DMX REFERENCE

ZQ02339

ZQ02339 19x40W LED Bee Eye

UKing



Manufacturer	UKing
GDTF file	UKing_ZQ02339_124132.gdtf
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1 About this manual

This document describes the ZQ02339 19x40W LED Bee Eye by UKing. It was compiled from the GDTF file UKing_ZQ02339_124132.gdtf from the GDTF-Share library.

File revision: “0012”.

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	15.7 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	21	24	1, 22, 43, 64, ...
Shapes	36	14	1, 37, 73, 109, ...
PixelMode	112	4	1, 113, 225, 337

No light? Check these channels

- Standard: CH 12 Dimmer above 0
- Shapes: CH 11 Shutter at 252–255 “Open”; CH 12 Dimmer 1 above 0; CH 29 Dimmer 2 above 0; CH 30 Dimmer 3 above 0
- PixelMode: CH 11 Strobe at 1–255 “Open”; CH 12 Dimmer 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.

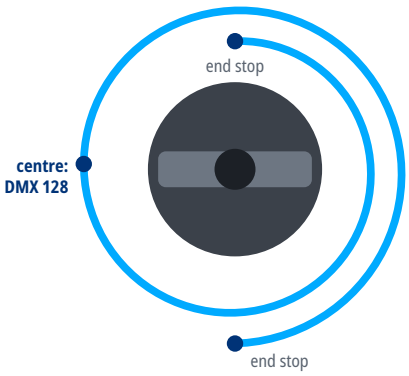
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
> - Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Range of movement

Pan 540°

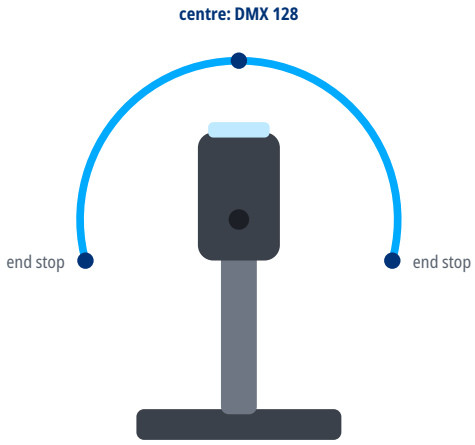
top view



full travel in 4.2 s

Tilt 210°

side view



full travel in 2.5 s

Full-travel times as stated in the GDTF file.

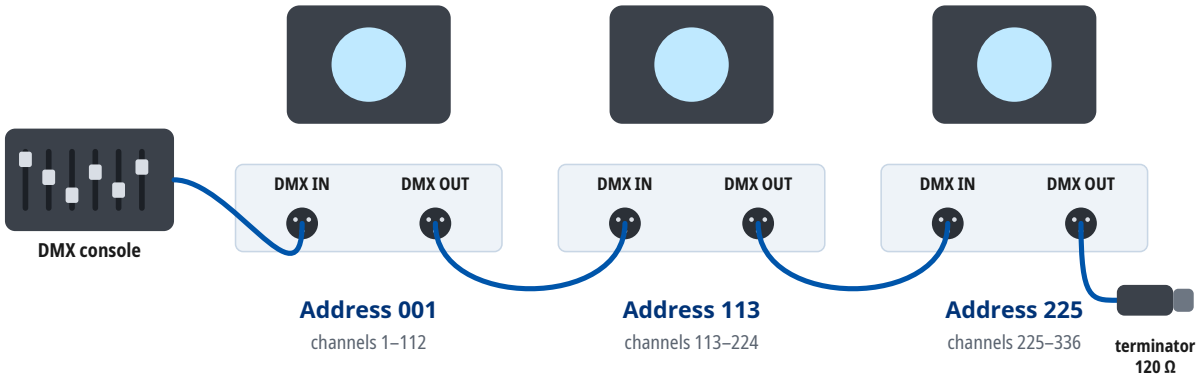
5 Installation

> ⚠ **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: 15.7 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.

6 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 PixelMode: every unit occupies 112 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.

7 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 “PixelMode”: 112.
- 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 “PixelMode”, you can use, for example, the start addresses 1, 113, 225, 337.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

Functions in each DMX mode

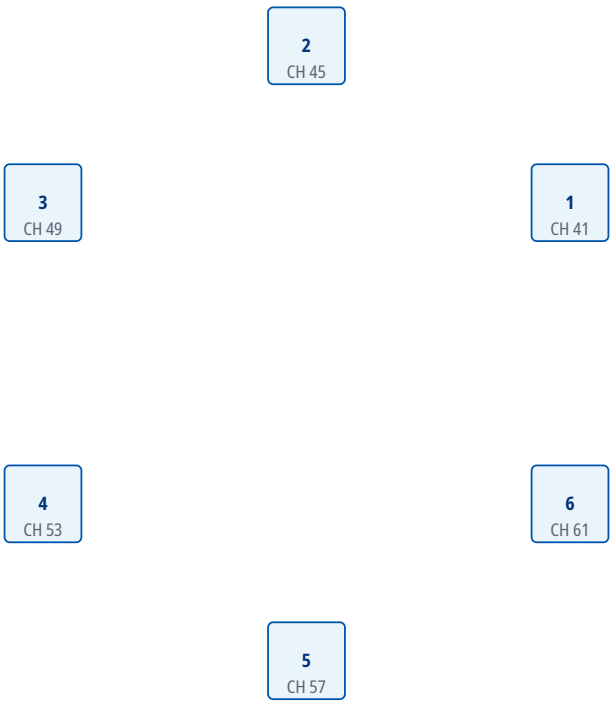
	Standard 21 channels	Shapes 36 channels	PixelMode 112 channels
Pan / Tilt	14, 16	14, 16	14, 16
Dimmer	12	12, 29, 30	12
Shutter / strobe		11	
Color mixing	4× (1–7)	8 channels (1–28)	37–112
Color temperature	9	9	9
Color wheel	10		
Zoom	20	20	20
Effects / macros		10	
Pixel control			19 cells

Color wheel




25 Sky Blue
26 Just Blue
27 Dark Yellow Green
28 Spring Yellow
29 Light Amber
30 Straw
31 Deep Amber
32 Orange
33 Light Rose
34 English Rose
35 Light Salmon
36 Middle Rose
37 Dark Pink
38 Magenta2
39 Peacock Blue
40 Med Blue Green
41 Steel Blue
42 Light Blue
43 Dark Blue
44 Leaf Green
45 Dark Green
46 Mauve
47 Bright Pink
48 Medium Blue
49 Deep Golden Amber
50 Pale Lavender
51 Special Lavender
52 Primary Green
53 Bright Blue
54 Apricot
55 Pale Gold
56 Deep Orange
57 Bastard Amber
58 Flame Red
59 Daylight Blue
60 Lilac Tint
61 Deep Lavender
62 Dark Steel Blue
63 Congo Blue
64 Alice Blue
65 Dirty White
66 ColorAdd_W

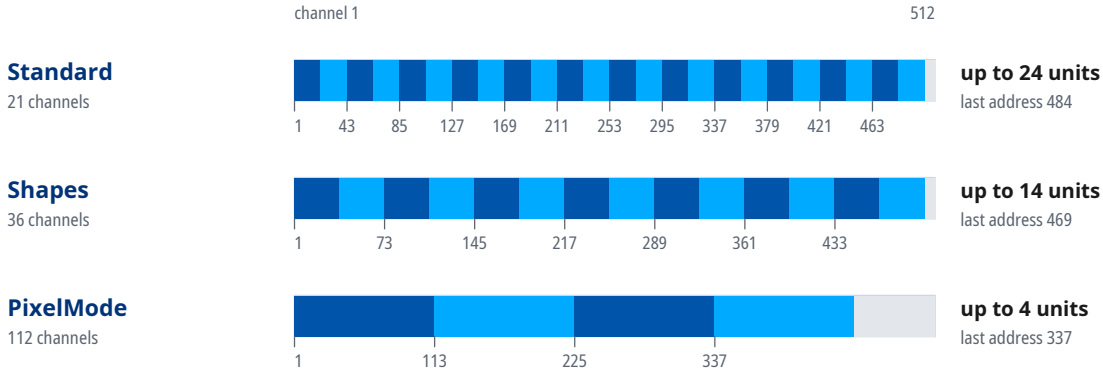
Cells (pixels)



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

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “PixelMode”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 113	11	U3 · 225	16	U4 · 337
2	113	7	U2 · 225	12	U3 · 337	17	U5 · 1
3	225	8	U2 · 337	13	U4 · 1	18	U5 · 113
4	337	9	U3 · 1	14	U4 · 113	19	U5 · 225
5	U2 · 1	10	U3 · 113	15	U4 · 225	20	U5 · 337

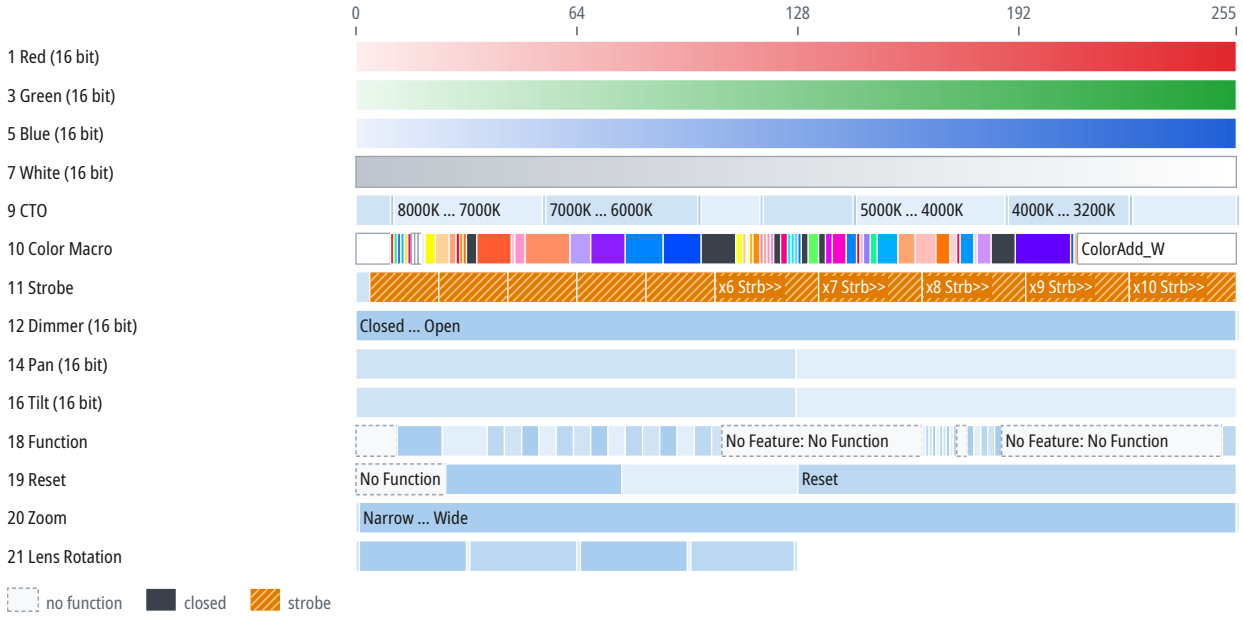
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Standard

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 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 3 Green 255, CH 5 Blue 255, CH 7 White 255, CH 10 Color Macro 0, CH 11 Strobe 255, CH 12 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green	0–255	
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue	0–255	
6	Blue Fine	0–255	Fine adjustment of CH 5
7	White	0–255	
8	White Fine	0–255	Fine adjustment of CH 7
9	CTO	0–9	No CTO
		10	8000K
		11–53	8000K ... 7000K
		54	7000K
		55–98	7000K ... 6000K
		99	6000K
		100–116	6000K ... 5600K
		117	5600K
		118–143	5600K ... 5000K
		144	5000K
		145–187	5000K ... 4000K
		188	4000K

CH	Function	DMX	Description
9	CTO (continued)	189–223	4000K … 3200K
		224	3200K
		225–254	3200K … 2500K
		255	2500K
10	Color Macro	0–9	No Macro Color
		10	ColorAdd_R
		11	ColorAdd_G
		12	ColorAdd_B
		13	Cyan
		14	Yellow
		15	Magenta
		16	White 7000K
		17	White 3700K
		18	White 5000K
		19	Black
		20–22	Medium Yellow
		23–26	Straw Tint
		27–28	Surprise Peach
		29	Fire
		30	Medium Amber
		31	Gold Amber
		32–34	Dark Amber
		35–44	Sunrise Red
		45	Light Pink
		46–48	Medium Pink
		49–61	Pink Carnation
		62–67	Light Lavender
		68–77	Lavender
		78–88	Sky Blue
		89–99	Just Blue
		100–109	Dark Yellow Green
		110–111	Sping Yellow
		112	Light Amber
		113	Straw
		114	Deep Amber
		115–116	Orange
		117	Light Rose
		118	English Rose
		119	Light Salmon
		120	Middle Rose
		121–122	Dark Pink
		123–124	Magenta2

CH	Function	DMX	Description
10	Color Macro (continued)	125	Peacock Blue
		126	Med Blue Green
		127	Steel Blue
		128	Light Blue
		129–130	Dark Blue
		131–133	Leaf Green
		134–135	Dark Green
		136–137	Mauve
		138–141	Bright Pink
		142–144	Medium Blue
		145	Deep Golden Amber
		146	Pale Lavender
		147–148	Special Lavender
		149–150	Primary Green
		151–156	Bright Blue
		157–161	Apricot
		162–167	Pale Gold
		168–171	Deep Orange
		172–173	Bastard Amber
		174	Flame Red
		175–178	Daylight Blue
		179	Lilac Tint
		180–183	Deep Lavender
		184–190	Dark Steel Blue
		191–206	Congo Blue
		207	Alice Blue
		208	Dirty White
		209–255	ColorAdd_W
11	Strobe	0–3	Strobe
		4–23	x1 Strb>>
		24–43	x2 Strb>>
		44–63	x3 Strb>>
		64–83	x4 Strb>>
		84–103	x5 Strb>>
		104–133	x6 Strb>>
		134–163	x7 Strb>>
		164–193	x8 Strb>>
		194–223	x9 Strb>>
		224–255	x10 Strb>>
12	Dimmer	0–255	Closed ... Open
		255	Open
13	Dimmer Fine	0–255	Fine adjustment of CH 12

CH	Function	DMX	Description
14	Pan	0–127	Pan
		128	Home
		128–255	Pan
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–127	Tilt
		128	Home
		128–255	Tilt
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Function	0–11	No Feature: No Function
		12–24	Fast Pan/Tilt
		25–37	Normal Pan/Tilt
		38–42	Dimmer Curve 1
		43–47	Dimmer Curve 2
		48–52	Dimmer Curve 3
		53–57	Dimmer Curve 4
		58–62	Gamma Curve 1
		63–67	Gamma Curve 2
		68–72	Gamma Curve 3
		73–77	Halo OFF
		78–82	Halo 750W
		83–87	Halo 1000W
		88–92	Halo 1200W
		93–97	Halo 2000W
		98–102	Halo 2500W
		103–105	Pixel Map ON
		106–163	No Feature: No Function
		164	1000Hz
		165	1500Hz
		166	2400Hz
		167	3700Hz
		168	5600Hz
		169	9400Hz
		170	15100Hz
		171	21400Hz
		172	31000Hz
		173	43700Hz
		174–176	No Feature: No Function
		177–178	Emulate K20 OFF
		179–180	Emulate K20 ON
		181–182	Standard
		183–184	Silent
		185–186	Theather

CH	Function	DMX	Description
18	Function (continued)	187–250	No Feature: No Function
		251–255	Default Function Recall
19	Reset	0–25	No Function
		26–76	Zoom Reset
		77–127	Position Reset
		128–255	Reset
20	Zoom	0	Narrow
		1–254	Narrow ... Wide
		255	Wide
21	Lens Rotation		When CH 20 is 0–45:
		0	0 deg
		1–31	0 deg ... 15 deg
		32	15 deg
		33–63	15 deg ... 30 deg
		64	30 deg
		65–95	30 deg ... 45 deg
		96	45 deg
		97–126	45 deg ... 60 deg
		127	60 deg
		128–140	x5 Rot Zoom<<
		141–152	x4 Rot Zoom<<
		153–165	x3 Rot Zoom<<
		166–177	x2 Rot Zoom<<
		178–190	x1 Rot Zoom<<
		191–192	Rot Zoom><
		193–205	x1 Rot Zoom>>
		206–217	x2 Rot Zoom>>
		218–230	x3 Rot Zoom>>
		231–242	x4 Rot Zoom>>
		243–255	x5 Rot Zoom>>
			When CH 20 is 46–255:
		0–255	

Mode Shapes

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 11 Shutter at 252–255 “Open”; CH 12 Dimmer 1 above 0; CH 29 Dimmer 2 above 0; CH 30 Dimmer 3 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 0, CH 3 Green 1 0, CH 5 Blue 1 0, CH 7 White 1 255, CH 9 CTO 0, CH 10 Color Macro 0, CH 11 Shutter 255, CH 12 Dimmer 1 255, CH 30 Dimmer 3 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Red 1	0–255	Min ... Max
		255	Max
2	Red 1 Fine	0–255	Fine adjustment of CH 1
3	Green 1	0–255	Min ... Max
		255	Max
4	Green 1 Fine	0–255	Fine adjustment of CH 3
5	Blue 1	0–255	Min ... Max
		255	Max
6	Blue 1 Fine	0–255	Fine adjustment of CH 5
7	White 1	0–255	Min ... Max

CH	Function	DMX	Description
7	White 1 (continued)	255	Max
8	White 1 Fine	0–255	Fine adjustment of CH 7
9	CTO		Same as CH 9 in the mode “Standard” (p. 11)
10	Color Macro		Same as CH 10 in the mode “Standard” (p. 12)
11	Shutter	0–3	Closed
		4–80	Strb >
		81–189	Strb >>
		190–251	Strb >>>
		252–255	Open
12	Dimmer 1	0–255	Closed ... Open
		255	Open
13	Dimmer 1 Fine	0–255	Fine adjustment of CH 12
14	Pan	0–127	Min ... Center
		127	Center
		128–255	Center ... max
		255	Max
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–127	Min ... Center
		127	Center
		128–255	Center ... max
		255	Max
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Function	0–11	No Function
		12–24	Fast Pan/Tilt
		25–37	Normal Pan/Tilt
		38–102	No function
		103–105	Pixel Map ON
		106–255	No Function
19	Reset	0	No Function
		1–127	No function
		128–255	Reset
20	Zoom	0	Narrow
		1–127	Narrow ... Mid
		128	Mid
		129–254	Mid ... Wide
		255	Wide
21	Lens Rotation		When CH 20 is 0–45:
		0	0 deg
		1–31	0 deg ... 15 deg
		32	15 deg
		33–63	15 deg ... 30 deg

CH	Function	DMX	Description
21	Lens Rotation (continued)	64	30 deg
		65–95	30 deg ... 45 deg
		96	45 deg
		97–126	45 deg ... 60 deg
		127	60 deg
		128–140	x5 Rot Zoom<<
		141–152	x4 Rot Zoom<<
		153–165	x3 Rot Zoom<<
		166–177	x2 Rot Zoom<<
		178–190	x1 Rot Zoom<<
		191–192	Rot Zoom><
		193–205	x1 Rot Zoom>>
		206–217	x2 Rot Zoom>>
		218–230	x3 Rot Zoom>>
		231–242	x4 Rot Zoom>>
		243–255	x5 Rot Zoom>>
22	Shape Selection	0–7	Shape OFF
		8	Pixel 1
		9	Ring 1
		10	Ring 2
		11	No Shape
		12	Pixel1 + Ring1
		13	Pixel1 + Ring2
		14	No Shape
		15	Single Ring
		16	Filled Ring2
		17	Open/Close 1
		18	Open/Close 2
		19	Rnd Pixels 1
		20	Rnd Pixels 2
		21	Rainbow 1
		22	Rainbow 2
		23	Fan
		24	Bar 1
		25	Half Moon
		26	Triangle
		27	Segment 1
		28	Arc 1
		29	Arc 2
		30	Bar 2
		31	Rnd Explotion

CH	Function	DMX	Description
22	Shape Selection (continued)	32	Segment 2
		33–34	No Shape
		35	Bumping Sel
		36	Ramp x6
		37	Ramp x4
		38	LR Scrolling Bar
		39	UD Scrolling Bar
		40	Bar 3
		41	No Shape
		42	V Arc 2
		43	No Shape
		44	H Arc 2
		45	Mirrored Pixel
		46	Pixel Anim 1
		47	Pixel Anim 2
		48	Pixel Anim 3
		49	Pixel Anim 4
		50	Pixel Anim 5
		51	Semi Arc
		52	Bumping Arc
		53	Pixel Anim 6
		54	V Ramp x2
		55	Following Pixel x2
		56	Syncopation
		57	Bumping 1
		58	Bumping 2
		59	Bumping 3
		60	V Pixel Scrolling
		61	Rnd V Section
		62	Rnd C Section
		63	Rnd Ring 2
		64	No Shape
		65	Rnd Ring 1+3
		66	Rnd Ring 2+3
		67	Single Pixel Ring 1
		68	Single Pixel Ring 2
		69	Single Pixel Ring 3
		70	Spiral
		71–255	Shape Selection
23	Shape Speed	0	Fixed
		1–63	Fixed ... >>>

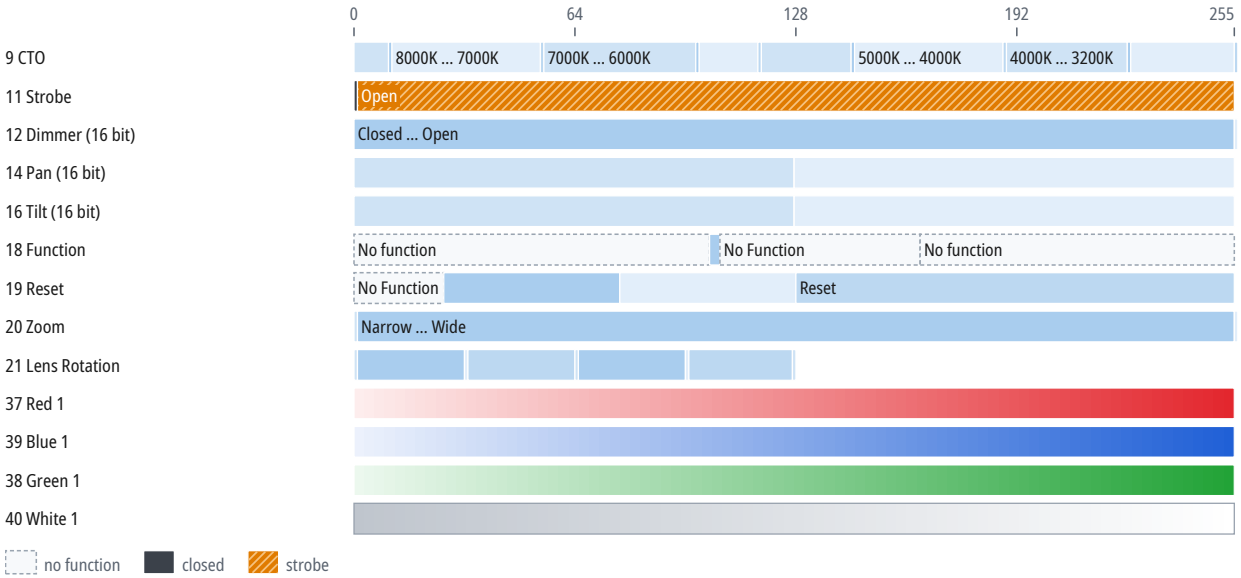
CH	Function	DMX	Description
23	Shape Speed (continued)	64	>>>
		65–111	>>> ... >>
		112	>>
		113–157	>> ... >
		158	>
		159–160	Speed><
		161–255	Shape Speed
25	Red 2	0	Min
		1–254	Min ... Max
		255	Max
26	Green 2	0	Min
		1–254	Min ... Max
		255	Max
27	Blue 2	0	Min
		1–254	Min ... Max
		255	Max
28	White 2	0	Min
		1–254	Min ... Max
		255	Max
29	Dimmer 2	0	Closed
		1–254	Closed ... Open
		255	Open
30	Dimmer 3	0	Closed
		1–254	Closed ... Open
		255	Open
36	Control		No function
		0–255	No function

Mode PixelMode

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 11 Strobe at 1–255 “Open”; CH 12 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 11 Strobe 255, CH 12 Dimmer 255, CH 37 Red 255 (the same in each of the 19 cells), CH 38 Green 255 (the same in each of the 19 cells), CH 39 Blue 255 (the same in each of the 19 cells), CH 40 White 255 (the same in each of the 19 cells).

Channel functions at a glance



CH	Function	DMX	Description
9	CTO		Same as CH 9 in the mode “Standard” (p. 11)
11	Strobe	0	Closed
		1–255	Open
12	Dimmer		Same as CH 12 in the mode “Standard” (p. 13)
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan		Same as CH 14 in the mode “Standard” (p. 14)
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt		Same as CH 16 in the mode “Standard” (p. 14)
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Function	0–102	No function
		103–105	Pixel Map ON
		106–163	No Function
		164–255	No function
19	Reset		Same as CH 19 in the mode “Standard” (p. 15)
20	Zoom		Same as CH 20 in the mode “Standard” (p. 15)
21	Lens Rotation		Same as CH 21 in the mode “Standard” (p. 15)
37	Red 1	0–255	

CH	Function	DMX	Description
38	Green 1	0–255	
39	Blue 1	0–255	
40	White 1	0–255	

CH 37–112: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 37–40); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	37	38	39	40	2	41	42	43	44
3	45	46	47	48	4	49	50	51	52
5	53	54	55	56	6	57	58	59	60
7	61	62	63	64	8	65	66	67	68
9	69	70	71	72	10	73	74	75	76
11	77	78	79	80	12	81	82	83	84
13	85	86	87	88	14	89	90	91	92
15	93	94	95	96	16	97	98	99	100
17	101	102	103	104	18	105	106	107	108
19	109	110	111	112					

10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	4–60°
Movement	
Pan	540°
Tilt	210°
Control	
DMX connection	BNC IN/OUT, 3-pin XLR IN/OUT, 5-pin XLR
Electrical	
Power connectors	powerCON TRUE1 IN
Dimensions and construction	
Weight	15.7 kg
Operating environment	
Operating temperature	-20 to 40 °C

Speeds and ranges

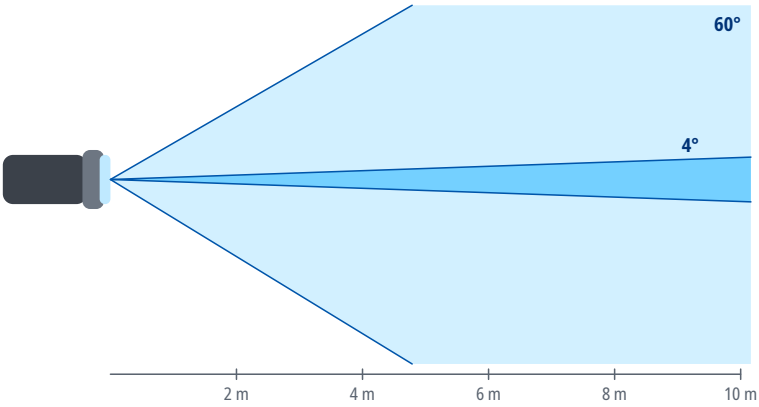
Parameter	Value
Color temperature range	2500–8000 K
Strobe frequency	1–25 Hz

Dimensions

weight 15.7 kg



Spot diameter



Distance	Ø 4°	Ø 60°
2 m	0.14 m	2.3 m
4 m	0.28 m	4.6 m
6 m	0.42 m	6.9 m
8 m	0.56 m	9.2 m
10 m	0.7 m	11.5 m
15 m	1 m	17.3 m

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

11 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.

12 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.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

13 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.