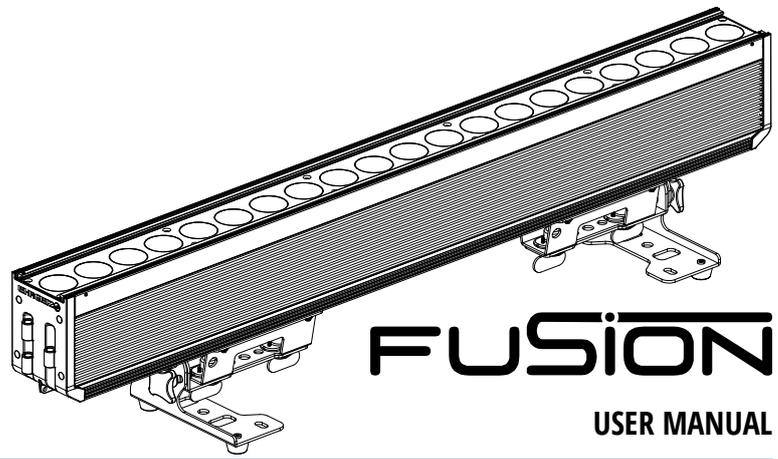


# **FUSION**

## **USER MANUAL**



# FUSION

USER MANUAL

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## Introduction

Thank you for your purchase and usage of the Ehrgeiz Fusion 2.

You have chosen a reliable product with outstanding features. The device is easy to use and is made of high quality components.

Every Ehrgeiz Product is checked before shipping to secure you are able to receive a great product without compromise. This is not a toy. Our ambitious aim is to get you a reliable working tool.

## Safety Instructions

### In General

In order to maintain the condition and to ensure a safe operation, it is important for all users to follow the safety instructions and warning notes written in this manual.

Do not operate the fixture with missing or damaged covers, shields or any optical component.

Please consider that unauthorized modifications to the device are forbidden due to safety reasons.

If the device is operated in any way that's not described in this manual, the product may suffer damage and the guarantee will become void. Furthermore, misuse may lead to dangers like short-circuit, burns, electric shock, burns due to ultraviolet radiation, lamp explosion, crash, etc.

### IP65 protection rating

The fixture is dust tight (first digit 6) and protected against water jets by a nozzle against enclosure from any direction (second digit 5).

### Prevention from electrical shock

Make sure to ground (earth) the fixture electrically. (It's essential to connect the yellow/green conductor to earth)

### Main Connection

Do not apply any AC mains power to the fixture at any other voltage than that specified.

### Rigging

Check that all external covers and rigging hardware are securely fastened.

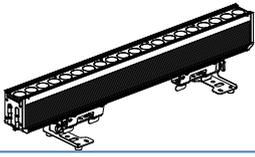
When choosing the installation-location, please make sure that the fixture is not exposed to extreme heat. There should not be any cables lying around. You endanger your own and the safety of others.

Make sure that the area below the installation place is cordoned off when rigging, de-rigging or servicing the fixture.

If suspending from a rigging structure, fasten the fixture to a rigging clamp with M10 bolts screwed into the threaded hole in the center of the brackets of the fixture.

Make sure all fixtures are operated and installed by qualified personnel with the relevant national certifications.

Install, as described in this manual, a secondary attachment such as a safety wire that is approved by an official body.



**Positioning:**

The fixture must be positioned at least 0.2m minimum distance to illuminate objects.

Keep all inflammable materials at least 0.2m from this fixture.

Allow to place the fixture on an inflammable surface.

The maximum ambient temperature of 40°C may not be exceeded.

The exterior of this fixture can reach a very high temperature during operation. Avoid contact by persons and materials.

**Maintenance:**

This fixture is for professional use only. It is not for household use.

Always unplug the mains for any maintenance.

**Risk of eye injury:**

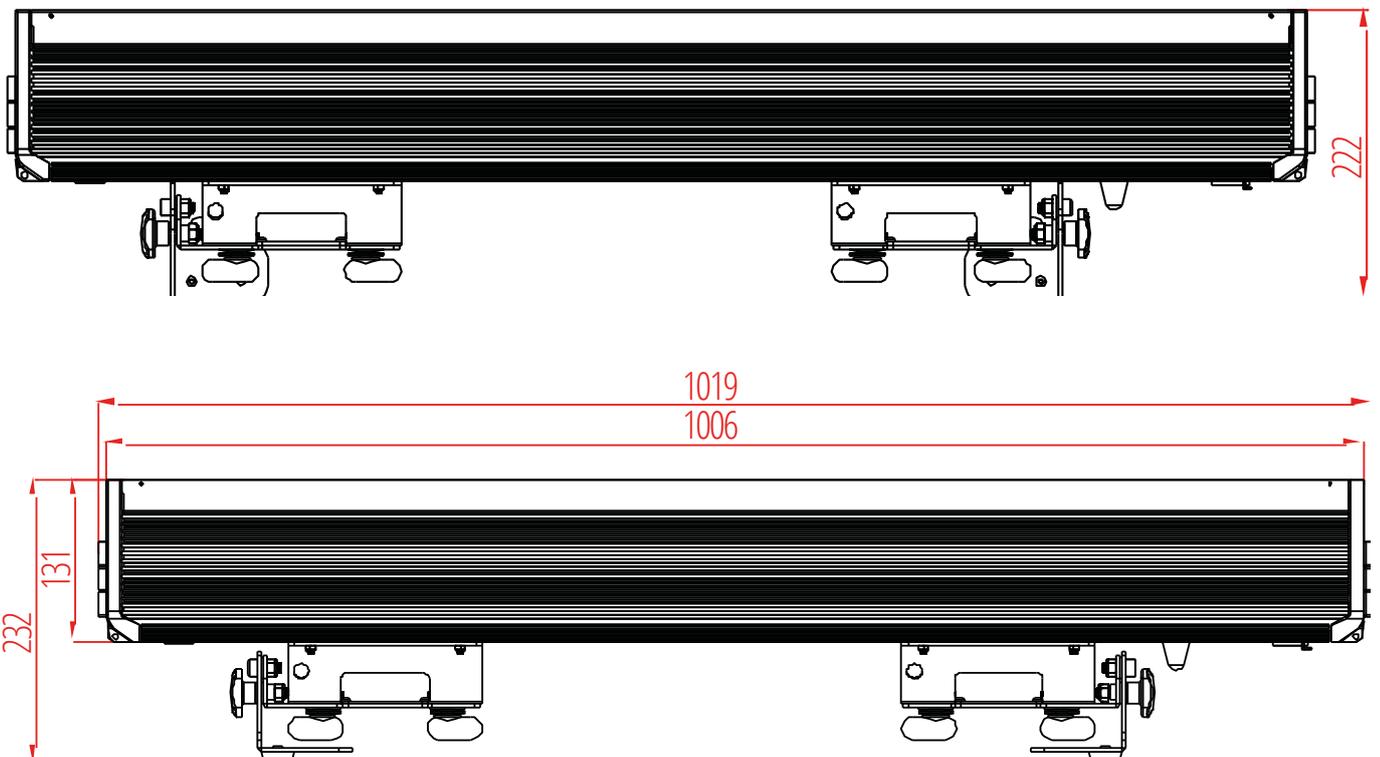
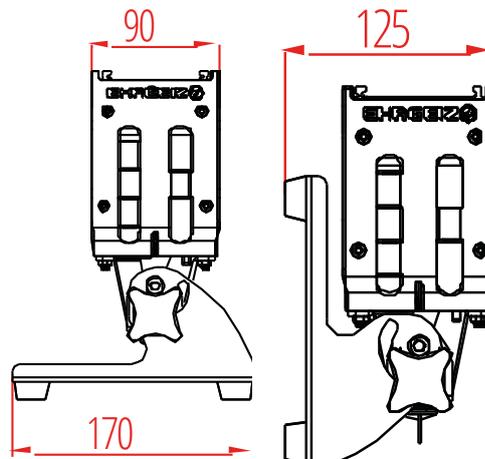
Do not stare directly into the light when it is switched on. Do not look at LEDs with magnifying glasses, telescopes, binoculars, or similar optical instruments that may concentrate the light output.

## Delivery Contents

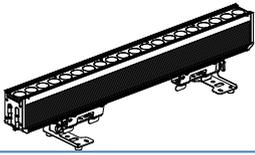
You received your Fusion 2 with the following content

- Fusion 2
  - powerCON TRUE1® Input cable
  - Glare Shield
  - Tilt Brackets with fast locks
  - Quick Release Pins
- 20x15W Osram LED Bar with 6° beam angle
  - Input cable with Neutrik TRUE1 and Schuko plug
  - Shield to avoid looking directly into the fixture from the side
  - Brackets with stepless manual Tilt adjustment
  - Bolts to structurally connect 2 devices

## Fixture Dimensions



Dimensions in mm

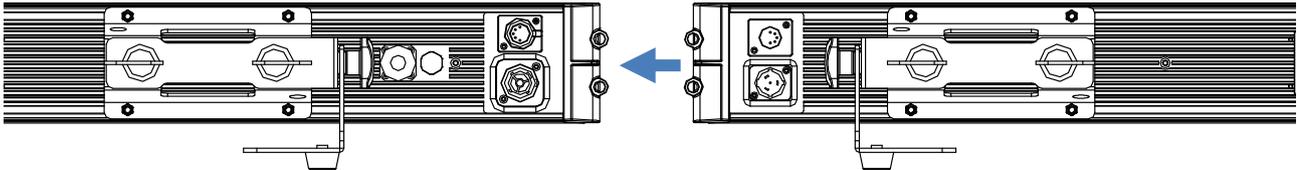


## Installations

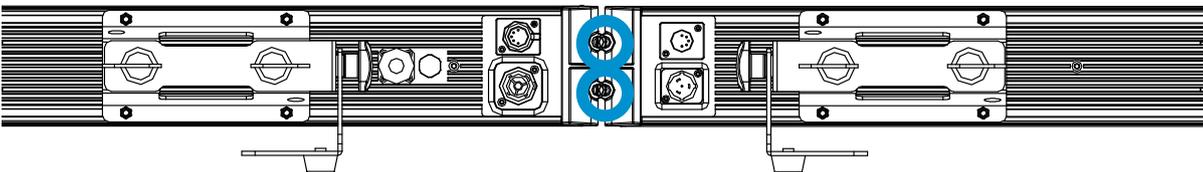
Your Fusion 2 can be installed in every kind of following positions. Please see the explanations and rely to the instructions for a safe operation and secure handling.

### Structural Connection

The Fusion 2 can be connected using the included quick-release pins. Place the devices next to each other.



Insert both Pins to connect the devices.



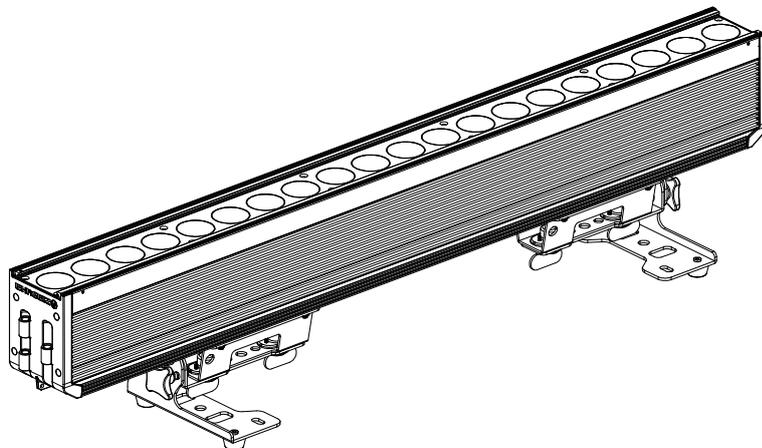
For the first uses this may be a little hard. Move the devices a little until the Bolts can be inserted completely.

For vertical installation do not exceed the amount of 3 pieces. (caution, provisional specification) In case of hanging installation, each device needs to be saved individually!

Using the quick-release pins for horizontal installation is not recommended. Each device should individually be installed with the given installation options below.

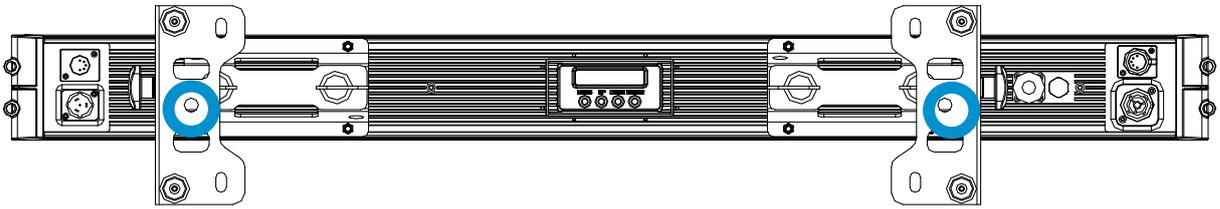
### Horizontal Installation on the floor

You could place the Fusion 2 on the floor. Please make sure the surface is plane and the reliability of the floor is sufficient.



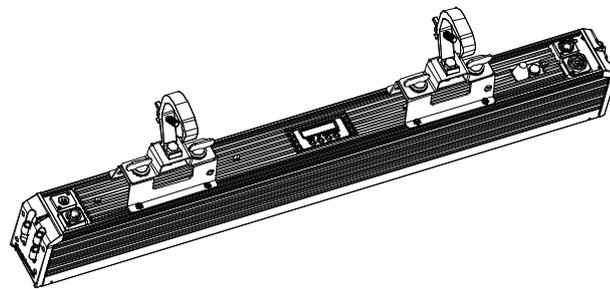
### Horizontal hanging with tilt bracket

You can attach the Fusion 2 to a Truss or Pipe. Notice that the tilt bracket should face down from the hanging structure. Use the centered holes in the Tilt Bracket



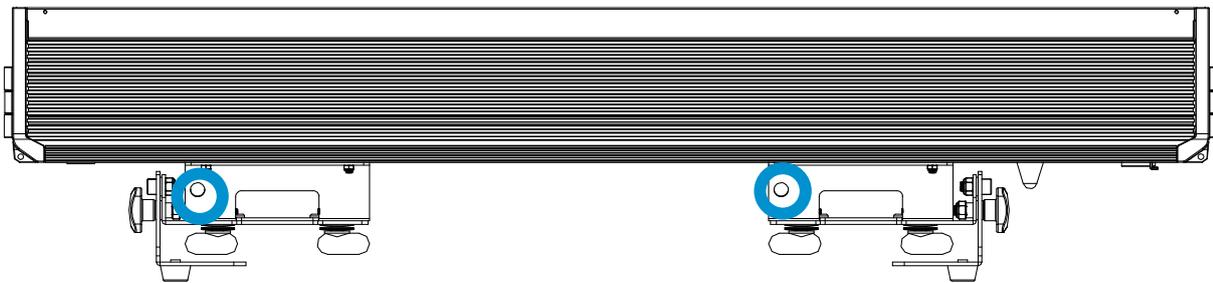
### Horizontal hanging with Omega Bracket

You can use the additional fix Omega Brackets (optional accessory) to hang the device horizontal



### Safety attachment

In any case of rigging the device attach the Safety rope to any of the dedicated eyelets integrated into the sliding brackets.

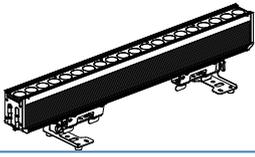


### Hanging vertically “dropped”

Use the vertical Adapter set (including Omega Bracket, optional accessory) to “drop” the Fusion from a rigging structure. Notice that we will release a detailed rigging manual for the different options shortly.

### Vertical Installation on the floor

Use the vertical Adapter (optional accessory) in combination with a base plate (optional accessory). Use the Small standing plate (optional accessory) if you only wish to install one Fusion 2. If you want to install more than one device, screw the Small standing plate to a normal truss base plate. Notice that we will release a detailed rigging manual for the different options shortly.



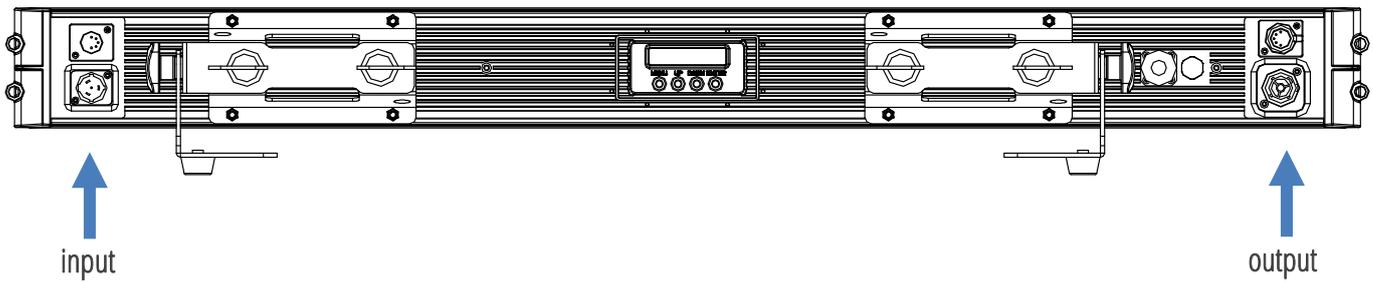
## Connections

### Mains & DMX

Fusion 2 offers standard powerCON TRUE1 as well as fully IP65 rated 5 pin XLR connectors for the Mains and DMX connection.

Please only use high quality cables fitting the local regulations and connection standards.

We only recommend the usage of H07 RN-F 3G2.5 on Original Neutrik powerCON TRUE1 for mains connection and digital 110 Ohm DMX cable with original Neutrik 5 pin XLR HD.



The internal power wiring is done with a cable cross section of 2.5mm<sup>2</sup>.

---

## DMX

We recommend the use of High quality XLR connectors like original NEUTRIK HD. Please use professional digital DMX cable with a surge impedance of 110  $\Omega$ .

Please notice that the USITT DMX Standard does allow to use a max of 32 DMX fixtures in one line. You should terminate the signal by a 120  $\Omega$  resistor.

In the Standard mode the Fusion 2 uses 12 DMX channels.

Connect the devices and increase the value of the DMX channel by 12 from one device to another

### Wireless DMX

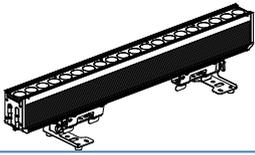
The device can be equipped with a Wireless DMX Receiver from Wireless Solution Made in Sweden (W-DMX™).

Please contact your Ehrgeiz distributor for detailed information of the necessary hardware & software update.

When the W-DMX receiver is installed, enable it with the option in the service Menu (only needs to be done once and does not set back when you set the device to “factory default”

To establish a connection, enable the W-DMX Option and simply use the “Link” Option in the Fusion 2 Menu. After that, set your transmitter to Link Mode.

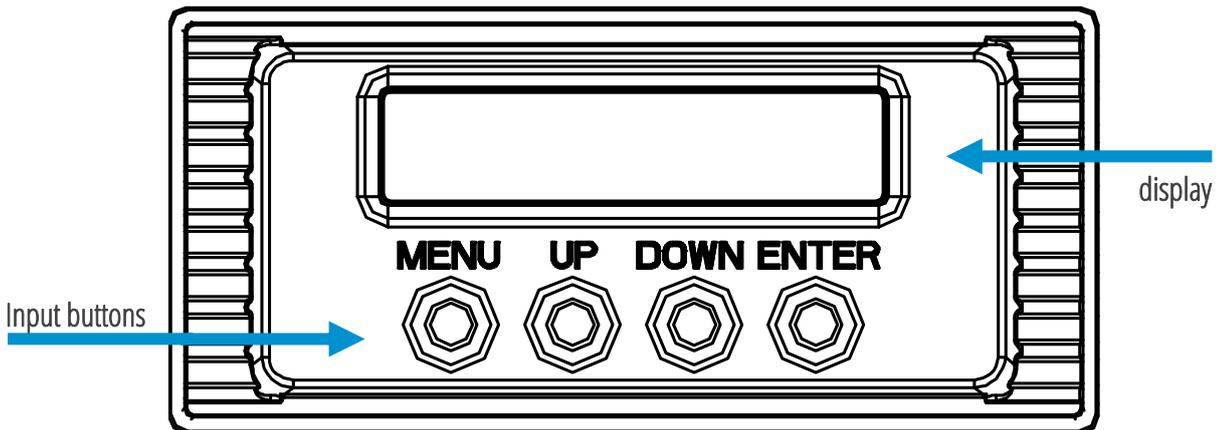
After both devices are linked you will be able to control the device via Wireless DMX, as long as the W-DMX Mode is turned on in the Menu.



## Operations

### Menu control

Your Fusion 2 has an easy to read and setup OLED display and Menu. It is programmed with a lot of built in functions as well as DMX Modes for different applications. Please notice that the display will flip automatically while you turn the fixture (Can be disabled in the menu).

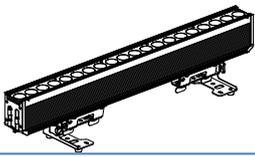


The Menu of the Fusion 2 is mainly intuitive. You will find a menu map on the following pages. The four buttons are used to scroll the values, select a setting or hop back in the menu structure:

- |         |   |
|---------|---|
| Menu    | Go back in the menu structure or leave a value as it is             |
| Enter   | Go forward in the menu structure or confirm the selected value      |
| UP/DOWN | Scroll up / down in the menu structure or scroll the selected value |

## Menu map

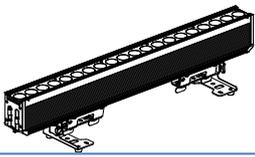
DMX	Adress	1-XXX	Set the DMX Adress	
	Mode	Standard - 12		
		Advanced - 17		
		Pattern - 27		
		RGBW - 4		Set the desired DMX Mode.
		compressed - 6		For detailed information see <a href="#">DMX Modes</a> on page 13.
		Pixel – 92		
		Pixel RGBW - 80		
	Pixel Dim - 32			
	RDM	On* / Off	Enable / disable the RDM function	
	Reset via DMX	On* / Off	Choose whether a device reset can be done via DMX signal	
	No DMX	Shutter Closed*		
		Hold		
		Play Program1		Choose the behavior in case of DMX loss
		Play Program2		
	W-dmx	Play Program3		
		Off*		
Receive			Choose the usage of the W-DMX receiver (optional accessory)	
Transmit				
Link			Link or unlink the transmitter / receiver;	
	Unlink		For detailed information see <a href="#">Wireless DMX</a> on page 7	
DMX Live	Refresh rate	xxx Hz		
	Color Wheel	0 – 255		
	Red	0 – 255		
	Green	0 – 255		
	Blue	0 – 255		
	White	0 – 255		
	Shutter	0 – 255	Show the DMX values received.	
	Dimmer	0 – 255		
	CTO	0 – 255		
	Pattern	0 – 255		
	Pattern Speed	0 – 255		
Pattern Fade	0 – 255			
Control	0 – 255			



Personality

Dimmer Curve	Linear* Theatrical Square Law Inverse Square	Choose the Dimmer Curve. For detailed information see <a href="#">Dimmer Curves</a> Appendix page X
Dimmer Speed	Fast* Smooth	Select the behavior of the Dimmer
Display Setting	Shut-off time	Off* 1 minute 5 minute 60 minute Choose after which time the display backlight will turn off.
	No signal flash	On* Off Choose if the Display should blink if there is no DMX signal received.
Flip Display	Flip Display	Auto* Off Choose if the display should be turned around
		On
Temperature Unit	Celsius* Fahrenheit	Choose the unit the temperature is displayed
Lock	*Off On	Enable the Lock Function of the device
	Set password	**** ****    Set a password for the device
Boot mode	Select Mode	Auto * DMX Static Program Select what the device should do when starting up. Auto means device does the last thing before cutting power off.
	DMX High Priority	On* / Off If enabled, the DMX signal always takes priority, no matter which boot up mode is chosen
	IR Priority	Off* / On Enable if you want to use the IR remote, even if a DMX signal is received

Stand- Alone	Test Sequence	Run / Cancel*	Runs a test program with all colours and all single LEDs		
	Master / Slave	Alone*	Choose Master to send out all 3 internal programs to the DMX line if you run any program		
		Master	Slave 1*	Choose Slave 1 to replay the first program sent by a Master device. Slave 2 plays Program 2, Slave 3 plays Program 3	
		Slave	Slave 2		
		Slave 3			
	Static Mode	Color Wheel		Set a static color & Pattern. Dimmer & Shutter are @255 as standard, all other values @0	
		Red			
		Green			
		Blue			
		White			
Shutter		0 - 255			
Dimmer					
Reset All		Yes	Set all values in static to default values (Dimmer & Shutter @255, all other values @000)		
		No			
Program Edit	Program 1	Prog1 Steps	Select Step	01-30	For detailed information see chapter <a href="#">Program Mode</a> on page <a href="#">13</a>
			Capture DMX	Yes* / Cancel	
			Color Wheel		
			Red		
			Green		
			Blue	0-255	
			White		
			Shutter		
			Dimmer		
			CTO		
Reset All	No* / Yes				
Hold Time	000-99				
Fade Time	000-99				
Program Play	Program 2 / 3	(See above)			
	Program 1 / 2 / 3	No* / Yes	For detailed information see chapter <a href="#">Program Mode</a> on page <a href="#">13</a>		
	Program All				
Program Reset	Program 1 / 2 / 3	No* / Yes			
	Program All	No* / Yes			



Service	Reset	Fixture Reset	Reset / Cancel*	Reset fixture like you do while rebooting	
	Calibration	Disabled*		Choose if you would like the most power out of the device	
		Enabled		Choose if you use different Ehrgeiz devices, so all are the same color	
		Customt	Red	0-255	Set the maximum level for each color
			Green	0-255	
Blue	0-255				
White	0-255				
W-DMX installed	No* / Yes		Choose whether a W-DMX Receiver / Transciever is installed or not (optional accessory)		
Factory Default	Load	No*/Yes	Set all settings back to factory default values except the "W-DMX installed" Option		
Information	Fixture time	Resettable	xxx Hours	Take a look at the working hours of the device or clear the resettable working hours.	
		Total	xxx Hours		
		Clear Resettable	Clear / Cancel		
	Fixture Temp.	Actual	xxx C / F	Take a look at the actual and maximum Temperature or clear the maximum value. Notice that device does not go back to default display view if temperature is shown.	
		Max	xxx C / F		
		Reset Max	Cancel*/Confirm		
Firmware version	x.x.x.x		Shows the installed firmware version		
Serial Number	xxxxxxxxx		Shows the Serial Number of this device		
Product ID	200161 Fusion 2		Shows the Product ID		

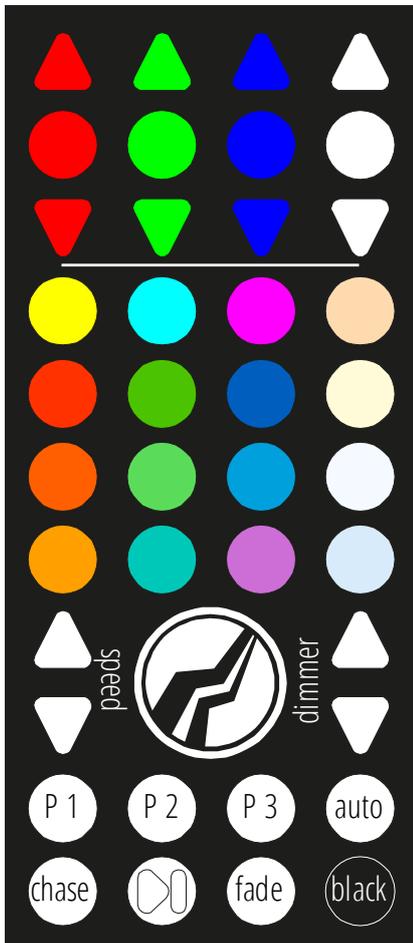
## Software updates

Your Fusion 2 can be updated via the DMX connection, so no need to open it.

If you experience an issue which could probably be solved by a Firmware Update, please contact your Ehrgeiz Dealer for further instructions.

## IR Control

The IR remote provides these functions:



Increase colour intensity

Colour 0% / Colour 100 %

Decrease colour intensity

Choose a color

Increase speed / intensity

Decrease speed / intensity

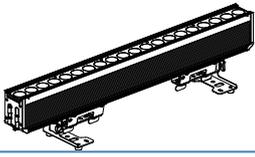
Choose an internal program

Choose if program does a chase or fade; Pause program; blackout

## Program Mode

You can choose AND Edit the 3 internal Programs.

A description will follow soon...



## DMX Modes

You can set up your Fusion 2 in 8 different DMX Modes:

### Standard

Page [15](#); Uses 12 DMX channels

### Advanced

Page [15](#); Uses 17 DMX channels

### Pattern

Page [16](#); Uses 27 DMX channels

### RGBW

Page [16](#); Uses 4 DMX channels

### Compressed

Page [17](#) Uses 6 DMX channels

### Pixel

Page [17](#) Uses 92 DMX channels

### Pixel RGBW

Page [18](#) Uses 80 DMX channels

### Pixel Dim

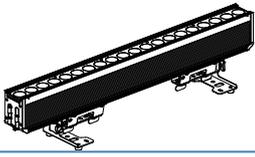
Page [18](#) Uses 32 DMX channels

## Standard

CH	Function
1	Colour Wheel (see Colourwheel channel chart)
2	Red
3	Green
4	Blue
5	White
6	Shutter effects (see Shutter effects channel chart)
7	Dimmer
8	CTO
9	Pattern
10	Pattern Speed
11	Pattern Fade
12	Control (see Control channel chart)

## Advanced

CH	Function
1	Colour Wheel (see Colourwheel channel chart)
2	Red
3	Red fine
4	Green
5	Green fine
6	Blue
7	Blue fine
8	White
9	White fine
10	Shutter effects (see Shutter effects channel chart)
11	Dimmer
12	Dimmer fine
13	CTO
14	Pattern
15	Pattern Speed
16	Pattern Fade
17	Control (see Control channel chart)



## Pattern

CH	Function
1	Colour Wheel (see Colourwheel channel chart)
2	Red
3	Green
4	Blue
5	White
6	Shutter effects (see Shutter effects channel chart)
7	Dimmer
8	CTO
9	Control (see Control channel chart)
10	Pattern 1
11	Pattern 1 Speed
12	Pattern 1 Fade
13	Pattern 1 Red
14	Pattern 1 Green
15	Pattern 1 Blue
16	Pattern 1 White
17	Pattern 1 Shutter
18	Pattern 1 Dimmer
19	Pattern 2
20	Pattern 2 Speed
21	Pattern 2 Fade
22	Pattern 2 Red
23	Pattern 2 Green
24	Pattern 2 Blue
25	Pattern 2 White
26	Pattern 2 Shutter
27	Pattern 2 Dimmer

## RGBW

CH	Function
1	Red
2	Green
3	Blue
4	White

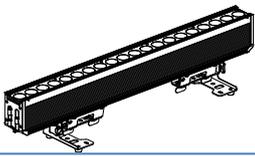
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 Compressed

CH	Function
1	Red
2	Green
3	Blue
4	White
5	Shutter effects (see Shutter effects channel chart)
6	Dimmer

## Pixel

CH	Function
1	Colour Wheel (see Colourwheel channel chart)
2	Red
3	Green
4	Blue
5	White
6	Shutter effects (see Shutter effects channel chart)
7	Dimmer
8	CTO
9	Pattern
10	Pattern Speed
11	Pattern fade
12	Control (see Control channel chart)
13	Red 1
14	Green 1
15	Blue 1
16	White 1
17	Red 2
18	Green 2
19	Blue 2
20	White 2
...	
89	Red 20
90	Green 20
91	Blue 20
92	White 20



## Pixel RGBW

CH	Function
1	Red 1
2	Green 1
3	Blue 1
4	White 1
5	Red 2
6	Green 2
7	Blue 2
8	White 2
...	
77	Red 20
78	Green 20
79	Blue 20
80	White 20

## Pixel Dim

CH	Function
1	Colour Wheel (see Colourwheel channel chart)
2	Red
3	Green
4	Blue
5	White
6	Shutter effects (see Shutter effects channel chart)
7	Dimmer
8	CTO
9	Pattern
10	Pattern Speed
11	Pattern Fade
12	Control (see Control channel chart)
13	Dimmer 1
14	Dimmer 2
...	
32	Dimmer 20

## Services

### Trouble Shooting

Problem	Cause	Solution
Display does not light up	Device not powered	Supply the device with power like in the specification
	Power Cable defective	Exchange the Power Cable
	Display defective	Contact your distributor for repair
	Main PCB defective	
Fixture does not respond to DMX signal	PSU defective	
	DMX Cable defective	Exchange the DMX Cable
	DMX Cable too long / bad quality	Exchange the DMX Cable to a cable in specification
	Wrong DMX Address	Change the DMX Address
	Wrong DMX Mode	Change the DMX Mode
	Fault on Data Link	Check which device causes the fault
	DMX Signal not in Specification	Only use a DMX Controller which sends a Signal which is compatible to DMX512-A like specified in USITT 1990 or DIN 56930-2
W-DMX turned on	Turn off the W-DMX so the device can receive the wired DMX signal	
No light output	Device does not receive a DMX signal	See "Fixture does not respond to DMX signal"
	Device is too hot	Wait until the light is cooled down Do not use the light in conditions with an ambient temperature above 40° Celsius
	Device is defective	Contact your Ehrgeiz distributor for repair

### Maintenance

There are no user-serviceable parts inside your Fusion 2. If problems occur, contact your Ehrgeiz dealer or a qualified Ehrgeiz Service technician.

Use a slightly moist and smooth cloth to clean the device. Do not use any aggressive detergents.

We are sure you will have a sophisticated experience with your Fusion 2.

## Appendix

### Specifications

#### Light Source

- 20 x 15W Osram® RGBW LEDs
- LED Life Expectancy: approx. 20.000 hours

#### Optical System

- ConsistentColor™ Optics
- Beam angle 6°

#### Functions

- RGBW, 8 bit or 16 bit color mixing
- SteadyColor™ Dimming
- Seamless CTO
- Virtual color wheel with 39 colours including whites (2.700 K, 3.200 K, 4.200 K, 5.600 K, 7.200 K and 8.000 K)
- all 20 LEDs controllable individually
- Pattern effects with variable speed and fade time
- High resolution dimmer 0–100%
- Selectable dimming curves
- Strobe with variable speed (max. 20 Hz)
- Pre-programmed random strobe & pulse effects

#### Thermal

- Maximum ambient temperature: 40 ° C (113 ° F)
- Convection cooled

#### Control and programming

- Setup and addressing via OLED display with 4 buttons
- Protocol: USITT DMX-512
- Control channels: 4, 6, 12, 17, 27, 32, 80, 92
- 8 DMX protocol modes
- Stand-alone mode
- Wireless DMX optional
- RDM
- DMX In/Out: XLR 5 pin (IP65)
- Power In/Out: Neutrik powerCON TRUE1

#### Electrical Specification

- Electronic auto-sensing switching power supply
- Input voltage: 100–240V AC, 50-60 Hz
- Max. power consumption: 330 W

#### Rigging

- 2 x Hole for M10 bolt
- 2 x Omega Bracket (optional accessory)
- Mount for safety wires
- 2 x stand with manual horizontal tilt
- Vertical Stand foot Adapter (optional accessory)
- Vertical hanging Adapter (optional accessory)
- Vertical Connection via quick-release pin

#### Mechanical Specification

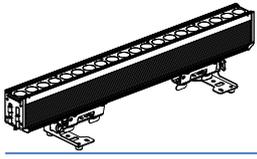
- IP65 rating
- Height including bracket: 231 mm (9.09")
- Height without bracket: 181 mm (7.12")
- Width: 90 mm (3.54")
- Depth: 1006 mm (39.60")
- Weight: 12.5 kg (27.55 lbs)

#### Included accessories

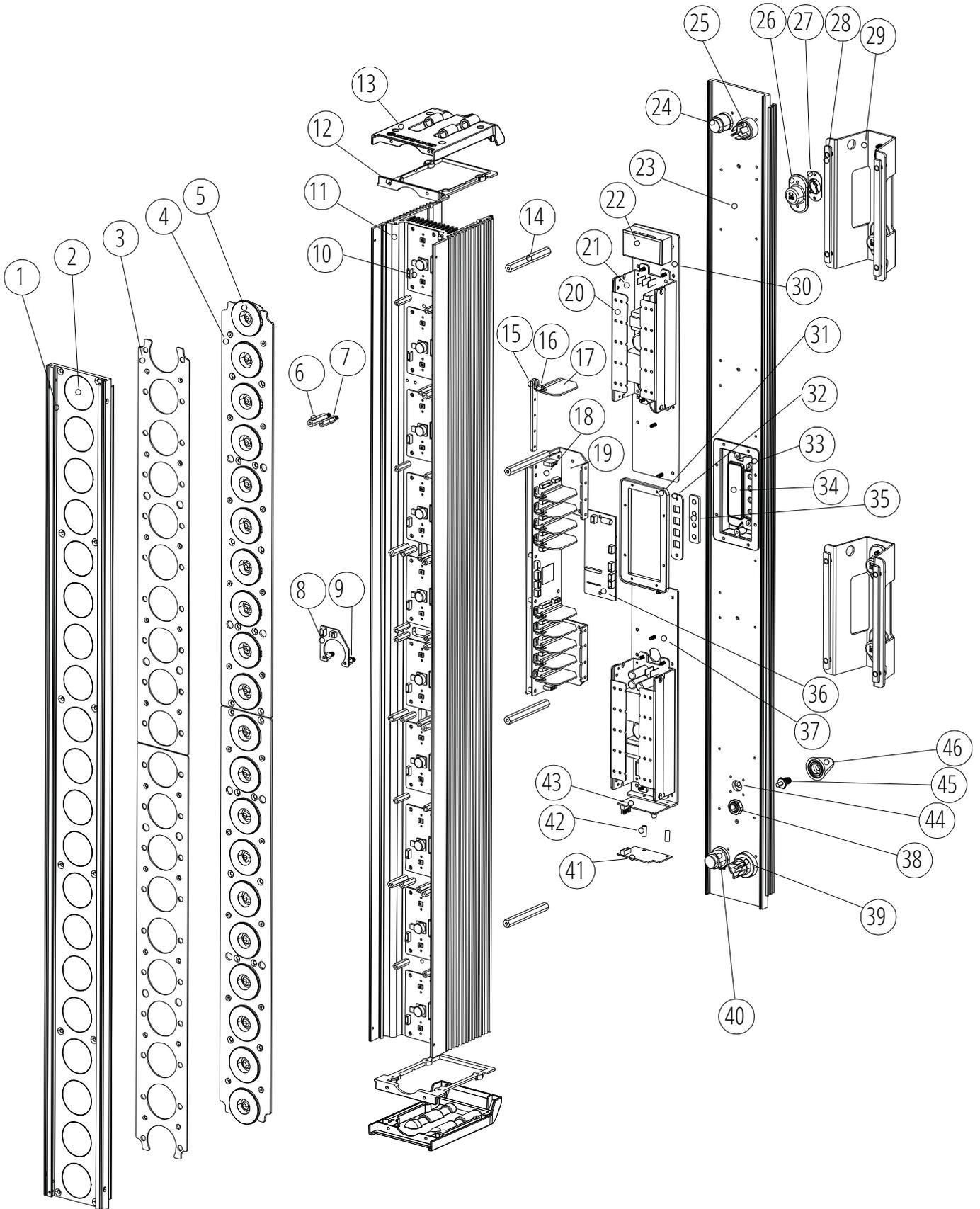
- powerCON TRUE1® / Schuko Input cable
- Glare Shield
- Tilt Brackets with fast locks
- Quick Release Pins

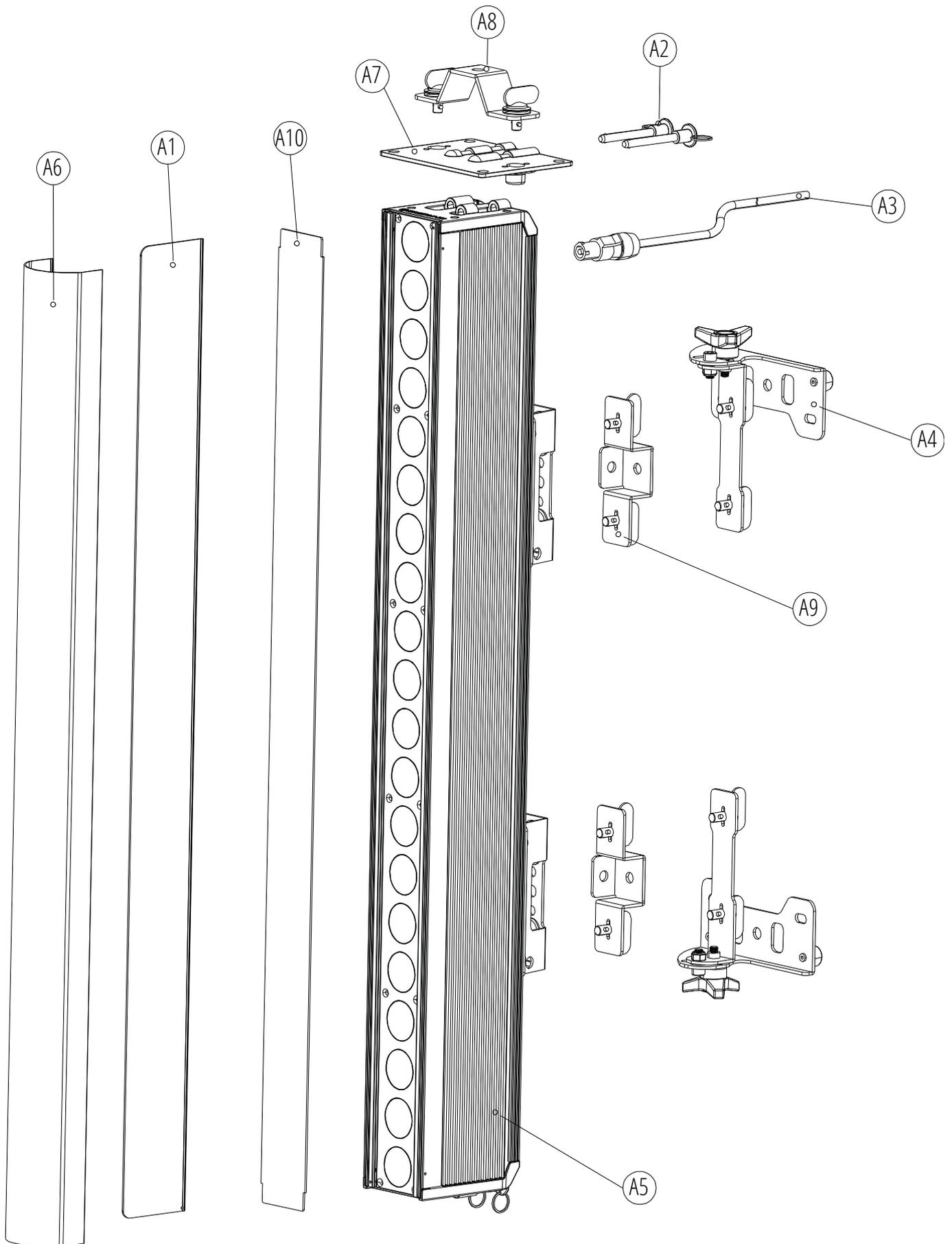
#### Optional accessories

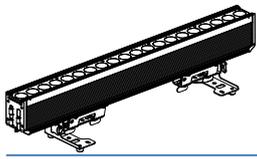
- Vertical Installation Adapter (hanging or standing) incl. Omega Bracket
- Omega bracket (set of 2)
- Diffusion Filter (20° / 40° / 60° / asymmetric 10x60° / Wall wash filter)



### Exploded drawing



**Exploded drawing accessory**



## Spareparts

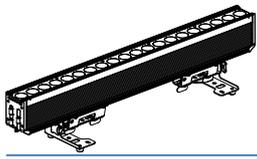
#	article code	description	amount
1	200187	front plate	1
2	200188	lens plate	20
3	200189	lens holder front	2
4	200191	lens holder back	2
5	200190	lens 6°	20
6	200192	distance bolt front plate	8
7	200193	distance bolt lens holder	20
8	200327	IR PCB	1
9	200328	distance bolt IR PCB	2
10	200216	LED PCB	10
11	200217	housing / heatsink	1
12	200194	sealing for side plate	2
13	200195	side plate	2
14	200196	distance bolt back plate	4
15	200329	bracket for driver PCB mount	2
16	200214	bracket for driver PCB	10
17	200212	driver PCB	10
18	200215	main PCB	1
19	200211	Mounting Plate for Main PCB	1
20	200197	cable guide PSU	4
21	200198	PSU	2
22	200199	terminal block	1
23	200201	back plate	1
24	200203	chassis connector 5pin XLR male IP65	1
25	200202	powerCON TRUE1 Power-In	1
26	200330	plastic cover 1/4 Turn fast lock mount	4
27	200331	1/4 Turn fast lock mount	4
28	200332	sliding bracket mount	4
29	200267	sliding bracket (set of 2)	2
30	200200	mounting plate psu & terminal block	1

#	article code	description	amount
31	200335	Display mounting plate	1
32	200206	button mounting plate	1
33	200204	silicone gasket for display	1
34	200205	display cover	1
35	200333	button silicone cover	1
36	200207	display pcb	1
37	200213	mounting plate PSU & W-DMX	1
38	200208	membrane	1
39	200210	powerCON TRUE1 Power-Out	1
40	200209	chassis connector 5pin XLR female IP65	1
41	200263	W-DMX Nano Transceiver	1*
42	200334	distant bolt W-DMX mount	2*
43	200264	W-DMX Support Bracket	1*
44	200265	W-DMX bracket for Antenna mounting	1*
45	114200	Antenna Cable	1*
46	114465	Antenna Cone IP65	1*
A1	200220	Glare Shield	1
A2	200260	ball lock pin	2
A3	200252	Powercable TRUE1 - Schuko	1
A4	20336	Standfoot with Tilt Function (Set of 2)	1
A5	200161	LED Fusion 2 RGBW 20x15W	1
A6	200251	Diffusor filter Black Tube	1
A7	200271	Vertical Adapter Plate (w/o Omega Bracket)	1
A8	200272	Omega Bracket for Vertical Adapter	1
A9	106599	Omega bracket	2
A10	200174	Diffusion filter 40° for Fusion2	1
A10	200175	Diffusion filter 20° for Fusion2	1
A10	200176	Diffusion filter 60° for Fusion2	1
A10	200177	Diffusion filter 60x10° asym. for Fusion2	1

\*only for W-DMX Upgrade!

## Colourwheel channel chart

Value	Function	Value	Function
0 - 5	No Function / RGBW Colour mixing	<b>Colourwheel rotation effects</b>	
6 - 10	LEE 790-Moroccan Pink	171 - 185	Coulourwheel rotation forward (fast - slow)
11 - 15	LEE 157-Pink	186 - 190	Coulourwheel rotation stop
16 - 20	LEE 332-Special Rose Pink	191 - 205	Coulourwheel rotation backward (fast - slow)
21 - 25	LEE 328-Follies Pink	206 - 210	Coulourwheel rotation stop
26 - 30	LEE 345-Fuchsia Pink	<b>Random colours</b>	
31 - 35	LEE 194-Surprise Pink	211 - 225	Fast – slow
36 - 40	LEE 181-Congo Blue	<b>White hue</b>	
41 - 45	LEE 071-Tokyo Blue	226 - 230	Tungsten Simulation
46 - 50	LEE 120-Deep Blue	231 - 235	Warmwhite - 3200K
51 - 55	LEE 079-Just Blue	236 - 240	Neutralwhite - 4200K
56 - 60	LEE 132-Medium Blue	241 - 245	Coldwhite - 5600K
61 - 65	LEE 200-Double CT Blue	246 - 250	Coldwhite - 7200K
66 - 70	LEE 161-Slate Blue	251 - 255	Coldwhite - 8000K
71 - 75	LEE 201-Full CT Blue		
76 - 80	LEE 202-Half CT Blue		
81 - 85	LEE 117-Steel Blue		
86 - 90	LEE 353-Lighter Blue		
91 - 95	LEE 118-Light Blue		
96 - 100	LEE 116-Medium Blue Green		
101 - 105	LEE 124-Dark Green		
106 - 110	LEE 139-Primary Green		
111 - 115	LEE 089-Moss Green		
116 - 120	LEE 122-Fern Green		
121 - 125	LEE 738-JAS Green		
126 - 130	LEE 088-Lime Green		
131 - 135	LEE 100-Spring Yellow		
136 - 140	LEE 104-Deep Amber		
141 - 145	LEE 179-Chrome Orange		
146 - 150	LEE 105-Orange		
151 - 155	LEE 021-Gold Amber		
156 - 160	LEE 778-Mellennium Gold		
161 - 165	LEE 135-Deep Golden Amber		
166 - 170	LEE 164-Flame Red		



### Control channel chart

Value	Function	Value	Function
0 - 55	Reserved	181 - 185	Fixture Reset
56 - 60	Dimmer Speed: Smooth	186 - 190	Factory default (except DMX Address & Mode)
61 - 65	Dimmer Speed: Fast	191 - 230	Reserved
66 - 70	Reserved	231 - 235	Boot Mode: Auto
71 - 75	Dimmer Curve: Linear	236 - 240	Boot Mode: DMX
76 - 80	Dimmer Curve: Theatrical	241 - 245	Boot Mode: Program Play
81 - 85	Dimmer Curve: Sqaure Law	246 - 250	Boot Mode: Static
86 - 90	Dimmer Curve: Inverse Sqaure Law	251 - 255	Reserved
91 - 95	Reserved		
96 - 100	No DMX: Hold		
101 - 105	No DMX: Shutter Closed		
106 - 110	No DMX: Play Program 1		
111 - 115	Reserved		
116 - 120	Display Backlight: On		
121 - 125	Display Backlight: Off		
126 - 140	Reserved		
141 - 145	DMX Mode: Standard		
146 - 150	DMX Mode: Advanced		
151 - 155	DMX Mode: Pattern		
156 - 160	DMX Mode: Pixel		
161 - 165	DMX Mode: Compressed Pixel		
166 - 170	DMX Mode: Pixel Dim		
171 - 180	Reserved		

### Shutter channel chart

Value	Function
0 - 15	Shutter Closed
16 - 47	Random Strobe (slow - fast)
48 - 79	Ramp Up (slow - fast)
80 - 111	Ramp Down (slow - fast)
112 - 143	Ramp UP & down (slow - fast)
144 - 199	Strobe Pause 5s - 1s (slow - fast)
200 - 239	Strobe 1Hz - 20 Hz (slow - fast)
240 - 255	Shutter Open

Pattern channel chart

Your Fusion 2 has static as well as animated patterns.

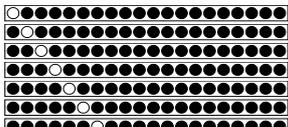
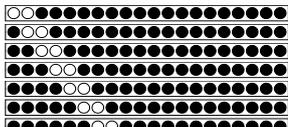
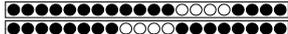
Static Patterns

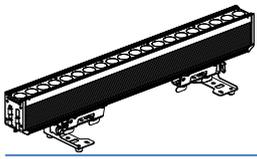
Value	Pattern
000 – 005	
006	
007	
008	
009	
010	
011	
012	
013	
014	
015	
016	
017	
018	
019	
020	
021	
022	
023	
024	
025	
026	

Value	Pattern
027	
028	
029	
030	
031	
032	
033	
034	
035	
036	
037	
038	
039	
040	
041	
042	
043	
044	
045	



Appendix → Pattern channel chart

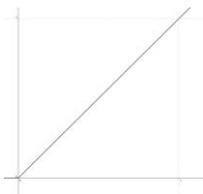
Value	Pattern	Value	Pattern	Value	Pattern
080 /		092 /		120 /	
081 /		093 /		121 /	
082 /		094 /		122 /	
083		095		123	
084 /		096 /		124 /	
085 /		097 /		125 /	
086 /		098 /		126 /	
087		099		127	
088 /		100 /		128 /	
089 /		101 /		129 /	
090 /		102 /		130 /	
091		103		131	
		104 /		132 /	
		105 /		133 /	
		106 /		134 /	
		107		135	
		108 /		136 /	
		109 /		137 /	
		110 /		138 /	
		111		139	
		112 /			
		113 /			
		114 /			
		115			
		116 /			
		117 /			
		118 /			
		119			



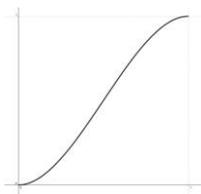
## Appendix → Dimmer Curves

Value	Pattern	Value	Pattern	Value	Pattern
140 /		144 /		152 /	
141 /		145 /		153	
142 /		146 /		154 /	
143		147		155	
		148 /		Random Animations: (Second Value means inverted)	
		149 /		156 /	Random 1 Pixel
		150 /		157	Random 2 Pixels
		151		158 /	Random 3 Pixels
				159	Random 4 Pixels
				160 /	Random 5 Pixels
				161	Random 6 Pixels
				162 /	Random 7 Pixels
				163	Random 8 Pixels
				164 /	Random 9 Pixels
				165	
				166 /	
				167	
				168 /	
				169	
				170 /	
				171	
				172 /	
				173	

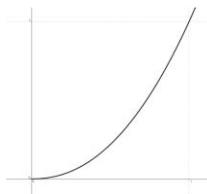
### Dimmer Curves



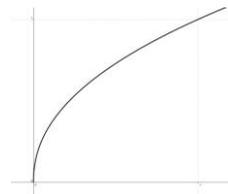
Linear



Theatrical



Square



Inverse square



Ehrgeiz Lichttechnik GmbH  
Im Stöckmädle 27  
D- 76307 Karlsbad - Germany

Tel.: +49 7248 947 90 10  
Fax: +49 7248 947 90 12  
Web: [www.ehrgeiz.com](http://www.ehrgeiz.com)