DMX REFERENCE

PixBar 2404

CKC Lighting



Manufacturer	CKC Lighting
GDTF file	CKC_Lighting_Pixbar_2404_117379.gdtf
GDTF revision	Revision 1 · 2025-11-14
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1 About this manual

This document describes the PixBar 2404 by CKC Lighting. It was compiled from the GDTF file CKC_Lighting_Pixbar_2404_117379.gdtf from the GDTF-Share library.

File revision: “Revision 1”.

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 CKC Lighting; 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	3.4 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
3CH FX Mode	3	170	1, 4, 7, 10, ...
4CH RGBW	4	128	1, 5, 9, 13, ...
7CH RGBW+D+S	7	73	1, 8, 15, 22, ...
8CH 2x RGBW	8	64	1, 9, 17, 25, ...
10CH 2x RGBW+D	10	51	1, 11, 21, 31, ...
16CH 4x RGBW	16	32	1, 17, 33, 49, ...
20CH 4x RGBW+D	20	25	1, 21, 41, 61, ...

No light? Check these channels

- 3CH FX Mode: CH 2 Shutter at 0–8 “No function”
- 7CH RGBW+D+S: CH 6 Shutter at 0–4 “No function”
- 20CH 4x RGBW+D: CH 5 Dimmer 1 above 0; CH 10 Dimmer 2 above 0; CH 15 Dimmer 3 above 0; CH 20 Dimmer 4 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 Installation

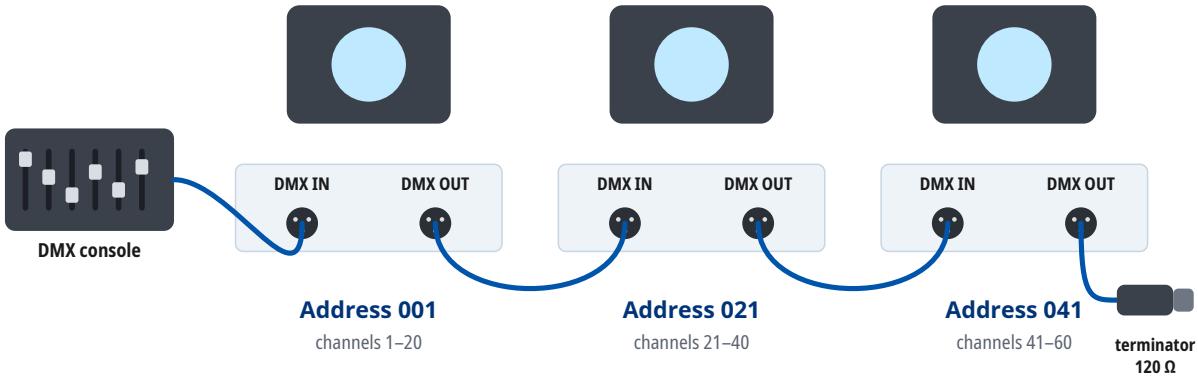
⚠ WARNING

- 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: 3.4 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.

5 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 20CH 4x RGBW+D: every unit occupies 20 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.

6 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 “20CH 4x RGBW+D”: 20.
- 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 “20CH 4x RGBW+D”, you can use, for example, the start addresses 1, 21, 41, 61.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

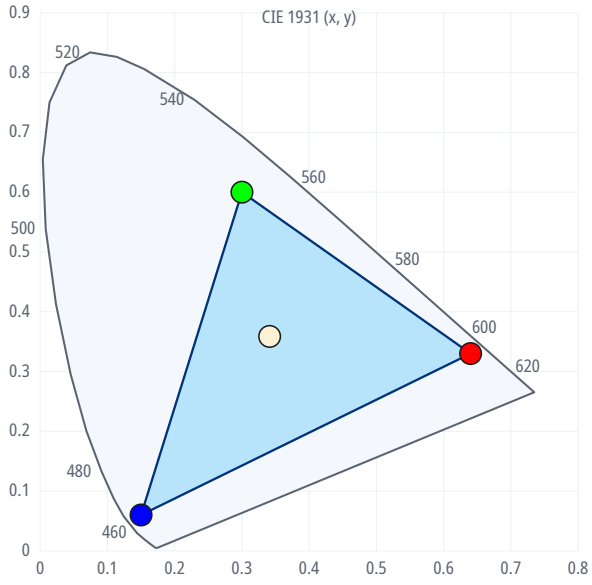
Functions in each DMX mode

	3CH FX Mode 3 channels	4CH RGBW 4 channels	7CH RGBW+D+S 7 channels	8CH 2x RGBW 8 channels	10CH 2x RGBW+D 10 channels	16CH 4x RGBW 16 channels	20CH 4x RGBW+D 20 channels
Dimmer	3	✓	5	✓	5, 10	✓	4× (5–20)
Shutter / strobe	2		6				
Color mixing		1–4	1–4	1–8	1–4, 6–9	1–16	16 channels (1–19)
Color wheel	1		7				
Pixel control						✓	✓

Color wheel

1 Red
2 Green
3 Blue
4 White
5 Yellow
6 Cyan
7 Sky Blue
8 Pink
9 Light Green
10 Magenta
11 RGB
12 Pale Cyan
13 Light Yellow
14 Pale Purple
15 RGBW
16 open

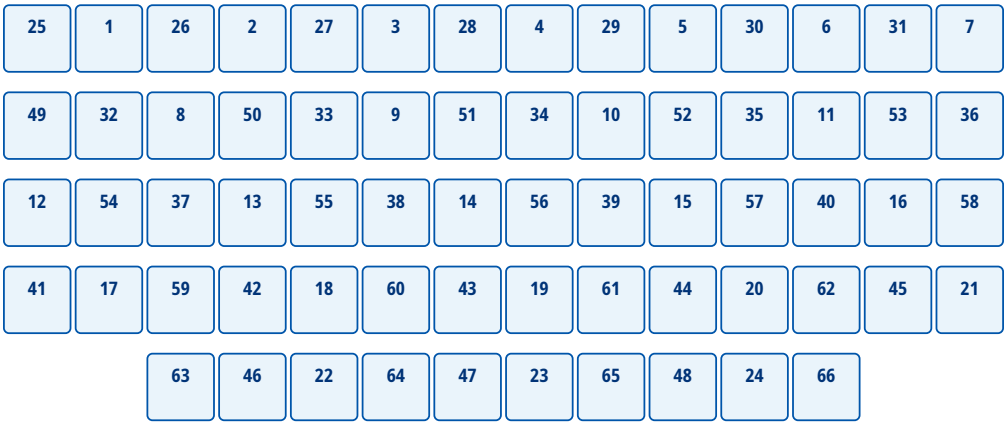
LED colors and the colors they mix



LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
White	0.341	0.359

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

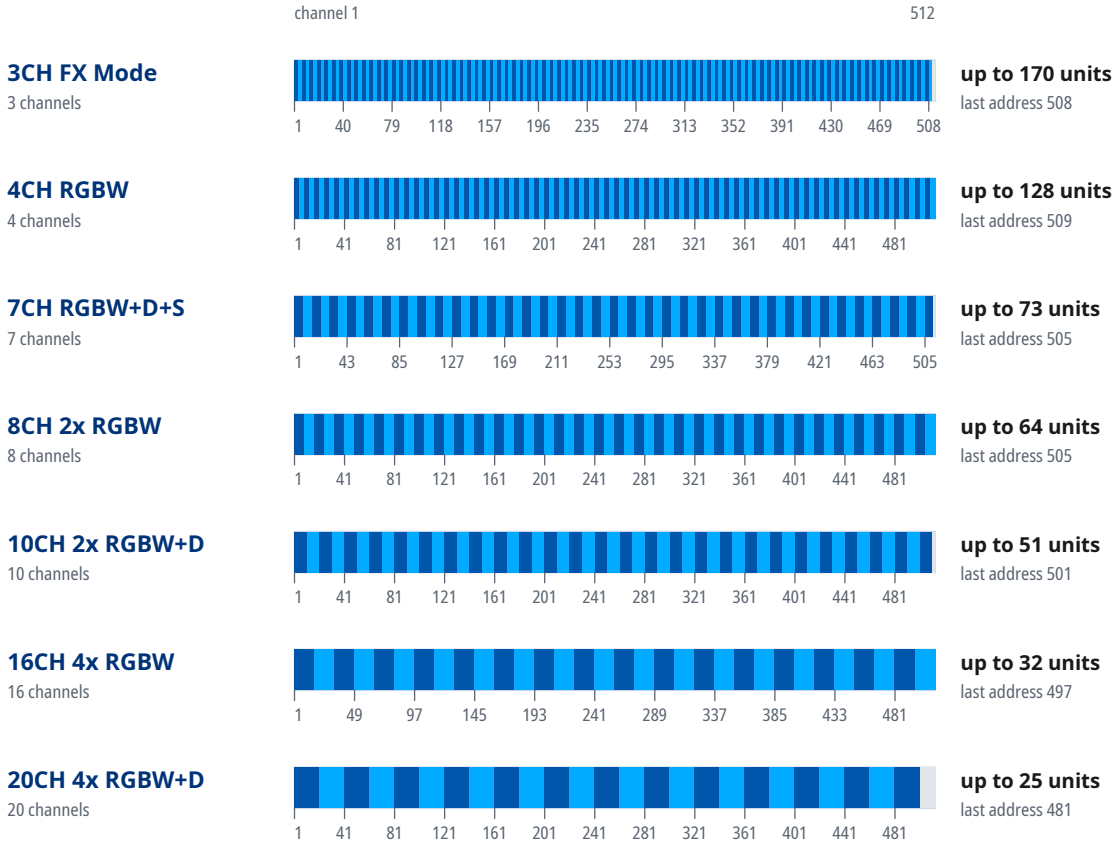
Cells (pixels)



66 cells in one row, left to right as the GDTF file places them (seen from above), wrapped after 14; the mode “16CH 4x RGBW” drives them together.

8 DMX channels

Units in one DMX universe



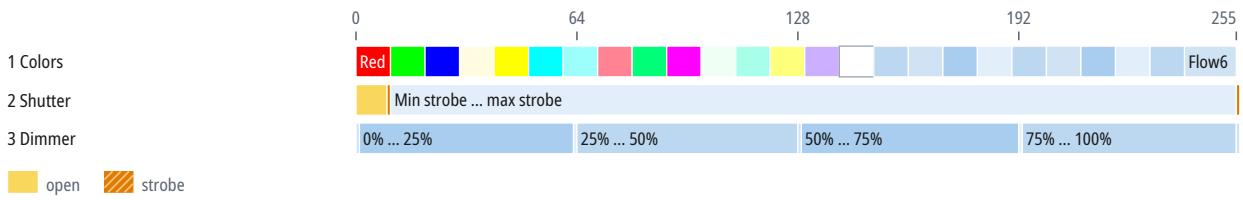
Start addresses of 20 units in the mode “20CH 4x RGBW+D”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	101	11	201	16	301
2	21	7	121	12	221	17	321
3	41	8	141	13	241	18	341
4	61	9	161	14	261	19	361
5	81	10	181	15	281	20	381

Mode 3CH FX Mode

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

Channel functions at a glance

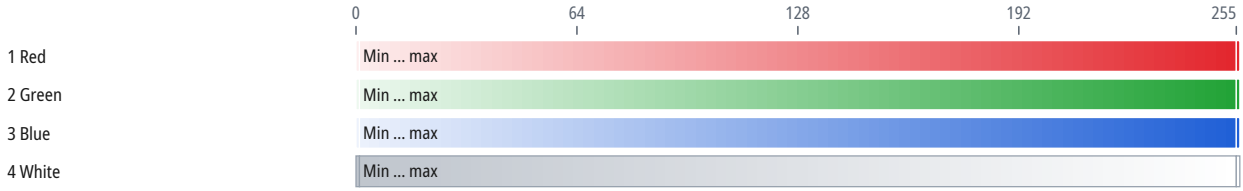


CH	Function	DMX	Description
1	Colors	0–9	Red
		10–19	Green
		20–29	Blue
		30–39	White
		40–49	Yellow
		50–59	Cyan
		60–69	Sky Blue
		70–79	Pink
		80–89	Light Green
		90–99	Magenta
		100–109	RGB
		110–119	Pale Cyan
		120–129	Light Yellow
		130–139	Pale Purple
		140–149	RGBW
		150–159	CFADE
		160–169	Meteor
		170–179	Fade
		180–189	CHANGE
		190–199	Flow1
		200–209	Flow2
		210–219	Flow3
		220–229	Flow4
		230–239	Flow5
		240–255	Flow6
2	Shutter	0–8	No function
		9	Min strobe
		10–254	Min strobe … max strobe
		255	Max strobe
3	Dimmer	0	0%
		1–62	0% … 25%
		63	25%
		64–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%

Mode 4CH RGBW

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 White 255.

Channel functions at a glance

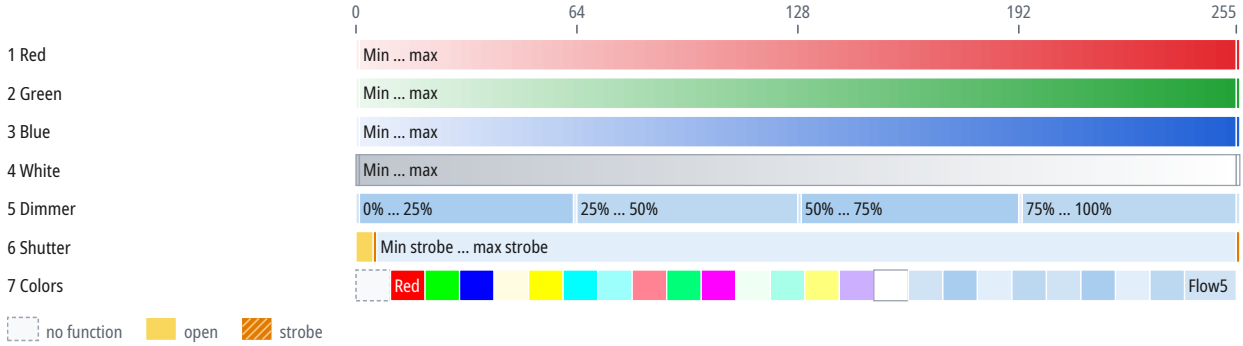


CH	Function	DMX	Description
1	Red	0	Min
		1–254	Min ... max
		255	Max
2	Green	0	Min
		1–254	Min ... max
		255	Max
3	Blue	0	Min
		1–254	Min ... max
		255	Max
4	White	0	Min
		1–254	Min ... max
		255	Max

Mode 7CH RGBW+D+S

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Shutter at 0–4 “No function”. 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 White 255, CH 5 Dimmer 255, CH 6 Shutter 0.

Channel functions at a glance



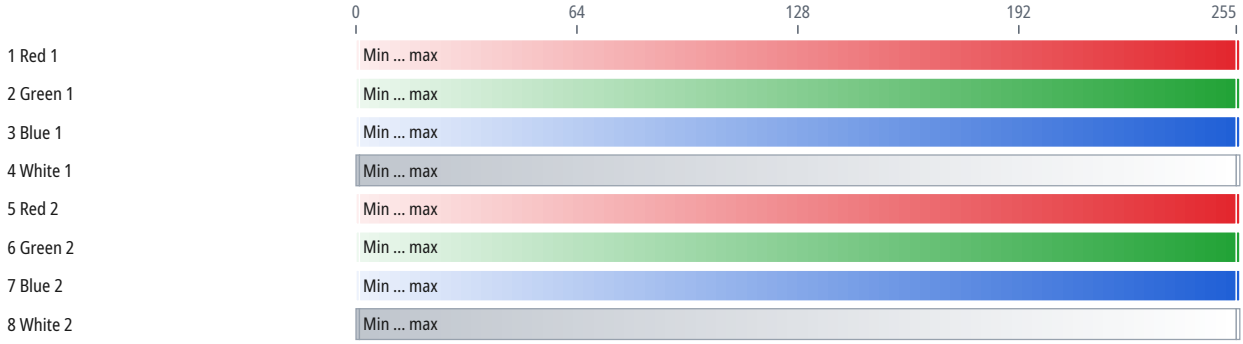
CH	Function	DMX	Description
1	Red		Same as CH 1 in the mode “4CH RGBW” (p. 11)
2	Green		Same as CH 2 in the mode “4CH RGBW” (p. 11)
3	Blue		Same as CH 3 in the mode “4CH RGBW” (p. 11)

CH	Function	DMX	Description
4	White		Same as CH 4 in the mode “4CH RGBW” (p. 11)
5	Dimmer		Same as CH 3 in the mode “3CH FX Mode” (p. 10)
6	Shutter	0–4	No function
		5	Min strobe
		6–254	Min strobe … max strobe
		255	Max strobe
7	Colors	0–9	No Function
		10–19	Red
		20–29	Green
		30–39	Blue
		40–49	White
		50–59	Yellow
		60–69	Cyan
		70–79	Sky Blue
		80–89	Pink
		90–99	Light Green
		100–109	Magenta
		110–119	RGB
		120–129	Pale Cyan
		130–139	Light Yellow
		140–149	Pale Purple
		150–159	RGBW
		160–169	CFADE
		170–179	Meteor
		180–189	Fade
		190–199	CHANGE
		200–209	Flow1
		210–219	Flow2
		220–229	Flow3
		230–239	Flow4
		240–255	Flow5

Mode 8CH 2x RGBW

The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Red 2 255, CH 6 Green 2 255, CH 7 Blue 2 255, CH 8 White 2 255.

Channel functions at a glance

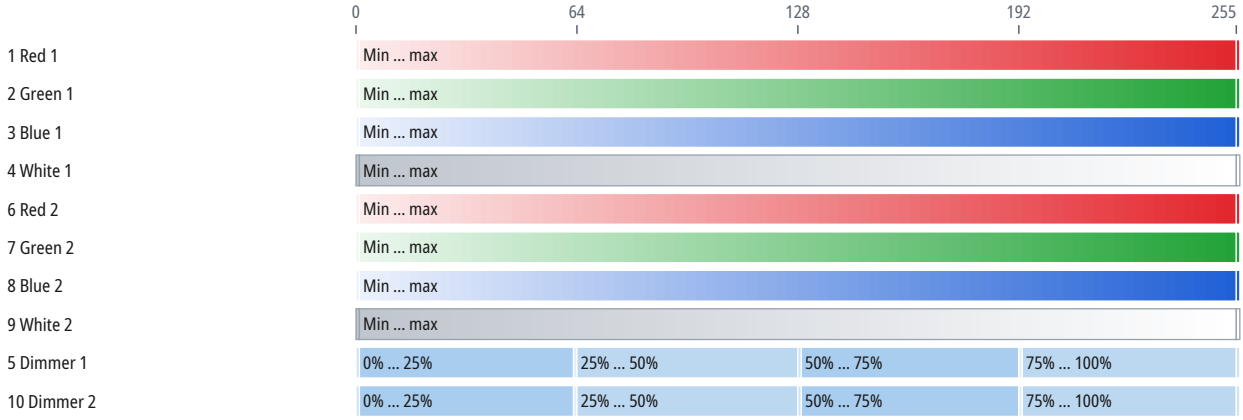


CH	Function	DMX	Description
1	Red 1	0	Min
		1–254	Min ... max
		255	Max
2	Green 1	0	Min
		1–254	Min ... max
		255	Max
3	Blue 1	0	Min
		1–254	Min ... max
		255	Max
4	White 1	0	Min
		1–254	Min ... max
		255	Max
5	Red 2	0	Min
		1–254	Min ... max
		255	Max
6	Green 2	0	Min
		1–254	Min ... max
		255	Max
7	Blue 2	0	Min
		1–254	Min ... max
		255	Max
8	White 2	0	Min
		1–254	Min ... max
		255	Max

Mode 10CH 2x RGBW+D

The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Dimmer 1 255, CH 6 Red 2 255, CH 7 Green 2 255, CH 8 Blue 2 255, CH 9 White 2 255, CH 10 Dimmer 2 255.

Channel functions at a glance



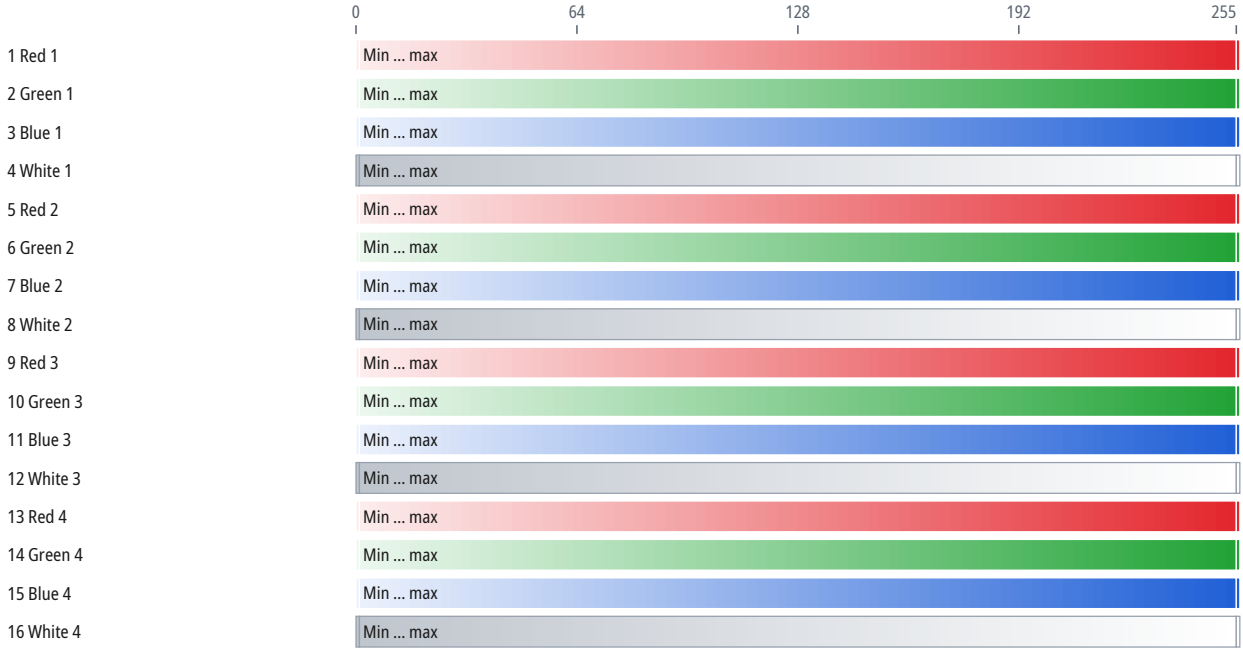
CH	Function	DMX	Description
1	Red 1		Same as CH 1 in the mode “8CH 2x RGBW” (p. 13)
2	Green 1		Same as CH 2 in the mode “8CH 2x RGBW” (p. 13)
3	Blue 1		Same as CH 3 in the mode “8CH 2x RGBW” (p. 13)
4	White 1		Same as CH 4 in the mode “8CH 2x RGBW” (p. 13)
5	Dimmer 1	0	0%
		1–62	0% ... 25%
		63	25%
		64–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
6	Red 2		Same as CH 5 in the mode “8CH 2x RGBW” (p. 13)
7	Green 2		Same as CH 6 in the mode “8CH 2x RGBW” (p. 13)
8	Blue 2		Same as CH 7 in the mode “8CH 2x RGBW” (p. 13)
9	White 2		Same as CH 8 in the mode “8CH 2x RGBW” (p. 13)

CH	Function	DMX	Description
10	Dimmer 2	0	0%
		1–62	0% … 25%
		63	25%
		64–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … 100%
		255	100%

Mode 16CH 4x RGBW

The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Red 2 255, CH 6 Green 2 255, CH 7 Blue 2 255, CH 8 White 2 255, CH 9 Red 3 255, CH 10 Green 3 255, CH 11 Blue 3 255, CH 12 White 3 255, CH 13 Red 4 255, CH 14 Green 4 255, CH 15 Blue 4 255, CH 16 White 4 255.

Channel functions at a glance



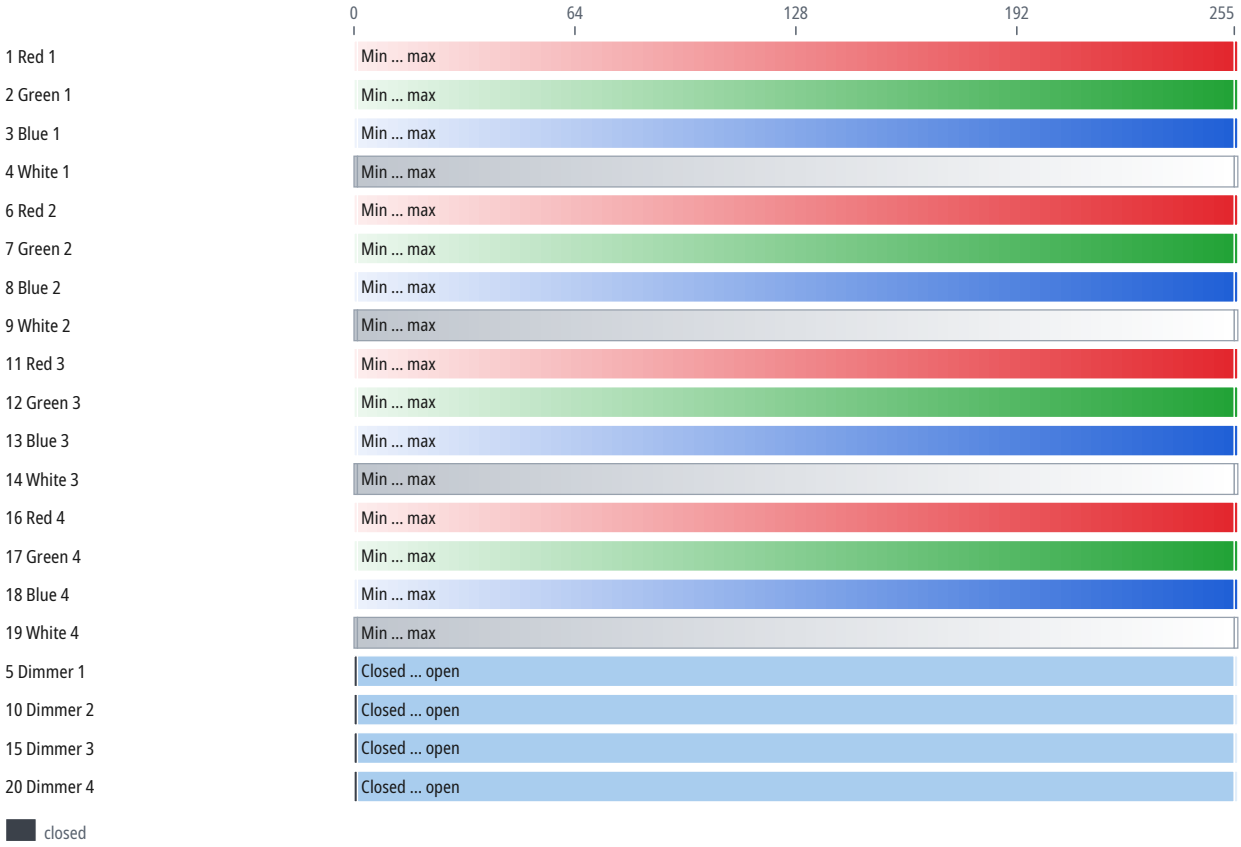
CH	Function	DMX	Description
1	Red 1		Same as CH 1 in the mode “8CH 2x RGBW” (p. 13)
2	Green 1		Same as CH 2 in the mode “8CH 2x RGBW” (p. 13)
3	Blue 1		Same as CH 3 in the mode “8CH 2x RGBW” (p. 13)
4	White 1		Same as CH 4 in the mode “8CH 2x RGBW” (p. 13)
5	Red 2		Same as CH 5 in the mode “8CH 2x RGBW” (p. 13)
6	Green 2		Same as CH 6 in the mode “8CH 2x RGBW” (p. 13)
7	Blue 2		Same as CH 7 in the mode “8CH 2x RGBW” (p. 13)
8	White 2		Same as CH 8 in the mode “8CH 2x RGBW” (p. 13)

CH	Function	DMX	Description
9	Red 3	0	Min
		1–254	Min … max
		255	Max
10	Green 3	0	Min
		1–254	Min … max
		255	Max
11	Blue 3	0	Min
		1–254	Min … max
		255	Max
12	White 3	0	Min
		1–254	Min … max
		255	Max
13	Red 4	0	Min
		1–254	Min … max
		255	Max
14	Green 4	0	Min
		1–254	Min … max
		255	Max
15	Blue 4	0	Min
		1–254	Min … max
		255	Max
16	White 4	0	Min
		1–254	Min … max
		255	Max

Mode 20CH 4x RGBW+D

If the device receives DMX in this mode but gives no light, check these channels: CH 5 Dimmer 1 above 0; CH 10 Dimmer 2 above 0; CH 15 Dimmer 3 above 0; CH 20 Dimmer 4 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 White 1 255, CH 5 Dimmer 1 255, CH 6 Red 2 255, CH 7 Green 2 255, CH 8 Blue 2 255, CH 9 White 2 255, CH 10 Dimmer 2 255, CH 11 Red 3 255, CH 12 Green 3 255, CH 13 Blue 3 255, CH 14 White 3 255, CH 15 Dimmer 3 255, CH 16 Red 4 255, CH 17 Green 4 255, CH 18 Blue 4 255, CH 19 White 4 255, CH 20 Dimmer 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1		Same as CH 1 in the mode “8CH 2x RGBW” (p. 13)
2	Green 1		Same as CH 2 in the mode “8CH 2x RGBW” (p. 13)
3	Blue 1		Same as CH 3 in the mode “8CH 2x RGBW” (p. 13)
4	White 1		Same as CH 4 in the mode “8CH 2x RGBW” (p. 13)
5	Dimmer 1	0	Closed
		1–254	Closed ... open
		255	Open
6	Red 2		Same as CH 5 in the mode “8CH 2x RGBW” (p. 13)
7	Green 2		Same as CH 6 in the mode “8CH 2x RGBW” (p. 13)
8	Blue 2		Same as CH 7 in the mode “8CH 2x RGBW” (p. 13)
9	White 2		Same as CH 8 in the mode “8CH 2x RGBW” (p. 13)
10	Dimmer 2	0	Closed

CH	Function	DMX	Description
10	Dimmer 2 (continued)	1–254	Closed … open
		255	Open
11	Red 3		Same as CH 9 in the mode “16CH 4x RGBW” (p. 16)
12	Green 3		Same as CH 10 in the mode “16CH 4x RGBW” (p. 16)
13	Blue 3		Same as CH 11 in the mode “16CH 4x RGBW” (p. 16)
14	White 3		Same as CH 12 in the mode “16CH 4x RGBW” (p. 16)
15	Dimmer 3	0	Closed
		1–254	Closed … open
		255	Open
16	Red 4		Same as CH 13 in the mode “16CH 4x RGBW” (p. 16)
17	Green 4		Same as CH 14 in the mode “16CH 4x RGBW” (p. 16)
18	Blue 4		Same as CH 15 in the mode “16CH 4x RGBW” (p. 16)
19	White 4		Same as CH 16 in the mode “16CH 4x RGBW” (p. 16)
20	Dimmer 4	0	Closed
		1–254	Closed … open
		255	Open

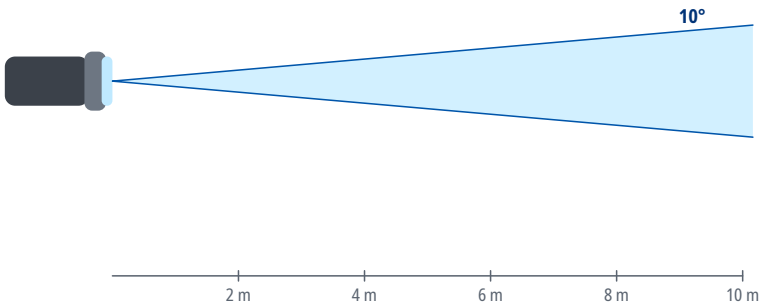
9 Technical specifications

Parameter	Value
Light source	LED
Weight	3.4 kg
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–10 Hz

Spot diameter



Distance	Ø 10°
2 m	0.35 m
4 m	0.7 m
6 m	1 m
8 m	1.4 m
10 m	1.7 m
15 m	2.6 m

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

10 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.

11 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.

12 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.