DMX REFERENCE

CLPFLAT1RGBWIR LED Flat PAR RGBW

LED Flat PAR RGBW Utra-Compact 7X4 W RGBW Flat PAR Light

Cameo



Manufacturer	Cameo
GDTF file	Cameo_CLPFLAT1RGBWIR_LED_Flat_PAR_RGBW_35528.gdtf
GDTF revision	Final v2 · 2023-02-26
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1 About this manual

This document describes the LED Flat PAR RGBW Utra-Compact 7X4 W RGBW Flat PAR Light by Cameo. It was compiled from the GDTF file Cameo_CLPFLAT1RGBWIR_LED_Flat_PAR_RGBW_35528.gdtf from the GDTF-Share library.

File revision: “Final v2”.

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 Cameo; 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	1.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
2-CH Mode	2	256	1, 3, 5, 7, ...
3-CH Mode 1	3	170	1, 4, 7, 10, ...
3-CH Mode 2	3	170	1, 4, 7, 10, ...
3-CH Mode 3	3	170	1, 4, 7, 10, ...
4-CH Mode	4	128	1, 5, 9, 13, ...
8-CH Mode	8	64	1, 9, 17, 25, ...

No light? Check these channels

- 2-CH Mode: CH 1 Dimmer above 0
- 3-CH Mode 1: CH 1 Dimmer above 0
- 3-CH Mode 3: CH 1 Dimmer above 0
- 8-CH Mode: CH 1 Dimmer above 0



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

“CONTROL FUNCTIONS 2-channel, 3-channel 1, 3-channel 2, 3-channel 3, 4-channel, 8-channel DMX control Control via optional infrared remote Master/slave mode Standalone Functions FEATURES 7 luminous 4W RGBW LEDs, standalone functions via the operating panel, master/slave functionality,

rugged, flat housing, silent operation through convection cooling, long-life LEDs with a particularly long service life, double bracket, control via an infrared remote control (optional), housing colour black or white, operating voltage 100 V-240 V AC, Power Consumption 35 W OPERATION The Cameo FLAT1 RGBW IR is a DMX 512 controllable spotlight a”

5 Installation

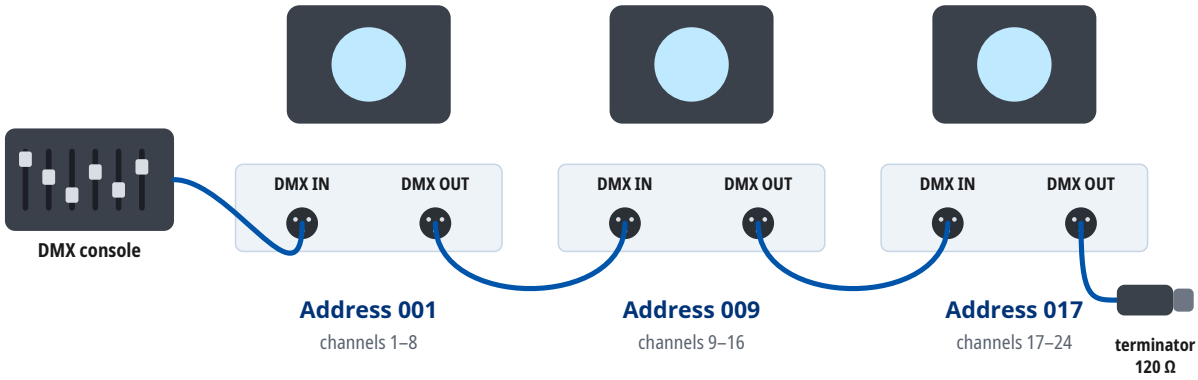
⚠ **WARNING**

- 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: 1.2 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 8-CH Mode: every unit occupies 8 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

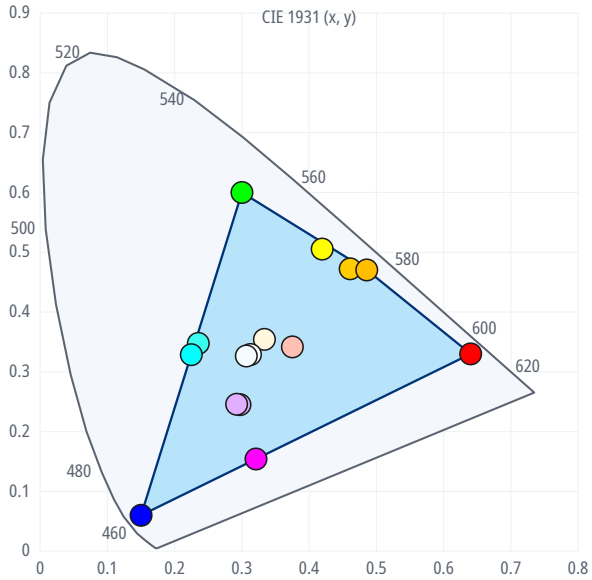
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “8-CH Mode”: 8.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “8-CH Mode”, you can use, for example, the start addresses 1, 9, 17, 25.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

	2-CH Mode 2 channels	3-CH Mode 1 3 channels	3-CH Mode 2 3 channels	3-CH Mode 3 3 channels	4-CH Mode 4 channels	8-CH Mode 8 channels
Dimmer	1	1		1		1
Shutter / strobe		2		2		2
Color mixing	2	3	1–3	3	1–3	3–5, 7
Effects / macros	2	3		3		7

LED colors and the colors they mix

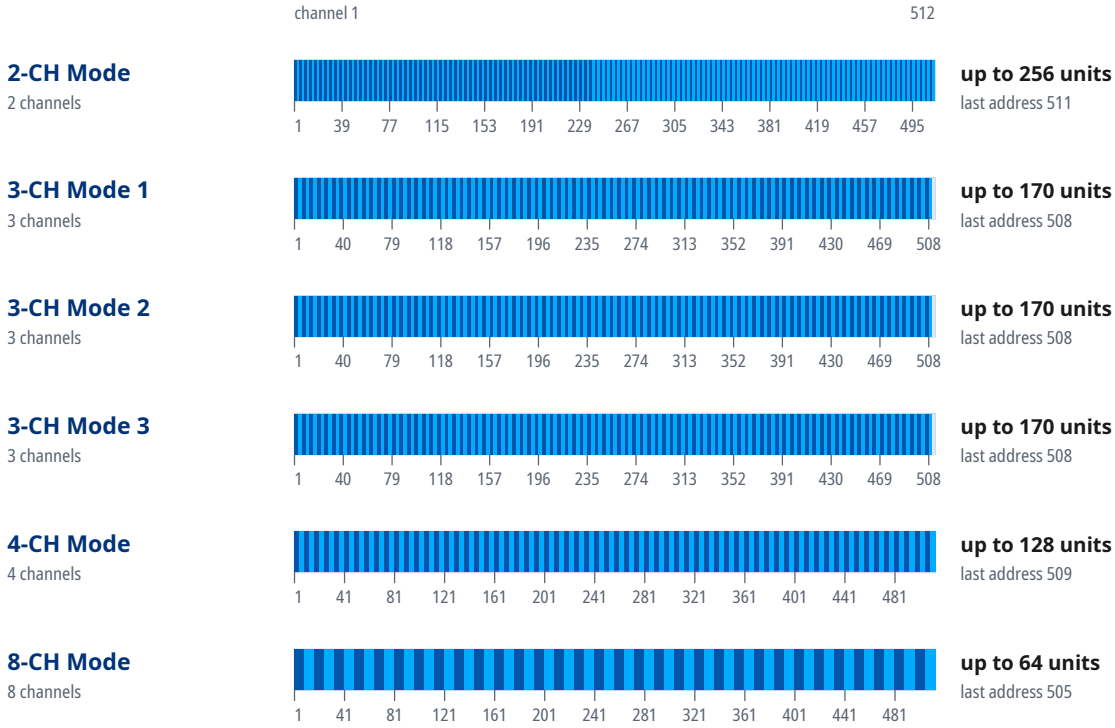


LED	x	y
Red	0.640	0.330
Amber	0.461	0.472
Yellow warm	0.486	0.470
Yellow	0.419	0.505
Green	0.300	0.600
Turquoise	0.235	0.348
Cyan	0.225	0.329
Blue	0.150	0.060
Lavender	0.297	0.245
Mauve	0.292	0.246
Magenta	0.321	0.154
Pink	0.375	0.342

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

9 DMX channels

Units in one DMX universe



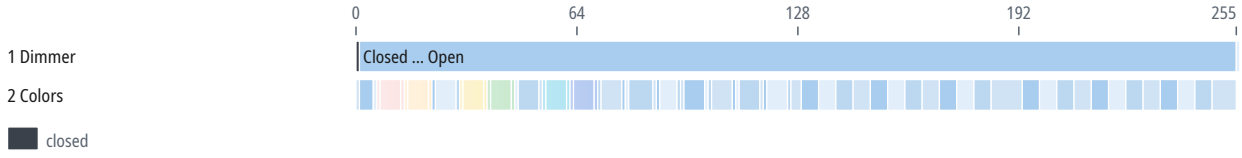
Start addresses of 20 units in the mode “8-CH Mode”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	41	11	81	16	121
2	9	7	49	12	89	17	129
3	17	8	57	13	97	18	137
4	25	9	65	14	105	19	145
5	33	10	73	15	113	20	153

Mode 2-CH Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Colors 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Master Dimmer
		0	Closed
		1–254	Closed ... Open
		255	Open

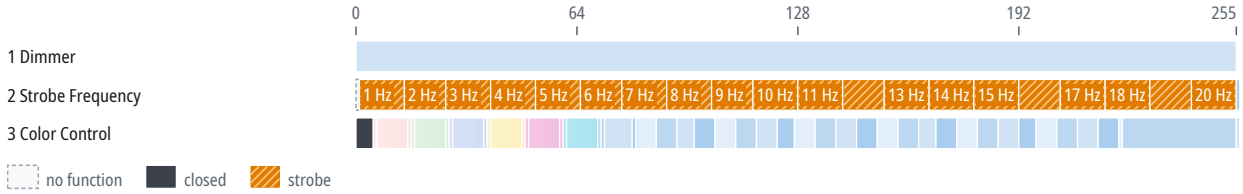
CH	Function	DMX	Description
2	Colors	0	Off: min
		1–4	Off: min … max
		5	Off: max
		6	Red: Min
		7–12	Red: Min … Max
		13	Red: Max
		14	Amber: Min
		15–20	Amber: Min … Max
		21	Amber: Max
		22	Yellow warm: min
		23–28	Yellow warm: min … max
		29	Yellow warm: max
		30	Yellow: Min
		31–36	Yellow: Min … Max
		37	Yellow: Max
		38	Green: Min
		39–44	Green: Min … Max
		45	Green: Max
		46	Turquoise: min
		47–52	Turquoise: min … max
		53	Turquoise: max
		54	Cyan: Min
		55–60	Cyan: Min … Max
		61	Cyan: Max
		62	Blue: Min
		63–68	Blue: Min … Max
		69	Blue: Max
		70	Lavender: min
		71–76	Lavender: min … max
		77	Lavender: max
		78	Mauve: MIN
		79–85	Mauve: MIN … MAX
		86	Mauve: MAX
		87	Magenta: MIN
		88–92	Magenta: MIN … MAX
		93	Magenta: MAX
		94	Pink: MIN
		95–100	Pink: MIN … MAX
		101	Pink: MAX
		102	Warm White: MAX
		103–108	Warm White: MAX … MIN
		109	Warm White: MIN

CH	Function	DMX	Description
2	Colors (continued)	110	White: MIN
		111–116	White: MIN ... MAX
		117	White: MAX
		118	Cold White: MIN
		119–124	Cold White: MIN ... MAX
		125	Cold White: MAX
		126–128	Colour Jumping Stop: STOP
		129–133	Colour Jumping Speed Slow -> fast /Colour 1 ->: 1 mode
		134–138	Colour Jumping Speed Slow -> fast /Colour 1 ->: 2 mode
		139–143	Colour Jumping Speed Slow -> fast /Colour 1 ->: 3 mode
		144–148	Colour Jumping Speed Slow -> fast /Colour 1 ->: 4 mode
		149–153	Colour Jumping Speed Slow -> fast /Colour 1 ->: 5 mode
		154–158	Colour Jumping Speed Slow -> fast /Colour 1 ->: 6 mode
		159–163	Colour Jumping Speed Slow -> fast /Colour 1 ->: 7 mode
		164–168	Colour Jumping Speed Slow -> fast /Colour 1 ->: 8 mode
		169–173	Colour Jumping Speed Slow -> fast /Colour 1 ->: 9 mode
		174–178	Colour Jumping Speed Slow -> fast /Colour 1 ->: 10 mode
		179–183	Colour Jumping Speed Slow -> fast /Colour 1 ->: 11 mode
		184–192	Colour Jumping Speed Slow -> fast /Colour 1 ->: 12 mode
		193–197	Colour Fading Speed Slow -> fast /Colour 1 ->: 1 mode
		198–202	Colour Fading Speed Slow -> fast /Colour 1 ->: 2 mode
		203–207	Colour Fading Speed Slow -> fast /Colour 1 ->: 3 mode
		208–212	Colour Fading Speed Slow -> fast /Colour 1 ->: 4 mode
		213–217	Colour Fading Speed Slow -> fast /Colour 1 ->: 5 mode
		218–222	Colour Fading Speed Slow -> fast /Colour 1 ->: 6 mode
		223–227	Colour Fading Speed Slow -> fast /Colour 1 ->: 7 mode
		228–232	Colour Fading Speed Slow -> fast /Colour 1 ->: 8 mode
		233–237	Colour Fading Speed Slow -> fast /Colour 1 ->: 9 mode
		238–242	Colour Fading Speed Slow -> fast /Colour 1 ->: 10 mode
		243–247	Colour Fading Speed Slow -> fast /Colour 1 ->: 11 mode
		248–255	Colour Fading Speed Slow -> fast /Colour 1 ->: 12 mode

Mode 3-CH Mode 1

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0.

Channel functions at a glance

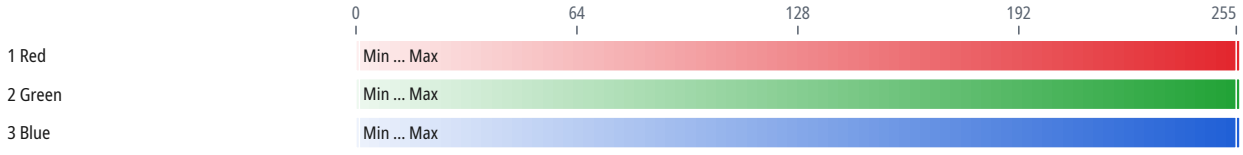


CH	Function	DMX	Description
1	Dimmer	0–255	
2	Strobe Frequency	0	No function
		1–13	1 Hz
		14–25	2 Hz
		26–38	3 Hz
		39–51	4 Hz
		52–64	5 Hz
		65–76	6 Hz
		77–89	7 Hz
		90–102	8 Hz
		103–114	9 Hz
		115–127	10 Hz
		128–140	11 Hz
		141–152	12 Hz
		153–165	13 Hz
		166–178	14 Hz
		179–191	15 Hz
		192–203	16 Hz
		204–216	17 Hz
		217–229	18 Hz
		230–241	19 Hz
		242–254	20 Hz
		255	Stroboscope (speed 0- 100% 1 Hz- 20 Hz)
3	Color Control	0–4	Blackout
		5	Red: Min
		6–14	Red: Min ... Max
		15	Red: Max
		16	Green: Min
		17–25	Green: Min ... Max
		26	Green: Max
		27	Blue: Min
		28–36	Blue: Min ... Max
		37	Blue: Max
		38	Yellow: Min
		39–47	Yellow: Min ... Max
		48	Yellow: Max
		49	Magenta: Min
		50–58	Magenta: Min ... Max
		59	Magenta: Max
		60	Cyan: Min
		61–69	Cyan: Min ... Max

CH	Function	DMX	Description
3	Color Control (continued)	70	Cyan: Max
		71	White: MIN
		72–79	White: MIN ... MAX
		80	White: MAX
		81–86	Colour Jumping Speed Slow -> fast /Colour 1 ->: 1 mode
		87–92	Colour Jumping Speed Slow -> fast /Colour 1 ->: 2 mode
		93–97	Colour Jumping Speed Slow -> fast /Colour 1 ->: 3 mode
		98–103	Colour Jumping Speed Slow -> fast /Colour 1 ->: 4 mode
		104–109	Colour Jumping Speed Slow -> fast /Colour 1 ->: 5 mode
		110–115	Colour Jumping Speed Slow -> fast /Colour 1 ->: 6 mode
		116–121	Colour Jumping Speed Slow -> fast /Colour 1 ->: 7 mode
		122–126	Colour Jumping Speed Slow -> fast /Colour 1 ->: 8 mode
		127–132	Colour Jumping Speed Slow -> fast /Colour 1 ->: 9 mode
		133–138	Colour Jumping Speed Slow -> fast /Colour 1 ->: 10 mode
		139–144	Colour Jumping Speed Slow -> fast /Colour 1 ->: 11 mode
		145–150	Colour Jumping Speed Slow -> fast /Colour 1 ->: 12 mode
		151–156	Colour Fading Speed Slow -> fast /Colour 1 ->: 1 mode
		157–162	Colour Fading Speed Slow -> fast /Colour 1 ->: 2 mode
		163–167	Colour Fading Speed Slow -> fast /Colour 1 ->: 3 mode
		168–173	Colour Fading Speed Slow -> fast /Colour 1 ->: 4 mode
		174–179	Colour Fading Speed Slow -> fast /Colour 1 ->: 5 mode
		180–185	Colour Fading Speed Slow -> fast /Colour 1 ->: 6 mode
		186–191	Colour Fading Speed Slow -> fast /Colour 1 ->: 7 mode
		192–196	Colour Fading Speed Slow -> fast /Colour 1 ->: 8 mode
		197–202	Colour Fading Speed Slow -> fast /Colour 1 ->: 9 mode
		203–208	Colour Fading Speed Slow -> fast /Colour 1 ->: 10 mode
		209–214	Colour Fading Speed Slow -> fast /Colour 1 ->: 11 mode
		215–220	Colour Fading Speed Slow -> fast /Colour 1 ->: 12 mode
		221	Sound Control: MIN
		222–254	Sound Control: MIN ... MAX
		255	Sound Control: MAX

Mode 3-CH Mode 2

Channel functions at a glance

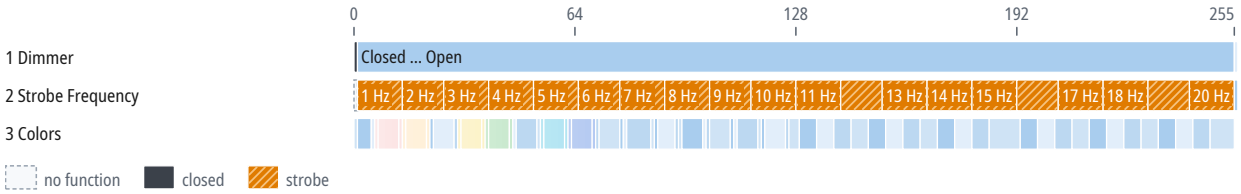


CH	Function	DMX	Description
1	Red	0	Min
		1–254	Min ... Max
		255	Max
2	Green	0	Min
		1–254	Min ... Max
		255	Max
3	Blue	0	Min
		1–254	Min ... Max
		255	Max

Mode 3-CH Mode 3

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Colors 255.

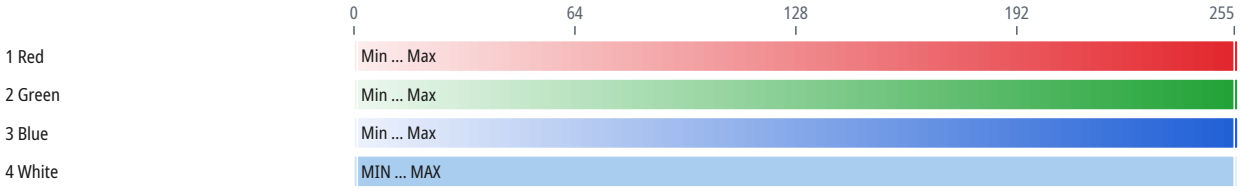
Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “2-CH Mode” (p. 8)
2	Strobe Frequency		Same as CH 2 in the mode “3-CH Mode 1” (p. 11)
3	Colors		Same as CH 2 in the mode “2-CH Mode” (p. 9)

Mode 4-CH Mode

Channel functions at a glance

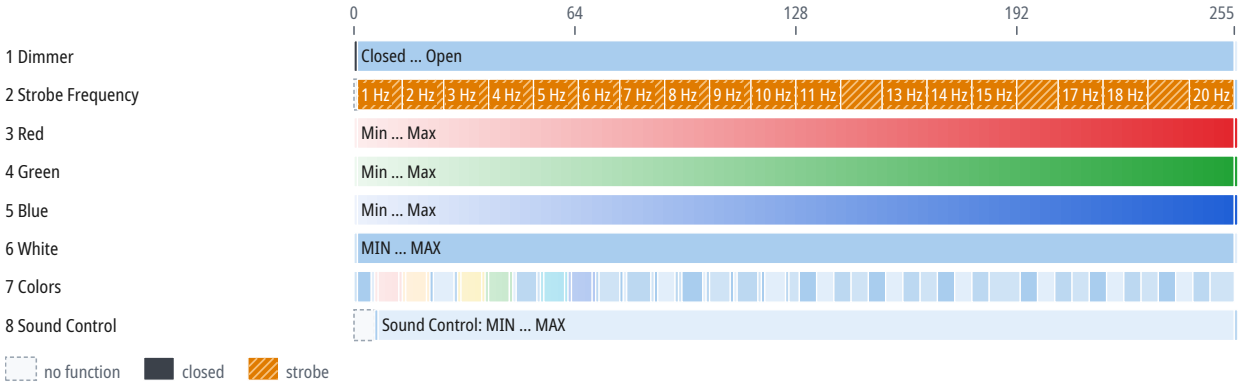


CH	Function	DMX	Description
1	Red		Same as CH 1 in the mode “3-CH Mode 2” (p. 13)
2	Green		Same as CH 2 in the mode “3-CH Mode 2” (p. 13)
3	Blue		Same as CH 3 in the mode “3-CH Mode 2” (p. 13)
4	White	0	MIN
		1–254	MIN ... MAX
		255	MAX

Mode 8-CH Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 7 Colors 255.

Channel functions at a glance



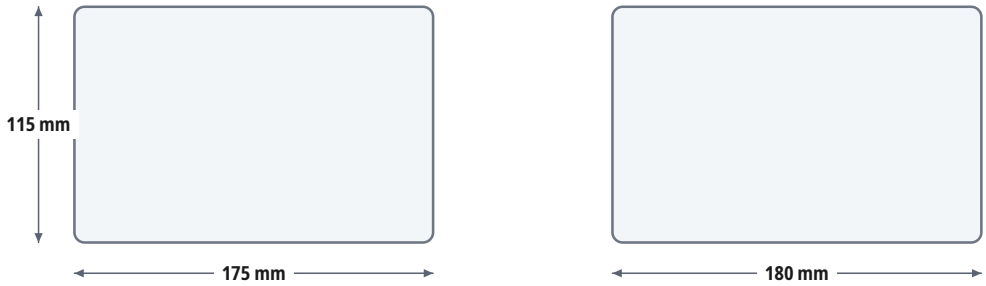
CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “2-CH Mode” (p. 8)
2	Strobe Frequency		Same as CH 2 in the mode “3-CH Mode 1” (p. 11)
3	Red		Same as CH 1 in the mode “3-CH Mode 2” (p. 13)
4	Green		Same as CH 2 in the mode “3-CH Mode 2” (p. 13)
5	Blue		Same as CH 3 in the mode “3-CH Mode 2” (p. 13)
6	White		Same as CH 4 in the mode “4-CH Mode” (p. 13)
7	Colors		Same as CH 2 in the mode “2-CH Mode” (p. 9)
8	Sound Control	0–5	Off
		6	Sound Control: MIN
		7–254	Sound Control: MIN ... MAX
		255	Sound Control: MAX

10 Technical specifications

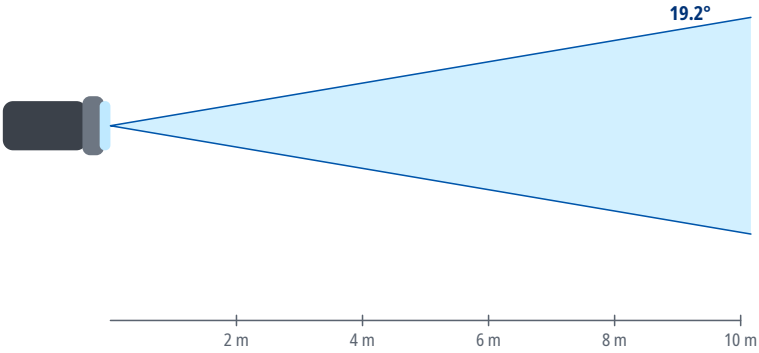
Parameter	Value
Light	
Light source	LED
LED power	35 W
Luminous flux	0.8 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	19.2°
Dimensions and construction	
Weight	1.2 kg
Operating environment	
Operating temperature	0 to 40 °C

Dimensions

weight 1.2 kg



Spot diameter



Distance	Ø 19.2°
2 m	0.68 m
4 m	1.4 m
6 m	2 m
8 m	2.7 m
10 m	3.4 m
15 m	5.1 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.