DMX REFERENCE

Opus H6 IP

Cameo



Manufacturer	Cameo
GDTF file	Cameo_Opus_H6_IP_144479.gdtf
GDTF revision	Firmware_V0-01-01A_GDTF_V1-2 · 2026-05-27
Generated	2026-11-23

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1 About this manual

This document describes the Opus H6 IP by Cameo. It was compiled from the GDTF file Cameo_Opus_H6_IP_144479.gdtf from the GDTF-Share library.

File revision: “Firmware_V0-01-01A_GDTF_V1-2”.

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 Cameo; 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	28 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
38CH Extended	38	13	1, 39, 77, 115, ...
30CH Standard	30	17	1, 31, 61, 91, ...
25CH Basic	25	20	1, 26, 51, 76, ...

No light? Check these channels

- 38CH Extended: CH 6 Dimmer above 0; CH 8 Shutter at 0–5 or 251–255 “Open”
- 30CH Standard: CH 6 Dimmer above 0; CH 8 Shutter at 0–5 or 251–255 “Open”
- 25CH Basic: CH 6 Dimmer above 0; CH 7 Shutter 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.

⚠ WARNING

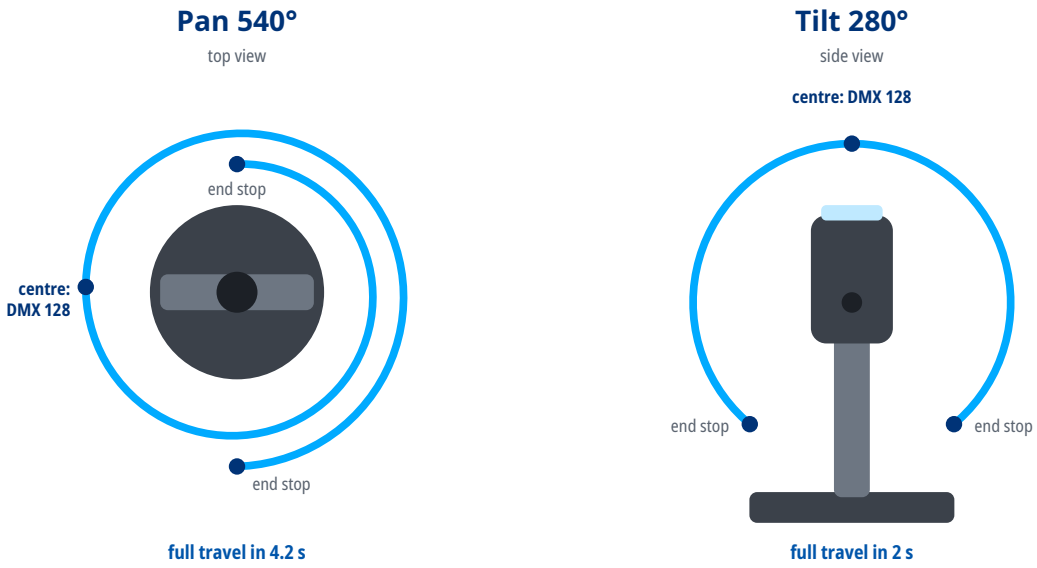
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, 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

Description in the GDTF file

“Outdoor Moving Head, White Single Color LED, 600W, 6500K, 21.000lm”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

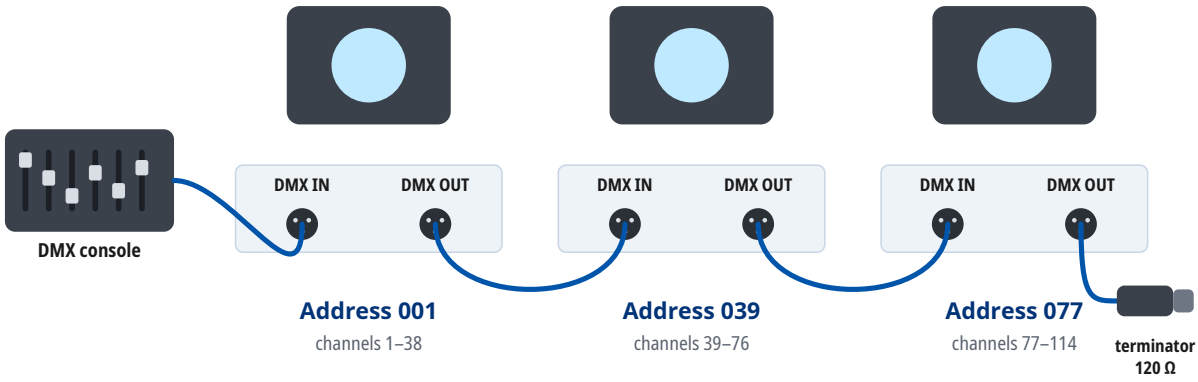
⚠ WARNING

- 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: 28 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 38CH Extended: every unit occupies 38 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

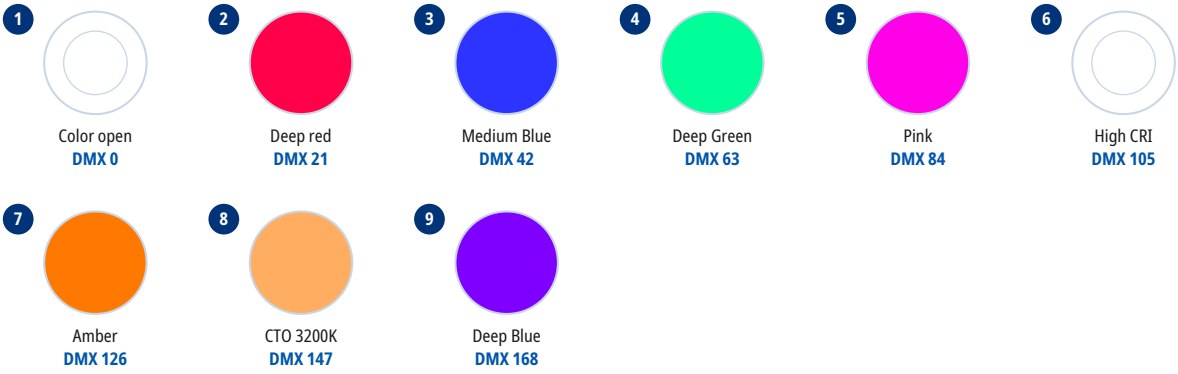
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “38CH Extended”: 38.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “38CH Extended”, you can use, for example, the start addresses 1, 39, 77, 115.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

Functions in each DMX mode

	38CH Extended 38 channels	30CH Standard 30 channels	25CH Basic 25 channels
Pan / Tilt	1, 3, 4	1, 3, 4	1, 3, 4
Dimmer	6	6	6
Dimmer resolution	16 bit	16 bit	8 bit
Shutter / strobe	8	8	7
Color mixing	11, 13, 15	9–11	8–10
Color temperature	17	12	11
Color wheel	19	13	12
Gobo wheel	20, 23	14, 17	13, 15
Gobo rotation	21	15	14
Prism	30–33	23–26	18–21
Frost	34	27	22
Zoom	24	18	16
Focus	26, 28, 29	19, 21, 22	17
Animation wheel	35, 36	28, 29	23, 24

Color wheel



Gobo wheel 1



Gobo wheel 2

1 
Fix Gobos: open
DMX 0

2 
Gobo 1
DMX 12

3 
Gobo 2
DMX 19

4 
Gobo 3
DMX 26

5 
Gobo 4
DMX 33

6 
Gobo 5
DMX 40

7 
Gobo 6
DMX 47

8 
Gobo 7
DMX 54

9 
Gobo 8
DMX 61

10 
Gobo 9
DMX 68

11 
Gobo 10
DMX 75

12 
Gobo 11
DMX 82

13 
Gobo 12
DMX 89

14 
Gobo 13
DMX 96

15 
Gobo 14
DMX 103

Animation wheel

1
Open

2 
Animation Wheel

Prism 1

1
Open
DMX 0–5

2 
8 facets
Prism 8-Circular
DMX 6–128

3 
2 facets
Prism 2-Linear
DMX 129–255

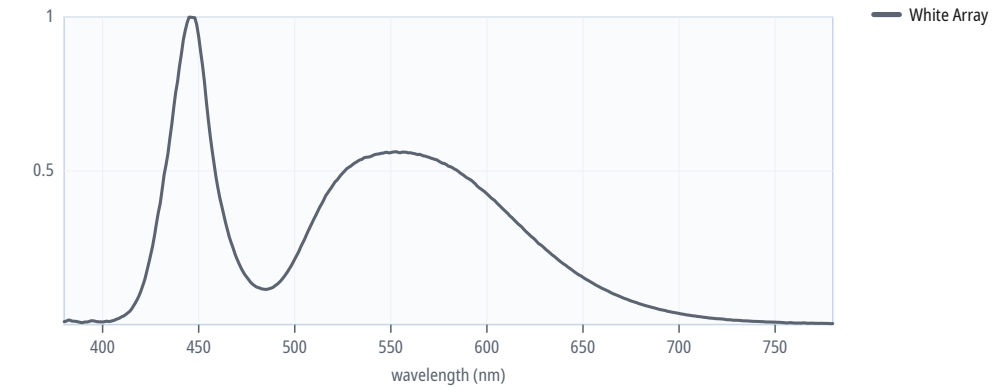
Prism 2

1
Open
DMX 0–5

2 
6 facets
Prism 6-Circular
DMX 6–128

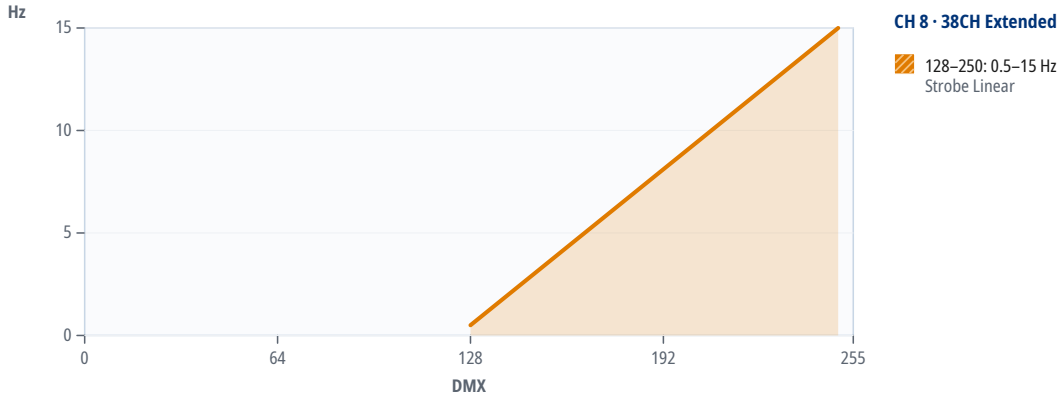
3 
31 facets
Ovalizer
DMX 129–255

Spectra of the light sources



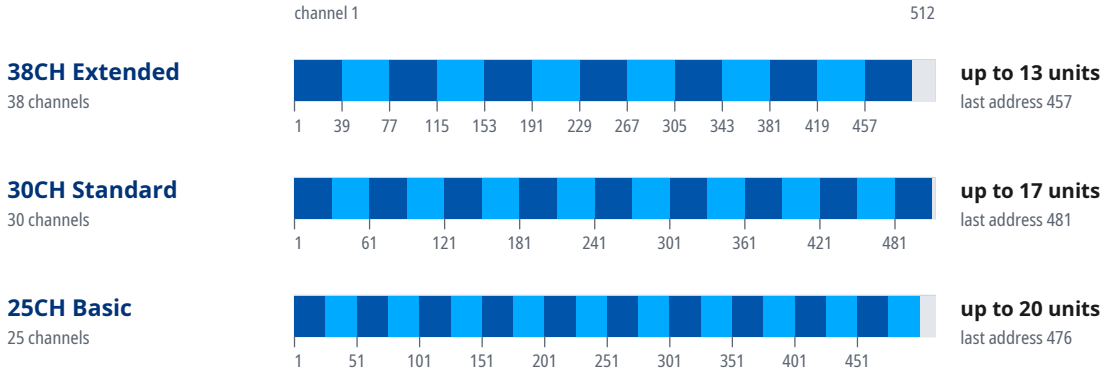
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “38CH Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	191	11	381	16	U2 · 77
2	39	7	229	12	419	17	U2 · 115
3	77	8	267	13	457	18	U2 · 153
4	115	9	305	14	U2 · 1	19	U2 · 191
5	153	10	343	15	U2 · 39	20	U2 · 229

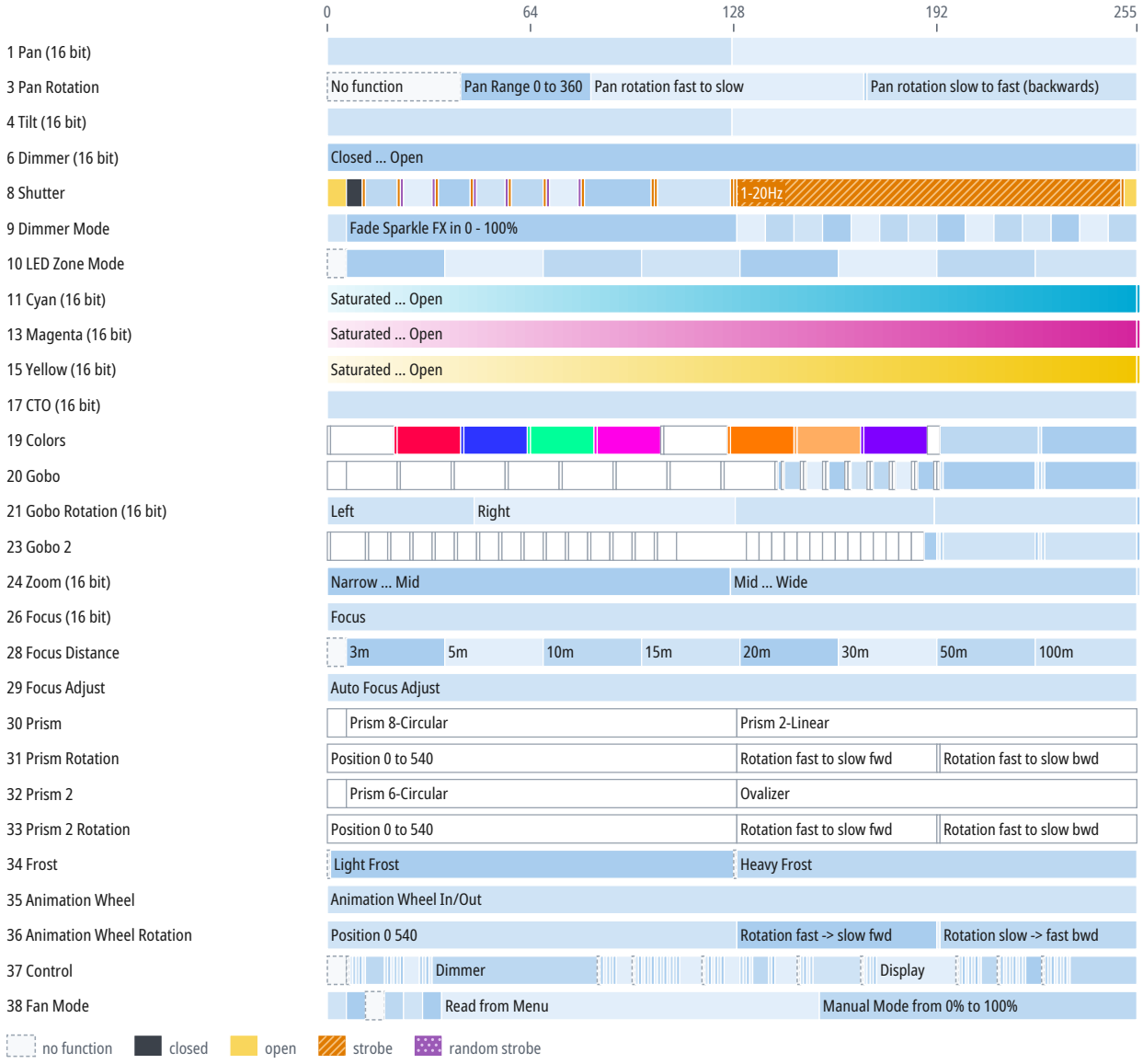
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 38CH Extended

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 Dimmer above 0; CH 8 Shutter at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 9 Dimmer Mode 0, CH 11 Cyan 0, CH 13 Magenta 0, CH 15 Yellow 0, CH 17 CTO 0, CH 19 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan
		128	Home
		128–255	Pan
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Pan Rotation		Infinite Pan
		0–41	No function

CH	Function	DMX	Description
3	Pan Rotation (continued)	42–82	Pan Range 0 to 360
		83–168	Pan rotation fast to slow (360–0 °/s)
		169	Pan rotation stop
		170–255	Pan rotation slow to fast (backwards) (0–360 °/s)
4	Tilt	0–127	Tilt
		128	Home
		128–255	Tilt
5	Tilt Fine	0–255	Fine adjustment of CH 4
6	Dimmer	0–255	Closed ... Open
		255	Open
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter	0–5	Strobe: Open
		6–10	Strobe: Closed
		11	Ramp up/down: Slow
		12–21	Ramp up/down: Slow ... Fast
		22	Ramp up/down: Fast
		23	Ramp up/down random: Slow
		24–32	Ramp up/down random: Slow ... Fast
		33	Ramp up/down random: Fast
		34	Ramp up: Slow
		35–44	Ramp up: Slow ... Fast
		45	Ramp up: Fast
		46	Ramp up random: Slow
		47–55	Ramp up random: Slow ... Fast
		56	Ramp up random: Fast
		57	Ramp down: Slow
		58–67	Ramp down: Slow ... Fast
		68	Ramp down: Fast
		69	Ramp down random: Slow
		70–78	Ramp down random: Slow ... Fast
		79	Ramp down random: Fast
		80	Random Strobe effect: Slow
		81–101	Random Strobe effect: Slow ... Fast
		102	Random Strobe effect: Fast
		103	5s short burst with break
		104–126	5s short burst with break ... 1s short burst with break
		127	1s short burst with break
		128	Slow 1Hz
		129–249	1-20Hz (0.31–19.9 Hz)
		250	Fast 20Hz
		251–255	Strobe open: Open
9	Dimmer Mode		LED-segment Dim

CH	Function	DMX	Description
9	Dimmer Mode (continued)	0–5	All segments on
		6–128	Fade Sparkle FX in 0 - 100%
		129–137	LED 1 on
		138–146	LED 2 on
		147–155	LED 3 on
		156–164	LED 4 on
		165–173	LED 1 + 2 on
		174–182	LED 2 + 3 on
		183–191	LED 3 + 4 on
		192–200	LED 1 + 4 on
		201–209	LED 1 + 3 on
		210–218	LED 2 + 4 on
		219–227	LED 1 + 2 + 3 on
		228–236	LED 2 + 3 + 4 on
		237–245	LED 1 + 3 + 4 on
		246–255	LED 1 + 2 + 4 on
10	LED Zone Mode		Sparkle FX
		0–5	No function
		6–36	Chaser 1 jump (slow to fast)
		37–67	Chaser 2 jump (slow to fast)
		68–98	Chaser 3 jump (slow to fast)
		99–129	Chaser 4 jump (slow to fast)
		130–160	Chaser 1 fade (slow to fast)
		161–191	Chaser 2 fade (slow to fast)
		192–222	Chaser 3 fade (slow to fast)
		223–255	Chaser 4 fade (slow to fast)
11	Cyan	0–255	Saturated ... Open
		255	Open
12	Cyan Fine	0–255	Fine adjustment of CH 11
13	Magenta	0–255	Saturated ... Open
		255	Open
14	Magenta Fine	0–255	Fine adjustment of CH 13
15	Yellow	0–255	Saturated ... Open
		255	Open
16	Yellow Fine	0–255	Fine adjustment of CH 15
17	CTO	0–255	6500–2600 K
18	CTO Fine	0–255	Fine adjustment of CH 17
19	Colors	0	Color open
		1–20	Open to Deep Red
		21	Deep red
		22–41	Deep Red to Medium Blue
		42	Medium Blue

CH	Function	DMX	Description
19	Colors (continued)	43–62	Medium Blue to Deep Green
		63	Deep Green
		64–83	Deep Green to Pink
		84	Pink
		85–104	Pink to High CRI
		105	High CRI
		106–125	High CRI to Amber
		126	Amber
		127–146	Amber to CTO 3200K
		147	CTO 3200K
		148–167	CTO 3200K to Deep Blue
		168	Deep Blue
		169–188	Deep Blue to Open
		189–192	Color open
		193–223	Color Wheel Rotation fast to slow (800–0 °/s)
		224	Spin: Stop
		225–255	Color Wheel Rotation slow to fast (backwards) (0–800 °/s)
20	Gobo	0–5	Select: open
		6–21	Open -> Gobo1
		22	Gobo 1
		23–38	Gobo 1 -> Gobo 2
		39	Gobo 2
		40–55	Gobo 2 -> Gobo 3
		56	Gobo 3
		57–72	Gobo 3 -> Gobo 4
		73	Gobo 4
		74–89	Gobo 4 -> Gobo 5
		90	Gobo 5
		91–106	Gobo 5 -> Gobo 6
		107	Gobo 6
		108–123	Gobo 6 -> Gobo 7
		124	Gobo 7
		125–140	Gobo 7 -> open
		141	Select: open
		142	Shake
		143	Gobo 1 slow
		144–148	Gobo 1 slow ... Gobo 1 fast
		149	Gobo 1 fast
		150	Gobo 2 slow
		151–155	Gobo 2 slow ... Gobo 2 fast
		156	Gobo 2 fast
		157	Gobo 3 slow

CH	Function	DMX	Description
20	Gobo (continued)	158–162	Gobo 3 slow ... Gobo 3 fast
		163	Gobo 3 fast
		164	Gobo 4 slow
		165–169	Gobo 4 slow ... Gobo 4 fast
		170	Gobo 4 fast
		171	Gobo 5 slow
		172–176	Gobo 5 slow ... Gobo 5 fast
		177	Gobo 5 fast
		178	Gobo 6 slow
		179–183	Gobo 6 slow ... Gobo 6 fast
		184	Gobo 6 fast
		185	Gobo 7 slow
		186–190	Gobo 7 slow ... Gobo 7 fast
		191	Gobo 7 fast
		192	Shake: open
		193	Wheel rotation: Fast forward
		194–222	Wheel rotation: Fast forward ... Slow forward
		223	Wheel rotation: Slow forward
		224	Wheel rotation: Stop
		225	Wheel rotation: Slow backward
		226–254	Wheel rotation: Slow backward ... Fast backward
		255	Wheel rotation: Fast backward
21	Gobo Rotation	0–46	Left
		46	Mid
		46–128	Right
		129–191	Gobo Pos Rotate: Fast forward ... Slow forward
		191	Gobo Pos Rotate: Slow forward
		192	Rotation stop
		192–255	Gobo Pos Rotate: Slow backward ... Fast backward
		255	Gobo Pos Rotate: Fast backward
22	Gobo Rotation Fine	0–255	Fine adjustment of CH 21
23	Gobo 2	0	Fix Gobos: open
		1–11	Open -> Gobo1
		12	Gobo 1
		13–18	Gobo 1 -> Gobo 2
		19	Gobo 2
		20–25	Gobo 2 -> Gobo 3
		26	Gobo 3
		27–32	Gobo 3 -> Gobo 4
		33	Gobo 4
		34–39	Gobo 4 -> Gobo 5
		40	Gobo 5

CH	Function	DMX	Description
23	Gobo 2 (continued)	41–46	Gobo 5 -> Gobo 6
		47	Gobo 6
		48–53	Gobo 6 -> Gobo 7
		54	Gobo 7
		55–60	Gobo 7 -> Gobo 8
		61	Gobo 8
		62–67	Gobo 8 -> Gobo 9
		68	Gobo 9
		69–74	Gobo 9 -> Gobo 10
		75	Gobo 10
		76–81	Gobo 10 -> Gobo 11
		82	Gobo 11
		83–88	Gobo 11 -> Gobo 12
		89	Gobo 12
		90–95	Gobo 12 -> Gobo 13
		96	Gobo 13
		97–102	Gobo 13 -> Gobo 14
		103	Gobo 14
		104–109	Gobo 14 -> open
		110–131	Fix Gobos: open
		132–135	Gobo 1 shake (1.56–2.12 Hz)
		136–139	Gobo 2 shake (2.12–2.69 Hz)
		140–143	Gobo 3 shake (2.69–3.25 Hz)
		144–147	Gobo 4 shake (3.25–3.81 Hz)
		148–151	Gobo 5 shake (3.81–4.38 Hz)
		152–155	Gobo 6 shake (4.38–4.94 Hz)
		156–159	Gobo 7 shake (4.94–5.5 Hz)
		160–163	Gobo 8 shake (5.5–6.06 Hz)
		164–167	Gobo 9 shake (6.06–6.62 Hz)
		168–171	Gobo 10 shake (6.62–7.19 Hz)
		172–175	Gobo 11 shake (7.19–7.75 Hz)
		176–179	Gobo 12 shake (7.75–8.31 Hz)
		180–183	Gobo 13 shake (8.31–8.88 Hz)
		184–187	Gobo 14 shake (8.88–9.44 Hz)
		188–191	Gobo 15 shake (9.44–10 Hz)
		192	Gobo Wheel rotation fwd
		193	Gobo Wheel rotation fwd: Fast forward
		194–222	Gobo Wheel rotation fwd: Fast forward ... Slow forward
		223	Gobo Wheel rotation fwd: Slow forward
		224	Gobo Wheel rotation fwd: Stop
		225	Gobo Wheel rotation fwd: Slow backward
		226–254	Gobo Wheel rotation fwd: Slow backward ... Fast backward

CH	Function	DMX	Description
23	Gobo 2 (continued)	255	Gobo Wheel rotation fwd: Fast backward
24	Zoom	0–127	Narrow ... Mid
		127–255	Mid ... Wide
		255	Wide
25	Zoom Fine	0–255	Fine adjustment of CH 24
26	Focus	0–255	Focus
27	Focus Fine	0–255	Fine adjustment of CH 26
28	Focus Distance		Auto Focus
		0–5	No function
		6–36	3m
		37–67	5m
		68–98	10m
		99–129	15m
		130–160	20m
		161–191	30m
		192–222	50m
		223–255	100m
29	Focus Adjust		Auto Focus Adjust
		0–255	Auto Focus Adjust
30	Prism		Effect Selection 1
		0–5	Open
		6–128	Prism 8-Circular
		129–255	Prism 2-Linear
31	Prism Rotation	0–128	Position 0 to 540 (540°)
		129–191	Rotation fast to slow fwd (500–1 °/s)
		192	Rotation Stop
		193–255	Rotation fast to slow bwd (1–500 °/s)
32	Prism 2		Effect Selection 2
		0–5	Open
		6–128	Prism 6-Circular
		129–255	Ovalizer
33	Prism 2 Rotation	0–128	Position 0 to 540 (540°)
		129–191	Rotation fast to slow fwd (500–1 °/s)
		192	Rotation Stop
		193–255	Rotation fast to slow bwd (1–500 °/s)
34	Frost	0	Off
		1–127	Light Frost
		128	Off
		129–255	Heavy Frost
35	Animation Wheel		Animation Wheel In/Out
		0–255	Animation Wheel In/Out
36	Animation Wheel Rotation	0–128	Position 0 540 (540°)

CH	Function	DMX	Description
36	Animation Wheel Rotation (continued)	129–191	Rotation fast -> slow fwd
		192	Rotation stop
		193–255	Rotation slow -> fast bwd
37	Control	0–5	No function
		6	Dimmer: No function
		7	Linear Dimmer Curve
		8	Exponential Dimmer Curve
		9	Logarithmic Dimmer Curve
		10	S-Curve Dimmer Curve
		11	Halogen Dimmer Curve
		12–17	Halogen Dimmer Curve ... PWM 650Hz
		18	PWM 650Hz
		19	PWM 1530Hz
		20	PWM 3600Hz
		21	PWM 12000Hz
		22	PWM 18900Hz
		23	PWM 25000Hz
		24–28	PWM 25000Hz ... LED Response
		29	LED Response
		30	Halogen 1kW Response
		31	Halogen 2kW Response
		32	Halogen 5kW Response
		33–84	Dimmer
		85	Fan: No function
		86	Auto Fan
		87	Fan Off
		88	Constant Low Fan
		89	Constant Mid Fan
		90	Constant High Fan
		91–95	Fan
		96	Movement: No function
		97	Pan Invert On
		98	Pan Invert Off
		99	Tilt Invert On
		100	Tilt Invert Off
		101	Pan Angle 540
		102	Pan Angle 630
		103	Position Feedback On
		104	Position Feedback Off
		105	Movement: Move in Black On
		106	Movement: Move in Black Off
		107	Silent Movement On

CH	Function	DMX	Description
37	Control (continued)	108	Silent Movement Off
		109	Fast Motor Reset
		110	Normal Motor Reset
		111–117	Movement
		118	Wheels: No function
		119	Gobo Wheel shortest way
		120	Gobowheel Clockwise
		121	Gobowheel Snap
		122	Gobowheel Scroll
		123	Gobo Color Correction On
		124	Gobo Color Correction Off
		125–129	Gobo Color Correction Off ... Color Wheel Shortest Way
		130	Color Wheel Shortest Way
		131	Color Wheel Clockwise
		132	Color Wheel Snap
		133	Color Wheel Scroll
		134–138	Color Wheel Scroll ... Move in Black On
		139	Wheels: Move in Black On
		140	Wheels: Move in Black Off
		141–147	Wheels
		148	Sun Protection: No function
		149	Sun Protection On
		150	Sun Protection Off
		151	Sleep Mode On
		152	Sleep Mode Off
		153–167	Sun Protection
		168	Display: No function
		169	Display Always On
		170	Display Off after 20s
		171	Display Lock On
		172	Display Lock Off
		173–197	Display
		198	Defaults: No function
		199	Store User Default A
		200	Store User Default B
		201	Store User Default C
		202	Load Factory Defaults
		203	Load User Default A
		204	Load User Default B
		205	Load User Default C
		206–210	Defaults
		211	Reset: No function

CH	Function	DMX	Description
37	Control (continued)	212	Pan/Tilt Reset
		213	Head Reset
		214	CMY/Colourwheel Reset
		215	Gobo/Animationwheel Reset
		216	Zoom/Focus Reset
		217	Iris Reset
		218	Prism/Frost Reset
		219	Reset All
		220–224	Reset
		225	Recordings: No function
		226–233	Record User Scene 1…8
		234–255	Recordings
38	Fan Mode	0–5	Read from Menu
		6–11	Auto
		12–17	Off
		18–23	Constant Low
		24–29	Constant Mid
		30–35	Constant High
		36–154	Read from Menu
		155–255	Manual Mode from 0% to 100%

Mode 30CH 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 6 Dimmer above 0; CH 8 Shutter at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 9 Cyan 0, CH 10 Magenta 0, CH 11 Yellow 0, CH 12 CTO 0, CH 13 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “38CH Extended” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Pan Rotation		Same as CH 3 in the mode “38CH Extended” (p. 11)
4	Tilt		Same as CH 4 in the mode “38CH Extended” (p. 12)
5	Tilt Fine	0–255	Fine adjustment of CH 4
6	Dimmer		Same as CH 6 in the mode “38CH Extended” (p. 12)
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter		Same as CH 8 in the mode “38CH Extended” (p. 12)
9	Cyan	0	Saturated

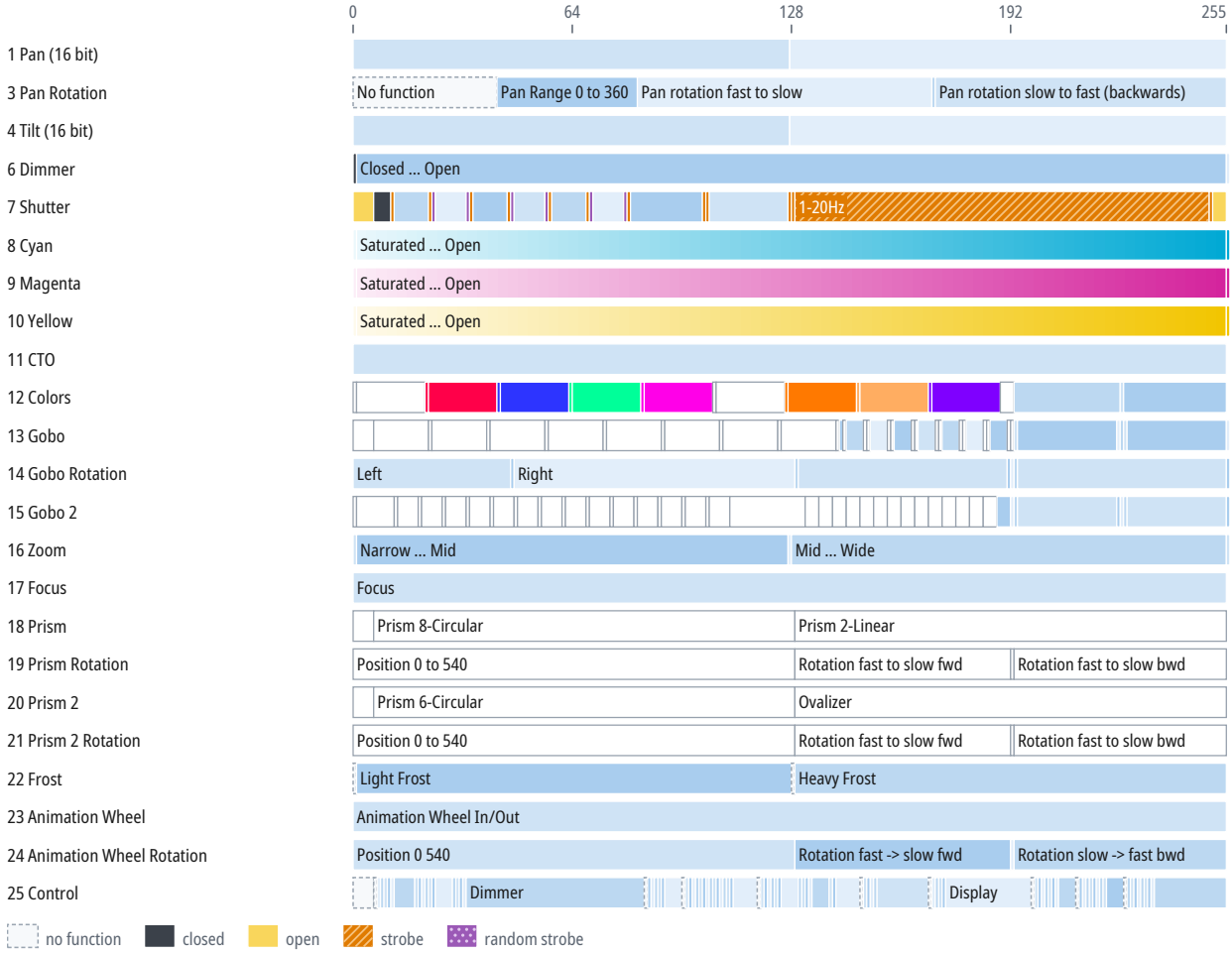
CH	Function	DMX	Description
9	Cyan (continued)	1–254	Saturated … Open
		255	Open
10	Magenta	0	Saturated
		1–254	Saturated … Open
		255	Open
11	Yellow	0	Saturated
		1–254	Saturated … Open
		255	Open
12	CTO	0–255	6500–2600 K
13	Colors		Same as CH 19 in the mode “38CH Extended” (p. 13)
14	Gobo		Same as CH 20 in the mode “38CH Extended” (p. 14)
15	Gobo Rotation		Same as CH 21 in the mode “38CH Extended” (p. 15)
16	Gobo Rotation Fine	0–255	Fine adjustment of CH 15
17	Gobo 2		Same as CH 23 in the mode “38CH Extended” (p. 15)
18	Zoom	0	Narrow
		1–126	Narrow … Mid
		127	Mid
		128–254	Mid … Wide
		255	Wide
19	Focus	0–255	Focus
20	Focus Fine	0–255	Fine adjustment of CH 19
21	Focus Distance		Same as CH 28 in the mode “38CH Extended” (p. 17)
22	Focus Adjust		Same as CH 29 in the mode “38CH Extended” (p. 17)
23	Prism		Same as CH 30 in the mode “38CH Extended” (p. 17)
24	Prism Rotation		Same as CH 31 in the mode “38CH Extended” (p. 17)
25	Prism 2		Same as CH 32 in the mode “38CH Extended” (p. 17)
26	Prism 2 Rotation		Same as CH 33 in the mode “38CH Extended” (p. 17)
27	Frost		Same as CH 34 in the mode “38CH Extended” (p. 17)
28	Animation Wheel		Same as CH 35 in the mode “38CH Extended” (p. 17)
29	Animation Wheel Rotation		Same as CH 36 in the mode “38CH Extended” (p. 17)
30	Control		Same as CH 37 in the mode “38CH Extended” (p. 18)

Mode 25CH Basic

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 Dimmer above 0; CH 7 Shutter at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 8 Cyan 0, CH 9 Magenta 0, CH 10 Yellow 0, CH 11 CTO 0, CH 12 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “38CH Extended” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Pan Rotation		Same as CH 3 in the mode “38CH Extended” (p. 11)
4	Tilt		Same as CH 4 in the mode “38CH Extended” (p. 12)
5	Tilt Fine	0–255	Fine adjustment of CH 4
6	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
7	Shutter		Same as CH 8 in the mode “38CH Extended” (p. 12)
8	Cyan		Same as CH 9 in the mode “30CH Standard” (p. 21)
9	Magenta		Same as CH 10 in the mode “30CH Standard” (p. 22)
10	Yellow		Same as CH 11 in the mode “30CH Standard” (p. 22)

CH	Function	DMX	Description
11	CTO	0–255	6500–2600 K
12	Colors		Same as CH 19 in the mode “38CH Extended” (p. 13)
13	Gobo		Same as CH 20 in the mode “38CH Extended” (p. 14)
14	Gobo Rotation	0–45	Left
		46	Mid
		47–128	Right
		129	Gobo Pos Rotate: Fast forward
		130–190	Gobo Pos Rotate: Fast forward ... Slow forward
		191	Gobo Pos Rotate: Slow forward
		192	Rotation stop
		193	Gobo Pos Rotate: Slow backward
		194–254	Gobo Pos Rotate: Slow backward ... Fast backward
		255	Gobo Pos Rotate: Fast backward
15	Gobo 2		Same as CH 23 in the mode “38CH Extended” (p. 15)
16	Zoom		Same as CH 18 in the mode “30CH Standard” (p. 22)
17	Focus	0–255	Focus
18	Prism		Same as CH 30 in the mode “38CH Extended” (p. 17)
19	Prism Rotation		Same as CH 31 in the mode “38CH Extended” (p. 17)
20	Prism 2		Same as CH 32 in the mode “38CH Extended” (p. 17)
21	Prism 2 Rotation		Same as CH 33 in the mode “38CH Extended” (p. 17)
22	Frost		Same as CH 34 in the mode “38CH Extended” (p. 17)
23	Animation Wheel		Same as CH 35 in the mode “38CH Extended” (p. 17)
24	Animation Wheel Rotation		Same as CH 36 in the mode “38CH Extended” (p. 17)
25	Control		Same as CH 37 in the mode “38CH Extended” (p. 18)

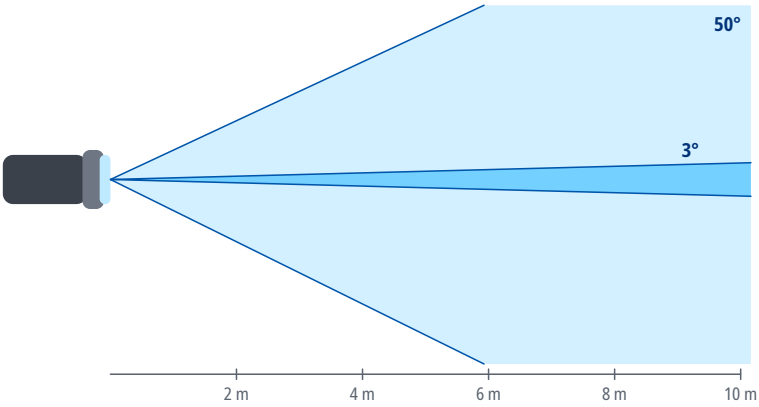
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	750 W
Luminous flux	45,000 lm
Color temperature	6,100 K
Color rendering index (CRI)	71
Optics	
Zoom	3–50°
Movement	
Pan	540°
Tilt	280°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RJ45 connectors	RJ45
RDM	yes (manufacturer ID 0x08A4, device model ID 0x005A)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	28 kg
Operating environment	
Operating temperature	-15 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2600–6500 K
Strobe frequency	0.5–15 Hz
Color wheel rotation	up to 800 °/s (133 rpm)
Gobo wheel 1 rotation	up to 3.14 °/s (0.5 rpm)
Gobo wheel 2 rotation	up to 3.14 °/s (0.5 rpm)
Gobo 1 rotation	up to 800 °/s (133 rpm)
Prism 1 rotation	up to 500 °/s (83 rpm)
Animation wheel rotation	up to 5 °/s (0.8 rpm)

Spot diameter



Distance	Ø 3°	Ø 50°
2 m	0.1 m	1.9 m
4 m	0.21 m	3.7 m
6 m	0.31 m	5.6 m
8 m	0.42 m	7.5 m
10 m	0.52 m	9.3 m
15 m	0.79 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.