DMX REFERENCE

Led Strobe 1000

Jolt Panel FX

Cems



Manufacturer	Cems
GDTF file	Cems_Led_Strobe_1000_70418.gdtf
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1 About this manual

This document describes the Jolt Panel FX by Cems. It was compiled from the GDTF file Cems_Led_Strobe_1000_70418.gdtf from the GDTF-Share library.

File revision: “2023-10-07 First Release, Uploaded to GDTF Share.”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Cems; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Weight	4.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
13ch	13	39	1, 14, 27, 40, ...
32ch	32	16	1, 33, 65, 97, ...

No light? Check these channels

- 13ch: CH 8 Strobe at 0–2 “Open”


Read the manual before use


Do not stare into the light


Indoor use only

3 Safety instructions



Read the manual before use



Do not stare into the light



Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

⚠ CAUTION

- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

4 Product description

Description in the GDTF file

“The ADJ Jolt Panel FX is an innovative multi-use strobe / eye candy fixture. It is equipped with 800 0.3W RGB SMD LED for color strobing and eye candy effects, and 48 5W white SMD LED located in the center of fixture to create the traditional look of a strobe. Zone chasing control provides an eye candy effect

when used together with the white LEDs. The Jolt Panel FX's massive light output is specifically designed for large stages, nightclubs, live events and touring."

"The rear panel has conveniently located connections 5-pin DMX in/out connections along with locking power in/out to daisy chain power. There is also a USB input that allows uses a fast and convenient way to update firmware. There are also hole to connect an omega bracket to the Jolt Panel FX."

"The Jolt Panel FX offers users an easy way to navigate the built-in features from a LCD display with a 4-button menu system. The display allows users to change dimming modes, dimming speed, programs, color macros, LED refresh rate, gamma settings and DMX channel modes."

"A scissor yoke, and an omega bracket come with the fixture so the it can be attached to a clamp and hung on truss."

5 Installation

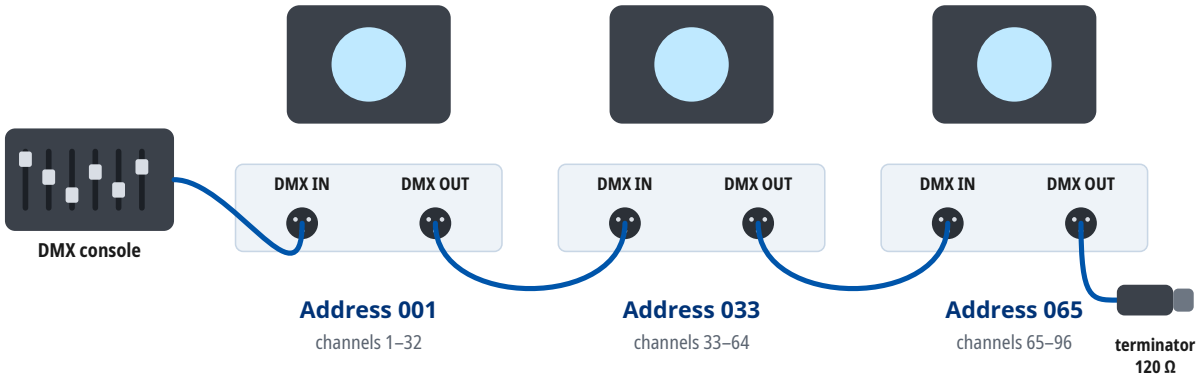
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 4.75 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode 32ch: every unit occupies 32 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “32ch”: 32.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “32ch”, you can use, for example, the start addresses 1, 33, 65, 97.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

Functions in each DMX mode

	13ch 13 channels	32ch 32 channels
Dimmer	4, 6	
Shutter / strobe	9, 10	
Color mixing	1–3	1–32
Color wheel	5	
Effects / macros	11–13	
Pixel control		8 + 8 cells

Color wheel


1
Open
2
Color Macro 1
3
Color Macro 2
4
Color Macro 3
5
Color Macro 4
6
Color Macro 5
7
Color Macro 6
8
Color Macro 7
9
Color Macro 8
10
Color Macro 9
11
Color Macro 10
12
Color Macro 11
13
Color Macro 12
14
Color Macro 13
15
Color Macro 14
16
Color Macro 15
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Color Macro 16
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Color Macro 17
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Color Macro 18
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Color Macro 19
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Color Macro 20
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Color Macro 21
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Color Macro 22
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Color Macro 23
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Color Macro 24
26
Color Macro 25
27
Color Macro 26
28
Color Macro 27
29
Color Macro 28
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Color Macro 29
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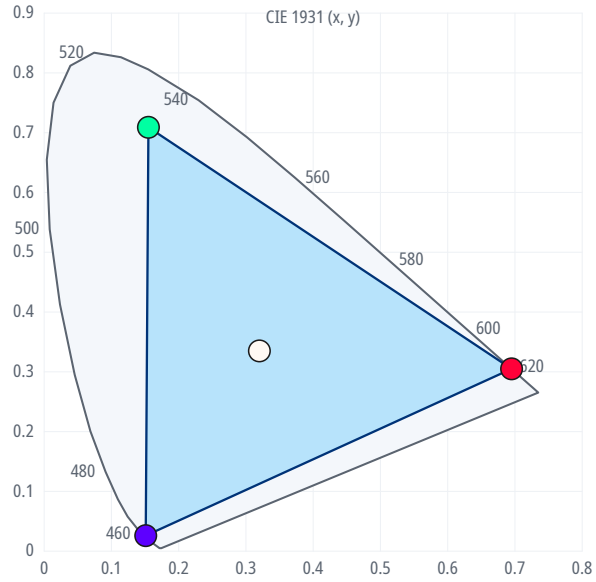
Color Macro 30
32
Color Macro 31
33
Color Macro 32
34
Color Macro 33

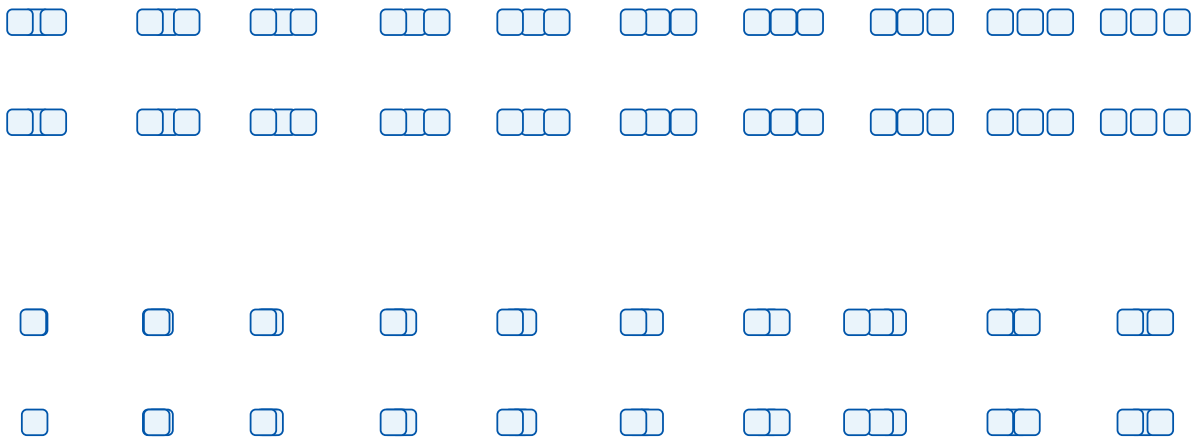
LED colors and the colors they mix



LED	x	y	nm
White Strobe	0.320	0.335	
Red	0.695	0.305	620
Green	0.155	0.709	515
Blue	0.151	0.026	460

The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

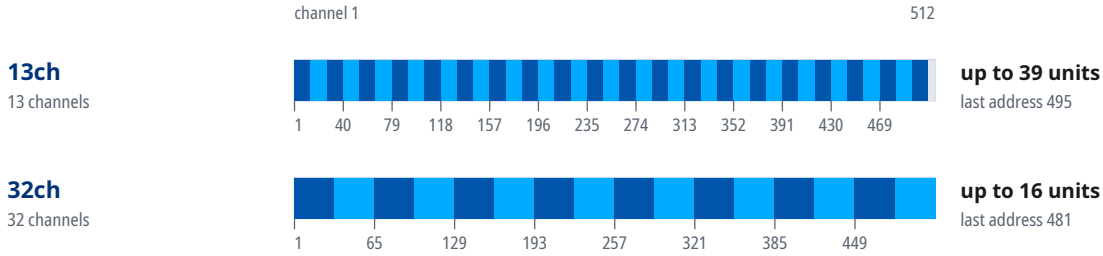
Cells (pixels)



Cells where the GDTF file places them (seen from above), 117 in all in the mode “32ch ”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “32ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	161	11	321	16	481
2	33	7	193	12	353	17	U2 · 1
3	65	8	225	13	385	18	U2 · 33
4	97	9	257	14	417	19	U2 · 65
5	129	10	289	15	449	20	U2 · 97

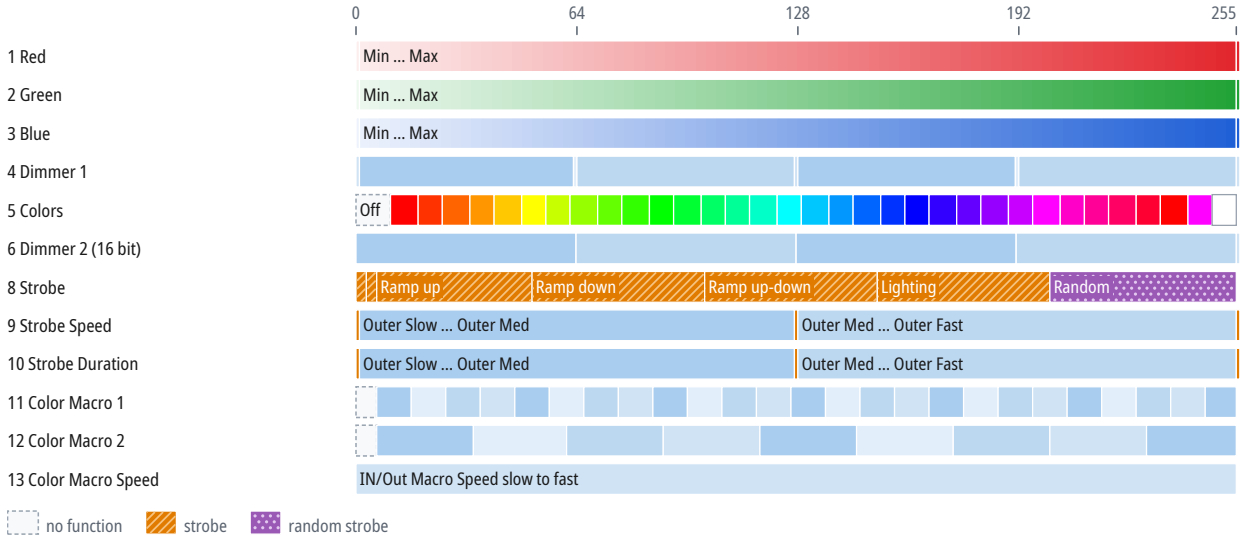
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 13ch

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 8 Strobe at 0–2 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 Dimmer 1 255, CH 6 Dimmer 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0	Min
		1–254	Min ... Max
		255	Max
2	Green	0	Min
		1–254	Min ... Max
		255	Max
3	Blue	0	Min
		1–254	Min ... Max
		255	Max
4	Dimmer 1		Inner Dimmer
		0	Inner 0 percent
		1–62	Inner 0 percent ... Inner 25 percent
		63	Inner 25 percent
		64–126	Inner 25 percent ... Inner 50 percent
		127	Inner 50 percent
		128–190	Inner 50 percent ... Inner 75 percent
		191	Inner 75 percent
		192–254	Inner 75 percent ... Inner 100 percent
		255	Inner 100 percent
5	Colors		Color Macros
		0–9	Off
		10–17	Color Macro 1
		18–24	Color Macro 2
		25–32	Color Macro 3
		33–39	Color Macro 4
		40–47	Color Macro 5
		48–54	Color Macro 6
		55–61	Color Macro 7
		62–69	Color Macro 8
		70–76	Color Macro 9
		77–84	Color Macro 10
		85–91	Color Macro 11
		92–99	Color Macro 12
		100–106	Color Macro 13
		107–113	Color Macro 14
		114–121	Color Macro 15
		122–128	Color Macron16
		129–136	Color Macro 17
		137–143	Color Macro 18
		144–151	Color Macro 19

CH	Function	DMX	Description
5	Colors (continued)	152–158	Color Macro 20
		159–165	Color Macro 21
		166–173	Color Macro 22
		174–180	Color Macro 23
		181–188	Color Macro 24
		189–195	Color Macro 25
		196–203	Color Macro 26
		204–210	Color Macro 27
		211–217	Color Macro 28
		218–225	Color Macro 29
		226–232	Color Macro 30
		233–240	Color Macro 31
		241–247	Color Macro 32
		248–255	Color Macro 33
6	Dimmer 2		Outer Dimmer
		0–63	Outer 0 percent ... Outer 25 percent
		63	Outer 25 percent
		64–127	Outer 25 percent ... Outer 50 percent
		127	Outer 50 percent
		128–191	Outer 50 percent ... Outer 75 percent
		191	Outer 75 percent
		192–255	Outer 75 percent ... Outer 100 percent
		255	Outer 100 percent
7	Dimmer 2 Fine	0–255	Fine adjustment of CH 6
8	Strobe		Outer Strobe Mode
		0–2	Open
		3–5	Strobe
		6–50	Ramp up
		51–100	Ramp down
		101–150	Ramp up-down
		151–200	Lighting
		201–255	Random
9	Strobe Speed		Outer Strobe Rate
		0	Outer Slow
		1–126	Outer Slow ... Outer Med
		127	Outer Med
		128–254	Outer Med ... Outer Fast
		255	Outer Fast
10	Strobe Duration		Outer Strobe Duration
		0	Outer Slow
		1–126	Outer Slow ... Outer Med

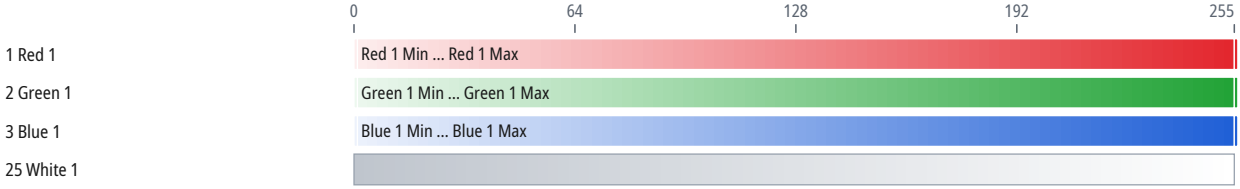
CH	Function	DMX	Description
10	Strobe Duration (continued)	127	Outer Med
		128–254	Outer Med ... Outer Fast
		255	Outer Fast
11	Color Macro 1		Outer Program Macro
		0–5	Off
		6–15	Program Macro 1
		16–25	Program Macro 2
		26–35	Program Macro 3
		36–45	Program Macro 4
		46–55	Program Macro 5
		56–65	Program Macro 6
		66–75	Program Macro 7
		76–85	Program Macro 8
		86–95	Program Macro 9
		96–105	Program Macro 10
		106–115	Program Macro 11
		116–125	Program Macro 12
		126–135	Program Macro 13
		136–145	Program Macro 14
		146–155	Program Macro 15
		156–165	Program Macro 16
		166–175	Program Macro 17
		176–185	Program Macro 18
		186–195	Program Macro 19
		196–205	Program Macro 20
		206–215	Program Macro 21
		216–225	Program Macro 22
		226–235	Program Macro 23
		236–245	Program Macro 24
		246–255	Program Macro 25
12	Color Macro 2		Inner Program Macro
		0–5	No function
		6–33	Inner Macro1
		34–60	Inner Macro2
		61–88	Inner Macro3
		89–116	Inner Macro4
		117–144	Inner Macro5
		145–172	Inner Macro6
		173–200	Inner Macro7
		201–228	Inner Macro8

CH	Function	DMX	Description
12	Color Macro 2 (continued)	229–255	Inner Macro9
13	Color Macro Speed		IN/Out Program Macro Speed
		0–255	IN/Out Macro Speed slow to fast

Mode 32ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells), CH 25 White 255 (the same in each of the 8 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0	Red 1 Min
		1–254	Red 1 Min ... Red 1 Max
		255	Red 1 Max
2	Green 1	0	Green 1 Min
		1–254	Green 1 Min ... Green 1 Max
		255	Green 1 Max
3	Blue 1	0	Blue 1 Min
		1–254	Blue 1 Min ... Blue 1 Max
		255	Blue 1 Max
25	White 1	0–255	

CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

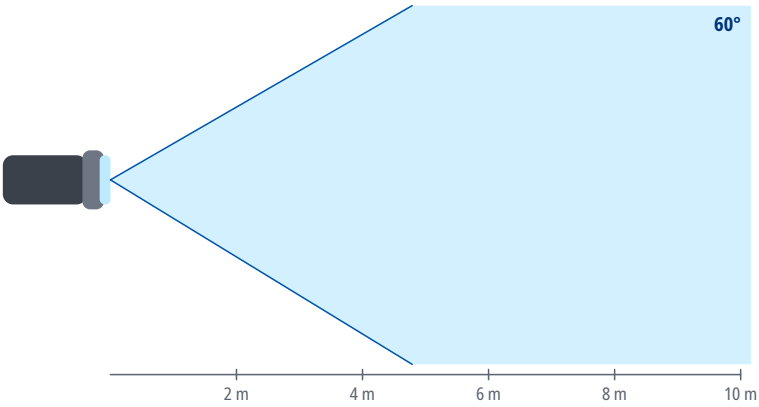
CH 25–32: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 25); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	25	2	26	3	27	4	28	5	29	6	30
7	31	8	32								

10 Technical specifications

Parameter	Value
Light source	LED
RDM	yes (manufacturer ID 0x1900, device model ID 0x1FDC)
Weight	4.8 kg
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 60°
2 m	2.3 m
4 m	4.6 m
6 m	6.9 m
8 m	9.2 m
10 m	11.5 m
15 m	17.3 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.