DMX REFERENCE

Opus H5

Opus H5 (CLOH5)

Cameo



Manufacturer	Cameo
GDTF file	Cameo_OPUS_H5_26033.gdtf
GDTF revision	Firmware_1.0.3c_GDTF_V01, Namensgebung · 2022-06-23
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1 About this manual

This document describes the Opus H5 (CLOH5) by Cameo. It was compiled from the GDTF file Cameo_OPUS_H5_26033.gdtf from the GDTF-Share library.

File revision: “Firmware_1.0.3c_GDTF_V01, Namensgebung”.

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	27 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	36	14	1, 37, 73, 109, ...
Standard	29	17	1, 30, 59, 88, ...

No light? Check these channels

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

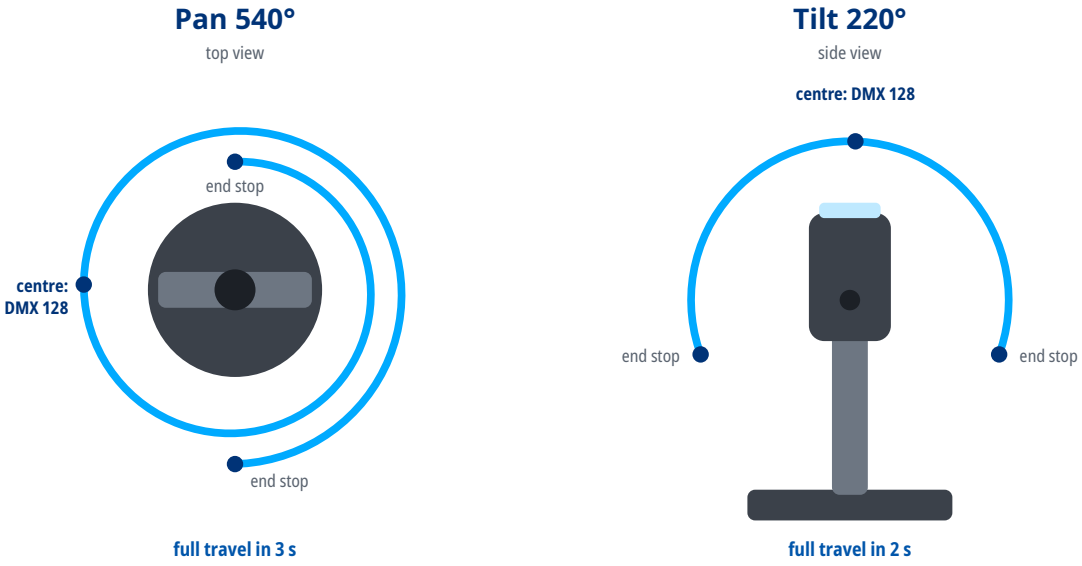
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

- BEAM SPOT WASH HYBRID MOVING HEAD
- with 18.000 lm / 407.000 Lux (@ 10 m)
- with 470 W OSRAM SIRIUS HRI

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

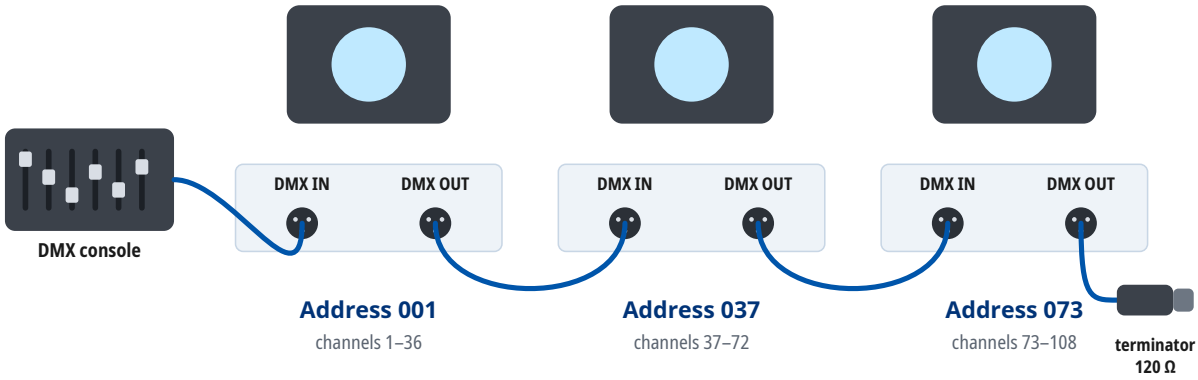
⚠ **WARNING**

- 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: 27 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 Extended: every unit occupies 36 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 “Extended”: 36.
- 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 “Extended”, you can use, for example, the start addresses 1, 37, 73, 109.
- 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

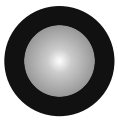
Functions in each DMX mode

	Extended 36 channels	Standard 29 channels
Pan / Tilt	1, 3	1, 3
Dimmer	5	5
Dimmer resolution	16 bit	8 bit
Shutter / strobe	7	6
Color mixing	8, 10, 12	7–9
Color temperature	14	10
Color wheel	15, 16	11, 12
Gobo wheel	18, 21	13, 16
Gobo rotation	19	14
Prism	26–29	19–22
Frost	30, 31	23, 24
Zoom	22	17
Focus	24	18
Animation wheel	32, 33	25, 26

Gobo wheel 1



Gobo wheel 2

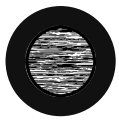
1 
Select: Open
DMX 0

2 
Gobo 1
DMX 13–26

3 
Gobo 2
DMX 27–40

4 
Gobo 3
DMX 41–54

5 
Gobo 4
DMX 55–68

6 
Gobo 5
DMX 69–82

7 
Gobo 6
DMX 83–96

8 
Gobo 7
DMX 97–110

9 
Gobo 8
DMX 111–124

10 
Gobo 9
DMX 125–139

11 
Flat Field Filter
DMX 1–8

Gobo wheel 3

1 
Fix Gobos: Open
DMX 0–9

2 
Gobo 1
DMX 10–18

3 
Gobo 2
DMX 19–27

4 
Gobo 3
DMX 28–36

5 
Gobo 4
DMX 37–45

6 
Gobo 5
DMX 46–54

7 
Gobo 6
DMX 55–63

8 
Gobo 7
DMX 64–72

9 
Gobo 8
DMX 73–81

10 
Gobo 9
DMX 82–90

11 
Gobo 10
DMX 91–99

12 
Gobo 11
DMX 100–108

13 
Gobo 12
DMX 109–117

14 
Gobo 13
DMX 118–126

15 
Flat Field Filter

Animation wheel

1
Open

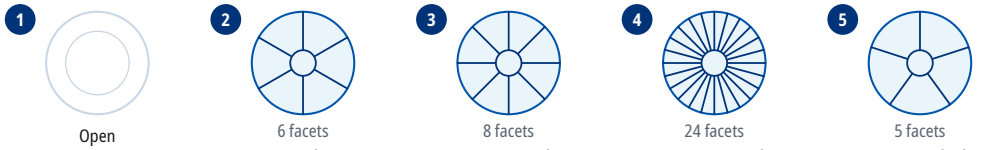
2 
Animation Wheel

Prism 1

1
Open
DMX 0–5

2 
6 facets
Prism 1 (linear)
DMX 6–255

Prism 2



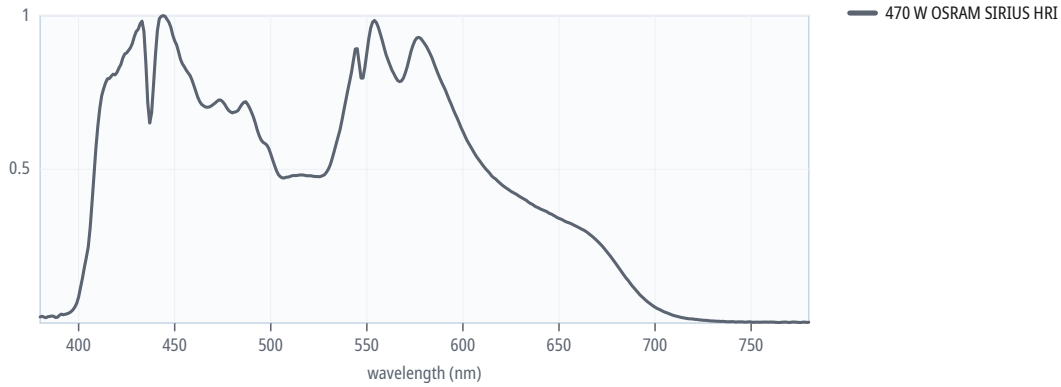
1. Open — DMX 0–5
2. 6 facets — Prism 6x linear — DMX 6–68
3. 8 facets — Prism 8x circular — DMX 69–131
4. 24 facets — Prisma 24x circular — DMX 132–194
5. 5 facets — Prisma 5-cyclindric — DMX 195–255

Gobo wheel 4



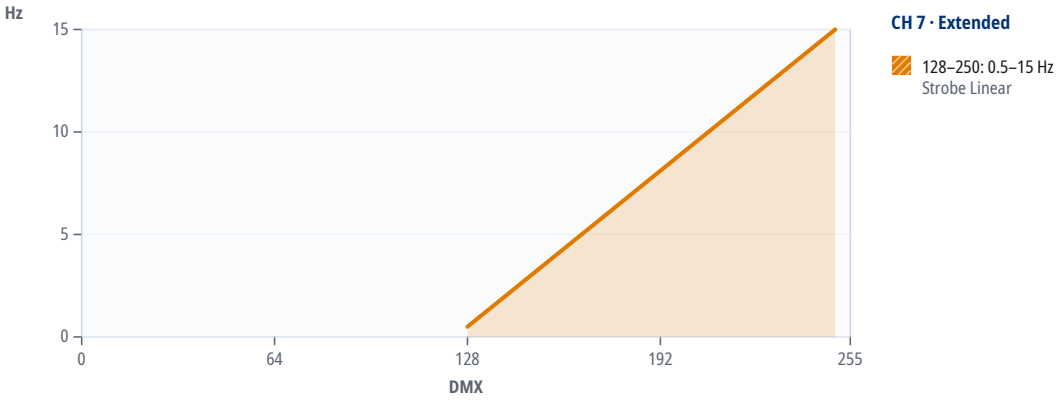
1. Open
2. Split Color — DMX 255

Spectra of the light sources



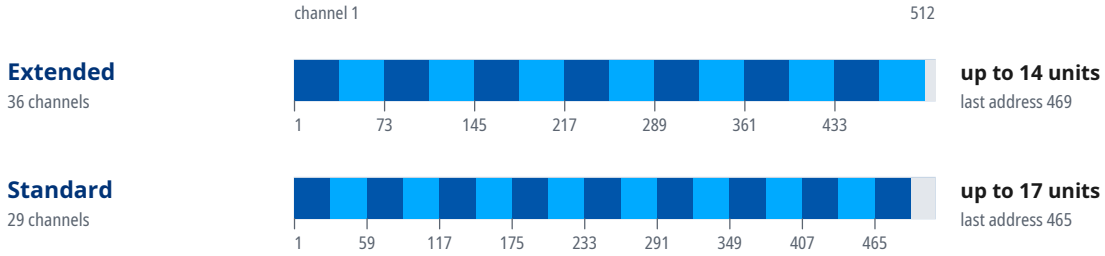
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	181	11	361	16	U2 · 37
2	37	7	217	12	397	17	U2 · 73
3	73	8	253	13	433	18	U2 · 109
4	109	9	289	14	469	19	U2 · 145
5	145	10	325	15	U2 · 1	20	U2 · 181

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 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 5 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 5 Dimmer 255, CH 8 Cyan 0, CH 10 Magenta 0, CH 12 Yellow 0, CH 14 Colors 3 0, CH 15 Colors 2 0, CH 16 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	Tilt	0–127	Tilt
		128	Home
		128–255	Tilt
4	Tilt Fine	0–255	Fine adjustment of CH 3

CH	Function	DMX	Description
5	Dimmer	0–255	Closed ... Open
		255	Open
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	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
8	Cyan	0	Saturated ... Open
		0	Open
		1–255	Cyan
9	Cyan Fine	0–255	Fine adjustment of CH 8
10	Magenta	0	Saturated ... Open
		0	Open
		1–255	Magenta
11	Magenta Fine	0–255	Fine adjustment of CH 10
12	Yellow	0	Saturated ... Open

CH	Function	DMX	Description
12	Yellow (continued)	0	Open
		1–255	Yellow
13	Yellow Fine	0–255	Fine adjustment of CH 12
14	Colors 3		High CRI
		0	Open
		1–254	Open ... High CRI
		255	High CRI
15	Colors 2		Split Color
		0	Open
		1–254	Open ... Split Color
		255	Split Color
16	Colors	0–6	Color open
		7–19	Deep red
		20–32	Medium Blue
		33–45	Yellow
		46–58	Magenta
		59–71	Deep Green
		72–84	Lavender
		85–97	Peakcock
		98–110	Orange
		111–123	Lime
		124–136	CTO 2600K
		137–149	Amber
		150–162	CTO 3200K
		163–181	Congo Blue
		181	Congo Blue ... Color open
		182–191	Color open
		192–223	Spin: Fast forward ... Slow forward
		223	Spin: Slow forward ... Stop
		224	Spin: Stop ... Slow backwards
		225–255	Spin: Slow backwards ... Fast backwards
		255	Spin: Fast backwards
17	Colors Fine	0–255	Fine adjustment of CH 16
18	Gobo	0	Select: Open
		1–8	Flat Field Filter
		9–12	Flat Field Filter ... Gobo 1
		13–26	Gobo 1
		27–40	Gobo 2
		41–54	Gobo 3
		55–68	Gobo 4
		69–82	Gobo 5
		83–96	Gobo 6

CH	Function	DMX	Description
18	Gobo (continued)	97–110	Gobo 7
		111–124	Gobo 8
		125–139	Gobo 9
		140–150	Open with Flat Field Filter
		151	Gobo 1 slow
		152–153	Gobo 1 slow ... Gobo 1 fast
		154	Gobo 1 fast
		155	Gobo 2 slow
		156–157	Gobo 2 slow ... Gobo 2 fast
		158	Gobo 2 fast
		159	Gobo 3 slow
		160–161	Gobo 3 slow ... Gobo 3 fast
		162	Gobo 3 fast
		163	Gobo 4 slow
		164–165	Gobo 4 slow ... Gobo 4 fast
		166	Gobo 4 fast
		167	Gobo 5 slow
		168–169	Gobo 5 slow ... Gobo 5 fast
		170	Gobo 5 fast
		171	Gobo 6 slow
		172–173	Gobo 6 slow ... Gobo 6 fast
		174	Gobo 6 fast
		175	Gobo 7 slow
		176–177	Gobo 7 slow ... Gobo 7 fast
		178	Gobo 7 fast
		179	Gobo 8 slow
		180–181	Gobo 8 slow ... Gobo 8 fast
		182	Gobo 8 fast
		183	Gobo 9 slow
		184–185	Gobo 9 slow ... Gobo 9 fast
		186	Gobo 9 fast
		187–191	Wheel rotation
		192	Wheel rotation: Fast forward
		193–222	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
19	Gobo Rotation	0–46	Left ... Mid
		46–128	Mid ... Right
		128	Right

CH	Function	DMX	Description
19	Gobo Rotation (continued)	129–191	Gobo Pos Rotate: Fast forward ... Slow forward
		191	Gobo Pos Rotate: Slow forward
		192	Gobo Pos Rotate: Stop ... Slow backward
		193–255	Gobo Pos Rotate: Slow backward ... Fast backward
		255	Gobo Pos Rotate: Fast backward
20	Gobo Rotation Fine	0–255	Fine adjustment of CH 19
21	Gobo 2	0–9	Fix Gobos: Open
		10–18	Gobo 1
		19–27	Gobo 2
		28–36	Gobo 3
		37–45	Gobo 4
		46–54	Gobo 5
		55–63	Gobo 6
		64–72	Gobo 7
		73–81	Gobo 8
		82–90	Gobo 9
		91–99	Gobo 10
		100–108	Gobo 11
		109–117	Gobo 12
		118–126	Gobo 13
		127–131	Fix Gobos: Open
		132	Gobo 1 slow
		133–134	Gobo 1 slow ... Gobo 1 fast
		135	Gobo 1 fast
		136	Gobo 2 slow
		137–138	Gobo 2 slow ... Gobo 2 fast
		139	Gobo 2 fast
		140	Gobo 3 slow
		141–142	Gobo 3 slow ... Gobo 3 fast
		143	Gobo 3 fast
		144	Gobo 4 slow
		145–146	Gobo 4 slow ... Gobo 4 fast
		147	Gobo 4 fast (10–1 Hz)
		148	Gobo 5 slow
		149–150	Gobo 5 slow ... Gobo 5 fast
		151	Gobo 5 fast
		152	Gobo 6 slow
		153–154	Gobo 6 slow ... Gobo 6 fast
		155	Gobo 6 fast
		156	Gobo 7 slow
		157–158	Gobo 7 slow ... Gobo 7 fast
		159	Gobo 7 fast

CH	Function	DMX	Description
21	Gobo 2 (continued)	160	Gobo 8 slow
		161–162	Gobo 8 slow ... Gobo 8 fast
		163	Gobo 8 fast (10–1 Hz)
		164	Gobo 9 slow
		165–166	Gobo 9 slow ... Gobo 9 fast
		167	Gobo 9 fast
		168	Gobo 10 slow
		169–170	Gobo 10 slow ... Gobo 10 fast
		171	Gobo 10 fast
		172	Gobo 11 slow
		173–174	Gobo 11 slow ... Gobo 11 fast
		175	Gobo 11 fast
		176	Gobo 12 slow
		177–178	Gobo 12 slow ... Gobo 12 fast
		179	Gobo 12 fast
		180	Gobo 13 slow
		181–182	Gobo 13 slow ... Gobo 13 fast
		183	Gobo 13 fast
		184–191	Gobo Wheel rotation fwd
		192	Gobo Wheel rotation fwd: Fast forward
		193–222	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
		255	Gobo Wheel rotation fwd: Fast backward
22	Zoom	0–127	Narrow ... Mid
		127–255	Mid ... Wide
		255	Wide
23	Zoom Fine	0–255	Fine adjustment of CH 22
24	Focus	0–255	Focus
25	Focus Fine	0–255	Fine adjustment of CH 24
26	Prism		Prisma 6-linear
		0–5	Open
		6–255	Prism 1 (linear)
27	Prism Rotation	0–128	Prism position 0 to 540 (540°)
		129–191	Prism rotation fast to slow fwd (500–1 °/s)
		192	Prism rotation Stop
		193–255	Prism rotation fast to slow bwd (1–500 °/s)
28	Prism 2		Prisma select
		0–5	Open
		6–68	Prism 6x linear

CH	Function	DMX	Description
28	Prism 2 (continued)	69–131	Prism 8x circular
		132–194	Prisma 24x circular
		195–255	Prisma 5-cyclindric
29	Prism 2 Rotation	0–128	Prism position 0 to 540 (540°)
		129–191	Prism rotation fast to slow fwd (500–1 °/s)
		192	Prism rotation Stop
		193–255	Prism rotation fast to slow bwd (1–500 °/s)
30	Frost		Frost soft
		0	Open
		1–254	Open ... Soft Frost
		255	Soft Frost
31	Frost 2		Frost heavy
		0	Open
		1–254	Open ... Heavy Frost
		255	Heavy Frost
32	Animation Wheel	0	Animation Wheel In/Out: Open
		1–127	Open ... Animation
		128	Animation
		129–191	Bounce 1/3 in fast -> slow
		192	Bounce 2/3 in fast -> slow
		193–255	Bounce full in fast -> slow
33	Animation Wheel Rotation	0–128	Position 0 540 (540°)
		129–191	Rotation fast -> slow fwd
		192	Rotation stop
		193–255	Rotation slow -> fast bwd
34	Position Effect		Pan/Tilt Macro
		0–5	Off
		6–40	Pan small > big
		41–75	Tilt small > big
		76–110	Pan / Tilt small > big
		111–145	Pan / Tilt (invers) small > big
		146–180	Circle small > big
		181–215	Circle (invers) small > big
		216–255	Random small > big
35	Position Effect Speed		Pan/Tilt Speed
		0	Fast
		1–254	Fast ... Slow
		255	Slow
36	Control	0–5	Control off
		6–7	Blackout while moving on (hold 3s)
		8–9	Blackout while moving off (hold 3s)
		10–11	Blackout while Prism moving on (hold 3s)

CH	Function	DMX	Description
36	Control (continued)	12–13	3 Blackout while Prism moving off (hold 3s)
		14–15	Blackout while Gobo moving on (hold 3s)
		16–17	Blackout while Gobo moving off (hold 3s)
		18–19	Blackout while Color moving on (hold 3s)
		20–21	Blackout while Color moving off (hold 3s)
		22–41	Pan Tilt
		42–43	Invert Pan on (hold 3s)
		44–45	Invert Pan off (hold 3s)
		46–47	Invert Tilt on (hold 3s)
		48–49	Invert Tilt off (hold 3s)
		50–51	Pan Angle 540 (Hold 3s)
		52–53	Pan Angle 630 (Hold 3s)
		54–65	Lamp Control
		66–67	Lamp on (hold 3s)
		68–69	Lamp off (hold 3s)
		70–71	Lamp Mode Standard (hold 3s)
		72–73	Lamp Mode Eco (hold 3s)
		74–139	Display
		140–141	Display on (Hold 3s)
		142–143	Display off (Hold 3s)
		144–147	Wheels Snap/Linear
		148–149	Color Wheel snap (Hold 3s)
		150–151	Color Wheel scroll (Hold 3s)
		152–153	Gobo Wheel snap (Hold 3s)
		154–155	Gobo Wheel scroll (Hold 3s)
		156–163	Dimmer Curve
		164–165	Dimmer Curve Linear (Hold 3s)
		166–167	Dimmer Curve Exponential (Hold 3s)
		168–169	Dimmer Curve Logarithmic (Hold 3s)
		170–171	Dimmer Curve S-Curve (Hold 3s)
		172–209	Wheel Rotation
		210–211	Color Pos Mode quick (Hold 3s)
		212–213	Color Pos Mode Standard (hold 3s)
		214–215	Gobo Pos Mode quick (Hold 3s)
		216–217	Gobo Pos Mode Standard (hold 3s)
		218–221	Control / Reset
		222–223	Reset Pan / Tilt (Hold 3s)
		224–233	Reset Pan / Tilt (Hold 3s) ... Reset Head complete (Hold 3s)
		234–235	Reset Head complete (Hold 3s)
		236–237	Reset All Functions (Hold 3s)
		238–255	Control / Reset

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 5 Dimmer above 0; CH 6 Shutter at 0–5 or 251–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 7 Cyan 0, CH 8 Magenta 0, CH 9 Yellow 0, CH 10 Colors 3 0, CH 11 Colors 2 0, CH 12 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 12)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 12)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
6	Shutter		Same as CH 7 in the mode “Extended” (p. 13)
7	Cyan	0	Saturated

CH	Function	DMX	Description
7	Cyan (continued)	1–254	Saturated ... Open
		255	Open
8	Magenta	0	Saturated
		1–254	Saturated ... Open
		255	Open
9	Yellow	0	Saturated
		1–254	Saturated ... Open
		255	Open
10	Colors 3		Same as CH 14 in the mode “Extended” (p. 14)
11	Colors 2		Same as CH 15 in the mode “Extended” (p. 14)
12	Colors	0–6	Color open
		7–19	Deep red
		20–32	Medium Blue
		33–45	Yellow
		46–58	Magenta
		59–71	Deep Green
		72–84	Lavender
		85–97	Peakcock
		98–110	Orange
		111–123	Lime
		124–136	CTO 2600K
		137–149	Amber
		150–162	CTO 3200K
		163–181	Congo Blue
		182–191	Color open
		192	Spin: Fast forward
		193–222	Spin: Fast forward ... Slow forward
		223	Spin: Slow forward
		224	Spin: Stop
		225	Slowbackwards
		226–254	Slowbackwards ... Fast backwards
		255	Spin: Fast backwards
13	Gobo	0	Select: Open
		1–8	Flat Field Filter
		9–12	Flat Field Filter ... Gobo 1
		13–26	Gobo 1
		27–40	Gobo 2
		41–54	Gobo 3
		55–68	Gobo 4
		69–82	Gobo 5
		83–96	Gobo 6

CH	Function	DMX	Description
13	Gobo (continued)	97–110	Gobo 7
		111–124	Gobo 8
		125–139	Gobo 9
		140–150	Open with Flat Field Filter
		151	Gobo 1 slow
		152–153	Gobo 1 slow ... Gobo 1 fast
		154	Gobo 1 fast
		155	Gobo 2 slow
		156–157	Gobo 2 slow ... Gobo 2 fast
		158	Gobo 2 fast
		159	Gobo 3 slow
		160–161	Gobo 3 slow ... Gobo 3 fast
		162	Gobo 3 fast
		163	Gobo 4 slow
		164–165	Gobo 4 slow ... Gobo 4 fast
		166	Gobo 4 fast
		167	Gobo 5 slow
		168–169	Gobo 5 slow ... Gobo 5 fast
		170	Gobo 5 fast
		171	Gobo 6 slow
		172–173	Gobo 6 slow ... Gobo 6 fast
		174	Gobo 6 fast
		175	Gobo 7 slow
		176–177	Gobo 7 slow ... Gobo 7 fast
		178	Gobo 7 fast
		179	Gobo 8 slow
		180–181	Gobo 8 slow ... Gobo 8 fast
		182	Gobo 8 fast
		183	Gobo 9 slow
		184–185	Gobo 9 slow ... Gobo 9 fast
		186	Gobo 9 fast
		187–191	Wheel rotation
		192	Wheel rotation: Fast forward
		193–222	Wheel rotation: Fast forward ... Slow forward
		223	Wheel rotation: Slow forward
		224	Wheel rotation: Stop
		225	Wheel rotation: Slow backward
		226–254	Slow backward ... Fas backward
		255	Fas backward
14	Gobo Rotation		Same as CH 19 in the mode “Extended” (p. 15)
15	Gobo Rotation Fine	0–255	Fine adjustment of CH 14

CH	Function	DMX	Description
16	Gobo 2		Same as CH 21 in the mode “Extended” (p. 16)
17	Zoom	0	Narrow
		1–126	Narrow ... Mid
		127	Mid
		128–254	Mid ... Wide
		255	Wide
18	Focus	0–255	Focus
19	Prism		Same as CH 26 in the mode “Extended” (p. 17)
20	Prism Rotation		Same as CH 27 in the mode “Extended” (p. 17)
21	Prism 2		Same as CH 28 in the mode “Extended” (p. 17)
22	Prism 2 Rotation		Same as CH 29 in the mode “Extended” (p. 18)
23	Frost		Frost soft
		0	Open
		1–254	Open ... Soft frost
		255	Soft frost
24	Frost 2		Frost heavy
		0	Open
		1–254	Open ... Heavy frost
		255	Heavy frost
25	Animation Wheel		Same as CH 32 in the mode “Extended” (p. 18)
26	Animation Wheel Rotation		Same as CH 33 in the mode “Extended” (p. 18)
27	Position Effect		Same as CH 34 in the mode “Extended” (p. 18)
28	Position Effect Speed		Same as CH 35 in the mode “Extended” (p. 18)
29	Control		Same as CH 36 in the mode “Extended” (p. 18)

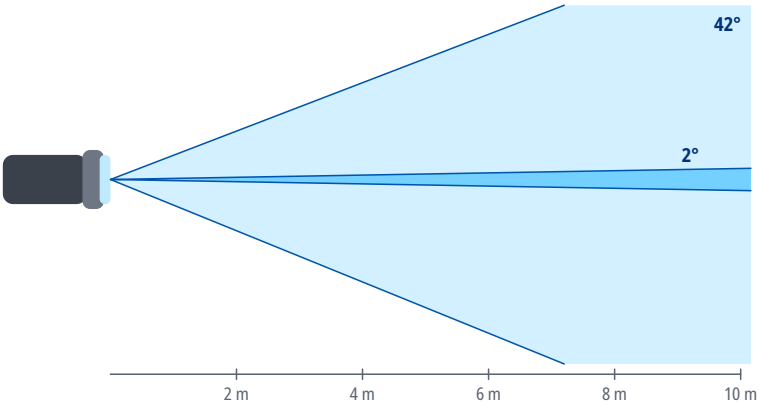
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	470 W
Luminous flux	16,000 lm
Color temperature	7,500 K
Color rendering index (CRI)	78
Optics	
Zoom	2–42°
Movement	
Pan	540°
Tilt	220°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x08A4, device model ID 0x0038)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	27 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	6650–8200 K
Strobe frequency	0.5–15 Hz
Color wheel 1 rotation	up to 400 °/s (67 rpm)
Gobo wheel 2 rotation	up to 800 °/s (133 rpm)
Gobo wheel 3 rotation	up to 800 °/s (133 rpm)
Gobo 2 rotation	up to 800 °/s (133 rpm)
Prism 1 rotation	up to 500 °/s (83 rpm)
Prism 2 rotation	up to 500 °/s (83 rpm)
Animation wheel rotation	up to 5 °/s (0.8 rpm)

Spot diameter



Distance	Ø 2°	Ø 42°
2 m	0.07 m	1.5 m
4 m	0.14 m	3.1 m
6 m	0.21 m	4.6 m
8 m	0.28 m	6.1 m
10 m	0.35 m	7.7 m
15 m	0.52 m	11.5 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.