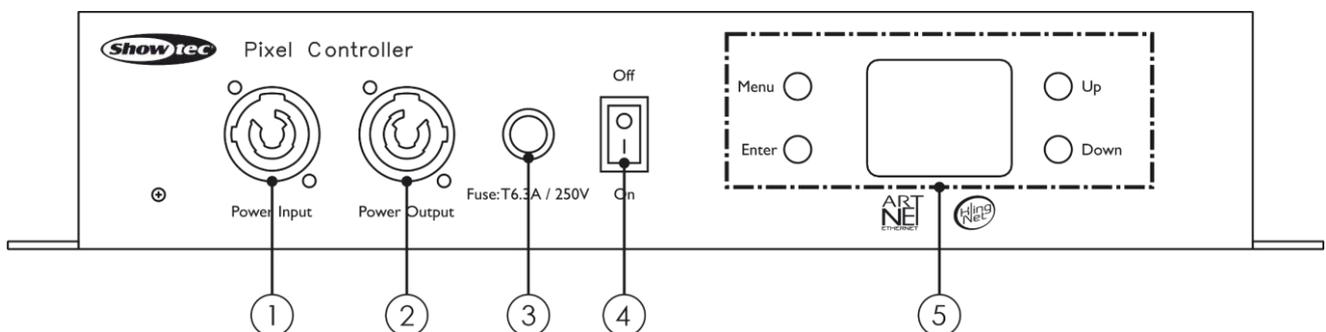


Fig. 02

- 01) Pro power connector (Blue) IN
- 02) Pro power connector (Gray) OUT
- 03) Fuse T6,3A/250 V
- 04) Power switch ON/OFF
- 05) OLED display + control buttons

Back

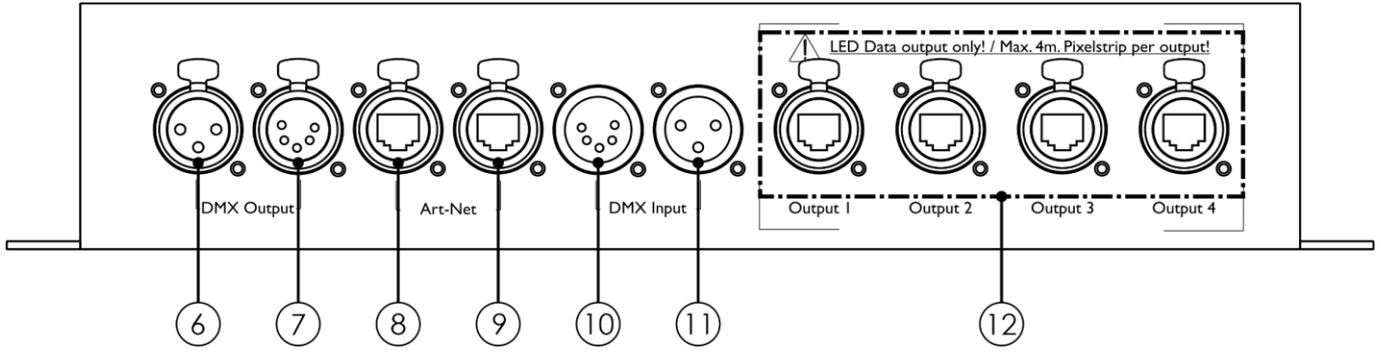


Fig. 03

- 06) 3-pin DMX connector OUT
- 07) 5-pin DMX connector OUT
- 08) RJ45 connector Art-Net
- 09) RJ45 connector Art-Net
- 10) 5-pin DMX connector IN
- 11) 3-pin DMX connector IN
- 12) Dedicated RJ45 Pixelstrip connectors 1-4

Side

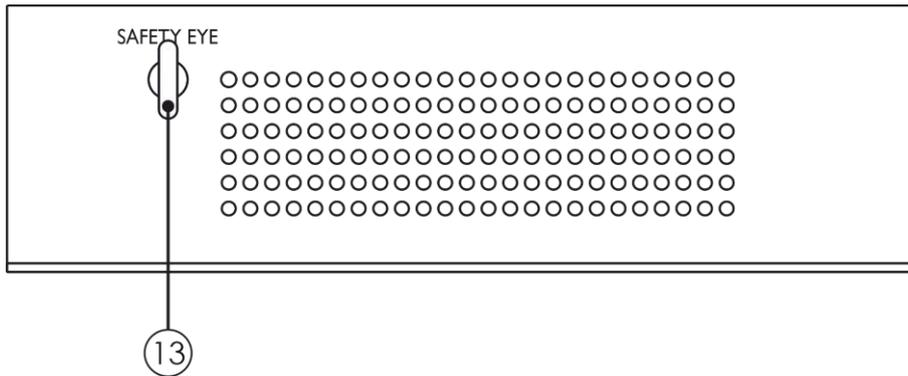


Fig. 04

- 13) Safety eye

## Installation

Remove all packing materials from the Pixel Controller. Check if all foam and plastic padding is removed. Connect all cables.

**Do not supply power before the whole system is set up and connected properly.**

**Always disconnect from electric mains power supply before cleaning or servicing.**

**Damages caused by non-observance are not subject to warranty.**

## Setup and Operation

Follow the directions below, as they pertain to your preferred operation mode.

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 110 V specification product on 240 V power, or vice versa.

Connect the device to the main power supply.

### Multiple Fixtures Power Linking

The Pixel Controller supports power linking. Power can be relayed to another device via the power OUT connector. Note that the input and the output connectors have different designs: one type cannot be connected to the other.

To link fixtures in a chain, a hard usage cable with appropriate cable jacket must be used. Power linking cables are available for purchase from Highlife International.

To prevent power overload and damage to the fixture, do not link more fixtures in one chain than recommended. After you have reached the maximum number of fixtures, use a new power outlet.



Maximum recommended number of fixtures on a power link @ 110 V: 5 fixtures

Maximum recommended number of fixtures on a power link @ 240 V: 10 fixtures

## Control Modes

There are 6 modes:

- Auto
- Manual
- Master/Slave
- DMX-512 (8CH, 480CH)
- Art-Net (8CH, 480CH, 1920CH)
- Kling-Net (40 pix/1 m, 80 pix/2 m, 120 pix/3 m, 160 pix/4 m)

### One Pixel Controller (Auto, Manual)

- 01) Fasten the controller to a firm trussing or place it on a flat surface. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (order code 70140 / 70141).
- 03) Connect the Pixelstrips.
- 04) Plug the end of the electric mains power cord into a proper electric power supply socket.
- 05) When the controller is not connected by means of a DMX cable, it functions as a stand-alone device.
- 06) Please see page 23 for more information about Auto and Manual modes.

## Multiple Pixel Controllers (Master/Slave Control)

- 01) Fasten the controller to a firm trussing or place it on a flat surface. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (order code 70140 / 70141).
- 03) Connect the Pixelstrips.
- 04) Use a 3-pin/5-pin DMX cable to connect the controllers.

The pins:



- 01) Earth
- 02) Signal -
- 03) Signal +



- 01) Earth
- 02) Signal -
- 03) Signal +
- 04) N/C
- 05) N/C

- 05) Link the units as shown in Fig. 05. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX cable. Repeat this process to link the rest of the units. You can use the same functions on the master device as described on page 23 (Auto mode, Manual mode). This means that you can set your desired operation mode on the master device and all slave devices will react the same as the master device.

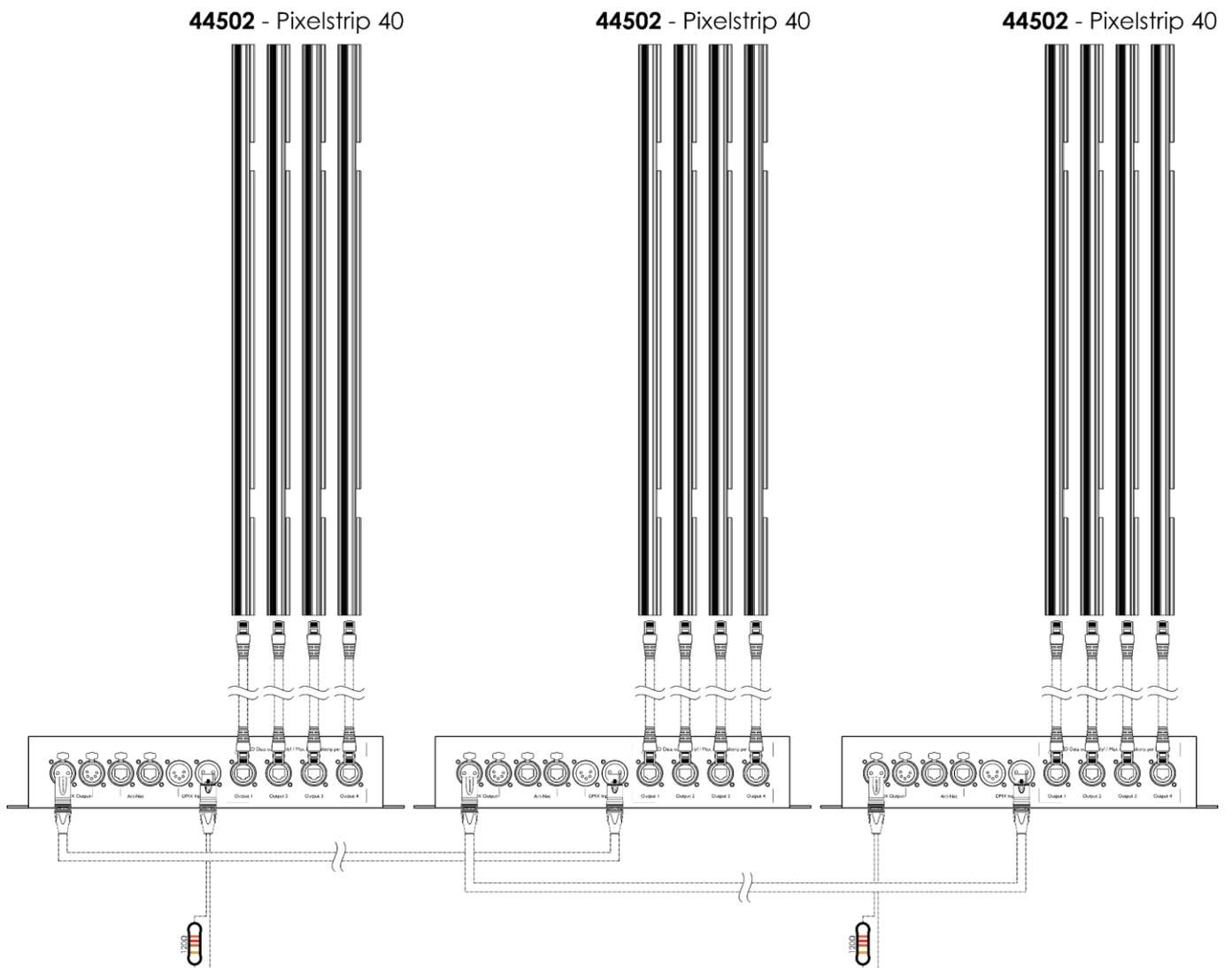


Fig. 05

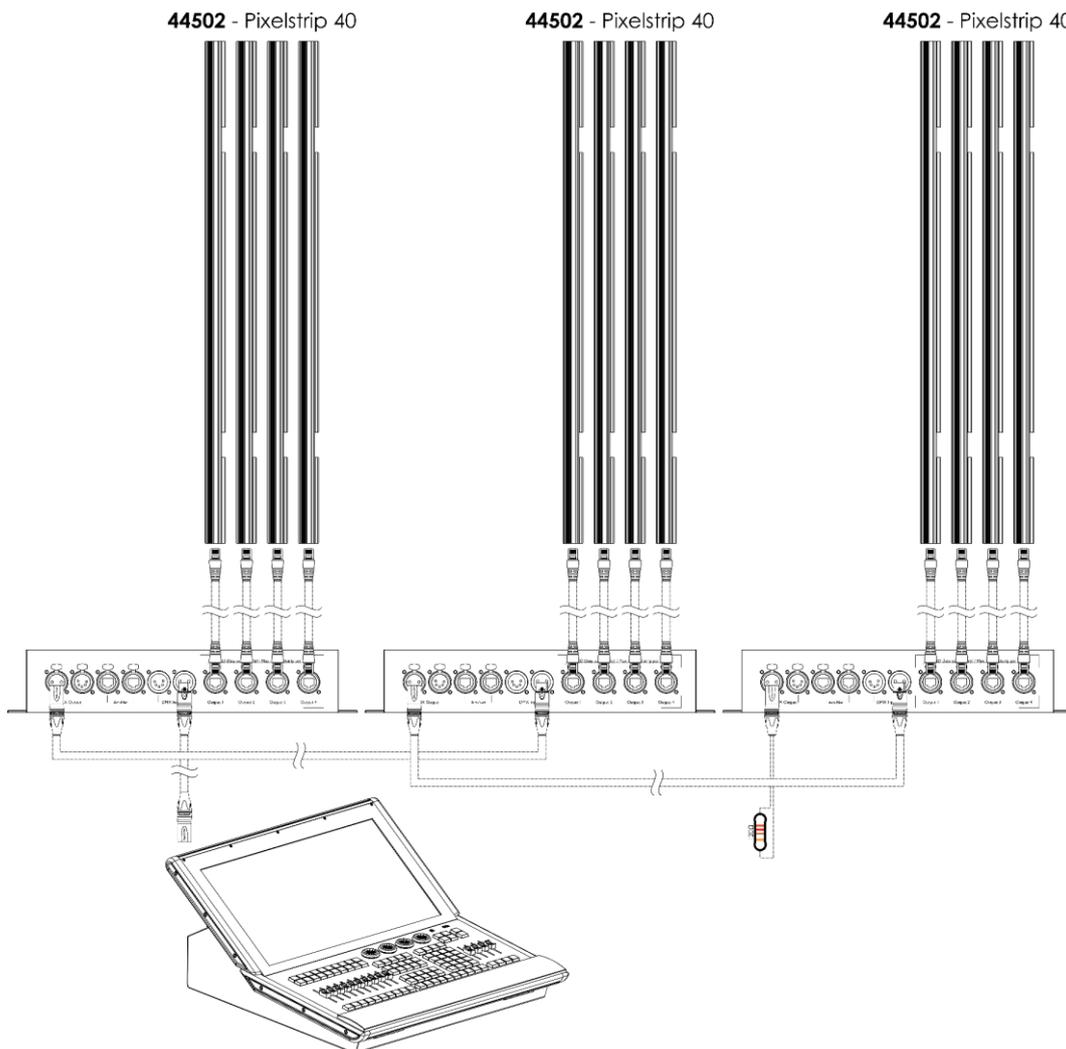
**Note: Link all cables before connecting electric power**

## Multiple Pixel Controllers (DMX Control)

- 01) Fasten the controller to a firm trussing or place it on a flat surface. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (order code 70140 / 70141).
- 03) Connect the Pixelstrips.
- 04) Use a 3-pin/5-pin DMX cable to connect the controllers.



- 05) Link the units as shown in Fig. 06. Connect a light controller to the first unit's DMX "in" socket, using a DMX cable. Connect the first unit's "out" socket with the second unit's "in" socket, using a DMX cable. Repeat this process to link the rest of the units.
- 06) Supply electric power: Plug electric mains power cords into each unit's power IN socket, then plug the other end of the mains power cord into proper electric power supply sockets, starting with the first unit. Do not supply power before the whole system is set up and connected properly.



**Note: Link all cables before connecting electric power**

Fig. 06

## Multiple Pixel Controllers (Art-Net/Kling-Net Control)

- 01) Fasten the controller to a firm trussing or place it on a flat surface. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (order code 70140 / 70141).
- 03) Connect the Pixelstrips.
- 04) Use a CAT-5/CAT-6 cable to connect the controllers.
- 04) Connect your computer with installed Art-Net software to the first device's RJ45 "in" socket.
- 05) Link the units as shown in Fig. 07. Connect the first unit's RJ45 "out" socket with the second unit's "in" socket, using a CAT-5/CAT-6 cable. Repeat this process to link the rest of the units.
- 06) Supply electric power: Plug electric mains power cords into each unit's power IN socket, then plug the other end of the mains power cord into proper electric power supply sockets, starting with the first unit. Do not supply power before the whole system is set up and connected properly.

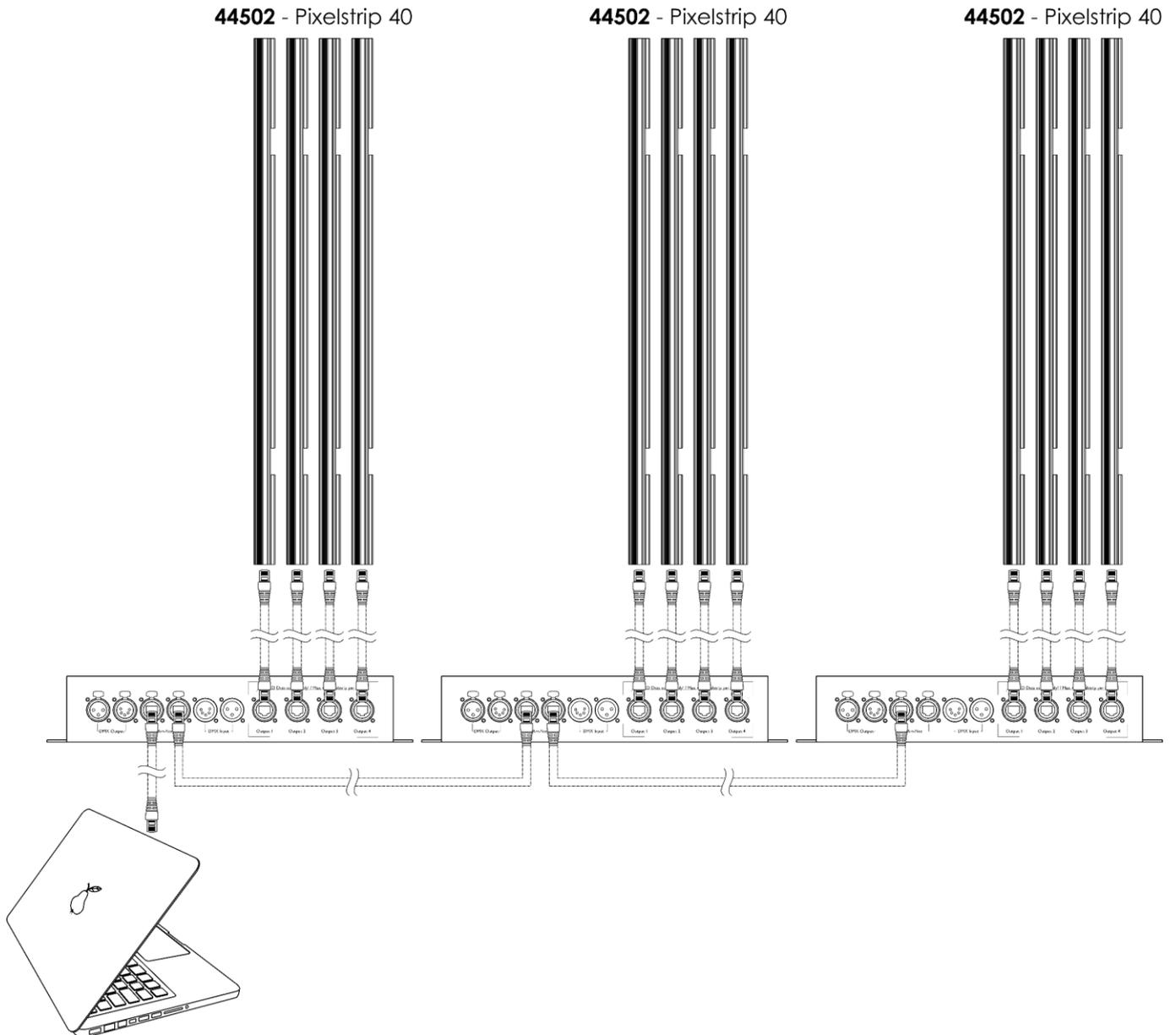


Fig. 07

**Note: Link all cables before connecting electric power**

## Connecting to a Network

### Art-Net Settings

- 01) Connect the device's RJ45 connector to the RJ45 connector of the light controller/computer, using a CAT-5/CAT-6 cable.
- 02) Set the IP address of your computer/light controller to **2.x.x.x** or **10.x.x.x**, depending on the Art-Net settings.
- 03) Set the Net Mask to **255.0.0.0** on all devices.
- 04) Make sure that all fixtures in the network have a **unique IP address**.
- 05) If you want to connect more fixtures, follow the example below.

**Note:** When creating large setups, it is recommended to use a 16-bit, high speed Ethernet switch to distribute the Art-Net data signal.

### Example settings:

If you want to connect multiple Pixel Controllers using Art-Net protocol, proceed as follows:

- 01) Set the DMX starting address of the 1<sup>st</sup> Pixel Controller to **1** and its universe to **0**.
- 02) For example, if you want to operate the Pixel Controller in 8-channel DMX mode, set the DMX starting address of the 2<sup>nd</sup> Pixel Controller to **9**, of the 3<sup>rd</sup> to **17**, etc. See **DMX Addressing** on page 16 for more information.
- 03) Once you have reached the limit of 512 DMX addresses, set the universe on the next Pixel Controller to **1**. There are again 512 DMX channels available and you can connect more devices.
- 04) As the Pixel Controller supports 255 universes, you can repeat steps 2–3 up to 255 times, each time selecting a new universe in the ascending order.

**Note:** There are 512 channels in per universe. Counting begins at 0.

Art-Net is a protocol that uses TCP/IP to transfer large amount of DMX-512 data over an Ethernet network. Art-Net 4 can support up to 32768 universes. Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd.

Length	Strips	Channels	Universe	DMX
1 m	4	480	0	001–480
2 m	8	480	0, 1	001–480
3 m	12	480	0, 1, 2	001–480
4 m	16	480	0, 1, 2, 3	001–480

### Kling-Net Settings

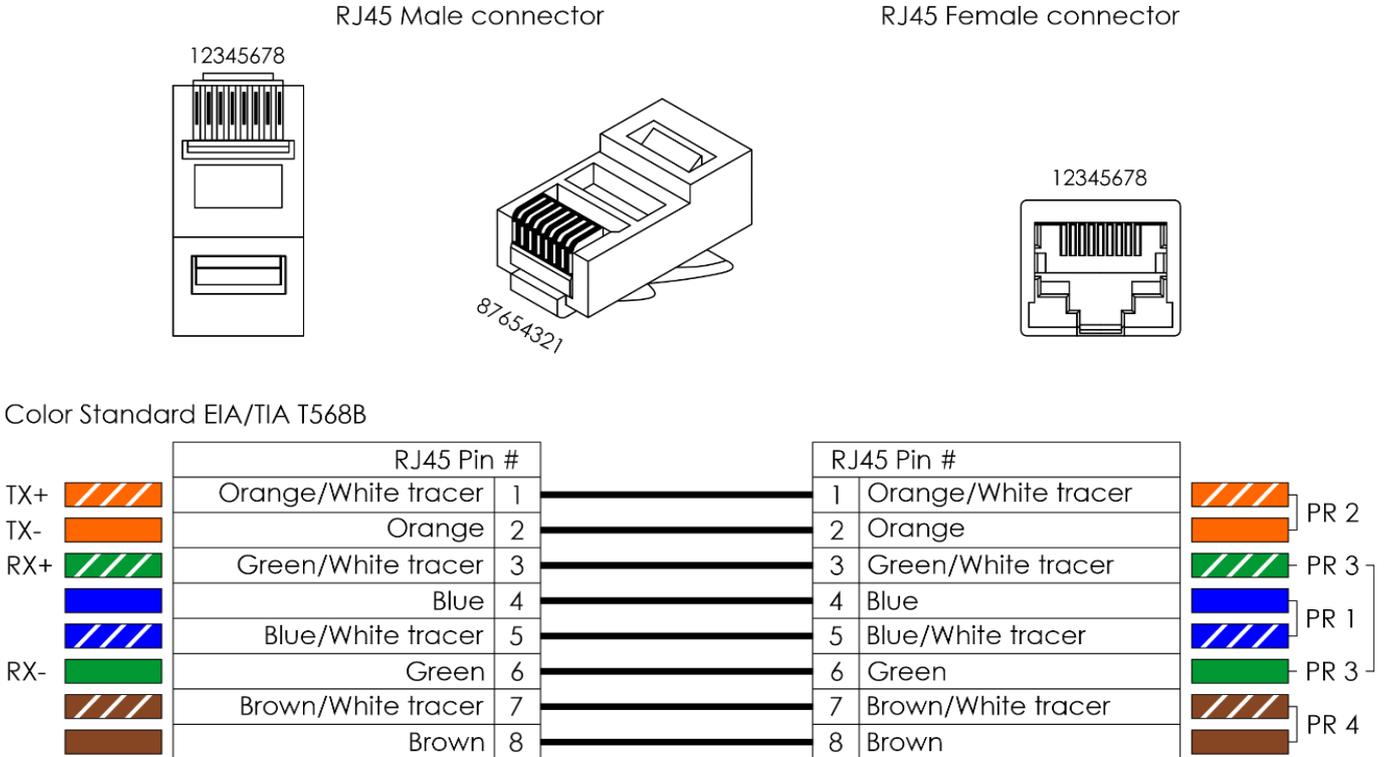
- 01) Install any Kling-Net-based software on your PC (Windows or Mac), for example 50180 – Arkaos LED Master.
- 02) Make sure that your PC has a **fixed IP address (IP:10.x.x.x. and subnet:255.0.0.0.)**. The Pixel Controller does not require any further network setting adjustments.
- 03) Connect the Pixel Controller by means of a CAT-5/CAT-6 cable (see Fig. 07, page 12) to your computer. Once you have connected the devices, they will automatically be recognized by the software.
- 04) In the software, map the devices, using the “drag-and-drop” method, by placing the fixtures in “on-screen” interface in the right position. It only requires a few minutes and, once it is done, the system is completely set up.
- 05) When creating large setups, it is recommended to use a 16-bit, high speed ethernet switch to distribute the Kling-Net data signal.

**How To Make a Data Cable**

A standard ETHERNET cable can be used to replace the data cable required to transmit the data.

**Please follow the instructions below in order to create an extra network cable.**

Take a standard network cable (CAT-5/ 5E /6) and connect it to the RJ45 connector, as shown in Fig. 08. The wires should now be colored as follows:



**Fig. 08**

**Software for controlling**

In combination with Arkaos or DMT Software, you are able to play videos over the Pixel Controller. You only have to connect all the Pixelstrips and run your software.

[50180](#)

Arkaos LED Master

An all-in-one solution to run LED light shows for everyone. Originally designed around KlingNet, this fast and easy application will take your LED show to the next level.



[102101](#)

Arkaos Media Master Express 5.0

The latest update of the successful media server software.

[102201](#)

Arkaos Media Master Pro 5.0

PRO DMX video software for lighting designers.

## Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX-512 controller or to run synchronized shows of two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.

**Important:** Fixtures on a serial data link must be daisy-chained in a single line. To comply with the EIA-485 standard, no more than 30 devices should be connected on one data link. Connecting more than 30 fixtures on one serial data link without the use of a DMX optically isolated splitter may result in deterioration of the digital DMX signal.



Maximum recommended DMX data link distance: 100 meters  
Maximum recommended number of fixtures on a DMX data link: 30 fixtures

## Data Cabling

To link fixtures together, you must obtain data cables. You can purchase DAP Audio certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable, please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

### DAP Audio DMX Data Cables

- DAP Audio Basic microphone cable for allround use. bal. XLR/M 3-pin > XLR/F 3-pin. **Order code** FL01150 (1,5 m), FL013 (3 m), FL016 (6 m), FL0110 (10 m), FL0115 (15 m), FL0120 (20 m).
- DAP Audio X-type data cable XLR/M 3-pin > XLR/F 3-pin. **Order code** FLX0175 (0,75 m), FLX01150 (1,5 m), FLX013 (3 m), FLX016 (6 m), FLX0110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Order code** FL71150 (1,5 m), FL713 (3 m), FL716 (6 m), FL7110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Order code** FL7275 (0,75 m), FL72150 (1,5 m), FL723 (3 m), FL726 (6 m), FL7210 (10 m).
- DAP Audio 110 Ohm cable with digital signal transmission. **Order code** FL0975 (0,75 m), FL09150 (1,5 m), FL093 (3 m), FL096 (6 m), FL0910 (10 m), FL0915 (15 m), FL0920 (20 m).
- DAP Audio data cable FL08 DMX/AES-EBU, XLR/M 5-pin > XLR/F 5-pin. **Order code** FL08150 (1,5 m), FL083 (3 m), FL086 (6 m), FL0810 (10 m), FL0820 (20 m).
- DAP Audio DMX adapter: 5-pin/3-pin. **Order code** FLA29.
- DAP Audio DMX adapter: 3-pin/5-pin. **Order code** FLA30.
- DAP Audio DMX Terminator 3-pin. **Order code** FLA42.
- DAP Audio DMX Terminator 5-pin. **Order code** FLA43.

**Note:** Use of 3-pin XLR audio cables for DMX data transmission might lead to signal degradation and unreliable operation of the DMX network.

### DAP Audio PC Interface Cables

- CAT-5 cable 7,6 mm Matte blue PVC. **Order code** FL55150 (1,5 m), FL553 (3 m), FL556 (6 m), FL5510 (10 m), FL5515 (15 m), FL5520 (20 m).
- CAT-6 cable (recommended for best data transfer). **Order code** FL563 (3 m), FL566 (6 m), FL5610 (10 m), FL5615 (15 m), FL5640 (40 m).

The Pixel Controller can be operated with controller or without controller in stand-alone mode.

## Control Panel

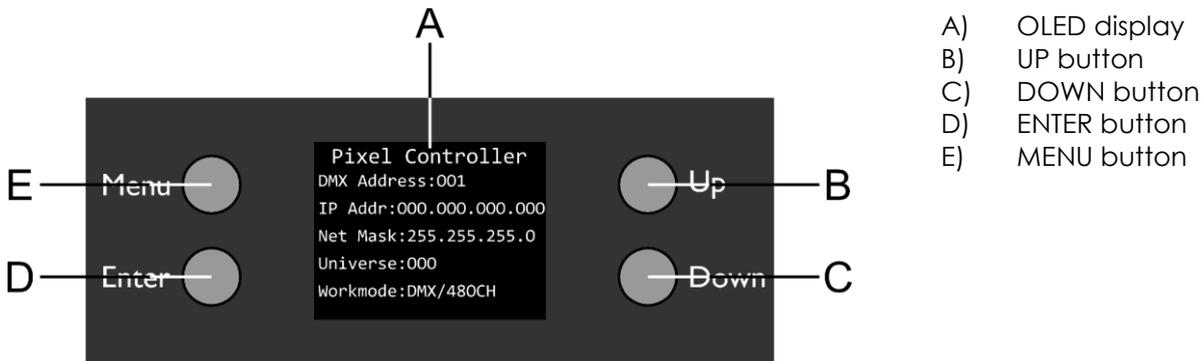


Fig. 09

## DMX Addressing

The control panel on the top side of the controller allows you to assign the fixture a DMX address, which is the first channel with which the Pixel Controller will respond to a DMX controller.

When using multiple Pixel Controllers, make sure you set the DMX addresses right.

**Without pixel control**, the device has **8** channels. Therefore, the DMX address of the first Pixel Controller should be **1 (001)**; the DMX address of the second Pixel Controller should be **1+8=9 (009)**; the DMX address of the third Pixel Controller should be **9+8=17 (017)**, etc.

Make sure that you do not have any overlapping channels in order to control each Pixel Controller correctly. If two or more Pixel Controllers are addressed similarly, they will work similarly.

**Note:** If you want to connect multiple devices and operate them in full pixel mode (**480-channel** mode), you need to use Art-Net/Kling-Net. See **Art-Net Settings** on page 13 for more information.

## Controlling:

After having addressed all Controller fixtures, you may now start operating these via your light controller.

**Note:** After switching on, the Pixel Controller does not automatically detect whether DMX-512 data is received or not. You will need to switch manually to DMX control. For more information see **1. DMX** on page 21.

**Note:** It is necessary to insert an XLR termination plug (with 120 Ohm) in the last fixture in order to ensure proper transmission on the DMX data link.

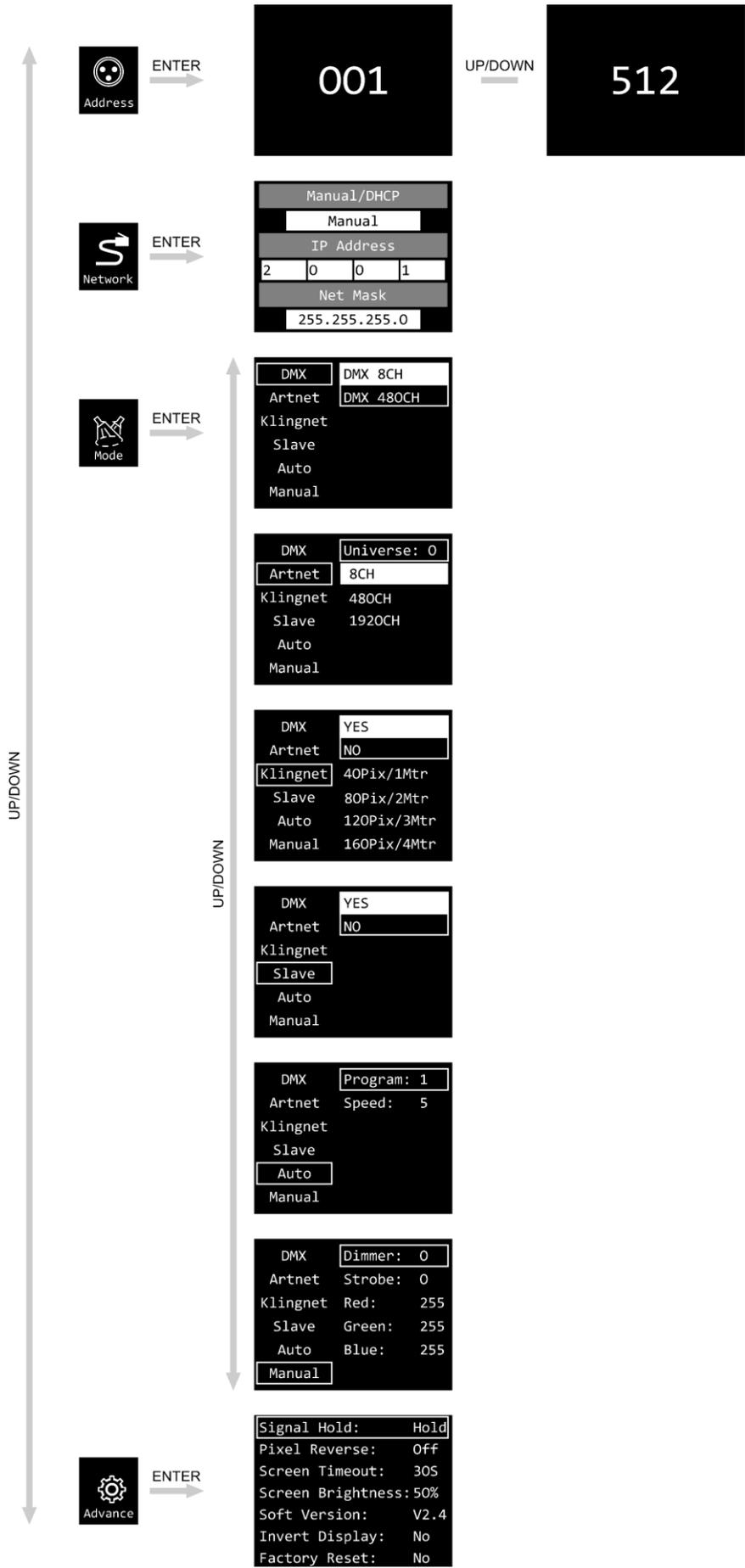
## Display Off after 60 seconds

When no button is pressed for 60 seconds, the display will turn off.

To light up the display, you have to press the **MENU**, **ENTER**, **UP** or **DOWN** button.

Once you have pressed the button, the display will light up.

Menu Overview



## Main Menu Options



DMX Addressing



Network Settings



DMX / Art-Net / Kling-Net / Slave / Auto / Manual

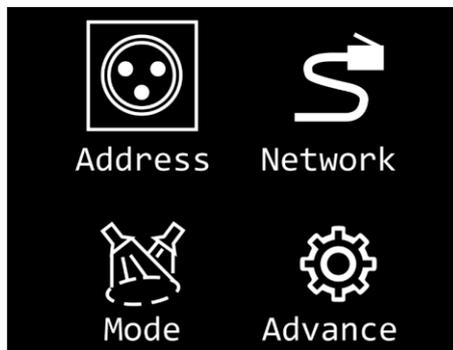


Signal Hold / Pixel Reverse / Screen Timeout / Screen Brightness /  
Software Version / Invert Display / Factory Reset

01) Upon start-up, the display will show the device's current parameters.

```
Pixel Controller
DMX Address:001
IP Addr:000.000.000.000
Net Mask:255.255.255.0
Universe:000
Workmode:DMX/480CH
```

02) Press the **MENU** button to open the main menu. The display will show:



03) Press the **UP/DOWN** buttons to select the desired menu.

04) Press the **MENU** button to return to the previous menu.

05) Press the **ENTER** button to open the selected menu.

## DMX Addressing

In this menu you can set the DMX address.



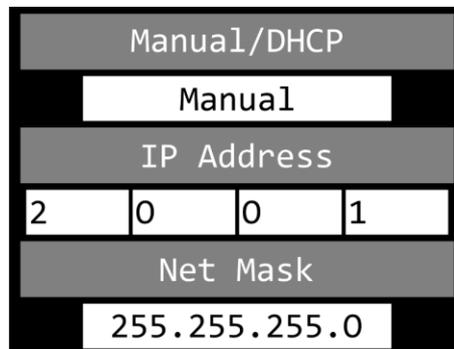
- 01) While in main menu, press the **UP/DOWN** buttons to select
- 02) Press the **ENTER** button to confirm.
- 03) Press the **UP/DOWN** buttons to select the required address. The adjustment range is 001–512.
- 04) Press the **ENTER** button to confirm.

## Network Settings

In this menu you can set the network settings.



- 01) While in main menu, press the **UP/DOWN** buttons to select
- 02) Press the **ENTER** button to confirm. The display will show:



### 1. Manual/DHCP

- 01) Press the **UP/DOWN** buttons to select MANUAL/DHCP.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to select one of the 2 options:
  - MANUAL: You can enter a desired IP address and net mask.
  - DHCP: The device will receive its network settings from a DHCP server. **If you choose this option, you will not be able to adjust any settings in this menu.**
- 04) Press the **ENTER** button to confirm your choice.

### 2. IP Address

- 01) Press the **UP/DOWN** buttons to select IP ADDRESS.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to adjust the 1<sup>st</sup> section of the IP address.
- 04) Press the **ENTER** button to save changes.
- 05) Press the **UP/DOWN** buttons to select the 2<sup>nd</sup> section of the IP address.
- 06) Press the **ENTER** button to open the menu.
- 07) Press the **UP/DOWN** buttons to adjust the 2<sup>nd</sup> section of the IP address.
- 08) Press the **ENTER** button to save changes.
- 09) Repeat the process to adjust the remaining 2 sections of the IP address.

### 3. Net Mask

- 01) Press the **UP/DOWN** buttons to select NET MASK.
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to select one of the 3 net mask options:
  - 255.0.0.0
  - 255.255.0.0
  - 255.255.255.0
- 04) Press the **ENTER** button to confirm your choice.

### Control Modes



- 01) While in main menu, press the **UP/DOWN** buttons to select
- 02) Press the **ENTER** button to open the menu. The display will show:

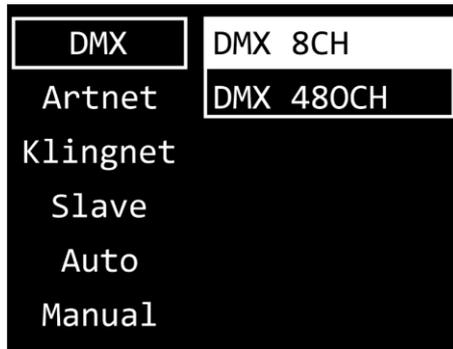


- 03) Press the **UP/DOWN** buttons to select one of the 6 modes:
  - DMX
  - ART-NET
  - KLING-NET
  - SLAVE
  - AUTO
  - MANUAL
- 04) Press the **ENTER** button to open the desired menu.

## 1. DMX

In this menu you can set the desired DMX channel mode.

01) When the display shows DMX, press the **ENTER** button to open the menu. The display will show:



02) Press the **UP/DOWN** buttons to select one of the 2 channel modes:

- 8 channels
- 480 channels

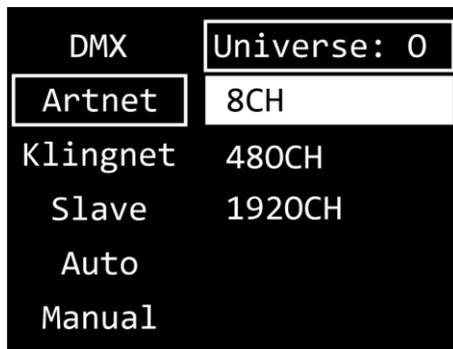
03) Press the **ENTER** button to confirm your choice.

**Note:** The Pixel Controller does not automatically detect whether DMX data signal is received or not. Activate DMX control.

## 2. Art-Net

In this menu you can set the Art-Net settings.

01) When the display shows ARTNET, press the **ENTER** button to open the menu. The display will show:



02) Press the **UP/DOWN** buttons to select UNIVERSE and press the **ENTER** button to confirm.

03) Press the **UP/DOWN** buttons to set the universe. The adjustment range is 0–255.

04) Press the **ENTER** button to save changes.

05) Press the **UP/DOWN** buttons to select the channel mode selection field and press the **ENTER** button to confirm.

06) Press the **UP/DOWN** buttons to select one of the 3 channel modes:

- 8 channels
- 480 channels
- 1920 channels

07) Press the **ENTER** button to confirm your choice.

**Note:** The Pixel Controller does not automatically detect whether Art-Net data signal is received or not. Activate Art-Net control.

### 3. Kling-Net

In this menu you can set the Kling-Net settings.

01) When the display shows KLINGNET, press the **ENTER** button to open the menu. The display will show:

DMX	YES
Artnet	NO
Klingnet	40Pix/1Mtr
Slave	80Pix/2Mtr
Auto	120Pix/3Mtr
Manual	160Pix/4Mtr

- 02) Press the **UP/DOWN** buttons to select the YES/NO field. Press the **ENTER** button to confirm.  
03) Press the **UP/DOWN** buttons to select YES or NO. If you choose YES, Kling-Net protocol will be active.  
04) Press the **ENTER** button to confirm your choice.  
05) Press the **UP/DOWN** buttons to select the mode selection field and press the **ENTER** button to confirm.

**Note:** It is important to choose the mode appropriate to the number (length) of connected Pixelstrips.

06) Press the **UP/DOWN** buttons to select one of the 4 modes:

- 40 pixels, 1 meter (1 m Pixelstrip per output)
- 80 pixels, 2 meters (2 m Pixelstrip per output)
- 120 pixels, 3 meters (3 m Pixelstrip per output)
- 160 pixels, 4 meters (4 m Pixelstrip per output)

07) Press the **ENTER** button to confirm your choice.

**Note:** The Pixel Controller does not automatically detect whether Kling-Net data signal is received or not. Activate Kling-Net control.

### 4. Slave

In this menu you can set the device as a slave.

01) When the display shows SLAVE, press the **ENTER** button to open the menu. The display will show:

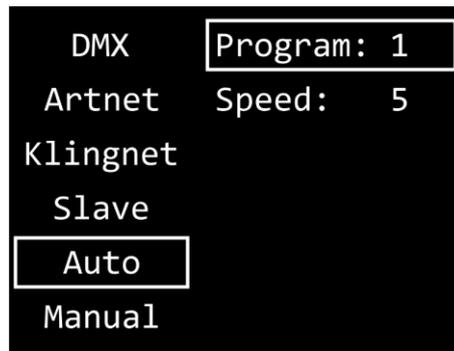
DMX	YES
Artnet	NO
Klingnet	
Slave	
Auto	
Manual	

- 02) Press the **UP/DOWN** buttons to select YES or NO. If you choose YES, the device will react the same as the master device.  
03) Press the **ENTER** button to confirm your choice.

## 5. Auto

In this menu you can run the desired built-in programs.

01) When the display shows AUTO, press the **ENTER** button to open the menu. The display will show:



02) Press the **UP/DOWN** buttons to select PROGRAM and press the **ENTER** button to confirm.

03) Press the **UP/DOWN** buttons to select one of the 30 built-in programs.

04) Press the **ENTER** button to confirm your choice.

05) Press the **UP/DOWN** buttons to select SPEED and press the **ENTER** button to confirm.

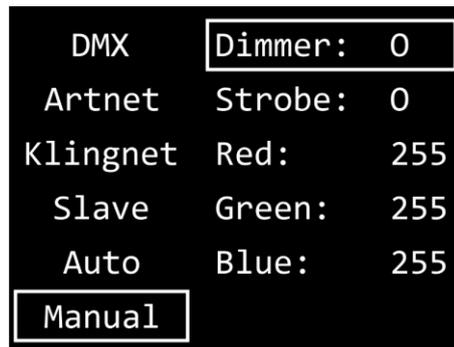
06) Press the **UP/DOWN** buttons to set the program speed. The adjustment range is 1–9, from slow to fast.

07) Press the **ENTER** button to save changes.

## 6. Manual

In this menu you can set Manual mode.

01) When the display shows MANUAL, press the **ENTER** button to open the menu. The display will show:



02) Press the **UP/DOWN** buttons to select one of the 5 options:

- DIMMER: Dimmer brightness (0–255, from dark to brightest)
- STROBE: Strobe frequency (0–4, strobe OFF; 5–255, from low to high frequency)
- RED: Red color brightness (0–255, from dark to brightest)
- GREEN: Green color brightness (0–255, from dark to brightest)
- BLUE: Blue color brightness (0–255, from dark to brightest)

03) Press the **ENTER** button to open the desired menu.

04) Press the **UP/DOWN** buttons to adjust the values.

05) Press the **ENTER** button to save changes.

06) You can combine RED, GREEN and BLUE to create an infinite range of colors.

## Advanced Settings



01) While in main menu, press the **UP/DOWN** buttons to select

02) Press the **ENTER** button to open the menu. The display will show:

Signal Hold:	Hold
Pixel Reverse:	Off
Screen Timeout:	30S
Screen Brightness:	50%
Soft Version:	V2.4
Invert Display:	No
Factory Reset:	No

03) Press the **UP/DOWN** buttons to select one of the 7 options:

- SIGNAL HOLD
- PIXEL REVERSE
- SCREEN TIMEOUT
- SCREEN BRIGHTNESS
- SOFTWARE VERSION (V2.4)
- INVERT DISPLAY
- FACTORY RESET

04) Press the **ENTER** button to open the desired option.

05) Press the **UP/DOWN** buttons to change settings.

06) Press the **ENTER** button to confirm your choice.

### 1. Signal Hold

In this menu you can determine the behavior of the Pixel Controller in case of a DMX failure.

01) Press the **UP/DOWN** buttons to select one of the 2 options:

- BLACK: If DMX signal is lost, the device will black its output out.
- HOLD: If DMX signal is lost, the device will use the last successfully received DMX signal and will continue using it until DMX signal reception is restored, in order to ensure uninterrupted performance.

02) Press the **ENTER** button to confirm your choice.

### 2. Pixel Reverse

In this menu you can set the pixel direction.

01) Press the **UP/DOWN** buttons to select one of the 2 options:

- ON: Pixel direction reverse is enabled.
- OFF: Pixel direction reverse is disabled.

02) Press the **ENTER** button to confirm your choice.

### 3. Screen Timeout

In this menu you can set the amount of time after which the display will turn off, when no button is pressed.

01) Press the **UP/DOWN** buttons to select one of the 3 options: 30 seconds/60 seconds/NEVER.

02) Press the **ENTER** button to confirm your choice.

## 4. Screen Brightness

In this menu you can set the screen brightness.

- 01) Press the **UP/DOWN** buttons to select one of the 4 options: 25/50/75/100 %, from dark to brightest.
- 02) Press the **ENTER** button to confirm your choice.

## 5. Software Version

This menu shows the version of the currently installed software.

## 6. Invert Display

In this menu you can set the display inversion.

- 01) Press the **UP/DOWN** buttons to select one of the 2 options:
  - YES: Display inversion is enabled.
  - NO: Display inversion is disabled.
- 02) Press the **ENTER** button to confirm your choice.

## 7. Factory Reset

In this menu you can restore the default factory settings.

- 01) Press the **UP/DOWN** buttons to select one of the 2 options:
  - YES: Restore the default factory settings.
  - NO: Keep the current settings.
- 02) Press the **ENTER** button to confirm your choice.

## DMX Channels

### 8 channels

#### Channel 1 – Dimmer intensity

0–255 Gradual adjustment, from dark to brightest

#### Channel 2 – Strobe CH1 must be open, CH3–5 must be open; CH6–7 must be closed

0–4 Not functional

5–255 Strobe frequency, from low to high frequency

#### Channel 3 – Red CH1 must be open, CH6–7 must be closed

0–255 Gradual adjustment Red, from dark to brightest

#### Channel 4 – Green CH1 must be open, CH6–7 must be closed

0–255 Gradual adjustment Green, from dark to brightest

#### Channel 5 – Blue CH1 must be open, CH6–7 must be closed

0–255 Gradual adjustment Blue, from dark to brightest

#### Channel 6 – Built-in programs 1–15 CH1 must be open; CH7 must be closed

0–15 Not functional

16–31 Program 1

32–47 Program 2

48–63 Program 3

64–79 Program 4

80–95 Program 5

96–111 Program 6

112–127 Program 7

128–143 Program 8

144–159 Program 9

160–175 Program 10

176-191	Program 11
192-207	Program 12
208-223	Program 13
224-239	Program 14
240-255	Program 15

### Channel 7 – Built-in programs 16-30 CH1 must be open; CH6 must be closed

0-15	Not functional
16-31	Program 16
32-47	Program 17
48-63	Program 18
64-79	Program 19
80-95	Program 20
96-111	Program 21
112-127	Program 22
128-143	Program 23
144-159	Program 24
160-175	Program 25
176-191	Program 26
192-207	Program 27
208-223	Program 28
224-239	Program 29
240-255	Programs 1-29

### Channel 8 – Program speed CH6 or CH7 must be set between 16-255

0-255	Speed adjustment, from slow to fast
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## Channel 478 – Red LED 40, Pixelstrip # 4

0–255 Gradual adjustment Red, from dark to brightest

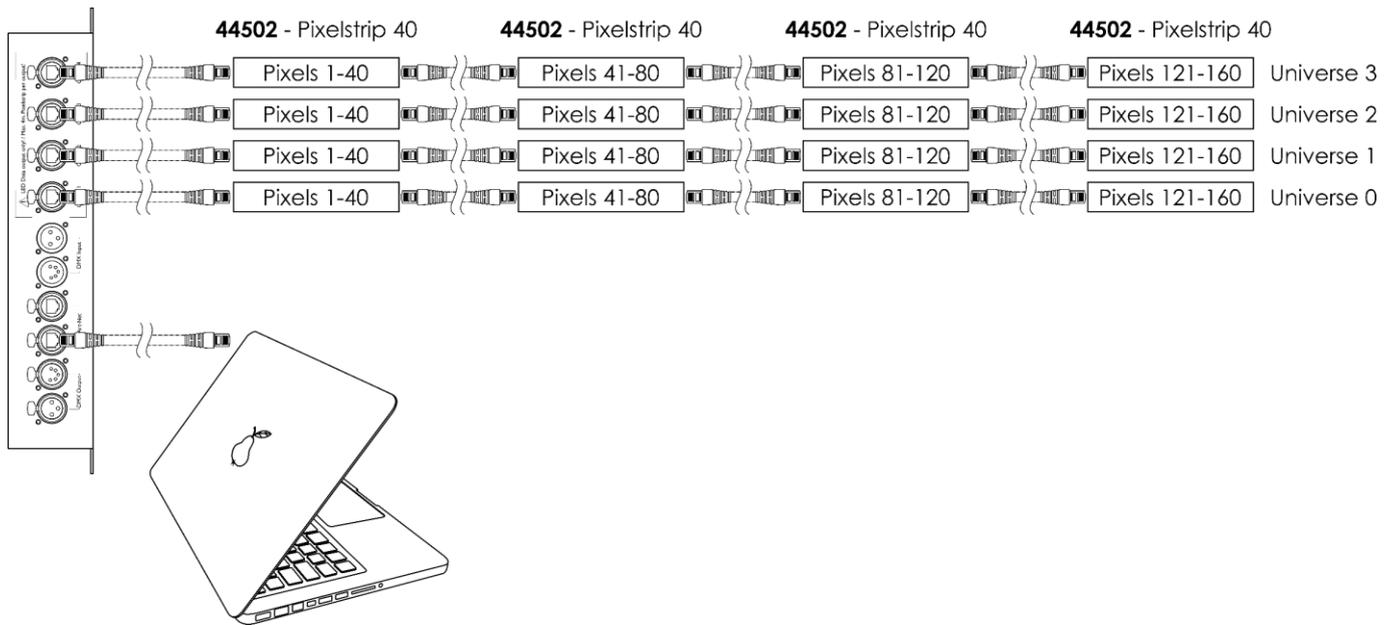
## Channel 479 – Green LED 40, Pixelstrip # 4

0–255 Gradual adjustment Green, from dark to brightest

## Channel 480 – Blue LED 40, Pixelstrip # 4

0–255 Gradual adjustment Blue, from dark to brightest

## 1920 channels (Art-Net)



3 RGB colors x 160 pixels x 4 universes = 1920 Art-Net channels

## Channel 1 – Red LED 1, Pixelstrip # 1

0–255 Gradual adjustment Red, from dark to brightest

## Channel 2 – Green LED 1, Pixelstrip # 1

0–255 Gradual adjustment Green, from dark to brightest

## Channel 3 – Blue LED 1, Pixelstrip # 1

0–255 Gradual adjustment Blue, from dark to brightest

## Channel 4 – Red LED 2, Pixelstrip # 1

0–255 Gradual adjustment Red, from dark to brightest

## Channel 5 – Green LED 2, Pixelstrip # 1

0–255 Gradual adjustment Green, from dark to brightest

## Channel 6 – Blue LED 2, Pixelstrip # 1

0–255 Gradual adjustment Blue, from dark to brightest

## Channel 7 – Red LED 3, Pixelstrip # 1

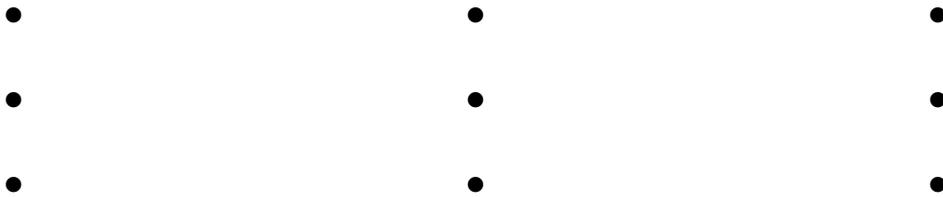
0–255 Gradual adjustment Red, from dark to brightest

## Channel 8 – Green LED 3, Pixelstrip # 1

0–255 Gradual adjustment Green, from dark to brightest

## Channel 9 – Blue LED 3, Pixelstrip # 1

0–255 Gradual adjustment Blue, from dark to brightest



## Channel 1918 – Red LED 40, Pixelstrip # 16

0–255 Gradual adjustment Red, from dark to brightest

## Channel 1919 – Green LED 40, Pixelstrip # 16

0–255 Gradual adjustment Green, from dark to brightest

## Channel 1920 – Blue LED 40, Pixelstrip # 16

0–255 Gradual adjustment Blue, from dark to brightest

## Maintenance

The operator has to make sure that safety-related and machine-technical installations are to be inspected by an expert after every year in the course of an acceptance test.

The operator has to make sure that safety-related and machine-technical installations are to be inspected by a skilled person once a year.

The following points have to be considered during the inspection:

- 01) All screws used for installing the device or parts of the device have to be tightly connected and must not be corroded.
- 02) There may not be any deformations on housings, fixations and installation spots.
- 03) The electric power supply cables must not show any damages or material fatigue.

The Pixel Controller requires almost no maintenance. However, you should keep the unit clean.

Disconnect the mains power supply, and then wipe the housing with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents.

Keep connections clean. Disconnect electric power, and then wipe the DMX connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

## Replacing the Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below.

- 01) Unplug the unit from electric power source.
- 02) Insert a screwdriver into the slot in the fuse cover. Turn the fuse holder counterclockwise. The fuse will come out.
- 03) Remove the used fuse. If brown or unclear, it is burned out.
- 04) Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse holder. Be sure to use a fuse of the same type and specification. See the product specification label for details.

### Troubleshooting

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This troubleshooting guide is meant to help solve simple problems.

If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

#### No Light

If the Pixel Controller does not operate properly, refer servicing to a technician.

Suspect four potential problem areas as: the power supply, the fuse, the controller and the Pixelstrip.

- 01) Power supply. Check that the unit is plugged into an appropriate power supply.
- 02) The fuse. Replace the fuse. See page 29 for replacing the fuse.
- 03) The controller. Return the controller to your Showtec dealer.
- 04) The Pixelstrip. Return the device to your Showtec dealer.
- 05) If all of the above appears to be O.K., plug the unit in again.
- 06) If you are unable to determine the cause of the problem, do not open the controller, as this may damage the unit and the warranty will become void.
- 07) Return the device to your Showtec dealer.

**No Response to DMX**

Suspect the DMX cable or connectors or a controller malfunction.

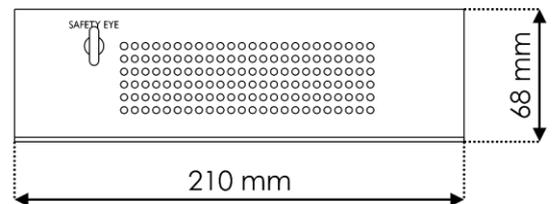
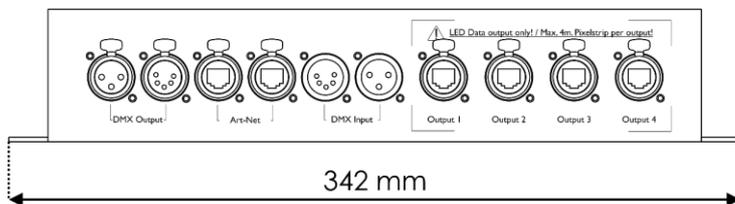
01) Check the DMX settings. Make sure that DMX addresses are correct.

02) Check the DMX cable: Unplug the unit; change the DMX cable; then reconnect to electrical power. Try your DMX control again.

<b>Problem</b>	<b>Probable cause(s)</b>	<b>Solution</b>
One or more fixtures do not function at all	No power to the fixture	<ul style="list-style-type: none"> <li>• Check if power is switched on and cables are plugged in</li> </ul>
	Primary fuse blown	<ul style="list-style-type: none"> <li>• Replace fuse</li> </ul>
The device responds erratically	The factory settings of the device are changed	<ul style="list-style-type: none"> <li>• Reset the device's parameters to the default factory settings. See <b>7. Factory Reset</b> on page 25</li> </ul>
The device does not respond to DMX control	The lighting controller is not connected	<ul style="list-style-type: none"> <li>• Connect lighting controller</li> </ul>
	3-pin/5-pin DMX OUT of the lighting controller does not match DMX IN of the first fixture on the link (i.e. signal is reversed)	<ul style="list-style-type: none"> <li>• Install a phase reversing cable between the lighting controller and the first fixture on the link</li> </ul>
	The controller is defective	<ul style="list-style-type: none"> <li>• Try using another controller</li> </ul>
	Poor data quality	<ul style="list-style-type: none"> <li>• Check data quality. If much lower than 100 percent, the problem may be a bad data link connection, poor quality or broken cables, missing termination plug, or a defective fixture disturbing the link</li> </ul>
	Bad data link connection	<ul style="list-style-type: none"> <li>• Inspect connections and cables. Correct poor connections. Repair or replace damaged cables</li> </ul>
	Data link not terminated with 120 Ohm termination plug	<ul style="list-style-type: none"> <li>• Insert termination plug in output jack of the last fixture on the link</li> </ul>
	Incorrect addressing of the fixtures	<ul style="list-style-type: none"> <li>• Check address settings</li> </ul>
	One of the fixtures is defective and disturbs data transmission on the link	<ul style="list-style-type: none"> <li>• Bypass one fixture at a time until normal operation is regained: unplug both connectors and connect them directly together</li> <li>• Have the defective fixture serviced by a qualified technician</li> </ul>
3-pin DMX OUT on the fixtures does not match (pins 2 and 3 reversed)	<ul style="list-style-type: none"> <li>• Install a phase-reversing cable between the fixtures or swap pin 2 and 3 in the fixture, that behaves erratically</li> </ul>	
No light or LEDs cut out intermittently	Fixture is too hot	<ul style="list-style-type: none"> <li>• Make sure air vents are not blocked</li> </ul>
	LEDs are damaged	<ul style="list-style-type: none"> <li>• Disconnect fixture and return to your dealer</li> </ul>
	The power supply settings do not match local AC voltage and frequency	<ul style="list-style-type: none"> <li>• Disconnect fixture. Check settings and correct if necessary</li> </ul>

## Product Specifications

Model:	Showtec Pixel Controller
Power input:	100–240 V AC, 50/60 Hz
Power consumption:	226 W
Fuse:	T6,3A/250 V
Dimensions:	342 x 210 x 68 mm (LxWxH)
Weight:	2,03 kg
Signal pin OUT:	pin 1 earth, pin 2 (-), pin 3 (+); pin 1 earth, pin 2 (-), pin 3 (+), pin 4 N/C, pin 5 N/C
Signal output:	3-pin/5-pin DMX signal connector OUT, RJ45 OUT
Maximum cable length:	10 m (CAT-5/CAT-6) from the Pixel Controller to the Pixelstrip
Maximum output length:	4 m per output/16 m per Pixel Controller
Display:	OLED display
Control protocol:	DMX-512, Art-Net, Kling-Net
Control modes:	Auto, Manual, Master/Slave, DMX-512, Art-Net, Kling-Net
DMX channels:	8, 480, 1920 channels
Connections:	Pro power connectors IN/OUT, 3-pin/5-pin DMX connectors IN/OUT, 2 x Art-Net RJ45 connectors OUT, 4 x dedicated RJ45 Pixelstrip connectors OUT
Housing:	Metal
Color:	Black
Cooling:	Convection
IP rating:	IP20
Max. ambient temperature $t_a$ :	From -5 °C to +40 °C
Max. housing temperature $t_B$ :	70 °C
<b>Minimum distance:</b>	
Minimum distance from flammable surfaces:	0,5 m
Minimum distance to lighted object:	1 m



Design and product specifications are subject to change without prior notice.



Website: [www.Showtec.info](http://www.Showtec.info)  
Email: [service@highlite.com](mailto:service@highlite.com)







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