DMX REFERENCE

StarColor 270z

BeamZ StarColor 270z V2 (From Ares)

BeamZ

Manufacturer	BeamZ
GDTF file	BeamZ_Starcolor_270z_39806.gdtf
GDTF revision	BeamZ StarColor 270z v5 · 2023-05-09
Generated	2026-11-23

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1 About this manual

This document describes the BeamZ StarColor 270z V2 (From Ares) by BeamZ. It was compiled from the GDTF file BeamZ_Starcolor_270z_39806.gdtf from the GDTF-Share library.

File revision: “BeamZ StarColor 270z v5”.

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 BeamZ; 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	9.7 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
5 ch	5	102	1, 6, 11, 16, ...
16 ch mode 1	16	32	1, 17, 33, 49, ...
16 ch mode 2	16	32	1, 17, 33, 49, ...
34 ch	34	15	1, 35, 69, 103, ...

No light? Check these channels

- 16 ch mode 1: CH 2 Dimmer 1 above 0; CH 4 Shutter 1 at 0–5 or 251–255 “Open”; CH 10 Dimmer Curve above 5; CH 12 Dimmer 2 above 0; CH 13 Shutter 2 at 0–5 or 251–255 “Open”
- 34 ch: CH 3 Dimmer 1 above 0; CH 15 Dimmer Curve above 5; CH 29 Dimmer 2 above 0; CH 30 Shutter 2 at 0–5 or 251–255 “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 Installation

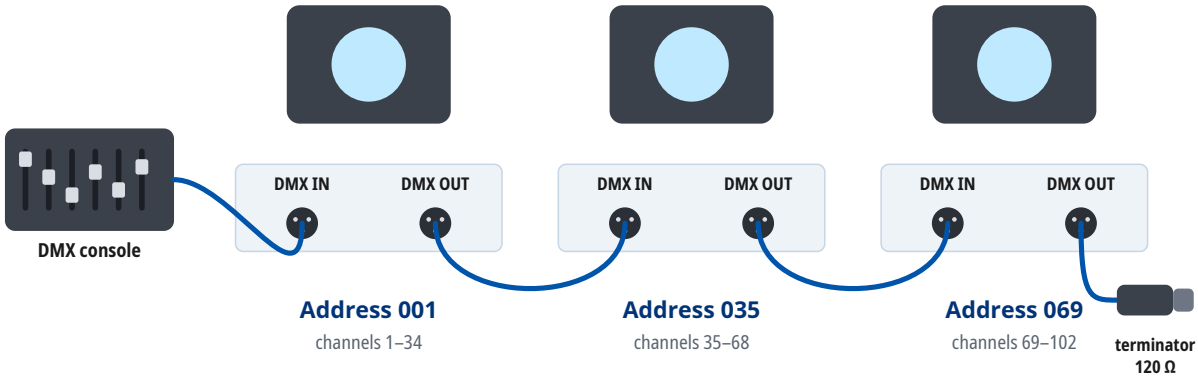
⚠ WARNING

- 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: 9.7 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 34 ch: every unit occupies 34 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 “34 ch”: 34.
- 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 “34 ch”, you can use, for example, the start addresses 1, 35, 69, 103.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

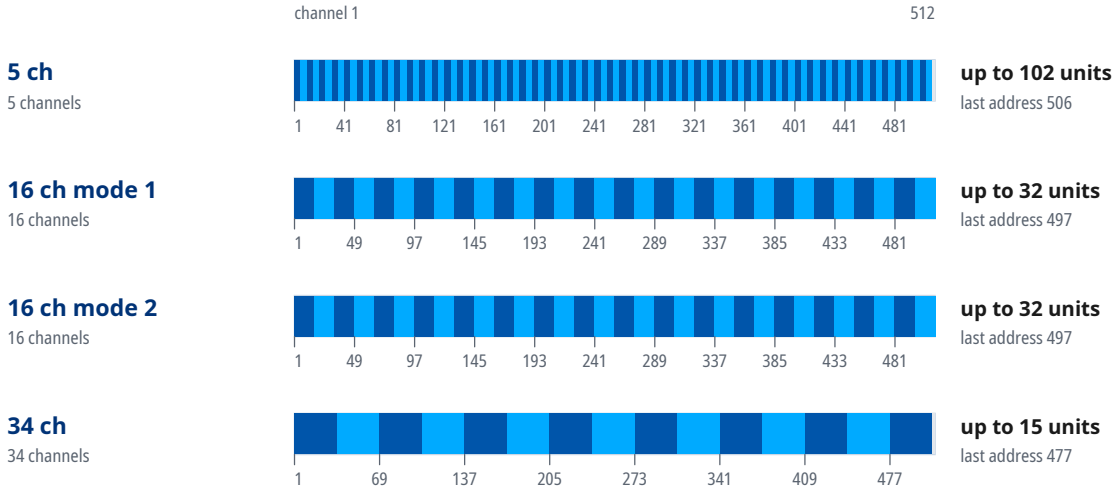
7 Functions at a glance

Functions in each DMX mode

	5 ch 5 channels	16 ch mode 1 16 channels	16 ch mode 2 16 channels	34 ch 34 channels
Dimmer	✓	2, 12	✓	3, 29
Shutter / strobe		4, 13		5, 30
Color mixing	2–5	5–8, 14–16	2–16	6–9, 17–28, 31–33
Zoom	1	1	1	1
Effects / macros		9		10, 12–14, 34

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “34 ch”

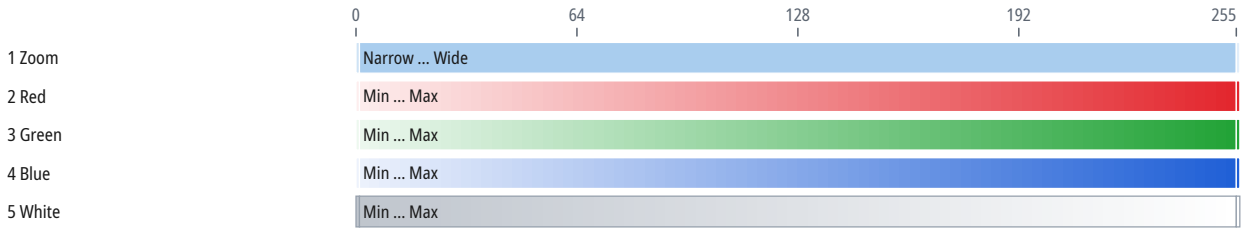
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	171	11	341	16	U2 · 1
2	35	7	205	12	375	17	U2 · 35
3	69	8	239	13	409	18	U2 · 69
4	103	9	273	14	443	19	U2 · 103
5	137	10	307	15	477	20	U2 · 137

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 5 ch

The GDTF file gives these values for a console's Highlight function: CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 White 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Zoom	0	Narrow
		1–254	Narrow ... Wide
		255	Wide
2	Red	0	Min
		1–254	Min ... Max

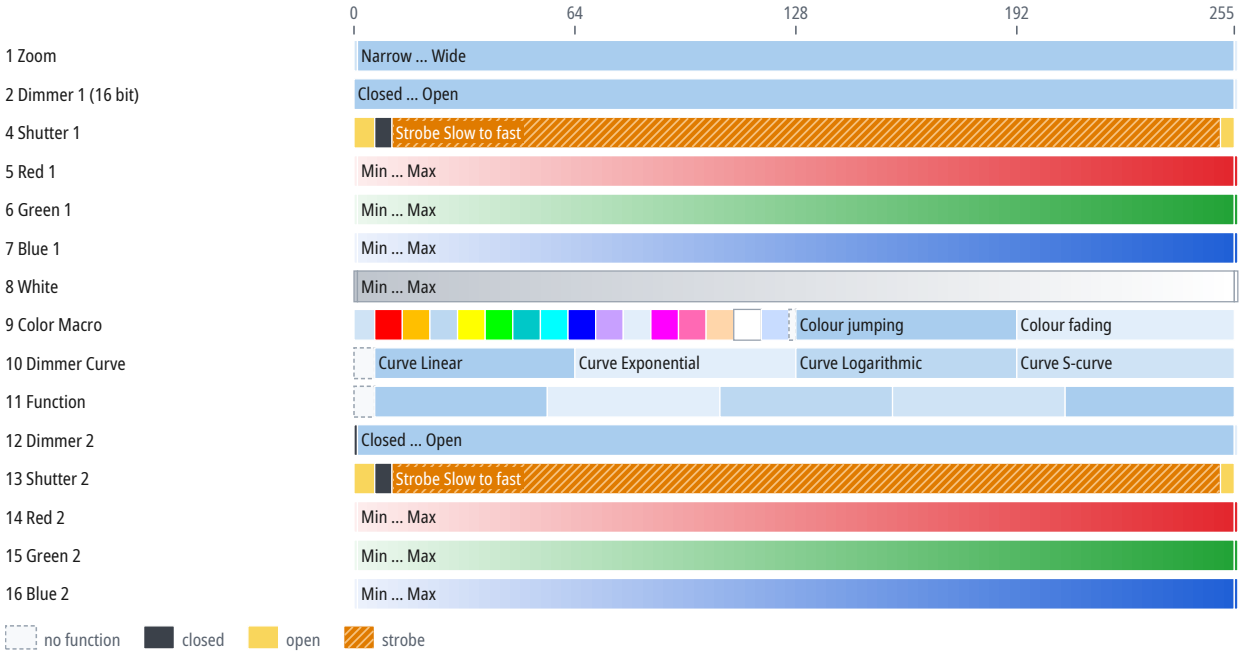
CH	Function	DMX	Description
2	Red (continued)	255	Max
3	Green	0	Min
		1–254	Min ... Max
		255	Max
4	Blue	0	Min
		1–254	Min ... Max
		255	Max
5	White	0	Min
		1–254	Min ... Max
		255	Max

Mode 16 ch mode 1

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 2 Dimmer 1 above 0; CH 4 Shutter 1 at 0–5 or 251–255 “Open”; CH 10 Dimmer Curve above 5; CH 12 Dimmer 2 above 0; CH 13 Shutter 2 at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 2 Dimmer 1 255, CH 5 Red 1 255, CH 6 Green 1 255, CH 7 Blue 1 255, CH 8 White 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Zoom		Same as CH 1 in the mode “5 ch” (p. 7)
2	Dimmer 1	0–255	Closed ... Open
		255	Open
3	Dimmer 1 Fine	0–255	Fine adjustment of CH 2
4	Shutter 1	0–5	Open
		6–10	Close
		11–250	Strobe Slow to fast

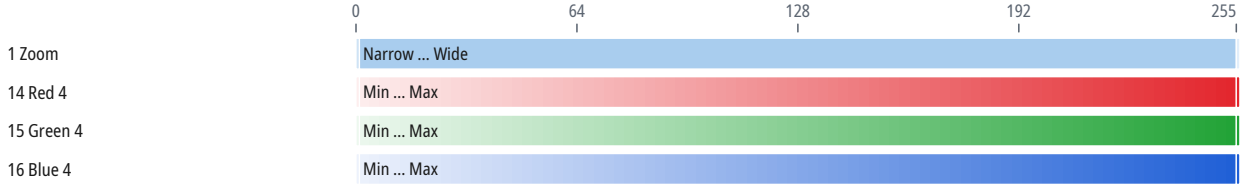
CH	Function	DMX	Description
4	Shutter 1 (continued)	251–255	Open
5	Red 1	0	Min
		1–254	Min ... Max
		255	Max
6	Green 1	0	Min
		1–254	Min ... Max
		255	Max
7	Blue 1	0	Min
		1–254	Min ... Max
		255	Max
8	White		Same as CH 5 in the mode “5 ch” (p. 8)
9	Color Macro	0–5	Colour Off
		6–13	Red
		14–21	Amber
		22–29	Yellow Amber
		30–37	Yellow
		38–45	Green
		46–53	Turquoise
		54–61	Cyan
		62–69	Blue
		70–77	Lavender
		78–85	Mauve
		86–93	Magenta
		94–101	Pink
		102–109	Warm White
		110–117	White
		118–125	Cold White
		126–127	No function
		128–191	Colour jumping
		192–255	Colour fading
10	Dimmer Curve	0–5	No function
		6–63	Curve Linear
		64–127	Curve Exponential
		128–191	Curve Logarithmic
		192–255	Curve S-curve
11	Function	0–5	No function
		6–55	Dimmer response LED (hold 3 seconds)
		56–105	Dimmer response Halogen (hold 3 seconds)
		106–155	Fan high mode (hold 3 seconds)
		156–205	Fan Auto mode (hold 3 seconds)
		206–255	Reset all functions (hold 5 seconds)
12	Dimmer 2	0	Closed

CH	Function	DMX	Description
12	Dimmer 2 (continued)	1–254	Closed ... Open
		255	Open
13	Shutter 2	0–5	Open
		6–10	Close
		11–250	Strobe Slow to fast
		251–255	Open
14	Red 2	0	Min
		1–254	Min ... Max
		255	Max
15	Green 2	0	Min
		1–254	Min ... Max
		255	Max
16	Blue 2	0	Min
		1–254	Min ... Max
		255	Max

Mode 16 ch mode 2

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

Channel functions at a glance



CH	Function	DMX	Description
1	Zoom		Same as CH 1 in the mode “5 ch” (p. 7)
2	Red 1		Same as CH 5 in the mode “16 ch mode 1” (p. 9)
3	Green 1		Same as CH 6 in the mode “16 ch mode 1” (p. 9)
4	Blue 1		Same as CH 7 in the mode “16 ch mode 1” (p. 9)
5	White 1	0	Min
		1–254	Min ... Max
		255	Max
6	Red 2		Same as CH 14 in the mode “16 ch mode 1” (p. 10)
7	Green 2		Same as CH 15 in the mode “16 ch mode 1” (p. 10)
8	Blue 2		Same as CH 16 in the mode “16 ch mode 1” (p. 10)
9	White 2	0	Min
		1–254	Min ... Max
		255	Max
10	Red 3	0	Min
		1–254	Min ... Max

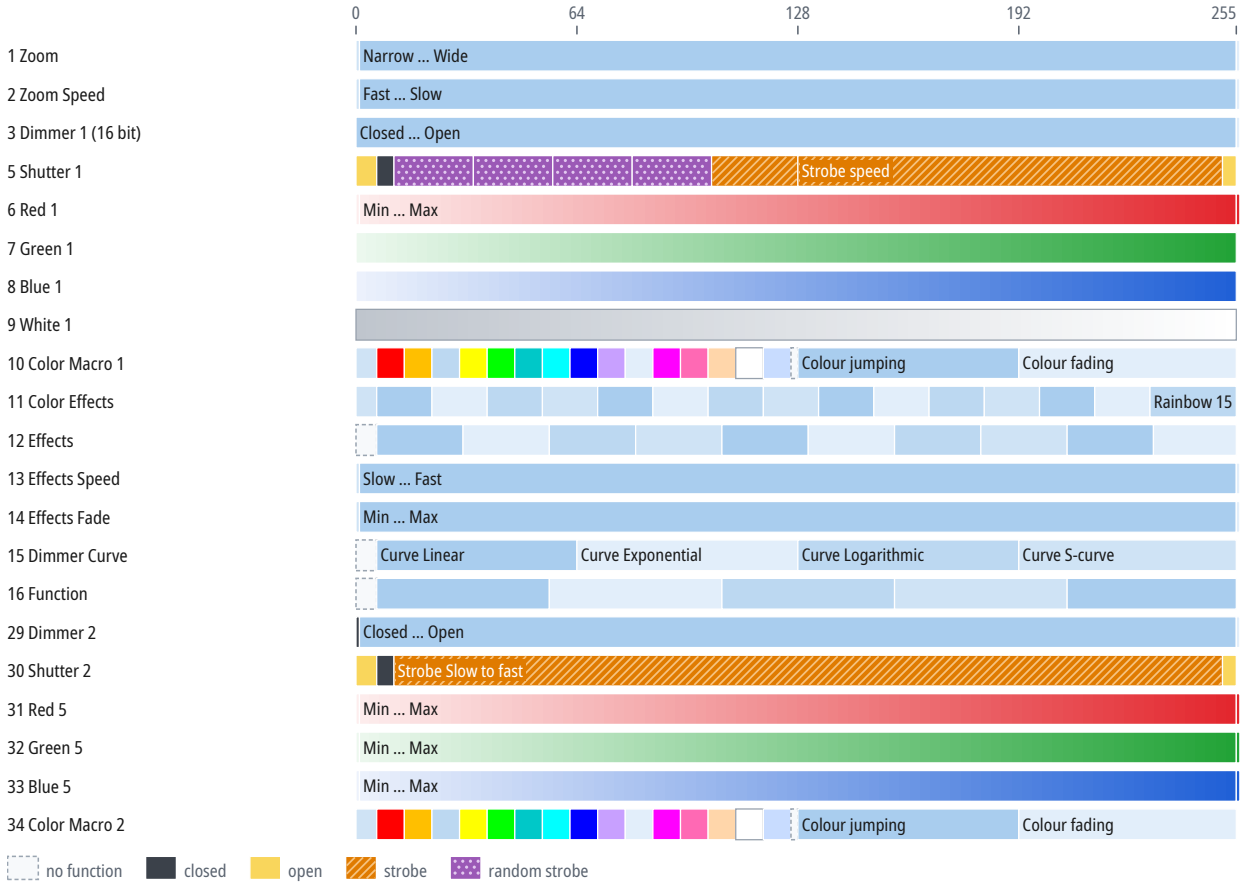
CH	Function	DMX	Description
10	Red 3 (continued)	255	Max
11	Green 3	0	Min
		1–254	Min … Max
		255	Max
12	Blue 3	0	Min
		1–254	Min … Max
		255	Max
13	White 3	0	Min
		1–254	Min … Max
		255	Max
14	Red 4	0	Min
		1–254	Min … Max
		255	Max
15	Green 4	0	Min
		1–254	Min … Max
		255	Max
16	Blue 4	0	Min
		1–254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

Mode 34 ch

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 3 Dimmer 1 above 0; CH 15 Dimmer Curve above 5; CH 29 Dimmer 2 above 0; CH 30 Shutter 2 at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 3 Dimmer 1 255, CH 6 Red 1 255, CH 7 Green 1 255, CH 8 Blue 1 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Zoom		Same as CH 1 in the mode “5 ch” (p. 7)
2	Zoom Speed	0	Fast
		1–254	Fast ... Slow
		255	Slow
3	Dimmer 1		Same as CH 2 in the mode “16 ch mode 1” (p. 8)
4	Dimmer 1 Fine	0–255	Fine adjustment of CH 3
5	Shutter 1	0–5	Strobe open
		6–10	Strobe closed
		11–33	Random Pulse effect
		34–56	Random ramp-up effect
		57–79	Random ramp-down effect
		80–102	Random strobe effect
		103–127	Strobe-burst effect

CH	Function	DMX	Description
5	Shutter 1 (continued)	128–250	Strobe speed
		251–255	Strobe open
6	Red 1		Same as CH 5 in the mode “16 ch mode 1” (p. 9)
7	Green 1	0–255	
8	Blue 1	0–255	
9	White 1	0–255	
10	Color Macro 1	0–5	Colour Off
		6–13	Red
		14–21	Amber
		22–29	Yellow Amber
		30–37	Yellow
		38–45	Green
		46–53	Turquoise
		54–61	Cyan
		62–69	Blue
		70–77	Lavender
		78–85	Mauve
		86–93	Magenta
		94–101	Pink
		102–109	Warm White
		110–117	White
		118–125	Cold White
		126–127	No function
		128–191	Colour jumping
		192–255	Colour fading
11	Color Effects	0–5	Rainbow off
		6–21	Rainbow 1
		22–37	Rainbow 2
		38–53	Rainbow 3
		54–69	Rainbow 4
		70–85	Rainbow 5
		86–101	Rainbow 6
		102–117	Rainbow 7
		118–133	Rainbow 8
		134–149	Rainbow 9
		150–165	Rainbow 10
		166–181	Rainbow 11
		182–197	Rainbow 12
		198–213	Rainbow 13
		214–229	Rainbow 14
		230–255	Rainbow 15
12	Effects		Auto program

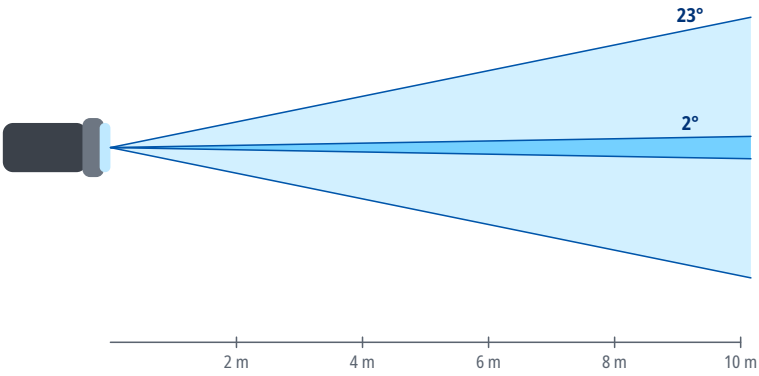
CH	Function	DMX	Description
12	Effects (continued)	0–5	No function
		6–30	Auto program 1
		31–55	Auto program 2
		56–80	Auto program 3
		81–105	Auto program 4
		106–130	Auto program 5
		131–155	Auto program 6
		156–180	Auto program 7
		181–205	Auto program 8
		206–230	Auto program 9
		231–255	Auto program 10
13	Effects Speed		Auto program speed
		0	Slow
		1–254	Slow ... Fast
		255	Fast
14	Effects Fade	0	Min
		1–254	Min ... Max
		255	Max
15	Dimmer Curve		Same as CH 10 in the mode “16 ch mode 1” (p. 9)
16	Function		Same as CH 11 in the mode “16 ch mode 1” (p. 9)
17	Red 2		Same as CH 14 in the mode “16 ch mode 1” (p. 10)
18	Green 2		Same as CH 15 in the mode “16 ch mode 1” (p. 10)
19	Blue 2		Same as CH 16 in the mode “16 ch mode 1” (p. 10)
20	White 2		Same as CH 9 in the mode “16 ch mode 2” (p. 10)
21	Red 3		Same as CH 10 in the mode “16 ch mode 2” (p. 10)
22	Green 3		Same as CH 11 in the mode “16 ch mode 2” (p. 11)
23	Blue 3		Same as CH 12 in the mode “16 ch mode 2” (p. 11)
24	White 3		Same as CH 13 in the mode “16 ch mode 2” (p. 11)
25	Red 4		Same as CH 14 in the mode “16 ch mode 2” (p. 11)
26	Green 4		Same as CH 15 in the mode “16 ch mode 2” (p. 11)
27	Blue 4		Same as CH 16 in the mode “16 ch mode 2” (p. 11)
28	White 4	0	Min
		1–254	Min ... Max
		255	Max
29	Dimmer 2		Same as CH 12 in the mode “16 ch mode 1” (p. 9)
30	Shutter 2		Same as CH 13 in the mode “16 ch mode 1” (p. 10)
31	Red 5	0	Min
		1–254	Min ... Max
		255	Max
32	Green 5	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
33	Blue 5	0	Min
		1–254	Min ... Max
		255	Max
34	Color Macro 2	0–5	Colour Off
		6–13	Red
		14–21	Amber
		22–29	Yellow Amber
		30–37	Yellow
		38–45	Green
		46–53	Turquoise
		54–61	Cyan
		62–69	Blue
		70–77	Lavender
		78–85	Mauve
		86–93	Magenta
		94–101	Pink
		102–109	Warm White
		110–117	White
		118–125	Cold White
		126–127	No function
		128–191	Colour jumping
		192–255	Colour fading

9 Technical specifications

Parameter	Value
Zoom	2–23°
Weight	9.7 kg
Operating temperature	-5 to 45 °C

Spot diameter



Distance	Ø 2°	Ø 23°
2 m	0.07 m	0.81 m
4 m	0.14 m	1.6 m
6 m	0.21 m	2.4 m
8 m	0.28 m	3.3 m
10 m	0.35 m	4.1 m
15 m	0.52 m	6.1 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.