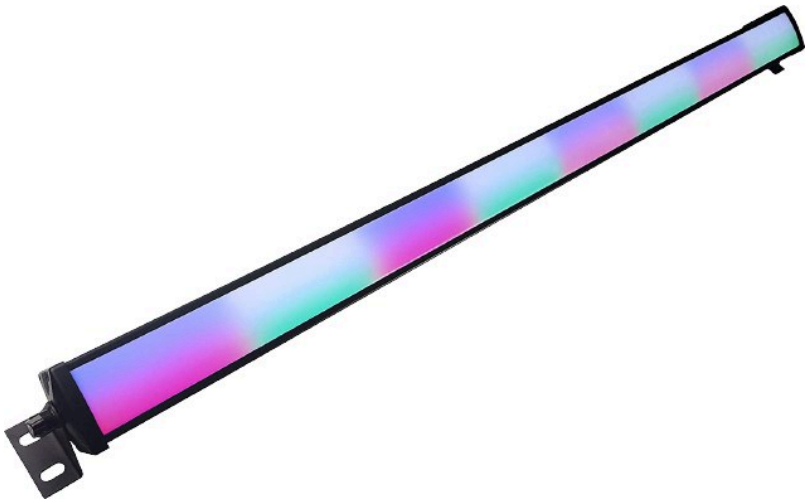
DMX REFERENCE

StormChaser Supercell

Blizzard StormChaser Supercell

Hardwater



Manufacturer	Hardwater
GDTF file	Hardwater_StormChaser_Supercell_40347.gdtf
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1 About this manual

This document describes the Blizzard StormChaser Supercell by Hardwater. It was compiled from the GDTF file Hardwater_StormChaser_Supercell_40347.gdtf from the GDTF-Share library.

File revision: “1.1.13”.

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 Hardwater; 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	1.4 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
52 Channel	52	9	1, 53, 105, 157, ...
7 Channel	7	73	1, 8, 15, 22, ...

No light? Check these channels

- 52 Channel: CH 1 Dimmer above 0; CH 2 Shutter at 0 “Open”
- 7 Channel: CH 1 Dimmer above 0; CH 2 Shutter at 0 “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

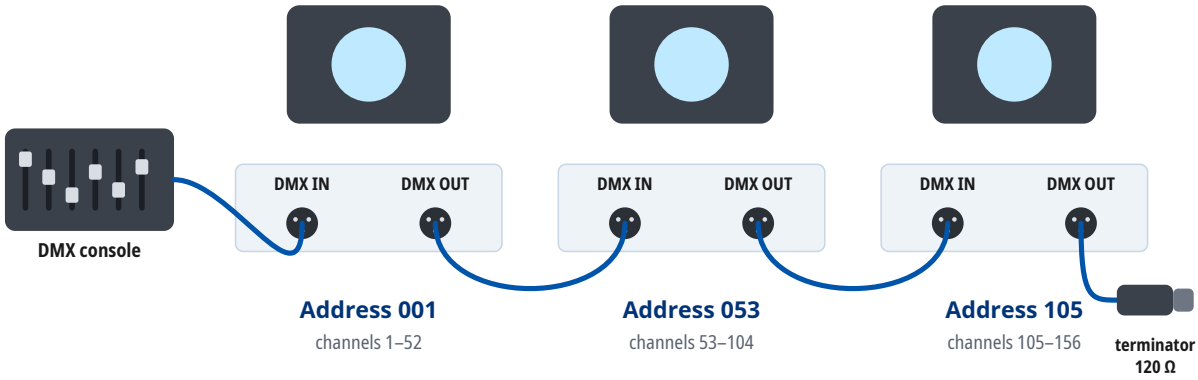
⚠ **WARNING**

- 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: 1.45 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 52 Channel: every unit occupies 52 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

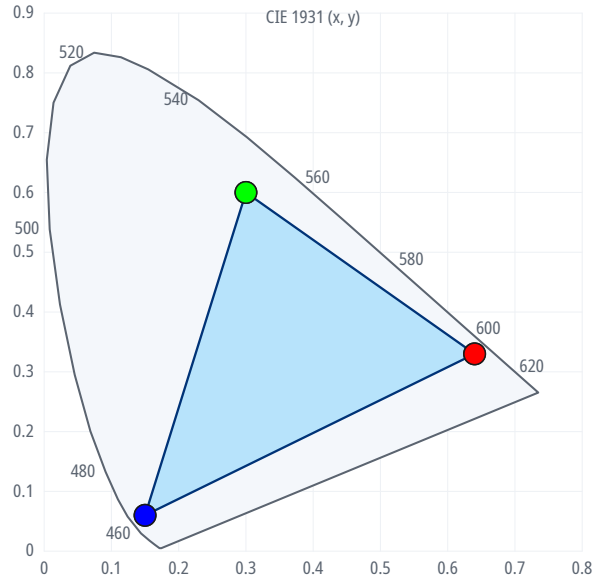
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “52 Channel”: 52.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “52 Channel”, you can use, for example, the start addresses 1, 53, 105, 157.
- 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

	52 Channel 52 channels	20 Channel 7 channels	7 Channel 7 channels
Dimmer	1		1
Shutter / strobe	2		2
Color mixing	3–50		3–5
Effects / macros			7
Pixel control	12 cells		

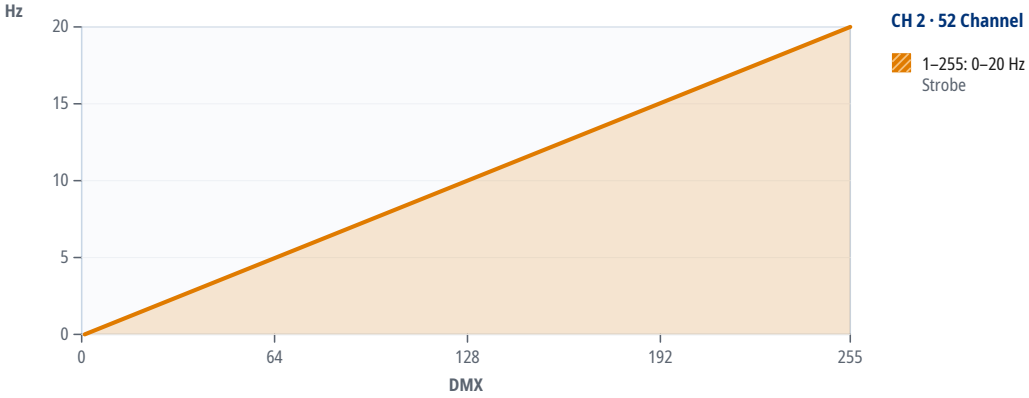
LED colors and the colors they mix



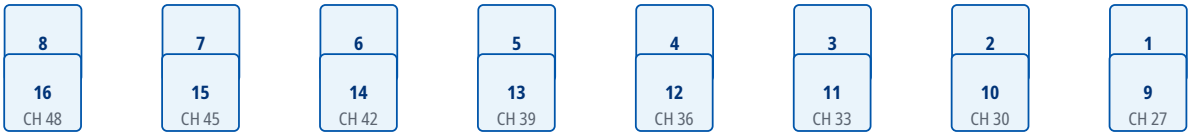
LED	x	y
R_52 Channel	0.640	0.330
G_52 Channel	0.300	0.600
B_52 Channel	0.150	0.060
R_20 Channel	0.640	0.330
G_20 Channel	0.300	0.600
B_20 Channel	0.150	0.060

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

Strobe rate



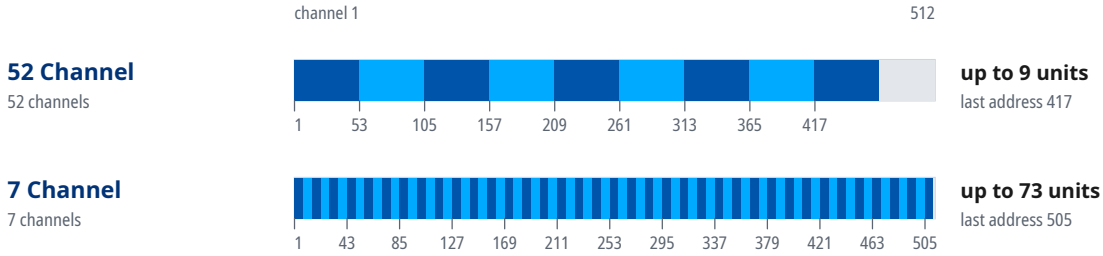
Cells (pixels)



16 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “52 Channel”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “52 Channel”

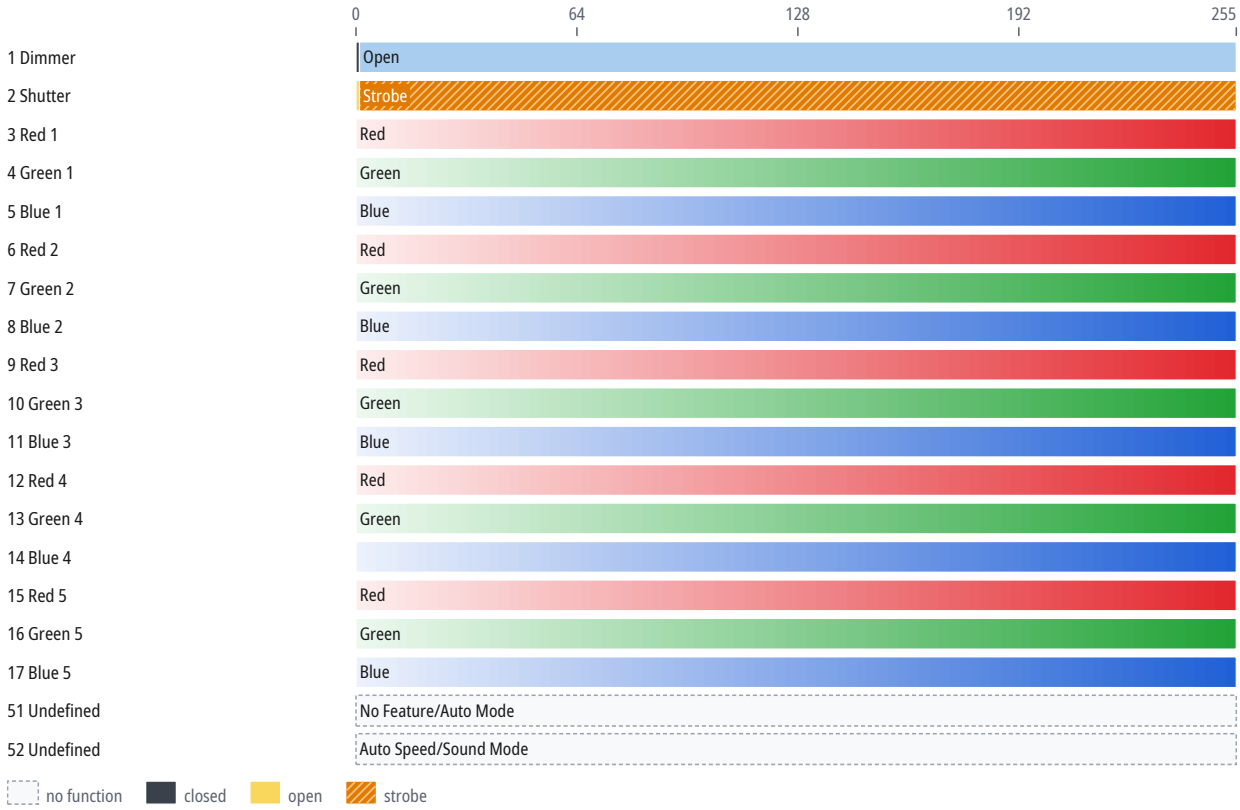
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	261	11	U2 · 53	16	U2 · 313
2	53	7	313	12	U2 · 105	17	U2 · 365
3	105	8	365	13	U2 · 157	18	U2 · 417
4	157	9	417	14	U2 · 209	19	U3 · 1
5	209	10	U2 · 1	15	U2 · 261	20	U3 · 53

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 52 Channel

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 Red 1 255, CH 4 Green 1 255, CH 5 Blue 1 255, CH 6 Red 2 255, CH 7 Green 2 255, CH 8 Blue 2 255, CH 9 Red 3 255, CH 10 Green 3 255, CH 11 Blue 3 255, CH 12 Red 4 255, CH 13 Green 4 255, CH 14 Blue 4 255, CH 15 Red 255 (the same in each of the 12 cells), CH 16 Green 255 (the same in each of the 12 cells), CH 17 Blue 255 (the same in each of the 12 cells).

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–255	Open
2	Shutter	0	Shutter: Open
		1–255	Strobe (0–20 Hz)
3	Red 1	0–255	Red
4	Green 1	0–255	Green
5	Blue 1	0–255	Blue
6	Red 2	0–255	Red
7	Green 2	0–255	Green
8	Blue 2	0–255	Blue
9	Red 3	0–255	Red
10	Green 3	0–255	Green
11	Blue 3	0–255	Blue
12	Red 4	0–255	Red

CH	Function	DMX	Description
13	Green 4	0–255	Green
14	Blue 4	0–255	
15	Red 5	0–255	Red
16	Green 5	0–255	Green
17	Blue 5	0–255	Blue
51	Undefined		No Feature/Auto Mode
		0–255	No Feature/Auto Mode
52	Undefined		Auto Speed/Sound Mode
		0–255	Auto Speed/Sound Mode

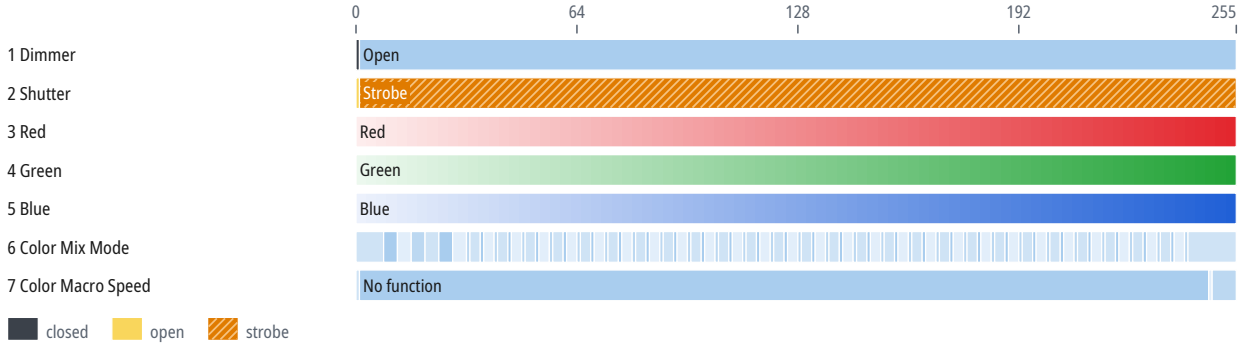
CH 15–50: 12 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 15–17); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	15	16	17	2	18	19	20	3	21	22	23
4	24	25	26	5	27	28	29	6	30	31	32
7	33	34	35	8	36	37	38	9	39	40	41
10	42	43	44	11	45	46	47	12	48	49	50

Mode 7 Channel

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 Red 255, CH 4 Green 255, CH 5 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “52 Channel” (p. 9)
2	Shutter		Same as CH 2 in the mode “52 Channel” (p. 9)
3	Red	0–255	Red
4	Green	0–255	Green
5	Blue	0–255	Blue
6	Color Mix Mode		Color Mixer
		0–7	Chases Off
		8–11	Auto Chase 1
		12–15	Auto Chase 2

CH	Function	DMX	Description
6	Color Mix Mode (continued)	16–19	Auto Chase 3
		20–23	Auto Chase 4
		24–27	Auto Chase 5
		28–31	Auto Chase 6
		32	Auto Chase 7
		33–35	Auto Chase 7 ... Auto Chase 8
		36	Auto Chase 8
		37–39	Auto Chase 8 ... Auto Chase 9
		40	Auto Chase 9
		41–43	Auto Chase 9 ... Auto Chase 10
		44	Auto Chase 10
		45–47	Auto Chase 10 ... Auto Chase 11
		48	Auto Chase 11
		49–51	Auto Chase 11 ... Auto Chase 12
		52	Auto Chase 12
		53–55	Auto Chase 12 ... Auto Chase 13
		56	Auto Chase 13
		57–59	Auto Chase 13 ... Auto Chase 14
		60	Auto Chase 14
		61–63	Auto Chase 14 ... Auto Chase 15
		64	Auto Chase 15
		65–67	Auto Chase 15 ... Auto Chase 16
		68	Auto Chase 16
		69–71	Auto Chase 16 ... Auto Chase 17
		72	Auto Chase 17
		73–75	Auto Chase 17 ... Auto Chase 18
		76	Auto Chase 18
		77–79	Auto Chase 18 ... Auto Chase 19
		80	Auto Chase 19
		81–83	Auto Chase 19 ... Auto Chase 20
		84	Auto Chase 20
		85–87	Auto Chase 20 ... Auto Chase 21
		88	Auto Chase 21
		89–91	Auto Chase 21 ... Auto Chase 22
		92	Auto Chase 22
		93–95	Auto Chase 22 ... Auto Chase 23
		96	Auto Chase 23
		97–99	Auto Chase 23 ... Auto Chase 24
		100	Auto Chase 24
		101–103	Auto Chase 24 ... Auto Chase 25
		104	Auto Chase 25
		105–107	Auto Chase 25 ... Empty Channel Set

CH	Function	DMX	Description
6	Color Mix Mode (continued)	108	Empty Channel Set
		109–111	Color Mixer
		112	Empty Channel Set
		113–115	Color Mixer
		116	Empty Channel Set
		117–119	Color Mixer
		120	Empty Channel Set
		121–123	Color Mixer
		124	Empty Channel Set
		125–127	Color Mixer
		128	Empty Channel Set
		129–131	Color Mixer
		132	Empty Channel Set
		133–135	Color Mixer
		136	Empty Channel Set
		137–139	Color Mixer
		140	Empty Channel Set
		141–143	Color Mixer
		144	Empty Channel Set
		145–147	Color Mixer
		148	Empty Channel Set
		149–151	Color Mixer
		152	Empty Channel Set
		153–155	Color Mixer
		156	Empty Channel Set
		157–159	Color Mixer
		160	Empty Channel Set
		161–163	Color Mixer
		164	Empty Channel Set
		165–167	Color Mixer
		168	Empty Channel Set
		169–171	Color Mixer
		172	Empty Channel Set
		173–175	Color Mixer
		176	Empty Channel Set
		177–179	Color Mixer
		180	Empty Channel Set
		181–183	Color Mixer
		184	Empty Channel Set
		185–187	Color Mixer
		188	Empty Channel Set
		189–191	Color Mixer

CH	Function	DMX	Description
6	Color Mix Mode (continued)	192	Empty Channel Set
		193–195	Color Mixer
		196	Empty Channel Set
		197–199	Color Mixer
		200	Empty Channel Set
		201–203	Color Mixer
		204	Empty Channel Set
		205–207	Color Mixer
		208	Empty Channel Set
		209–211	Color Mixer
		212	Empty Channel Set
		213–215	Color Mixer
		216	Empty Channel Set
		217–219	Color Mixer
		220	Empty Channel Set
		221–223	Color Mixer
		224	Empty Channel Set
		225–227	Color Mixer
		228	Empty Channel Set
		229–231	Color Mixer
		232	Empty Channel Set
		233–235	Color Mixer
		236	Empty Channel Set
		237–239	Color Mixer
		240	Empty Channel Set
		241–255	Color Mixer
7	Color Macro Speed		Audio Rate
		0	Min
		1–246	No function
		247	Max
		248–255	Auto

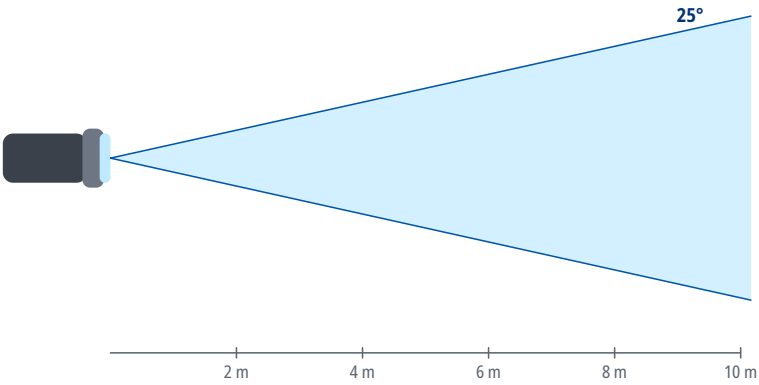
9 Technical specifications

Parameter	Value
Light source	LED
Weight	1.4 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0–20 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.