DMX REFERENCE

OTOS H5

OTOS H5 (CLOTOSH5)

Cameo



Manufacturer	Cameo
GDTF file	Cameo_OTOS_H5_63375.gdtf
GDTF revision	FW-1.90_GDTF-1.2 · 2024-05-06
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1 About this manual

This document describes the OTOS H5 (CLOTOSH5) by Cameo. It was compiled from the GDTF file Cameo_OTOS_H5_63375.gdtf from the GDTF-Share library.

File revision: “FW-1.90_GDTF-1.2”.

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	33 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
32-CH	32	16	1, 33, 65, 97, ...
26-CH	26	19	1, 27, 53, 79, ...
29-CH	29	17	1, 30, 59, 88, ...

No light? Check these channels

- 32-CH: CH 5 Dimmer above 0; CH 7 Shutter at 0–5 or 251–255 “Open”
- 26-CH: CH 5 Dimmer above 0; CH 6 Shutter at 0–5 or 251–255 “Open”
- 29-CH: CH 5 Dimmer above 0; CH 7 Shutter at 0–5 or 251–255 “Open”



Read the manual before use



Do not stare into the light

3 Safety instructions



Read the manual before use



Do not stare into the light

⚠ 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.

⚠ CAUTION

- The device is rated IP65 and may be used outdoors within the limits of this rating.
- This protection is effective only when all connectors are mated or closed with their protective caps and all seals are intact. Use cables and connectors with the same or a higher protection rating.
- Do not open the housing; opening it breaks the seals and the protection rating can no longer be guaranteed.
- Install the device so that water cannot collect around connectors and cable glands, and inspect seals and cables regularly.

⚠ 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.

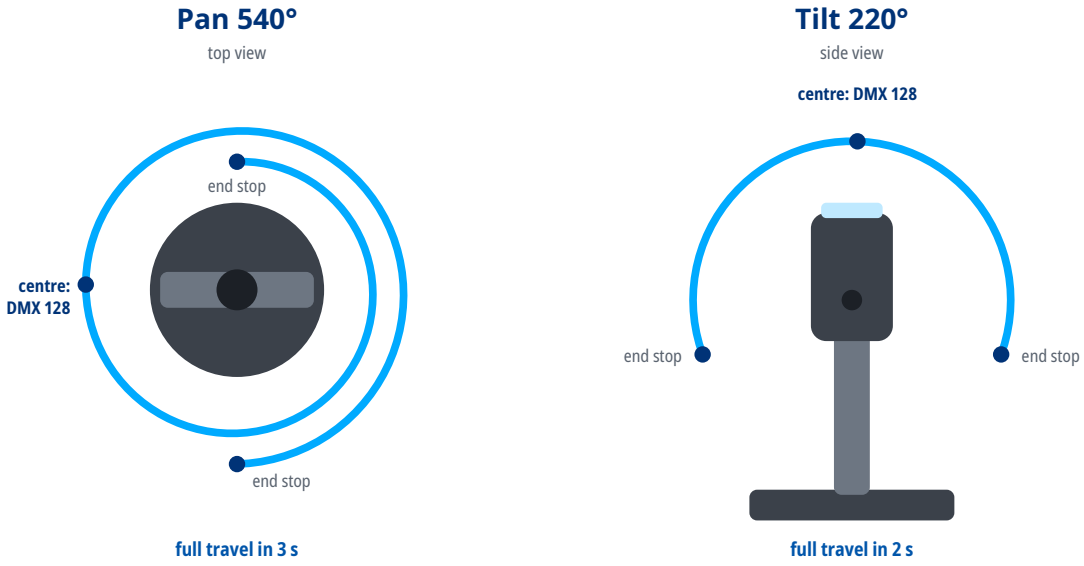
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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 IP65
- with 19.000 lm
- with Signify MSD Silver 480W Lamp

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

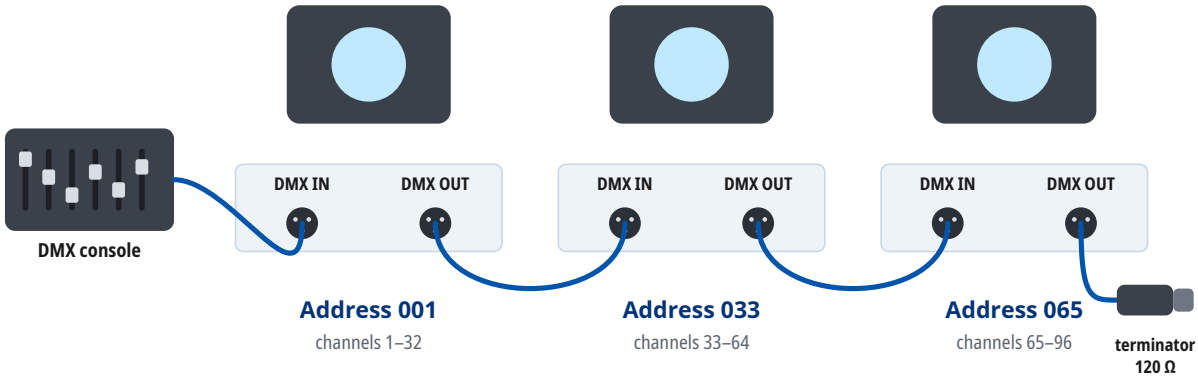
⚠ WARNING

- 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: 33 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 32-CH: every unit occupies 32 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 “32-CH”: 32.
- 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 “32-CH”, you can use, for example, the start addresses 1, 33, 65, 97.
- 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

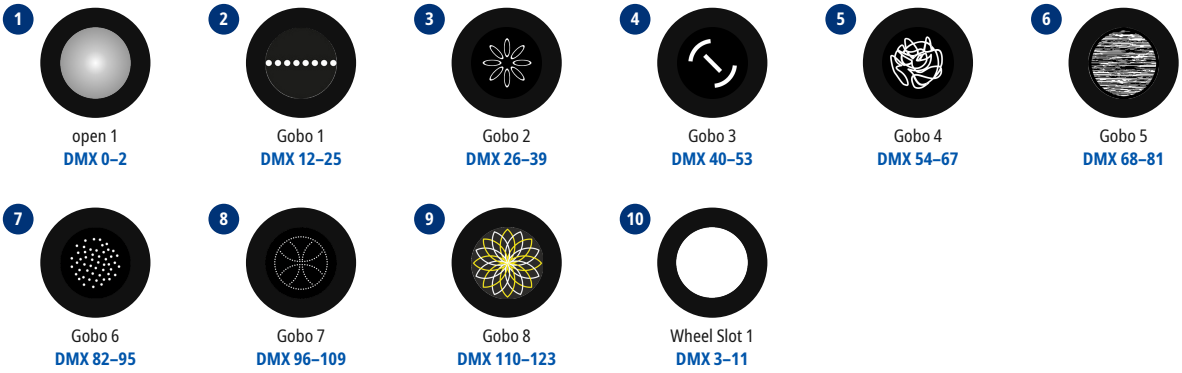
Functions in each DMX mode

	32-CH 32 channels	26-CH 26 channels	29-CH 29 channels
Pan / Tilt	1, 3	1, 3	1, 3
Dimmer	5	5	5
Dimmer resolution	16 bit	8 bit	16 bit
Shutter / strobe	7	6	7
Color mixing	8, 10, 12	7–9	8–10
Color wheel	14–16	10–12	11–13
Gobo wheel	17, 20	13, 16	14, 17
Gobo rotation	18	14	15
Prism	25, 26	19, 20	21–23
Frost	27	21	24
Zoom	21	17	18
Focus	23	18	19
Animation wheel	28, 29	22, 23	25, 26

Gobo wheel 1



Gobo wheel 2



Gobo wheel 3

1 
open
DMX 0–5

2 
Gobo 1
DMX 6–9

3 
Gobo 2
DMX 10–15

4 
Gobo 3
DMX 16–21

5 
Gobo 4
DMX 22–27

6 
Gobo 5
DMX 28–33

7 
Gobo 6
DMX 34–39

8 
Gobo 7
DMX 40–45

9 
Gobo 8
DMX 46–51

10 
Gobo 9
DMX 52–57

11 
Gobo 10
DMX 58–63

12 
Gobo 11
DMX 64–69

13 
Gobo 12
DMX 70–75

14 
Gobo 13
DMX 76–81

15 
Gobo 14
DMX 82–87

16 
Gobo 15
DMX 88–93

17 
Gobo 16
DMX 94–99

18 
Gobo 17
DMX 100–105

19 
Gobo 18
DMX 106–111

20 
Gobo 19
DMX 112–117

Animation wheel

1
Open

2 
Animation Wheel

Prism 1

1
Open
DMX 0–5

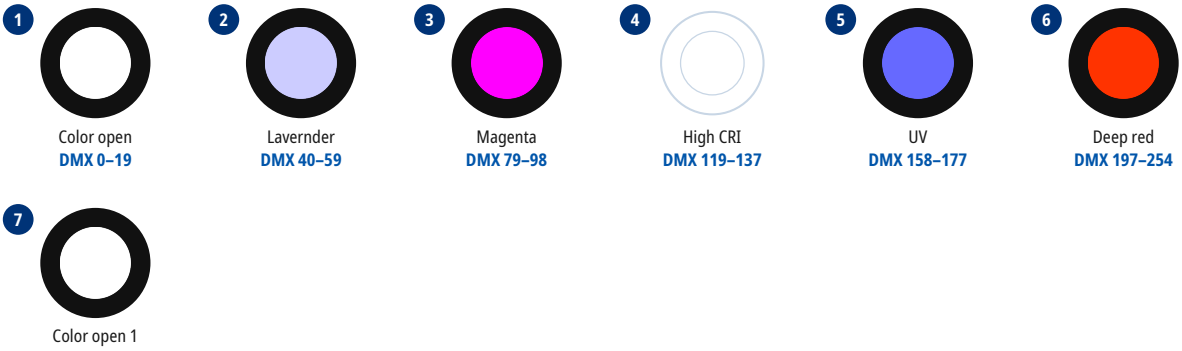
2 
6 facets
Prisma 6-Linear
DMX 6–128

Prism 2

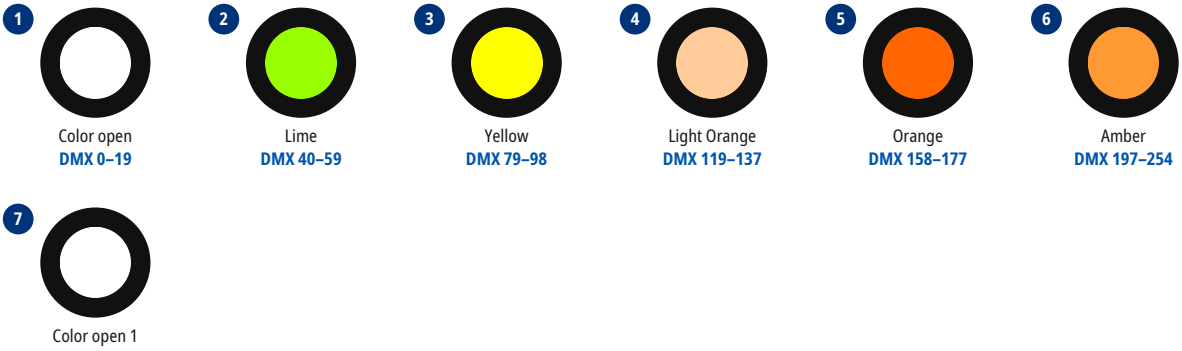
1
Open

2 
8 facets
Prisma 8-circular

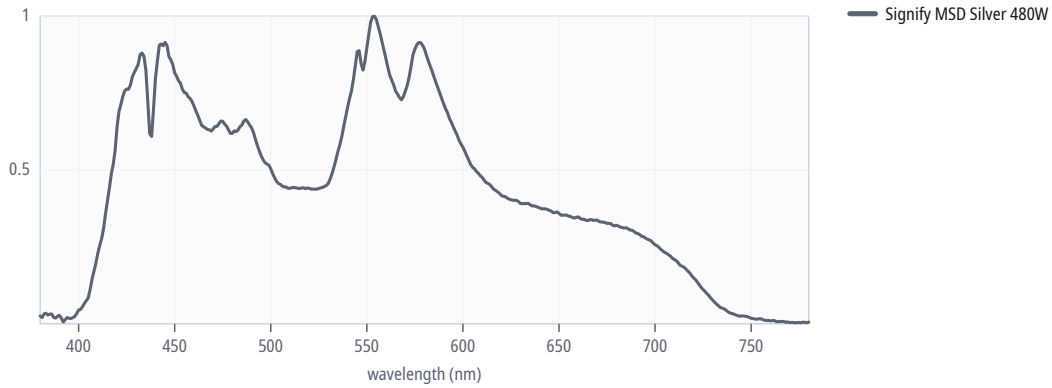
Gobo wheel 4



Gobo wheel 5

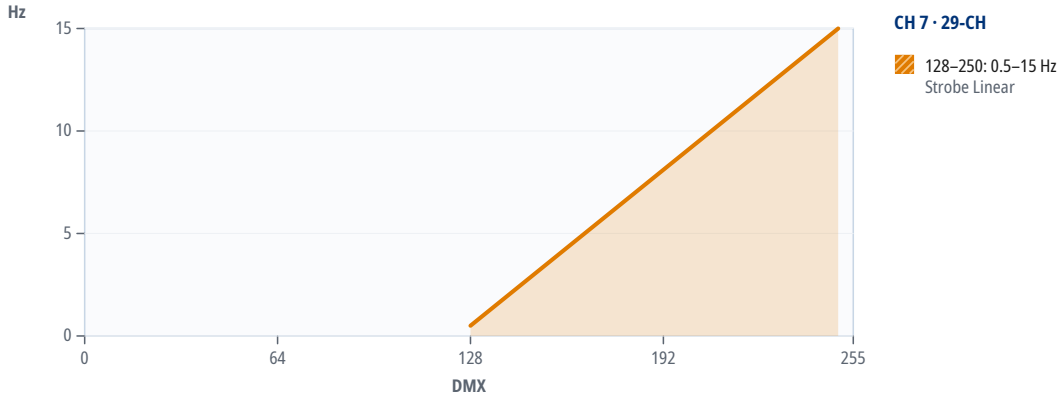


Spectra of the light sources



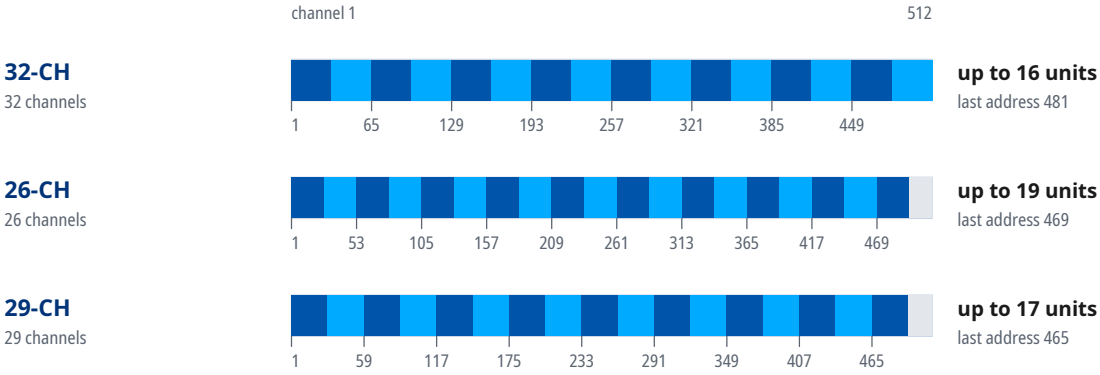
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “32-CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	161	11	321	16	481
2	33	7	193	12	353	17	U2 · 1
3	65	8	225	13	385	18	U2 · 33
4	97	9	257	14	417	19	U2 · 65
5	129	10	289	15	449	20	U2 · 97

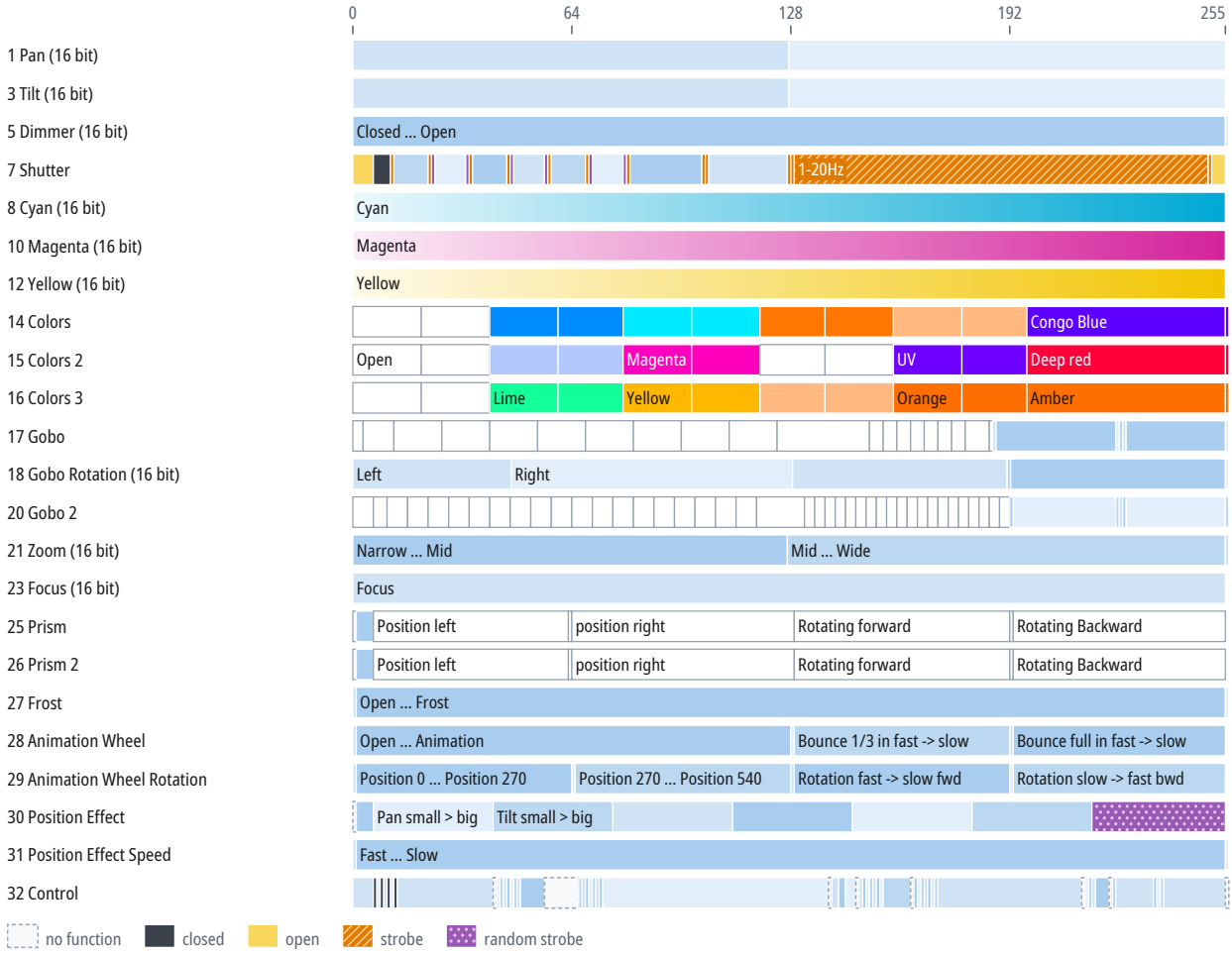
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 32-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 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 0, CH 15 Colors 2 0, CH 16 Colors 3 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
5	Dimmer	0–255	Closed ... Open
		255	Open
6	Dimmer Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
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	0–255	Cyan
9	Cyan Fine	0–255	Fine adjustment of CH 8
10	Magenta	0–255	Magenta
11	Magenta Fine	0–255	Fine adjustment of CH 10
12	Yellow	0–255	Yellow
13	Yellow Fine	0–255	Fine adjustment of CH 12
14	Colors		Color Wheel 1
		0–19	Color open
		20–39	Open / Medium Blue
		40–59	Medium Blue
		60–78	Medium Blue / Blue-Green
		79–98	Blue-Green

CH	Function	DMX	Description
14	Colors (continued)	99–118	Blue-Green / CTO 2600K
		119–137	CTO 2600K
		138–157	CTO 2600K 7 CTO 3200K
		158–177	CTO 3200K
		178–196	CTO 3200K / Congo Blue
		197–255	Congo Blue
15	Colors 2		Color Wheel 2
		0–19	Open
		20–39	Open / Lavender
		40–59	Lavender
		60–78	Lavender / Magenta
		79–98	Magenta
		99–118	Magenta / High CRI
		119–137	High CRI
		138–157	High CRI / UV
		158–177	UV
		178–196	UV / Red
		197–255	Deep red
16	Colors 3		Color Wheel 3
		0–19	Color open
		20–39	Open / Lime
		40–59	Lime
		60–78	Lime / Yellow
		79–98	Yellow
		99–118	Yellow / Light Orange
		119–137	Light Orange
		138–157	Light Orange / Orange
		158–177	Orange
		178–196	Orange / Amber
		197–255	Amber
17	Gobo	0–2	Selekct rotating Gobos: Open
		3–11	Flat Field Filter
		12–25	Gobo 1
		26–39	Gobo 2
		40–53	Gobo 3
		54–67	Gobo 4
		68–81	Gobo 5
		82–95	Gobo 6
		96–109	Gobo 7
		110–123	Gobo 8
		124–150	Selekct rotating Gobos: Open with Flat Field Filter
		151–154	Gobo 1 slow to fast (1–10 Hz)

CH	Function	DMX	Description
17	Gobo (continued)	155–158	Gobo 2 slow to fast (1–10 Hz)
		159–162	Gobo 3 slow to fast (1–10 Hz)
		163–166	Gobo 4 slow to fast (1–10 Hz)
		167–170	Gobo 5 slow to fast (1–10 Hz)
		171–174	Gobo 6 slow to fast (1–10 Hz)
		175–178	Gobo 7 slow to fast (1–10 Hz)
		179–185	Gobo 8 slow to fast (1–10 Hz)
		186	Shake: Open with Flat Field Filter (1–10 Hz)
		187	Wheel rotation: Fast forward
		188–222	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
18	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	Gobo Pos Rotate: Stop ... Slow backward
		193–255	Gobo Pos Rotate: Slow backward ... Fast backward
		255	Gobo Pos Rotate: Fast backward
19	Gobo Rotation Fine	0–255	Fine adjustment of CH 18
20	Gobo 2	0–5	Select fixed Gobos: Open
		6–9	Gobo 1
		10–15	Gobo 2
		16–21	Gobo 3
		22–27	Gobo 4
		28–33	Gobo 5
		34–39	Gobo 6
		40–45	Gobo 7
		46–51	Gobo 8
		52–57	Gobo 9
		58–63	Gobo 10
		64–69	Gobo 11
		70–75	Gobo 12
		76–81	Gobo 13
		82–87	Gobo 14
		88–93	Gobo 15
		94–99	Gobo 16
		100–105	Gobo 17

CH	Function	DMX	Description
20	Gobo 2 (continued)	106–111	Gobo 18
		112–117	Gobo 19
		118–131	Select fixed Gobos: open
		132–134	Gobo 1 slow to fast
		135–137	Gobo 2 slow to fast
		138–140	Gobo 3 slow to fast
		141–143	Gobo 4 slow to fast
		144–146	Gobo 5 slow to fast
		147–149	Gobo 6 slow to fast
		150–152	Gobo 7 slow to fast
		153–155	Gobo 8 slow to fast
		156–158	Gobo 9 slow to fast
		159–161	Gobo 10 slow to fast
		162–164	Gobo 11 slow to fast
		165–167	Gobo 12 slow to fast
		168–170	Gobo 13 slow to fast
		171–173	Gobo 14 slow to fast
		174–176	Gobo 15 slow to fast
		177–179	Gobo 16 slow to fast
		180–182	Gobo 17 slow to fast
		183–185	Gobo 18 slow to fast
		186–188	Gobo 19 slow to fast
		189–191	Shake: open
		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
21	Zoom	0–127	Narrow ... Mid
		127–255	Mid ... Wide
		255	Wide
22	Zoom Fine	0–255	Fine adjustment of CH 21
23	Focus	0–255	Focus
24	Focus Fine	0–255	Fine adjustment of CH 23
25	Prism	0	Prisma 6-linear: Open
		1–5	Open ... position left
		6–62	Position left
		63	Position mid
		64	Position right
		65–128	Right

CH	Function	DMX	Description
25	Prism (continued)	129–191	Rotating forward (800–12.7 °/s)
		192	Prisma 6-linear: stop
		193–255	Rotating Backward (12.7–800 °/s)
26	Prism 2	0	Prisma 8-circular: Open
		1–5	Open ... position left
		6–62	Position left
		63	Position mid
		64	Position right
		65–128	Right
		129–191	Rotating forward (800–12.7 °/s)
		192	Prisma 8-circular: stop
		193–255	Rotating Backward (12.7–800 °/s)
27	Frost	0	Open
		1–254	Open ... Frost
		255	Frost
28	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
29	Animation Wheel Rotation	0	Position 0
		1–63	Position 0 ... Position 270
		64	Position 270
		65–127	Position 270 ... Position 540
		128	Position 540
		129–191	Rotation fast -> slow fwd
		192	Rotation stop
		193–255	Rotation slow -> fast bwd
30	Position Effect		Pan/Tilt Macro
		0	Off
		1–5	Off ... Pan small > big
		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
31	Position Effect Speed		Pan/Tilt Speed
		0	Fast
		1–254	Fast ... Slow

CH	Function	DMX	Description
31	Position Effect Speed (continued)	255	Slow
32	Control	0–5	Control off
		6	Blackout while moving on (hold 3s)
		7	Blackout while moving on (hold 3s) ... Blackout while moving off (hold 3s)
		8	Blackout while moving off (hold 3s)
		9	Blackout while moving off (hold 3s) ... Blackout while Wheels moving on (hold 3s)
		10	Blackout while Wheels moving on (hold 3s)
		11	Blackout while Wheels moving on (hold 3s) ... 3 Blackout while Wheels moving off (hold 3s)
		12	3 Blackout while Wheels moving off (hold 3s)
		13–40	3 Blackout while Wheels moving off (hold 3s) ... no function
		41	Move in Black: no function
		42	Invert Pan on (hold 3s)
		43	Invert Pan on (hold 3s) ... Invert Pan off (hold 3s)
		44	Invert Pan off (hold 3s)
		45	Invert Pan off (hold 3s) ... Invert Tilt on (hold 3s)
		46	Invert Tilt on (hold 3s)
		47	Invert Tilt on (hold 3s) ... Invert Tilt off (hold 3s)
		48	Invert Tilt off (hold 3s)
		49–55	Invert Tilt off (hold 3s) ... no function
		56–65	Pan Tilt: no function
		66	Lamp on (hold 3s)
		67	Lamp on (hold 3s) ... Lamp off (hold 3s)
		68	Lamp off (hold 3s)
		69	Lamp off (hold 3s) ... Lamp Mode Standard (hold 3s)
		70	Lamp Mode Standard (hold 3s)
		71	Lamp Mode Standard (hold 3s) ... Lamp Mode Eco (hold 3s)
		72	Lamp Mode Eco (hold 3s)
		73–138	Lamp Mode Eco (hold 3s) ... no function
		139	Lamp Control: no function
		140–141	Display on (Hold 3s)
		142–143	Display off (Hold 3s)
		144–146	Display off (Hold 3s) ... no function
		147	Display: no function
		148	Color Wheel snap (Hold 3s)
		149	Color Wheel snap (Hold 3s) ... Color Wheel scroll (Hold 3s)
		150	Color Wheel scroll (Hold 3s)
		151	Color Wheel scroll (Hold 3s) ... Gobo Wheel snap (Hold 3s)
		152	Gobo Wheel snap (Hold 3s)
		153	Gobo Wheel snap (Hold 3s) ... Gobo Wheel scroll (Hold 3s)
		154	Gobo Wheel scroll (Hold 3s)

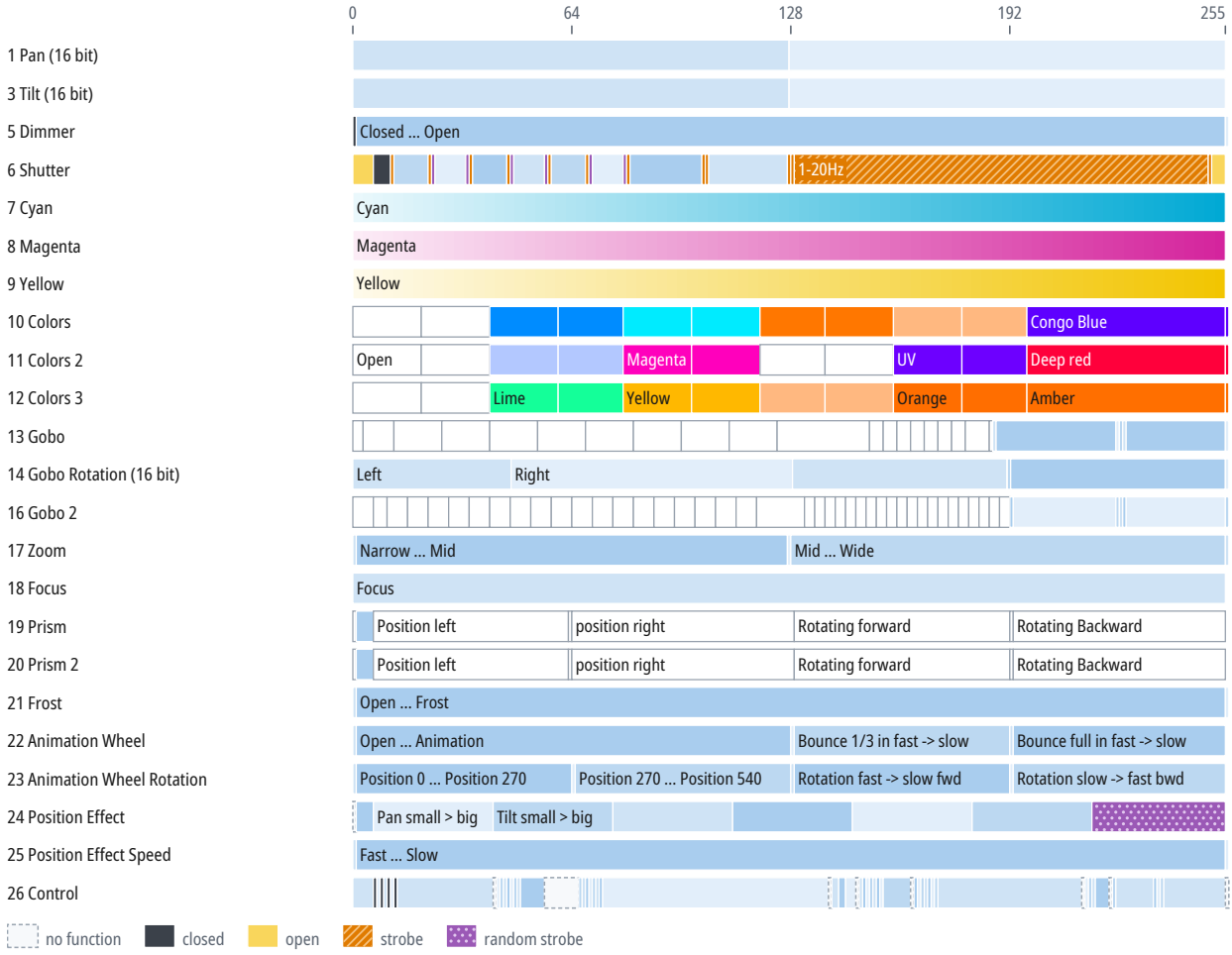
CH	Function	DMX	Description
32	Control (continued)	155–162	Gobo Wheel scroll (Hold 3s) ... no function
		163	Wheels Snap/Linear: no function
		164	Dimmer Curve Linear (Hold 3s)
		165	Dimmer Curve Linear (Hold 3s) ... Dimmer Curve Exponential (Hold 3s)
		166	Dimmer Curve Exponential (Hold 3s)
		167	Dimmer Curve Exponential (Hold 3s) ... Dimmer Curve Logarithmic (Hold 3s)
		168	Dimmer Curve Logarithmic (Hold 3s)
		169	Dimmer Curve Logarithmic (Hold 3s) ... Dimmer Curve S-Curve (Hold 3s)
		170	Dimmer Curve S-Curve (Hold 3s)
		171–212	Dimmer Curve S-Curve (Hold 3s) ... no function
		213	Dimmer Curve: no function
		214	Gobo Pos Mode quick (Hold 3s)
		215	Gobo Pos Mode quick (Hold 3s) ... Gobo Pos Mode Standard (hold 3s)
		216	Gobo Pos Mode Standard (hold 3s)
		217–220	Gobo Pos Mode Standard (hold 3s) ... no function
		221	Wheel Rotation: no function
		222	Reset Pan / Tilt (Hold 3s)
		223–233	Reset Pan / Tilt (Hold 3s) ... Reset Head complete (Hold 3s)
		234	Reset Head complete (Hold 3s)
		235	Reset Head complete (Hold 3s) ... Reset All Functions (Hold 3s)
		236	Reset All Functions (Hold 3s)
		237–254	Reset All Functions (Hold 3s) ... no function
		255	Control / Reset: no function

Mode 26-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 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 0, CH 11 Colors 2 0, CH 12 Colors 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “32-CH” (p. 12)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “32-CH” (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 “32-CH” (p. 13)
7	Cyan	0–255	Cyan
8	Magenta	0–255	Magenta
9	Yellow	0–255	Yellow

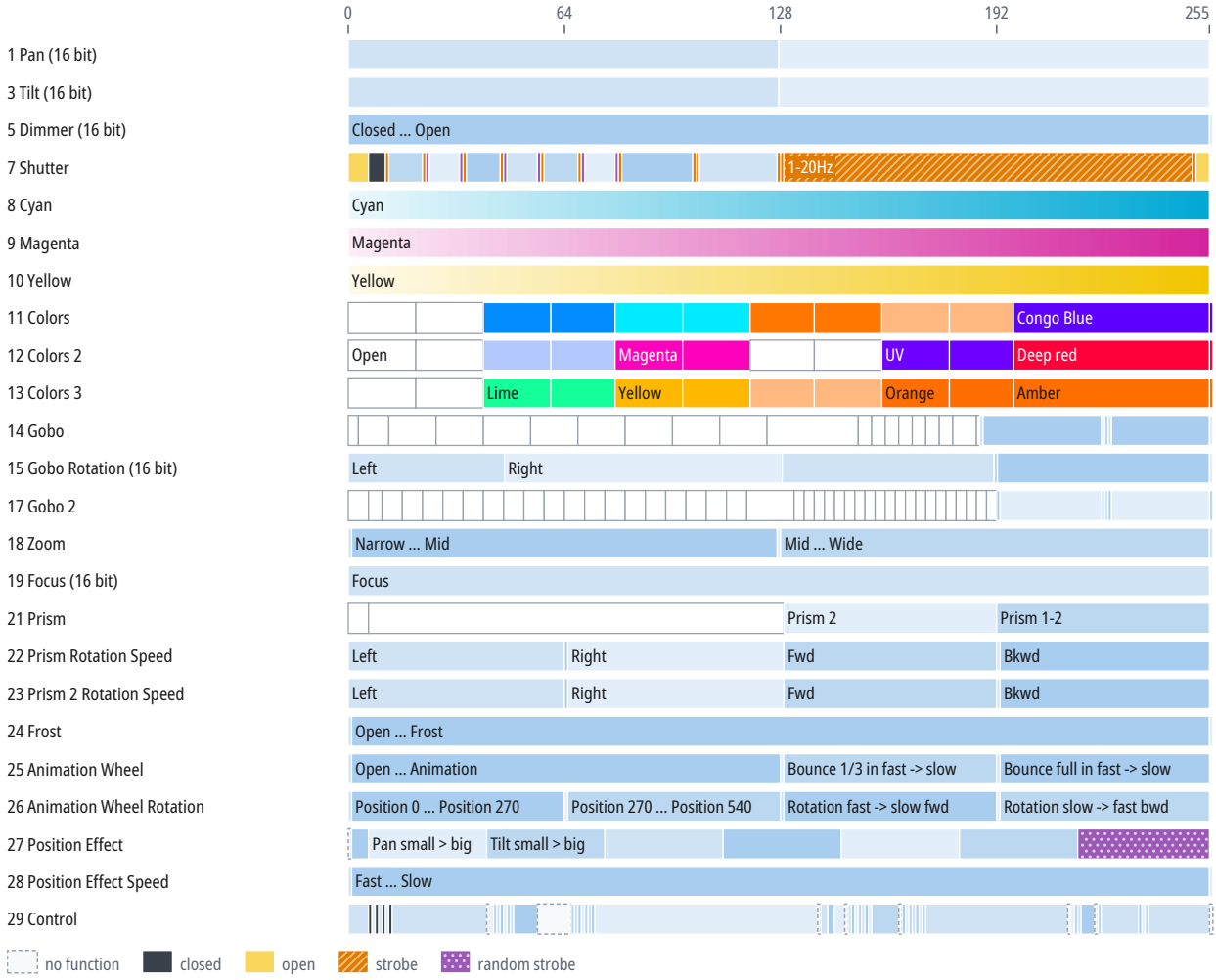
CH	Function	DMX	Description
10	Colors		Same as CH 14 in the mode “32-CH” (p. 13)
11	Colors 2		Same as CH 15 in the mode “32-CH” (p. 14)
12	Colors 3		Same as CH 16 in the mode “32-CH” (p. 14)
13	Gobo		Same as CH 17 in the mode “32-CH” (p. 14)
14	Gobo Rotation		Same as CH 18 in the mode “32-CH” (p. 15)
15	Gobo Rotation Fine	0–255	Fine adjustment of CH 14
16	Gobo 2		Same as CH 20 in the mode “32-CH” (p. 15)
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 25 in the mode “32-CH” (p. 16)
20	Prism 2		Same as CH 26 in the mode “32-CH” (p. 17)
21	Frost		Same as CH 27 in the mode “32-CH” (p. 17)
22	Animation Wheel		Same as CH 28 in the mode “32-CH” (p. 17)
23	Animation Wheel Rotation		Same as CH 29 in the mode “32-CH” (p. 17)
24	Position Effect		Same as CH 30 in the mode “32-CH” (p. 17)
25	Position Effect Speed		Same as CH 31 in the mode “32-CH” (p. 17)
26	Control		Same as CH 32 in the mode “32-CH” (p. 18)

Mode 29-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 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 9 Magenta 0, CH 10 Yellow 0, CH 11 Colors 0, CH 12 Colors 2 0, CH 13 Colors 3 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “32-CH” (p. 12)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “32-CH” (p. 12)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer		Same as CH 5 in the mode “32-CH” (p. 12)
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Shutter		Same as CH 7 in the mode “32-CH” (p. 13)
8	Cyan	0–255	Cyan
9	Magenta	0–255	Magenta
10	Yellow	0–255	Yellow

CH	Function	DMX	Description
11	Colors		Same as CH 14 in the mode “32-CH” (p. 13)
12	Colors 2		Same as CH 15 in the mode “32-CH” (p. 14)
13	Colors 3		Same as CH 16 in the mode “32-CH” (p. 14)
14	Gobo		Same as CH 17 in the mode “32-CH” (p. 14)
15	Gobo Rotation		Same as CH 18 in the mode “32-CH” (p. 15)
16	Gobo Rotation Fine	0–255	Fine adjustment of CH 15
17	Gobo 2		Same as CH 20 in the mode “32-CH” (p. 15)
18	Zoom		Same as CH 17 in the mode “26-CH” (p. 21)
19	Focus	0–255	Focus
20	Focus Fine	0–255	Fine adjustment of CH 19
21	Prism		Prism Select
		0–5	No Prism
		6–128	Prism 1
		129–191	Prism 2
		192–255	Prism 1-2
22	Prism Rotation Speed	0–63	Left (0–252 °/s)
		64	Mid
		65–128	Right (254–540 °/s)
		129–191	Fwd (800–1 °/s)
		192	Prism 1 Pos Rotate: stop
		193–255	Bkwd (1–800 °/s)
23	Prism 2 Rotation Speed	0–63	Left (0–252 °/s)
		64	Mid
		65–128	Right (254–540 °/s)
		129–191	Fwd (800–12.7 °/s)
		192	Prism 2 Select Spin: stop
		193–255	Bkwd (12.7–800 °/s)
24	Frost		Same as CH 27 in the mode “32-CH” (p. 17)
25	Animation Wheel		Same as CH 28 in the mode “32-CH” (p. 17)
26	Animation Wheel Rotation		Same as CH 29 in the mode “32-CH” (p. 17)
27	Position Effect		Same as CH 30 in the mode “32-CH” (p. 17)
28	Position Effect Speed		Same as CH 31 in the mode “32-CH” (p. 17)
29	Control		Same as CH 32 in the mode “32-CH” (p. 18)

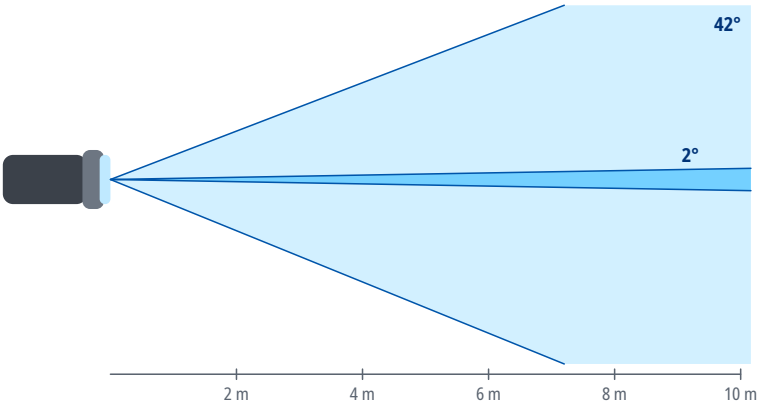
10 Technical specifications

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 0x011F)
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	33 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	-15 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–15 Hz
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 800 °/s (133 rpm)
Prism 2 rotation	up to 800 °/s (133 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.