DMX REFERENCE

ProBar18 IP

Brighter



Manufacturer	Brighter
GDTF file	Brighter_ProBar18_IP_98327.gdtf
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1 About this manual

This document describes the Pro Bar 18 IP by Brighter. It was compiled from the GDTF file Brighter_ProBar18_IP_98327.gdtf from the GDTF-Share library.

File revision: “ProBar18IP, 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 Brighter; 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
Power consumption	330 W
Weight	7.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
11Ch	11	46	1, 12, 23, 34, ...
29Ch	29	17	1, 30, 59, 88, ...
37Ch	37	13	1, 38, 75, 112, ...
108Ch	108	4	1, 109, 217, 325
119Ch	130	3	1, 131, 261

No light? Check these channels

- 11Ch: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”
- 29Ch: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”
- 37Ch: CH 1 Dimmer 1 above 0; CH 2 Shutter 1 at 0 “Open”; CH 9 Dimmer 2 above 0; CH 10 Shutter 2 at 0 “Open”
- 119Ch: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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.

⚠ WARNING

- This device emits ultraviolet (UV) radiation, which can harm the eyes and skin.
- Do not look directly into the light source and avoid prolonged exposure of the eyes and skin at close range. Install the device so that people are not exposed at close range.
- People with increased sensitivity to light, including those taking medication that increases this sensitivity, should avoid UV exposure.

⚠ 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

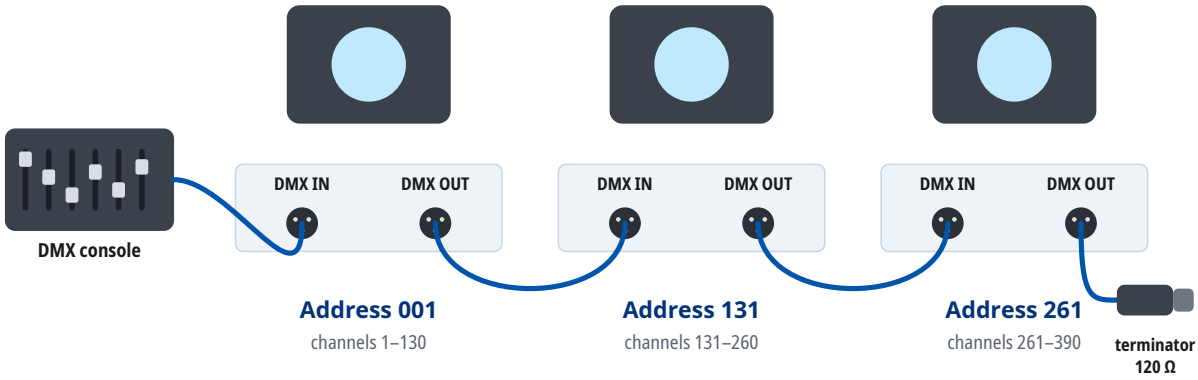
⚠ WARNING

- 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: 7.2 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.

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 119Ch: every unit occupies 130 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

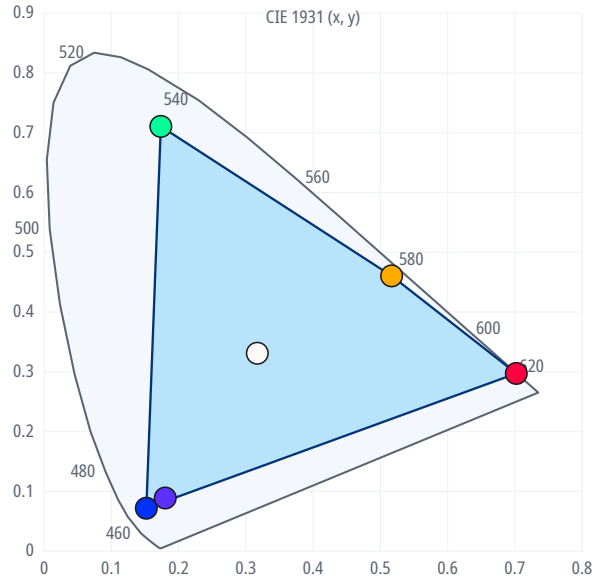
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “119Ch”: 130.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “119Ch”, you can use, for example, the start addresses 1, 131, 261.
- 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.

7 Functions at a glance

Functions in each DMX mode

	11Ch 11 channels	29Ch 29 channels	37Ch 37 channels	108Ch 108 channels	119Ch 130 channels
Dimmer	1	1	1, 9, 19–36	✓	1
Shutter / strobe	2	2	2, 10		2
Color mixing	6–11	6–11	3–8, 11–16	1–108	6–119
Effects / macros	3–5	3–5	17, 18		3–5

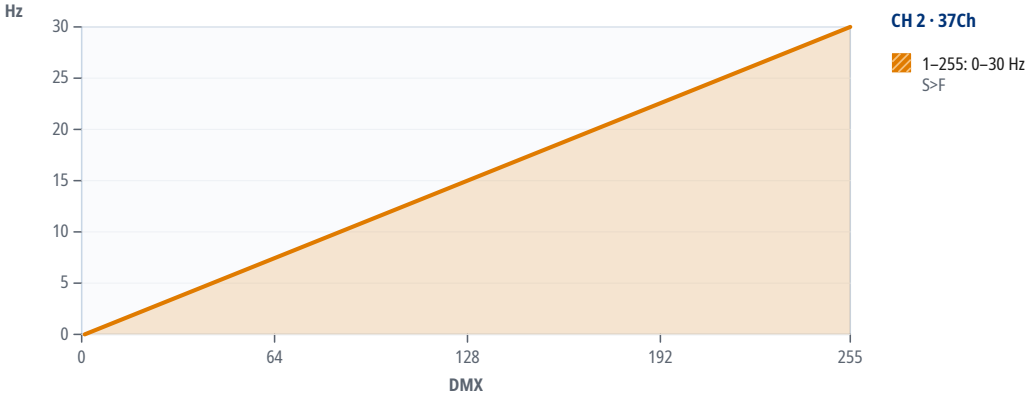
LED colors and the colors they mix



LED	x	y	nm
Red	0.702	0.297	626
Green	0.173	0.711	527
Blue	0.152	0.072	452
White	0.317	0.331	
Amber	0.517	0.461	570
UV	0.180	0.089	420

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

Strobe rate



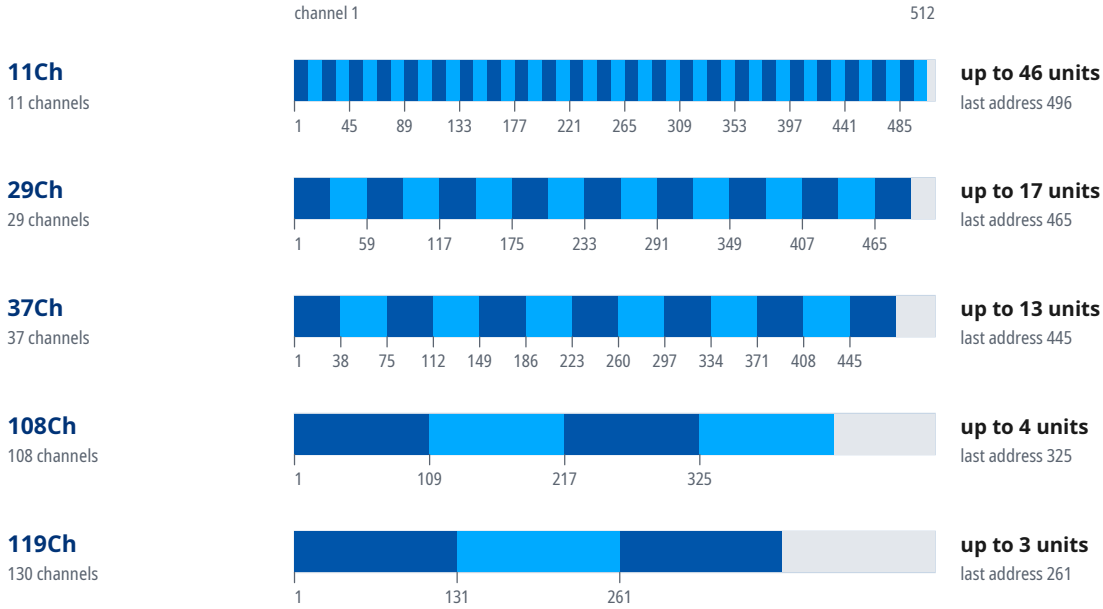
Cells (pixels)

1	2	3	4	5	6	7	8	9
CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9
10	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
CH 10	CH 11	CH 12	CH 13	CH 14	CH 15	CH 16	CH 17	CH 18

18 cells in one row, left to right as the GDTF file places them (seen from above), wrapped after 9; numbered by their first DMX channel (CH) in the mode “37Ch”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “119Ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 261	11	U4 · 131	16	U6 · 1
2	131	7	U3 · 1	12	U4 · 261	17	U6 · 131
3	261	8	U3 · 131	13	U5 · 1	18	U6 · 261
4	U2 · 1	9	U3 · 261	14	U5 · 131	19	U7 · 1
5	U2 · 131	10	U4 · 1	15	U5 · 261	20	U7 · 131

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 11Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 0, CH 3 Color Macro 0, CH 4 Color Macro 2 0, CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 White 255, CH 10 Amber 255, CH 11 UV 255.

CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed … Open
		255	Open
2	Shutter	0	Open
		1–255	S>F (0–30 Hz)
3	Color Macro	0–35	Macro Off
		36–45	Col run jump
		46–55	Col run fade
		56–65	Col choosing

CH	Function	DMX	Description
3	Color Macro (continued)	66–75	Col jump
		76–85	Col fade
		86–95	Fade water 1
		96–105	Fade water 2
		106–116	Fade water 3
		117–127	Fade water 4
		128–137	Fade water 5
		138–148	Fade water 6
		149–159	Fade water 7
		160–169	Run water 8
		170–180	Run water 9
		181–191	Run water 10
		192–202	Run water 11
		203–212	Run water 12
		213–223	Run water 13
		224–234	Run water 14
		235–245	Run water 15
		246–255	Sound control
4	Color Macro 2	0–30	Macro Off
		31–45	Run water 1
		46–60	Run water 2
		61–75	Run water 3
		76–90	Run water 4
		91–105	Run water 5
		106–120	Run water 6
		121–135	Run water 7
		136–150	Run water 8
		151–165	Run water 9
		166–180	Run water 10
		181–195	Run water 11
		196–210	Run water 12
		211–225	Run water 13
		226–240	Run water 14
		241–255	Run water 15
5	Color Macro Speed	0–255	S>F
6	Red	0	Min
		1–254	Min ... Max
		255	Max
7	Green	0	Min
		1–254	Min ... Max
		255	Max
8	Blue	0	Min

CH	Function	DMX	Description
8	Blue (continued)	1–254	Min ... Max
		255	Max
9	White	0	Min
		1–254	Min ... Max
		255	Max
10	Amber	0	Min
		1–254	Min ... Max
		255	Max
11	UV	0	Min
		1–254	Min ... Max
		255	Max

Mode 29Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 0, CH 3 Color Macro 0, CH 4 Color Macro 2 0, CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 White 255, CH 10 Amber 255, CH 11 UV 255.

CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “11Ch” (p. 8)
2	Shutter		Same as CH 2 in the mode “11Ch” (p. 8)
3	Color Macro		Same as CH 3 in the mode “11Ch” (p. 8)
4	Color Macro 2		Same as CH 4 in the mode “11Ch” (p. 9)
5	Color Macro Speed	0–255	S>F
6	Red		Same as CH 6 in the mode “11Ch” (p. 9)
7	Green		Same as CH 7 in the mode “11Ch” (p. 9)
8	Blue		Same as CH 8 in the mode “11Ch” (p. 9)
9	White		Same as CH 9 in the mode “11Ch” (p. 10)
10	Amber		Same as CH 10 in the mode “11Ch” (p. 10)
11	UV		Same as CH 11 in the mode “11Ch” (p. 10)
12	Color Effects 1	0–255	

CH 12–29: 18 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 12); the table below gives each cell's channel numbers.

Cell	Color Effects	Cell	Color Effects	Cell	Color Effects	Cell	Color Effects	Cell	Color Effects	Cell	Color Effects
1	12	2	13	3	14	4	15	5	16	6	17
7	18	8	19	9	20	10	21	11	22	12	23
13	24	14	25	15	26	16	27	17	28	18	29

Mode 37Ch

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

CH	Function	DMX	Description
1	Dimmer 1	0	Closed
		1–254	Closed … Open
		255	Open
2	Shutter 1	0	Open
		1–255	S>F (0–30 Hz)
3	Red 1	0	Min
		1–254	Min … Max
		255	Max
4	Green 1	0	Min
		1–254	Min … Max
		255	Max
5	Blue 1	0	Min
		1–254	Min … Max
		255	Max
6	White 1	0	Min
		1–254	Min … Max
		255	Max
7	Amber 1	0	Min
		1–254	Min … Max
		255	Max
8	UV 1	0	Min
		1–254	Min … Max
		255	Max
9	Dimmer 2	0	Closed
		1–254	Closed … Open
		255	Open
10	Shutter 2	0	Open
		1–255	S>F (0–30 Hz)
11	Red 2	0	Min
		1–254	Min … Max
		255	Max
12	Green 2	0	Min
		1–254	Min … Max
		255	Max
13	Blue 2	0	Min

CH	Function	DMX	Description
13	Blue 2 (continued)	1–254	Min ... Max
		255	Max
14	White 2	0	Min
		1–254	Min ... Max
		255	Max
15	Amber 2	0	Min
		1–254	Min ... Max
		255	Max
16	UV 2	0	Min
		1–254	Min ... Max
		255	Max
17	Effects		Animation System 1 Macro 1
		0–5	Macro Off
		6–15	Macro 1
		16–25	Macro 2
		26–35	Macro 3
		36–45	Macro 4
		46–55	Macro 5
		56–65	Macro 6
		66–75	Macro 7
		76–85	Macro 8
		86–95	Macro 9
		96–105	Macro 10
		106–115	Macro 11
		116–125	Macro 12
		126–135	Macro 13
		136–145	Macro 14
		146–155	Macro 15
		156–165	Macro 16
		166–175	Macro 17
		176–185	Macro 18
		186–195	Macro 19
		196–205	Macro 20
		206–215	Macro 21
		216–225	Macro 22
		226–255	Macro 23
18	Effects Rate	0–255	S>F
19	Dimmer 3		When CH 17 is 0–5:
		0	Min
		1–254	Min ... Max
		255	Max
			When CH 17 is 6–255:

CH	Function	DMX	Description
19	Dimmer 3 (continued)	0–255	
37	Control	0–127	Mirror Off
		128–255	Mirror On

CH 19–36: 18 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 19); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	19	2	20	3	21	4	22	5	23	6	24
7	25	8	26	9	27	10	28	11	29	12	30
13	31	14	32	15	33	16	34	17	35	18	36

Mode 108Ch

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 18 cells), CH 2 Green 255 (the same in each of the 18 cells), CH 3 Blue 255 (the same in each of the 18 cells), CH 4 White 255 (the same in each of the 18 cells), CH 5 Amber 255 (the same in each of the 18 cells), CH 6 UV 255 (the same in each of the 18 cells).

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	Amber 1	0	Min
		1–254	Min … Max
		255	Max
6	UV 1	0	Min
		1–254	Min … Max
		255	Max

CH 1–108: 18 cells of 6 channels each. Every cell works as cell 1 in the table above (CH 1–6); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Amber	UV
1	1	2	3	4	5	6
2	7	8	9	10	11	12
3	13	14	15	16	17	18
4	19	20	21	22	23	24
5	25	26	27	28	29	30

Cell	Red	Green	Blue	White	Amber	UV
6	31	32	33	34	35	36
7	37	38	39	40	41	42
8	43	44	45	46	47	48
9	49	50	51	52	53	54
10	55	56	57	58	59	60
11	61	62	63	64	65	66
12	67	68	69	70	71	72
13	73	74	75	76	77	78
14	79	80	81	82	83	84
15	85	86	87	88	89	90
16	91	92	93	94	95	96
17	97	98	99	100	101	102
18	103	104	105	106	107	108

Mode 119Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 0, CH 3 Color Macro 0, CH 4 Color Macro 2 0, CH 12 Red 255 (the same in each of the 19 cells), CH 13 Green 255 (the same in each of the 19 cells), CH 14 Blue 255 (the same in each of the 19 cells), CH 15 White 255 (the same in each of the 19 cells), CH 16 Amber 255 (the same in each of the 19 cells), CH 17 UV 255 (the same in each of the 19 cells).

CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “11Ch” (p. 8)
2	Shutter		Same as CH 2 in the mode “11Ch” (p. 8)
3	Color Macro		Same as CH 3 in the mode “11Ch” (p. 8)
4	Color Macro 2		Same as CH 4 in the mode “11Ch” (p. 9)
5	Color Macro Speed	0–255	S>F
12	Red 1	0	Min
		1–254	Min ... Max
		255	Max
13	Green 1	0	Min
		1–254	Min ... Max
		255	Max
14	Blue 1	0	Min
		1–254	Min ... Max
		255	Max
15	White 1	0	Min
		1–254	Min ... Max
		255	Max
16	Amber 1	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
17	UV 1	0	Min
		1–254	Min … Max
		255	Max

CH 12–130: 19 cells of 6 channels each. Every cell works as cell 1 in the table above (CH 12–17); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Amber	UV
1	12	13	14	15	16	17
2	18	19	20	21	22	23
3	24	25	26	27	28	29
4	30	31	32	33	34	35
5	36	37	38	39	40	41
6	42	43	44	45	46	47
7	48	49	50	51	52	53
8	54	55	56	57	58	59
9	60	61	62	63	64	65
10	66	67	68	69	70	71
11	72	73	74	75	76	77
12	78	79	80	81	82	83
13	84	85	86	87	88	89
14	90	91	92	93	94	95
15	96	97	98	99	100	101
16	102	103	104	105	106	107
17	108	109	110	111	112	113
18	114	115	116	117	118	119
19	125	126	127	128	129	130

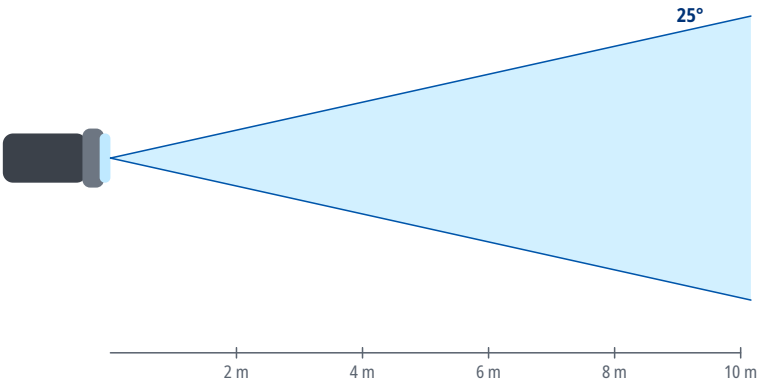
9 Technical specifications

Parameter	Value
Light	
Light source	LED
Control	
DMX connection	3-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x09A4, device model ID 0x3C82)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	330 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	7.2 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0–30 Hz

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 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.