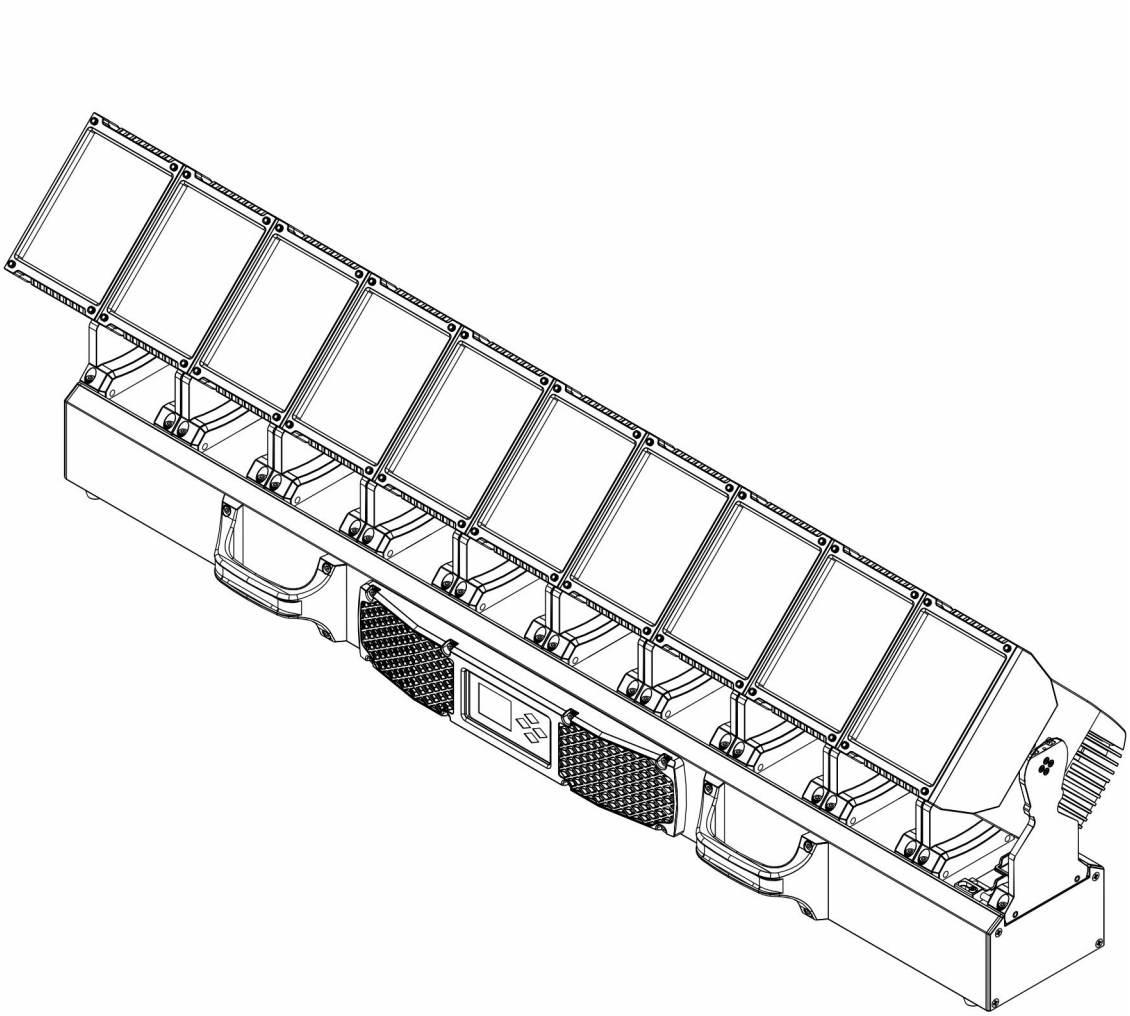
infinity

USER MANUAL

ENGLISH

V1.0



Furion FX402 Bar

Product code: 41470

Preface

Thank you for purchasing this Infinity product.

The purpose of this user manual is to provide instructions for the correct and safe use of this product.

Keep the user manual for future reference as it is an integral part of the product. The user manual shall be stored at an easily accessible location.

This user manual contains information concerning:

- Safety instructions
- Intended and non-intended use of the device
- Installation and operation of the device
- Maintenance procedures
- Troubleshooting
- Transport, storage and disposal of the device

Non-observance of the instructions in this user manual may result in serious injuries and damage of property.

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

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1. Introduction

1.1. Before Using the Product

Important
Read and follow the instructions in this user manual before installing, operating or servicing this product.

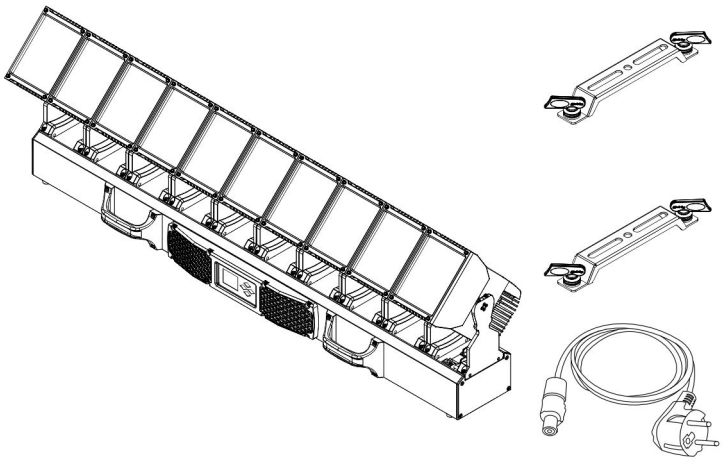
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

After unpacking, check the contents of the box. If any parts are missing or damaged, contact your Highlite International dealer.

Your shipment includes:

Figure 1

- Infinity Furion FX402 Bar
- Schuko to Power Pro True cable (1,5 m)
- 2 x quick-lock brackets
- User manual



1.2. Intended Use

This device is intended for professional use as a LED batten. It can be installed indoors and outdoors. This device is not suitable for households and for general lighting.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

1.3. LEDs Lifespan

The light output of the LEDs gradually decreases over time (lumen depreciation). High operating temperatures contribute to this process. You can extend the lifespan of the LEDs by providing adequate ventilation and operating the LEDs at the lowest possible intensity.

1.4. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to parts of the device are in bold lettering, for example: "turn the **adjustment handle (05)**". References to chapters are hyperlinked
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.5. Symbols and Signal Words

Safety notes and warnings are indicated throughout the user manual by safety signs.

Always follow the instructions provided in this user manual.

DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

Attention Indicates important information for the correct operation and use of the product.

Important Read and observe the instructions in this document.

Electrical hazard

Eye damage hazard

Provides important information about the disposal of this product.

1.6. Symbols on the Information Label

This product is provided with an information label. The information label is located on the base plate of the device.

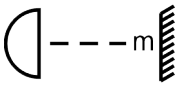
The information label contains the following symbols:

This device shall not be treated as household waste.

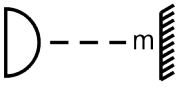
Read and follow the instructions in the user manual before installing, operating or servicing the device.

This device falls under IEC protection class I.

IP65 This devices is rated IP65.



Minimum distance from lighted objects



Minimum distance from other objects

2. Safety

Important
Read and follow the instructions in this user manual before installing, operating or servicing this product.

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

2.1. Warnings and Safety Instructions

DANGER
Danger for children

For adult use only. The device must be installed beyond the reach of children.

- Do not leave any parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within the reach of children. Packaging material is a potential source of danger for children.

DANGER
Electric shock caused by dangerous voltage inside

There are areas inside the device where dangerous touch voltage may be present.

- Do not open the device or remove any covers.
- Do not operate the device if the covers or the housing are open. Before operation, check if the housing is firmly closed and all screws are tightly fastened.
- Disconnect the device from the electrical power supply before service and maintenance, and when the device is not in use.

DANGER
Electric shock caused by short-circuit

This device falls under IEC protection Class I.

- Make sure that the device is electrically connected to ground (earth). Connect the device only to a socket-outlet with a ground (earth) connection.
- Do not cover the ground (earth) connection.
- Do not bypass the thermostatic switch or fuses.
- Replace fuses only with the same type and rating.
- Do not let the power cable come into contact with other cables. Handle the power cable and all connections with the mains with caution.
- Do not modify, bend, mechanically strain, put pressure on, pull or heat up the power cable.
- Make sure that the power cable is not crimped or damaged. Examine the power cable periodically for any defects.
- Do not immerse the device in water or other liquids. Do not install the device in a location where flooding may occur.
- Do not use the device during thunderstorms. Disconnect the device from the electrical power supply immediately.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a ‘drip loop’ in the cable so that rain water cannot enter the device.

WARNING
Risk of epileptic shock

Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

CAUTION
Possible eye damage caused by high light intensity

Possibly hazardous optical radiation emitted from this device. This is a Risk Group 2 product according to EN 62471. The device should be positioned so that prolonged staring into the light source at a distance closer than 3,5 m is not expected.

- Do not stare at operating lamp. May be harmful to the eye.
- Do not look at the light source with optical instruments that may concentrate the light output.
- Make sure that persons are not looking directly into the light source when the device lights up suddenly. This can happen when the device is powered on, when it receives a DMX signal, or when certain menu items are selected.
- Disconnect power before servicing.

CAUTION
Risk of injury due to movement of the device

The head of the device can move quickly. Persons standing near the device could get injured or scared.

- Make sure that there are no persons close to the device when you turn on the device and during operation.
- Keep body parts away from the moving parts of the device when servicing and during maintenance. Long hair or loose clothing can be entangled during the rotation of the moving head.

Attention
Power supply

- Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.
- Make sure that the cross-sectional area of the extension cords and power cables is sufficient for the required power consumption of the device.

Attention
Heavy object

This device is heavy. When handling, use a two-person lift.

Attention
General safety

- Do not lift the device holding it by the projector head. This may damage the mechanics. Use the transport handles when handling the device.
- Do not insert objects into air vents.
- Do not connect the device to a dimmer pack.

- Do not switch the device on and off in short intervals. This reduces the device's life.
- Do not shake the device. Avoid brute force when installing or operating the device.
- Change the lens or the LEDs if they are visibly damaged to such an extent that their effectiveness is impaired, for example by cracks or deep scratches. Contact your Highlite International dealer for more information, as servicing can be performed only by instructed or skilled persons.
- If the device is dropped or struck, disconnect the device from the electrical power supply immediately.
- If the device is exposed to extreme temperature variations (e.g. after transportation), do not switch it on immediately. Let the device reach room temperature before switching it on, otherwise it may be damaged by the formed condensation.
- If the device fails to work properly, discontinue use immediately.

Attention
For professional use only
This device must be used only for the purposes it is designed for.

This device is intended for professional use as a LED batten. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households and for general lighting.
- This device is not designed for permanent operation.
- This device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

Attention
Before each use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixings and installation points.
- The lens is not cracked or damaged.
- The power cables are not damaged and do not show any material fatigue.

Attention
Do not expose the device to conditions that exceed the rated IP class conditions.

This device is IP65 rated. IP (Ingress Protection) 65 class means that the device is dust-tight and protected against harmful effect of water jets.

Keep the connectors sealed with the rubber caps when the connectors are not in use.

2.2. Requirements for the User

This product may be used by ordinary persons. Maintenance may be carried out by ordinary persons. Installation and service shall be carried out only by instructed or skilled persons. Contact your Highlite International dealer for more information.

Instructed persons have been instructed and trained by a skilled person, or are supervised by a skilled person, for specific tasks and work activities associated with the installation, service and maintenance of this product, so that they can identify risks and take precautions to avoid them.

Skilled persons have training or experience, which enables them to recognize risks and avoid hazards associated with the installation, service and maintenance of this product.

Ordinary persons are all persons other than instructed persons and skilled persons. Ordinary persons include not only users of the product but also any other persons that may have access to the device or who may be in the vicinity of the device.

2.3. Personal Protective Equipment

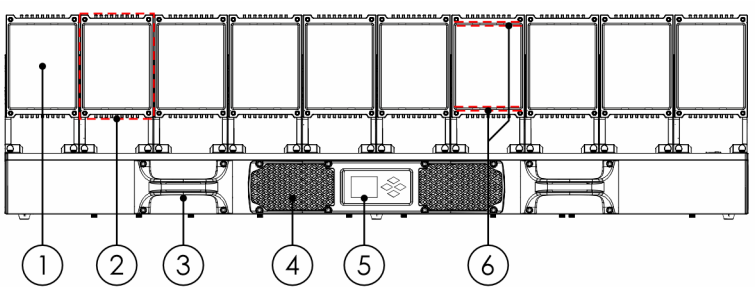
During installation, deinstallation and rigging wear personal protective equipment in compliance with the national and site-specific regulations.

3. Description of the Device

The Infinity Furion FX402 Bar is an IP65-rated LED batten with 10 high-power 60 W RGBW LEDs in 10 tilt heads. The RGBW LEDs can be individually controlled, as can the tilt and zoom of every head. Each tilt head features one 60 W RGBW LED, 6 individually controllable CW and 6 individually controllable WW strobe pixels. The heads can be tilted over 200°, while the beam angle can be adjusted between 2,7° and 31,4° for each head individually. The device offers customizable color temperatures due to its intelligent white mode with a user-calibrated 7500 K output and the CTC channel offers stepless white light between 2700 K and 7500 K. The device also offers 16-bit dimming capabilities and 6 different PWM frequencies, between 600 Hz and 15000 Hz. The control options include DMX, Art-Net, sACN and RDM.

3.1. Front View

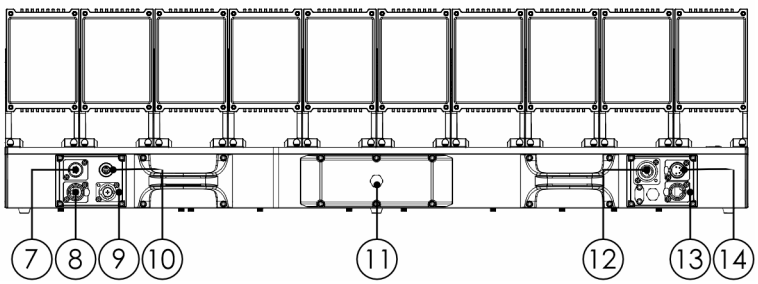
Figure 2



01) 10 x Lens + 60 W RGBW LED
02) 10 x Tilt head
03) 4 x Transport handles
04) Cooling
05) Control panel: TFT screen and control buttons
06) 60 x CW + WW strobe LEDs (DOT 1–60)

3.2. Back View

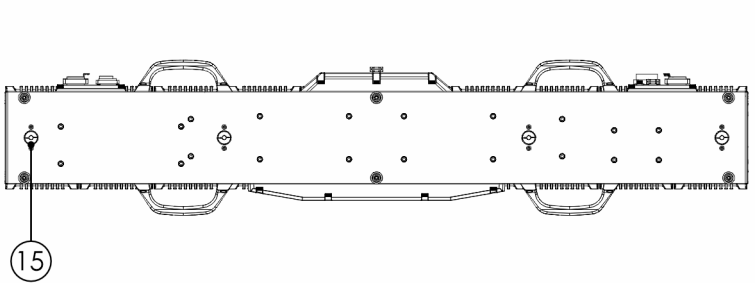
Figure 3



07) IP65-rated 5-pin DMX signal connector IN
08) P65-rated RJ45 connector
09) IP65-rated Seetronic power connector IN
10) Fuse (F15 A, 250 V)
11) Protective vent (M12x1,5)
12) IP65-rated Seetronic power connector OUT
13) IP65-rated RJ45 connector
14) IP65-rated 5-pin DMX signal connector OUT

3.3. Base Plate

Figure 4



15) 4 x Mounting holes for quick-lock brackets

3.4. Product Specifications

Model:	Furion FX402 Bar

Source:	
Light source type	LED
Light source quantity	10
Light source power	60 W
LED color type	RGBW
Refresh rate	600 Hz
Refresh rate (max.)	15 kHz
Luminous flux (total)	8951 lm
CRI	83,7
CCT	7200 K

Optical:	
Beam angle minimum (circular)	2,7°
Beam angle maximum (circular)	26,7°
Cutoff angle minimum (circular)	3,8°
Cutoff angle maximum (circular)	31,4°
Field angle minimum (circular)	3,4°
Field angle maximum (circular)	30,3°
Zoom type	Motorized
Zoom ratio	1:10

Control and Programming:	
Control mode	Auto / DMX / Manual
DMX channels	29 / 56 / 144 / 255 / 37+160
Protocols	Art-Net / DMX / RDM / sACN
Display	TFT
Dim curve	Linear / Square / I-Square / S-Curve
Zone control (sections)	10
Dimmer resolution	16-bit
Zoom resolution	8-bit

Dynamic Effects:	
Dimmer	0–100 %
Strobe	0–20 Hz

Movement:	
Pan	0°
Tilt	200°
Pan/tilt resolution	16-bit

Electrical Specifications and Connections:	
Power supply	100–240 V AC 50/60 Hz
Power consumption	800 W

Fuse	15 A
Power connector IN	Power Pro True
Power connector OUT	Power Pro True
DMX connector	XLR 5P IN/OUT
DMX connector IN	XLR 5P
DMX connector OUT	XLR 5P
Data connector	etherCON IN/OUT
Data connector IN	RJ45
Data connector OUT	RJ45

Mechanical Specifications:	
Length	1000 mm
Width	209 mm
Height	322 mm
Weight	31 kg
IP rating	IP65
Housing	Magnesium die-cast
Color	Black

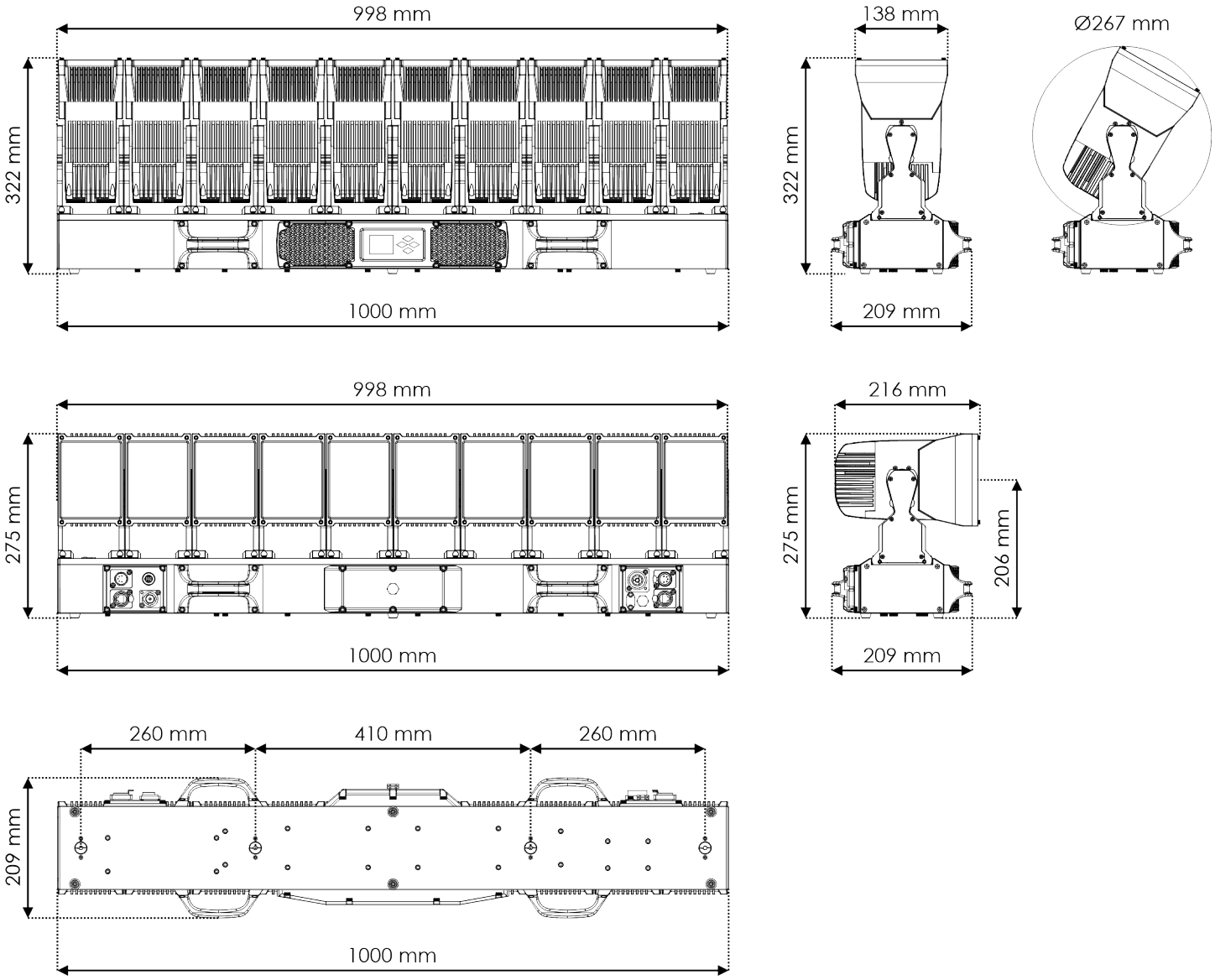
Product Properties:	
Cooling	Convection

Thermal Specifications:	
Maximum ambient temperature	45 °C
Minimum operating temperature	-10 °C

Included Items:	
Included cables	Power Pro True cable
Included rigging	2 x Quick-lock brackets

3.5. Dimensions

Figure 5



3.6. Optional Accessories

You can additionally purchase the following accessory:

- D7282 Case for 2x Furion FX402 Bar
- 41549 Infinity IP Tester for Furion

Contact your Highlite International dealer for more information.

4. Installation

4.1. Safety Instructions for Installation

WARNING
Incorrect installation can cause serious injuries and damage of property.

If trussing systems are used, installation must be carried out only by instructed or skilled persons.

Follow all applicable European, national and local safety regulations concerning rigging and trussing.

4.2. Personal Protective Equipment

During installation, deinstallation and rigging wear personal protective equipment in compliance with the national and site-specific regulations.

4.3. Installation Site Requirements

- The device can be used indoors and outdoors.
- The minimum distance between the light output and the illuminated surface must be bigger than 2 m.
- The minimum distance to other objects must be bigger than 0,5 m.
- The maximum ambient temperature t_a = 45 °C must never be exceeded.

4.4. Rigging

The device can be positioned on a flat surface or mounted to a truss or other rigging structure in any orientation. Make sure that all loads are within the pre-determined limits of the supporting structure.

CAUTION
Restrict the access under the work area during rigging/derigging.

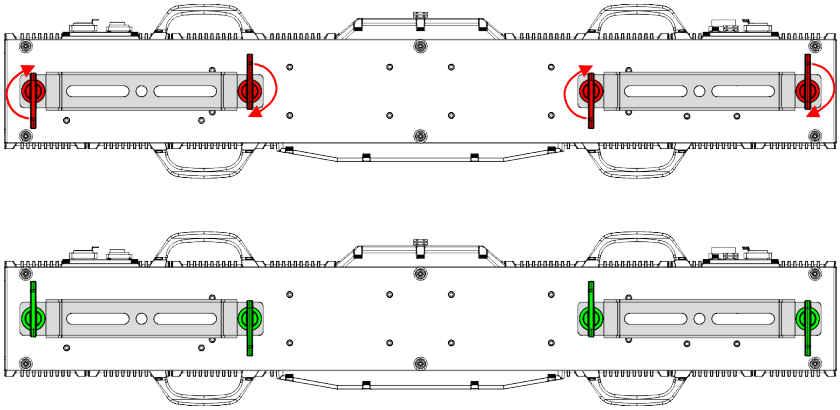
Attention
Heavy object

This device is heavy. When handling, use a two-person lift.

To mount the device, follow the steps below:

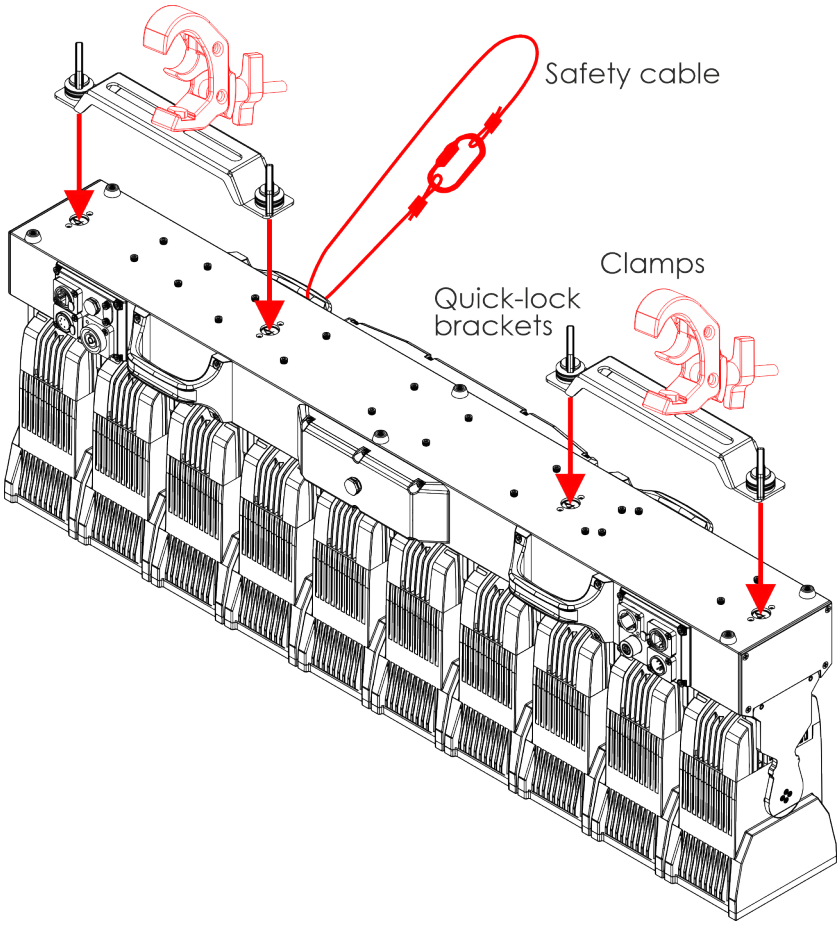
01) Fasten the 2 quick-lock brackets, supplied with the device, on the **mounting holes for quick-lock brackets (15)**.
02) Lock the 2 quick-lock brackets by turning the locking mechanism of the quick-lock brackets clockwise.

Figure 6



03) Install the clamps. Make sure that you use clamps suitable for attaching the device to a truss.

Figure 7



04) Attach the device to the supporting structure. Make sure that the device cannot move freely.
05) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through the **transport handles (03)**.

4.5. Connecting Multiple Devices

To create a setup with multiple devices, you need to align the devices horizontally.

01) Put the 2nd bar next to the 1st bar, as shown in Fig. 8 and 9.

Figure 8

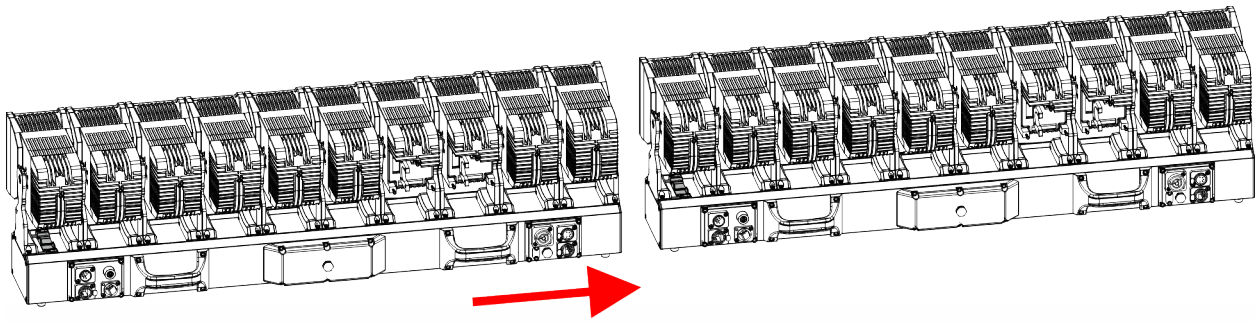
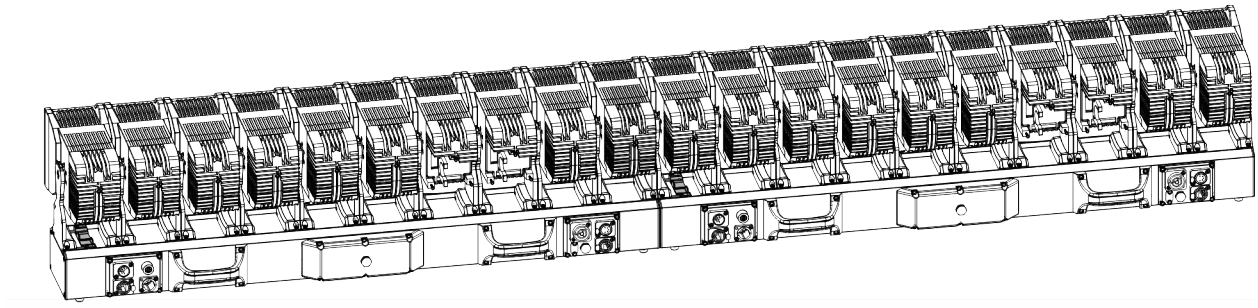


Figure 9



02) Push the lever of the 1st bar to the left and make sure the 2 pins of the 1st bar align with the holes in the 2nd bar, as shown in Fig. 10 and 11.

Figure 10

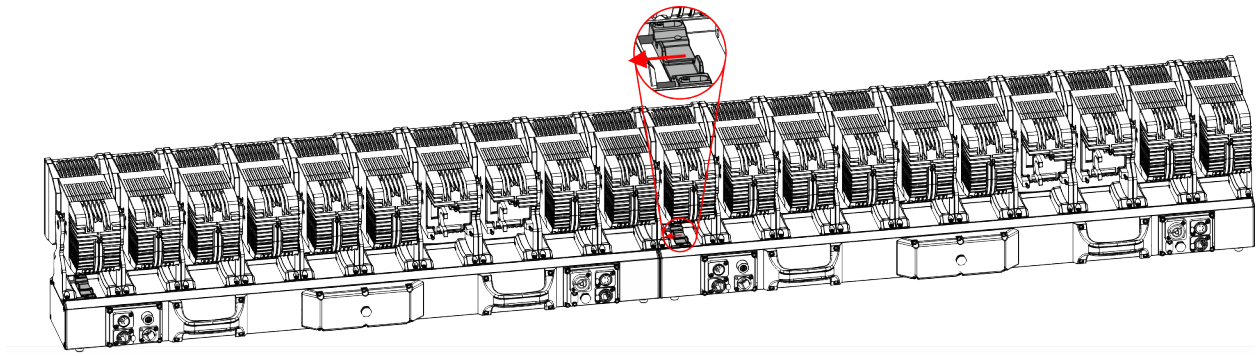
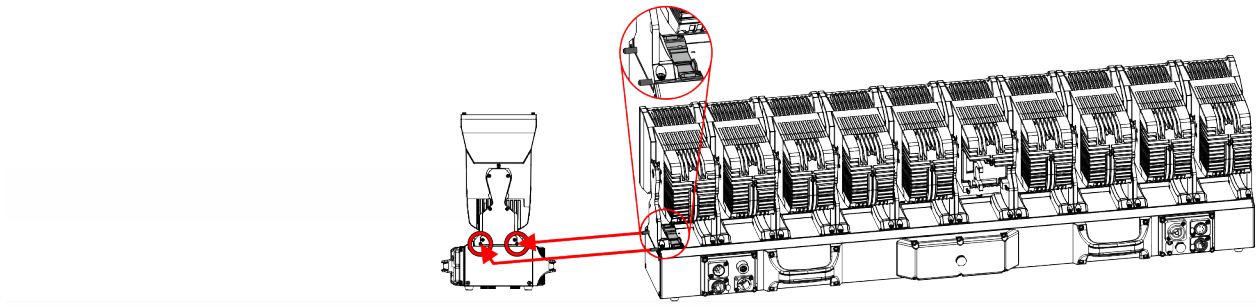


Figure 11



Note:

The devices are not connected to each other, they are simply aligned to create a seamless bar when using a tilt flow effect.

4.6. Connecting to Power Supply

DANGER
Electric shock caused by short-circuit

The device accepts AC mains power at 100–240 V and 50/60 Hz. Do not supply power at any other voltage or frequency to the device.

This device falls under IEC protection class I. Make sure that the device is always electrically connected to the ground (earth).

Before connecting the device to the socket-outlet:
- Make sure that the power supply matches the input voltage specified on the information label on the device.
- Make sure that the socket-outlet has a ground (earth) connection.

Connect the device to the socket-outlet with the power plug. Do not connect the device to a dimmer circuit, as this may damage the device.

This device is IP65 rated.

- Do not expose the device to conditions that exceed the rated IP class conditions.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.
- Make sure that the cable run is not too heavy. A heavy cable run can cause damage to the connectors. If the connectors are damaged, their ingress protection (IP) can deteriorate.

4.7. Power Linking of Multiple Devices

This device 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.

Power linking of multiple devices must be carried out only by instructed or skilled persons.

WARNING
Incorrect power linking may lead to overload of the electrical circuit and result in serious injuries and damage of property.

To prevent overload of the electrical circuit, when power linking multiple devices:

- Use cables with sufficient current-carrying capacity. The power cable supplied with the device is not suitable for power linking of multiple devices.
- Make sure that the total current draw of the device and all connected devices does not exceed the rated capacity of the power cables and the circuit breaker.
- Do not link more devices on one power link than the maximum recommended number.

Maximum recommended number of devices:
- at 100–120 V: 1 devices Furion FX402 Bar
- at 200–240 V: 2 devices Furion FX402 Bar

5. Setup

5.1. Warnings and Precautions

DANGER
Electric shock caused by short-circuit

This device is IP65 rated.

- Do not expose the device to conditions that exceed the rated IP class conditions.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.
- Make sure that the cable run is not too heavy. A heavy cable run can cause damage to the connectors. If the connectors are damaged, their ingress protection (IP) can deteriorate.

Attention
Connect all data cables before supplying power.
Disconnect power supply before connecting or disconnecting data cables.

5.2. Stand-alone Setup

When the Furion FX402 Bar is not connected to a controller or to other devices, it functions as a stand-alone device. It can be operated manually via the control panel or in auto mode.

For more information refer to Control Modes (see 6.2. Control Modes on page 24).

5.3. DMX Connection

5.3.1. DMX-512 Protocol

You need a DMX serial data link to run light shows of one or more devices using a DMX-512 controller.

The Furion FX402 Bar has 5-pin DMX signal IN and OUT connectors.

The pin assignment is as follows: pin 1 (ground), pin 2 (-), pin 3 (+), pin 4 (N/C), pin 5 (N/C).

Devices on a serial data link must be daisy-chained in a single line. The number of devices that you can control on one data link is limited by the combined number of the DMX channels of the connected devices and the 512 channels available in one DMX universe.

To comply with the TIA-485 standard, no more than 32 devices should be connected on one data link. In order to connect more than 32 devices on one data link, you must use a DMX optically isolated splitter/booster, otherwise this may result in deterioration of the DMX signal.

Note:

- Maximum recommended DMX data link distance: 300 m
- Maximum recommended number of devices on a DMX data link: 32 devices

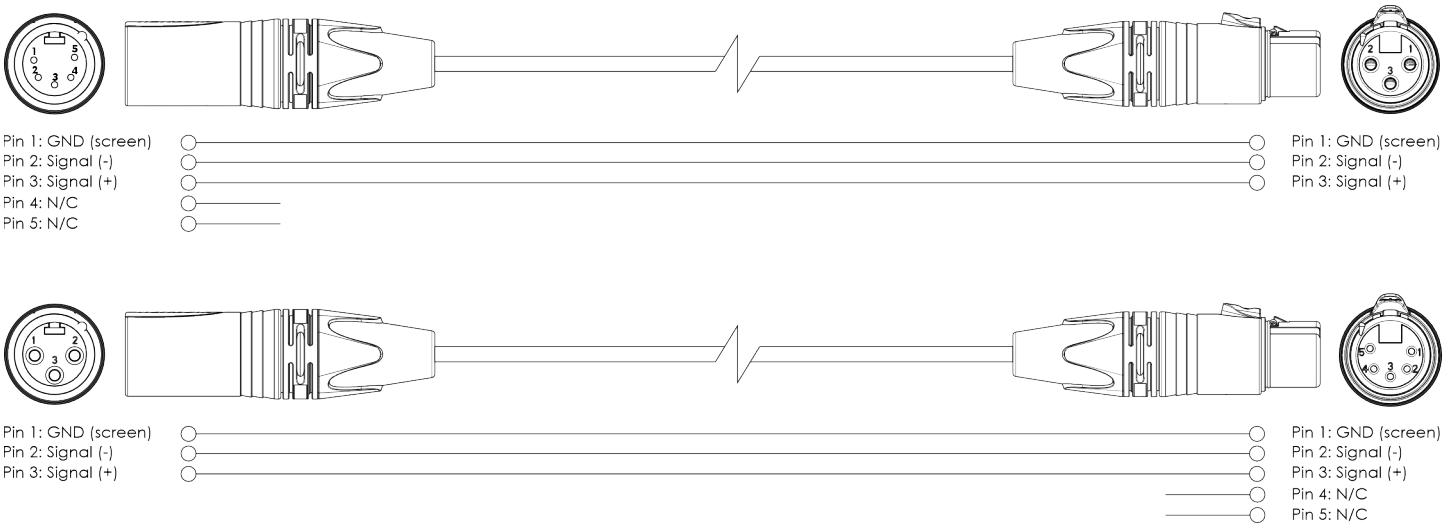
5.3.2. DMX Cables

Shielded twisted-pair cables with 5-pin XLR connectors must be used for reliable DMX connection. You can purchase DMX cables directly from your Highlite International dealer or make your own cables.

If you use XLR audio cables for DMX data transmission, this may lead to signal degradation and unreliable operation of the DMX network.

When you make your own DMX cables, make sure that you connect the pins and wires correctly as shown in the figure below.

Figure 12

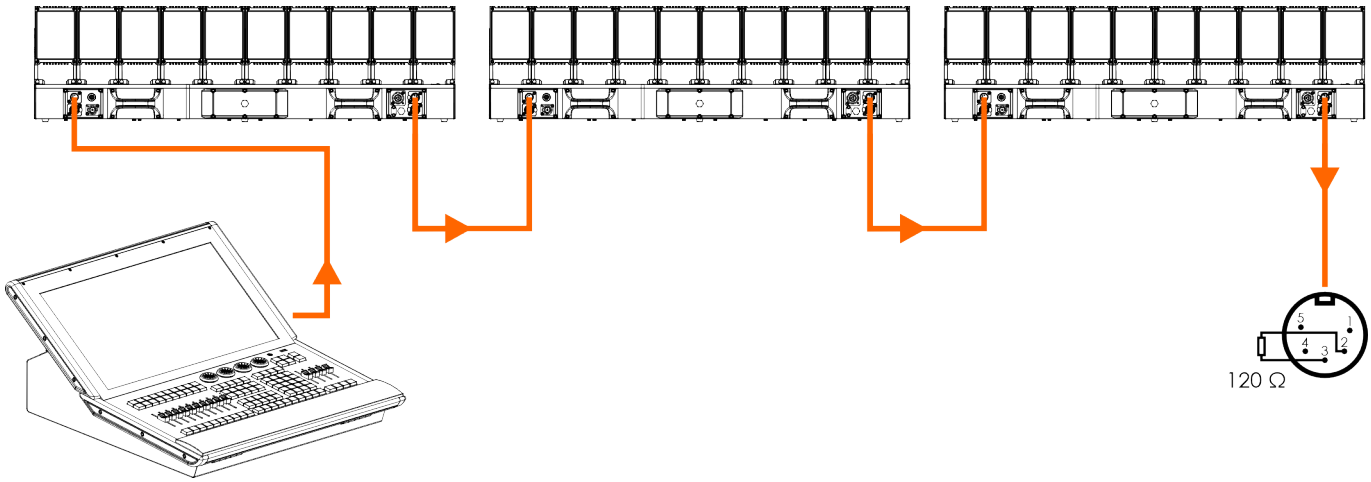


5.3.3. DMX Linking

To connect multiple devices on one DMX data link, follow the steps below:

01) Use a 5-pin DMX cable to connect the DMX OUT connector of the lighting controller to the DMX IN connector of the 1st device.
02) Connect the DMX OUT connector of the 1st device to the DMX IN connector of the 2nd device with a 5-pin DMX cable.
03) Repeat step 2 to connect all devices in a daisy-chain.
04) Connect a DMX terminator (120 Ω resistor) to the DMX OUT connector of the last device on the data link.

Figure 13



5.3.4. DMX Addressing

In a setup with multiple devices, make sure that you set the DMX starting address of each device correctly. The Furion FX402 Bar has 5 personalities: 29 channels, 56 channels, 144 channels, 255 channels and 37+160 channels.

If you want to connect multiple devices on one data link and use them in 255-channel mode, for example, follow the steps below:

01) Set the starting address of the 1st device on the data link to 1 (001).
02) Set the starting address of the 2nd device on the data link to 256 (256), as 1 + 255= 256.
03) Continue assigning the starting addresses of the remaining devices by adding each time 255 to the previous number.

When addressing multiple devices on one data link, make sure that there are no overlapping channels. You cannot control devices individually if they have overlapping channels.

Note:

DMX connection is limited to 512 channels. For larger setups, connect the devices via Art-Net or sACN protocols (see 5.4. Ethernet Connection on page 21).

5.4. Ethernet Connection

5.4.1. Art-Net/sACN Protocol

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

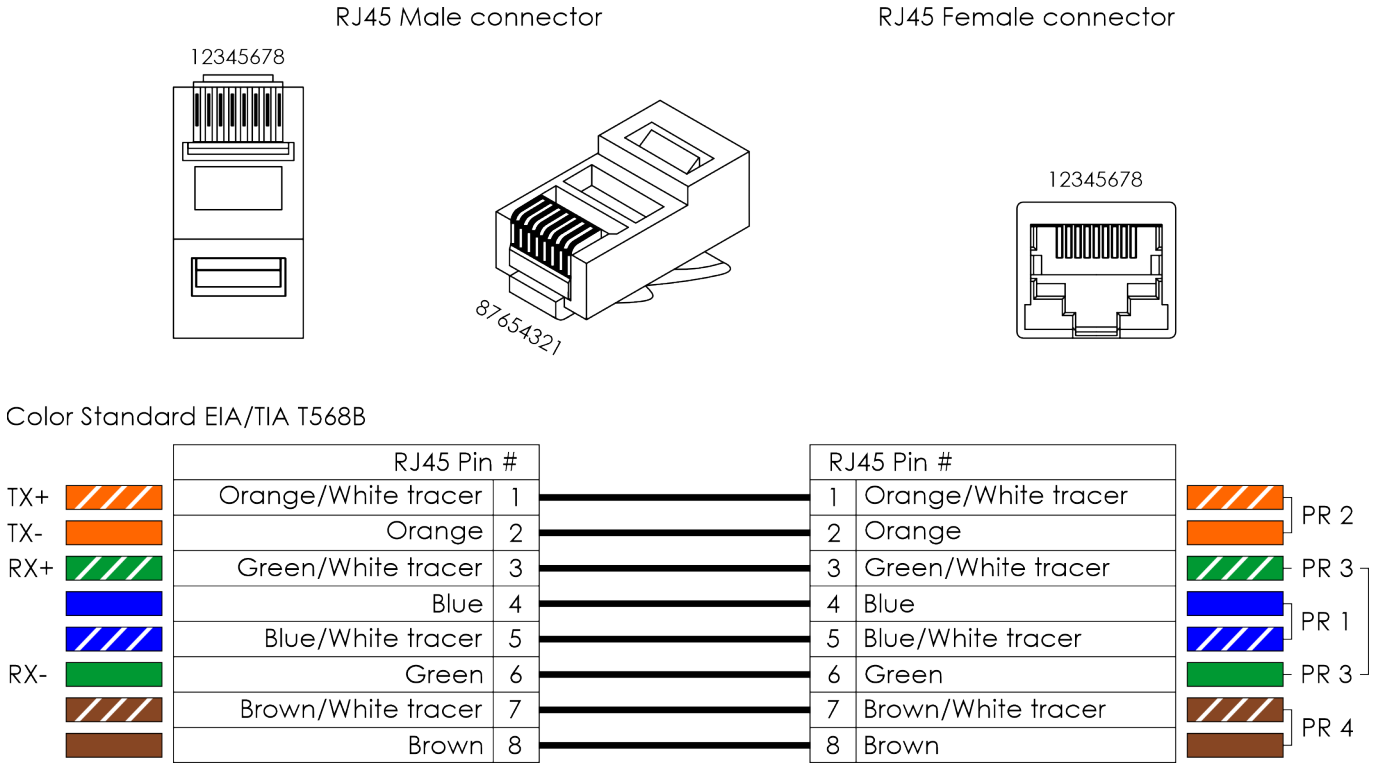
sACN (streaming Architecture for Control Networks), also known as ANSI E1.31, is a protocol developed by ESTA (Entertainment Services and Technology Association) for sending DMX-512 data over IP networks. It supports up to 63999 universes and uses multicasting.

5.4.2. Network Cables

Standard twisted-pair Ethernet cables (CAT-5E/CAT-6) can be used to connect the device to a computer or to a lighting controller that supports Art-Net or sACN.

If you make your own network cables, make sure that you connect the pins and wires correctly. Use RJ45 (8P8C) connectors and patch the cables according to the T568B color standard.

Figure 14

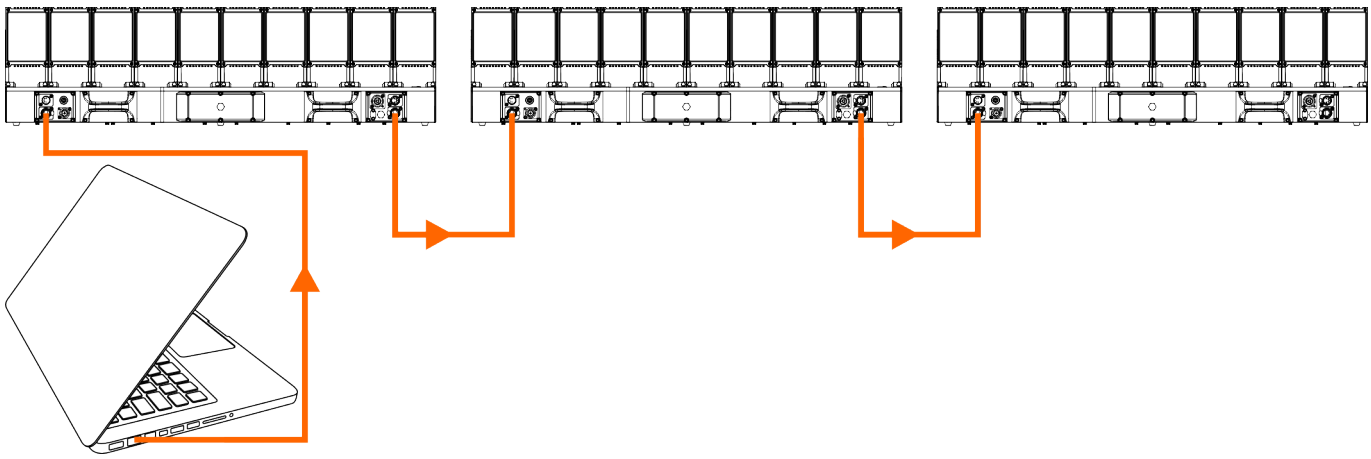


5.4.3. Art-Net/sACN Linking

To connect multiple devices on one Art-Net/sACN data link, follow the steps below:

01) Use a CAT-5E/CAT-6 cable to connect the RJ45 connector of the computer/lighting controller to one of the RJ45 connectors of the 1st device.
02) Connect the 2nd RJ45 connector of the 1st device to the 1st RJ45 connector of the 2nd device with a CAT-5E/CAT-6 cable.
03) Repeat step 2 to connect all devices in a daisy-chain.

Figure 15



5.4.4. Art-Net Settings

You need an Art-Net data link to run light shows of one or more devices using a computer/light controller.

If you want to connect multiple devices on one Art-Net/RDM data link, follow the steps below:

01) 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. All devices in the network must have a unique IP address. To change the IP address, the IP Mode, the Subnet mask, and the Universe of the device, refer to Network Setup (see 6.7.2.1. Network Setup on page 40).
02) Set the Subnet mask to 255.0.0.0. on all devices.
03) Set the universe of the 1st device to 1.
04) Set the DMX address of the 1st device to 001.
05) Map all the connected devices in the Art-Net-based software. To change the Art-Net protocol of the device, refer to Art-Net/sACN Protocol (see 5.4.1. Art-Net/sACN Protocol on page 21).

5.4.5. sACN Settings

To run your device using sACN protocol:

01) Set the IP address of your computer/light controller. sACN does not have restrictions on the IP address. To change the IP address, the IP Mode, the Subnet mask, and the Universe of the device, refer to Network Setup (see 6.7.2.1. Network Setup on page 40).
02) Select sACN Protocol in the Control Mode menu (see 6.7.3. Control Mode on page 47).
03) Set the universe in the Network Setup menu (see 6.7.2.1. Network Setup on page 40).

5.4.6. Universe Numbering

If you want to connect 3 or more devices on one data link and use them in 255-channel mode, you need to address the devices on different universes.

01) Set the DMX starting address of the first 2 devices.
02) Set the universe number of the 3th device to 001 and the DMX starting address to 001.
03) Continue addressing the devices, each time increasing the universe number, after you reach the limit of 512 channels in one universe.

There are 512 channels (1–512) in one universe. 16 consecutive universes (0–15) make up one sub-net. 16 sub-nets (0–15) make up one net. There are 128 nets (0–127) in total.

Note:

- In Art-Net, universes are called Port Address and number from 0 to 32767. There are 32768 unique numbers.
- In sACN, universes number from 1 to 63999.

15-bit Port Address	Net (0–127)	Sub-net (0–15)	Universe (0–15)
0	0	0	0
1	0	0	1
2	0	0	2
...	...	...	...
15	0	0	15
16	0	1	0
17	0	1	1
...	...	...	...
31	0	1	15
32	0	2	0
33	0	2	1
...	...	...	...
255	0	15	15
256	1	0	0
257	1	0	1
...	...	...	...
32766	127	15	14
32767	127	15	15

When addressing multiple devices on one data link, make sure that there are no overlapping channels. You cannot control devices individually if they have overlapping channels.

Note:

If you use an Art-Net controller that supports Art-Net I or Art-Net II, you need to set the Art-Net net to 0. The net number is available in Art-Net 3 and higher versions of the Art-Net protocol.

6. Operation

6.1. Safety Instructions for Operation

Attention
This device must be used only for the purposes it is designed for.

This device is intended for professional use as a LED batten. It can be installed indoors and outdoors. This device is not suitable for households and for general lighting.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

Attention
Power supply

Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

6.2. Control Modes

The Furion FX402 Bar supports the following control modes:

- Stand-alone: Stand-alone mode (built-in programs), manual control
- DMX-512: 29 channels, 56 channels, 144 channels, 255 channels and 37+160 channels
- Art-Net: 29 channels, 56 channels, 144 channels, 255 channels and 37+160 channels
- sACN: 29 channels, 56 channels, 144 channels, 255 channels and 37+160 channels

For more information about how to connect the devices, refer to Setup (see 5. Setup on page 18).

To operate the device manually as a stand-alone device:

Adjust the parameters of the device in the Manual Test menu (see 6.7.3.2. Manual Test on page 48).

To run the built-in programs in auto operation mode without a DMX controller:

Select the control mode of the device in the Stand Alone menu (see 6.7.3. Control Mode on page 47). If you select Program 1–9, the device will run the built-in program.

To operate the device with a DMX controller:

01) Select DMX512 as control mode in the Control Mode menu (see 6.7.3. Control Mode on page 47).
02) Set the DMX starting address of the device in the DMX Address menu (see 6.7.1. DMX Address on page 38).
03) Select the DMX channel mode in the Control Mode menu (see 6.7.3. Control Mode on page 47). Refer to DMX Channels (see 6.8. DMX Channels on page 54) for a complete overview of all DMX channels.

To operate the device via Art-Net with a computer/lighting controller:

01) Select ArtNet as control mode in the Control Mode menu (see 6.7.3. Control Mode on page 47).
02) Set the DMX starting address of the device in the DMX Address menu (see 6.7.1. DMX Address on page 38).
03) Select the DMX channel mode in the Control Mode menu (see 6.7.3. Control Mode on page 47). Refer to DMX Channels (see 6.8. DMX Channels on page 54) for a complete overview of all DMX channels.

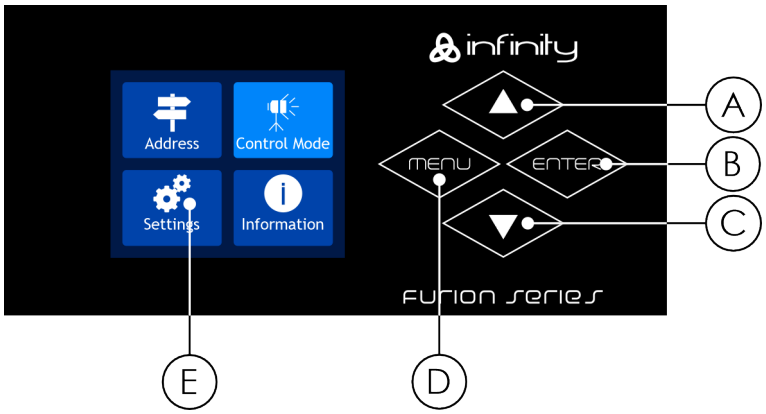
To operate the device via sACN with a computer/lighting controller:

01) Select sACN as control mode in the Control Mode menu (see 6.7.3. Control Mode on page 47).
02) Set the DMX starting address of the device in the DMX Address menu (see 6.7.1. DMX Address on page 38).

03) Select the DMX channel mode in the Control Mode menu (see 6.7.3. Control Mode on page 47). Refer to DMX Channels (see 6.8. DMX Channels on page 54) for a complete overview of all DMX channels.

6.3. Control Panel

Figure 16



A) UP touch button
B) ENTER touch button
C) DOWN touch button
D) MENU touch button
E) TFT display

- Use the **MENU** button to exit the current submenu, to return to the Main Menu and to return to the start screen.
- Use the **UP/DOWN** buttons to navigate through the menus or to increase/decrease numeric values.
- Use the **ENTER** button to open the desired menu, to confirm your choice or to set the currently selected value.

6.4. Start-up

After the device is connected to power supply, the device will perform a reset. During the reset the display shows a splash screen with the Infinity logo and the name of the device:

During the reset procedure it is possible to enter the menu to change the DMX address.

After the reset is completed, the device is ready to be operated. The display shows the start screen. The start screen provides information about the DMX starting address, the IP address, the universe and the selected DMX channel mode of the device:

I. DMX starting address of the device.
   - If the DMX connection is lost or the device is not connected, the DMX starting address is red.
   - If the device is receiving DMX signal, the DMX starting address is white.

II. Control protocol and channel mode

III. IP address and assigned universe

IV. Warning icon: If there is an error message (see 7.1. Error Messages on page 70), the warning icon starts blinking in the bottom right corner of the display.

V. Art-Net/sACN indicator: if the control protocol of the device is set to Art-Net or sACN, the Art-Net/sACN indicator appears on the display.
   - If the Ethernet connection is lost or the device is not connected, the Art-Net/sACN indicator is gray.
   - If the Ethernet connection is properly working, the Art-Net/sACN indicator is green.

VI. Enter/Unlock button: By default the display of the device is locked (see 6.5. Display Lock on page 26).

Note:

If no button is pressed after 5 seconds, the display is locked.

6.5. Display Lock

In this screen you can lock/unlock the display of the device.

There are 3 options to lock/unlock the device:

- Locking Option (see 6.5.1. Locking)
- Unlocking without Password (see 6.5.2. Unlocking without Password)
- Unlocking with Password (see 6.5.3. Unlocking with Password)

6.5.1. Locking

In this screen you can lock the display of the device.

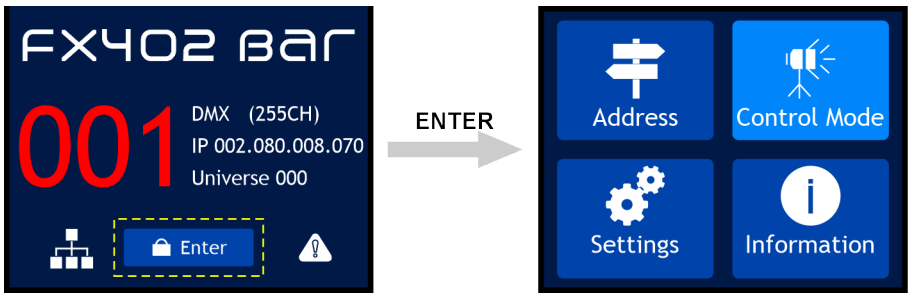
01) Touch and hold down the **MENU** button and **ENTER** button for 3 seconds. The display shows:

02) To unlock the device, refer to Unlocking Option (see 6.5.2. Unlocking without Password).

6.5.2. Unlocking without Password

6.5.2.1. Option 1

Touch the **ENTER** button to unlock the device. The display shows:



6.5.2.2. Option 2

01) Touch the **MENU** button.
02) Touch the **ENTER** button to unlock the device. The display shows:

6.5.3. Unlocking with Password

01) Touch and hold down the **MENU** button and **ENTER** button for 3 seconds.
02) Touch the **ENTER** button to unlock the device. The display shows:

6.6. Menu Overview

Level 1	Level 2	Level 3	Level 4
Address (see 6.7.1. DMX Address on page 38)	Address Setting	001–512	
Settings (see 6.7.2. Settings Menu on page 39)	Screen Reverse	NO	
		YES	
		AUTO	
	Tilt Reverse	NO	
		YES	
	Zoom Reverse	NO	
		YES	
	Tilt Angle	200	
		180	
		60	
	Backlight Timer	30S	
		1M	
		5M	
		ON	
	DMX Fail	Hold	
		OFF	
	Network Setup	IP Mode	Manual
			DHCP
		Universe	000–255
			001–256
		IP Address	002.243.075.222
		SubMask	255.000.000.000
	Lock Code (6468)	Activate Lock Code	NO
			YES
		Enter Lock Code	SET
	BL.O.P/T Move	NO	
		YES	
	C Mixing Mode	RGBW	
		CMY	
	Dimmer Curve	Linear	
		Square	
		Inv. Square	
		S-Curve	
	Dimmer Speed	Smooth	
		Fast	
	PWM Option	600 Hz	
		1200 Hz	
		2000 Hz	
		4000 Hz	
		6000 Hz	
		15000 Hz	

Cell Order	1–10	
	10–1	
Calibrated White	ON	
	OFF	
	Custom	
White Balance	Red	000–255
	Green	000–255
	Blue	000–255
	White	000–255
Pixel Calibration	R1–R10	000–255
	G1–G10	000–255
	B1–B10	000–255
	W1–W10	000–255
TV Reset Mode	NO	
	YES	
Service Menu (6468)	TILT 1	128
	TILT 2	128
	TILT 3	128
	TILT 4	128
	TILT 5	128
	TILT 6	128
	TILT 7	128
	TILT 8	128
	TILT 9	128
	TILT 10	128
	ZOOM 1	128
	ZOOM 2	128
	ZOOM 3	128
	ZOOM 4	128
	ZOOM 5	128
	ZOOM 6	128
	ZOOM 7	128
	ZOOM 8	128
	ZOOM 9	128
	ZOOM 10	128
	MAC4	000
	MAC5	000
	MAC6	000
	RDM4	000
	RDM5	000
	RDM6	000
Service Menu (2322)	Red	255
	Green	255
	Blue	255
	White	255
Reset User Hours	NO	

		YES	
	Reset Function	Tilt	NO
			YES
		Zoom	NO
			YES
		All	NO
			YES
	Factory Settings	NO	
		YES	
Control Mode (see 6.7.3. Control Mode on page 47)	Control Mode	DMX	
		ArtNet	
		sACN	
		A+D	
	Personality	29	
		56	
		144	
		255	
		160+37	
	User Personality	Tilt 1	NO/1~Advance Num
		Tilt 1 Fine	NO/1~Advance Num
		Dimmer 1	NO/1~Advance Num
		Strobe 1	NO/1~Advance Num
		Zoom 1	NO/1~Advance Num
		Red 1	NO/1~Advance Num
		Red 1 Fine	NO/1~Advance Num
		Green 1	NO/1~Advance Num
		Green 1 Fine	NO/1~Advance Num
		Blue 1	NO/1~Advance Num
		Blue 1 Fine	NO/1~Advance Num
		White 1	NO/1~Advance Num
		White 1 Fine	NO/1~Advance Num
		Tilt 2	NO/1~Advance Num
		Tilt 2 Fine	NO/1~Advance Num
		Dimmer 2	NO/1~Advance Num
		Strobe 2	NO/1~Advance Num
		Zoom 2	NO/1~Advance Num
		Red 2	NO/1~Advance Num
		Red 2 Fine	NO/1~Advance Num
		Green 2	NO/1~Advance Num
		Green 2 Fine	NO/1~Advance Num
		Blue 2	NO/1~Advance Num
		Blue 2 Fine	NO/1~Advance Num
		White 2	NO/1~Advance Num
		White 2 Fine	NO/1~Advance Num
		Tilt 3	NO/1~Advance Num
		Tilt 3 Fine	NO/1~Advance Num

Dimmer 3	NO/1~Advance Num
Strobe 3	NO/1~Advance Num
Zoom 3	NO/1~Advance Num
Red 3	NO/1~Advance Num
Red 3 Fine	NO/1~Advance Num
Green 3	NO/1~Advance Num
Green 3 Fine	NO/1~Advance Num
Blue 3	NO/1~Advance Num
Blue 3 Fine	NO/1~Advance Num
White 3	NO/1~Advance Num
White 3 Fine	NO/1~Advance Num
Tilt 4	NO/1~Advance Num
Tilt 4 Fine	NO/1~Advance Num
Dimmer 4	NO/1~Advance Num
Strobe 4	NO/1~Advance Num
Zoom 4	NO/1~Advance Num
Red 4	NO/1~Advance Num
Red 4 Fine	NO/1~Advance Num
Green 4	NO/1~Advance Num
Green 4 Fine	NO/1~Advance Num
Blue 4	NO/1~Advance Num
Blue 4 Fine	NO/1~Advance Num
White 4	NO/1~Advance Num
White 4 Fine	NO/1~Advance Num
Tilt 5	NO/1~Advance Num
Tilt 5 Fine	NO/1~Advance Num
Dimmer 5	NO/1~Advance Num
Strobe 5	NO/1~Advance Num
Zoom 5	NO/1~Advance Num
Red 5	NO/1~Advance Num
Red 5 Fine	NO/1~Advance Num
Green 5	NO/1~Advance Num
Green 5 Fine	NO/1~Advance Num
Blue 5	NO/1~Advance Num
Blue 5 Fine	NO/1~Advance Num
White 5	NO/1~Advance Num
White 5 Fine	NO/1~Advance Num
Tilt 6	NO/1~Advance Num
Tilt 6 Fine	NO/1~Advance Num
Dimmer 6	NO/1~Advance Num
Strobe 6	NO/1~Advance Num
Zoom 6	NO/1~Advance Num
Red 6	NO/1~Advance Num
Red 6 Fine	NO/1~Advance Num
Green 6	NO/1~Advance Num
Green 6 Fine	NO/1~Advance Num

Blue 6	NO/1~Advance Num
Blue 6 Fine	NO/1~Advance Num
White 6	NO/1~Advance Num
White 6 Fine	NO/1~Advance Num
Tilt 7	NO/1~Advance Num
Tilt 7 Fine	NO/1~Advance Num
Dimmer 7	NO/1~Advance Num
Strobe 7	NO/1~Advance Num
Zoom 7	NO/1~Advance Num
Red 7	NO/1~Advance Num
Red 7 Fine	NO/1~Advance Num
Green 7	NO/1~Advance Num
Green 7 Fine	NO/1~Advance Num
Blue 7	NO/1~Advance Num
Blue 7 Fine	NO/1~Advance Num
White 7	NO/1~Advance Num
White 7 Fine	NO/1~Advance Num
Tilt 8	NO/1~Advance Num
Tilt 8 Fine	NO/1~Advance Num
Dimmer 8	NO/1~Advance Num
Strobe 8	NO/1~Advance Num
Zoom 8	NO/1~Advance Num
Red 8	NO/1~Advance Num
Red 8 Fine	NO/1~Advance Num
Green 8	NO/1~Advance Num
Green 8 Fine	NO/1~Advance Num
Blue 8	NO/1~Advance Num
Blue 8 Fine	NO/1~Advance Num
White 8	NO/1~Advance Num
White 8 Fine	NO/1~Advance Num
Tilt 9	NO/1~Advance Num
Tilt 9 Fine	NO/1~Advance Num
Dimmer 9	NO/1~Advance Num
Strobe 9	NO/1~Advance Num
Zoom 9	NO/1~Advance Num
Red 9	NO/1~Advance Num
Red 9 Fine	NO/1~Advance Num
Green 9	NO/1~Advance Num
Green 9 Fine	NO/1~Advance Num
Blue 9	NO/1~Advance Num
Blue 9 Fine	NO/1~Advance Num
White 9	NO/1~Advance Num
White 9 Fine	NO/1~Advance Num
Tilt 10	NO/1~Advance Num
Tilt 10 Fine	NO/1~Advance Num
Dimmer 10	NO/1~Advance Num

Strobe 10	NO/1~Advance Num
Zoom 10	NO/1~Advance Num
Red 10	NO/1~Advance Num
Red 10 Fine	NO/1~Advance Num
Green 10	NO/1~Advance Num
Green 10 Fine	NO/1~Advance Num
Blue 10	NO/1~Advance Num
Blue 10 Fine	NO/1~Advance Num
White 10	NO/1~Advance Num
White 10 Fine	NO/1~Advance Num
Cool_1_White	NO/1~Advance Num
Warm_1_White	NO/1~Advance Num
Cool_2_White	NO/1~Advance Num
Warm_2_White	NO/1~Advance Num
Cool_3_White	NO/1~Advance Num
Warm_3_White	NO/1~Advance Num
Cool_4_White	NO/1~Advance Num
Warm_4_White	NO/1~Advance Num
Cool_5_White	NO/1~Advance Num
Warm_5_White	NO/1~Advance Num
Cool_6_White	NO/1~Advance Num
Warm_6_White	NO/1~Advance Num
Cool_7_White	NO/1~Advance Num
Warm_7_White	NO/1~Advance Num
Cool_8_White	NO/1~Advance Num
Warm_8_White	NO/1~Advance Num
Cool_9_White	NO/1~Advance Num
Warm_9_White	NO/1~Advance Num
Cool_10_White	NO/1~Advance Num
Warm_10_White	NO/1~Advance Num
Cool_11_White	NO/1~Advance Num
Warm_11_White	NO/1~Advance Num
Cool_12_White	NO/1~Advance Num
Warm_12_White	NO/1~Advance Num
Cool_13_White	NO/1~Advance Num
Warm_13_White	NO/1~Advance Num
Cool_14_White	NO/1~Advance Num
Warm_14_White	NO/1~Advance Num
Cool_15_White	NO/1~Advance Num
Warm_15_White	NO/1~Advance Num
Cool_16_White	NO/1~Advance Num
Warm_16_White	NO/1~Advance Num
Cool_17_White	NO/1~Advance Num
Warm_17_White	NO/1~Advance Num
Cool_18_White	NO/1~Advance Num
Warm_18_White	NO/1~Advance Num

Cool_19_White	NO/1~Advance Num
Warm_19_White	NO/1~Advance Num
Cool_20_White	NO/1~Advance Num
Warm_20_White	NO/1~Advance Num
Cool_21_White	NO/1~Advance Num
Warm_21_White	NO/1~Advance Num
Cool_22_White	NO/1~Advance Num
Warm_22_White	NO/1~Advance Num
Cool_23_White	NO/1~Advance Num
Warm_23_White	NO/1~Advance Num
Cool_24_White	NO/1~Advance Num
Warm_24_White	NO/1~Advance Num
Cool_25_White	NO/1~Advance Num
Warm_25_White	NO/1~Advance Num
Cool_26_White	NO/1~Advance Num
Warm_26_White	NO/1~Advance Num
Cool_27_White	NO/1~Advance Num
Warm_27_White	NO/1~Advance Num
Cool_28_White	NO/1~Advance Num
Warm_28_White	NO/1~Advance Num
Cool_29_White	NO/1~Advance Num
Warm_29_White	NO/1~Advance Num
Cool_30_White	NO/1~Advance Num
Warm_30_White	NO/1~Advance Num
Cool_31_White	NO/1~Advance Num
Warm_31_White	NO/1~Advance Num
Cool_32_White	NO/1~Advance Num
Warm_32_White	NO/1~Advance Num
Cool_33_White	NO/1~Advance Num
Warm_33_White	NO/1~Advance Num
Cool_34_White	NO/1~Advance Num
Warm_34_White	NO/1~Advance Num
Cool_35_White	NO/1~Advance Num
Warm_35_White	NO/1~Advance Num
Cool_36_White	NO/1~Advance Num
Warm_36_White	NO/1~Advance Num
Cool_37_White	NO/1~Advance Num
Warm_37_White	NO/1~Advance Num
Cool_38_White	NO/1~Advance Num
Warm_38_White	NO/1~Advance Num
Cool_39_White	NO/1~Advance Num
Warm_39_White	NO/1~Advance Num
Cool_40_White	NO/1~Advance Num
Warm_40_White	NO/1~Advance Num
Cool_41_White	NO/1~Advance Num
Warm_41_White	NO/1~Advance Num

	Cool_42_White	NO/1~Advance Num
	Warm_42_White	NO/1~Advance Num
	Cool_43_White	NO/1~Advance Num
	Warm_43_White	NO/1~Advance Num
	Cool_44_White	NO/1~Advance Num
	Warm_44_White	NO/1~Advance Num
	Cool_45_White	NO/1~Advance Num
	Warm_45_White	NO/1~Advance Num
	Cool_46_White	NO/1~Advance Num
	Warm_46_White	NO/1~Advance Num
	Cool_47_White	NO/1~Advance Num
	Warm_47_White	NO/1~Advance Num
	Cool_48_White	NO/1~Advance Num
	Warm_48_White	NO/1~Advance Num
	Cool_49_White	NO/1~Advance Num
	Warm_49_White	NO/1~Advance Num
	Cool_50_White	NO/1~Advance Num
	Warm_50_White	NO/1~Advance Num
	Cool_51_White	NO/1~Advance Num
	Warm_51_White	NO/1~Advance Num
	Cool_52_White	NO/1~Advance Num
	Warm_52_White	NO/1~Advance Num
	Cool_53_White	NO/1~Advance Num
	Warm_53_White	NO/1~Advance Num
	Cool_54_White	NO/1~Advance Num
	Warm_54_White	NO/1~Advance Num
	Cool_55_White	NO/1~Advance Num
	Warm_55_White	NO/1~Advance Num
	Cool_56_White	NO/1~Advance Num
	Warm_56_White	NO/1~Advance Num
	Cool_57_White	NO/1~Advance Num
	Warm_57_White	NO/1~Advance Num
	Cool_58_White	NO/1~Advance Num
	Warm_58_White	NO/1~Advance Num
	Cool_59_White	NO/1~Advance Num
	Warm_59_White	NO/1~Advance Num
	Cool_60_White	NO/1~Advance Num
	Warm_60_White	NO/1~Advance Num
	Cool_Warm_White	NO/1~Advance Num
	White Strobe	NO/1~Advance Num
	Color	NO/1~Advance Num
	CTC	NO/1~Advance Num
	White CTC	NO/1~Advance Num
	Function	NO/1~Advance Num
Manual Test	Tilt	000–255
	Tilt Speed	000–255

		Red	000–255
		Green	000–255
		Blue	000–255
		White	000–255
		Cool_White	000–255
		Warm_White	000–255
		CTC	000–255
		White CTC	000–255
		Color	000–255
		Pattern	000–255
		White Pattern	000–255
		LED Macro	000–255
		LED Ma.Speed	000–255
		LED Ma.Fade	000–255
		White Macro	000–255
		White Ma.Speed	000–255
		White Ma.Fade	000–255
		Background	000–255
		Background Dim	000–255
		Dimmer	000–255
		Shutter	000–255
		White Dimmer	000–255
		White Strobe	000–255
		Zoom	000–255
		Function	000–255
	Stand Alone	1–9	
	Manual Control	Auto Test	Apply
Information (see 6.7.4. Information on page 49)	Fixture Info	Version	V1. 250311
		Running Mode	DMX
		DMX Address	001
		Fixture Hours	025
		User Hours	00000
		IP Addr	002.243.075.222
		SubMask	255.000.000.000
		UID	29B410700000
		MAC	34.29.8F.08.00.00
		Temperature1	00000
		Temperature2	00000
		Temperature3	00000
		Temperature4	00000
		Temperature5	00000
		Temperature6	00000
		Temperature7	00000
		Temperature8	00000
		Temperature9	00000
		Temperature10	00000

Fan Info	MH424 DFAN1	2000
	MH424 DFAN2	2000
Error Info		
Channel Info	DMX Frequency	000
	Tilt	000–255
	Tilt Fine	000–255
	Tilt Speed	000–255
	Tilt Macro	000–255
	CTC	000–255
	White CTC	000–255
	Color	000–255
	Pattern	000–255
	White Pattern	000–255
	LED macro	000–255
	LED Ma.Speed	000–255
	LED Ma.Fade	000–255
	White Macro	000–255
	White Ma.Speed	000–255
	White Ma.Fade	000–255
	Background	000–255
	Background Dim	000–255
	Dimmer	000–255
	White Dimmer	000–255
	Strobe	000–255
	White Strobe	000–255
	Zoom	000–255
	Function	000–255
	Red	000–255
	Green	000–255
	Blue	000–255
	White	000–255
	Cool_White	000–255
	Warm_White	000–255

6.7. Main Menu Options

The main menu has the following 4 options:

DMX Address

Settings Menu

Control Mode

Information

01) Touch the **UP/DOWN** buttons to navigate through the main menu.
02) Touch the **ENTER** button to open the submenus.

6.7.1. DMX Address

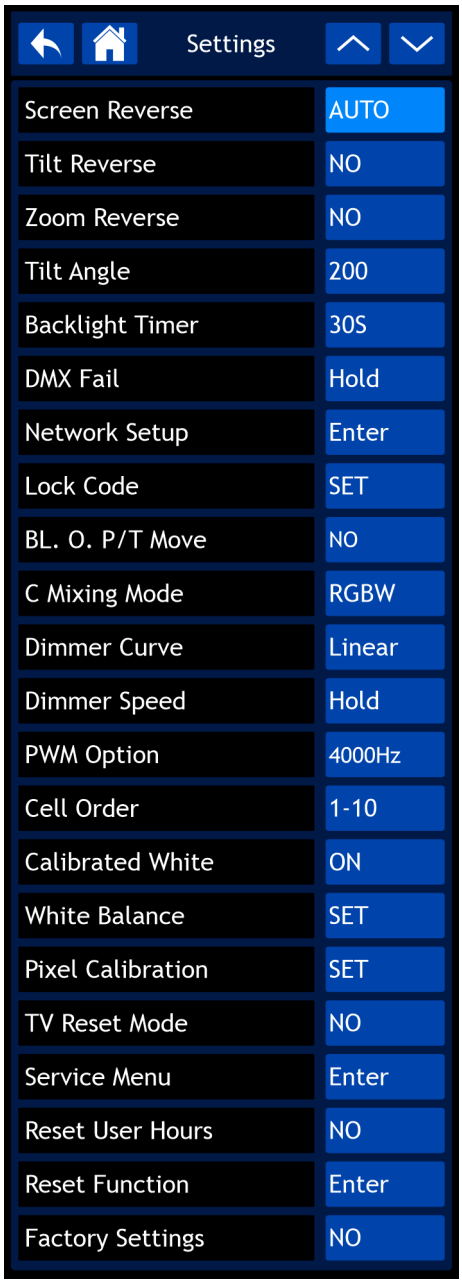
In this menu you can set the DMX starting address of the device.

01) Touch the **UP/DOWN** buttons to select the DMX starting address of the device. The adjustment range is 001–512.
02) Touch the **ENTER** button to confirm the selection.

6.7.2. Settings Menu

In this menu you can adjust the settings of the device.

01) Touch the **UP/DOWN** buttons to scroll through the 22 available options:



- Screen Reverse: Rotate the text on the display 180° when the device is mounted upside down (NO/YES/AUTO). If you select AUTO, the text on the display will automatically rotate 180° when the device is turned upside down
- Tilt Reverse: Turn off/on the inverted tilt direction (NO/YES)
- Zoom Reverse: Turn off/on the inverted zoom direction (NO/YES)
- Tilt Angle: 200°/180°/60°
- Backlight Timer: Set the time after inactivity, before the display turns off (30 s/1 min/5 min/ON). If you select ON, the display will not turn off
- DMX Fail: Set the behavior of the device in case of a DMX failure. There are 2 options: OFF (the device will black out the light output) and HOLD (the device will use the last properly received DMX signal which ensures undisrupted performance)
- Network Setup (see 6.7.2.1. Network Setup)
- Lock Code (see 6.7.2.2. Lock Code)
- BL.O. P/T Move: The device will black out the light output when Pan/Tilt are active (NO/YES)
- C Mixing Mode: Set the C Mixing Mode (RGBW/CMY)
- Dimmer Curve (see 6.7.2.3. Dimmer Curve)

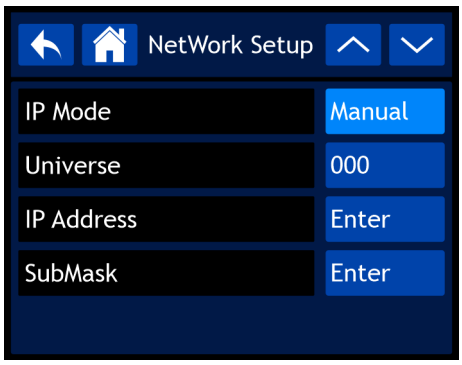
- Dimmer Speed: Set the dimmer speed (Smooth/Fast)
- PWM Option (see 6.7.2.4. PWM Option)
- Cell Order: Set the Cell Order from head 1–10 (left to right) or from head 10–1 (right to left)
- Calibrated White (see 6.7.2.5. Calibrated White)
- White Balance (see 6.7.2.6. White Balance)
- Pixel calibration (see 6.7.2.7. Pixel Calibration)
- TV Reset Mode: Set the TV Reset Mode to 30 seconds of tilt calibration sound (NO) or 2 seconds of tilt calibration sound (YES)
- Service Menu (see 6.7.2.8. Service Menu)
- Reset User Hours: Reset the total operation time counter (NO/YES)
- Reset Function (see 6.7.2.9. Reset Function)
- Factory Settings: Restore the factory default settings (NO/YES)

02) Touch the **ENTER** button to confirm the selection.

6.7.2.1. Network Setup

In this submenu you can adjust the network settings.

01) Touch the **UP/DOWN** buttons to scroll through the 4 available options:



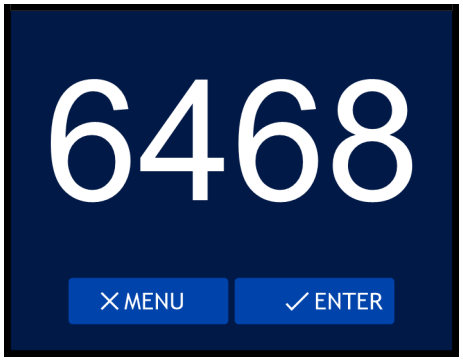
- IP Mode: Set the configuration of the IP Address manually or automatically by a network server (DHCP)
- Universe: Set the Universe. The range is 000–255 for Art-Net/001–256 for sACN (see 5.4.6. Universe Numbering on page 23)
- IP Address: Set the IP address
- SubMask: Set the Subnet Mask

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to increase/decrease the values of the Universe, IP Address or Submask.
04) Touch the **ENTER** button to confirm the selection.

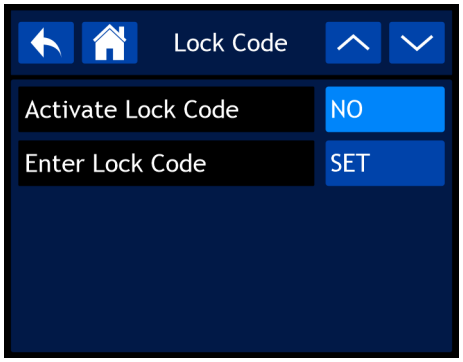
6.7.2.2. Lock Code

In this submenu you can set a personal lock code or change the current lock code.

01) Touch the **UP/DOWN** buttons to insert the master code: 6468:



02) Touch the **ENTER** button to confirm.
03) Touch the **UP/DOWN** buttons to select the desired mode. There are 2 options:



- Activate Lock Code: Activate the lock code (NO/YES)
- Enter Lock Code (see 6.7.2.2.1. Enter Lock Code)

6.7.2.2.1. Enter Lock Code

In this menu you can set a personal lock code for the device.

01) Touch the **UP/DOWN** buttons to increase/decrease the values in order to create your personal code. Set the lock code, the range is 0000–9999.
02) Touch the **ENTER** button to confirm the selection.

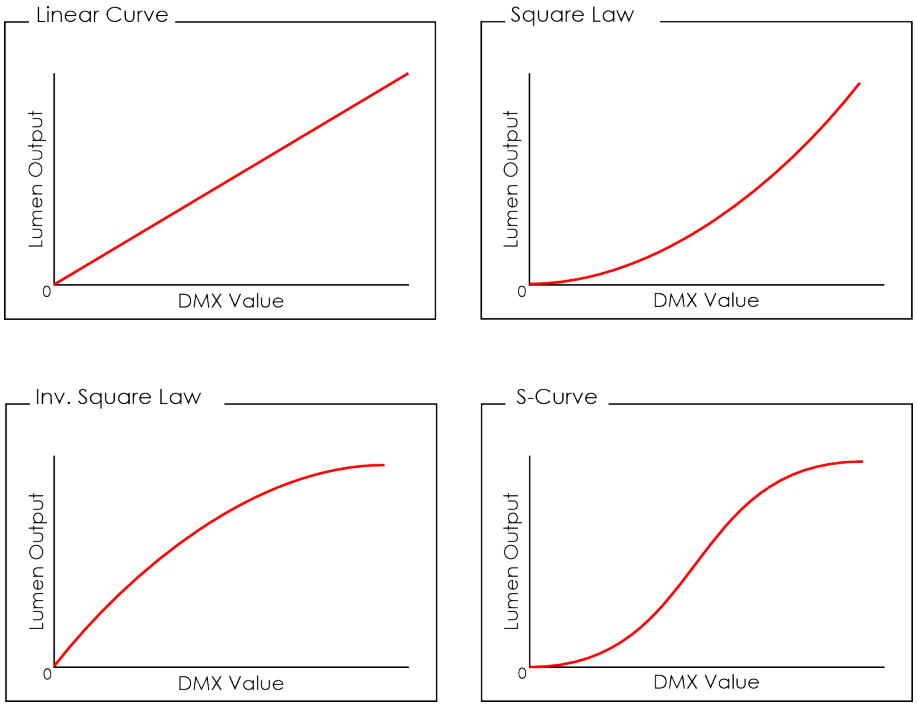
Note:

If you forget your previously set personal lock code, you can still insert the **master code: 6468** which overrides your personal code.

6.7.2.3. Dimmer Curve

In this submenu you can select the dimming curve.

01) Touch the **UP/DOWN** buttons to select one of the 4 options:
- Linear
- Square
- Inverse Square
- S-Curve



02) Touch the **ENTER** button to confirm.

6.7.2.4. PWM Option

In this submenu you can adjust the PWM (pulse-width modulation) frequency of the LEDs.

01) Touch the **UP/DOWN** buttons to select one of the 6 options:
- 600 Hz
- 1200 Hz
- 2000 Hz
- 4000 Hz
- 6000 Hz
- 15000 Hz

02) Touch the **ENTER** button to confirm.

6.7.2.5. Calibrated White

In this submenu you can set the white calibration.

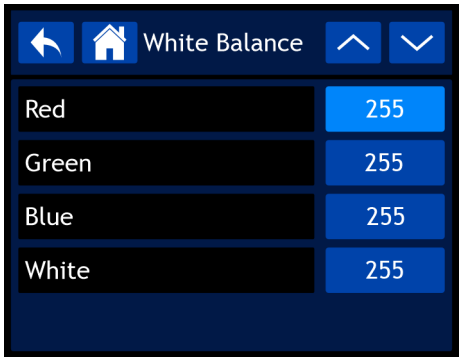
01) Touch the **UP/DOWN** buttons to scroll through the 3 available options:
- ON: The white calibration is ON
- OFF: The white calibration is OFF
- Custom: Manually change the RGBW values in the White Balance menu (see 6.7.2.6. White Balance)

02) Touch the **ENTER** button to confirm the selection.

6.7.2.6. White Balance

In this submenu you can adjust color intensity of the RGBW LEDs.

01) Touch the **UP/DOWN** buttons to select one of the 4 options:



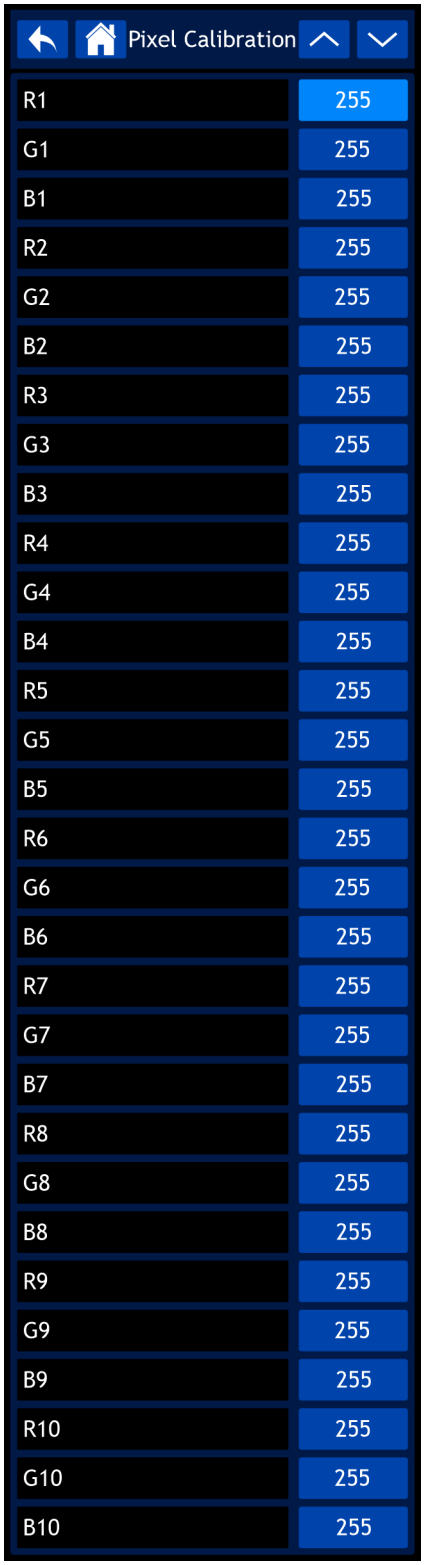
- Red
- Green
- Blue
- White

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to change the value. The adjustment range is 000–255.
04) Touch the **ENTER** button to confirm the selection.

6.7.2.7. Pixel Calibration

In this submenu you can adjust color intensity of the RGBW LEDs.

01) Touch the **UP/DOWN** buttons to select one of the 30 options:



- R1–10: Set the red color intensity for head 1–10
- G1–10: Set the green color intensity for head 1–10
- B1–10: Set the blue color intensity for head 1–10

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to change the value. The adjustment range is 000–255.
04) Touch the **ENTER** button to confirm the selection.

6.7.2.8. Service Menu

In this submenu you can adjust the home position (Tilt and Zoom) for each head, change the MAC address and the RDM identification number of the device.

There are 2 passwords to enter the service menu:

- Password 6468 (see 6.7.2.8.1. Password 6468)
- Password 2322 (see 6.7.2.8.2. Password 2322)

6.7.2.8.1. Password 6468

Note:

If you forget your previously set personal lock code, you can still insert the **master code: 6468** which overrides your personal code.

01) Touch the **UP/DOWN** buttons to insert the personal code or if you forgot that, insert the master code: 6468.
02) Touch the **ENTER** button to confirm.
03) Touch the **UP/DOWN** buttons to scroll through the 26 available options:

- Tilt 1–10: Adjust the tilt home position for each head

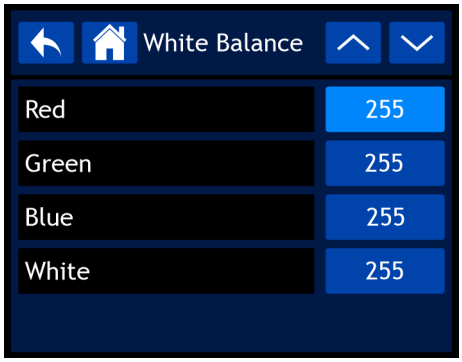
- Zoom 1–10: Adjust the zoom home position for each head
- MAC 4–6: Adjust the MAC address 4–6
- RDM ID 4–6: Adjust the RDM ID address 4–6

04) Touch the **ENTER** button to confirm the selection.
05) Touch the **UP/DOWN** buttons to adjust the values to change the home position (Tilt and Zoom) for each head, the MAC addresses and the RDM identification numbers of the device. The adjustment range is 000–255.
06) Touch the **ENTER** button to confirm the selection.

6.7.2.8.2. Password 2322

In this submenu you can adjust color intensity of the RGBW LEDs.

01) Touch the **UP/DOWN** buttons to insert the master code: 2322.
02) Touch the **ENTER** button to confirm.
03) Touch the **UP/DOWN** buttons to scroll through the 4 available options:



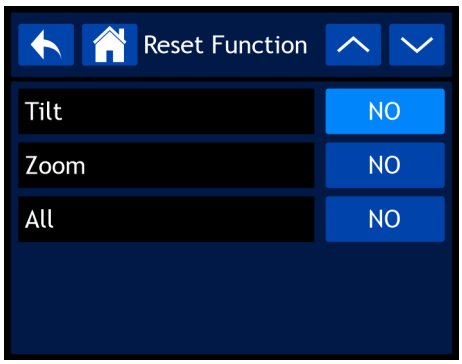
- Red
- Green
- Blue
- White

04) Touch the **ENTER** button to confirm the selection.
05) Touch the **UP/DOWN** buttons to change the value. The adjustment range is 100–255.

6.7.2.9. Reset Function

In this submenu you can reset the settings of the device.

01) Touch the **UP/DOWN** buttons to scroll through the 3 available options:



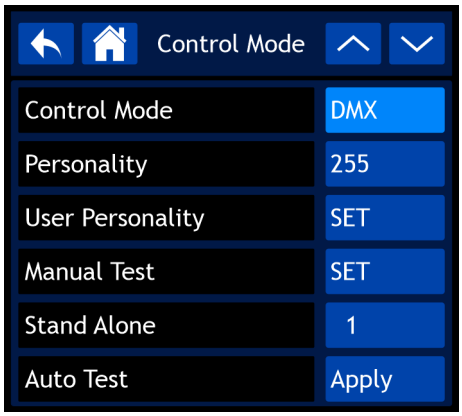
- Tilt: Reset Tilt (NO/YES)
- Zoom: Reset Zoom (NO/YES)
- All: Reset all settings (NO/YES)

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to select NO or YES. If you select YES, the selected function will reset.
04) Touch the **ENTER** button to confirm the selection.

6.7.3. Control Mode

In this menu you can set the control mode, personality and user personality.

01) Touch the **UP/DOWN** buttons to scroll through the 6 available options:



- Control Mode: DMX, Art-Net, sACN, A+D
- Personality: 29 channels, 56 channels, 144 channels, 255 channels, 160+37 channels
- User Personality (see 6.7.3.1. User Personality)
- Manual Test (see 6.7.3.2. Manual Test)
- Stand Alone: Select the built-in program (1–9)
- Auto Test (see 6.7.3.3. Auto Test)

02) Touch the **ENTER** button to confirm the selection.

6.7.3.1. User Personality

In this menu you can customize the device by changing the order of the 255 DMX channels and/or leaving some channels out. These functions are the same as the 255 DMX channels in the corresponding personality. For more information, refer to DMX Channels (see 6.8. DMX Channels on page 54).

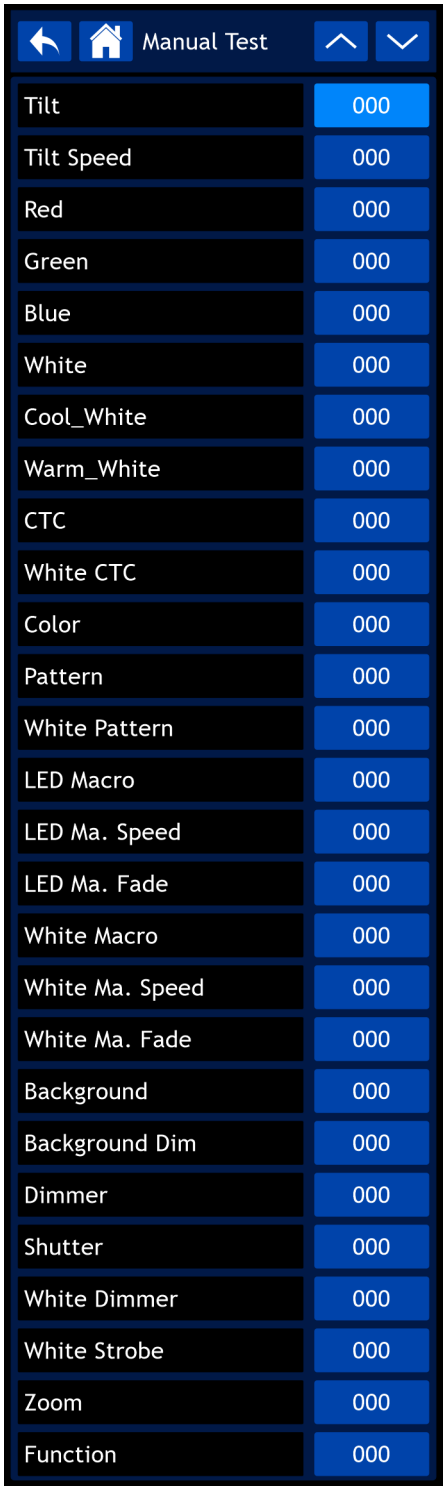
01) Touch the **UP/DOWN** buttons to scroll through the 255 available options:

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to increase/decrease the numeric value in order to assign a DMX channel to this function. The adjustment range is 001–255. Select NO if you want to exclude a function.
04) Touch the **ENTER** button to confirm the selection.

6.7.3.2. Manual Test

In this submenu you can customize the device by changing the value of each function manually.

01) Touch the **UP/DOWN** buttons to scroll through the 27 available options:



- Tilt: Adjust the tilt position for all heads
- Tilt Speed: Adjust the tilt speed for all heads
- Red: Adjust the red color intensity for all heads (RGBW LEDs)
- Green: Adjust the green color intensity for all heads (RGBW LEDs)
- Blue: Adjust the blue color intensity for all heads (RGBW LEDs)
- White: Adjust the white color intensity for all heads (RGBW LEDs)
- Cool_White: Adjust the cool white color intensity for all heads (strobe LEDs)
- Warm_White: Adjust the white color intensity for all heads (strobe LEDs)
- CTC: Adjust the CTC intensity for all heads (RGBW LEDs)
- White CTC: Adjust the White CTC intensity for all heads (strobe LEDs)

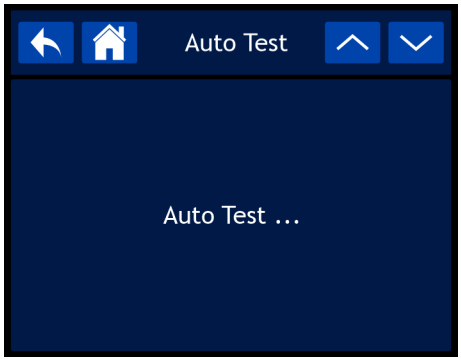
- Color: Adjust the Color intensity for all heads (RGBW LEDs)
- Pattern: Adjust the pattern for all heads (RGBW LEDs)
- White Pattern: Adjust the white pattern for all heads (strobe LEDs)
- LED Macro: Adjust the LED Macro for all heads (RGBW LEDs)
- LED Ma. Speed: Adjust the LED Macro Speed for all heads (RGBW LEDs)
- LED Ma. Fade: Adjust the LED Macro Fade for all heads (RGBW LEDs)
- White Macro: Adjust the White Macro for all heads (strobe LEDs)
- White Ma. Speed: Adjust the White Macro Speed for all heads (strobe LEDs)
- White Ma. Fade: Adjust the White Macro Fade for all heads (strobe LEDs)
- Background: Adjust the Background for all heads
- Background Dim: Adjust the Background Dimmer for all heads
- Dimmer: Adjust the main Dimmer for all heads (RGBW LEDs)
- Shutter: Adjust the main Shutter for all heads (RGBW LEDs)
- White Dimmer: Adjust the White Dimmer for all heads (strobe LEDs)
- White strobe: Adjust the White Strobe for all heads (strobe LEDs)
- Zoom: Adjust the Zoom position for all heads
- Function: Adjust the Function for all heads

02) Touch the **ENTER** button to confirm the selection.
03) Touch the **UP/DOWN** buttons to adjust the values in order to test each function of the device individually or as a group. The adjustment range is 000–255.
04) Touch the **ENTER** button to confirm the selection.

6.7.3.3. Auto Test

In this submenu you can run an auto test of the functions of the device.

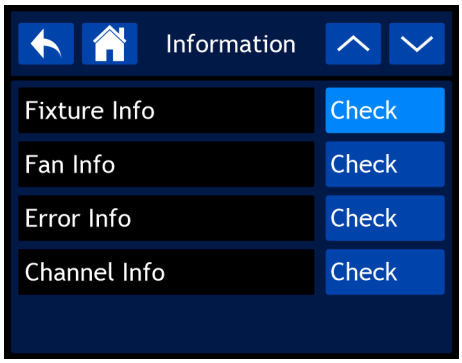
The device automatically runs an auto test of the functions of the device and the display shows:



6.7.4. Information

In this menu you can view the parameters of the device.

01) Touch the **UP/DOWN** buttons to scroll through the 4 available options:



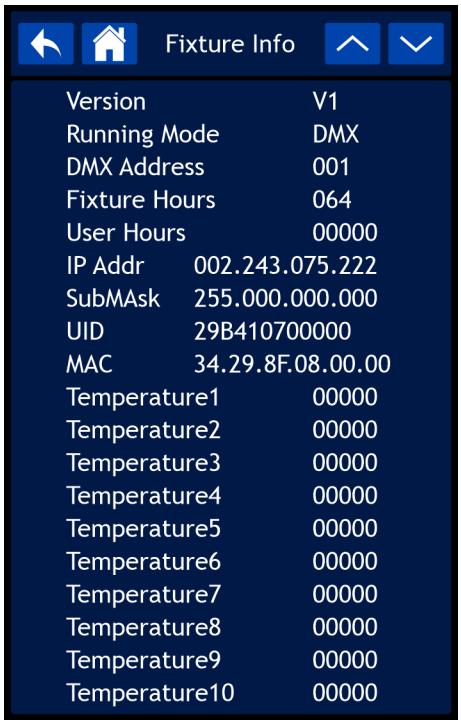
- Fixture Info (see 6.7.4.1. Fixture Info)
- Fan Info (see 6.7.4.2. Fan Info)
- Error Info (see 6.7.4.3. Error Info)
- Channel Info (see 6.7.4.4. Channel Info)

02) Touch the **ENTER** button to confirm the selection.

6.7.4.1. Fixture Info

In this submenu you can view the currently installed firmware version, operation mode, DMX address and other parameters of the device.

Touch the **UP/DOWN** buttons to see all available parameters.



- Version: Shows the current software version
- Running Mode: Shows the current running mode
- DMX Address: Shows the current DMX address
- Fixture Hours: Shows the total amount of hours the device has been running
- User Hours: Shows the total amount of hours the device has been running the current day
- IP Address: Shows the current IP address
- SubMask: Shows the current SubMask address
- UID: Shows the UID address of the device
- MAC: Shows the current MAC address
- Temperature1: Shows the current temperature for tilt head 1
- Temperature2: Shows the current temperature for tilt head 2
- Temperature3: Shows the current temperature for tilt head 3
- Temperature4: Shows the current temperature for tilt head 4
- Temperature5: Shows the current temperature for tilt head 5
- Temperature6: Shows the current temperature for tilt head 6
- Temperature7: Shows the current temperature for tilt head 7
- Temperature8: Shows the current temperature for tilt head 8
- Temperature9: Shows the current temperature for tilt head 9
- Temperature10: Shows the current temperature for tilt head 10

6.7.4.2. Fan Info

In this submenu you can view the parameters of the fans.

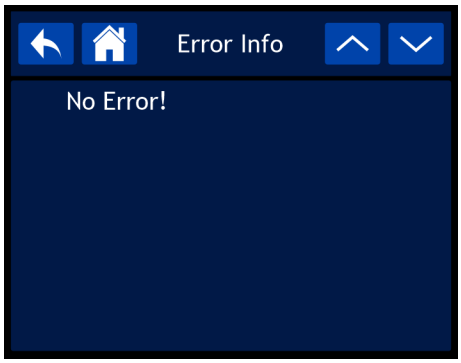
Touch the **UP/DOWN** buttons to see all available parameters.

- MH424 DFAN1: Shows the current speed of fan 1
- MH424 DFAN2: Shows the current speed of fan 2

6.7.4.3. Error Info

In this submenu you can view whether there are any system errors.

If you have selected Error Info and there are no errors the display shows:



Note:

In case of an error message, discontinue the use of the device and check the complete list of error messages, refer to Error Messages (see 7.1. Error Messages on page 70). If you are not able to solve the problem, reset the device to default factory settings (see 6.7.2.9. Reset Function on page 46). If the problem still occurs, contact your Highlite International dealer for more information.

6.7.4.4. Channel Info

In this submenu you can view the current value of all signal input channels.

Touch the **UP/DOWN** buttons to see all current channel values.

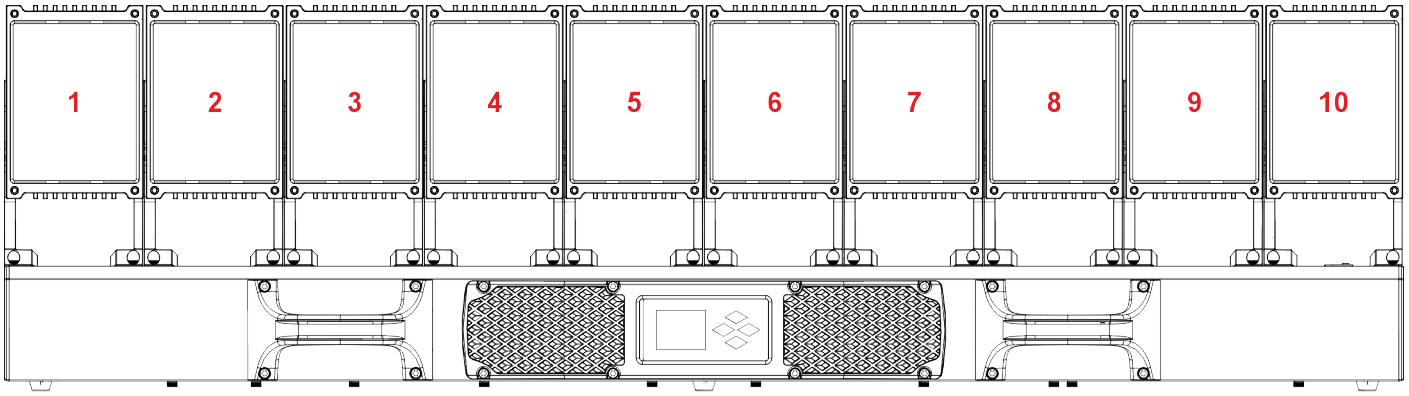
- DMX Frequency: View the DMX frequency from the received DMX signal
- Tilt: View the tilt position for all heads
- Tilt Fine: View the tilt fine position for all heads
- Tilt Speed: View the tilt speed for all heads
- Tilt Macro: View the tilt macro for all heads
- CTC: View the CTC intensity for all heads (RGBW LEDs)
- White CTC: View the White CTC intensity for all heads (strobe LEDs)
- Color: View the Color intensity for all heads (RGBW LEDs)
- Pattern: View the pattern for all heads (RGBW LEDs)
- White Pattern: View the white pattern for all heads (strobe LEDs)
- LED Macro: View the LED Macro for all heads (RGBW LEDs)
- LED Ma. Speed: View the LED Macro Speed for all heads (RGBW LEDs)
- LED Ma. Fade: View the LED Macro Fade for all heads (RGBW LEDs)
- White Macro: View the White Macro for all heads (strobe LEDs)
- White Ma. Speed: View the White Macro Speed for all heads (strobe LEDs)
- White Ma. Fade: View the White Macro Fade for all heads (strobe LEDs)
- Background: View the Background for all heads (RGBW LEDs)
- Background Dim: View the Background Dimmer for all heads (RGBW LEDs)
- Dimmer: View the main Dimmer for all heads (RGBW LEDs)
- White Dimmer: View the White Dimmer for all heads (strobe LEDs)
- Strobe: View the main Strobe for all heads (RGBW LEDs)
- White strobe: View the White Strobe for all heads (strobe LEDs)

- Zoom: View the Zoom position for all heads
- Function: View the Function for all heads
- Red: View the red color intensity for all heads (RGBW LEDs)
- Green: View the green color intensity for all heads (RGBW LEDs)
- Blue: View the blue color intensity for all heads (RGBW LEDs)
- White: View the white color intensity for all heads (RGBW LEDs)
- Cool_White: View the cool white color intensity for all heads (strobe LEDs)
- Warm_White: View the white color intensity for all heads (strobe LEDs)

6.8. DMX Channels

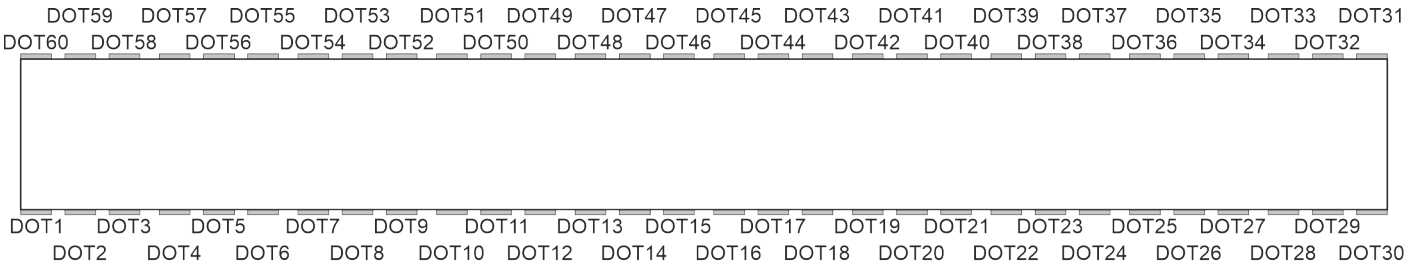
6.8.1. 255 Channels, 144 Channels

Figure 17



TILT HEAD ORDER

Figure 18



STROBE LED ORDER

Note:

The tilt head order depends on the Cell Order (1–10 /10–1) set in Settings menu (see 6.7.2. Settings Menu on page 39).

The colors used, depend on the C Mixing Mode (RGBW / CMY) set in Settings menu (see 6.7.2. Settings Menu on page 39).

255CH	144CH	Function	Value	Setting	Control Type
1	1	**Tilt 1**	000–255	Tilt adjustment 0–200°	proportional
2	2	**Tilt 1 Fine**	000–255	Tilt adjustment, 16-bit	proportional
3	3	**Dimmer LED 1**	000–255	From low to high intensity (0–100 %)	proportional
4	4	**Strobe LED 1**	000–003	Off	
			004–006	On	step
			007–066	Synchronized strobe, from low to high frequency	proportional
			067–127	Pulse strobe, from low to high frequency	proportional
			128–188	Ramp-down, from low to high frequency	proportional
			189–249	Random strobe, from low to high frequency	proportional
			250–255	On	step
5	5	**Zoom 1**	000–255	From large to small	proportional
6	6	**R (C) LED 1**	000–255	From low to high intensity (0–100 %)	proportional
7		**R (C) LED 1, 16-bit**	000–255	From low to high intensity (0–100 %)	proportional
8	7	**G (M) LED 1**	000–255	From low to high intensity (0–100 %)	proportional
9		**G (M) LED 1, 16-bit**	000–255	From low to high intensity (0–100 %)	proportional

255CH	144CH	Function	Value	Setting	Control Type
10	8	B (Y) LED 1	000–255	From low to high intensity (0–100 %)	proportional
11		B (Y) LED 1, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
12	9	W LED 1	000–255	From low to high intensity (0–100 %)	proportional
13		W LED 1, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
14	10	Tilt 2	000–255	Tilt adjustment 0–200°	proportional
15	11	Tilt 2 Fine	000–255	Tilt adjustment, 16-bit	proportional
16	12	Dimmer LED 2	000–255	From low to high intensity (0–100 %)	proportional
17	13	Strobe LED 2	000–003	Off	
			004–006	On	step
			007–066	Synchronized strobe, from low to high frequency	proportional
			067–127	Pulse strobe, from low to high frequency	proportional
			128–188	Fast off slow on, from low to high frequency	proportional
			189–249	Random strobe, from low to high frequency	proportional
			250–255	On	step
18	14	Zoom 2	000–255	From large to small	proportional
19	15	R (C) LED 2	000–255	From low to high intensity (0–100 %)	proportional
20		R (C) LED 2, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
21	16	G (M) LED 2	000–255	From low to high intensity (0–100 %)	proportional
22		G (M) LED 2, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
23	17	B (Y) LED 2	000–255	From low to high intensity (0–100 %)	proportional
24		B (Y) LED 2, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
25	18	W LED 2	000–255	From low to high intensity (0–100 %)	proportional
26		W LED 2, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
...	...	...	...	...	...
118	82	Tilt 10	000–255	Tilt adjustment 0–200°	proportional
119	83	Tilt 10 Fine	000–255	Tilt adjustment, 16-bit	proportional
120	84	Dimmer LED 10	000–255	From low to high intensity (0–100 %)	proportional
121	85	Strobe LED 10	000–003	Off	
			004–006	On	step
			007–066	Synchronized strobe, from low to high frequency	proportional
			067–127	Pulse strobe, from low to high frequency	proportional
			128–188	Fast off slow on, from low to high frequency	proportional
			189–249	Random strobe, from low to high frequency	proportional
			250–255	On	step
122	86	Zoom 10	000–255	From large to small	proportional
123	87	R (C) LED 10	000–255	From low to high intensity (0–100 %)	proportional
124		R (C) LED 10, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
125	88	G (M) LED 10	000–255	From low to high intensity (0–100 %)	proportional
126		G (M) LED 10, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
127	89	B (Y) LED 10	000–255	From low to high intensity (0–100 %)	proportional
128		B (Y) LED 10, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
129	90	W LED 10	000–255	From low to high intensity (0–100 %)	proportional
130		W LED 10, 16-bit	000–255	From low to high intensity (0–100 %)	proportional
131	91	Dot CW 1	000–255	From low to high intensity (0–100 %)	proportional
132	92	Dot WW 1	000–255	From low to high intensity (0–100 %)	proportional

255CH	144CH	Function	Value	Setting	Control Type
133	91	Dot CW 2	000–255	From low to high intensity (0–100 %)	proportional
134	92	Dot WW 2	000–255	From low to high intensity (0–100 %)	proportional
135	91	Dot CW 3	000–255	From low to high intensity (0–100 %)	proportional
136	92	Dot WW 3	000–255	From low to high intensity (0–100 %)	proportional
137	93	Dot CW 4	000–255	From low to high intensity (0–100 %)	proportional
138	94	Dot WW 4	000–255	From low to high intensity (0–100 %)	proportional
139	93	Dot CW 5	000–255	From low to high intensity (0–100 %)	proportional
140	94	Dot WW 5	000–255	From low to high intensity (0–100 %)	proportional
141	93	Dot CW 6	000–255	From low to high intensity (0–100 %)	proportional
142	94	Dot WW 6	000–255	From low to high intensity (0–100 %)	proportional
143	95	Dot CW 7	000–255	From low to high intensity (0–100 %)	proportional
144	96	Dot WW 7	000–255	From low to high intensity (0–100 %)	proportional
145	95	Dot CW 8	000–255	From low to high intensity (0–100 %)	proportional
146	96	Dot WW 8	000–255	From low to high intensity (0–100 %)	proportional
147	95	Dot CW 9	000–255	From low to high intensity (0–100 %)	proportional
148	96	Dot WW 9	000–255	From low to high intensity (0–100 %)	proportional
...	...	...	...	...	...
239	127	Dot CW 55	000–255	From low to high intensity (0–100 %)	proportional
240	128	Dot WW 55	000–255	From low to high intensity (0–100 %)	proportional
241	127	Dot CW 56	000–255	From low to high intensity (0–100 %)	proportional
242	128	Dot WW 56	000–255	From low to high intensity (0–100 %)	proportional
243	127	Dot CW 57	000–255	From low to high intensity (0–100 %)	proportional
244	128	Dot WW 57	000–255	From low to high intensity (0–100 %)	proportional
245	129	Dot CW 58	000–255	From low to high intensity (0–100 %)	proportional
246	130	Dot WW 58	000–255	From low to high intensity (0–100 %)	proportional
247	129	Dot CW 59	000–255	From low to high intensity (0–100 %)	proportional
248	130	Dot WW 59	000–255	From low to high intensity (0–100 %)	proportional
249	129	Dot CW 60	000–255	From low to high intensity (0–100 %)	proportional
250	130	Dot WW 60	000–255	From low to high intensity (0–100 %)	proportional
			000–004	No function	
			005–009	Tilt macro 1	step
	131	Tilt Macro	010–014	Tilt macro 2	step
			015–249	...	step
			250–254	Tilt macro 50	step
			255	Tilt macro 51	step
251	132	Dimmer Dot Cells	000–255	From low to high intensity (0–100 %)	proportional
			000–003	Off	
			004–006	On	step
			007–066	Synchronized strobe, from low to high frequency	proportional
252	133	Strobe Dot Cells	067–127	Pulse strobe, from low to high frequency	proportional
			128–188	Ramp-down, from low to high frequency	proportional
			189–249	Random strobe, from low to high frequency	proportional
			250–255	On	step
253	134	Color	000	No function	
			001–002	White 2700 K (R=255,G=175,B=0,W=50)	step

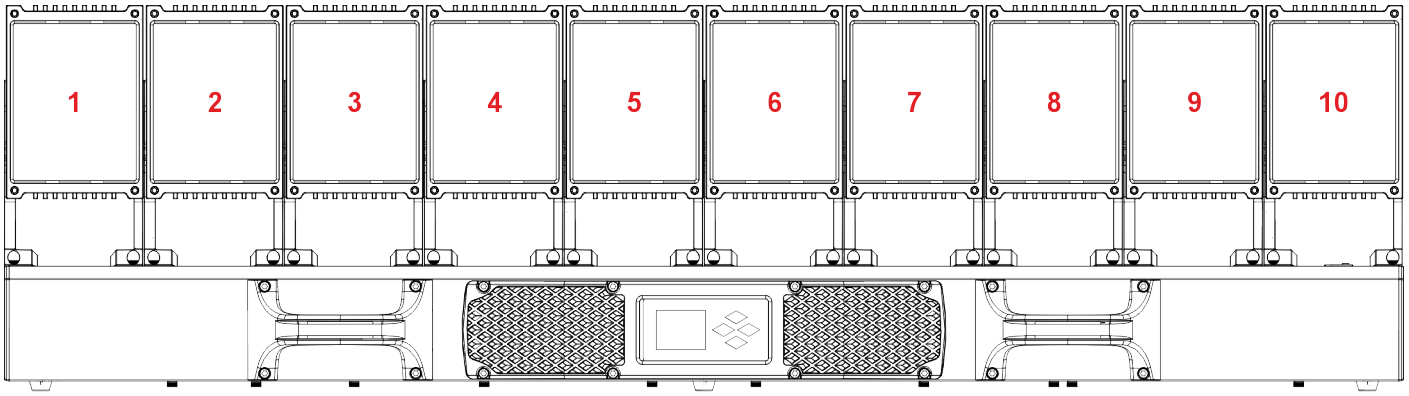
255CH	144CH	Function	Value	Setting	Control Type
			003–004	White 3200 K (R=243,G=211,B=0,W=55)	step
			005–006	White 4000 K (R=177,G=177,B=0,W=100)	step
			007–008	White 4200 K (R=251,G=255,B=8,W=145)	step
			009–010	White 5600 K (R=109,G=146,B=0,W=210)	step
			011–012	White 6500 K (R=106,G=157,B=12,W=211)	step
			013–014	White 7500 K (R=66,G=127,B=11,W=255)	step
			015	Blue (R=0, G=0, B=255, W=0)	step
			016–048	R=0, G+, B=255, W=0	proportional
			049	Cyan (R=0, G=255, B=255, W=0)	step
			050–086	R=0, G=255, B-, W=0	proportional
			087	Green (R=0, G=255, B=0, W=0)	step
			088–124	R+, G=255, B=0, W=0	proportional
			125	Yellow (R=255, G=255, B=0, W=0)	step
			126–162	R=255, G-, B=0, W=0	proportional
			163	Red (R=255, G=0, B=0, W=0)	step
			164–200	R=255, G=0, B+, W=0	proportional
			201	Magenta (R=255, G=0, B=255, W=0)	step
			202–238	R-, G=0, B=255, W=0	proportional
			239	Blue (R=0, G=0, B=255, W=0)	step
			240–247	Color fade, from fast to slow	proportional
			248–255	Color jump, from fast to slow	proportional
254	**135**	**CTC**	000	No function	
			001–255	Color temp from 'output mode' to 2700 K	proportional
			000–015	No function	
			016–017	Macro 1	step
			018–019	Macro 2	step
			020–021	Macro 3	step
			022–097	...	...
			098–099	Macro 42	step
			100–101	Macro 43	step
			102–103	Macro 44	step
	136	**LED Macro**	104–135	Macro 45 (main macro)	step
			136–137	Macro 46	step
			138–139	Macro 47	step
			140–141	Macro 48	step
			142–217	...	...
			218–219	Macro 87	step
			220–221	Macro 88	step
			222–223	Macro 89	step
			224–255	Macro 90 (main macro)	step
			000–127	From fast to slow	proportional
	137	**LED Macro Speed**	128	Stop	
			129–255	From slow to fast	proportional
	138	**LED Macro Delay**	000–255	From fast to slow	
	139	**Strobe Cell/**	000–015	No function	

255CH	144CH	Function	Value	Setting	Control Type
		Ring Macro	016–017	Macro 1	step
			018–019	Macro 2	step
			020–021	Macro 3	step
			022–099	...	...
			100–101	Macro 43	step
			102–103	Macro 44	step
			104–105	Macro 45	step
			106–135	Macro 46 (main macro)	step
			136–137	Macro 47	step
			138–139	Macro 48	step
			140–141	Macro 49	step
			142–219	...	...
			220–221	Macro 89	step
			222–223	Macro 90	step
			224–225	Macro 91	step
			226–255	Macro 92 (main macro)	step
	140	Strobe Cell/ Ring Macro Speed	000–127	From fast to slow	proportional
			128	Stop	
			129–255	From slow to fast	proportional
	141	Strobe Cell/ Ring Macro Delay	000–255	From fast to slow	proportional
	142	Background Color	000	No function	
			001–002	White 2700 K (R=255, G=175, B=0, W=50)	step
			003–004	White 3200 K (R=243, G=211, B=0, W=55)	step
			005–006	White 4000 K (R=177, G=177, B=0, W=100)	step
			007–008	White 4200 K (R=251, G=255, B=8, W=145)	step
			009–010	White 5600 K (R=109, G=146, B=0, W=210)	step
			011–012	White 6500 K (R=106, G=157, B=12, W=211)	step
			013–014	White 7500 K (R=66, G=127, B=11, W=255)	step
			015	Blue (R=0, G=0, B=255, W=0)	step
			016–048	R=0, G+, B=255, W=0	proportional
			049	Cyan (R=0, G=255, B=255, W=0)	step
			050–086	R=0, G=255, B-, W=0	proportional
			087	Green (R=0, G=255, B=0, W=0)	step
			088–124	R+, G=255, B=0, W=0	proportional
			125	Yellow (R=255, G=255, B=0, W=0)	step
			126–162	R=255, G-, B=0, W=0	proportional
			163	Red (R=255, G=0, B=0, W=0)	step
			164–200	R=255, G=0, B+, W=0	proportional
			201	Magenta (R=255, G=0, B=255, W=0)	step
			202–238	R-, G=0, B=255, W=0	proportional
			239	Blue (R=0, G=0, B=255, W=0)	step
			240–247	Color fade, from fast to slow	proportional
			248–255	Color jump, from fast to slow	proportional
	143	Background	000–255	From low to high intensity (0–100 %)	proportional

255CH	144CH	Function	Value	Setting	Control Type
		Color Dimmer			
			000–014	No function	
			015–019	Tilt Reverse	step
			020–024	Tilt Normal	step
			025–034	Reserved	
			035–039	BO PT OFF	step
			040–044	BO PT ON	step
			045–049	Merge Channel OFF	step
			050–054	Merge Channel ON	step
			055–059	Zoom Theater Reset Mode OFF	step
			060–064	Zoom Theater Reset Mode ON	step
			065–074	Reserved	
			075–079	Preset Color HTP OFF	step
			080–084	Preset Color HTP ON	step
			085–104	Reserved	
			105–109	DMX Fail: Hold	step
			110–114	DMX Fail: Off	step
			115–119	Dimmer mode FAST	step
			120–124	Dimmer mode SMOOTH	step
			125–126	Cell order normal	step
255	**144**	**Control**	127–129	Cell order reverse	step
			130–134	Dimmer Linear	step
			135–139	Dimmer Square	step
			140–144	Dimmer Inv-Square	step
			145–149	Dimmer S-curve	step
			150–154	PWM 600 Hz	step
			155–159	PWM 1200 Hz	step
			160–164	PWM 2000 Hz	step
			165–169	PWM 4000 Hz	step
			170–174	PWM 6000 Hz	step
			175–179	PWM 15000 Hz	step
			180–199	Reserved	
			200–204	Reset Tilt	step
			205–219	Reserved	
			220–224	Reset Zoom	step
			225–234	Reserved	
			235–239	Reset All	step
			240–244	Full Mode	step
			245–249	White Mode	step
			250–255	Reserved	

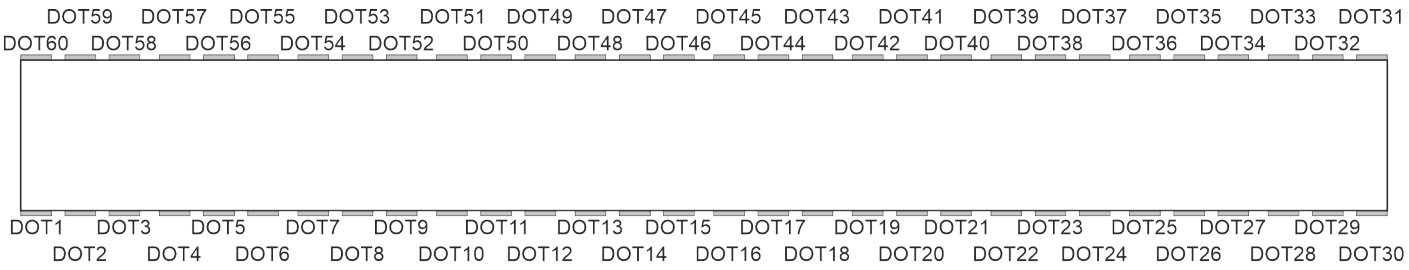
6.8.2. 29 Channels, 56 Channels, 37+160 Channels

Figure 19



TILT HEAD ORDER

Figure 20



STROBE LED ORDER

Note:

The tilt head order depends on the Cell Order (1–10 /10–1) set in Settings menu (see 6.7.2. Settings Menu on page 39).

The colors used, depend on the C Mixing Mode (RGBW / CMY) set in Settings menu (see 6.7.2. Settings Menu on page 39).

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
1	1	1	**Tilt 1**	000–255	Tilt adjustment 0–200°	proportional
2	2	2	**Tilt 1 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	3	3	**Tilt 2**	000–255	Tilt adjustment 0–200°	proportional
2	4	4	**Tilt 2 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	5	5	**Tilt 3**	000–255	Tilt adjustment 0–200°	proportional
2	6	6	**Tilt 3 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	7	7	**Tilt 4**	000–255	Tilt adjustment 0–200°	proportional
2	8	8	**Tilt 4 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	9	9	**Tilt 5**	000–255	Tilt adjustment 0–200°	proportional
2	10	10	**Tilt 5 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	11	11	**Tilt 6**	000–255	Tilt adjustment 0–200°	proportional
2	12	12	**Tilt 6 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	13	13	**Tilt 7**	000–255	Tilt adjustment 0–200°	proportional
2	14	14	**Tilt 7 Fine**	000–255	Tilt adjustment, 16-bit	proportional
2	16	16	**Tilt 8**	000–255	Tilt adjustment 0–200°	proportional
1	17	17	**Tilt 8 Fine**	000–255	Tilt adjustment, 16-bit	proportional

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
1	15	15	**Tilt 9**	000–255	Tilt adjustment 0–200°	proportional
2	18	18	**Tilt 9 Fine**	000–255	Tilt adjustment, 16-bit	proportional
1	18	19	**Tilt 10**	000–255	Tilt adjustment 0–200°	proportional
2	20	20	**Tilt 10 Fine**	000–255	Tilt adjustment, 16-bit	proportional
3	21	21	**Pan/Tilt Speed**	000–255	From fast to slow	proportional
4	22	22	**Tilt Macro**	000-004	No function	
				005–009	Tilt macro 1	step
				010–014	Tilt macro 2	step
				015–249	...	
				250–254	Tilt macro 50	step
				255	Tilt macro 51	step
5	23		**CTC**	000	No function	
				001–255	Color temperature 19000 K to 2700 K	proportional
6	24		**CTC LED**	000	No function	
				001–255	Color temperature 19000 K to 2700 K	proportional
7	25		**Color**	000	No function	
				001–002	White 2700 K (R=255,G=175,B=0,W=50)	step
				003–004	White 3200 K (R=243,G=211,B=0,W=55)	step
				005–006	White 4000 K (R=177,G=177,B=0,W=100)	step
				007–008	White 4200 K (R=251,G=255,B=8,W=145)	step
				009–010	White 5600 K (R=109,G=146,B=0,W=210)	step
				011–012	White 6500 K (R=106,G=157,B=12,W=211)	step
				013–014	White 7500 K (R=66,G=127,B=11,W=255)	step
				015	Blue (R=0, G=0, B=255, W=0)	step
				016–048	R=0, G+, B=255, W=0	proportional
				049	Cyan (R=0, G=255, B=255, W=0)	step
				050–086	R=0, G=255, B-, W=0	proportional
				087	Green (R=0, G=255, B=0, W=0)	step
				088–124	R+, G=255, B=0, W=0	proportional
				125	Yellow (R=255, G=255, B=0, W=0)	step
				126–162	R=255, G-, B=0, W=0	proportional
				163	Red (R=255, G=0, B=0, W=0)	step
				164–200	R=255, G=0, B+, W=0	proportional
				201	Magenta (R=255, G=0, B=255, W=0)	step
				202–238	R-, G=0, B=255, W=0	proportional
				239	Blue (R=0, G=0, B=255, W=0)	step
				240–247	Color fade, from fast to slow	proportional
				248–255	Color jump, from fast to slow	proportional
8	26		**Pattern**	000	No function	
				001	Pattern 1	step
				002	Pattern 2	step
				003	Pattern 3	step
				004–252	...	
				253	Pattern 253	step
				254	Pattern 254	step

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
				255	Pattern 255	step
9	27		Strobe Cell/ Ring Pattern	000	No function	
				001	Pattern 1	step
				002	Pattern 2	step
				003	Pattern 3	step
				004–252	...	
				253	Pattern 253	step
				254	Pattern 254	step
				255	Pattern 255	step
10	28		LED Macro	000–015	No function	
				016–017	Macro 1	step
				018–019	Macro 2	step
				020–021	Macro 3	step
				022–097	...	
				098–099	Macro 42	step
				100–101	Macro 43	step
				102–103	Macro 44	step
				104–135	Macro 45 (main macro)	step
				136–137	Macro 46	step
				138–139	Macro 47	step
				140–141	Macro 48	step
				142–217	...	
				218–219	Macro 87	step
				220–221	Macro 88	step
				222–223	Macro 89	step
				224–255	Macro 90 (main macro)	step
11	29		LED Macro Speed	000–127	From fast to slow	proportional
				128	Stop	
				129–255	From slow to fast	proportional
12	30		LED Macro Delay	000–255	From fast to slow	
13	31		Strobe Cell/ Ring Macro	000–015	No function	
				016–017	Macro 1	step
				018–019	Macro 2	step
				020–021	Macro 3	step
				022–099	...	
				100–101	Macro 43	step
				102–103	Macro 44	step
				104–105	Macro 45	step
				106–135	Macro 46 (main macro)	step
				136–137	Macro 47	step
				138–139	Macro 48	step
				140–141	Macro 49	step
				142–219	...	
				220–221	Macro 89	step
				222–223	Macro 90	step

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
				224–225	Macro 91	step
				226–255	Macro 92 (main macro)	step
14	32		Strobe Cell/ Ring Macro Speed	000–127	From fast to slow	proportional
				128	Stop	
				129–255	From slow to fast	proportional
15	33		Strobe Cell/ Ring Macro Delay	000–255	From fast to slow	proportional
16	34		Background Color	000	No function	
				001–002	White 2700 K (R=255,G=175,B=0,W=50)	step
				003–004	White 3200 K (R=243,G=211,B=0,W=55)	step
				005–006	White 4000 K (R=177,G=177,B=0,W=100)	step
				007–008	White 4200 K (R=251,G=255,B=8,W=145)	step
				009–010	White 5600 K (R=109,G=146,B=0,W=210)	step
				011–012	White 6500 K (R=106,G=157,B=12,W=211)	step
				013–014	White 7500 K (R=66,G=127,B=11,W=255)	step
				015	Blue (R=0, G=0, B=255, W=0)	step
				016–048	R=0, G+, B=255, W=0	proportional
				049	Cyan (R=0, G=255, B=255, W=0)	step
				050–086	R=0, G=255, B-, W=0	proportional
				087	Green (R=0, G=255, B=0, W=0)	step
				088–124	R+, G=255, B=0, W=0	proportional
				125	Yellow (R=255, G=255, B=0, W=0)	step
				126–162	R=255, G-, B=0, W=0	proportional
				163	Red (R=255, G=0, B=0, W=0)	step
				164–200	R=255, G=0, B+, W=0	proportional
				201	Magenta (R=255, G=0, B=255, W=0)	step
				202–238	R-, G=0, B=255, W=0	proportional
				239	Blue (R=0, G=0, B=255, W=0)	step
				240–247	Color fade, from fast to slow	proportional
				248–255	Color jump, from fast to slow	proportional
17	35		Background Color Dimmer	000–255	From low to high intensity (0–100 %)	proportional
18	36	23	Main Dimmer	000–255	From low to high intensity (0–100 %)	proportional
19	37	24	Main Dimmer Ring	000–255	From low to high intensity (0–100 %)	proportional
20	38	25	Strobe	000–003	Off	
				004–006	On	step
				007–066	Synchronized strobe, from low to high frequency	proportional
				067–127	Pulse strobe, from low to high frequency	proportional
				128–188	Fast off slow on, from low to high frequency	proportional
				189–249	Random strobe, slow to from low to high frequency	proportional
				250–255	On	step
21	39	26	Strobe Cell	000–003	Off	

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
				004–006	On	step
				007–066	Synchronized strobe, from low to high frequency	proportional
				067–127	Pulse strobe, from low to high frequency	proportional
				128–188	Fast off slow on, from low to high frequency	proportional
				189–249	Random strobe, from low to high frequency	proportional
				250–255	On	step
22	**40**	**27**	**Zoom1**	000–255	From large to small	proportional
22	**41**	**28**	**Zoom2**	000–255	From large to small	proportional
22	**42**	**29**	**Zoom3**	000–255	From large to small	proportional
22	**43**	**30**	**Zoom4**	000–255	From large to small	proportional
22	**44**	**31**	**Zoom5**	000–255	From large to small	proportional
22	**45**	**32**	**Zoom6**	000–255	From large to small	proportional
22	**46**	**33**	**Zoom7**	000–255	From large to small	proportional
22	**47**	**34**	**Zoom8**	000–255	From large to small	proportional
22	**48**	**35**	**Zoom9**	000–255	From large to small	proportional
22	**49**	**36**	**Zoom10**	000–255	From large to small	proportional
				000–014	No function	
				015–019	Tilt Reverse	step
				020–024	Tilt Normal	step
				025–034	Reserved	
				035–039	BO PT OFF	step
				040–044	BO PT ON	step
				045–049	Merge Channel OFF	step
				050–054	Merge Channel ON	step
				055–059	Zoom Theater Reset Mode OFF	step
				060–064	Zoom Theater Reset Mode ON	step
				065–074	Reserved	
				075–079	Preset color HTP OFF	step
				080–084	Preset color HTP ON	step
23	**50**	**37**	**Control**	085–104	Reserved	
				105–109	DMX Fail: Hold	step
				110–114	DMX Fail: Off	step
				115–119	Dimmer mode FAST	step
				120–124	Dimmer mode SMOOTH	step
				125–126	Cell order normal	step
				127–129	Cell order reverse	step
				130–134	Dimmer Linear	step
				135–139	Dimmer Square	step
				140–144	Dimmer Inv-Square	step
				145–149	Dimmer S-curve	step
				150–154	PWM 600 Hz	step
				155–159	PWM 1200 Hz	step

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
				160–164	PWM 2000 Hz	step
				165–169	PWM 4000 Hz	step
				170–174	PWM 6000 Hz	step
				175–179	PWM 15000 Hz	step
				180–199	Reserved	
				200–204	Reset Tilt	step
				205–219	Reserved	
				220–224	Reset Zoom	step
				225–234	Reserved	
				235–239	Reset All	step
				240–244	Full Mode	step
				245–249	White Mode	step
				250–255	Reserved	
24	**51**		**R (C) Main**	000–255	From low to high intensity (0–100 %)	proportional
25	**52**		**G (M) Main**	000–255	From low to high intensity (0–100 %)	proportional
26	**53**		**B (Y) Main**	000–255	From low to high intensity (0–100 %)	proportional
27	**54**		**W Main**	000–255	From low to high intensity (0–100 %)	proportional
28	**55**		**Main Dimmer CW**	000–255	From low to high intensity (0–100 %)	proportional
29	**56**		**Main Dimmer WW**	000–255	From low to high intensity (0–100 %)	proportional
		1	**R (C) LED 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		2	**G (M) LED 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		3	**B (Y) LED 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		4	**W LED 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		5	**R (C) LED 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		6	**G (M) LED 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		7	**B (Y) LED 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		8	**W LED 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		...	**...**	...	...	Art-Net
		37	**R (C) LED 10**	000–255	From low to high intensity (0–100 %)	Art-Net
		38	**G (M)LED 10**	000–255	From low to high intensity (0–100 %)	Art-Net
		39	**B (Y) LED 10**	000–255	From low to high intensity (0–100 %)	Art-Net
		40	**W LED 10**	000–255	From low to high intensity (0–100 %)	Art-Net
		41	**Dot CW 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		42	**Dot WW 1**	000–255	From low to high intensity (0–100 %)	Art-Net
		43	**Dot CW 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		44	**Dot WW 2**	000–255	From low to high intensity (0–100 %)	Art-Net
		45	**Dot CW 3**	000–255	From low to high intensity (0–100 %)	Art-Net
		46	**Dot WW 3**	000–255	From low to high intensity (0–100 %)	Art-Net
		47	**Dot CW 4**	000–255	From low to high intensity (0–100 %)	Art-Net
		48	**Dot WW 4**	000–255	From low to high intensity (0–100 %)	Art-Net
		49	**Dot CW 5**	000–255	From low to high intensity (0–100 %)	Art-Net
		50	**Dot WW 5**	000–255	From low to high intensity (0–100 %)	Art-Net
		51	**Dot CW 6**	000–255	From low to high intensity (0–100 %)	Art-Net
		52	**Dot WW 6**	000–255	From low to high intensity (0–100 %)	Art-Net
		53	**Dot CW 7**	000–255	From low to high intensity (0–100 %)	Art-Net

29CH	56CH	37+160CH	Function	Value	Setting	Control Type
		54	Dot WW 7	000–255	From low to high intensity (0–100 %)	Art-Net
		55	Dot CW 8	000–255	From low to high intensity (0–100 %)	Art-Net
		56	Dot WW 8	000–255	From low to high intensity (0–100 %)	Art-Net
		57	Dot CW 9	000–255	From low to high intensity (0–100 %)	Art-Net
		58	Dot WW 9	000–255	From low to high intensity (0–100 %)	Art-Net
		...	...	...	...	Art-Net
		149	Dot CW 55	000–255	From low to high intensity (0–100 %)	Art-Net
		150	Dot WW 55	000–255	From low to high intensity (0–100 %)	Art-Net
		151	Dot CW 56	000–255	From low to high intensity (0–100 %)	Art-Net
		152	Dot WW 56	000–255	From low to high intensity (0–100 %)	Art-Net
		153	Dot CW 57	000–255	From low to high intensity (0–100 %)	Art-Net
		154	Dot WW 57	000–255	From low to high intensity (0–100 %)	Art-Net
		155	Dot CW 58	000–255	From low to high intensity (0–100 %)	Art-Net
		156	Dot WW 58	000–255	From low to high intensity (0–100 %)	Art-Net
		157	Dot CW 59	000–255	From low to high intensity (0–100 %)	Art-Net
		158	Dot WW 59	000–255	From low to high intensity (0–100 %)	Art-Net
		159	Dot CW 60	000–255	From low to high intensity (0–100 %)	Art-Net
		160	Dot WW 60	000–255	From low to high intensity (0–100 %)	Art-Net

6.9. RDM Information

This device supports RDM (see 6.9.2. Supported RDM PIDs (Parameter IDs)).

6.9.1. RDM Details

- Responder ID: 29B4:107XXXXX
- Manufacturer's ID: Infinity (Highlite International B.V.)
- Manufacturer Label: Infinity
- Model Description: Furion FX402 Bar
- Model ID: 263 (107 hexadecimal)
- Device Label: Furion FX402 Bar

Note:

An RDM responder ID consists of 3 parts:

- 1st part – 4 digits – Manufacturer's ID
- 2nd part – 3 digits – Model ID
- 3rd part – 5 digits – Unique ID

The RDM responder IDs of all products of Highlite International start with the same 4 digits. The first 7 digits of the RDM responder ID for each model are the same. The last 5 digits are different for each device.

6.9.2. Supported RDM PIDs (Parameter IDs)

RDM Parameter ID	Value	Required	GET	SET
SUPPORTED_PARAMETERS	0x0050	*	*	
PARAMETER_DESCRIPTION	0x0051	*	*	
DEVICE_MODEL_DESCRIPTION	0x0080		*	
MANUFACTURER_LABEL	0x0081		*	
DEVICE_LABEL	0x0082		*	*
FACTORY_DEFAULTS	0x0090		*	*
DMX_PERSONALITY	0x00E0		*	*
DMX_PERSONALITY_DESCRIPTION	0x00E1		*	
DMX_START_ADDRESS	0x00F0	*	*	*
SENSOR_DEFINITION	0x0200		*	
SENSOR_VALUE	0x0201		*	*
CURVE	0x0343		*	*
CURVE_DESCRIPTION	0x0344	*	*	
MODULATION_FREQUENCY	0x0347		*	*
MODULATION_FREQUENCY_ DESCRIPTION	0x0348	*	*	
DEVICE_HOURS	0x0400		*	*
LAMP_HOURS	0x0401		*	*
DISPLAY_INVERT	0x0500		*	*
TILT_INVERT	0x0601		*	*
RESET_DEVICE	0x1001			*

6.9.3. Supported RDM PIDs (Manufacturer Specific Parameter IDs)

RDM Manufacturer Specific Parameter ID	Value	Required	GET	SET
CALIB_LED1_B	0x8015			
CALIB_LED1_G	0x8014			
CALIB_LED1_R	0x8013			
CALIB_LED10_B	0x8030			
CALIB_LED10_G	0x802F			
CALIB_LED10_R	0x802E			
CALIB_LED2_B	0x8018			
CALIB_LED2_G	0x8017			
CALIB_LED2_R	0x8016			
CALIB_LED3_B	0x801B			
CALIB_LED3_G	0x801A			
CALIB_LED3_R	0x8019			
CALIB_LED4_B	0x801E			
CALIB_LED4_G	0x801D			
CALIB_LED4_R	0x801C			
CALIB_LED5_B	0x8021			
CALIB_LED5_G	0x8020			
CALIB_LED5_R	0x801F			
CALIB_LED6_B	0x8024			
CALIB_LED6_G	0x8023			
CALIB_LED6_R	0x8022			
CALIB_LED7_B	0x8027			
CALIB_LED7_G	0x8026			
CALIB_LED7_R	0x8025			
CALIB_LED8_B	0x802A			
CALIB_LED8_G	0x8029			
CALIB_LED8_R	0x8028			
CALIB_LED9_B	0x802D			
CALIB_LED9_G	0x802C			
CALIB_LED9_R	0x802B			
CALIBRATED_WHITE_0-ON1-OFF2-Cu	0x8001			
CALIBRATED_WHITE_B	0x800A			
CALIBRATED_WHITE_G	0x8009			
CALIBRATED_WHITE_R	0x8008			
CALIBRATED_WHITE_W	0x800B			
DIMMER_SPEED_0-Smooth1-Fast	0x8005			
ZOOM_INVERT_0-NO1-YES	0x8006			

7. Troubleshooting

This troubleshooting guide contains solutions to problems which can be carried out by an ordinary person. The device does not contain user-serviceable parts.

Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

Refer servicing to instructed or skilled persons. Contact your Highlite International dealer in case the solution is not described in the table.

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	• Make sure that the device is connected to power supply and the cables are plugged in
	Main fuse is blown	• Replace the fuse (see 8.3.1. Replacing the Fuse on page 73)
The device responds erratically	The factory settings of the device are changed	• Reset the parameters of the device to the default factory settings (see 6.7.2.9. Reset Function on page 46)
The device does not respond to DMX control	The controller is not connected	• Connect the controller
	The signal is reversed. The 5-pin DMX OUT of the controller does not match the DMX IN of the device	• Install a phase-reversing cable between the controller and the device
	The controller is defective	• Try using another controller
The device responds erratically to DMX control	Connections are defective	• Examine connections and cables. Correct defective connections. Repair or replace damaged cables
	The data link is not terminated with a 120 Ω termination plug	• Insert a termination plug in the DMX OUT connector of the last device on the link
	Incorrect addressing	• Make sure that the address settings are correct
	In case of a setup with multiple devices, one of the devices is defective and disturbs data transmission on the link	• To find out the defective device, bypass one device at a time until normal operation is restored
No light or LEDs cut out intermittently	LEDs are damaged	• Disconnect the device and contact your Highlite International dealer
	The input power parameters of the device do not match the local AC voltage and frequency	• Disconnect the device. Make sure that the local current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device

7.1. Error Messages

In case one of the error messages below appears on the error information screen, discontinue the use of the device and contact your local dealer.

For more information, refer to Error Info (see 6.7.4.3. Error Info on page 51).

Error code	Error description
DFAN1	Fan error
DFAN2	Fan error
LED1 HOT	LED temperature of tilt head 1 is too high
LED2 HOT	LED temperature of tilt head 2 is too high
LED3 HOT	LED temperature of tilt head 3 is too high
LED4 HOT	LED temperature of tilt head 4 is too high
LED5 HOT	LED temperature of tilt head 5 is too high
LED6 HOT	LED temperature of tilt head 6 is too high
LED7 HOT	LED temperature of tilt head 7 is too high
LED8 HOT	LED temperature of tilt head 8 is too high
LED9 HOT	LED temperature of tilt head 9 is too high
LED10 HOT	LED temperature of tilt head 10 is too high
Thermistor1 Open	Thermistor1 open connection
Thermistor2 Open	Thermistor2 open connection
Thermistor3 Open	Thermistor3 open connection
Thermistor4 Open	Thermistor4 open connection
Thermistor5 Open	Thermistor5 open connection
Thermistor6 Open	Thermistor6 open connection
Thermistor7 Open	Thermistor7 open connection
Thermistor8 Open	Thermistor8 open connection
Thermistor9 Open	Thermistor9 open connection
Thermistor10 Open	Thermistor10 open connection
Thermistor1 Short	Thermistor1 short-circuit
Thermistor2 Short	Thermistor2 short-circuit
Thermistor3 Short	Thermistor3 short-circuit
Thermistor4 Short	Thermistor4 short-circuit
Thermistor5 Short	Thermistor5 short-circuit
Thermistor6 Short	Thermistor6 short-circuit
Thermistor7 Short	Thermistor7 short-circuit
Thermistor8 Short	Thermistor8 short-circuit
Thermistor9 Short	Thermistor9 short-circuit
Thermistor10 Short	Thermistor10 short-circuit
Y_op1	Error of tilt head 1
Y_op2	Error of tilt head 2
Y_op3	Error of tilt head 3
Y_op4	Error of tilt head 4
Y_op5	Error of tilt head 5
Y_op6	Error of tilt head 6
Y_op7	Error of tilt head 7
Y_op8	Error of tilt head 8

Y_op9	Error of tilt head 9
Y_op10	Error of tilt head 10

8. Maintenance

8.1. Safety Instructions for Maintenance

DANGER
Electric shock caused by dangerous voltage inside

Disconnect power supply before servicing or cleaning.

8.2. Preventive Maintenance

Attention
Before each use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixings and installation points.
- The lens is not cracked or damaged.
- The power cables are not damaged and do not show any material fatigue.

8.2.1. Basic Cleaning Instructions

The external lens of the device must be cleaned periodically in order to optimize the light output. The cleaning schedule depends on the conditions at the site where the device is installed. When smoke or fog machines are used at the site, the device will need more frequent cleaning. On the other hand, if the device is installed in well-ventilated area, it will need less frequent cleaning. To establish a cleaning schedule, examine the device at regular intervals during the first 100 hours of operation.

To clean the device, follow the steps below:

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for at least 15 minutes.
03) Remove the dust collected on the external surface with dry compressed air and a soft brush.
04) Clean the lens with a damp cloth. Use a mild detergent solution.
05) Dry the lens carefully with a lint-free cloth.
06) Clean the DMX and other connections with a damp cloth.

Attention

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.

Make sure that the connections are fully dry before connecting the device to the power supply and to other devices.

8.3. Corrective Maintenance

The device does not contain user-serviceable parts. Do not open the device and do not modify the device.

Refer repairs and servicing to instructed or skilled persons. Contact your Highlite International dealer for more information.

8.3.1. Replacing the Fuse

DANGER
Electric shock caused by short-circuit

- Do not bypass the thermostatic switch or fuses.
- Replace fuses only with the same type and rating.

Power surges, short-circuit or incorrect electrical power supply may cause a fuse to burn out. If the fuse burns out, the device will not function anymore. If this happens, follow the steps below:

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for at least 15 minutes.
03) Loosen the fuse cover with a screwdriver and remove the fuse holder.
04) If the fuse is brown or unclear, it is burned out. Remove the old fuse.
05) Insert a new fuse in the fuse holder. Make sure that the type and the rating of the replacement fuse are the same as the ones specified on the information label of the product.
06) Replace the fuse holder in the opening and tighten the fuse cover.

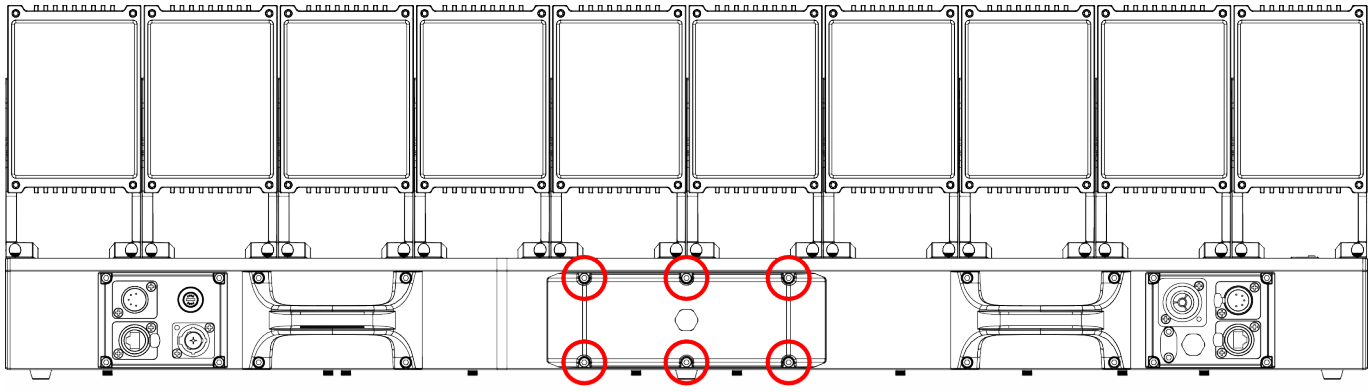
8.3.2. Draining Condensation Water

The Furion FX402 Bar is IP65 rated. The device can resist water jets. If the device is exposed to extreme humid conditions during use, condensation may collect inside the device. This can happen also during transportation, if the device is exposed to extreme temperature variations.

If condensation water collects inside the device, follow the steps below to remove the condensation water:

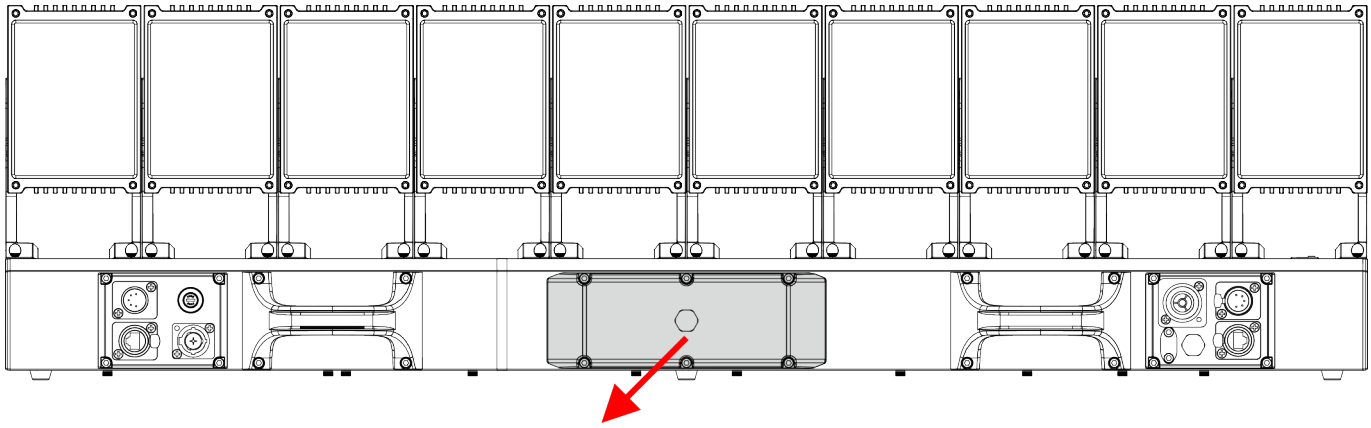
01) Disconnect the device from the electrical power supply.
02) Loosen the 6 screws with an H3 x 100 mm Allen screwdriver, as shown in Fig. 21.

Figure 21



03) Remove the cover, as shown in Fig. 22.

Figure 22



04) Check the contents of the 2 small moisture absorber paper desiccant bags once a year. If the contents is hard, replace the bag (max. 52 x 150 mm), as shown in Fig. 23, 24 and 25.

Figure 23

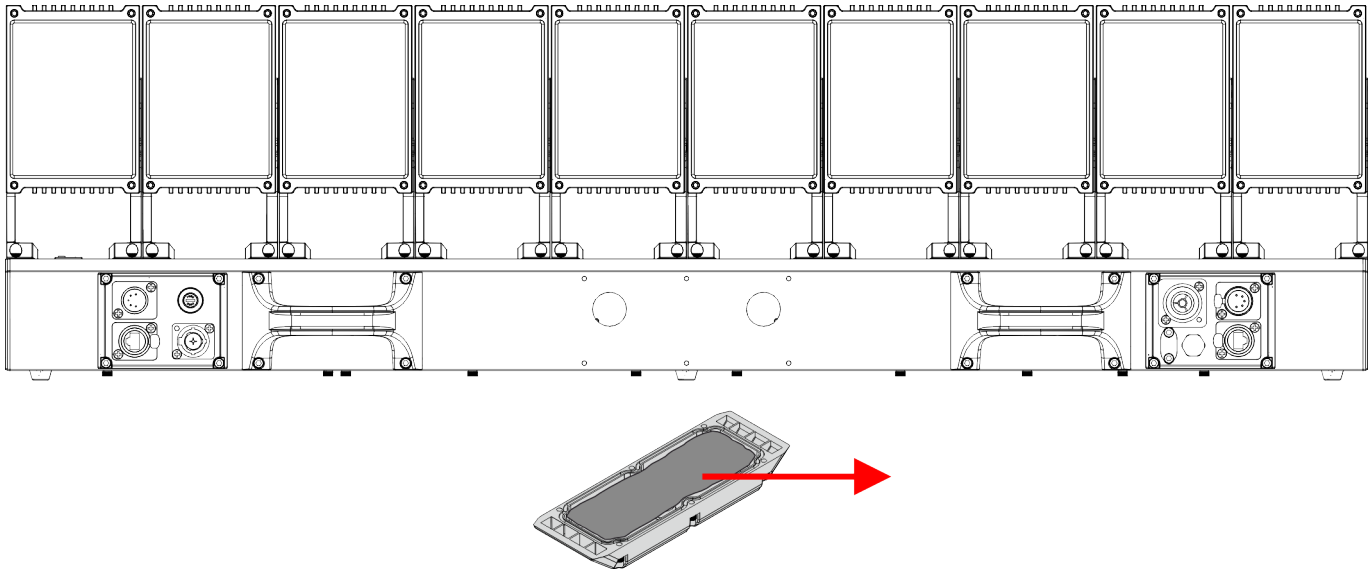


Figure 24

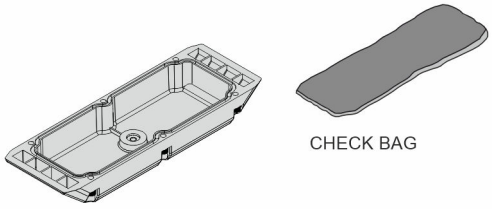
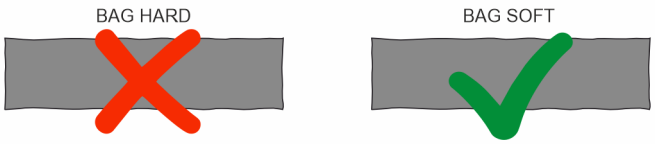


Figure 25



05) Connect the device to the electrical power supply.
06) Let the device operate with the LED at full output for 60 minutes.
07) Let the device cool down for 30 minutes.
08) Install the cover by following steps 2–3 in reverse order.

9. Deinstallation, Transportation and Storage

9.1. Instructions for Deinstallation

WARNING
Incorrect deinstallation can cause serious injuries and damage of property.

- Let the device cool down before dismounting.
- Disconnect power supply before deinstallation.
- Always observe the national and site-specific regulations during deinstallation and derigging of the device.
- Wear personal protective equipment in compliance with the national and site-specific regulations.

9.2. Instructions for Transportation

- Use the original packaging to transport the device, if possible.
- Always observe the handling instructions printed on the outer carton box, for example: "Handle with care", "This side up", "Fragile".

9.3. Storage

- Clean the device before storing (see 8.2.1. Basic Cleaning Instructions on page 72).
- Store the device in the original packaging, if possible.

10. Disposal

Correct disposal of this product

Waste Electrical and Electronic Equipment

This symbol on the product, its packaging or documents indicates that the product shall not be treated as household waste. Dispose of this product by handing it to the respective collection point for recycling of electrical and electronic equipment. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. For more detailed information about recycling of this product contact the local authorities or the authorized dealer.

11. Approval

Check the respective product page on the website of Highlite International (www.highlite.com) for an available declaration of conformity.