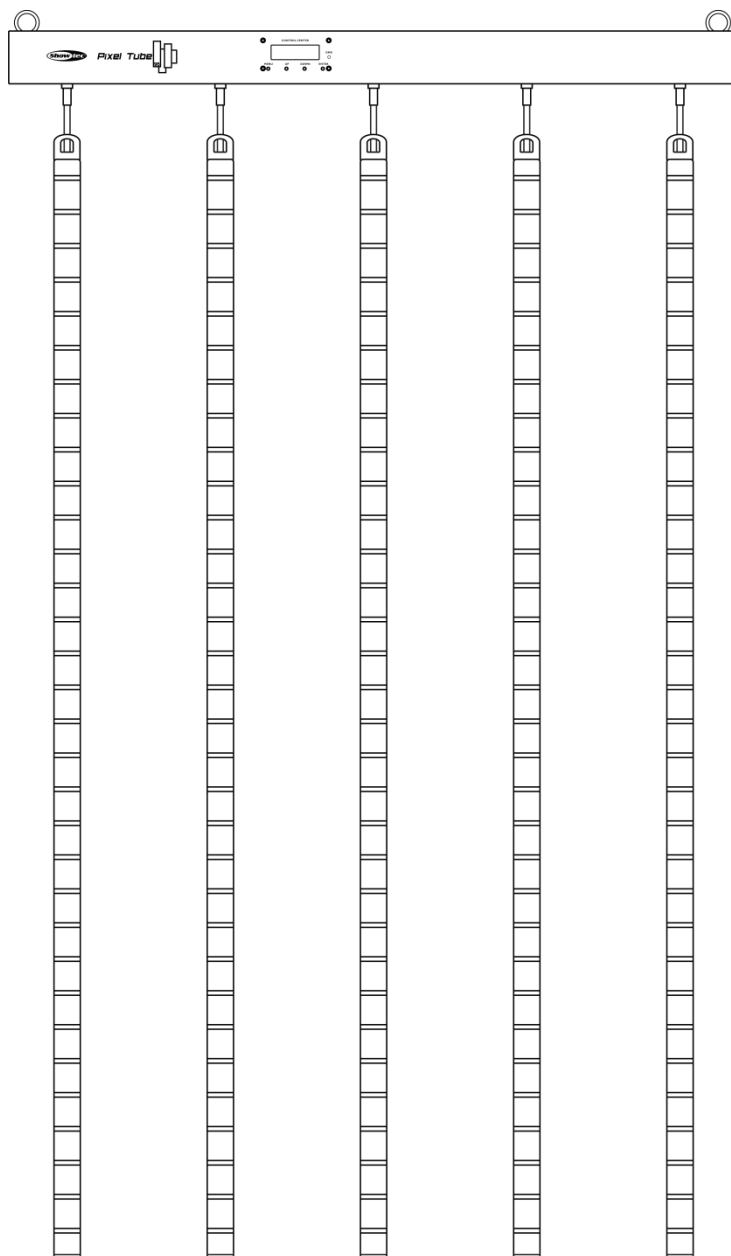




# MANUAL



ENGLISH

## Pixel Tube Set 96

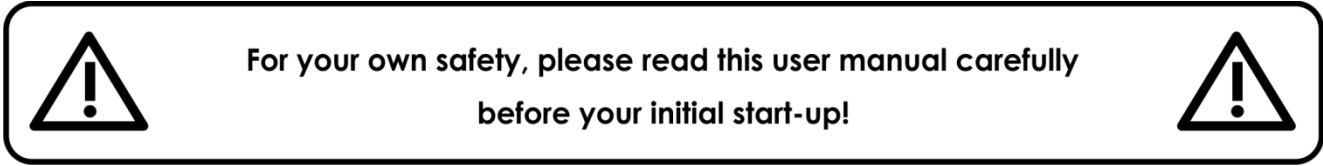
V1

Ordercode: 41099

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## Warning

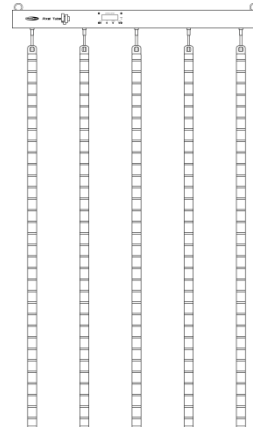


### Unpacking Instructions

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 be returned in the original factory box and packing.

### Your shipment includes:

- Showtec Pixel Tube Set 96
- Pro power cable (1,5 m)
- User manual



### LED Expected Lifespan

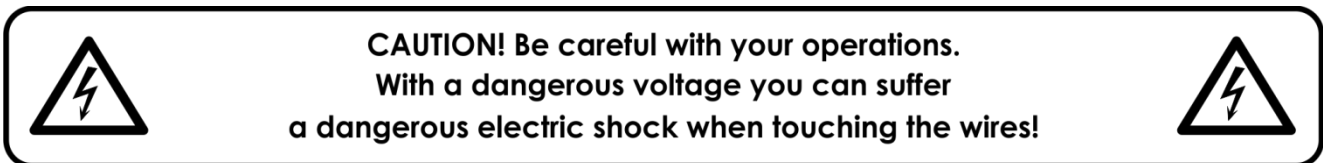
LEDs gradually decline in brightness over time. HEAT is the dominant factor that leads to the acceleration of this decline. Packaged in clusters, LEDs exhibit higher operating temperatures than in ideal or singular optimum conditions. For this reason, when all color LEDs are used at their fullest intensity, life of the LEDs is significantly reduced. If improving the lifespan is of higher priority, place care in providing for lower operational temperatures. This may include climatic-environmental and the reduction of overall projection intensity.



### Safety Instructions

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

- be qualified
- follow the instructions of this manual



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 connect this device to a dimmerpack.
- 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 (housing becomes very hot). 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 hold the fixture by the transport handles.
- Always keep the case 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 Tube Set. 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.



**CAUTION! Eyedamages!!!**  
**Avoid looking directly into the lightsource!!!**  
**(meant especially for epileptics)!!!**



### 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 minimum distance between light output and the illuminated surface must be bigger than 1 meter.
- The maximum ambient temperature  $t_a = 40^\circ\text{C}$  must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of  $40^\circ\text{C}$ .
- 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

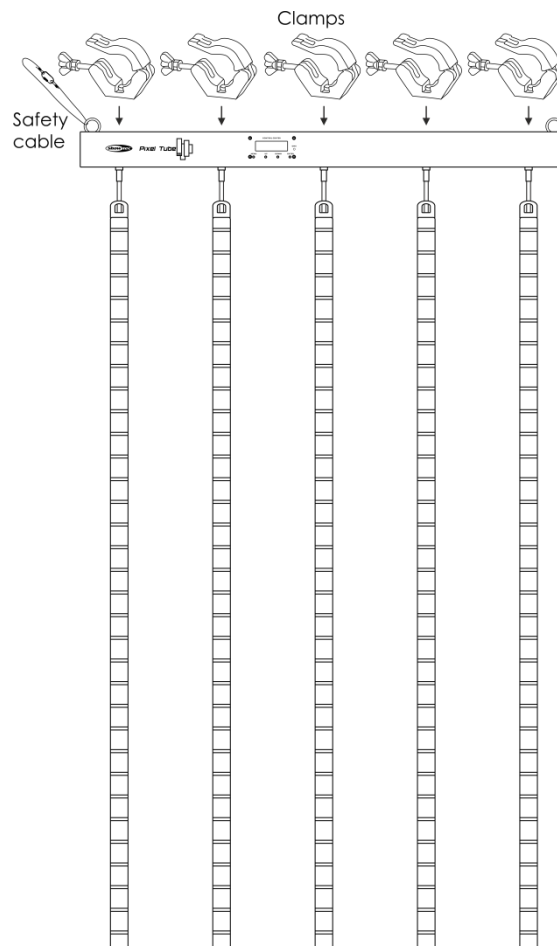
*Please follow the European and national guidelines concerning rigging, trussing and all other safety issues.*

*Do not attempt the installation yourself !*

*Always let the installation be carried out by an authorized dealer !*


### Procedure:

- If the fixture is lowered from the ceiling or high joists, professional trussing systems have to be used.
- Use a clamp to mount the fixture, with the mounting bracket, to the trussing system.
- The fixture must never be fixed swinging freely in the room.
- The installation must always be secured with a safety attachment, e.g. an appropriate safety net or safety cable.
- When rigging, derigging or servicing the projector, always make sure, that the area below the installation site is secured and that there are not any unauthorized people around.



**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 [aftersales@highlite.nl](mailto:aftersales@highlite.nl) 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

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### Features

The Pixel Tube Set 96 is a LED visual effect with high output and great effects.

The set includes 5 x 1,5-meter long LED tubes. The device supports the most popular protocols, such as: DMX, ArtNet and KlingNet.

- Input voltage: 100-240V AC, 60/50Hz
- Power consumption: 105W
- Light source: 160 x 5050 SMD RGB LEDs
- Control protocol: DMX-512, ArtNet, KlingNet
- DMX channels: 8, 150, 225, 300, 375, 450, 480 channels
- Onboard: LCD display for easy setup
- Pixel pitch: 45 mm
- Connectors: Pro power connector, 3-pin XLR IN/OUT, RJ45 IN/OUT
- Cooling: Convection
- Dimmer: 0-100%
- Strobe: 0-20Hz
- Control: Auto, Master/Slave, DMX-512/ArtNet/Klingnet
- Refresh rate: >500Hz
- Beam angle: 360°
- Built-in Ethernet switch
- Housing: Die-cast aluminum
- IP rating: IP20
- Dimensions (LED tube): 1500 x 30 mm (LxW)
- Dimensions (bar): 1000 x 65 x 92 mm (LxWxH)
- Weight (LED tube): 0,3 kg
- Weight (bar): 2,3 kg



**8-channel mode** is available in both, **BALL** and **TUBE** modes.

**150, 225, 300, 375 and 450-channel modes** are available **only** in **BALL** mode.

**480-channel mode** is available **only** in **TUBE** mode.



Frontside

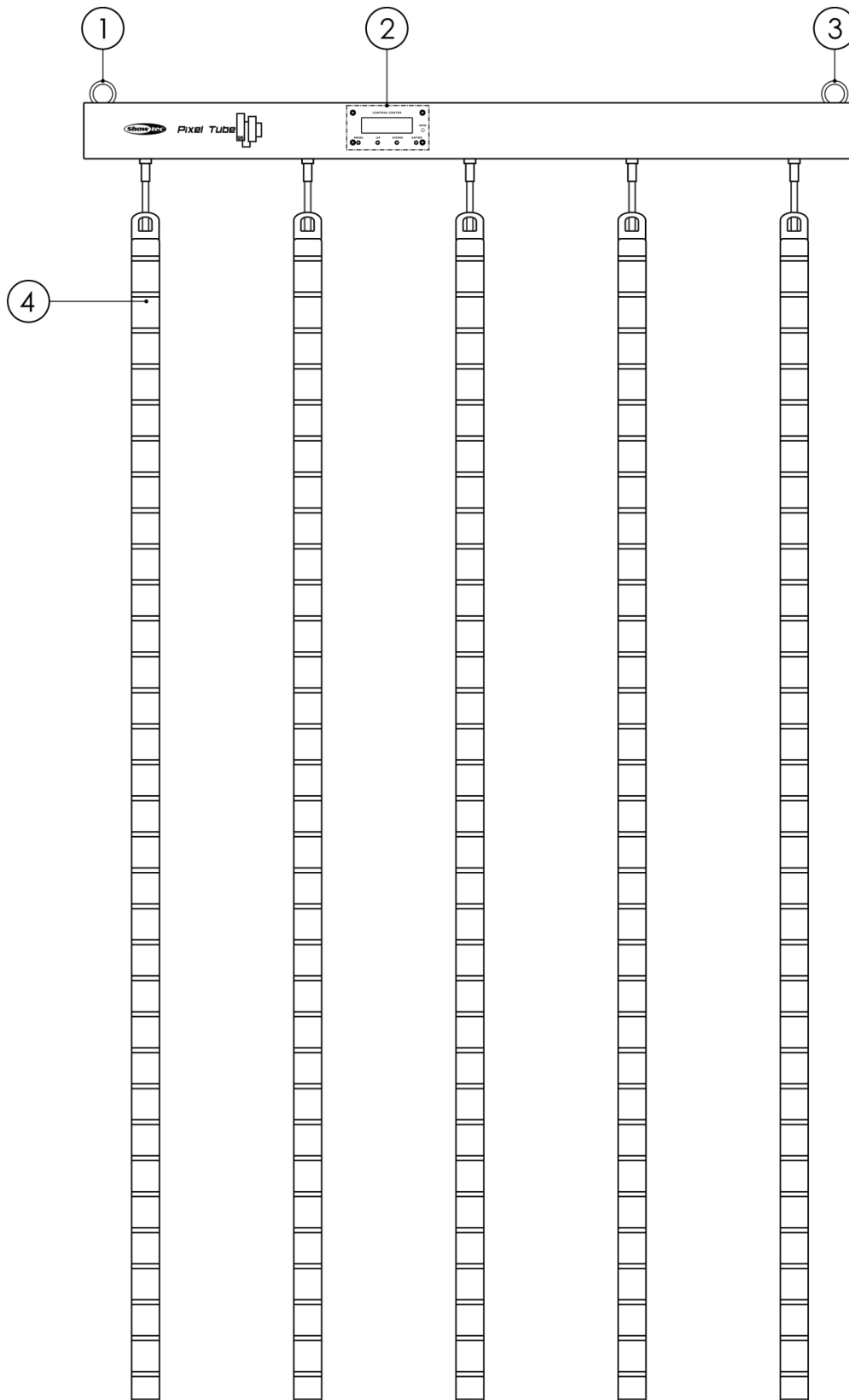


Fig. 01

- 01) Safety eye
- 02) LCD display + control buttons
- 03) Safety eye
- 04) 5 x 1,5 m LED tubes



## Backside

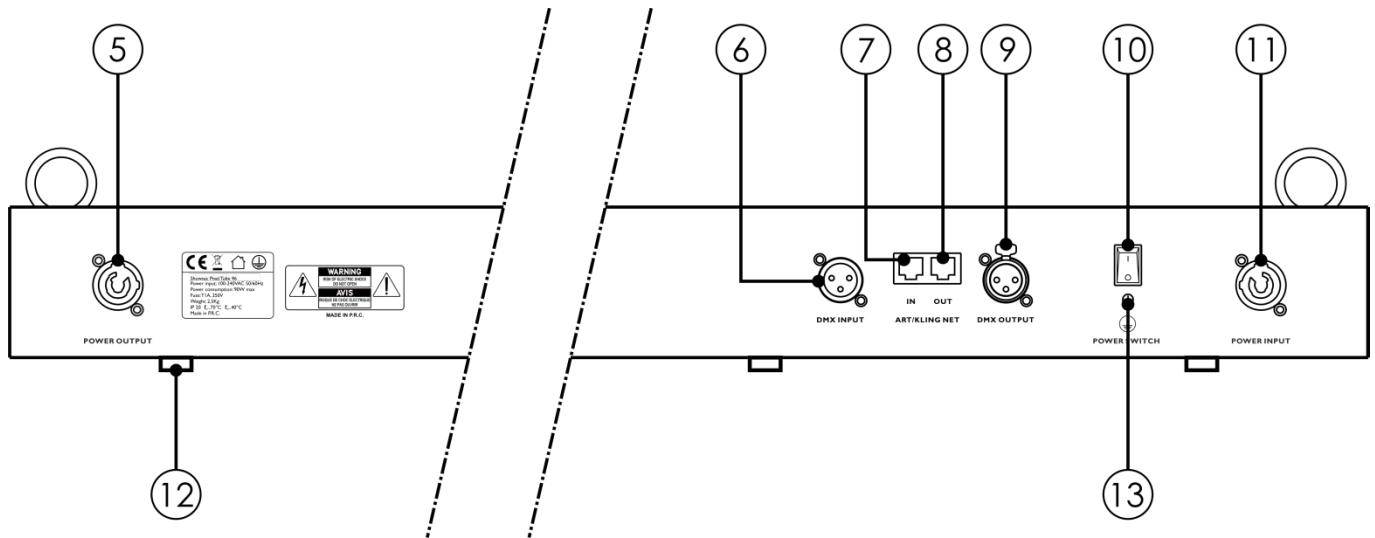


Fig. 02

- 05) Pro power connector 100-240V OUT
- 06) 3-pin DMX signal connector IN
- 07) RJ45 ArtNet/KlingNet connector IN
- 08) RJ45 ArtNet/KlingNet connector OUT
- 09) 3-pin DMX signal connector OUT
- 10) Power switch ON/OFF
- 11) Pro power connector 100-240V IN
- 12) LED tube connector
- 13) Ground/earth connection

## Installation

Remove all packing materials from the Pixel Tube Set 96. 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.**

## Set Up 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 120V specification product on 230V power, or vice versa.

Connect the device to the main power supply.

## Control Modes

There are 3 modes:

- Auto Mode
- Master/Slave
- DMX-512 (8CH, 150CH, 225CH, 300CH, 375CH, 450, 480CH)/ArtNet/KlingNet

### One Pixel Tube Set (Auto Mode)

- 01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Plug the end of the electric mains power cord into a proper electric power supply socket.
- 03) When the Pixel Tube Set is not connected with a DMX cable, it functions as a stand-alone device.  
Please see page 18 for more information about Auto Mode.

### Multiple Pixel Tube Sets (Master/Slave control)

- 01) Fasten the effect light onto firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Use a 3-pin XLR cable to connect the Pixel Tube Set.

The pins:



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

- 03) Link the units as shown in fig. 03. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX signal cable. Repeat this process to link the second, third, and fourth units.
- 04) You can use the same functions on the master device as described on page 18 (Auto 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.

### Multiple Pixel Tube Sets (Master/Slave control)

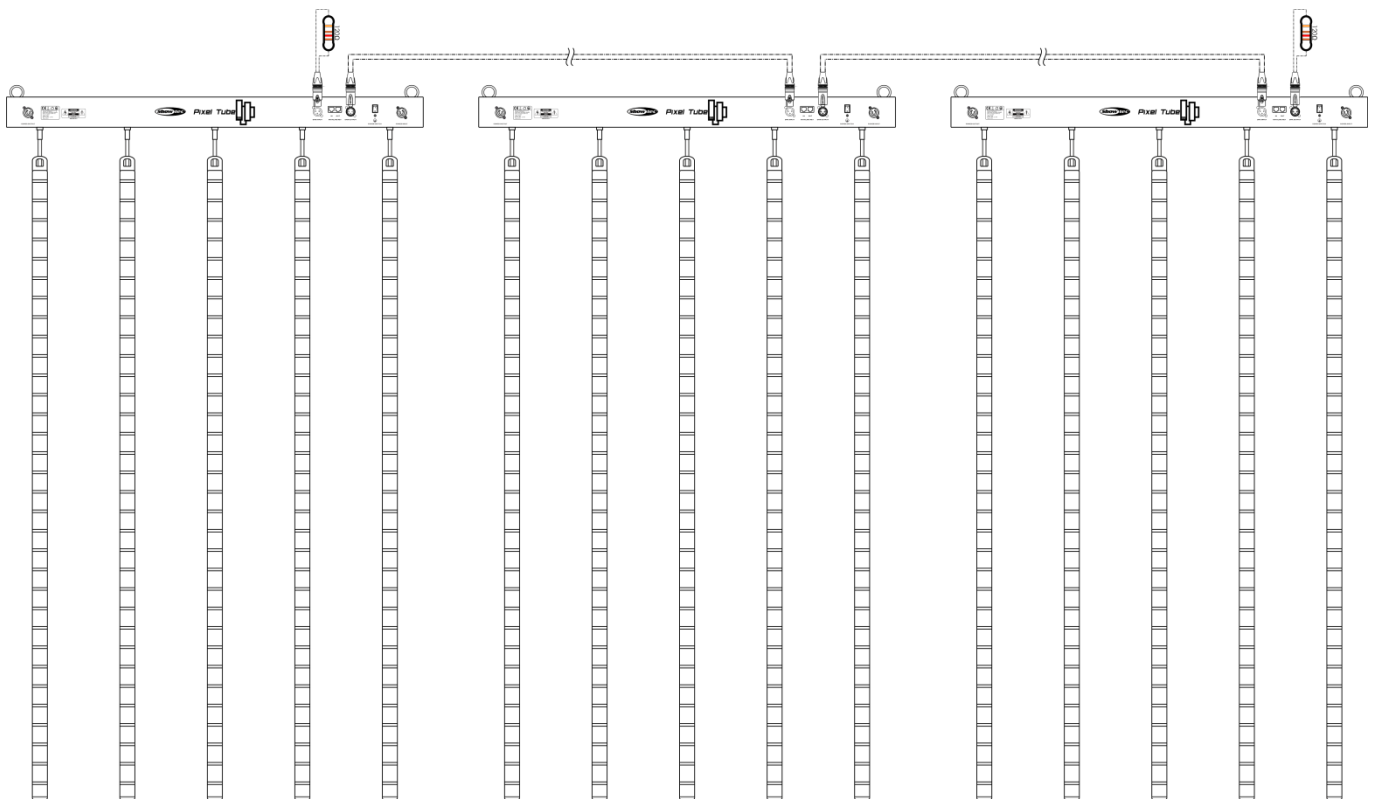
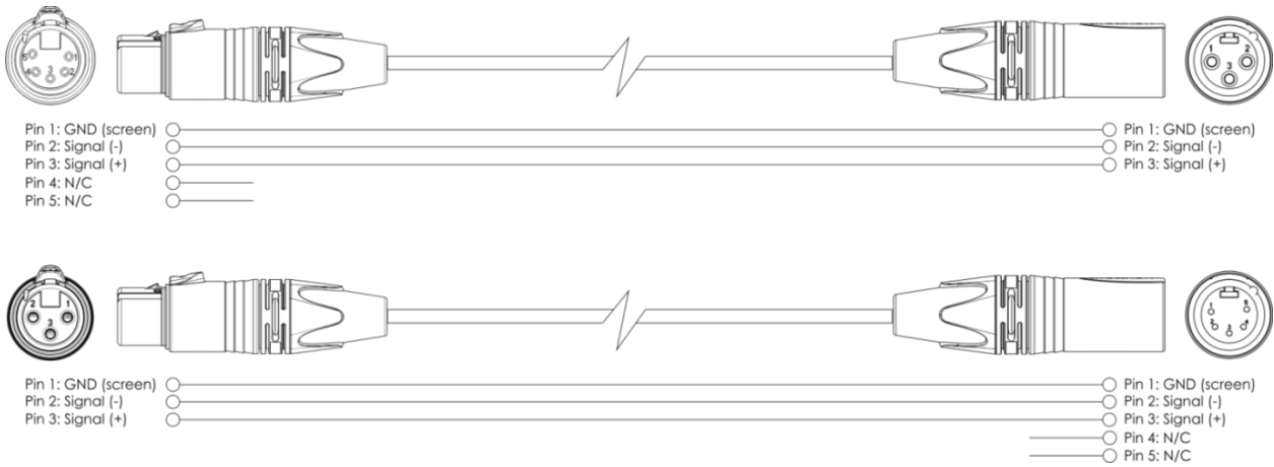


Fig. 03

**Multiple Pixel Tube Sets (DMX Control)**

- 01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Use a 3-pin XLR cable to connect the Pixel Tube Sets and other devices.



- 04) Link the units as shown in fig. 04. Connect the first unit's DMX "out" socket with the second unit's "in" socket, using a DMX signal cable. Repeat this process to link the second, third, and fourth units.
- 05) Supply electric power: Plug electric mains power cords into each unit's Pro power 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.

**Multiple Pixel Tube Sets DMX Set Up**

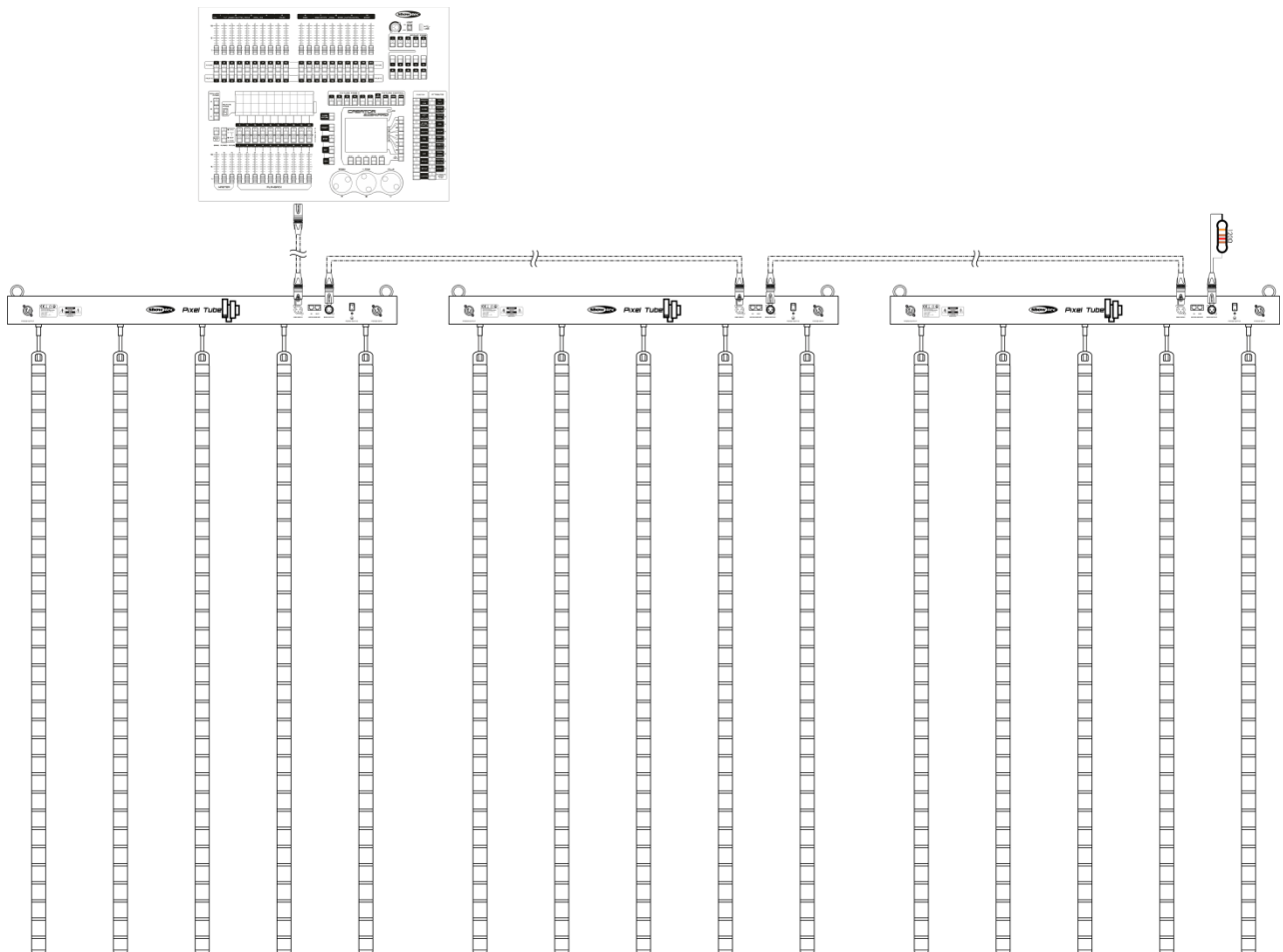


Fig. 04

Note : Link all cables before connecting electric power

## Multiple Pixel Tube Sets (ArtNet/KlingNet Control)

- 01) Fasten the effect light to a firm trussing. Leave at least 0,5 meter on all sides for air circulation.
- 02) Always use a safety cable (ordercode 70140 / 70141).
- 03) Use a CAT-5/CAT-6 cable to connect the Pixel Tube Set's "in" socket to your software/light controller's output.
- 04) Use a CAT-5/CAT-6 cable to connect the Pixel Tube Set and other KlingNet devices.
- 04) Link the units as shown in fig. 05. Connect the first Pixel Tube's RJ45 "out" socket with the second unit's "in" socket, using a CAT-5/CAT-6 signal cable. Repeat this process to link the second, third, and fourth units.
- 05) Supply electric power: Plug electric mains power cords into each unit's Pro power 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.

## Multiple Pixel Tube Sets ArtNet/KlingNet Set Up

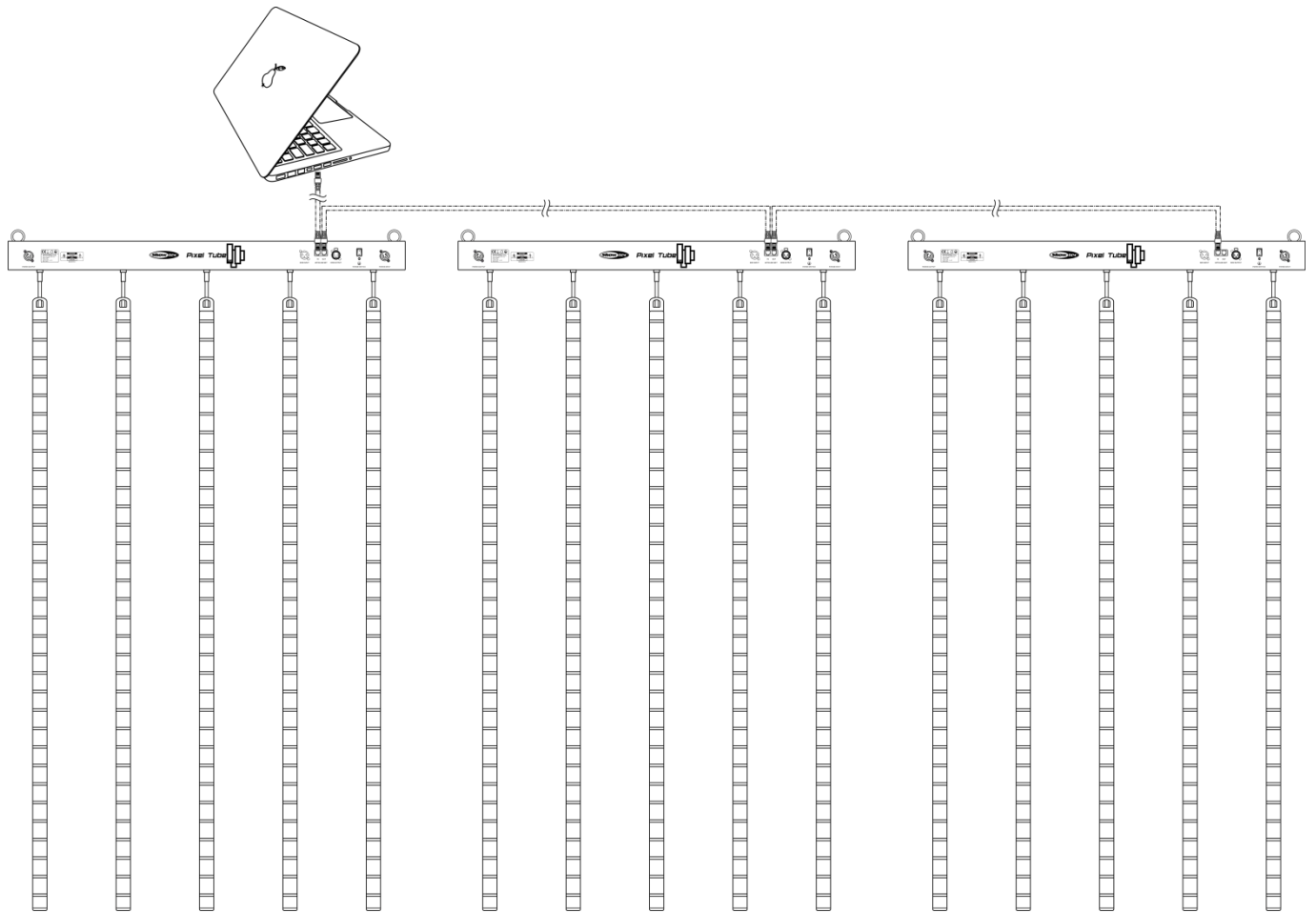


Fig. 05

Note : Link all cables before connecting electric power

## Connecting to a Network

### KlingNet settings

- 01) Install any KlingNet-based software on your PC (Windows or Mac), for example **50180** – Arkaos LED Master.
- 02) Connect the LED tubes to the Pixel Tube Set.
- 03) Connect the power supply to the Pixel Tube Set.
- 04) Switch the Pixel Tube Set ON and select the desired setup length.
- 05) Set the DMX starting address to 001.
- 06) Make sure that your PC has a **fixed IP Address (IP:10.x.x.x. and subnet:255.0.0.0.)**. The Pixel Tube Set does not require any further network setting adjustments.
- 07) Connect the Pixel Tube Set with a CAT-5/CAT-6 cable (see page 11) to your computer. Once you have connected the devices, they will automatically be recognized by the software.
- 08) 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.
- 09) When creating large setups, it is recommended to use a 16-bit, high speed ethernet switch to distribute the KlingNet data signal.

### ArtNet settings

- 01) Install any ArtNet-based software on your PC (Windows or Mac) or use a light controller which supports ArtNet.
- 02) Connect the power supply to the Pixel Tube Set.
- 03) Connect the device’s Ethernet connector (**07**) to your software/light controller’s Ethernet connector, by using a CAT-5/CAT-6 cable.
- 04) Set the IP address of your software/light controller to **2.x.x.x** or **10.x.x.x**, depending on the ArtNet settings.
- 05) Set the subnet mask to **255.0.0.0**. on both – the Pixel Tube Set and your software/light controller. Make sure that all the fixtures in the network have a **unique IP address**.
- 06) If you want to connect more than one fixture, operating in 480-channel mode, follow the example below.

### Example: The Pixel Tube Set 96, 480-channel mode.

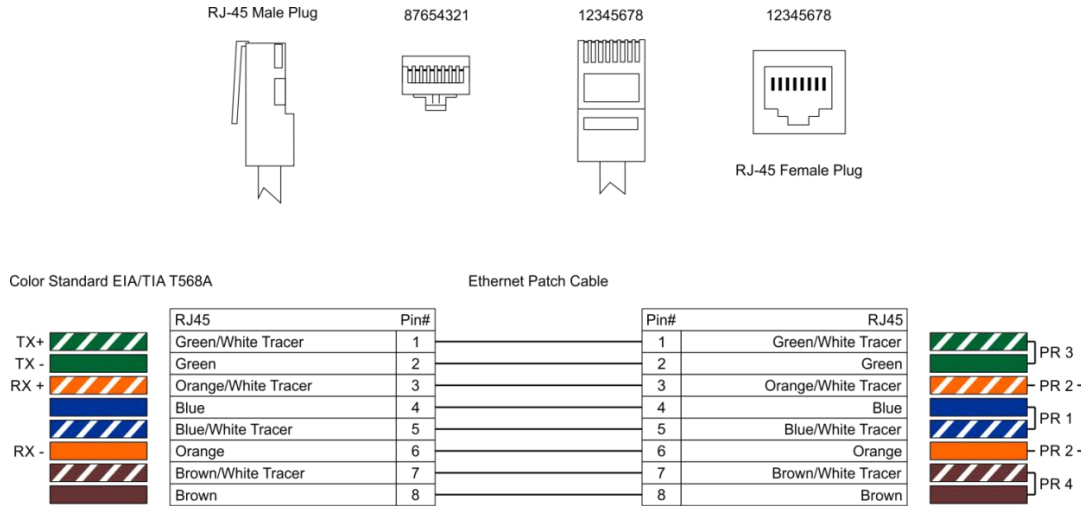
- 01) Make sure that each connected Pixel Tube Set has a **unique IP address**.
- 02) Make sure that the subnet mask on each device is set to **255.0.0.0**.
- 03) Set the universe of the first Pixel Tube Set to **1**.
- 04) Set the first Pixel Tube Set’s DMX address to **001**.
- 05) Due to the fact, that the Pixel Tube Set has 480 DMX channels, there is no space to connect the second Pixel Tube Set in the same DMX universe/DMX line. It is caused by the DMX channel limit, which is 512.
- 06) In order to solve this problem, set the universe of the second Pixel Tube Set to **2** and its DMX address to **001**.
- 07) In order to connect the third Pixel Tube Set, set its universe to **3** and its DMX address to **001**.
- 08) When connecting multiple Pixel Tube Sets, you can repeat steps 6 and 7 up to 16 times, each time inserting ascending universe numbers (as there are 16 universes available).
- 09) If you want to connect more than 16 devices, set the net value of the 17th Pixel Tube Set to **2**.
- 10) Now, you are able to connect another 16 Pixel Tube Sets, as each separate net is equipped with 16 universes. There are 255 nets in total (the number of nets depends on the software which you use).
- 11) Using your software (for example **50224** - Arkaos Media Master Express), map all the connected devices, using the settings described above.
- 12) The Pixel Tube Sets are now ready for use.
- 13) When creating large setups, it is recommended to use a 16-bit, high speed ethernet switch to distribute the ArtNet 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 for the Pixel Tube Set 96.

**Please follow the instructions below in order to create an extra Net Cable.**

Take a standard net cable (CAT-5/ 5E /6) and connect it to the RJ45 connector, as shown in the picture below (fig. 06). The wires should now be colored as follows:



**Fig. 06**

**Software for controlling**

In combination with Arkaos or DMT Software, you are able to play videos over the Pixel Tube Set (pixelmapping). You only have to connect all the Pixel Tube Sets 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.



**50224**

Arkaos Media Master Express

The latest update of the successful media server software.

**502267**

Arkaos Media Master Pro 4.0: 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

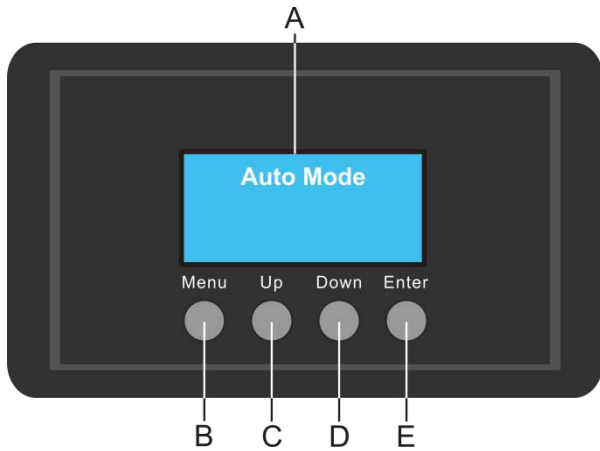
- DAP Audio Basic microphone cable for allround use. bal. XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FL01150 (1,5 m), FL013 (3 m), FL016 (6 m), FL0110 (10 m), FL0115 (15 m), FL0120 (20 m).
- DAP Audio X-type data cable XLR/M 3-pin > XLR/F 3-pin. **Ordercode** FLX0175 (0,75 m), FLX01150 (1,5 m), FLX013 (3 m), FLX016 (6 m), FLX0110 (10 m).
- DAP Audio cable for the demanding user with exceptional audio-qualities and connector made by Neutrik®. **Ordercode** 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®. **Ordercode** 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. **Ordercode** 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 PC Interface Cables

- CAT-5 cable 7,6 mm Matte blue PVC. **Ordercode** 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). **Ordercode** FL563 (3 m), FL566 (6 m), FL5610 (10 m), FL5615 (15 m), FL5640 (40 m).

The Pixel Tube Set 96 can be operated with a light controller in **control mode** or without the controller in **stand-alone mode**.

## Control Panel



- A) LCD display
- B) MENU button
- C) UP button
- D) DOWN button
- E) ENTER button

Fig. 07

## Control Mode

The fixtures are individually addressed on a data-link and connected to the controller. The fixtures respond to the DMX signal from the controller. (When you select the DMX address and save it, the controller will display the saved DMX address, next time.)

## DMX Addressing

The control panel on the front side of the base allows you to assign DMX fixture addresses, which is the first channel with which the Pixel Tube Set will respond to the controller.

Please note, when you use the controller, the unit has **8** channels.

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

Therefore, the DMX address of the first Pixel Tube Set should be **1(001)**; the DMX address of the second Pixel Tube should be **1+8=9 (009)**; the DMX address of the third Pixel Tube Set should be **9+8=17 (017)**, etc. Please, be sure that you do not have any overlapping channels in order to control each Pixel Tube Set correctly. If two or more Pixel Tube Sets are addressed similarly, they will work similarly.

**Note:** When in **300/375/450/480-channel mode** it is possible to connect multiple devices only by means of ArtNet or KlingNet. See page 12 for more information.

## Controlling:

After having addressed all Pixel Tube Set fixtures, you may now start operating these via your lighting controller.

**Note:** After switching on, the Pixel Tube Set will automatically detect whether DMX 512 data is received or not.

If there is no data received at the DMX-input, the "LED" on the control panel will not flash.

If not, the problem may be:

- The XLR cable from the controller is not connected with the input of the Pixel Tube Set.
- The controller is switched off or defective, the cable or connector is defective, or the signal wires are swapped in the input connector.

**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 25 seconds

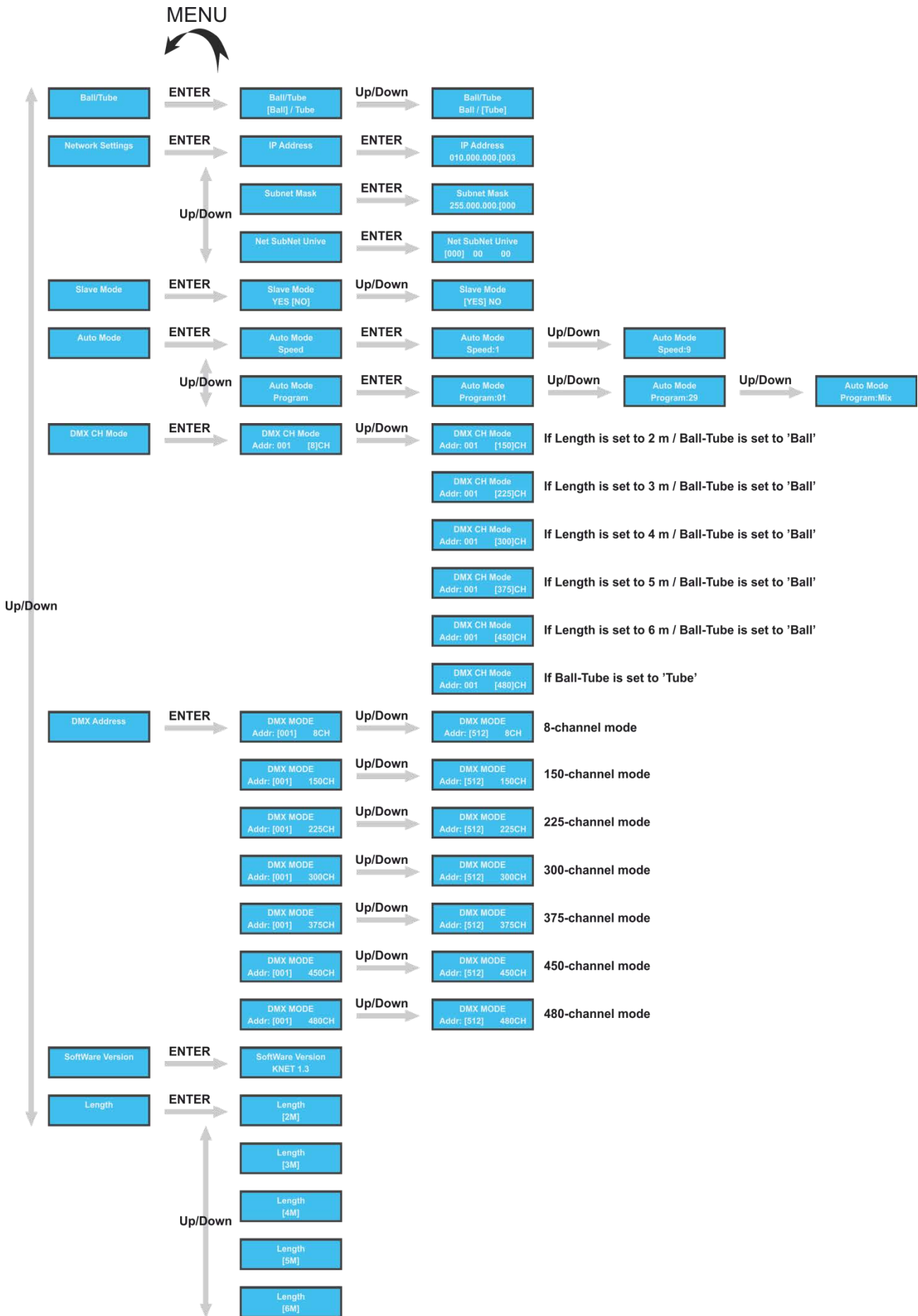
When no button is pressed for 25 seconds, the display will turn off.

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

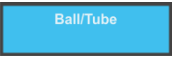


## Main Menu Options



Ball/Tube	1. Ball/Tube mode
Network Settings	2. Network settings
Slave Mode	3. Master/Slave mode
Auto Mode	4. Auto mode
DMX CH Mode	5. DMX channel mode settings
DMX Address	6. DMX-512 mode
SoftWare Version	7. Software information
Length	8. Strip length/quantity settings (available only in BALL mode)

### 1. Ball/Tube mode

With this menu, you can choose whether you want to use the device with LED strings (BALL) or LED tubes (TUBE).


- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose one of the 2 options:
- 04) Press the **ENTER** button to confirm your choice.



 It is highly advisable to use the device in Tube mode. If you want to connect LED strings instead of the LED tubes, refer to the manual of our **41094** – Pixel Bubble 80 MKII. 

### 2. Network settings

With this menu, you can adjust the device's properties, such as the IP address, subnet mask and the universes.


- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the following 3 options:

IP Address	IP address
Subnet Mask	Subnet mask
Net SubNet Unive	Universe

- 04) Once you have chosen one of the options listed above, press the **ENTER** button to proceed to edition mode.
- 05) Press the **UP/DOWN** buttons to choose the section of the IP address/Subnet mask/Universe, which needs to be adjusted and which is indicated by the [ bracket.
- 06) Press the **ENTER** button to confirm your choice.
- 07) Press the **UP/DOWN** buttons to adjust the desired setting.
- 08) Press the **ENTER** button to save changes.
- 09) Repeat steps 5-8 for other sections.


### 3. Master/Slave mode

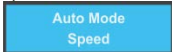
With this menu, you can set the device as a slave.

- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose between "Yes" or "No".
- 04) Press the **ENTER** button to confirm your choice.
- 05) If you have chosen "Yes," the device will be classified as a slave and will react the same as the master device.

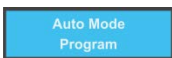
### 4. Auto Mode

With this menu, you can set the built-in programs.

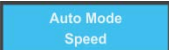

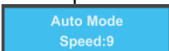
- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the following 2 options:

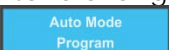


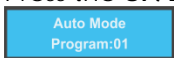
Program speed



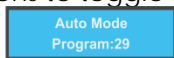
Program choice

- 04) When the display shows , press the **ENTER** button to open the menu.
- 05) Press the **UP/DOWN** buttons to increase/decrease the program speed.  
The adjustment range is between  **Up/Down** , from slow to fast.
- 06) Press the **ENTER** button to save changes.

- 07) When the display shows , press the **ENTER** button to open the menu.
- 08) Press the **UP/DOWN** buttons to toggle between the available programs:



**Up/Down** →



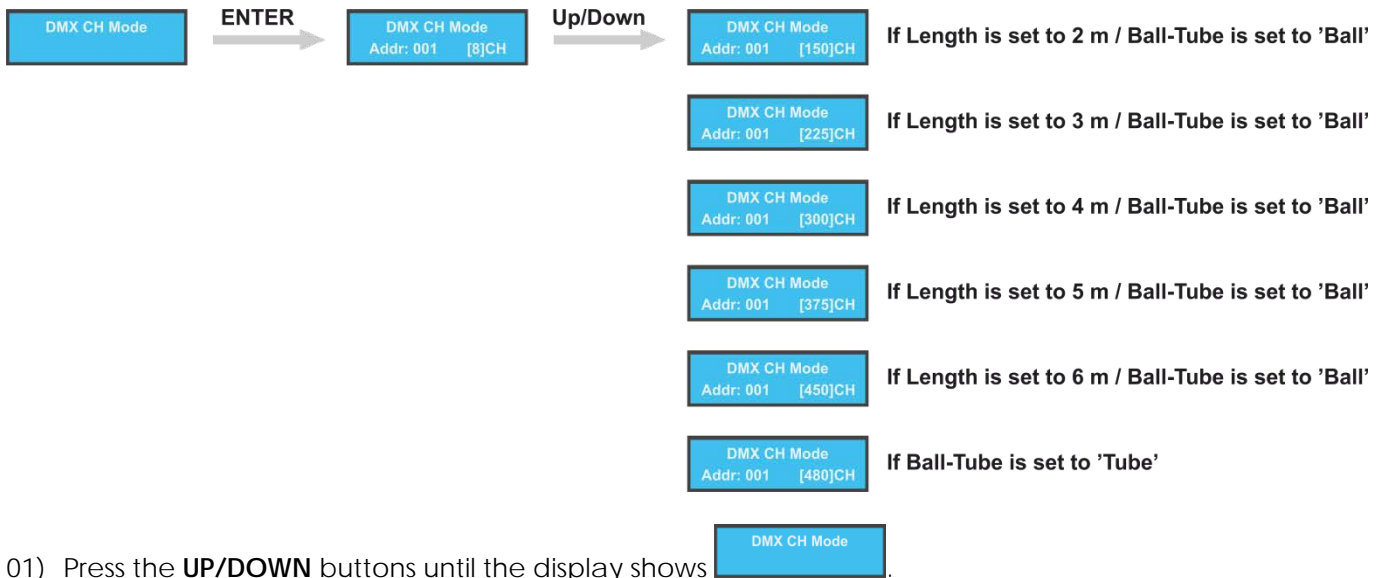
**Up/Down** →




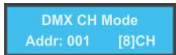
- 09) Press the **ENTER** button to save changes.
- You can choose between 29 programs and Mix (all the built-in programs will be run in a sequence).

### 5. DMX channel mode settings

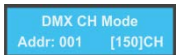
With this menu, you can choose the desired DMX channel mode.



- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the following 7 DMX channel modes:



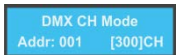
8-channel mode (default)



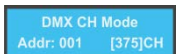
150-channel mode. Available when operating in **BALL** mode (see page 17, Ball/Tube mode) and Length is set to 2 m.



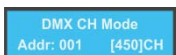
225-channel mode. Available when operating in **BALL** mode (see page 17, Ball/Tube mode) and Length is set to 3 m.



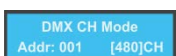
300-channel mode. Available when operating in **BALL** mode (see page 17, Ball/Tube mode) and Length is set to 4 m.



375-channel mode. Available when operating in **BALL** mode (see page 17, Ball/Tube mode) and Length is set to 5 m.



450-channel mode. Available when operating in **BALL** mode (see page 17, Ball/Tube mode) and Length is set to 6 m.



480-channel mode. Available when operating in **TUBE** mode (see page 17, Ball/Tube mode).

- 04) The DMX channel mode choice depends on the strip length settings. Different strip lengths correspond with different DMX channel modes (see page 20: Strip length settings).
- 05) Press the **ENTER** button to confirm your choice.




150-channel mode, 225-channel mode, 300-channel mode, 375-channel mode and 450-channel mode will function **only** if the Pixel Tube Set is operating in **BALL** mode.





## 6. DMX-512 mode

With this menu, you can set the desired DMX address.

- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to choose the desired DMX address. The adjustment range is between 001-512.
- 04) Press the **ENTER** button to save changes.


## 7. Software information


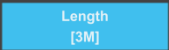
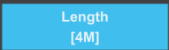


With this menu, you can check the currently installed software version.

- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) The display shows the current software version: .
- 04) The current software version will also be displayed upon each start-up of the device.

## 8. Strip length settings (available only in BALL mode)

With this menu, you can set the setup length. This will determine the number of LED strings, which you can connect, and the number of DMX channels which you can control the Pixel Tube Set with.

- 01) Press the **UP/DOWN** buttons until the display shows .
- 02) Press the **ENTER** button to open the menu.
- 03) Press the **UP/DOWN** buttons to toggle between the following 5 options:

	2 meters. You can connect 2 LED strings per output.
	3 meters. You can connect 3 LED strings per output.
	4 meters. You can connect 4 LED strings per output.
	5 meters. You can connect 5 LED strings per output.
	6 meters. You can connect 6 LED strings per output.

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



It is highly advisable to use the device in TUBE mode.

If you want to connect LED strings, refer to the manual of our [41094](#) – Pixel Bubble 80 MKII.



## DMX Channels

8 channels (available in BALL and TUBE modes)

## Channel 1 – Dimmer intensity

0-255 Gradual adjustment, from dark to brightest 0-100%

## Channel 2 – Strobe ⚠ Dimmer and CH3-5 must be open ⚠

0-10 Not functional

11-255 Strobe frequency, from low to high frequency

## Channel 3 – Red ⚠ Dimmer must be open ⚠

0-255 Gradual adjustment Red, from 0-100%

## Channel 4 – Green ⚠ Dimmer must be open ⚠

0-255 Gradual adjustment Green, from 0-100%

## Channel 5 – Blue ⚠ Dimmer must be open ⚠

0-255 Gradual adjustment Blue, from 0-100%

## Channel 6 – Built-in programs 1-15 ⚠ CH1 and CH2 must be set to 0 ⚠

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 and CH2 must be set to 0 ⚠

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 Program Mix

## Channel 8 – Program speed

0-255 Speed adjustment, from slow to fast

**Note:** In 150-channel mode, 225-channel mode, 300-channel mode, 375-channel mode and 450-channel mode, the numbers of LEDs progress horizontally. See below:

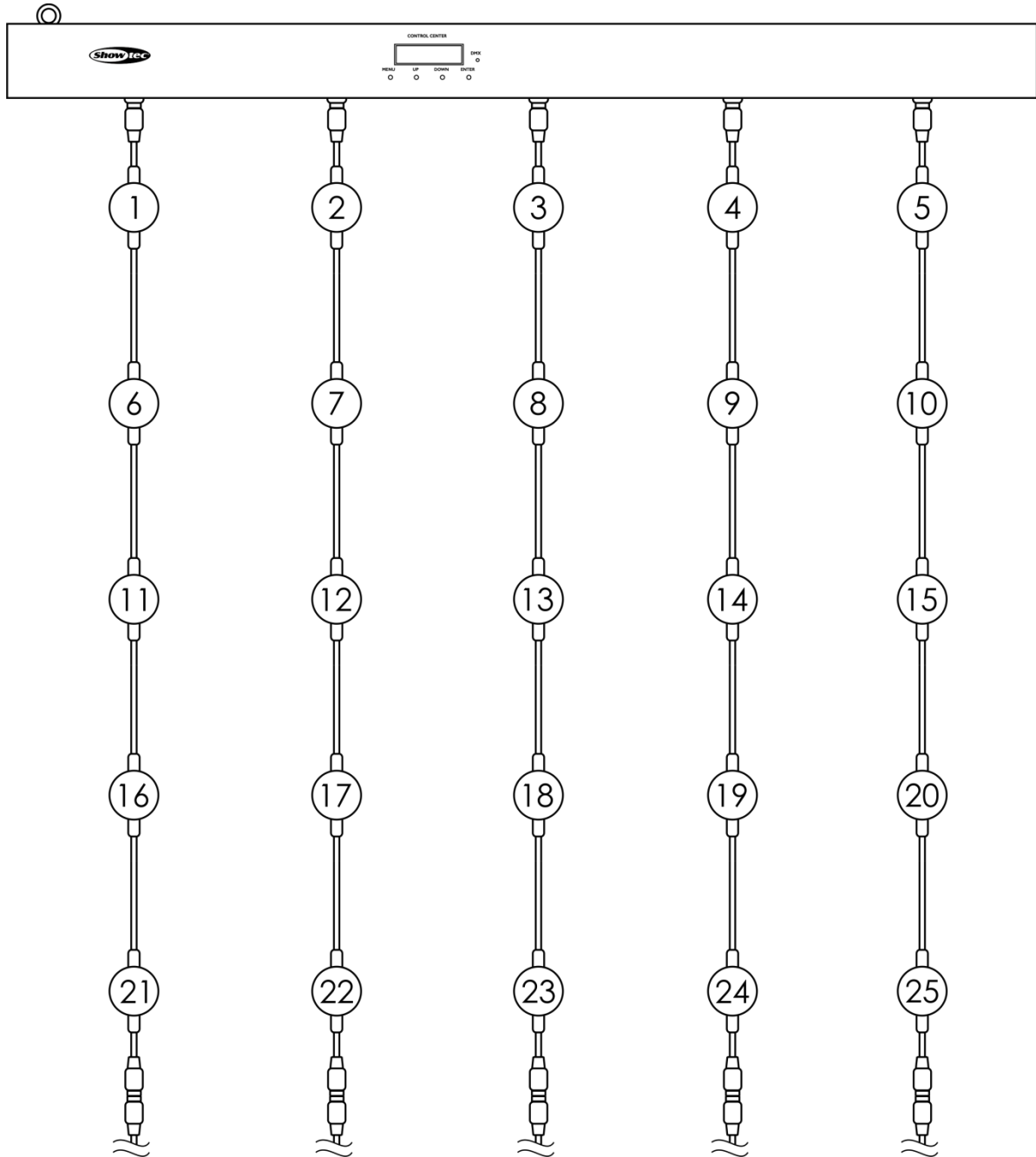


Fig. 08



150-channel mode, 225-channel mode, 300-channel mode, 375-channel mode and 450-channel mode will function **only** if the Pixel Tube Set is operating in **BALL** mode.



It is highly advisable to use the device in Tube mode.  
If you want to connect LED strings instead of the LED tubes, refer to the manual of our **41094** – Pixel Bubble 80 MKII.



150 channels (available only in BALL mode)

**Channel 1 – Red LED 1**

0-255 Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255 Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255 Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255 Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

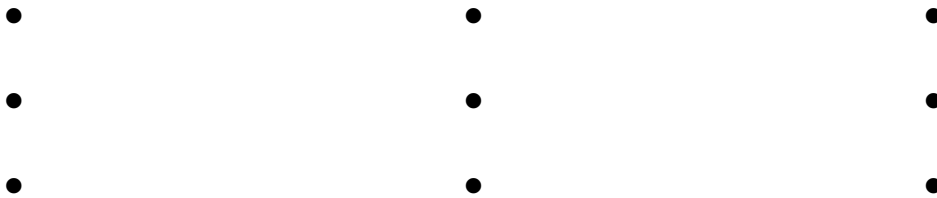
0-255 Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255 Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255 Gradual adjustment Blue, from 0-100%



**Channel 148 – Red LED 50**

0-255 Gradual adjustment Red, from 0-100%

**Channel 149 – Green LED 50**

0-255 Gradual adjustment Green, from 0-100%

**Channel 150 – Blue LED 50**

0-255 Gradual adjustment Blue, from 0-100%



225 channels (available only in BALL mode)

**Channel 1 – Red LED 1**

0-255      Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255      Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255      Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255      Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

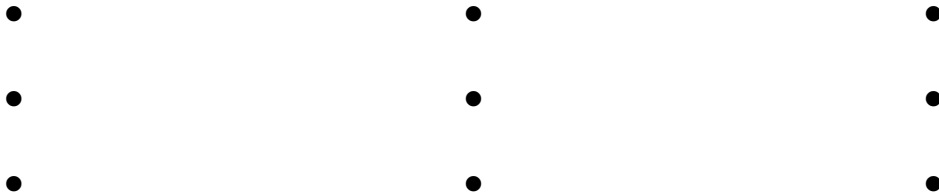
0-255      Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255      Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255      Gradual adjustment Blue, from 0-100%



**Channel 223 – Red LED 75**

0-255      Gradual adjustment Red, from 0-100%

**Channel 224 – Green LED 75**

0-255      Gradual adjustment Green, from 0-100%

**Channel 225 – Blue LED 75**

0-255      Gradual adjustment Blue, from 0-100%

**300 channels (available only in BALL mode)**

**Channel 1 – Red LED 1**

0-255      Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255      Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255      Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255      Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

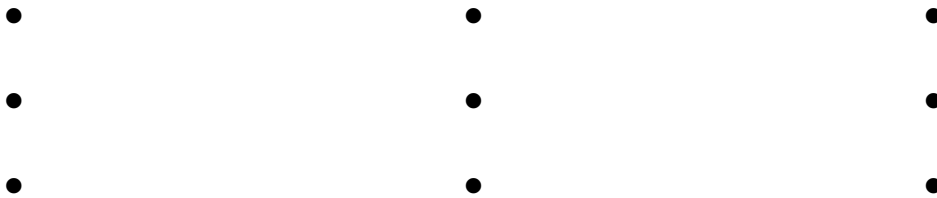
0-255      Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255      Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255      Gradual adjustment Blue, from 0-100%



**Channel 298 – Red LED 100**

0-255      Gradual adjustment Red, from 0-100%

**Channel 299 – Green LED 100**

0-255      Gradual adjustment Green, from 0-100%

**Channel 300 – Blue LED 100**

0-255      Gradual adjustment Blue, from 0-100%

375 channels (available only in BALL mode)

**Channel 1 – Red LED 1**

0-255 Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255 Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255 Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255 Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

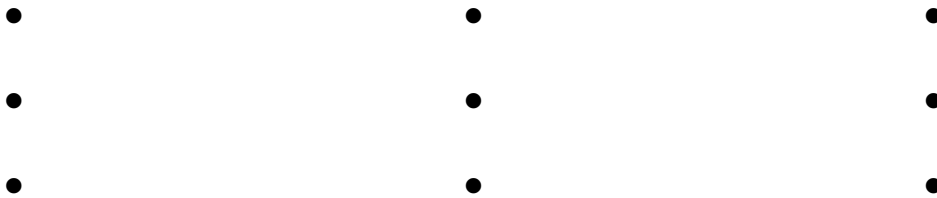
0-255 Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255 Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255 Gradual adjustment Blue, from 0-100%



**Channel 373 – Red LED 125**

0-255 Gradual adjustment Red, from 0-100%

**Channel 374 – Green LED 125**

0-255 Gradual adjustment Green, from 0-100%

**Channel 375 – Blue LED 125**

0-255 Gradual adjustment Blue, from 0-100%

450 channels (available only in BALL mode)

**Channel 1 – Red LED 1**

0-255 Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255 Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255 Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255 Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255 Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

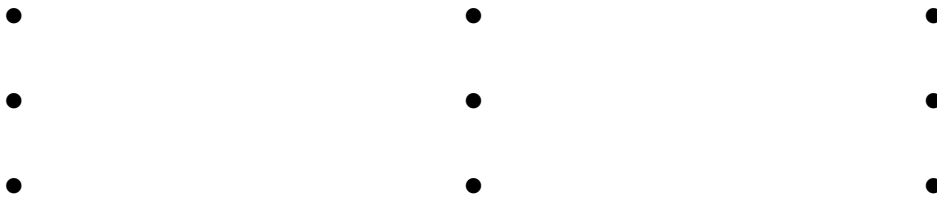
0-255 Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255 Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255 Gradual adjustment Blue, from 0-100%



**Channel 448 – Red LED 150**

0-255 Gradual adjustment Red, from 0-100%

**Channel 449 – Green LED 150**

0-255 Gradual adjustment Green, from 0-100%

**Channel 450 – Blue LED 150**

0-255 Gradual adjustment Blue, from 0-100%

480 channels (available only in TUBE mode)

**Note:** In 480-channel mode, the numbers of LEDs progress horizontally. See below:

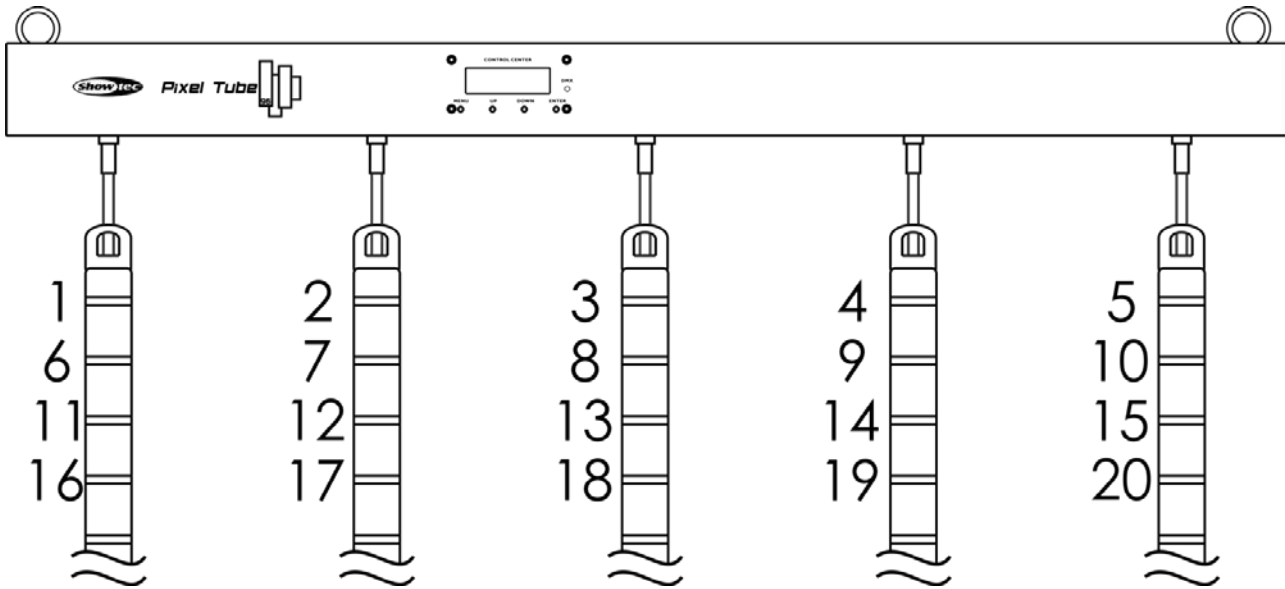


Fig. 09

**Channel 1 – Red LED 1**

0-255      Gradual adjustment Red, from 0-100%

**Channel 2 – Green LED 1**

0-255      Gradual adjustment Green, from 0-100%

**Channel 3 – Blue LED 1**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 4 – Red LED 2**

0-255      Gradual adjustment Red, from 0-100%

**Channel 5 – Green LED 2**

0-255      Gradual adjustment Green, from 0-100%

**Channel 6 – Blue LED 2**

0-255      Gradual adjustment Blue, from 0-100%

**Channel 7 – Red LED 3**

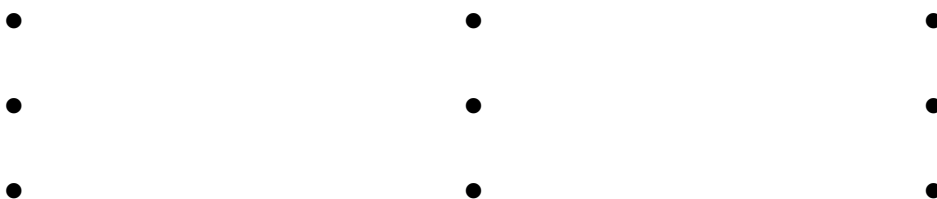
0-255      Gradual adjustment Red, from 0-100%

**Channel 8 – Green LED 3**

0-255      Gradual adjustment Green, from 0-100%

**Channel 9 – Blue LED 3**

0-255      Gradual adjustment Blue, from 0-100%



## Channel 478 – Red LED 160

0-255 Gradual adjustment Red, from 0-100%

## Channel 479 – Green LED 160

0-255 Gradual adjustment Green, from 0-100%

## Channel 480 – Blue LED 160

0-255 Gradual adjustment Blue, from 0-100%

## 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) Mechanically moving parts like axles, eyes and others may not show any traces of wearing.
- 04) The electric power supply cables must not show any damages or material fatigue.

The Pixel Tube Set 96 requires almost no maintenance. However, you should keep the unit clean. Otherwise, the fixture's light output will be significantly reduced. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents. Please clean internal components once a year with a light brush and vacuum cleaner. 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.

## Troubleshooting

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 light effect does not operate properly, refer servicing to a technician.

Suspect two potential problem areas as: the power supply and the LEDs.

- 01) Power supply. Check that the unit is plugged into an appropriate power supply.
- 02) The LEDs. Return the Pixel Tube Set 96 to your Showtec dealer.
- 03) If both of the above appear to be O.K., plug the unit in again.
- 04) If you are unable to determine the cause of the problem, do not open the Pixel Tube Set 96, as this may damage the unit and the warranty will become void.
- 05) Return the device to your Showtec dealer.

### No Response to DMX

Suspect the DMX cable or connectors, a controller malfunction, a light effect DMX card malfunction.

- 01) Check the DMX setting. 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.
- 03) Determine whether the controller or light effect is at fault. Does the controller operate properly with other DMX products? If not, take the controller in for repair. If so, take the DMX cable and the light effect to a qualified technician.

Problem	Probable cause(s)	Solution
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>
	Internal fuse blown	<ul style="list-style-type: none"> <li>Return the device to your local Showtec dealer.</li> </ul>
Fixtures reset correctly, but all respond erratically or not at all to the controller	The controller is not connected.	<ul style="list-style-type: none"> <li>Connect controller.</li> </ul>
	3-pin XLR Out of the controller does not match XLR Out 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 controller and the first fixture on the link</li> </ul>
Fixtures reset correctly, but some respond erratically or not at all to the controller	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 setting</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 restored: unplug both connectors and connect them directly together.</li> <li>Have the defective fixture serviced by a qualified technician</li> </ul>
	3-pin XLR 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 lamp cuts out intermittently	Fixture is too hot	<ul style="list-style-type: none"> <li>Allow the fixture to cool down</li> <li>Clean the fan</li> <li>Make sure air vents in control panel and the front lens are not blocked</li> <li>Turn up the air conditioning</li> </ul>
	LEDs damaged	<ul style="list-style-type: none"> <li>Disconnect the fixture and return it 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 Tube Set 96
Input voltage:	100-240V AC, 60/50Hz
Power consumption:	105W
DMX linking:	30pcs
Dimensions (LED tube):	1500 x 30 mm (LxW)
Dimensions (bar):	1000 x 65 x 92 mm (LxWxH)
Weight (LED tube):	0,3 kg
Weight (bar):	2,3 kg
<b>Operating and Programming:</b>	
Signal pin OUT:	Pin 1 (earth), pin 2 (-), pin 3 (+)
DMX Mode:	8, 150, 225, 300, 375, 450, 480 channels
Signal input:	3-pin DMX/RJ45 IN
Signal output:	3-pin DMX/RJ45 OUT
<b>Electro-mechanical effects:</b>	
Light source:	160 x 5050 SMD RGB LEDs
Pixel pitch:	45 mm
Dimmer:	0-100%
Strobe:	0-20Hz
Refresh rate:	>500Hz
Beam angle:	360°
Housing:	Die-cast aluminum
Control protocol:	DMX-512, ArtNet, KlingNet
DMX control:	via standard DMX-controller
Onboard:	LCD display for easy setup
Control:	Auto, Master/Slave, DMX-512/ArtNet/Klingnet
IP rating:	IP20
Connections:	Dedicated Pro power to Schuko & Data connector
Cooling:	Convection
Max. ambient temperature $t_a$ :	40°C
Max. housing temperature $t_B$ :	80°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.

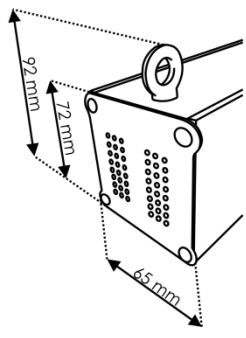
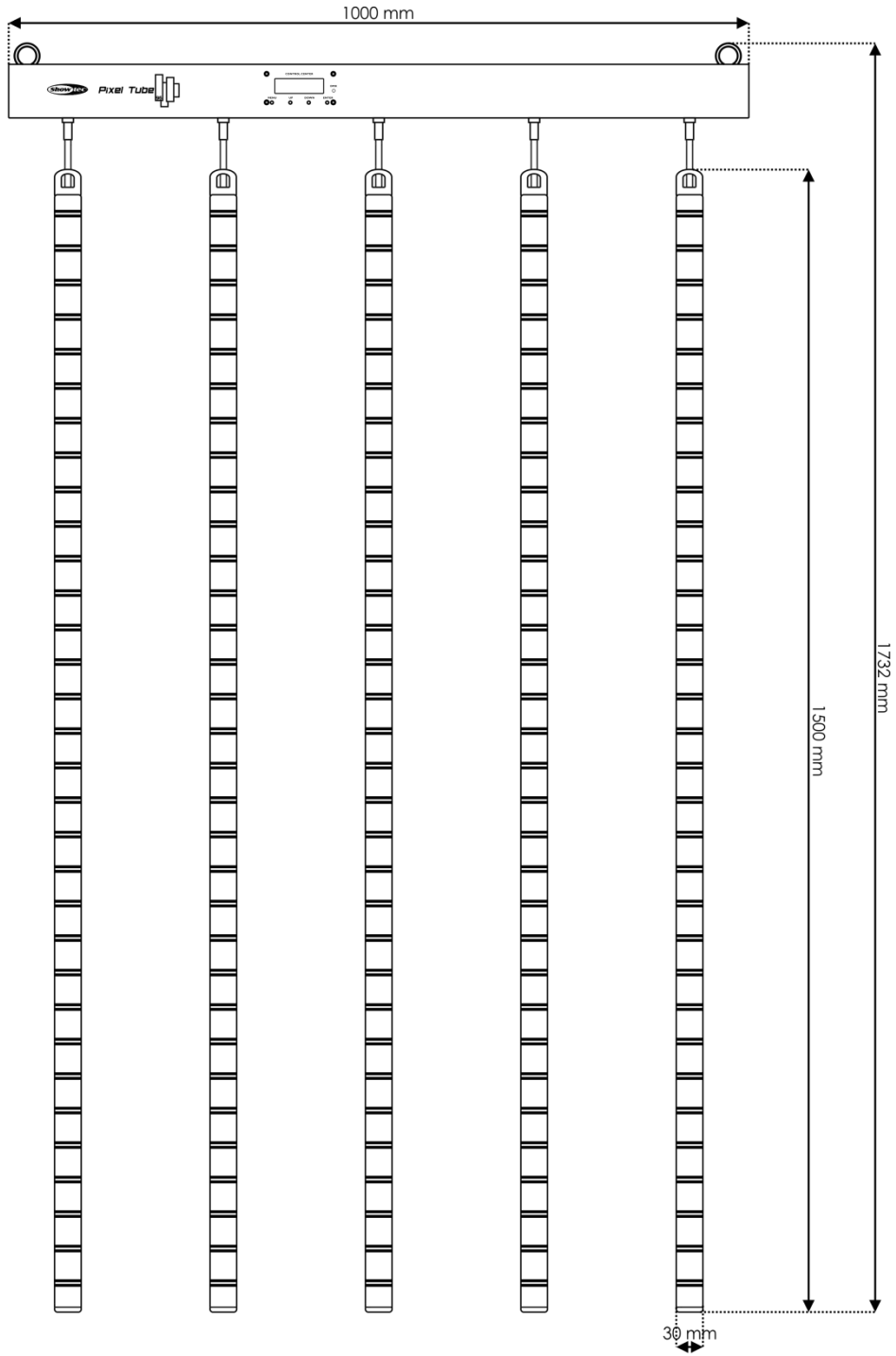


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# Dimensions









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