DMX REFERENCE

K65

EK Lights



Manufacturer	EK Lights
GDTF file	EK_Lights_K65_91724.gdtf
GDTF revision	20250331 · 2025-03-31
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1 About this manual

This document describes the K65 by EK Lights. It was compiled from the GDTF file EK_Lights_K65_91724.gdtf from the GDTF-Share library.

File revision: “20250331”.

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 EK Lights; 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	35 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
39CH	39	13	1, 40, 79, 118, ...
41 CH	41	12	1, 42, 83, 124, ...

No light? Check these channels

- 39CH: CH 6 Shutter at 0–10, 83–93, 164–174 or 244–255 “Open”; CH 7 Dimmer above 0; CH 9 Dimmer Mode above 51
- 41 CH: CH 6 Shutter at 0–10, 83–93, 164–174 or 244–255 “Open”; CH 7 Dimmer above 0; CH 9 Dimmer Mode above 51



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

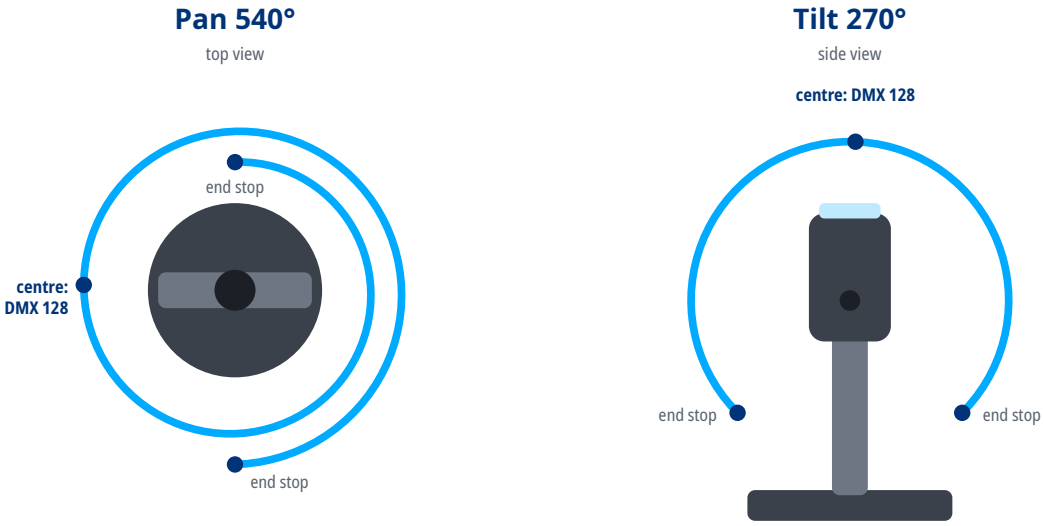
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them 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



5 Installation

⚠ WARNING

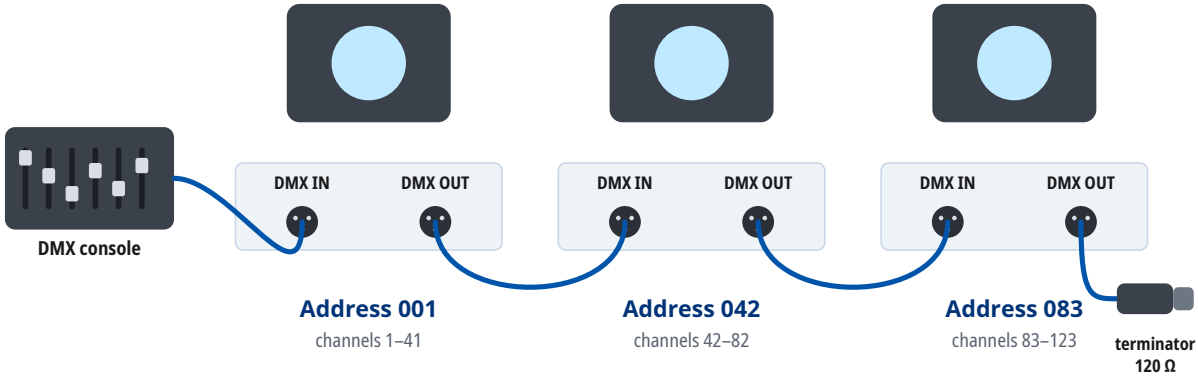
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 35 kg.
- 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 41 CH: every unit occupies 41 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 “41 CH”: 41.
- 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 “41 CH”, you can use, for example, the start addresses 1, 42, 83, 124.
- 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

	39CH 39 channels	41 CH 41 channels
Pan / Tilt	1, 3	1, 3
Dimmer	7	7
Shutter / strobe	6	6
Color mixing	10–12	10–12
Color temperature	13	13
Color wheel	14	14
Gobo wheel	15, 17	15, 18
Gobo rotation	16	16
Prism	18, 19	19, 20
Frost	20	22
Zoom	23	25
Focus	21	23
Iris	27	29
Animation wheel	25	27
Effects / macros	26, 37	28, 39

Color wheel

1. Color Select: Open
   DMX 0–9
2. Red
   DMX 10–18
3. Blue
   DMX 19–27
4. Green
   DMX 28–36
5. Orange
   DMX 37–45
6. Purple
   DMX 46–54
7. CTP
   DMX 55–64

Gobo wheel 1

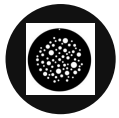
1
Gobo Select: Open
DMX 0–5

2 
Gobo Select: Gobo 1
DMX 6–10

3 
Gobo Select: Gobo 2
DMX 11–15

4 
Gobo Select: Gobo 3
DMX 16–20

5 
Gobo Select: Gobo 4
DMX 21–25

6 
Gobo Select: Gobo 5
DMX 26–30

7 
Gobo Select: Gobo 6
DMX 31–35

8 
Gobo 7
DMX 36–41

Gobo wheel 2

1
Gobo Select: Open
DMX 0–7

2 
Gobo Select: Gobo 1
DMX 8–15

3 
Gobo Select: Gobo 2
DMX 16–23

4 
Gobo Select: Gobo 3
DMX 24–31

5 
Gobo Select: Gobo 4
DMX 32–39

6 
Gobo Select: Gobo 5
DMX 40–47

7 
Gobo Select: Gobo 6
DMX 48–55

8 
Gobo Select: Gobo 7
DMX 56–63

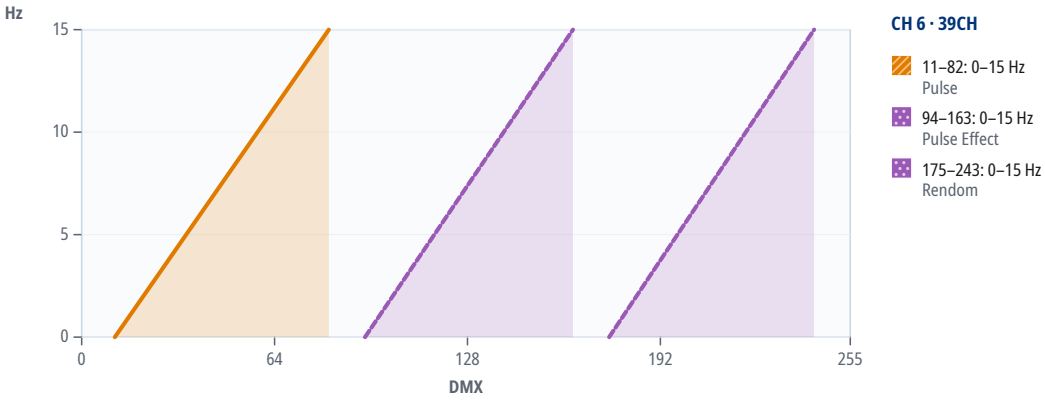
9 
Gobo 8
DMX 64–72

Prism

1
Open
DMX 0–127

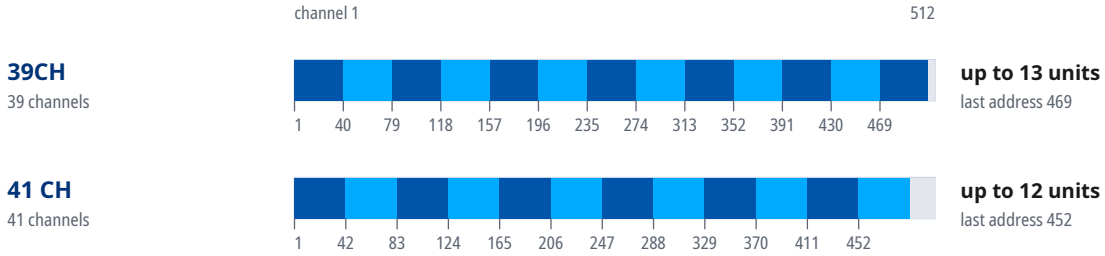
2 
4 facets
4-Facet
DMX 128–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “41 CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	206	11	411	16	U2 · 124
2	42	7	247	12	452	17	U2 · 165
3	83	8	288	13	U2 · 1	18	U2 · 206
4	124	9	329	14	U2 · 42	19	U2 · 247
5	165	10	370	15	U2 · 83	20	U2 · 288

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 39CH

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 6 Shutter at 0–10, 83–93, 164–174 or 244–255 “Open”; CH 7 Dimmer above 0; CH 9 Dimmer Mode above 51. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 0, CH 7 Dimmer 255, CH 10 Cyan 0, CH 11 Magenta 0, CH 12 Yellow 0, CH 13 CTO 0, CH 14 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Center
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		128	Center
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–65	P/T Speed: Slow
		66–99	Slow ... Mid
		100–165	Mid
		166–199	Mid ... Fast
		200–250	P/T Speed: Fast
		251–255	Blackout
6	Shutter	0–10	Shutter: Open
		11–82	Pulse (0–15 Hz)
		83–93	Shutter: Open
		94–163	Pulse Effect (0–15 Hz)
		164–174	Shutter: Open
		175–243	Rendom (0–15 Hz)
		244–255	Shutter: Open
7	Dimmer	0–255	Closed ... Open
		255	Open
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Dimmer Mode	0–51	No Function
		52–101	Dimmer 1
		102–152	Dimmer 2
		153–203	Dimmer 3
		204–255	Dimmer 4
10	Cyan	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
11	Magenta	0	0%
		1–63	0% ... 25%

CH	Function	DMX	Description
11	Magenta (continued)	64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
12	Yellow	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
13	CTO	0	6700K
		1–254	6700K ... 2800K
		255	2800K
14	Colors	0–9	Color Select: Open
		10–18	Red
		19–27	Blue
		28–36	Green
		37–45	Orange
		46–54	Purple
		55–63	CTP
		64–95	CW Spin
		96–127	CCW Spin
		128–255	0-360
15	Gobo	0–5	Gobo Select: Open
		6–10	Gobo Select: Gobo 1
		11–15	Gobo Select: Gobo 2
		16–20	Gobo Select: Gobo 3
		21–25	Gobo Select: Gobo 4
		26–30	Gobo Select: Gobo 5
		31–35	Gobo Select: Gobo 6
		36–40	Gobo Select: Gobo 7
		41–55	Gobo Shake: Gobo 1 (0–0.125 Hz)
		56–70	Gobo Shake: Gobo 2 (0.125–0.25 Hz)
		71–85	Gobo Shake: Gobo 3 (0.25–0.375 Hz)
		86–100	Gobo Shake: Gobo 4 (0.375–0.5 Hz)

CH	Function	DMX	Description
15	Gobo (continued)	101–115	Gobo Shake: Gobo 5 (0.5–0.625 Hz)
		116–130	Gobo Shake: Gobo 6 (0.625–0.75 Hz)
		131–145	Gobo Shake: Gobo 7 (0.75–0.875 Hz)
		146–201	Index
		202–220	Gobo Wheel Spin: Slow
		221–239	Gobo Wheel Spin: Slow ... Fast
		240–255	Gobo Wheel Spin: Fast
16	Gobo Rotation	0	0 Degrees
		1–46	0 Degrees ... 90 Degrees
		47	90 Degrees
		48–94	90 Degrees ... 180 Degrees
		95	180 Degrees
		96–142	180 Degrees ... 270 Degrees
		143	270 Degrees
		144–190	270 Degrees ... 360 Degrees
		191	360 Degrees
		192–221	Cw
		222–225	Static
		226–255	Ccw
17	Gobo 2	0–7	Gobo Select: Open
		8–15	Gobo Select: Gobo 1
		16–23	Gobo Select: Gobo 2
		24–31	Gobo Select: Gobo 3
		32–39	Gobo Select: Gobo 4
		40–47	Gobo Select: Gobo 5
		48–55	Gobo Select: Gobo 6
		56–63	Gobo Select: Gobo 7
		64–71	Gobo Select: Gobo 8
		72–113	CW Spin
		114–117	Gobo Wheel Spin: Stop
		118–159	CCW Spin
		160–171	Gobo Shake: Gobo 1 (0–0.125 Hz)
		172–183	Gobo Shake: Gobo 2 (0.125–0.25 Hz)
		184–195	Gobo Shake: Gobo 3 (0.25–0.37 Hz)
		196–207	Gobo Shake: Gobo 4 (0.25–0.375 Hz)
		208–219	Gobo Shake: Gobo 5 (0.375–0.5 Hz)
		220–231	Gobo Shake: Gobo 6 (0.5–0.625 Hz)
		232–243	Gobo Shake: Gobo 7 (0.625–0.75 Hz)
		244–255	Gobo Shake: Gobo 8 (0.75–0.875 Hz)
18	Prism	0–127	Open
		128–255	4-Facet

CH	Function	DMX	Description
19	Prism Rotation	0	0 Degrees
		1–31	0 Degrees ... 90 Degrees
		32	90 Degrees
		33–63	90 Degrees ... 180 Degrees
		64	180 Degrees
		65–95	180 Degrees ... 270 Degrees
		96	270 Degrees
		97–126	270 Degrees ... 360 Degrees
		127	360 Degrees
		128–188	Prism CW
		189–193	Static
		194–255	Prism CCW
20	Frost	0	0%
		1–63	0% ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... 100%
		255	100%
21	Focus	0–64	Far ... Medium
		64–192	Medium
		192–255	Medium ... Near
		255	Near
22	Focus Fine	0–255	Fine adjustment of CH 21
23	Zoom	0–63	Narrow ... Medium
		64–192	Medium
		192–255	Medium ... Wide
		255	Wide
24	Zoom Fine	0–255	Fine adjustment of CH 23
25	Animation Wheel	0	Open
		1–254	Open ... Insert
		255	Insert
26	Animation Wheel Rotation		Effects Rotation
		0–4	Open
		5–127	CW
		128–132	Stop
		133–255	CCW
27	Iris	0–63	Large to Small
		64–127	Open Effect

CH	Function	DMX	Description
27	Iris (continued)	128–191	Close Effect
		192–255	Random
28	Blade 1 A	0	Min
		1–254	Min ... Max
		255	Max
29	Blade 1 Rotation	0	-25 Degrees
		1–127	-25 Degrees ... 0 Degrees
		128	0 Degrees
		129–254	0 Degrees ... 25 Degrees
		255	25 Degrees
30	Blade 2 A	0	Min
		1–254	Min ... Max
		255	Max
31	Blade 2 Rotation	0	-25 Degrees
		1–127	-25 Degrees ... 0 Degrees
		128	0 Degrees
		129–254	0 Degrees ... 25 Degrees
		255	25 Degrees
32	Blade 3 A	0	Min
		1–254	Min ... Max
		255	Max
33	Blade 3 Rotation	0	-25 Degrees
		1–127	-25 Degrees ... 0 Degrees
		128	0 Degrees
		129–254	0 Degrees ... 25 Degrees
		255	25 Degrees
34	Blade 4 A	0	Min
		1–254	Min ... Max
		255	Max
35	Blade 4 Rotation	0	-25 Degrees
		1–127	-25 Degrees ... 0 Degrees
		128	0 Degrees
		129–254	0 Degrees ... 25 Degrees
		255	25 Degrees
36	Shaper Rotation	0	Left
		1–127	Left ... Centre
		128	Centre
		129–254	Centre ... Right
		255	Right
37	Shaper Macros	0–3	No Function
		4–11	Macro 1
		12–18	Macro 2

CH	Function	DMX	Description
37	Shaper Macros (continued)	19–25	Macro 3
		26–32	Macro 4
		33–39	Macro 5
		40–47	Macro 6
		48–54	Macro 7
		55–61	Macro 8
		62–68	Macro 9
		69–75	Macro 10
		76–82	Macro 11
		83–90	Macro 12
		91–97	Macro 13
		98–104	Macro 14
		105–111	Macro 15
		112–118	Macro 16
		119–125	Macro 17
		126–133	Macro 18
		134–140	Macro 19
		141–147	Macro 20
		148–155	Macro 21
		156–161	Macro 22
		162–168	Macro 23
		169–176	Macro 24
		177–183	Macro 25
		184–190	Macro 26
		191–197	Macro 27
		198–204	Macro 28
		205–211	Macro 29
		212–219	Macro 30
		220–226	Macro 31
		227–233	Macro 32
		234–240	Macro 33
		241–247	Macro 34
		248–255	Macro 35
38	Shaper Macros Speed	0	Slow
		1–254	Slow ... Fast
		255	Fast
39	Control	0–25	No Function
		26–76	Head Reset
		77–127	P/T Reset
		128–255	Reset All

Mode 41 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 6 Shutter at 0–10, 83–93, 164–174 or 244–255 “Open”; CH 7 Dimmer above 0; CH 9 Dimmer Mode above 51. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 0, CH 7 Dimmer 255, CH 10 Cyan 0, CH 11 Magenta 0, CH 12 Yellow 0, CH 13 CTO 0, CH 14 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “39CH” (p. 11)
6	Shutter		Same as CH 6 in the mode “39CH” (p. 11)
7	Dimmer		Same as CH 7 in the mode “39CH” (p. 11)
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Dimmer Mode		Same as CH 9 in the mode “39CH” (p. 11)
10	Cyan		Same as CH 10 in the mode “39CH” (p. 11)
11	Magenta		Same as CH 11 in the mode “39CH” (p. 11)
12	Yellow		Same as CH 12 in the mode “39CH” (p. 12)
13	CTO		Same as CH 13 in the mode “39CH” (p. 12)
14	Colors		Same as CH 14 in the mode “39CH” (p. 12)
15	Gobo		Same as CH 15 in the mode “39CH” (p. 12)
16	Gobo Rotation	0–47	0 Degrees ... 90 Degrees
		47–95	90 Degrees ... 180 Degrees
		95–143	180 Degrees ... 270 Degrees
		143–191	270 Degrees ... 360 Degrees
		191	360 Degrees
		192–221	CW
		222–225	Static
		226–255	CCW
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Gobo 2	0–7	Gobo Select: Open
		8–15	Gobo Select: Gobo 1
		16–23	Gobo Select: Gobo 2
		24–31	Gobo Select: Gobo 3
		32–39	Gobo Select: Gobo 4
		40–47	Gobo Select: Gobo 5
		48–55	Gobo Select: Gobo 6
		56–63	Gobo Select: Gobo 7
		64–71	Gobo Select: Gobo 8
		72–113	Reverse
		114–117	Gobo Wheel Spin: Stop
		118–159	Gobo Wheel Spin: Forward

CH	Function	DMX	Description
18	Gobo 2 (continued)	160–171	Gobo Shake: Gobo 1 (0–0.125 Hz)
		172–183	Gobo Shake: Gobo 2 (0.125–0.25 Hz)
		184–195	Gobo Shake: Gobo 3 (0.25–0.37 Hz)
		196–207	Gobo Shake: Gobo 4 (0.25–0.375 Hz)
		208–219	Gobo Shake: Gobo 5 (0.375–0.5 Hz)
		220–231	Gobo Shake: Gobo 6 (0.5–0.625 Hz)
		232–243	Gobo Shake: Gobo 7 (0.625–0.75 Hz)
		244–255	Gobo Shake: Gobo 8 (0.75–0.875 Hz)
19	Prism		Same as CH 18 in the mode “39CH” (p. 13)
20	Prism Rotation	0–32	0 Degrees ... 90 Degrees
		32–64	90 Degrees ... 180 Degrees
		64–96	180 Degrees ... 270 Degrees
		96–127	270 Degrees ... 360 Degrees
		127	360 Degrees
		128–188	Prism CW
		189–193	Static
		194–255	Prism CCW
21	Prism Rotation Fine	0–255	Fine adjustment of CH 20
22	Frost		Same as CH 20 in the mode “39CH” (p. 14)
23	Focus		Same as CH 21 in the mode “39CH” (p. 14)
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Zoom		Same as CH 23 in the mode “39CH” (p. 14)
26	Zoom Fine	0–255	Fine adjustment of CH 25
27	Animation Wheel		Same as CH 25 in the mode “39CH” (p. 14)
28	Animation Wheel Rotation		Same as CH 26 in the mode “39CH” (p. 14)
29	Iris		Same as CH 27 in the mode “39CH” (p. 14)
30	Blade 1 A		Same as CH 28 in the mode “39CH” (p. 15)
31	Blade 1 Rotation		Same as CH 29 in the mode “39CH” (p. 15)
32	Blade 2 A		Same as CH 30 in the mode “39CH” (p. 15)
33	Blade 2 Rotation		Same as CH 31 in the mode “39CH” (p. 15)
34	Blade 3 A		Same as CH 32 in the mode “39CH” (p. 15)
35	Blade 3 Rotation		Same as CH 33 in the mode “39CH” (p. 15)
36	Blade 4 A		Same as CH 34 in the mode “39CH” (p. 15)
37	Blade 4 Rotation		Same as CH 35 in the mode “39CH” (p. 15)
38	Shaper Rotation		Same as CH 36 in the mode “39CH” (p. 15)
39	Shaper Macros		Same as CH 37 in the mode “39CH” (p. 15)
40	Shaper Macros Speed		Same as CH 38 in the mode “39CH” (p. 16)
41	Control		Same as CH 39 in the mode “39CH” (p. 16)

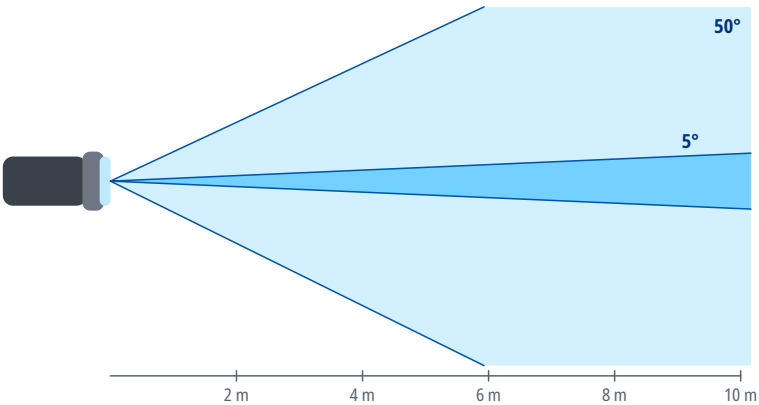
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,000 W
Luminous flux	36,000 lm
Color temperature	6,700 K
Color rendering index (CRI)	85
Optics	
Zoom	5–50°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	35 kg
Operating environment	
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–6700 K
Color wheel rotation	up to 180 °/s (30 rpm)
Gobo wheel 1 rotation	up to 180 °/s (30 rpm)
Gobo wheel 2 rotation	up to 180 °/s (30 rpm)
Gobo 1 rotation	up to 180 °/s (30 rpm)
Prism rotation	up to 180 °/s (30 rpm)

Spot diameter



Distance	Ø 5°	Ø 50°
2 m	0.17 m	1.9 m
4 m	0.35 m	3.7 m
6 m	0.52 m	5.6 m
8 m	0.7 m	7.5 m
10 m	0.87 m	9.3 m
15 m	1.3 m	14 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.