DMX REFERENCE

atomioc strobe 12ch

ZQ06121 Strobe

UKing



Manufacturer	UKing
GDTF file	UKing_atomioc_strobe_12ch_135742.gdtf
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1 About this manual

This document describes the ZQ06121 Strobe by UKing. It was compiled from the GDTF file UKing_atomioc_strobe_12ch_135742.gdtf from the GDTF-Share library.

File revision: “steven”.

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 UKing; 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	3.7 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
4CH	4	128	1, 5, 9, 13, ...
6CH	6	85	1, 7, 13, 19, ...
144CH	144	3	1, 145, 289
154CH	154	3	1, 155, 309
12 CH	12	42	1, 13, 25, 37, ...
Mode	6	85	1, 7, 13, 19, ...

No light? Check these channels

- 4CH: CH 4 Dimmer above 0
- 6CH: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 6 Dimmer 2 above 0
- 154CH: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 147 Dimmer above 0 (the same in each of the 8 cells)
- 12 CH: CH 1 Dimmer above 0; CH 2 Shutter 1 at 0 “Open”; CH 6 Shutter 2 at 0 “Open”
- Mode: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 6 Dimmer 2 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.

⚠ WARNING

- This device produces very intense flashes of light.
- Flash rates of about 3 to 30 flashes per second carry the highest risk for people with photosensitive epilepsy.
- Do not aim the device into the eyes of the audience or performers at close range.
- At public events, always give clear advance notice that strobe effects will be used.

4 Installation

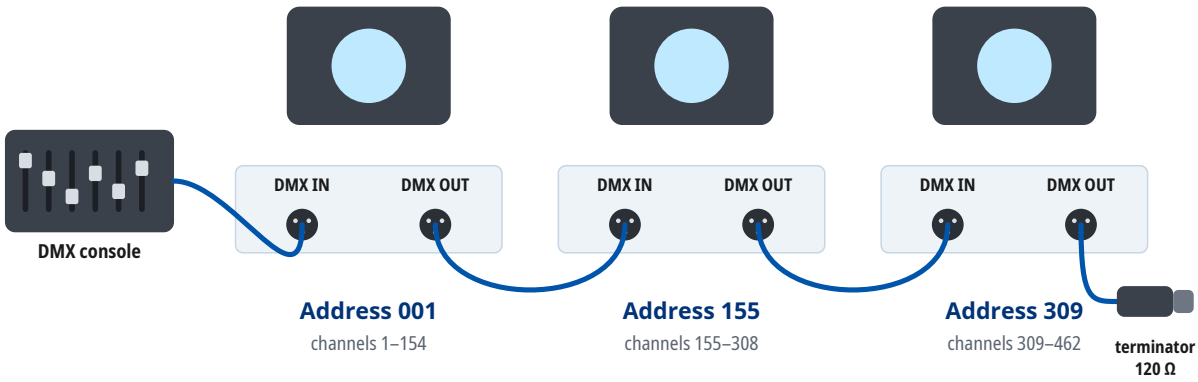
⚠ WARNING

- 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: 3.7 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 154CH: every unit occupies 154 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

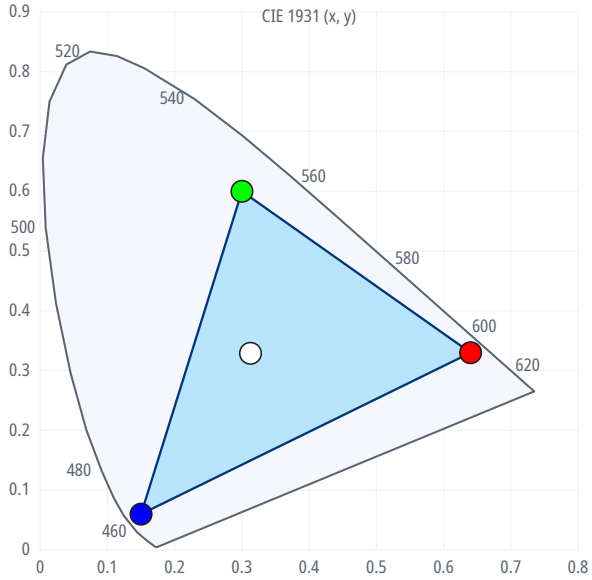
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “154CH”: 154.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “154CH”, you can use, for example, the start addresses 1, 155, 309.
- 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

	4CH 4 channels	6CH 6 channels	144CH 144 channels	154CH 154 channels	12 CH 12 channels	Mode 6 channels
Dimmer	4	1, 6	✓	1, 147–154	1	1, 6
Shutter / strobe		2		2	2, 6	2
Color mixing	1–3	3–5	1–144	3–146	9–12	3–5
Effects / macros					3, 5, 7, 8	
Pixel control				48 + 8 cells		

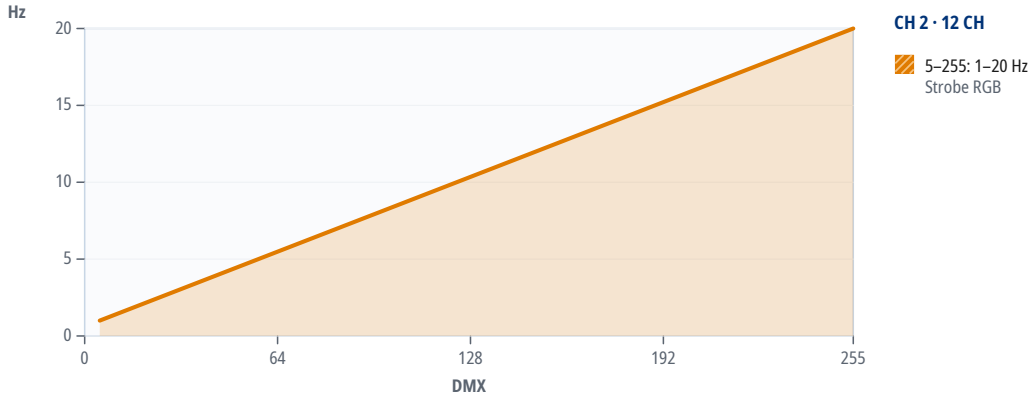
LED colors and the colors they mix



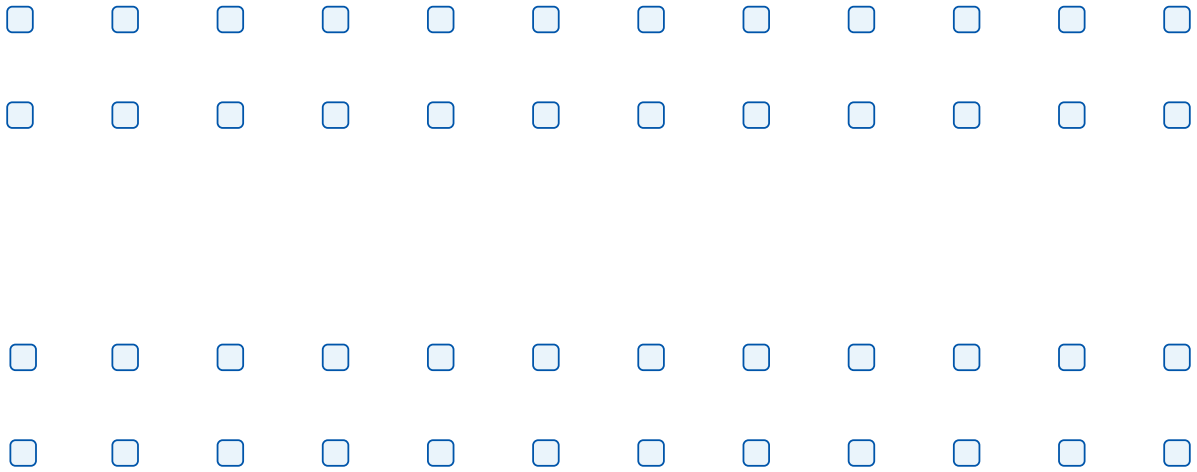
LED	x	y
White	0.313	0.329
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060

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

Strobe rate



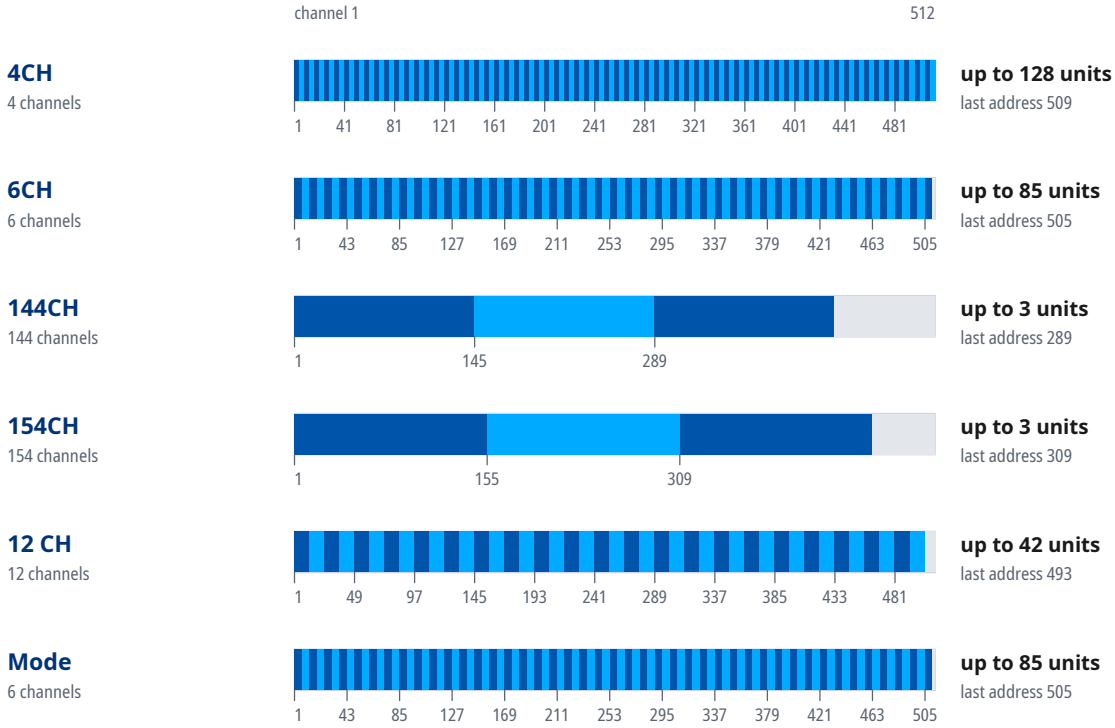
Cells (pixels)



Cells where the GDTF file places them (seen from above), 48 in all in the mode “12 CH”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “154CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 309	11	U4 · 155	16	U6 · 1
2	155	7	U3 · 1	12	U4 · 309	17	U6 · 155
3	309	8	U3 · 155	13	U5 · 1	18	U6 · 309
4	U2 · 1	9	U3 · 309	14	U5 · 155	19	U7 · 1
5	U2 · 155	10	U4 · 1	15	U5 · 309	20	U7 · 155

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 4CH

If the device receives DMX in this mode but gives no light, check these channels: CH 4 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 100.

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

CH	Function	DMX	Description
3	Blue (continued)	1–254	Min ... Max
		255	Max
4	Dimmer		White Dimmer
		0	Closed
		1–254	Closed ... Open
		255	Open

Mode 6CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 6 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 2 255.

CH	Function	DMX	Description
1	Dimmer 1	0	Closed
		1–254	Closed ... Open
		255	Open
2	Shutter	0	Shutter 1: Open
		1	Strobe Slow
		2–254	Strobe Slow ... Strobe Fast
		255	Strobe Fast
3	Red		Same as CH 1 in the mode “4CH” (p. 8)
4	Green		Same as CH 2 in the mode “4CH” (p. 8)
5	Blue		Same as CH 3 in the mode “4CH” (p. 8)
6	Dimmer 2	0	Closed
		1–254	Closed ... Open
		255	Open

Mode 144CH

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

CH 1–144: 48 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24	9	25	26	27
10	28	29	30	11	31	32	33	12	34	35	36
13	37	38	39	14	40	41	42	15	43	44	45
16	46	47	48	17	49	50	51	18	52	53	54
19	55	56	57	20	58	59	60	21	61	62	63
22	64	65	66	23	67	68	69	24	70	71	72
25	73	74	75	26	76	77	78	27	79	80	81
28	82	83	84	29	85	86	87	30	88	89	90
31	91	92	93	32	94	95	96	33	97	98	99
34	100	101	102	35	103	104	105	36	106	107	108
37	109	110	111	38	112	113	114	39	115	116	117
40	118	119	120	41	121	122	123	42	124	125	126
43	127	128	129	44	130	131	132	45	133	134	135
46	136	137	138	47	139	140	141	48	142	143	144

Mode 154CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 147 Dimmer above 0 (the same in each of the 8 cells). The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 147 Dimmer 255 (the same in each of the 8 cells).

CH	Function	DMX	Description
1	Dimmer 1		Same as CH 1 in the mode “6CH” (p. 9)
2	Shutter	0	Shutter 1: Open
		1	Min Strobe
		2–254	Min Strobe ... Max Strobe
		255	Max Strobe
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

CH	Function	DMX	Description
147	Dimmer 2	0	Closed
		1–254	Closed … Open
		255	Open

CH 3–146: 48 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 3–5); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	3	4	5	2	6	7	8	3	9	10	11
4	12	13	14	5	15	16	17	6	18	19	20
7	21	22	23	8	24	25	26	9	27	28	29
10	30	31	32	11	33	34	35	12	36	37	38
13	39	40	41	14	42	43	44	15	45	46	47
16	48	49	50	17	51	52	53	18	54	55	56
19	57	58	59	20	60	61	62	21	63	64	65
22	66	67	68	23	69	70	71	24	72	73	74
25	75	76	77	26	78	79	80	27	81	82	83
28	84	85	86	29	87	88	89	30	90	91	92
31	93	94	95	32	96	97	98	33	99	100	101
34	102	103	104	35	105	106	107	36	108	109	110
37	111	112	113	38	114	115	116	39	117	118	119
40	120	121	122	41	123	124	125	42	126	127	128
43	129	130	131	44	132	133	134	45	135	136	137
46	138	139	140	47	141	142	143	48	144	145	146

CH 147–154: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 147); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	147	2	148	3	149	4	150	5	151	6	152
7	153	8	154								

Mode 12 CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 2 Shutter 1 at 0 “Open”; CH 6 Shutter 2 at 0 “Open”.

CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed … Open
		255	Open
2	Shutter 1	0	Shutter 1 RGB: Open
		1–4	Shutter 1 RGB
		5	Strobe Slow
		6–254	Strobe Slow … Strobe Fast
		255	Strobe Fast

CH	Function	DMX	Description
3	Color Macro 1	0–5	Rgb dimming for ch 9 to 11
		6–10	Static color ch 4 select
		11–15	Breathing effect
		16–20	Jump Change effect
		21–25	Gradient effect
		26–30	Pulse change effect CH5 select color
		31–32	Autorun effect 1 CH5 select color
		33–34	Autorun effect 2 CH5 select color
		35–36	Autorun effect 3 CH5 select color
		37–38	Autorun effect 4 CH5 select color
		39–40	Autorun effect 5
		41–42	Autorun effect 6
		43–44	Autorun effect 7
		45–46	Autorun effect 8
		47–48	Autorun effect 9
		49–50	Autorun effect 10
		51–52	Autorun effect 11
		53–54	Autorun effect 12
		55–56	Autorun effect 13
		57–58	Autorun effect 14
		59–60	Autorun effect 15
		61–62	Autorun effect 16
		63–64	Autorun effect 17
		65–66	Autorun effect 18
		67–68	Autorun effect 19
		69–70	Autorun effect 20
		71–72	Autorun effect 21
		73–74	Autorun effect 22
		75–76	Autorun effect 23
		77–78	Autorun effect 24
		79–80	Autorun effect 25
		81–82	Autorun effect 26
		83–84	Autorun effect 27
		85–86	Autorun effect 28
		87–88	Autorun effect 29
		89–90	Autorun effect 30
		91–92	Autorun effect 31
		93–94	Autorun effect 32
		95–96	Autorun effect 33
		97–98	Autorun effect 34
		99–100	Autorun effect 35

CH	Function	DMX	Description
3	Color Macro 1 (continued)	101–102	Autorun effect 36
		103–104	Autorun effect 37
		105–106	Autorun effect 38
		107–108	Autorun effect 39
		109–110	Autorun effect 40
		111–112	Autorun effect 41
		113–114	Autorun effect 42
		115–116	Autorun effect 43
		117–118	Autorun effect 44
		119–120	Autorun effect 45
		121–122	Autorun effect 46
		123–124	Autorun effect 47
		125–126	Autorun effect 48
		127–128	Autorun effect 49
		129–130	Autorun effect 50
		131–132	Autorun effect 51
		133–134	Autorun effect 52
		135–136	Autorun effect 53
		137–138	Autorun effect 54
		139–140	Autorun effect 55
		141–142	Autorun effect 56
		143–144	Autorun effect 57
		145–146	Autorun effect 58
		147–148	Autorun effect 59
		149–150	Autorun effect 60
		151–152	Autorun effect 61
		153–154	Autorun effect 62
		155–156	Autorun effect 63
		157–158	Autorun effect 64
		159–160	Autorun effect 65
		161–162	Autorun effect 66
		163–164	Autorun effect 67
		165–166	Autorun effect 68
		167–168	Autorun effect 69
		169–170	Autorun effect 70
		171–172	Autorun effect 71
		173–174	Autorun effect 72
		175–176	Autorun effect 73
		177–178	Autorun effect 74
		179–180	Autorun effect 75
		181–182	Autorun effect 76

CH	Function	DMX	Description
3	Color Macro 1 (continued)	183–184	Autorun effect 77
		185–186	Autorun effect 78
		187–188	Autorun effect 79
		189–190	Autorun effect 80
		191–192	Autorun effect 81
		193–194	Autorun effect 82
		195–196	Autorun effect 83
		197–198	Autorun effect 84
		199–200	Autorun effect 85
		201–202	Autorun effect 86
		203–204	Autorun effect 87
		205–229	Autorun effect 88 full color
		230–233	Sound mode 1
		234–237	Sound mode 2
		238–241	Sound mode 3
		242–245	Sound mode 4
		246–249	Sound mode 5
		250–255	Sound mode 6
4	Color Mix Speed		macros speed
		0–255	Macros speed
5	Colors	0–31	Default color
		32–63	Red for CH3
		64–95	Green for CH3
		96–127	Blue for CH3
		128–159	Yellow for CH3
		160–191	Purple for CH3
		192–223	Cyan for CH3
		224–255	White for CH3
6	Shutter 2	0	Shutter 1 White: Open
		1–4	Shutter 1 White
		5	Strobe Slow
		6–254	Strobe Slow ... Strobe Fast
		255	Strobe Fast
7	Color Macro 2	0–5	Perform the CH12 W Dimming
		6–10	White effect 1
		11–15	White effect 2
		16–20	White effect 3
		21–25	White effect 4
		26–30	White effect 5
		31–35	White effect 6
		36–40	White effect 7

CH	Function	DMX	Description
7	Color Macro 2 (continued)	41–45	White effect 8
		46–50	White effect 9
		51–55	White effect 10
		56–60	White effect 11
		61–65	White effect 12
		66–70	White effect 13
		71–75	White effect 14
		76–80	White effect 15
		81–85	White effect 16
		86–90	White effect 17
		91–95	White effect 18
		96–100	White effect 19
		101–105	White effect 20
		106–110	White effect 21
		111–115	White effect 22
		116–119	White effect 22 ... White effect 23
		120–125	White effect 23
		126–130	White effect 24
		131–135	White effect 25
		136–140	White effect 26
		141–145	White effect 27
		146–150	White effect 28
		151–155	White effect 29
		156–160	White effect 30
		161–165	White effect 31
		166–170	White effect 32
		171–175	White effect 33
		176–180	White effect 34
		181–185	White effect 35
		186–190	White effect 36
		191–195	White effect 37
		196–200	White effect 38
		201–205	White effect 39
		206–210	White effect 40
		211–215	White effect 41
		216–255	White effect 42
8	Color Macro 3		white effect slow to fast
		0–255	White effect slow to fast
9	Red	0–255	
10	Green	0–255	
11	Blue	0–255	

CH	Function	DMX	Description
12	White	0–255	

Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer 1 above 0; CH 2 Shutter at 0 “Open”; CH 6 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 2 255.

CH	Function	DMX	Description
1	Dimmer 1		Same as CH 1 in the mode “6CH” (p. 9)
2	Shutter		Same as CH 2 in the mode “6CH” (p. 9)
3	Red		Same as CH 1 in the mode “4CH” (p. 8)
4	Green		Same as CH 2 in the mode “4CH” (p. 8)
5	Blue		Same as CH 3 in the mode “4CH” (p. 8)
6	Dimmer 2		Same as CH 6 in the mode “6CH” (p. 9)

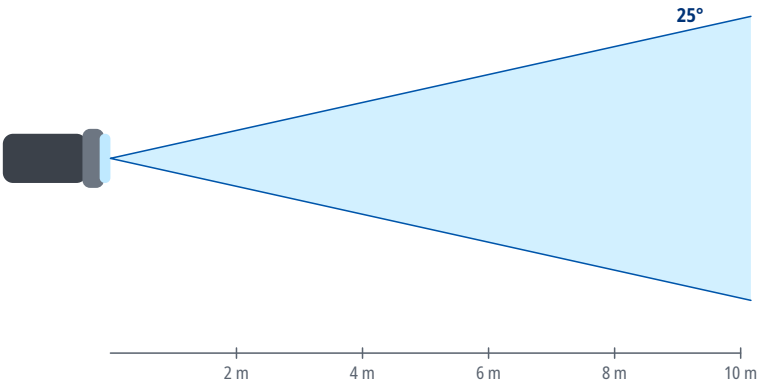
9 Technical specifications

Parameter	Value
Light source	LED
Weight	3.7 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–20 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.