DMX REFERENCE

Helix Ultra

FOS Technologies



Manufacturer	FOS Technologies
GDTF file	FOS_Technologies_Helix_Ultra_151605.gdtf
GDTF revision	FOS Technologies Helix Ultra (26CH/38CH/102CH/114CH), Uploaded to GDTF Share. · 2026-07-2
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1 About this manual

This document describes the Helix Ultra by FOS Technologies. It was compiled from the GDTF file FOS_Technologies_Helix_Ultra_151605.gdtf from the GDTF-Share library.

File revision: “FOS Technologies Helix Ultra (26CH/38CH/102CH/114CH), Uploaded to GDTF Share.”.

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 FOS Technologies; 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.

Note in the GDTF file

“Moving head wash with 19 individually addressable RGBW pixel LEDs, foreground/background colour layers and pattern effects. Converted from grandMA2 XML fixture library files for modes 26CH, 38CH, 102CH and 114CH. Geometry is generic (placeholder primitives, pixels arranged in an approximate ring) since the source file carries no real 3D data.”

2 Quick reference

Parameter	Value
Weight	16 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
26CH	26	19	1, 27, 53, 79, ...
38CH	38	13	1, 39, 77, 115, ...
102CH	102	5	1, 103, 205, 307, ...
114CH	114	4	1, 115, 229, 343

No light? Check these channels

- 26CH: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 18 Dimmer 2 above 254; CH 19 Shutter 2 at 0 “open”
- 38CH: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 19 Dimmer 2 above 254; CH 21 Dimmer 3 above 254; CH 24 Dimmer 4 above 254; CH 25 Shutter 2 at 0 “open”; CH 33 Dimmer 5 above 254; CH 34 Dimmer 6 above 254
- 102CH: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 18 Dimmer 2 above 254; CH 19 Shutter 2 at 0 “open”
- 114CH: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 19 Dimmer 2 above 254; CH 21 Dimmer 3 above 254; CH 24 Dimmer 4 above 254; CH 25 Shutter 2 at 0 “open”; CH 33 Dimmer 5 above 254; CH 34 Dimmer 6 above 254


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.

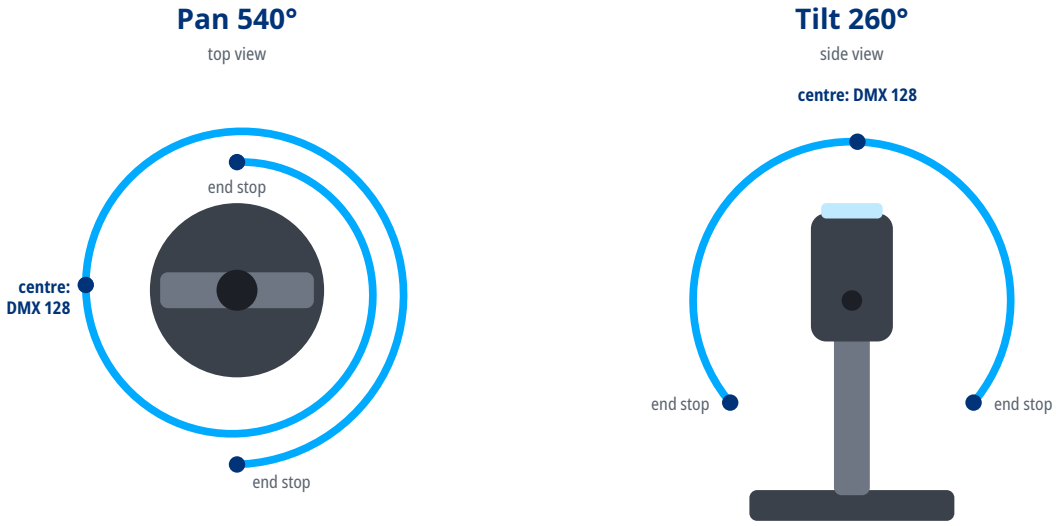
⚠ CAUTION

- 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

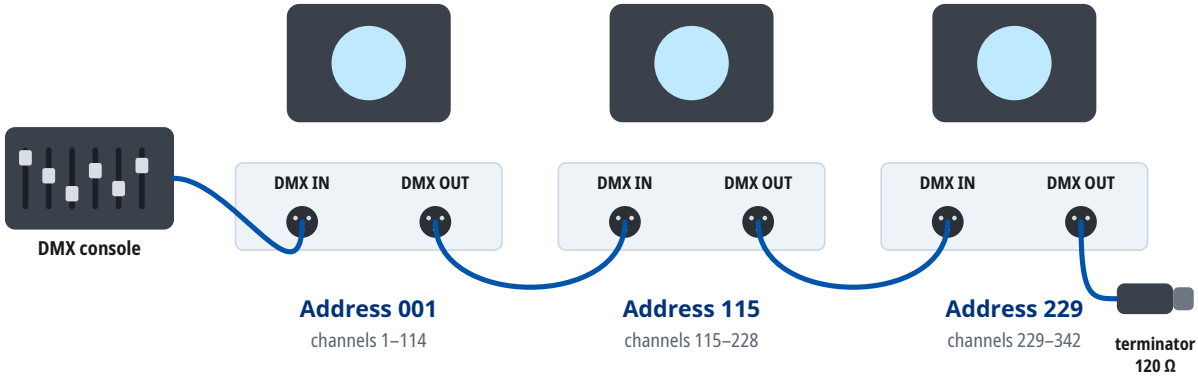
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 16 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 114CH: every unit occupies 114 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

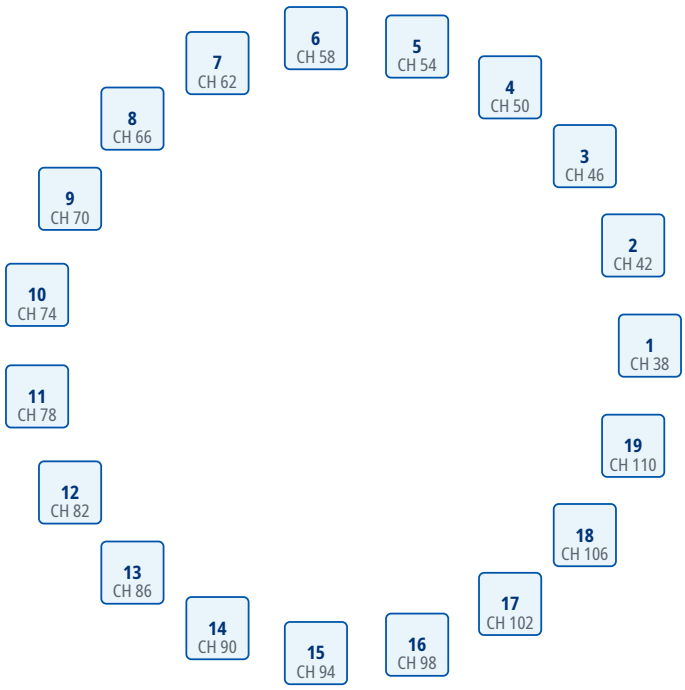
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “114CH”: 114.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “114CH”, you can use, for example, the start addresses 1, 115, 229, 343.
- 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

	26CH 26 channels	38CH 38 channels	102CH 102 channels	114CH 114 channels
Pan / Tilt	1, 3	1, 3	1, 3	1, 3
Dimmer	6, 18	6 channels (6–34)	6, 18	6 channels (6–34)
Shutter / strobe	7, 19	7, 25	7, 19	7, 25
Color mixing	8–11, 20–22	8–11, 26–28, 35–37	8–11, 20–22, 26–101	8–11, 26–28, 35–113
Zoom	14	14	14	14
Focus	12	12	12	12
Effects / macros	15, 23–25	9 channels (15–32)	15, 23–25	9 channels (15–32)
Pixel control		✓	19 cells	19 cells

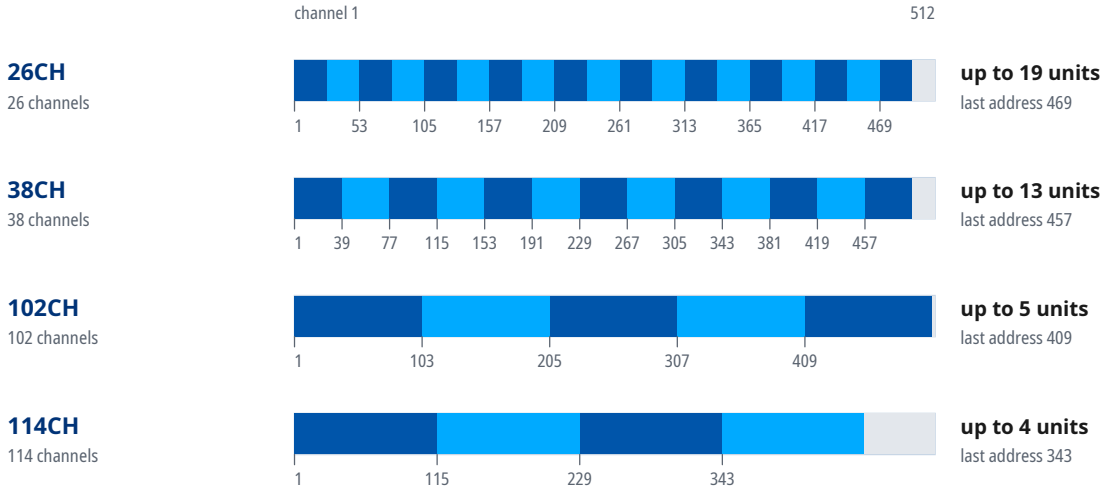
Cells (pixels)



19 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “114CH”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “114CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 115	11	U3 · 229	16	U4 · 343
2	115	7	U2 · 229	12	U3 · 343	17	U5 · 1
3	229	8	U2 · 343	13	U4 · 1	18	U5 · 115
4	343	9	U3 · 1	14	U4 · 115	19	U5 · 229
5	U2 · 1	10	U3 · 115	15	U4 · 229	20	U5 · 343

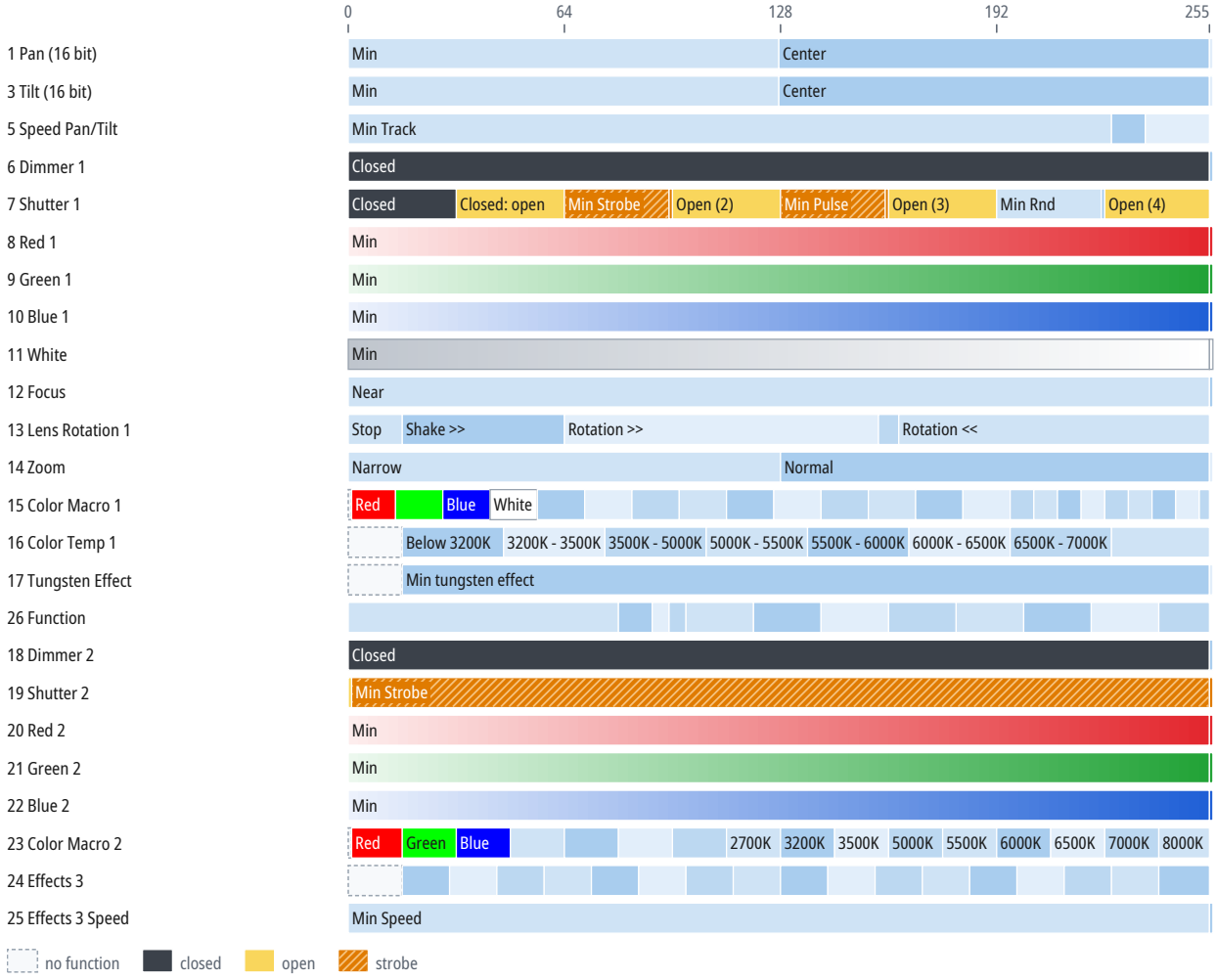
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 26CH

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 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 18 Dimmer 2 above 254; CH 19 Shutter 2 at 0 “open”.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min
		128–255	Center
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min
		128–255	Center
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–225	Min Track
		226–235	MIB Pan Tilt
		236–255	Function 3

CH	Function	DMX	Description
6	Dimmer 1	0–254	Closed
		255	Open
7	Shutter 1	0–31	Closed
		32–63	Closed: open
		64–94	Min Strobe
		95	Max Strobe
		96–127	Open (2)
		128–158	Min Pulse
		159	Max Pulse
		160–191	Open (3)
		192–222	Min Rnd
		223	Max Rnd
		224–255	Open (4)
8	Red 1	0–254	Min
		255	Max
9	Green 1	0–254	Min
		255	Max
10	Blue 1	0–254	Min
		255	Max
11	White	0–254	Min
		255	Max
12	Focus	0–254	Near
		255	Far
13	Lens Rotation 1	0–15	Stop
		16–63	Shake >>
		64–156	Rotation >>
		157–162	Stop rotation
		163–255	Rotation <<
14	Zoom	0–127	Narrow
		128–254	Normal
		255	Wide
15	Color Macro 1		no function
		0	No function
		1–13	Red
		14–27	Green
		28–41	Blue
		42–55	White
		56–69	Red + white
		70–83	Green + white
		84–97	Blue + white
		98–111	Green + blue
		112–125	Red + blue

CH	Function	DMX	Description
15	Color Macro 1 (continued)	126–139	Red + green
		140–153	Green + blue + white
		154–167	Red + blue + white
		168–181	Red + green + white
		182–195	Red + blue + green + white
		196–202	2700K
		203–209	3200K
		210–216	3500K
		217–223	5000K
		224–230	5500K
		231–237	6000K
		238–244	6500K
		245–251	7000K
		252–255	8000K
16	Color Temp 1		no function
		0–15	No function
		16–45	Below 3200K
		46–75	3200K - 3500K
		76–105	3500K - 5000K
		106–135	5000K - 5500K
		136–165	5500K - 6000K
		166–195	6000K - 6500K
		196–225	6500K - 7000K
		226–255	7000K - 8000K
17	Tungsten Effect		no function
		0–15	No function
		16–254	Min tungsten effect
		255	Max tungsten effect
18	Dimmer 2	0–254	Closed
		255	Open
19	Shutter 2	0	Open
		1–254	Min Strobe
		255	Max Strobe
20	Red 2	0–254	Min
		255	Max
21	Green 2	0–254	Min
		255	Max
22	Blue 2	0–254	Min
		255	Max
23	Color Macro 2		no function
		0	No function
		1–15	Red

CH	Function	DMX	Description
23	Color Macro 2 (continued)	16–31	Green
		32–47	Blue
		48–63	Red + blue
		64–79	Red + green
		80–95	Green + blue
		96–111	Red + blue + green
		112–127	2700K
		128–143	3200K
		144–159	3500K
		160–175	5000K
		176–191	5500K
		192–207	6000K
		208–223	6500K
		224–239	7000K
		240–255	8000K
24	Effects 3		no function
		0–15	No function
		16–29	Pix scene 1
		30–43	Pix scene 2
		44–57	Pix scene 3
		58–71	Pix scene 4
		72–85	Pix scene 5
		86–99	Pix scene 6
		100–113	Pix scene 7
		114–127	Pix scene 8
		128–141	Pix scene 9
		142–155	Pix scene 10
		156–169	Pix scene 11
		170–183	Pix scene 12
		184–197	Pix scene 13
		198–211	Pix scene 14
		212–225	Pix scene 15
		226–239	Pix scene 16
		240–255	Pix scene 17
25	Effects 3 Speed		min Speed
		0–254	Min Speed
		255	Max Speed
26	Function	0–79	Function 1
		80–89	Reset
		90–94	Pos Reset
		95–99	Foc Reset
		100–119	Internal program 1

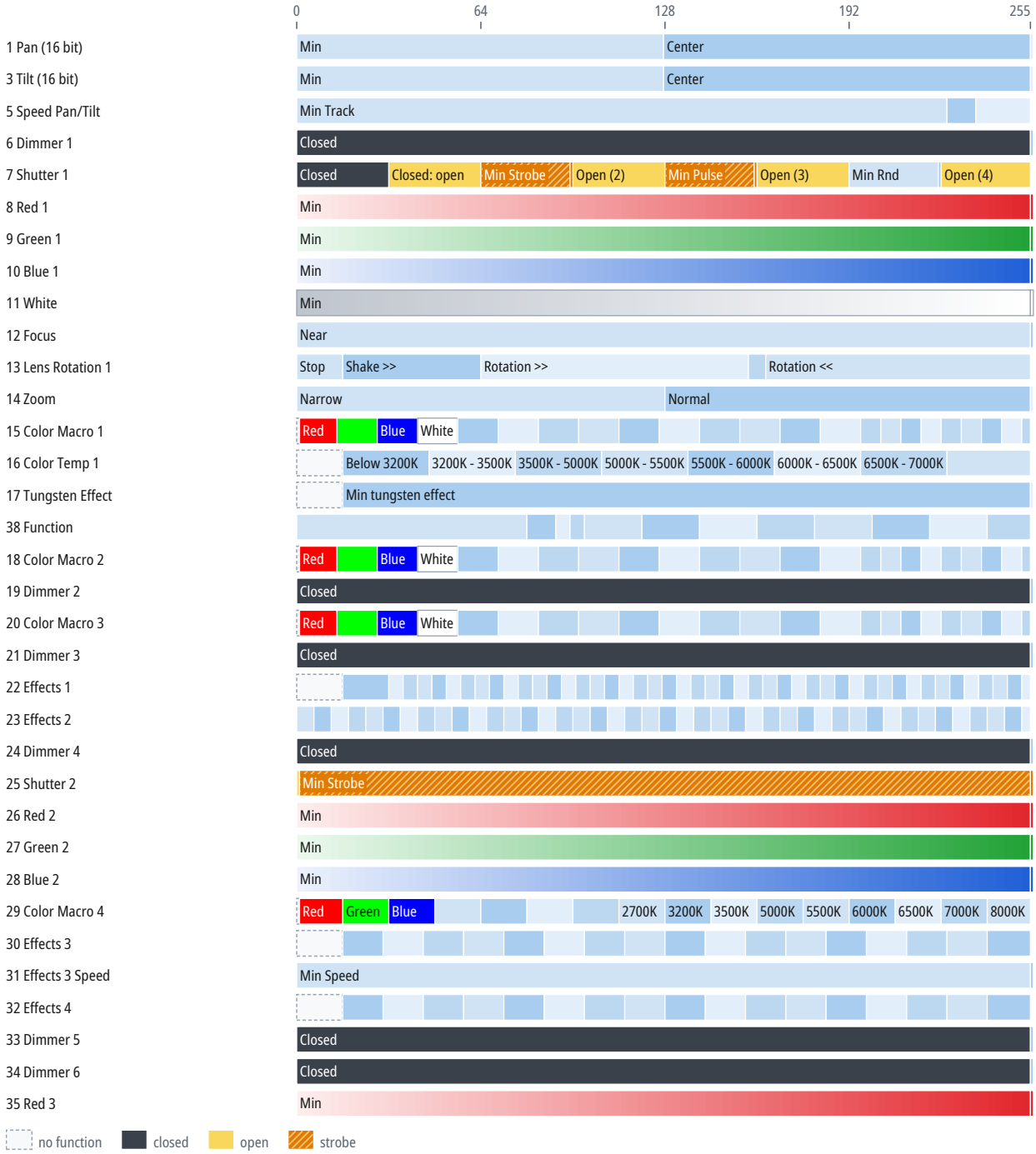
CH	Function	DMX	Description
26	Function (continued)	120–139	Internal program 2
		140–159	Internal program 3
		160–179	Internal program 4
		180–199	Internal program 5
		200–219	Internal program 6
		220–239	Internal program 7
		240–255	Internal sound program

Mode 38CH

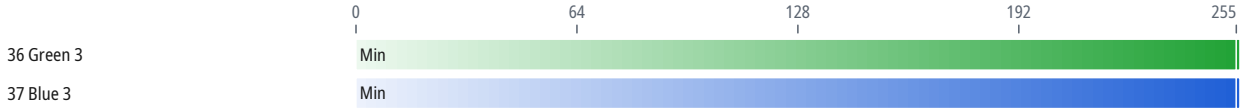
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 19 Dimmer 2 above 254; CH 21 Dimmer 3 above 254; CH 24 Dimmer 4 above 254; CH 25 Shutter 2 at 0 “open”; CH 33 Dimmer 5 above 254; CH 34 Dimmer 6 above 254.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “26CH” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “26CH” (p. 9)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “26CH” (p. 9)
6	Dimmer 1		Same as CH 6 in the mode “26CH” (p. 10)
7	Shutter 1		Same as CH 7 in the mode “26CH” (p. 10)
8	Red 1		Same as CH 8 in the mode “26CH” (p. 10)
9	Green 1		Same as CH 9 in the mode “26CH” (p. 10)
10	Blue 1		Same as CH 10 in the mode “26CH” (p. 10)
11	White		Same as CH 11 in the mode “26CH” (p. 10)
12	Focus		Same as CH 12 in the mode “26CH” (p. 10)
13	Lens Rotation 1		Same as CH 13 in the mode “26CH” (p. 10)
14	Zoom		Same as CH 14 in the mode “26CH” (p. 10)
15	Color Macro 1		Same as CH 15 in the mode “26CH” (p. 10)
16	Color Temp 1		Same as CH 16 in the mode “26CH” (p. 11)
17	Tungsten Effect		Same as CH 17 in the mode “26CH” (p. 11)
18	Color Macro 2		no function
		0	No function
		1–13	Red
		14–27	Green
		28–41	Blue
		42–55	White
		56–69	Red + white
		70–83	Green + white
		84–97	Blue + white
		98–111	Green + blue
		112–125	Red + blue
		126–139	Red + green
		140–153	Green + blue + white
		154–167	Red + blue + white
		168–181	Red + green + white
		182–195	Red + blue + green + white
		196–202	2700K
		203–209	3200K
		210–216	3500K
		217–223	5000K

CH	Function	DMX	Description
18	Color Macro 2 (continued)	224–230	5500K
		231–237	6000K
		238–244	6500K
		245–251	7000K
		252–255	8000K
19	Dimmer 2		Same as CH 18 in the mode “26CH” (p. 11)
20	Color Macro 3		no function
		0	No function
		1–13	Red
		14–27	Green
		28–41	Blue
		42–55	White
		56–69	Red + white
		70–83	Green + white
		84–97	Blue + white
		98–111	Green + blue
		112–125	Red + blue
		126–139	Red + green
		140–153	Green + blue + white
		154–167	Red + blue + white
		168–181	Red + green + white
		182–195	Red + blue + green + white
		196–202	2700K
		203–209	3200K
		210–216	3500K
		217–223	5000K
		224–230	5500K
		231–237	6000K
		238–244	6500K
		245–251	7000K
		252–255	8000K
21	Dimmer 3	0–254	Closed
		255	Open
22	Effects 1		no function
		0–15	No function
		16–31	Static patterns
		32–36	Dynamic scene 1
		37–41	Dynamic scene 2
		42–46	Dynamic scene 3
		47–51	Dynamic scene 4
		52–56	Dynamic scene 5
		57–61	Dynamic scene 6

CH	Function	DMX	Description
22	Effects 1 (continued)	62–66	Dynamic scene 7
		67–71	Dynamic scene 8
		72–76	Dynamic scene 9
		77–81	Dynamic scene 10
		82–86	Dynamic scene 11
		87–91	Dynamic scene 12
		92–96	Dynamic scene 13
		97–101	Dynamic scene 14
		102–106	Dynamic scene 15
		107–111	Dynamic scene 16
		112–116	Dynamic scene 17
		117–121	Dynamic scene 18
		122–126	Dynamic scene 19
		127–131	Dynamic scene 20
		132–136	Dynamic scene 21
		137–141	Dynamic scene 22
		142–146	Dynamic scene 23
		147–151	Dynamic scene 24
		152–156	Dynamic scene 25
		157–161	Dynamic scene 26
		162–166	Dynamic scene 27
		167–171	Dynamic scene 28
		172–176	Dynamic scene 29
		177–181	Dynamic scene 30
		182–186	Dynamic scene 31
		187–191	Dynamic scene 32
		192–196	Multicolor dynamic scene 1
		197–201	Multicolor dynamic scene 2
		202–206	Multicolor dynamic scene 3
		207–211	Multicolor dynamic scene 4
		212–216	Multicolor dynamic scene 5
		217–221	Multicolor dynamic scene 6
		222–226	Multicolor dynamic scene 7
		227–231	Multicolor dynamic scene 8
		232–236	Multicolor dynamic scene 9
		237–241	Multicolor dynamic scene 10
		242–246	Multicolor dynamic scene 11
		247–251	Multicolor dynamic scene 12
		252–255	Multicolor dynamic scene 13
23	Effects 2		static scene 1
		0–5	Static scene 1
		6–11	Static scene 2

CH	Function	DMX	Description
23	Effects 2 (continued)	12–17	Static scene 3
		18–23	Static scene 4
		24–29	Static scene 5
		30–35	Static scene 6
		36–41	Static scene 7
		42–47	Static scene 8
		48–53	Static scene 9
		54–59	Static scene 10
		60–65	Static scene 11
		66–71	Static scene 12
		72–77	Static scene 13
		78–83	Static scene 14
		84–89	Static scene 15
		90–95	Static scene 16
		96–101	Static scene 17
		102–107	Static scene 18
		108–113	Static scene 19
		114–119	Static scene 20
		120–125	Static scene 21
		126–131	Static scene 22
		132–137	Static scene 23
		138–143	Static scene 24
		144–149	Static scene 25
		150–155	Static scene 26
		156–161	Static scene 27
		162–167	Static scene 28
		168–173	Static scene 29
		174–179	Static scene 30
		180–185	Static scene 31
		186–191	Static scene 32
		192–197	Multicolor static scene 1
		198–203	Multicolor static scene 2
		204–209	Multicolor static scene 3
		210–215	Multicolor static scene 4
		216–221	Multicolor static scene 5
		222–227	Multicolor static scene 6
		228–233	Multicolor static scene 7
		234–239	Multicolor static scene 8
		240–245	Multicolor static scene 9
		246–251	Multicolor static scene 10
		252–255	Multicolor static scene 11
24	Dimmer 4	0–254	Closed

CH	Function	DMX	Description
24	Dimmer 4 (continued)	255	Open
25	Shutter 2		Same as CH 19 in the mode “26CH” (p. 11)
26	Red 2		Same as CH 20 in the mode “26CH” (p. 11)
27	Green 2		Same as CH 21 in the mode “26CH” (p. 11)
28	Blue 2		Same as CH 22 in the mode “26CH” (p. 11)
29	Color Macro 4		no function
		0	No function
		1–15	Red
		16–31	Green
		32–47	Blue
		48–63	Red + blue
		64–79	Red + green
		80–95	Green + blue
		96–111	Red + blue + green
		112–127	2700K
		128–143	3200K
		144–159	3500K
		160–175	5000K
		176–191	5500K
		192–207	6000K
		208–223	6500K
		224–239	7000K
		240–255	8000K
30	Effects 3		Same as CH 24 in the mode “26CH” (p. 12)
31	Effects 3 Speed		Same as CH 25 in the mode “26CH” (p. 12)
32	Effects 4		no function
		0–15	No function
		16–29	Pix dynamic scene 1
		30–43	Pix dynamic scene 2
		44–57	Pix dynamic scene 3
		58–71	Pix dynamic scene 4
		72–85	Pix dynamic scene 5
		86–99	Pix dynamic scene 6
		100–113	Pix dynamic scene 7
		114–127	Pix dynamic scene 8
		128–141	Pix dynamic scene 9
		142–155	Pix dynamic scene 10
		156–169	Pix dynamic scene 11
		170–183	Pix dynamic scene 12
		184–197	Pix dynamic scene 13
		198–211	Pix dynamic scene 14
		212–225	Pix dynamic scene 15

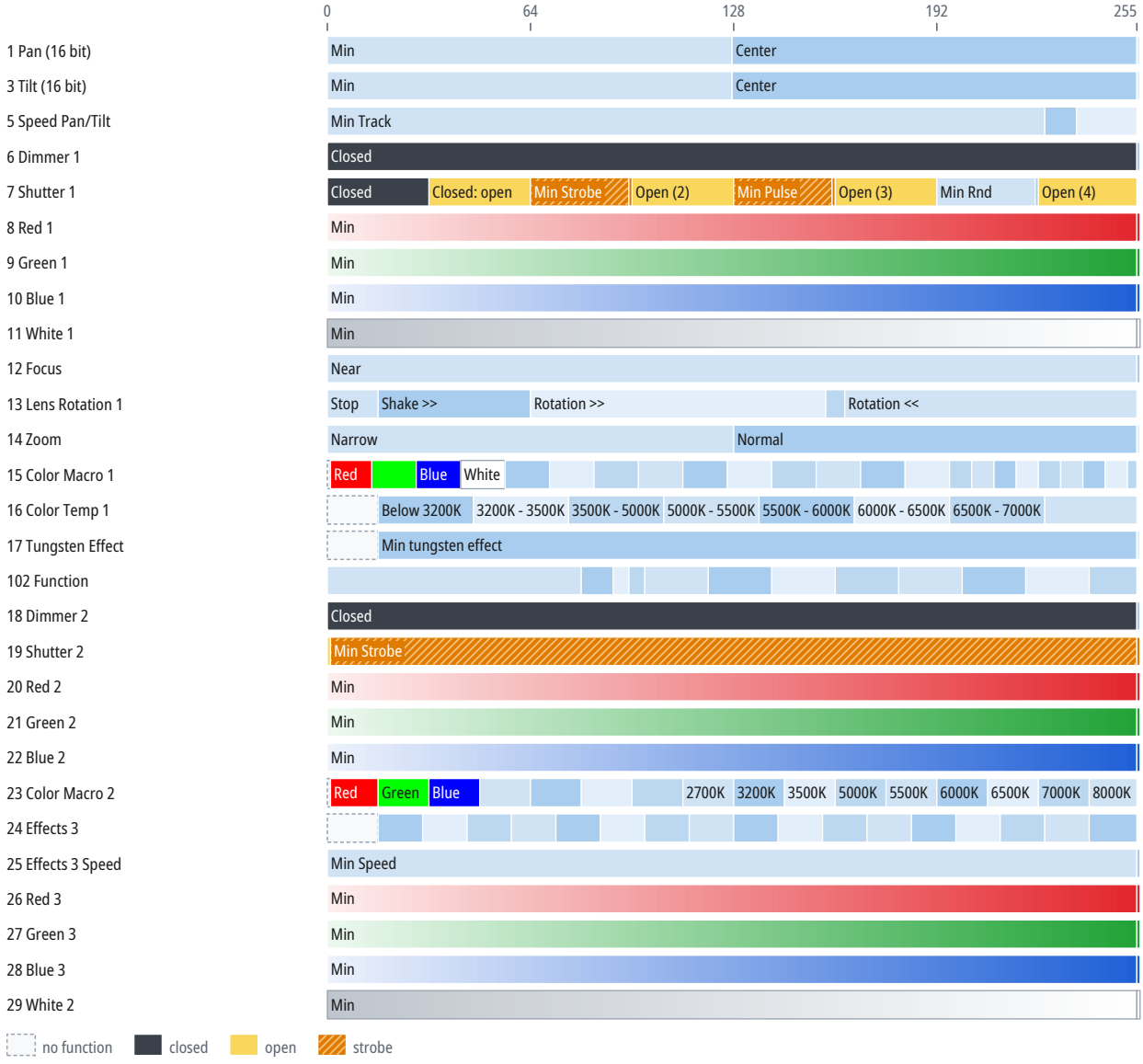
CH	Function	DMX	Description
32	Effects 4 (continued)	226–239	Pix dynamic scene 16
		240–255	Pix dynamic scene 17
33	Dimmer 5	0–254	Closed
		255	Open
34	Dimmer 6	0–254	Closed
		255	Open
35	Red 3	0–254	Min
		255	Max
36	Green 3	0–254	Min
		255	Max
37	Blue 3	0–254	Min
		255	Max
38	Function		Same as CH 26 in the mode “26CH” (p. 12)

Mode 102CH

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 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 18 Dimmer 2 above 254; CH 19 Shutter 2 at 0 “open”.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “26CH” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “26CH” (p. 9)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “26CH” (p. 9)
6	Dimmer 1		Same as CH 6 in the mode “26CH” (p. 10)
7	Shutter 1		Same as CH 7 in the mode “26CH” (p. 10)

CH	Function	DMX	Description
8	Red 1		Same as CH 8 in the mode “26CH” (p. 10)
9	Green 1		Same as CH 9 in the mode “26CH” (p. 10)
10	Blue 1		Same as CH 10 in the mode “26CH” (p. 10)
11	White 1	0–254	Min
		255	Max
12	Focus		Same as CH 12 in the mode “26CH” (p. 10)
13	Lens Rotation 1		Same as CH 13 in the mode “26CH” (p. 10)
14	Zoom		Same as CH 14 in the mode “26CH” (p. 10)
15	Color Macro 1		Same as CH 15 in the mode “26CH” (p. 10)
16	Color Temp 1		Same as CH 16 in the mode “26CH” (p. 11)
17	Tungsten Effect		Same as CH 17 in the mode “26CH” (p. 11)
18	Dimmer 2		Same as CH 18 in the mode “26CH” (p. 11)
19	Shutter 2		Same as CH 19 in the mode “26CH” (p. 11)
20	Red 2		Same as CH 20 in the mode “26CH” (p. 11)
21	Green 2		Same as CH 21 in the mode “26CH” (p. 11)
22	Blue 2		Same as CH 22 in the mode “26CH” (p. 11)
23	Color Macro 2		Same as CH 23 in the mode “26CH” (p. 11)
24	Effects 3		Same as CH 24 in the mode “26CH” (p. 12)
25	Effects 3 Speed		Same as CH 25 in the mode “26CH” (p. 12)
26	Red 3	0–254	Min
		255	Max
27	Green 3	0–254	Min
		255	Max
28	Blue 3	0–254	Min
		255	Max
29	White 2	0–254	Min
		255	Max
102	Function		Same as CH 26 in the mode “26CH” (p. 12)

CH 26–101: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 26–29); the table below gives each cell's channel numbers.

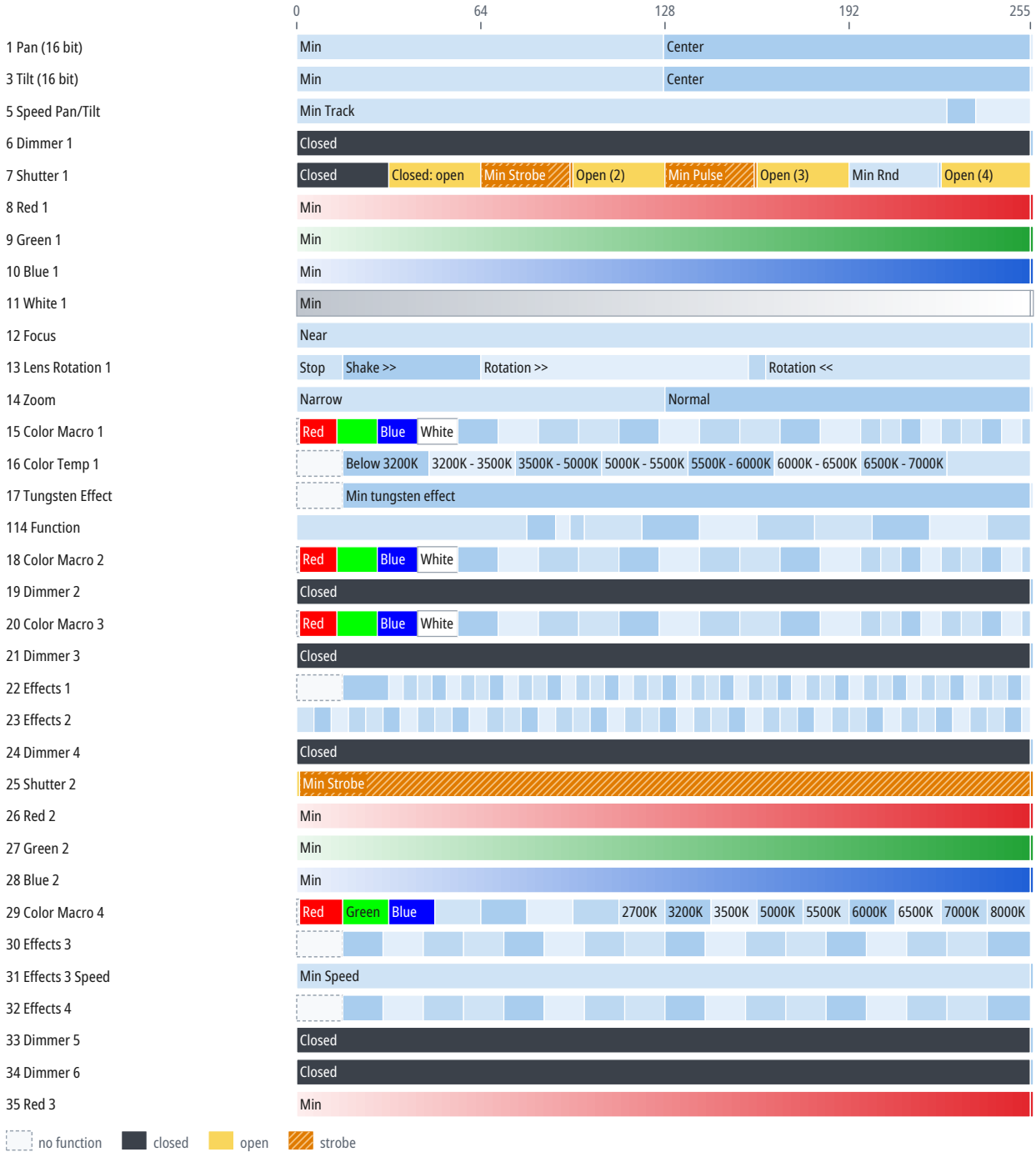
Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	26	27	28	29	2	30	31	32	33
3	34	35	36	37	4	38	39	40	41
5	42	43	44	45	6	46	47	48	49
7	50	51	52	53	8	54	55	56	57
9	58	59	60	61	10	62	63	64	65
11	66	67	68	69	12	70	71	72	73
13	74	75	76	77	14	78	79	80	81
15	82	83	84	85	16	86	87	88	89
17	90	91	92	93	18	94	95	96	97
19	98	99	100	101					

Mode 114CH

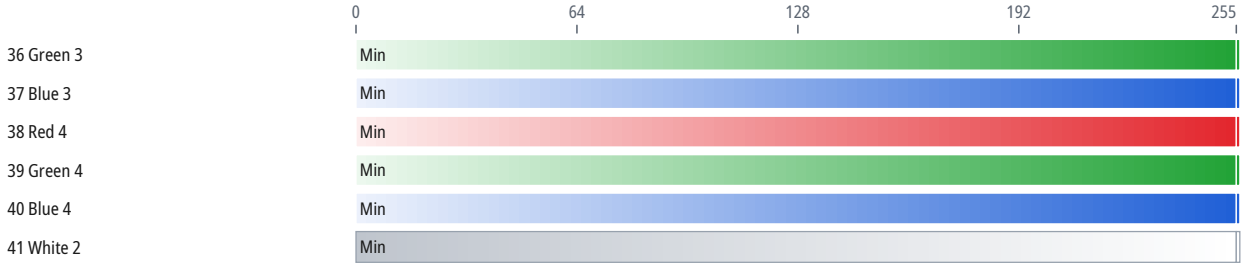
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 6 Dimmer 1 above 254; CH 7 Shutter 1 at 32–63 “open” or 96–127 or 160–191 or 224–255; CH 19 Dimmer 2 above 254; CH 21 Dimmer 3 above 254; CH 24 Dimmer 4 above 254; CH 25 Shutter 2 at 0 “open”; CH 33 Dimmer 5 above 254; CH 34 Dimmer 6 above 254.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “26CH” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “26CH” (p. 9)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “26CH” (p. 9)
6	Dimmer 1		Same as CH 6 in the mode “26CH” (p. 10)
7	Shutter 1		Same as CH 7 in the mode “26CH” (p. 10)
8	Red 1		Same as CH 8 in the mode “26CH” (p. 10)
9	Green 1		Same as CH 9 in the mode “26CH” (p. 10)
10	Blue 1		Same as CH 10 in the mode “26CH” (p. 10)
11	White 1		Same as CH 11 in the mode “102CH” (p. 22)
12	Focus		Same as CH 12 in the mode “26CH” (p. 10)
13	Lens Rotation 1		Same as CH 13 in the mode “26CH” (p. 10)
14	Zoom		Same as CH 14 in the mode “26CH” (p. 10)
15	Color Macro 1		Same as CH 15 in the mode “26CH” (p. 10)
16	Color Temp 1		Same as CH 16 in the mode “26CH” (p. 11)
17	Tungsten Effect		Same as CH 17 in the mode “26CH” (p. 11)
18	Color Macro 2		Same as CH 18 in the mode “38CH” (p. 15)
19	Dimmer 2		Same as CH 18 in the mode “26CH” (p. 11)
20	Color Macro 3		Same as CH 20 in the mode “38CH” (p. 16)
21	Dimmer 3		Same as CH 21 in the mode “38CH” (p. 16)
22	Effects 1		Same as CH 22 in the mode “38CH” (p. 16)
23	Effects 2		Same as CH 23 in the mode “38CH” (p. 17)
24	Dimmer 4		Same as CH 24 in the mode “38CH” (p. 18)
25	Shutter 2		Same as CH 19 in the mode “26CH” (p. 11)
26	Red 2		Same as CH 20 in the mode “26CH” (p. 11)
27	Green 2		Same as CH 21 in the mode “26CH” (p. 11)
28	Blue 2		Same as CH 22 in the mode “26CH” (p. 11)
29	Color Macro 4		Same as CH 29 in the mode “38CH” (p. 19)
30	Effects 3		Same as CH 24 in the mode “26CH” (p. 12)
31	Effects 3 Speed		Same as CH 25 in the mode “26CH” (p. 12)
32	Effects 4		Same as CH 32 in the mode “38CH” (p. 19)
33	Dimmer 5		Same as CH 33 in the mode “38CH” (p. 20)

CH	Function	DMX	Description
34	Dimmer 6		Same as CH 34 in the mode “38CH” (p. 20)
35	Red 3		Same as CH 35 in the mode “38CH” (p. 20)
36	Green 3		Same as CH 36 in the mode “38CH” (p. 20)
37	Blue 3		Same as CH 37 in the mode “38CH” (p. 20)
38	Red 4	0–254	Min
		255	Max
39	Green 4	0–254	Min
		255	Max
40	Blue 4	0–254	Min
		255	Max
41	White 2	0–254	Min
		255	Max
114	Function		Same as CH 26 in the mode “26CH” (p. 12)

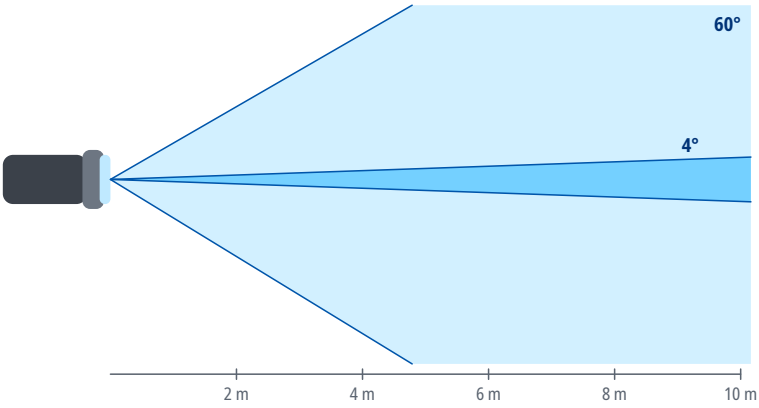
CH 38–113: 19 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 38–41); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	38	39	40	41	2	42	43	44	45
3	46	47	48	49	4	50	51	52	53
5	54	55	56	57	6	58	59	60	61
7	62	63	64	65	8	66	67	68	69
9	70	71	72	73	10	74	75	76	77
11	78	79	80	81	12	82	83	84	85
13	86	87	88	89	14	90	91	92	93
15	94	95	96	97	16	98	99	100	101
17	102	103	104	105	18	106	107	108	109
19	110	111	112	113					

10 Technical specifications

Parameter	Value
Light source	LED
Zoom	4–60°
Pan	540°
Tilt	260°
Weight	16 kg
Operating temperature	0 to 40 °C

Spot diameter



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

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

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.

Problem	Remedy
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.